

Multi-Tenant Housing

Ontario Building Code Evaluation Report

Prepared for:

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Final Report
Issued March 14, 2024
Our File: 22-764(B)

Document Revision History

Revision	Date Issued	Comments
First Draft	2023-09-19	For Technical Working Group preliminary review and comment
Draft Final	2023-12-08	Draft Final Report Submission
Final Report	2024-03-14	Final Report Submission

Report Validation

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BCIN: 31284

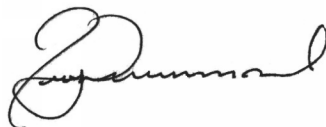
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1.0 Executive Summary

The HousingTO 2020-2030 Action Plan issued in December 2019 outlines the implementation of a comprehensive city-wide zoning approach to Multi-Tenant Housing including making enhancements to Toronto's licensing and enforcement for this housing type. The objectives of the HousingTO 2020-2030 Action Plan are to encourage and facilitate safe, liveable, well-maintained multi-tenant houses across the city.

As part of this process, Toronto Building released a Request for Proposal (RFP) on November 10, 2022, to provide an evaluation of the Ontario Building Code (OBC) requirements as they relate to the overarching goal outlined above.

The goal of this report is to provide clarity and transparency to the application of the OBC to "boarding, lodging, or rooming houses" (referred to as 'rooming houses' throughout this report) as they are defined by the OBC and identify avenues for alternative compliance measures.

Additionally, it was anticipated that the scope of services identified in the RFP and the intended goal of this report would be accomplished, in part, through the establishment of generic alternative solutions (i.e., those which may have little technical variation or those that address a specific component of a building that is highly typical from one building to another). Generic alternative solutions are intended to simplify the process of acceptance of alternative solutions and expedite issuance of building permits. The applicant/landowner also has the additional benefit of understanding the conditions of approval well in advance of submitting an application for building permit and alternative solution.

This report focuses on renovations as well as conversions of existing buildings into rooming houses, acknowledging that the vast majority of challenges as identified by owners, operators, and the municipality are related to existing rooming house renovations rather than the construction of new "purpose built" rooming houses.

In order to ascertain what alternative compliance measures or alternative solutions might be considered and evaluated, the typical issues related to compliance with the OBC requirements must first be established. The development of the content of this report included the engagement of the City of Toronto subject matter experts (SMEs) from Toronto Building and Toronto Fire Services to confirm challenges faced as part of the building permit process and inspections.

Based on our research completed for this study, the aforementioned issues as identified by both the municipality and the owners/operators have been consistent from the time of the original by-laws enacted by the City of Toronto in 1974. That is, the conversion of a house that had functioned as an existing single-family dwelling unit into a multi-tenant dwelling continues to be challenging with respect to determining the necessary upgrades that are required and how to incorporate the same in an efficient manner from the perspective of construction cost, the compliance process, and time required to complete the conversion.

Over the years, the Ontario Building Code has adapted significantly (more so than most or any other jurisdiction in Canada) to the challenges of building conversions and renovations. The result (i.e., Part 11 – Renovation of the OBC) is typically described as complicated or challenging to use, given the multitude of cross-referenced requirements and limited explanation of how to use or when to apply the alternative means of compliance that are available as well as the significant variability in the buildings (i.e., size, age, layout, construction material, extent of prior renovations, etc.).

It is important to clarify the distinction between an *acceptable solution*, an *alternative solution*, and a *compliance alternative*. Acceptable solutions are those that are written prescriptively in the OBC and include specific quantitative requirements such as the minimum clear width of a doorway. *Alternative solutions* are those that are developed by designers that address the intent of the acceptable solution and may include engineering studies or other supporting information to quantify that the solution will provide no less than equal performance when compared to the acceptable solution. Lastly, a *compliance alternative* is a specific permission by the OBC for a reduction in the performance level of the acceptable solution based on constructability issues (e.g., an allowance for the required clear width of a doorway to be less than the dimension identified by the acceptable solution).

This report recommends that consideration should be given to reevaluating the threshold at which a building or a “dwelling” becomes a rooming house (i.e., more than four boarders, lodgers, or roomers). That is, it may be possible to reevaluate this threshold to establish a value that takes into consideration, more technically, the risks to life safety associated with this type of housing type. That is, consideration could be given to increasing the number of rented rooms that buildings would then need to conform to the requirements for a rooming house and allowing buildings with fewer rented rooms to be considered more similar to a single-family dwelling. This approach would require a change to the OBC definition of a boarding, lodging, or rooming house through the Ministry of Municipal Affairs and Housing.

Based on the summary of challenges that have been identified, the following is a list of the building elements or aspects that have been evaluated for permitted alternative compliance measures or potential generic alternative solutions related to the associated OBC requirements:

1. Definition of a Rooming House
2. Determination of Fire-Resistance of Assemblies
3. Floor Assembly Fire Separations and Fire-resistance of Loadbearing Elements
4. Suite Fire Separations
5. Public Corridor Fire Separations
6. Number of Required Exits
7. Furnace/Service Room Fire Separation
8. Fire Dampers
9. Flame Spread Rating of Interior Finishes
10. Barrier-free Accessibility

Each of the issues identified in the previous section by both the municipality and the building owners/operators can be attributed to a specific requirement or set of requirements in the OBC. Accordingly, and in consideration of the goal of the evaluation, each aspect of the OBC identified above has been evaluated utilizing the following format:

- a) Identification of the OBC requirement,
- b) Identified compliance challenges,
- c) Applicable Part 11 compliance alternatives,
- d) OFC companion requirement(s),
- e) Comparison to other jurisdictions, and
- f) Compliance options.

Each fire protection or life safety aspect that has been evaluated in this report provides options towards achieving compliance with the OBC. These options are intended to provide building owners and rooming house operators with a “menu” of available means to achieve compliance so that they can determine which is the most practical solution when considering costs, timing/duration of construction, disruption to tenants, etc. As will be observed, there are a multitude of options available and likely a high degree of variability of upgrade or retrofit that may be necessary for a particular building to comply with the OBC.

As will be demonstrated through the analysis described above, there is a significant amount of variability in the issues that may be applicable to any rooming house conversion, with the same variability being applicable in the available solutions to those issues either individually or in combination. On this basis, it has been determined that a costing analysis will focus on how the most appropriate and/or cost-effective solution can be determined on a project-by-project basis (i.e., rather than costing each or all of the available compliance options as they apply to the various building types).

There is, however, some commonality found between certain building elements and solutions that are available. The three significant elements are:

- a) The provision of a fire alarm system within the building,
- b) The provision of automatic sprinklers within the building or part(s) of the building, and
- c) Limiting the number of boarders or lodgers with no cooking facilities within suites and the suites form part of the proprietor’s residence.

In order to address the risks associated with the above discussion, it is recommended that a professional that has a demonstrated experience in the application of Part 11 of the OBC to residential occupancies be engaged to complete an engineering analysis to determine the most appropriate and/or cost-effective solution to the OBC requirements. The consultant would be engaged by the building owner or operator (i.e., the building permit applicant) to provide an engineering evaluation to assess and recommend compliance approaches that will:



- a) Provide the building permit applicant with an opportunity to understand the cost and constructability implications and select the appropriate compliance approach(es) to address their needs, and
- b) Provide the municipal building department with an evaluation of the approach to compliance from which they can evaluate the submitted plans for compliance.

2.0 Introduction

The HousingTO 2020-2030 Action Plan issued in December 2019 outlines the implementation of a comprehensive city-wide zoning approach to Multi-Tenant Housing including making enhancements to Toronto's licensing and enforcement for this housing type. The objectives of the HousingTO 2020-2030 Action Plan are to encourage and facilitate safe, liveable, well-maintained multi-tenant houses across the city.

As part of this process, Toronto Building released a Request for Proposal (RFP) on November 10, 2022 to provide an evaluation of the Ontario Building Code (OBC) requirements as they relate to the overarching goal outlined above.

The key theme established within the RFP is to address significant areas of challenge for the City of Toronto. For multi-tenant housing, the key theme is to address construction-related obstacles with some housing typologies in order to increase the quantity of affordable housing units within the city.

Multi-unit houses have the potential to further increase the City's rental stock and provide a greater range of housing options. However, like Laneway Suites, there is also a lack of clarity of the applicable Ontario Building Code requirements and how compliance with these requirements can be achieved through alternative approaches. The identified goal of this work is to help non-profit and private multi-tenant house operators find generic and cost-effective alternative solutions to common challenges which they may face in achieving compliance with prescriptive requirements of the Ontario Building Code.

Further to these objectives, Toronto Building wants to identify challenges which property owners might have, either in bringing their existing illegal multi-tenant houses into compliance with current Code requirements or in converting new Code-compliant multi-tenant houses.

The overall goal of this study is to undertake an analysis of the OBC requirements related to Multi-Tenant Housing where the public, industry, and Toronto Building and Toronto Fire Services have identified challenges with meeting certain prescriptive Code requirements. Consideration of these challenges and, where feasible, development of innovative approaches to meeting Code and public safety objectives have potential as a tool to facilitate and expedite the permit process and to remove obstacles towards achieving compliance with the OBC.

2.1 Purpose of This Report

The goal of this report is to provide clarity and transparency to the application of the OBC to rooming house facilities and identify avenues for alternative compliance measures.

This scope of services is limited to the fire protection and life safety aspects of the OBC.

It is acknowledged that many of the building owners and operators in this housing category tend to undertake this work on their own or via contractors or trades. This effort to provide information and identify compliance options is intended to simplify the eventual permit process that is required for this work, which is expected to reduce the number of issues raised during the permit review and subsequent construction review processes.

It is through the establishment of generic alternative solutions (i.e., those which may have little technical variation or those that address a specific component of a building that is highly typical from one building to another) that this report sets out to accomplish this goal. Although this approach will continue to require approval by Toronto Building for each building permit application, generic alternative solutions are intended to simplify the process of acceptance of alternative solutions and expedite issuance of building permits. The owner/operator/applicant also has the additional benefit of understanding the conditions of approval well in advance of submitting an application for building permit and alternative solution.

This report focuses on renovations as well as conversions of existing buildings into rooming houses, acknowledging that the vast majority of challenges as identified by owners, operators, and the municipality are related to existing rooming house renovations rather than the construction of new “purpose built” rooming houses.

On this basis, this report will analyze and evaluate OBC requirements relative to renovations and the “change of use” of existing buildings into rooming houses as defined by the OBC. This report will compare these requirements to those of other jurisdictions as well as to the application of the companion requirements of the Ontario Fire Code (OFC).

For greater clarity, this report does not include residential occupancies not meeting the OBC definition for rooming houses. For example, apartment buildings, hotels/motels, hostels, dormitories, shelters, group homes, and care homes are not included in this evaluation.

This report does also not include an evaluation of the OBC requirements as they would be applied to a new purpose-built rooming house. This exclusion considers that the challenges represented by owners, operators, and municipalities are not typically encountered or are not applicable to new construction.

2.2 Process and Research

In order to ascertain what alternative solutions or alternative compliance measures might be considered and evaluated, the typical issues related to compliance with the OBC requirements must first be established. Task 1 of this scope of services included the engagement of the City of Toronto subject matter experts (SMEs) from Toronto Building and Toronto Fire Services to confirm challenges faced as part of the building permit process and inspections. Task 2 included a review of the applicable code requirements as well as a comparison of the approaches that other municipalities have used to address these issues.

The outcome of the completion of Task 1 and Task 2 included:

- A summary of typical issues received by Toronto Building and Toronto Fire. This part of the analysis/process lead to the conclusion that there are not necessarily “archetype” buildings to which a set of generic solutions could be applied, but rather typical conditions that may or may not be present within any building for which the OBC provides multiple options towards achieving compliance or to which generic solutions could be developed.
- Working Group Session 1 to present the initial analysis of applicable codes and confirm challenges identified by Toronto Building and Toronto Fire.
- Working Group Session 2 to present the initial evaluation of the options available for compliance and confirm the aspects of the Ontario Building Code that would be part of the evaluation for alternative solutions.

- Ad Hoc Meeting 1 to present and discuss initial findings of the alternative solution evaluation.
- Working Group Session 3 to review the First Draft of this report.

Following the completion of Tasks 1 and 2, an engineering analysis was conducted (Task 3) to inform and identify measures, prescriptive compliance options/pathways, or alternative/mitigating features that could be incorporated into a retrofit for Multi-Tenant Housing to address the challenges identified in Task 1 by the City of Toronto Working Group on Multi-Tenant Housing.

This report provides a summary of the information gathered, analysis of the conformance challenges, and the proposed approaches to compliance that are intended to address the identified challenges.

2.3 Acknowledgement of the Working Group

This report has been prepared with the invaluable assistance and expertise provided by members of the technical working group and subject matter experts from Toronto Building and Toronto Fire Services – Prevention.

Sponsorship

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2.4 Limitations of This Report

This report was prepared by LMDG Building Code Consultants Ltd. For the City of Toronto.

The material provided in this report is based on LMDG's best judgment in light of the information available to LMDG at the time of preparation. With the exception of the City of Toronto, any use of this report by third parties or any reliance on or decisions to be made based on it are the responsibility of such third parties. LMDG accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions based on this report.

3.0 Summary of Regulatory Framework

The following subheadings provide a brief summary of the role of each group that possesses a responsibility for regulatory compliance. The information used in each summary is publicly available and is as presented by the City of Toronto and the Province of Ontario as applicable.

3.1 Role of Toronto Building

As provided on the City of Toronto website:

Toronto Building works with the public, designers and the building industry to create a safe, healthy, sustainable and accessible built environment.

The Ontario Building Code Act establishes the Division's primary responsibilities, which are:

- a) review applications to demolish, alter or construct buildings and issue permits,*
- b) conduct inspections during construction to make sure work being done is in compliance with the Building Code, and issued permits, and*
- c) if necessary, issue orders to enforce compliance.*

As summarized above, Toronto Building, and all other municipal building departments, do not have a responsibility to provide solutions to building permit applicants. Indeed, it has often been considered to be a liability that precludes a municipal building department from providing advice as to 'how' to comply in addition to 'checking' or 'inspecting' that the submitted application and/or construction does or does not comply.

As will be demonstrated through the technical content of this report, the significant variability in the required upgrades for buildings and the same variability in the available solutions offered by the OBC creates inherent challenges to obtaining agreement or concurrence with the approach to compliance with the minimum performance level required by the OBC. It is noted that an objective of Toronto Building is balancing its role of regulatory oversight with also providing clarity, certainty and consistency to permit applicants in order to facilitate compliance. This can be done through developing standard guidelines and bulletins related to the Building Code, zoning bylaw and other bylaws administered by Toronto Building.

3.2 Role of Toronto Fire Services

As provided on the City of Toronto website:

Toronto Fire Services is the City's only all hazards emergency response organization. Fire Services provides Toronto residents, visitors and businesses with protection against loss of life, property and the environment from the effects of fire, illness, accidents, and all other hazards through preparedness, prevention, public education, and emergency response, with an emphasis on quality services, efficiency, effectiveness, and safety.

The Fire Prevention Division of Toronto Fire Services (TFS) meets the day-to-day challenges of providing fire inspection services, building plan approvals, building retrofit, fire code compliance and complaint inspections across the City of Toronto.

Fire Prevention Inspectors are committed to ensuring the safety of the public as their primary focus, by reducing the potential of fire in the built environment. The work carried out by our fire protection engineer and fire plans examinations staff, as well as our inspections staff, is vital in ensuring that all structures built in the city are in compliance with the Ontario Building and Ontario Fire Codes.

Similar to the commentary provided for the role of Toronto Building, there are limitations to how Toronto Fire Services might advise a building owner or operator related to achieving compliance with the Ontario Fire Code or the Ontario Building Code.

3.3 Role of the Ministry of Municipal Affairs and Housing

As provided on the Government of Ontario website:

The Province's role is to:

- a) *update the Building Code Act and Building Code, and*
- b) *develop and maintain the qualification and registration system for building practitioners including:*
 - i. *building officials such as chief building officials, supervisors, managers, plans examiners and inspectors,*
 - ii. *certain classes of designers,*
 - iii. *on-site sewage system installers, and*
 - iv. *registered code agencies including private companies hired by municipalities to conduct inspections.*

The Province does not oversee the enforcement activities of municipalities.

Further to the above, the Ministry of Municipal Affairs and Housing does not provide technical advice to the public on the application or interpretation of the OBC requirements.

3.4 Relationship Between the OBC and the OFC

The Ontario Building Code (OBC) and Ontario Fire Code (OFC) each contain provisions that relate to the safety of persons in buildings in the event of a fire and the protection of buildings from the effects of fire. These two codes are developed as complementary and coordinated documents to minimize the possibility of their containing conflicting provisions. Generally, it is expected that buildings comply with both the OBC and the OFC.

The OBC provides requirements related to fire safety and fire protection features that are required to be incorporated in a building at the time of original construction. Building codes typically no longer apply once a building is occupied unless the building is undergoing alteration or change of use. Meaning, the OBC is not intended to be retroactively applied to an existing building that had otherwise been permitted to be constructed at the time.

The OFC provides requirements relative to the ongoing maintenance and use of the fire safety and fire protection features incorporated in buildings. The OFC also provides requirements for:

- the conduct of activities that might cause fire hazards in and around buildings.
- limitations on hazardous contents in and around buildings.
- the establishment of fire safety plans, and
- fire safety at construction and demolition sites.

The OFC, through Part 9 – Retrofit, provides minimum mandatory upgrade/retrofit requirements for certain building types. It is noted that Rooming Houses are required to meet mandatory upgrade requirements as provided in OFC Section 9.3.

3.5 City of Toronto Framework for Multi-Tenant (Rooming) Houses

As provided on the City of Toronto website:

On December 14, 2022, Toronto City Council adopted a new regulatory framework for multi-tenant houses resulting in an amendment to the City's Zoning Bylaw to permit multi-tenant houses across Toronto. A new Multi-Tenant Houses Licensing Bylaw was also adopted, and will introduce consistent standards, regulatory oversight, and enforcement to help protect the safety of tenants and respond to neighbourhood concerns.

The new regulatory framework will help create safe, adequate multi-tenant houses, expanding affordable housing options in Toronto. It will also help support more complete and equitable communities with a range of housing opportunities for different incomes and needs.

Key points of the new framework include:

- *Enabling City-wide zoning permissions and associated standards for multi-tenant houses across the city, including limits on the maximum number of rooms permitted in multi-tenant houses.*
- *Enhanced licensing requirements for multi-tenant house operators that promote health and safety, including property maintenance requirements, compliance with the Ontario Building Code and Ontario Fire Code, and new standards for personal care multi-tenant houses.*
- *A strategic enforcement and compliance program that ensures effective enforcement through a dedicated enforcement team, annual inspections, increased fines, a modernized multi-tenant housing tribunal, and other enforcement tools.*
- *Initiatives to support tenants and maintain affordability of housing, including a Housing-at-Risk Table, aimed to mitigate the loss of affordable rental housing and support tenants who face evictions.*
- *Comprehensive communications and stakeholder engagement strategy, including education and outreach to owners, operators, tenants, and communities.*

4.0 Application of the Code

The following subheadings provide an outline of the purpose and composition of the OBC and identify which parts of the OBC are applicable to a Boarding, Lodging, or Rooming House as defined by the OBC. The building codes from other jurisdictions included in this evaluation are introduced as their relevance relates to this study.

Additionally, the application of the OFC as it relates to existing Boarding, Lodging, and Rooming Houses is explained as defined by the OFC.

4.1 Ontario Building Code

The concept of a ‘safe’ building is constantly evolving due to the dynamic nature of the built environment, including construction methods, materials, political influence, and societal risk tolerance.

From a fire protection and life safety perspective, the elements or systems that are identified by the OBC requirements can generally be categorized as providing “passive” protection or “active” protection. Passive fire protection elements are those components or assemblies in a building that provide their required performance as constructed. An example of a passive element is a fire separation. Active fire protection elements require an event to trigger or cause the fire protection element to function, such as a sprinkler system or a fire alarm system.

The Ontario Building Code is published by the Ministry of Municipal Affairs and Housing.

The version of the OBC used for this report is O.Reg. 332/12 as amended by O.Reg. 89/23.

4.1.1 Acceptable Solutions and Alternative Solutions

The Objective-based OBC is made up of two major divisions – Division A and Division B. Division A presents the objectives that the code addresses and the functional requirements (in qualitative terms) that solutions must satisfy. Division B presents the quantitative performance criteria with which solutions must comply (where these are available) and provides deemed-to-comply/prescriptively compliant solutions (i.e., “acceptable solutions”) drawn from the current version of the Building Code.

The OBC 2012 explains that compliance with the Code can be achieved by:

- complying with the applicable acceptable solutions in Division B, or
- using alternative solutions that will achieve at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the applicable acceptable solutions.

The quantitative performance criteria provided in the Code for the various and multitude of requirements generates an “overall” or an “average” performance level – a sum-of-all-parts, so to speak. Where an “alternative solution” to a Code requirement is considered, it must ensure that the average performance level of the building is not reduced. Meaning, where an alternative solution is proposed to address a decrease in the performance level of a certain aspect or element of the building, some or all of the

remaining aspects or elements of the building would be enhanced (or their performance level increased) in order to achieve at least the same overall performance for the building.

With respect to alternative solutions, the Code also includes an entire list of Objective Statements, categorized as:

- OS – Safety,
- OH – Health,
- OA – Accessibility, and
- OP – Fire and Structural Protection of Buildings.

Included as part of this document is the list of Functional Statements, which are measures – such as those described in the acceptable solutions in Division B – that are intended to allow the building or its elements to achieve the stated objectives. Finally, the OBC includes a list of the objective and functional statements attributed to each code requirement (i.e., Division B) and against each specific code reference.

As described in Division C, Sentence 2.3.1.1.(1), acceptance of alternative solutions is at the discretion of the Chief Building Official.

Currently, alternative solution applications submitted to Toronto Building are a separate application connected to a building permit application. The fee for each alternative solution submission, as provided on the City of Toronto website, is \$2,189.64 (as of January 1, 2024). Details related to the alternative solution review process is not provided on the City of Toronto website, though it is understood that Toronto Building has formed a technical committee, consisting of Toronto Building staff, that review alternative solution submissions and provides feedback/comments to permit applicants following a review.

It is recommended that changes to the submission and review process as well as the fee structure for alternative solutions be considered should Toronto Building proceed with generic alternative solutions presented as part of this report. These changes would reflect the generic nature of the alternative solution submission reducing the period of time for the technical review, and therefore cost, of the submission.

4.1.2 Definitions

The following are definitions of applicable terms used within the OBC that are relevant to this report as provided in Division A, Article 1.4.1.2 of the OBC:

Boarding, lodging, or rooming house means a building,

- a) that has a building height not exceeding three storeys and a building area not exceeding 600 m²,
- b) in which lodging is provided for more than four persons in return for remuneration or for the provision of services or for both, and
- c) in which the lodging rooms do not have both bathrooms and kitchen facilities for the exclusive use of individual occupants.

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

Dwelling unit means a suite operated as a housekeeping unit, used or intended to be used by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

Hotel means floor areas, a floor area or part of a floor area that contains four or more suites and that provides sleeping accommodation for the travelling public or for recreational purposes.

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

Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes,

- a) dwelling units,
- b) individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories, and
- c) individual stores and individual or complementary rooms for business and personal services occupancies.

Fire separation means a construction assembly that acts as a barrier against the spread of fire.

From Appendix A 3.1.8.1.(1)(b):

Although a fire separation is not always required to have a fire-resistance rating, the fire separation should act as a barrier to the spread of smoke and fire until some response is initiated.

When choosing products for the fire stopping, the physical characteristics of the material used at the joints as well as the nature of the assembly and its potential movement should be taken into consideration.

If the fire-resistance rating of a fire separation is waived on the basis of the presence of an automatic sprinkler system, it is intended that the fire separation will be constructed so that it will remain in place and act as a barrier against the spread of smoke for a period of time until the sprinklers have actuated and controlled the fire.

Additional explanation of terms:

Early Warning System has been interpreted, for the purposes of this report, to mean a fire alarm system or a residential warning system. For greater clarity, interconnected smoke alarms alone have not been considered to mean an “early warning system” in the context of compliance alternatives or alternative solutions.

The following definitions are identified in the Toronto Municipal Code Chapter 575, Multi-Tenant Houses:

Multi-Tenant House: A building with **four or more** multi-tenant house rooms, inhabited or intended to be inhabited by persons who do not live together as a single housekeeping unit.

Multi-Tenant House Room is a room that:

- a) is used or intended to be used for living accommodation and is used or intended to be used as a bedroom;
- b) is available for rent; and
- c) may include a bathroom or kitchen facilities for the exclusive use of the room's occupant but does not include both.

Dwelling Room: A room used as non-self-contained living accommodation that is available for rent. A dwelling room may contain private washrooms or cooking facilities, but not both.

Multi-tenant house: a building with four or more dwelling rooms that may have shared common facilities for sanitary (washroom) and cooking (kitchen facilities).

4.1.3 Application of Part 9 – Housing and Small Buildings

The requirements of OBC Part 9 are intended to reflect the means of typical construction and the generally lower hazard associated with smaller buildings. This concept is reflected by the limit to building height at three storeys or less and the limit to the area of the building by a maximum of the building footprint at 600 m² or less.

A building that exceeds either of these two limits would be subject to the requirements of OBC Part 3 and would require the design and general review of the building to be completed by registered professionals (i.e., architects and/or engineers). Comparatively, a Part 9 building can be designed by a designer who has been qualified through the Ministry of Municipal Affairs and Housing and does not require a general review by registered professionals to be completed.

The OBC definition of a boarding, lodging, and rooming house provides limits to both the building area and building height and, as such, this type of building may be constructed in accordance with OBC Part 9.

4.1.4 Application of Section 9.40 and Part 10 – Change of Use

In addition to OBC Part 9 being applicable to new construction and to renovations, we must also consider the application of the OBC when contemplating a change of use to a building or part thereof.

A relevant example would be the owner of a five-bedroom single-family dwelling unit deciding to rent out all bedrooms in return for remuneration, such as student housing. As identified by Clause 9.40.1.1.(1)(b), a suite of Group C major occupancy being converted into more than one suite of a Group C major occupancy constitutes a change of use that may require compensating construction.

4.1.5 Application of Part 11 – Renovations and Compliance Alternatives

Where renovations, including a change of use, are undertaken in an existing building, Part 11 Renovations provides a detailed and thorough means of determining the extent of upgrades (or compensating construction) that are and are not necessary.

Key considerations for the use of OBC Part 11 are that this part is only applicable to buildings that have existed for at least five years and that the existing conditions of the building were permitted at the time of its original construction (or, in other words, the original building had been completed under an approved permit).

With respect to the renovation to an existing building, in accordance with Article 11.1.2.1., where a building is subject to extension, material alteration, or repair, the proposed construction is required to comply with Section 11.3. and the performance level of the building is required to be evaluated and compensating construction to be undertaken in accordance with Section 11.4. Further clarification of the intent of this requirement is found in Appendix Note A-1.1.2.7.:

...only the areas or portions of a building being renovated, or other parts of a building adversely affected by that renovation need comply with the requirements of the Code; all other areas or portions need not comply with the Code and may remain unchanged.

In accordance with Article 11.3.1.1., where an existing building is materially altered or repaired, the performance level of the building will be required to be at least equal to the performance level of the building prior to the material alteration or repair.

OBC Part 11 Compliance Alternatives

In accordance with Article 11.3.1.2., the design and construction of a new building system is required to comply with all other Parts of the Building Code or a compliance alternative as shown in Section 11.5. Compliance alternatives are “relaxations” provided in the OBC to address typical construction difficulties encountered during renovations. That is, the OBC provides prescriptively permitted reductions in the required performance level of certain aspects of an existing building undergoing a renovation. This is an important distinction and a key difference when compared to an alternative solution. As identified previously in this report, an alternative solution will provide a performance level that is at least equal to the performance level of the prescriptive requirement (i.e., the acceptable solution).

For example, Subsections 9.8.1 through 9.8.4 identify the numerous dimensional requirements for stairs including rise/run, width, landings, handrails, etc. The following excerpt from Table 11.5.1.1.C identifies a compliance alternative (C109) which explains that those dimensional requirements are not applicable to the replacement or extension of existing stair systems with the exception of a minimum width of 700 mm (vs. 900 mm) and a minimum headroom clearance of 1800 mm (vs. 2080 mm).

C109	9.8.1. to 9.8.4.	Replacement or extension of existing stair systems shall be exempt from the provisions of these Subsections, except that they shall have: (a) a minimum width between wall faces of 700 mm, and (b) a minimum clear height over tread nosing or landing of 1 800 mm.
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It is also important to recognize that a compliance alternative as provided in Section 11.5 may be substituted for an acceptable solution contained in Part 9 **without** satisfying the chief building official that compliance with the acceptable solution is impracticable. The application of compliance alternatives to Part 9 buildings differs significantly from that of the application to Part 3 buildings (which requires approval by the Chief Building Official to permit the application of a compliance alternative).

As will be observed through the technical analysis of this report, there are typically a number of potential prescriptive options and compliance alternative options available to address the various issues faced when renovating a building for a different use. It is for these reasons that OBC Part 11 has a history of being a difficult component of the OBC to navigate and use effectively.

4.1.6 Designer Qualification Requirements

As identified by Division C, Article 3.2.4.1., a person carrying out design activities to the public is required to be registered with the Director of the Municipal Affairs and Housing with respect to being qualified to provide those design activities.

Although it is noted that Division C, Clause 3.2.4.1.(3)(d) exempts a person from being registered if the design activities relate to the extension, material alteration or repair of a house, the definition of a house does not include a boarding, lodging, or rooming house. On this basis, the design activities related to a boarding, lodging, or rooming house are required to be carried out by a person who has passed the examinations for the design of Small Buildings or the category applicable to the building element being designed and is registered as a designer with MMAH.

4.2 Ontario Fire Code

The companion requirements included in this evaluation are those provided in OFC Section 9.3 – Boarding, Lodging, and Rooming Houses for the mandatory retrofit requirements that are applicable to boarding, lodging, or rooming houses that are existing. As identified by the OFC, “existing” means that the rooming house existed on February 11, 1987, as a permitted and OBC-compliant rooming house at that time.

This analysis excludes the OFC requirements related to the maintenance of existing building elements or systems such as those provided in OFC Part 2 and OFC Part 6.

The Ontario Fire Code is published by the Office of the Fire Marshal (OFM) through the Ministry of the Solicitor General.

The version of the OFC used for this report is O.Reg. 213/07 as amended by O.Reg. 319/22.

4.3 Comparison of Additional Jurisdictions

Each building element that has been evaluated includes a comparison of the same or similar requirement that is provided in the following building codes:

2020 National Building Code of Canada (NBC)

This is the model code from which all provinces/territories/jurisdictions, including Ontario, adopt their building codes.

The version of the NBC used for this report is 2020 (Fifteenth Edition).

2019 Vancouver Building Bylaw (VBBL)

Vancouver is the only major municipality that continues to administer its own building code rather than adopting the provincial building code (i.e., the British Columbia Building Code, abbreviated as BCBC).

The version of the VBBL used for this report is By-Law No. 12511 with consolidated changes to June 1, 2021.

2021 International Building Code (IBC)

The IBC is similar to Canada's NBC and provides a model building code for individual states or cities to adopt. For example, the IBC is the model building code for California, New York, and Illinois.

The version of the IBC used for this report is the 2021 edition (October 2020).

5.0 Understanding the Issues

As identified, this analysis focuses on the challenges related to compliance with the requirements of the OBC as faced by building owners, building operators, and Toronto Building as it relates to plans examination and inspections.

The data gathering process was completed in order to understand the extent of enforcement challenges and includes direct observations provided by Toronto Building through the plans examination and inspections completed as part of the building permit submission process. Data has also been obtained through the inspection process completed by Toronto Fire Services.

The predominant compliance issues identified by the specific building permit and fire inspection records are related to the OBC/OFC definition of a rooming house and how this definition can be applied to a building that also contains multiple dwelling units. A table providing an abbreviated summary of the key findings of the data gathering process specific to rooming house buildings is provided in **Appendix A**.

Additionally, a series of working group meetings were held to discuss the typical technical compliance issues that arise during the plans examination and building inspections within the building permit process and fire prevention inspections related to existing buildings.

5.1 Municipal Enforcement

The following are general topics that were discussed or identified as challenges encountered during building and fire inspections:

- Number of exits required,
- Exposure protection of exits,
- Continuity of fire separations,
- Use of a balcony as an area of refuge,
- Minimum room and window areas,
- Fire separation of exits and public corridors,
- Maximum travel distance to an exit,
- Dimensional requirements for existing stairs,
- Service room fire separations,
- Emergency lighting,
- Door sizes,
- Minimum ceiling heights and headroom clearance, and
- Exposing building face construction requirements for additions.

5.2 Applicant Compliance

Additionally, the following provides a brief summary of the challenges that have been identified by building owners and/or rooming house operators with respect to compliance with the OBC requirements. This information has been obtained from the “Report for Action – A New Regulatory Framework for Multi-Tenant Houses.”¹

¹ City of Toronto Staff Report PH25.10, October 2021

The key issues reported are:

- Cost of compliance:
 - May cause reluctance to report and obtain an operating license,
 - May cause an owner to sell the property rather than complete renovations to achieve compliance,
 - May cause owner to upgrade to dwelling units rather than continue as a rooming house, or
 - May require that the tenants are displaced as a result of invasive construction work in the building.
- Owners and/or operators are not familiar with regulatory requirements of OBC, OFC, or municipal licensing,
- Boarding, Lodging, and Rooming Houses are not typically “purpose built” as new buildings,
- Rooming house conversions may be a temporary investment property, and
- There are challenges with the knowledge level and/or expertise of contractors and trades related to the fire protection and life safety building elements or systems required for rooming houses.

5.3 Challenges with the OBC

Based on our research completed for this study, the aforementioned issues as identified by both the municipality and the owners/operators have been consistent from the time of the original by-laws enacted by the City of Toronto in 1974. That is, the conversion of a house that had functioned as an existing single-family dwelling unit into a multi-tenant dwelling continues to be challenging with respect to determining the necessary upgrades that are required and how to incorporate the same in an efficient manner from the perspective of construction cost, the compliance process, and time required to complete the conversion.

However, over the years, the Ontario Building Code has adapted significantly (more so than most or any other jurisdiction in Canada) to the challenges of building conversions and renovations.

The result (i.e., Part 11 – Renovation of the OBC) is typically described as complicated or challenging to use, given the multitude of cross-referenced requirements and limited explanation of how to use or when to apply the alternative means of compliance that are available as well as the significant variability in the buildings (i.e., size, age, layout, construction material, extent of prior renovations, etc.).

5.4 Summary of OBC Requirements Included in Evaluation

The identification of each fire protection and life safety requirement that is applicable to a residential building containing a rooming house has been undertaken and is provided in a summary table in **Appendix B** to this report. Only those requirements that have been identified as challenges have been evaluated further within this study. For greater clarity, those requirements that have not been evaluated have been deemed to be sufficiently addressed by the provisions of the OBC and/or do not present significant barriers to compliance such that they are expected to be provided in compliance with the OBC via the acceptable solutions, including compliance alternatives, prescribed by the OBC.

Based on the summary of challenges that have been identified, the following is a list of the building elements or aspects that have been evaluated for potential alternative solutions and compliance options related to the associated OBC requirements:

1. Definition of a Rooming House
2. Determination of Fire-Resistance of Assemblies
3. Floor Assembly Fire Separations and Fire-resistance of Loadbearing Elements
4. Suite Fire Separations
5. Public Corridor Fire Separations
6. Number of Required Exits
7. Furnace/Service Room Fire Separation
8. Fire Dampers
9. Flame Spread Rating of Interior Finishes
10. Barrier-free Accessibility

The following are building elements or systems that were identified as challenges but, through the course of this evaluation, were deemed to be sufficiently addressed within the OBC or the compliance alternatives in OBC Part 11 – Renovations such that further evaluation was not undertaken:

- Lighting and emergency lighting
- Fire alarm systems
- Fire separation of exits
- Exposure protection for exits
- Existing stair/door dimensions
- Minimum room and window areas
- Firestopping of penetrations in fire separations
- Exit signs
- Interconnected smoke alarms
- Carbon monoxide alarms

6.0 Analysis of OBC Requirements

6.1 Format of Analysis

Each of the issues identified in the previous section by both the municipality and the building owners/operators can be attributed to a specific requirement or set of requirements in the OBC. Accordingly, and in consideration of the goal of the evaluation, each aspect of the OBC identified above has been evaluated utilizing the following format:

- a) Identification of the OBC requirement including:
 - i. Additional OBC Appendix A notes
 - ii. Attributed Functional Statements and Objectives
 - iii. NBC 2015 Intent Statements (see note below)
- b) Identified compliance challenges
- c) Applicable Part 11 compliance alternatives
- d) OFC companion requirement(s)
- e) Comparison to other jurisdictions
- f) Compliance options

As will be demonstrated through the analysis described above, there is a significant amount of variability in the issues that may be applicable to any rooming house conversion, with the same variability being applicable in the available solutions to those issues either individually or in combination. On this basis, it has been determined that a costing analysis will focus on how the most appropriate and/or cost-effective solution can be determined on a project-by-project basis (i.e., rather than costing each or all of the available options that are provided by the OBC or otherwise).

Note: In consideration that the Ministry of Municipal Affairs and Housing does not publish intent statements to the requirements of the OBC, this evaluation utilizes the intent statements published by the National Research Council of Canada (NRC) for the 2015 National Building Code of Canada (NBC). In each instance, the requirements of the 2015 NBC are the same as those of the OBC.

Based on the summary of challenges that have been identified, the following is a list of the building elements or aspects that have been evaluated for potential alternative solutions and compliance options related to the associated OBC requirements:

1. Definition of a Rooming House
2. Determination of Fire-Resistance of Assemblies
3. Floor Assembly Fire Separations and Fire-resistance of Loadbearing Elements
4. Suite Fire Separations
5. Public Corridor Fire Separations
6. Number of Required Exits
7. Furnace/Service Room Fire Separation
8. Fire Dampers
9. Flame Spread Rating of Interior Finishes
10. Barrier-free Accessibility

6.2 Application of OBC Part 9 to a Boarding, Lodging, or Rooming House

The application of OBC Part 9 to a residential occupancy requires that we first define the type of residential occupancy being proposed within the building.

As identified previously, the OBC provides the following definition:

Boarding, lodging, or rooming house means a building,

- a) *that has a building height not exceeding three storeys and a building area not exceeding 600 m²,*
- b) *in which lodging is provided for more than four persons in return for remuneration or for the provision of services or for both, and*
- c) *in which the lodging rooms do not have both bathrooms and kitchen facilities for the exclusive use of individual occupants.*

Based on the OBC definition, a building that provides four or fewer rooms for rent would be considered a single housekeeping unit that is not a rooming house and would therefore not be subject to the rooming house requirements. Notably, and as will be discussed further in this report, this is in contrast to the Toronto Municipal Code Chapter 575 defining rooming house as a building that four or more multi-tenant house rooms, inhabited or intended to be inhabited by persons who do not live together as a single housekeeping unit.

A building that contains five or more rented rooms, in which the lodging rooms do not have both bathrooms and kitchen facilities for the exclusive use of individual occupants, would be defined as a rooming house, provided that the building also meets the height and area limitations. In this case, each rented room would be classified as a suite per the OBC definition:

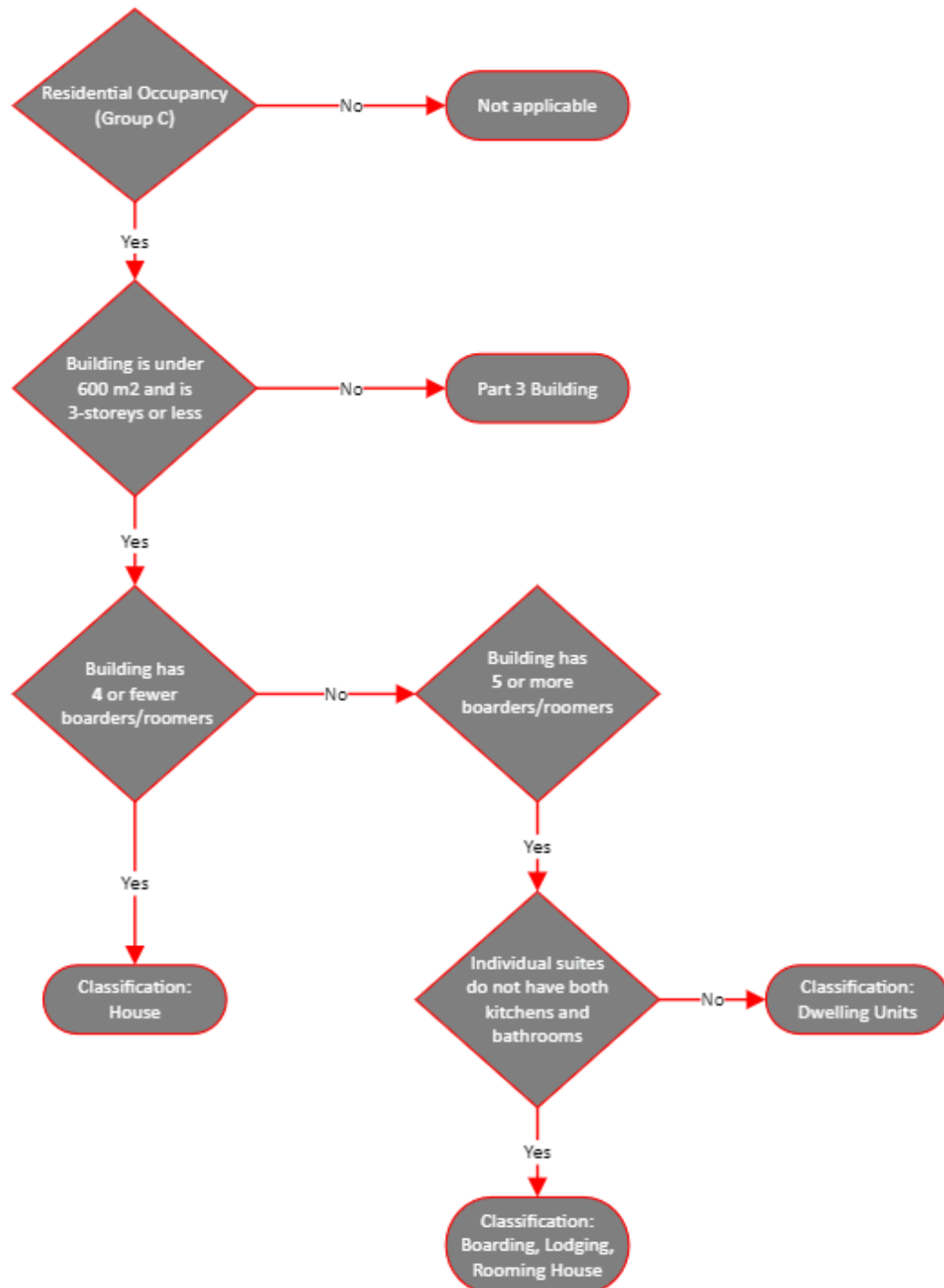
Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes,

- a) *dwelling units,*
- b) *individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories, and*
- c) *individual stores and individual or complementary rooms for business and personal services occupancies.*

Further to the above, a building classified as containing a rooming house cannot also be classified as a “house,” as it pertains to the application of the requirements of OBC Part 9. This is in consideration that a rooming house cannot be considered as a dwelling unit since a dwelling unit is defined as a suite that operates as a single housekeeping unit. In a rooming house, although multiple suites rely on the common amenities outside of each, such as a kitchen or a bathroom (or both), the presence of sleeping rooms that are defined as suites will preclude the classification as a single housekeeping unit. For example, the requirements that are applicable to floor assembly fire separations and fire-resistance ratings for loadbearing elements are not applicable to a “house” as prescribed by OBC Article 9.10.8.10. This same allowance cannot be applied to a rooming house. Accordingly, the application of Part 9 is on the basis of a

residential building that is classified as a rooming house and not subject to the allowances otherwise provided for a “house.”

The following diagram identifies the decision matrix for the application of Part 9 of the OBC to a boarding, lodging, and rooming house:



6.3 Definition of a Boarding, Lodging, Rooming House

The following table provides a comparison between the OBC, OFC, City of Toronto Zoning, and the IBC related to the definition of a Boarding, Lodging, or Rooming House, with emphasis placed on the number of rented rooms.

Less than the listed values for the number of rented rooms is considered to be a single housekeeping unit and would not be subject to the additional provisions for rooming houses.

Classification Criteria for Boarding, Lodging or Rooming House						
Regulatory Document	Regulated Element					
	Maximum Number of Storeys	Maximum Building Area ¹	Number of Rented Rooms ²	Suite Can Contain Washroom	Suite Can Contain Cooking Facilities	Suite Can Contain Both
Ontario Building Code (OBC)	3	600 m ²	5+	Yes	Yes	No
Ontario Fire Code (OFC) <i>Current Requirement</i>	3	600 m ²	5+	Yes	Yes	No
Ontario Fire Code (OFC) <i>Proposed Revisions</i>	3	600 m ²	4+	Yes	Yes	No
City of Toronto Zoning	Not Specified	Not Specified	4+	Yes	Yes	No
International Building Code (IBC)	Not Limited	Not Limited	No Minimum ³	Yes	Yes	No

Notes:

- 1) As defined by the OBC as the “footprint” of the building rather than the gross area of the building.
- 2) Assumes one person per rented room (i.e., one boarder/lodger).
- 3) The IBC categorizes boarding houses more specifically than the OBC. Refer to Section 6.3.2. for a detailed review.

It is important to note that each regulatory document also uses a different term to identify the threshold at which the building is considered to be a rooming house. The different terms are as follows:

OBC	Suite and number of persons in return for remuneration
OFC	Same as OBC
Toronto Zoning	Dwelling room
IBC	Sleeping unit
NBC	<i>Not defined</i>

6.3.1 How Was the Number of Occupants Determined?

It is interesting to note that the limits to the number of boarders that was included in the first City of Toronto zoning bylaw dedicated to rooming houses (1974) preceded the first edition of the OBC (1975) which did not include a definition of a rooming house, nor did it include specific requirements for boarding, lodging, or rooming houses.

Rather than a quantitative or technical approach to fire protection or life safety for this building type, these limits appear to be established via municipal planning restrictions to essentially prevent larger rooming houses in communities – perhaps an oversimplification of the issue. This concept is supported, at least in part, by the absence of a similar definition in the National Building Code.

6.3.2 International Building Code 2021

The following are additional definitions of the same or similar terms as provided in the International Building Code (2021):

Congregate Living Facilities A building or part thereof that contains sleeping units where residents share bathroom or kitchen facilities, or both.

Dwelling Unit A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.

Guestroom A room used or intended to be used by one or more guests for living or sleeping purposes.

Boarding House A building arranged or used for lodging for compensation, with or without meals, and not occupied as a single-family unit.

Lodging House A one-family dwelling where one or more occupants are primarily permanent in nature and rent is paid for guest rooms.

Sleeping Unit A single unit that provides rooms or spaces for one or more persons, includes permanent provisions for sleeping and can include provisions for living, eating, and either sanitation or kitchen facilities, but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

Transient Occupancy of a dwelling unit or sleeping unit for not more than 30 days.

In addition, the IBC subcategorizes the residential occupancy type to account for the varying uses within the overall category, as follows:

Residential Group R-1 Applies to boarding houses (transient use) and more than 10 occupants.

Residential Group R-2 Applies to boarding houses (non-transient) with more than 16 occupants.

Residential Group R-3 Applies to boarding houses (non-transient) with 16 or fewer occupants and boarding houses (transient) with 10 or fewer occupants.

Residential Group R-4 Applies to supervised residential facilities with between 5 to 16 occupants receiving custodial care.

Owner-occupied lodging houses with five or fewer guest rooms and ten or fewer total occupants are permitted to be constructed in accordance with the International Residential Code, provided that an

automatic sprinkler system is installed in accordance with the International Residential Code (i.e., similar to a house).

Occupant loads for residential occupants are determined by the IBC on the basis of 18.6 m²/person, whereas the OBC specifically requires that each sleeping area account for up to two persons per OBC Clause 3.1.17.1.(1)(c).

6.3.3 Analysis

If it is presumed that the threshold for the number of rented rooms is primarily based on municipal zoning requirements, which were then perhaps adopted into the OBC and OFC for consistency, then it may be possible to reevaluate this threshold to establish a value that takes into consideration, more technically, the risks to life safety associated with this type of housing type. That is, consideration could be given to increasing the number of rented rooms that buildings would then need to conform to the requirements for a rooming house (e.g., up to eight suites) and allowing buildings with fewer rented rooms to be considered more similar to a single-family dwelling. There are additional practicalities that require further consideration.

First would be clarification of what “value” is of primary importance, the number of rooms or the number of permanent occupants? While it appears that the IBC provides a clearer distinction, the method of calculating the occupant load for residential occupancies is based on an area/person calculation, whereas the OBC specifies that the occupant load is based on two persons per sleeping area, the difference being that the calculated occupant load might represent one person per room while the OBC would establish the occupant load as two persons per room. Alternatively, the OBC permits the occupant load to be determined on the basis of the building design. For example, if the rental agreement prohibits overnight guests or that the rental agreement is exclusive to the lessee, then the occupant load could be based on one person per suite.

Second is seeking clarification of what remuneration means. For example, housing provided by the province or by the City of Toronto may not prescriptively meet the definition of “remuneration” if no payment or return of services is made by the boarder to the owner/operator. In this case, the facility would not meet the definition of a boarding, lodging, or rooming house. Is this now a dwelling unit or is it an apartment if there are five or more rooms?

Third is considering how the definition of a boarding, lodging, or rooming house uses the term “building.” As an example, both sides of a semi-detached house separated by a party wall are considered to be one building. If each dwelling unit is used as a rooming house with four boarders, the “building” would contain eight boarders and would technically be required to meet the requirements for rooming houses. The same effect would occur if considering the example of a house that contains two dwelling units, as permitted by the OBC, and each dwelling unit contained four rented rooms. It should be confirmed that the broader application of the term “building” was intended by the OBC.

The following provides the suggested confirmation of intent of the application of the OBC with respect to the definition of a boarding, lodging, or rooming house as well as the potential of re-evaluating the definition itself:

Clarification of Intent of the Definition

Confirmation of Intent/Application of Current Requirements	<p>Purpose:</p> <p>Clarification</p> <p>Proposal:</p> <p>a) Clarify that the total number of boarders included in the definition of a boarding, lodging or rooming house either includes or excludes a “proprietor or owner occupied” room/suite.</p> <p>b) Clarify that the total number of boarders included in the definition of a boarding, lodging or rooming house could also mean the total number per “dwelling,” such that a semi-detached house, a row house, or a townhouse could each contain up to four rented rooms before being defined as a rooming house. Additionally, clarify if a house with two “dwellings” could contain up to four rented rooms per “dwelling.”</p> <p>Rationale:</p> <p>The clarifications above would assist in providing a consistent application of the OBC and accounts for the increase in the level of safety provided by the separation between dwelling units in each case.</p> <p>Additionally, as noted in the Report for Action – A New Regulatory Framework for Multi-Tenant Houses dated June 15, 2021 – Attachment 5, rooming houses in the City of Toronto typically have less than ten rented rooms.</p>
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Redefining Rooming House (Potential Technical Amendment)

Redefining Boarding, lodging, or rooming house	<p>Purpose:</p> <p>Technical Amendment</p> <p>Proposal:</p> <p>Consideration should be given to reevaluating the threshold at which a building or a “dwelling” becomes a rooming house. This would require a change to the OBC definition of a boarding, lodging, or rooming house via a proposed code change submitted for evaluation to the Ministry of Municipal Affairs and Housing.</p> <p>Rationale:</p> <p>The threshold should be established based on a quantitative or technical approach to fire protection or life safety for this building type commensurate with current construction practices/requirements.</p>
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6.4 Determination of Fire-Resistance Ratings of Existing Assemblies

6.4.1 OBC Requirement

In accordance with Sentence 9.10.3.1.(1), where a fire-resistance rating or a fire-protection rating is required in this Section for an element of a building, such rating shall be determined in conformance with:

- a) the basis of the results of tests conducted in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials,"
- b) MMAH Supplementary Standard SB-2, "Fire Performance Ratings," or
- c) MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies."

In accordance with Sentence 9.10.3.3.(1), floor, roof and ceiling assemblies shall be rated for exposure to fire on the underside.

In accordance with Sentence 9.10.3.3.(3), firewalls and interior vertical fire separations required to have fire-resistance ratings shall be rated for exposure to fire on each side.

Notes Provided in OBC Appendix A

A-9.10.3.1. (1)

The Tables found in MMAH Supplementary Standard SB-3 may be used to select building assemblies for compliance with Article 9.10.3.1. and Subsection 9.11.2. Assemblies not listed in those Tables are equally acceptable, provided their fire- and sound-resistance can be demonstrated to meet the above-noted requirements on the basis of tests referred to in 9.10.3.1. and 9.11.1. or by using the data in MMAH Supplementary Standard SB-2.

Attributed Functional Statements and Objectives

None.

Building Code Intent Statements

The following intent statements are attributed to the determination of fire-resistance ratings:

Intent 1:

To expand the application of Sentences 3.1.7.1.(1) and 3.1.8.4.(1) to Part 9 buildings.

Intent 2:

To direct Code users to Part 3, Tables 9.A. and 9.B. and Appendix B (i.e., OBC Supplementary Standards SB-2 and SB-3) for the determination of appropriate fire protection and fire-resistance ratings.

6.4.2 Identified Challenges with Compliance

The determination of the fire-resistance rating of an existing wall assembly or floor assembly has been identified as a significant challenge for rooming house conversions. Confirming the type and thickness of gypsum wall board, stud size and spacing, thickness and type of plaster finishes, etc. requires destructive investigation and would only establish typical conditions within an existing building. Additionally, it is not

typical to find insulation of any type within the cavities of interior walls or floors given that sound attenuation is not a requirement within a dwelling unit.

If the fire-resistance rating of an existing assembly cannot be confirmed to the satisfaction of a designer or a building or fire authority, remediation or upgrades of the assembly must be undertaken. This may include demolition and/or replacement of the existing assembly or adding layers of gypsum wallboard to the existing assembly.

6.4.3 Applicable OBC Part 11 Compliance Alternatives

The following table provides the compliance alternatives attributed to Subsection 9.10.3:

OBC Permitted Compliance Alternative	Table 11.5.5.1.C - C143
	Fire-resistance ratings may also be used where they are based on:
	<ol style="list-style-type: none"> HUD Rehabilitation Guidelines, “Guideline on Fire Ratings of Archaic Materials and Assemblies.” DBR Technical Paper No. 194, “Fire Endurance of Protected Steel Columns and Beams.” DBR Technical Paper No. 207, “Fire Endurance of Unit Masonry Walls.” DBR Technical Paper No. 222, “Fire Endurance of Light-Framed and Miscellaneous Assemblies.”
	<p>Rationale:</p> <p>This compliance alternative provides other technical resources to confirm the fire-resistance rating of existing assemblies. By doing so, this compliance alternative equates compliance with the identified resources as being equivalent to compliance with those referenced in Sentence 9.10.3.1.(1).</p> <p>Impact:</p> <p>Provides additional resources to compare existing assemblies against and could simplify demonstration of conformance.</p>

6.4.4 Ontario Fire Code Companion Requirements

In accordance with Article 9.3.2.1., fire separations required by this Section to have a fire-resistance rating shall comply with Subsection 9.10.3. of the 1986 Ontario Building Code.

OFC Permitted Compliance Alternative	<p>It is noted that for each fire separation location regulated by Section 9.3 of the OFC there is a corresponding compliance alternative that accepts defined existing construction as complying with the fire-resistance rating requirement. One example is provided below as it relates to the required fire-resistance rating of floor assemblies:</p> <p>OFC Sentence 9.3.2.2.(2)</p> <p>Existing floor assemblies with ceilings consisting of lath and plaster, gypsum board or noncombustible materials are deemed to be in compliance with Sentence (1).</p>
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	<p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with these building elements.</p> <p>Impact:</p> <p>This alternative compliance deems that the existing construction of assemblies with solid/complete membranes are sufficient and would include typical construction used for houses.</p> <p>It is important to note that the alternative above does not reduce or waive the requirement for floor assemblies to act as fire separations (i.e., barrier to the movement of smoke).</p>
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6.4.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

In accordance with Clause 703.2.1, the fire-resistance rating of building elements, components, or assemblies shall be determined by the test procedures as set forth in ASTM E119 or UL 263.

In accordance with Clause 703.2.2, the fire-resistance of building elements, components, or assemblies established by an analytical method shall be any of the methods listed in this section, based on the fire exposure and acceptance criteria specified in ASTM E119 or UL 263. These methods include:

- Fire-resistance designs documented in approved sources.
- Prescriptive designs of fire-resistance rated elements, components or assemblies as prescribed in Section 721.
- Calculations in accordance with Section 722.
- Engineering analysis based on a comparison of building element, component or assemblies' designs having fire-resistance ratings as determined by the test procedures as set forth in ASTM E119 or UL 263 (i.e., an "Engineering Judgement").
- Fire-resistance designs certified by an approved agency.

It is noted that the calculation methods (Section 722 – Calculated Fire Resistance) and the prescriptive designs (Section 721 – Prescriptive Fire Resistance) are generally consistent with the designs and methodologies as provided in OBC Supplementary Standards SB-2 and SB-3 respectively.

Similar to the OBC, the IBC and the IEBC (International Existing Building Code) do not have a comparable allowance as provided in the OFC to deem existing assemblies consisting of lath and plaster, gypsum board or noncombustible materials to be in compliance with the prescriptive requirements for the determination of fire-resistance ratings.

6.4.6 Approach to Compliance Options

It is considered that the OBC provides sufficient resources within the acceptable solutions of Division B and the Compliance Alternative C143 for the determination of the fire-resistance rating of an existing assembly.

It is recommended that process or a set of procedures be implemented to formalize (or make consistent) an approach that would be deemed as an “Engineering Judgement” so that the documentation submitted in support of a building permit includes an engineering analysis based on a comparison of building element, component, or assembly designs having fire-resistance ratings as determined by the test procedures or assemblies as set forth in OBC Sentence 9.10.3.1.(1) and Compliance Alternative C143 and submitted by an Architect or Professional Engineer who has demonstrated knowledge of such analyses.

6.5 Floor Assembly Fire Separations and Loadbearing Elements

6.5.1 OBC Requirement

In accordance with Sentence 9.10.8.1.(1), except as otherwise provided in this Subsection, the fire-resistance ratings of floors and roofs shall conform to Table 9.10.8.1.

For residential occupancies, the following provides a summary of the required fire-resistance ratings for new construction from Table 9.10.8.1.:

Assembly	Fire-resistance Rating Required
Floor Assemblies (including floors over basements)	45-minute
Roof Assemblies (no occupancy on roof)	No rating required
Roof Assembly (supporting an occupancy) ¹	45-minute

¹ An occupancy on a roof would include amenity spaces or similar that support regular/permitted usage by building occupants.

Additionally, in accordance with Sentence 9.10.8.3.(1), except as otherwise provided in this Subsection, all loadbearing walls, columns, and arches in the storey immediately below a floor or roof assembly shall have a fire-resistance rating of not less than that required for the supported floor or roof assembly.

Notes Provided in OBC Appendix A

None.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

Sentence	Functional Statement(s)	Objectives
<i>Fire-Resistance Rating of Floor and Roof Assemblies</i>		
9.10.8.1.(1)	F03 – To retard the effects of fire on areas beyond its point of origin.	<ul style="list-style-type: none"> • OS1.2 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin.
	F04 – To retard failure or collapse due to the effects of fire.	<ul style="list-style-type: none"> • OS1.3 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by collapse of physical elements due to a fire or explosion. • OP1.2 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin. • OP1.3 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by collapse of physical elements due to a fire or explosion.
<i>Fire-Resistance Rating of Loadbearing Elements</i>		
9.10.8.3.(1)	F04 – To retard failure or collapse due to the effects of fire.	<ul style="list-style-type: none"> • OS1.2 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin. • OS1.3 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by collapse of physical elements due to a fire or explosion. • OP1.2 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to

Sentence	Functional Statement(s)	Objectives
		<div>fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin.</div> <ul style="list-style-type: none"> OP1.3 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by collapse of physical elements due to a fire or explosion.

Building Code Intent Statements

The following intent statements are attributed to the requirement for floor assembly fire separations:

Intent 1:

To limit the probability that floors and roofs exposed to fire will fail or collapse prematurely during the time required to achieve occupant safety and for emergency responders to perform their duties, which could lead to harm to persons.

Intent 2:

To limit the probability that floors and roofs exposed to fire will fail or collapse prematurely, which could lead to the spread of fire from a lower storey of a building to an upper storey or to the exterior of the building during the time required to achieve occupant safety and for emergency responders to perform their duties, which could lead to harm to persons.

The following intent statements are attributed to the requirement for the provision of fire-resistance ratings for loadbearing structural elements in a building:

Intent 1:

To limit the probability that floors and roofs exposed to fire will fail or collapse prematurely, which could lead to damage to the building.

Intent 2:

To limit the probability that floors and roofs exposed to fire will fail or collapse prematurely, which could lead to the spread of fire from a lower storey of a building to an upper storey or to the exterior, which could lead to damage to the building.

6.5.2 Identified Challenges with Compliance

Floor assemblies and loadbearing walls in houses are not typically provided with a fire-resistance rating, as this would not have been an OBC requirement at the time of the construction for a single-family dwelling unit or necessarily in a dwelling unit containing a secondary suite.

The provision of a fire-resistance rating to existing non-rated construction would essentially require a layer of gypsum wallboard to be added to the underside of the floor assembly (i.e., over the existing ceiling). An additional layer of gypsum wallboard would also need to be added over the existing wall finishes for exterior and interior loadbearing walls.

6.5.3 Applicable OBC Part 11 Compliance Alternatives

As introduced in **Section 4.1.4.** of this report, for the proposed change-of-use of a building, the OBC requires that the building is sufficient to support the hazard associated with the new occupancy. The OBC will require an evaluation of the performance of the building construction when the hazard of the occupancy (or use) of the building has increased.

In order to demonstrate that a building can support the proposed new occupancy, an evaluation of the performance of the existing construction must be completed that will assign the existing building a Construction Index value. The Construction Index takes into account the type of construction of the building (i.e., combustible or noncombustible) and the fire-resistance ratings attributed to the floor assemblies (including floors over basements) and the roof assemblies and ranges from a value of 1 (lowest) to 8 (highest). Typically, a building constructed as a “house” would be of combustible construction and would not have fire-resistance ratings attributed to floor assemblies or to the roof assembly. On this basis, a typical house would be attributed a Construction Index of 1.

Similarly, the use of a building will be attributed with a Hazard Index which represents a comparative value of the hazard associated with the use of the building and also takes into account the relative height and area of the building containing the occupancy. As identified in Table 11.2.1.1.I, the Hazard Index attributed to a “house” that falls within the limits of Part 9 will always be a value of 2. The Hazard Index that is always attributed to a Boarding House, Lodging House, or Rooming House is a value of 3.

Where the Hazard Index of the building following the change of use exceeds the Hazard Index of the use prior to the change, the building is required to be upgraded in accordance with Table 11.4.3.4.A. so that the Construction Index of the building is increased to at least equal the Hazard Index of the new major occupancy that the building is to support.

Below is a summary of the requirements attributed to a Construction Index of 3 for combustible construction:

Assembly	Fire-resistance Rating Required
Floor Assemblies (including floors over basements)	30-minute
Roof Assemblies (no occupancy on roof)	No rating required
Roof Assembly (supporting an occupancy)	30-minute

<p>OBC Permitted Alternative Compliance</p>	<p>Table 11.4.3.4.A</p> <p>In lieu of providing the required fire-resistance ratings, the following must be provided:</p> <ul style="list-style-type: none"> a) An early warning system, <u>or</u> b) Provide a sprinkler system at locations where ratings do not comply. <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with these building elements. This alternative compliance is deemed to comply with the acceptable solution and, by extension, the Functional Statements and the Objectives attributed to the acceptable solution. The application of this alternative compliance is not subject to satisfying the Chief Building Official of construction difficulties.</p> <p>Impact:</p> <p>In a typical house, neither the floor assemblies nor the loadbearing elements supporting the floor assemblies would be required to be upgraded to 30-minute fire-resistance ratings where the building is provided with:</p> <ul style="list-style-type: none"> a) a fire alarm system that complies with Articles 9.10.18.3 through 9.10.18.10., b) a residential fire warning system that complies with 9.10.19.8., or c) automatic sprinklers installed in accordance with NFPA 13R, "Installation of Sprinkler Systems in Low-Rise Residential Occupancies" to protect the floor areas, or parts of floor areas, that do not meet the require fire-resistance ratings. <p>It is important to note that the above alternatives do not waive the requirement for floor assemblies to act as fire separations (i.e., barrier to the movement of smoke).</p>
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6.5.4 Ontario Fire Code Companion Requirements

In accordance with Sentence 9.3.2.2.(1), floor assemblies shall:

- a) be constructed as fire separations, and
- b) have a fire-resistance rating not less than 30-minutes.

<p>OFC Permitted Compliance Alternative</p>	<p>OFC Sentence 9.3.2.2.(2)</p> <p>Existing floor assemblies with ceilings consisting of lath and plaster, gypsum board or noncombustible materials are deemed to be in compliance with Sentence (1).</p> <p>OFC Article 9.3.2.3.</p> <p>Where a basement does not contain a bedroom, recreation room, meeting room or hobby room, a fire separation having no fire-resistance rating between the basement and first storey is deemed to be in compliance with Clause 9.3.2.2.(1)(b).</p> <p>OFC Sentence 9.3.4.1.(1)</p> <p>Where a building does not have floor assemblies having a minimum 45-minute fire-resistance rating shall have a fire alarm system that complies with Articles 9.10.17.5. and 9.10.17.11. of the 1986 Building Code, and shall have:</p>
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	<p>a) smoke alarms that comply with Sentence 9.3.4.1.(2) and that are installed and interconnected so that the activation of any smoke alarm will sound a similar signal in each of the interconnected devices, or</p> <p>b) fire alarm system smoke detectors installed on the ceiling of each floor adjacent to each stairway, and on the ceiling in the basement adjacent to each stairway.</p> <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with these building elements and recognizes the benefit of the provision of an early warning system to provide an enhancement to the performance level of the building. This compliance alternative is consistent with the same provided by the OBC.</p> <p>Impact:</p> <p>This compliance alternative deems that the existing construction of assemblies with solid/complete membranes are sufficient and would include typical construction used for houses with the provision of interconnected smoke alarms or a fire alarm system.</p> <p>It is important to note that the alternative above does not waive the requirement for floor assemblies to act as fire separations (i.e., barrier to the movement of smoke).</p>
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6.5.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

In accordance with the exception to Clause 711.2.4.3, horizontal assemblies separating dwelling units and sleeping units shall be not less than 30-minute fire-resistance rated construction where the building is equipped with an automatic sprinkler system.

In accordance with Clause 704.1, the fire-resistance ratings of structural members and assemblies shall comply with this section and the requirements for the type of construction (i.e., combustible, noncombustible, or heavy timber) as specified in Table 601. Fire-resistance ratings shall not be less than the ratings required for the fire-resistance rated assemblies supported by the structural member.

For new construction, the IBC is consistent with the OBC and recognizes a reduction in the required fire-resistance rating when sprinkler protection is provided.

6.5.6 Approach to Compliance Options Summary

The following table provides a summary of the options to compliance with Sentence 9.10.8.1.(1):

Floor Assemblies & Loadbearing Elements			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
1	Provide 30-min ratings to floor assemblies and loadbearing elements	Complies with Table 11.4.3.4.A	Other than the storey below the roof, add one layer of Type X GWB to each side of loadbearing interior walls, to the interior side of exterior loadbearing walls, and to ceilings.
			Walls = 15.9 mm Type X GWB (if no insulation)
			Walls = 12.7 mm Type X GWB (if insulated)
2	Provide a fire alarm system (if occupant load exceeds 10 persons or building is four storeys including a basement)	Complies with Table 11.4.3.4.A	Ceilings = 12.7 mm Type X GWB
			Installation of a fire alarm system in accordance with CAN/ULC S524, "Installation of Fire Alarm Systems" will include:
			<ul style="list-style-type: none"> a) Fire alarm control panel, b) Manual pull stations at exits, c) Audible and visual signalling devices throughout, d) Smoke detectors in corridors. e) Smoke alarms in sleeping rooms, f) Heat detectors in service rooms, storage rooms, and laundry rooms, and g) Duct-type smoke detectors to shut down AHU.
3	Provide a residential warning system (if occupant load is 10 persons or less and the building height is three storeys or less including a basement)	Complies with Table 11.4.3.4.A	Existing floor assemblies to have a ceiling membrane sufficient to act as a barrier to smoke. Refer to allowance provided in OFC for permitted existing construction as a barrier to smoke.
			Installation of a residential early warning system in accordance with CAN/ULC-S540, "Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance."
			Existing floor assemblies to have a ceiling membrane sufficient to act as a barrier to smoke. Refer to allowance provided in the

Floor Assemblies & Loadbearing Elements			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
			OFC for permitted existing construction as a barrier to smoke.
4	Provide an automatic sprinkler system that includes sprinklers below existing floor assemblies	Complies with Table 11.4.3.4.A	<p>Installation of a sprinkler system at required locations in conformance with NFPA 13R, "Installation of Sprinkler Systems in Low-Rise Residential Occupancies" or NFPA 13D, "Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes."</p> <p>Existing floor assemblies to have a ceiling membrane sufficient to act as a barrier to smoke, but do not require a fire-resistance rating. Refer to allowance provided in OFC for permitted existing construction as a barrier to smoke.</p>

6.6 Suite Fire Separations

6.6.1 OBC Requirement

In accordance with Sentence 9.10.9.14.(1), except as provided in Sentence (2), suites in residential occupancies shall be separated from adjacent rooms and suites by a fire separation having a fire-resistance rating of not less than 45-minutes.

As permitted by Sentence 9.10.9.14.(2), sleeping rooms in boarding, lodging, or rooming houses where sleeping accommodation is provided for not more than **8** boarders or lodgers shall be separated from the remainder of the floor area by a fire separation having a fire-resistance rating of not less than 30-minutes where the sleeping rooms form part of the proprietor's residence and do not contain cooking facilities.

Accordingly, the individual sleeping rooms (i.e., suites) in a newly constructed rooming house are required to be separated from the remainder of the floor area in which it is located by 45-minute fire separations unless the number of suites (without cooking facilities) is limited to **8** and where the suites are within the proprietor's residence in which case the fire-resistance rating may be reduced to 30-min.

In accordance with Sentence 9.10.9.10.(1), except as provided in Sentence (2), a horizontal service space or other concealed space located above a required vertical fire separation shall be divided at the fire separation by an equivalent fire separation within the space.

In accordance with Sentence 9.10.9.10.(2), where a horizontal service space or other concealed space is located above a required vertical fire separation other than a vertical shaft, such space need not be divided as required in Sentence (1) provided the construction between such space and the space below is constructed as a fire separation having a fire-resistance rating not less than that required for the vertical

fire separation, except that where the vertical fire separation is not required to have a fire-resistance rating greater than 45-minutes, the fire-resistance rating of the ceiling is permitted to be reduced to 30-minutes.

Notes Provided in OBC Appendix A

None.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

Sentence	Functional Statement(s)	Objectives
Separation of Suites		
9.10.9.14.(1)	F03 – To retard the effects of fire on areas beyond its point of origin.	<ul style="list-style-type: none"> OS1.2 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin. OP1.2 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin.

Note: There is no attribution of Functional Statements or Objectives to Sentence 9.10.9.14.(2) since it is an allowance or clarification to the requirements of 9.10.9.14.(1).

Building Code Intent Statements

The following intent statements are attributed to the requirement for suite fire separations:

Intent 1:

To limit the probability that fire will spread from one suite or room to another suite or room, which could lead to harm to persons in the other suite or room and/or lead to damage to the building.

6.6.2 Identified Challenges with Compliance

Similar to the challenges identified for the fire-resistance ratings of floor assemblies and loadbearing elements, existing walls separating sleeping rooms and adjoining spaces in houses are not typically

provided with a fire-resistance rating as this would not have been an OBC requirement at the time of the construction for a single-family dwelling unit or a dwelling unit containing a secondary suite.

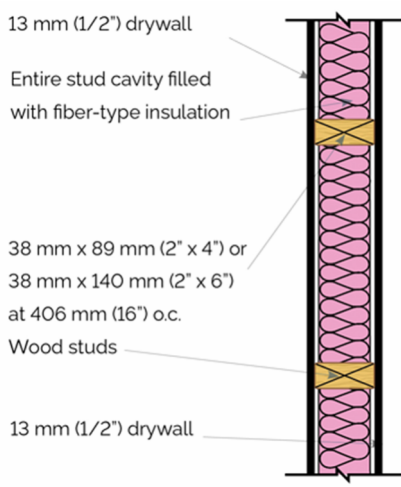
The provision of a fire-resistance rating to existing non-rated construction would essentially require a layer of gypsum wallboard to be added to each side of interior walls.

Although this requirement is applicable to within a floor area (i.e., the fire separation requirement is vertical only), there are challenges to ensuring the continuity of the vertical fire separation within the cavity of a floor assembly above the fire separation and within an attic space of a roof assembly (i.e., continuing a vertical fire separation through to the underside of the roof deck).

6.6.3 Applicable OBC Part 11 Compliance Alternatives

The following table provides the compliance alternatives attributed to Sentence 9.10.9.14.(1):

OBC Permitted Compliance Alternative	<p>Table 11.5.5.1.C – C152</p> <p>(a) Except as provided in (b) and (c), 30-minute fire separation is acceptable.</p> <p>Note: The allowances described in items (b) and (c) are applicable only to “houses” and cannot be prescriptively applied to a building that contains a rooming house.</p>
	<p>Table 11.5.5.1.C. – C149</p> <p>The ceiling fire separation need not have a fire-resistance rating where automatic sprinklers within fire compartments on both sides of vertical fire separation are provided and where such fire separation is not required to exceed 1-hour.</p> <p>Rationale:</p> <p>This compliance alternative is a prescriptively permitted reduction in the required performance with respect to the required fire-resistance rating of fire separations for suites. This alternative compliance is deemed to comply with the acceptable solution, and by extension, the Functional Statements and the Objectives attributed to the acceptable solution. This application of this alternative compliance is not subject to satisfying the Chief Building Official of construction difficulties.</p> <p>Impact:</p> <p>Existing wall assemblies that consist of the following typical assembly would be deemed to be in compliance with a 30-minute fire-resistance rating as issued by the Ministry of Municipal Affairs and Housing and as described by assembly number W1c in Table 1 of Supplementary Standard SB-3:</p>

	 <p>13 mm (1/2") drywall</p> <p>Entire stud cavity filled with fiber-type insulation</p> <p>38 mm x 89 mm (2" x 4") or 38 mm x 140 mm (2" x 6") at 406 mm (16") o.c.</p> <p>Wood studs</p> <p>13 mm (1/2") drywall</p> <p>Note 1: The inclusion of fibre-type insulation (which may include glass or cellulose fibre) within the cavity of the wall assembly is provided in reference to sound absorption requirements and will provide a portion of the overall duration of the fire-resistance of the assembly.</p> <p>Note 2: The sound transmission protection requirements identified in Article 9.11.1.1. are not applicable to suites in a rooming house.</p>
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6.6.4 Ontario Fire Code Companion Requirements

In accordance with OFC 9.3.2.4.(1), each guest room or suite of rooms shall have interior walls having a fire-resistance rating not less than 30-minutes.

<p>OFC Permitted Compliance Alternative</p>	<p>OFC Sentence 9.3.2.4.(2)</p> <p>Existing floor assemblies with ceilings consisting of lath and plaster, gypsum board or noncombustible materials are deemed to be in compliance with Sentence (1).</p> <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with these building elements.</p> <p>Impact:</p> <p>This alternative compliance deems that the existing construction of assemblies with solid/complete membranes are sufficient and would include typical construction used for houses.</p>
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6.6.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code - 2020

In accordance with Sentence 9.10.9.16.(1), except as provided in Sentences (2) to (4) and Article 9.10.21.2., suites in residential occupancies shall be separated from adjacent rooms and suites by a fire separation having a fire-resistance rating of not less than 45 min.

As permitted by Sentence 9.10.9.16.(2), sleeping rooms in boarding and lodging houses where sleeping accommodation is provided for not more than 8 boarders or lodgers need not be separated from the remainder of the floor area as required in Sentence (1) where the sleeping rooms form part of the proprietor's residence and do not contain cooking facilities.

The specific intent statement related to the allowance provided by Sentence 9.10.9.16.(2) is as follows:

To waive the requirements for a rated fire separation as stated in Sentences 9.10.9.13.(1) and 9.10.9.14.(1), on the basis that:

- *the number of occupants is limited,*
- *all areas are under the same type of supervision as would be the case in a single dwelling unit, and*
- *the absence of cooking facilities reduces the risk of fire originating in sleeping rooms.*

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the 2020 NBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

In accordance with Clause 420.2, walls separating dwelling units in the same building, walls separating sleeping units in the same building and wall separating dwelling or sleeping units from other occupancies contiguous to them in the same building will be constructed as fire partitions in accordance with Section 708.

In accordance with the exceptions provided in Clause 708.3, corridor walls, dwelling unit walls, and sleeping unit walls shall be not less than 1-hour fire-resistance rated or reduced to 30-minute fire-resistance rated construction where the building is equipped with an automatic sprinkler system.

6.6.6 Approach to Compliance Options

The following table provides a summary of the options to compliance with Article 9.10.9.14.(1):

Suite Fire Separations			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
1	Provide 30-min ratings to wall and ceilings assemblies.	Complies with CA-C152	Other than the storey below the roof, add one layer of Type X GWB to each side of interior walls and ceilings.
			Walls = 15.9 mm Type X GWB (if no insulation)
			Walls = 12.7 mm Type X GWB (if insulated)
2	Provide an automatic sprinkler system throughout each floor area containing suites in lieu of providing fire resistance ratings at the ceilings or continuity of fire separations within concealed spaces.	Complies with CA-C149	Ceilings = 12.7 mm Type X GWB
			Installation of a sprinkler system at required locations in conformance with NFPA 13R, "Installation of Sprinkler Systems in Low-Rise Residential Occupancies" or NFPA 13D, "Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes."
			Ceiling membrane to be sufficient to act as a barrier to smoke but does not require a fire-resistance rating. Refer to allowance provided in OFC for permitted existing construction as a barrier to smoke.
3	Apply the allowance to waive the suite fire separations provided in the 2020 NBC where the number of boarders or lodgers does not exceed 8, there are no cooking facilities within suites, and the suites form part of the proprietor's residence.	Alternative Solution Complies with NBC Sentence 9.10.9.16.(2)	Consistent with the allowance provided in Table 11.4.3.4.A to waive the fire-resistance rating of floor assemblies and loadbearing elements based on the provision of automatic sprinklers.
			The suite fire separation requirements of Sentence 9.10.9.14.(1) are waived.
			Uses the same considerations as the OBC uses in Sentence 9.10.9.14.(2) (i.e., to reduce the fire separation rating from 45-min to 30-min) and provides harmonization with the NBC.

6.6.7 Alternative Solution

As identified by Compliance Option 3 above, the OBC is unique in requiring a higher level of performance with respect to smaller rooming houses than that of the national model code. As noted by the intent statements of the NBC, the relaxation of the suite fire separation acknowledges that, in the specific conditions identified, the rooming house is expected to function more similarly to a single dwelling unit. Specifically, it is expected that there will be a greater level of supervision and knowledge of individual occupant activities and communication between building occupants who have chosen to live in this type of accommodation.

Additionally, the objectives and functional statements attributed to NBC 9.10.9.16.(1) are the same as those attributed to the OBC requirement (i.e., F03-OS1.2 and F03-OP1.2). Meaning, it is interpreted that the allowance set out by NBC Sentence 9.10.9.16.(2) address equally the same requirement of OBC Sentence 9.10.9.15.(1).

It is further suggested that MMAH include harmonizing OBC Sentence 9.10.9.14.(2) with its counterpart in the 2020 NBC or provide clarification with respect to the purpose of the deviation from the national model code.

6.7 Public Corridor Fire Separations

6.7.1 OBC Requirement

In accordance with Sentence 9.10.9.15.(1), public corridors shall be separated from the remainder of the building by a fire separation having not less than a 45-minute fire-resistance rating.

In accordance with Sentence 9.10.9.10.(1), except as provided in Sentence (2), a horizontal service space or other concealed space located above a required vertical fire separation shall be divided at the fire separation by an equivalent fire separation within the space.

In accordance with Sentence 9.10.9.10.(2), where a horizontal service space or other concealed space is located above a required vertical fire separation other than a vertical shaft, such space need not be divided as required in Sentence (1) provided the construction between such space and the space below is constructed as a fire separation having a fire-resistance rating not less than that required for the vertical fire separation, except that where the vertical fire separation is not required to have a fire-resistance rating greater than 45-minutes, the fire-resistance rating of the ceiling is permitted to be reduced to 30-minutes.

In accordance with Sentence 9.10.9.15.(1), in other than residential occupancies, no fire-resistance rating is required for fire separations between a public corridor and the remainder of the building if:

- a) the floor area is sprinklered,
- b) the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.10.(3), and
- c) the operation of the sprinkler system will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.8.(4).

Notes Provided in OBC Appendix A

None.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

Sentence	Functional Statement(s)	Objectives
		Separation of Public Corridors
9.10.9.15.(1)	F03 – To retard the effects of fire on areas beyond its point of origin.	<ul style="list-style-type: none"> OS1.2 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin. OP1.2 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin. OS1.5 – To limit the probability that, as a result of the design or construction of a building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to fire caused by persons being delayed in or impeded from moving to a safe place during a fire emergency.
	F05 – To retard the effects of fire on emergency egress facilities.	
	F06 – To retard the effects of fire on facilities for notification, suppression, and emergency response.	

Building Code Intent Statements

The following intent statements are attributed to the requirement for public corridor fire separations:

Intent 1:

To limit the probability that fire will spread into a public corridor, or from a public corridor into a suite, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

To limit the probability that fire will spread into a public corridor, or from a public corridor into a suite, which could lead to damage to the building.

Intent 2:

To limit the probability that fire will spread into a public corridor, which could lead to delays or ineffectiveness in fire emergency response operations, which could lead to delays in the evacuation or movement of persons to a safe place, or the spread of fire to other parts of the building.

This is to limit the probability of harm to persons.

To limit the probability that fire will spread into a public corridor, which could lead to delays or ineffectiveness in fire emergency response operations, which could lead to the spread of fire to other parts of the building, which could lead to damage to the building.

6.7.2 Identified Challenges with Compliance

As previously described, existing walls separating corridors and adjoining spaces in houses are not typically provided with a fire-resistance rating as this would not have been an OBC requirement at the time of the construction for a single-family dwelling unit or necessarily within a dwelling unit containing a secondary suite.

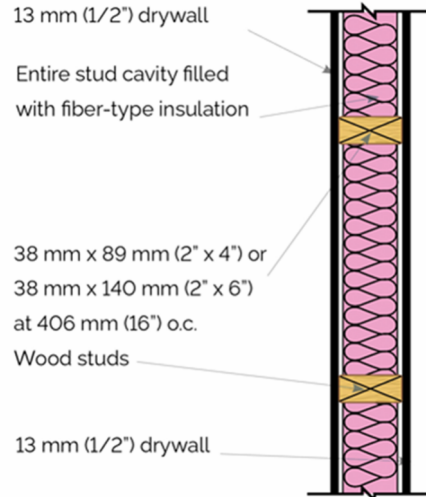
The provision of a fire-resistance rating to existing non-rated construction would essentially require a layer of gypsum wallboard to be added to each side of interior walls.

Although this requirement is applicable to within a floor area (i.e., the fire separation requirement is vertical only), there are challenges to ensuring the continuity of the vertical fire separation within the cavity of a floor assembly above the fire separation and within an attic space of a roof assembly (i.e., continuing a vertical fire separation through to the underside of the roof deck).

6.7.3 Applicable OBC Part 11 Compliance Alternatives

The following table provides the attributed compliance alternatives attributed to Sentence 9.10.9.15.(1):

<p>OBC Permitted Compliance Alternative</p>	<p>Table 11.5.5.1.C - C152</p> <p>(a) Except as provided in (b) and (c), 30-minute fire separation is acceptable.</p> <p>Note: The allowances described in items (b) and (c) are applicable only to “houses” and cannot be prescriptively applied to a building that contains a rooming house.</p> <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance with respect to the required fire-resistance rating of fire separations for public corridors. This alternative compliance is deemed to comply with the acceptable solution, and by extension, the Functional Statements and the Objectives attributed to the acceptable solution. This application of this alternative compliance is not subject to satisfying the Chief Building Official of construction difficulties.</p> <p>Impact:</p> <p>Existing wall assemblies that consist of the following typical assembly would be deemed to be in compliance with a 30-minute fire-resistance rating as issued by the Ministry of Municipal Affairs and Housing and as described by assembly number W1c in Table 1 of Supplementary Standard SB-3:</p>
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	 <p>13 mm (1/2") drywall</p> <p>Entire stud cavity filled with fiber-type insulation</p> <p>38 mm x 89 mm (2" x 4") or 38 mm x 140 mm (2" x 6") at 406 mm (16") o.c.</p> <p>Wood studs</p> <p>13 mm (1/2") drywall</p> <p>Note 1: The inclusion of fibre-type insulation (which may include glass or cellulose fibre) within the cavity of the wall assembly is provided in reference to sound absorption requirements and will provide a portion of the overall duration of the fire-resistance of the assembly.</p> <p>Note 2: The sound transmission protection requirements identified in Article 9.11.1.1. are not applicable to suites in a rooming house.</p>
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6.7.4 Ontario Fire Code Companion Requirements

As inferred by OFC 9.3.4.1.(1), it is expected that public corridors have interior walls having a fire-resistance rating not less than 30-minutes.

<p>OFC Permitted Compliance Alternative</p>	<p>OFC Sentence 9.3.4.1.(1)</p> <p>A building that does not have public corridors or corridors serving sleeping rooms not within a dwelling unit that are not fire-separated from the remainder of the building by a minimum 30-minute fire-resistance rating shall have a fire alarm system that complies with Articles 9.10.17.5. and 9.10.17.11. of the 1986 Building Code, and shall have:</p> <ul style="list-style-type: none"> a) smoke alarms that comply with Sentence 9.4.3.1.(2) and that are installed and interconnected so that the activation of any smoke alarm will sound a similar signal in each of the interconnected devices, or b) fire alarm system smoke detectors installed on the ceiling of each floor adjacent to each stairway, and on the ceiling in the basement adjacent to each stairway. <p>Rationale:</p> <p>This compliance alternative is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with these building elements and recognizes the benefit of the provision of an early warning system to provide an enhancement to the performance level of the building.</p>
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	<p>Impact:</p> <p>May significantly reduce the construction requirements related to separating public corridors within existing buildings through the installation of interconnected smoke alarms and a fire alarm system.</p>
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6.7.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

The acceptable solution is the same as the OBC (Article 9.10.9.17).

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the 2020 NBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

In accordance with Clause 1020.2, for residential occupancies where corridors serve more than 10 persons, the corridors serving suites are required to have a minimum 30-minute fire-resistance rating.

This is noted as a lower performance level than that of the OBC however, it is also noted that the IBC 2021 requires this type of residential occupancy to be sprinklered.

6.7.6 Approach to Compliance Options

The following table provides a summary of the options to compliance with the OBC as outlined above. These options are presented as “in lieu of” conformance with the acceptable solution prescribed in Division B.

Public Corridor Fire Separations			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
1	Provide 30-min ratings for wall assemblies and ceiling assemblies.	Complies with CA-C152	<p>Add one layer of Type X GWB to each side of interior and ceilings.</p> <p>Walls = 15.9 mm Type X GWB (if no insulation)</p> <p>Walls = 12.7 mm Type X GWB (if insulated)</p>

Public Corridor Fire Separations			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
			Ceilings = 12.7 mm Type X GWB
2	Provide a fire alarm system for the building, an automatic sprinkler system throughout each floor area containing suites in lieu of providing fire separations for public corridors, <u>and</u> number of boarders or lodgers does not exceed 8.	<p>Alternative Solution</p> <p>Complies with allowance provided in OBC Clause 3.3.1.4.(4)(a)</p>	<p>Installation of a sprinkler system at required locations in conformance with NFPA 13R, "Installation of Sprinkler Systems in Low-Rise Residential Occupancies" or NFPA 13D, "Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes."</p> <p>Installation of a fire alarm system.</p> <p>No additional construction is required for a public corridor except at adjoining suites.</p> <p>The travel distance from any point in a floor area to an exit is required to be less than 45 m.</p> <p>Note: The suite fire separation required by 9.10.9.14.(1) is waived as identified by the alternative solution described in Section 6.6 of this report.</p> <p>Justification:</p> <p>Permit the allowance already provided for a Part 3 building (including residential occupancies) to a boarding, lodging, rooming house on the same basis.</p> <p>The provision of a fire alarm system and a sprinkler system is a significant enhancement in a building where the number of boarders or lodgers does not exceed 8.</p>

6.7.7 Alternative Solution

As identified in Compliance Option 2 in the above table, it is proposed that the concept provided in OBC Part 3 be applied to boarding, lodging, and rooming houses, in part, in consideration that the functional statements and the objectives that are attributed to Sentence 3.3.4.2.(1) for the requirement to provide a public corridor serving suites are the same as those attributed to Sentence 9.10.9.15.(1).

As identified in Part 3 of the OBC:

In accordance with Sentence 3.3.1.4.(1), except as otherwise required by this Part or as permitted by Sentence (4), a public corridor shall be separated from the remainder of the storey by a fire separation.

In accordance with Clause 3.3.1.4.(4)(a), no fire separation is required in a sprinklered floor area between a public corridor and, except as required by Sentences 3.3.3.5.(9) and 3.3.4.2.(1) and notwithstanding Sentences 3.4.2.4.(2), the remainder of a storey provided the travel distance from any part of the floor area to an exit is not more than 45 m.

It is noted that Sentence 3.3.4.2.(1) refers to the requirement for residential suites to be separated from the remainder of a floor area. That is, this Part 3 provision does not otherwise permit the fire separation between the residential suites and the public corridor to be waived.

The intent statements provided for this allowance are as follows:

To exempt certain public corridors from the application of Sentence 3.3.1.4.(1), which would otherwise require a fire separation between a public corridor and the remainder of the storey, on the basis that the storey is sprinklered throughout and the travel distance to an exit is limited and the corridor does not serve certain occupancies.

This [the sprinklering] is to limit the probability that a fire will not be suppressed or controlled, which could lead to the spread of fire into the public corridor, or from the public corridor into a suite, which could lead to:

- *damage to building, and*
- *fire emergency response operations being delayed or ineffective, which could lead to the spread of fire to other parts of the building, which could lead to damage to the building.*

This [limitation on travel distance] is to limit the probability of excessive travel distance during a fire situation, which could lead to delays or inefficiencies in emergency response operations, which could lead to the spread of fire, which could lead to damage to the building.

This proposed alternative solution is consistent with the allowances provide by the OFC to waive a public corridor fire separation where a building is provided with a fire alarm system that includes interconnected smoke alarms or specifically located smoke detectors.

It is acknowledged that the OBC and the NBC 2020 do not waive a public corridor fire-resistance rating or fire separation in a Part 9 residential building under any circumstance. This is evidenced by NBC 2020 Sentence 9.10.9.16.(2) which states:

In other than residential occupancies, no fire-resistance rating is required for fire separations between a public corridor and the remainder of the building if:

- a) *the floor area is sprinklered,*
- b) *the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.9.(3), and*

- c) *the operation of the sprinkler system will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4).*

Notwithstanding the above, it is our opinion that the allowance to waive the public corridor fire separation by OBC Clause 3.3.1.4.(4)(a) when applied in conjunction with the allowance to waive the requirement for suite fire separations where the number of boarders or lodgers does not exceed **8**, there are no cooking facilities within suites, and the suites form part of the proprietor's residence will meet the functional statements and objectives attributed to OBC Sentence 9.10.9.15.(1). Essentially, this allowance would be applied based on the same rationale in that, under the specific conditions identified, the rooming house is expected to function more similarly to a single dwelling unit. Specifically, it is expected that there will be a greater level of supervision and knowledge of individual occupant activities and communication between building occupants who have chosen to live in this type of accommodation.

It is also noted that the provision of a fire alarm system and a sprinkler system is a significant enhancement in a building where the number of boarders or lodgers does not exceed **8**.

Additionally, as identified above, the IBC allows the fire separation of a corridor to be waived provided that the corridor serves not more than 10 persons and that the building sprinklered.

6.8 Number of Required Exits

6.8.1 OBC Requirement

In accordance with Sentence 9.9.8.2.(1), except as provided in Sentences 9.9.8.2.(2) and 9.9.8.2.(3) and Subsection 9.9.9., at least two exits shall be provided from every floor area.

In accordance with Sentence 9.9.8.2.(2), except as provided in Subsection 9.9.9., a single exit is permitted from each storey in buildings of 1 and 2 storeys in building height provided the floor area and travel distance requirements conform to those required in Article 9.9.7.4. (i.e., 25 m) and the total occupant load served by an exit facility does not exceed 60 persons.

Further to the above, in accordance with Sentence 9.9.8.2.(3), in boarding, lodging or rooming houses:

- a) where sleeping accommodation is provided for not more than eight persons, a single exit is permitted from each floor area, or
- b) where sleeping accommodation is not provided in the basement, a single exit is permitted from the basement floor area.

In accordance with Sentence 9.9.2.1.(1), except as otherwise provided in this Section, an exit from any floor area shall be one of the following used singly or in combination:

- a) an exterior doorway,
- b) an exterior passageway,
- c) an exterior ramp,
- d) an exterior stairway,
- e) a fire escape (as described in Subsection 3.4.7.),
- f) a horizontal exit,

- g) an interior passageway,
- h) an interior ramp, or
- i) an interior stairway.

In accordance with Sentence 9.9.2.1.(2), fire escapes are permitted to be used as exits on existing buildings provided that they are designed and installed in conformance with Subsection 3.4.7. Additionally, as permitted by Sentence 9.9.2.3.(2), casement windows not less than 1060 mm high, 560 mm wide, with a sill height not more than 900 mm above the inside floor, are permitted to be considered part of a required means of egress to provide access to fire escapes.

The following table provides a summary of the available options related to the required number of exits:

Floor Level or Building Height	Number of Exits Required	Notes
Basement	1	In a building up to 2-storeys and travel distance <u>does not exceed</u> 25 m to an exit or rooming house sleeping accommodation does not exceed 8 persons.
	1	In a building up to 3-storeys with no sleeping rooms in the basement or rooming house sleeping accommodation does not exceed 8 persons.
	2	Travel distance exceeds 25 m or building is 3-storeys and has sleeping rooms in basement or rooming house sleeping accommodation exceeds 8 persons.
Up to 2-storeys	1	Travel distance <u>does not exceed</u> 25 m to an exit or rooming house sleeping accommodation does not exceed 8 persons.
	2	Travel distance <u>exceeds</u> 25 m to an exit.
3-Storeys	1	Rooming house sleeping accommodation does not exceed 8 persons.
	2	Rooming house sleeping accommodation exceeds 8 persons.

Notes Provided in OBC Appendix A

None.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

Sentence	Functional Statement(s)	Objectives
		Number of Required Exits
9.9.8.2.(1)	F10 – To facilitate the timely movement of persons to a safe place in an emergency.	<ul style="list-style-type: none"> OS3.7 – To limit the probability that, as a result of the design or construction of a building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to hazards caused by persons being delayed in or impeded from moving to a safe place during an emergency.

Building Code Intent Statements

The following intent statements are attributed to the requirement for number of required exits:

Intent 1:

To limit the probability of excessive travel distances to exits, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

Intent 2:

To limit the probability that persons will not have access to an alternative exit in the event one exit is blocked or obstructed in an emergency situation, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

The following intent statement is attributed to the allowance to reduce the number of required exits as permitted by Sentence 9.9.8.3.(2):

Intent 1:

To supersede the requirements of Sentence 9.9.8.2.(1), which would otherwise require at least 2 egress routes or exits, and permit a single exit, on the basis that the single exit is limited to low buildings having a relatively low occupant load and where floor areas and travel distances are limited.

6.8.2 Identified Challenges with Compliance

Many boarding, lodging, and rooming houses are conversions of single-family dwellings that typically contain a single open stair that serves each floor above grade and a single stair serving a basement.

The provision of a second exit would include the construction of a second enclosed stair or the construction of a fire escape at the exterior of the existing building. Certain site-specific conditions could preclude the construction of an additional interior stair due to the distance required between exits as well as the area that is eventually taken by the exit stair construction. Similarly, the construction of an exterior stair or a fire

escape may be limited to available space on the property, access to a public thoroughfare, and/or other municipal bylaws.

6.8.3 Applicable OBC Part 11 Compliance Alternatives

The following table provides the attributed compliance alternatives attributed to Sentence 9.9.8.2.(1):

<p>OBC Permitted Compliance Alternative</p>	<p>Table 11.5.5.1.C - C134</p> <p>Existing travel distance acceptable where floor area is sprinklered and provided fire separations comply with Part 9.</p> <p>Impact:</p> <p>Where travel distances to an existing exit exceed the permitted maximum, the building is required to be sprinklered and all fire separations are required per Part 9 or an additional exit is required to be provided from that floor area.</p>
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6.8.4 Ontario Fire Code Companion Requirements

In accordance with OFC Sentence 9.3.3.1.(1), each floor area shall be served by at least two exits.

<p>OFC Permitted Compliance Alternative</p>	<p>OFC Sentence 9.3.3.1.(2)</p> <p>Where sleeping accommodation is not provided for more than 10 persons, one exit from each of the first and second floor areas is deemed to be in compliance with Sentence (1).</p> <p>OFC Sentence 9.3.3.1.(3)</p> <p>Where sleeping accommodation is not provided in the basement, one exit from the basement is deemed to be in compliance with Sentence (1).</p> <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with constructing a second exit within an existing building.</p> <p>Impact:</p> <p>This alternative compliance deems that a single exit is sufficient for low buildings with a limited occupant load.</p>
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6.8.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

The acceptable solution is the same as the OBC with the exception that the NBC does not contain a specific provision for a single exit in boarding, lodging or rooming houses.

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the 2020 NBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

In accordance with Table 1006.3.4.(2), a single exit is permitted to serve a storey containing residential suites, other than dwelling units, for the first storey and a storey below the first storey provided that the occupant load on that storey does not exceed 10 persons and the travel distance to the exit does not exceed 25 m.

A minimum of two exits are otherwise required to serve the second and third storey that contain suites that are not dwelling units.

6.8.6 Approach to Compliance Options

The following table provides a summary of the options to compliance with the OBC as outlined above.

Number of Required Exits			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
1	Ensure travel distance to a single exit is achieved and/or limit the rooming house sleeping accommodation to a maximum of 8 persons.	Complies with Article 9.8.8.2.	N/A
2	Construct a second exit or fire escape that complies with the OBC.	Complies with Article 9.8.8.2.	N/A

6.9 Service Room/Furnace Room Fire Separations

6.9.1 OBC Requirement

In accordance with Sentence 9.10.10.4.(1), except as provided in Sentences (2) and (3) and Article 9.10.10.5., fuel-fired appliances shall be located in a service room separated from the remainder of the building by a fire separation having not less than a 1-hour fire-resistance rating.

As permitted by Sentence 9.10.10.4.(2), except as required in the appliance installation standards referenced in Sentences 6.2.1.4.(1) and 9.33.1.2.(1), fuel-fired space-heating appliances, space-cooling appliances and service water heaters need not be separated from the remainder of the building as required

in Sentence (1) where the equipment serves a building, other than a house, with a building area of not more than 400 m² and a building height of not more than 2-storeys.

As clarified by Sentence 9.10.10.4.(3), Sentence 9.10.10.4.(1) does not apply to fireplaces and cooking appliances.

As clarified by Sentence 9.10.10.2.(1), the fire-resistance rating requirements in this Subsection (9.10.10.) do not apply to the floor assembly immediately below (i.e., supporting) a service room.

In accordance with Sentence 9.10.8.5.(1), the construction supporting a service room need not conform to Article 9.10.8.3. for the provision of fire-resistance ratings of loadbearing elements (i.e., the structural assemblies supporting a service room do not need to be rated).

Assembly	Fire-resistance Rating Required For Furnace/Service Room	
	1- and 2-Storeys 400 m ² or less	Up to 3-storeys 401 m ² to 600 m ²
Floor assembly above service room	No fire separation required	1-hour
Floor assembly below service room	Not applicable	Not applicable
Vertical walls of service room	No fire separation required	1-hour
Loadbearing structure supporting service room	No fire rating required	No fire rating required

Notes Provided in OBC Appendix A

None.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

Sentence	Functional Statement(s)	Objectives
9.10.10.4.(1)	F03 – To retard the effects of fire on areas beyond its point of origin.	<p>Service Room Fire Separations</p> <ul style="list-style-type: none"> OS1.2 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin. OP1.2 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin.
	F81 – To minimize the risk of malfunction, interference, damage, tampering, lack of use or misuse.	

Sentence	Functional Statement(s)	Objectives
		<ul style="list-style-type: none"> OS1.4 –To limit the probability that, as a result of the design or construction of a building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to fire caused by persons being delayed in or impeded from moving to a safe place during a fire emergency. OP1.4 –To limit the probability that, as a result of the design or construction of a building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to fire caused by persons being delayed in or impeded from moving to a safe place during a fire emergency.

Building Code Intent Statements

The following intent statements are attributed to the requirement for service room fire separations:

Intent 1:

To limit the probability that a fire involving a fuel-fired appliance in a service room will spread from the service room to other parts of the building, which could lead to harm to persons and/or damage to the building.

Intent 2:

To limit the probability that a fire originating in a location outside a service room will spread into the service room, which could lead to the disruption and discontinuation of service from equipment located in the service room, which could lead to an undue fire hazard in the building, which could lead to harm to person and/or damage to the building.

Intent 3:

To supersede the requirements of Sentence 9.10.10.3.(1).

6.9.2 Identified Challenges with Compliance

Typically, the furnace or boiler is located in the basement of a single-family dwelling unit and is not separated from the remainder of the building by fire separations. Although new vertical fire separations could be constructed to create a service room in an existing building, the provision of a fire separation at the ceiling can be challenging as a result of existing mechanical or electrical services that would need to be removed or relocated in order to affix a layer of gypsum wallboard to the underside of the floor joists.

6.9.3 Applicable OBC Part 11 Compliance Alternatives

It is noted that there are no compliance alternatives attributed to Sentence 9.10.10.4.(1). It is recommended that the compliance alternatives that have been attributed to Sentence 9.10.10.3.(1) for service rooms in general be applied to Sentence 9.10.10.4.(1).

The following table provides the compliance alternatives attributed to Sentence 9.10.10.3.(1):

<p>OBC Permitted Compliance Alternative</p>	<p>Table 11.5.5.1.C - C153</p> <p>(a) Except as provided in (b) and (c) and in Articles 9.10.10.5. and 9.10.10.6., a 30-minute fire separation is acceptable.</p> <p>Note: The allowances described in items (b) and (c) are applicable only to “houses” and cannot be prescriptively applied to a building that contains a rooming house.</p> <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance with respect to the required fire-resistance rating of fire separation of a service room. This alternative compliance is deemed to comply with the acceptable solution, and by extension, the Functional Statements and the Objectives attributed to the acceptable solution. This application of this alternative compliance is not subject to satisfying the Chief Building Official of construction difficulties.</p> <p>Impact:</p> <p>Existing wall assemblies that consist of the following typical assembly would be deemed to be in compliance with a 30-minute fire-resistance rating as issued by the Ministry of Municipal Affairs and Housing and as described by assembly number W1c in Table 1 of Supplementary Standard SB-3:</p> <div data-bbox="711 1371 1117 1850"> <p>13 mm (1/2") drywall</p> <p>Entire stud cavity filled with fiber-type insulation</p> <p>38 mm x 89 mm (2" x 4") or 38 mm x 140 mm (2" x 6") at 406 mm (16") o.c.</p> <p>Wood studs</p> <p>13 mm (1/2") drywall</p> </div> <p>Note 1: The inclusion of fibre-type insulation (which may include glass or cellulose fibre) within the cavity of the wall assembly is provided in reference to sound absorption requirements and will provide a portion of the overall duration of the fire-resistance of the assembly.</p>
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	Note 2: The sound transmission protection requirements identified in Article 9.11.1.1. are not applicable to suites in a rooming house.
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6.9.4 Ontario Fire Code Companion Requirements

In accordance with OFC 9.3.2.5.(1), in a building where the building height is greater than 2-storeys or the building area is greater than 400 m², a furnace room that is located on a floor area that contains a bedroom, recreation room, meeting room or hobby room shall be separated from the remainder of the building by a fire separation having a fire-resistance rating not less than 45-minutes.

OFC Permitted Compliance Alternative	<p>OFC Sentence 9.3.2.5.(2)</p> <p>Existing fire separations consisting of membranes of lath and plaster or gypsum board are deemed to be in compliance with Sentence 9.3.2.5.(1).</p> <p>OFC Sentence 9.3.2.5.(3)</p> <p>Where the required vertical fire separation in a furnace room is maintained and it is not practical in the circumstances to construct the ceiling as a fire separation having a fire-resistance rating not less than 45-minutes, the furnace room area shall be sprinklered with a spacing that does not exceed 9.5 m² per sprinkler head.</p> <p>Note: OFC 2023 Proposed Change</p> <p>OFC Sentence 9.3.2.5.(3)</p> <p><i>Where the required vertical fire separation in a furnace room is maintained and it is not practical in the circumstances to construct the ceiling as a fire separation having a fire-resistance rating not less than 45 min, the furnace room area shall be sprinklered:</i></p> <ul style="list-style-type: none"> a) <i>with a spacing that does not exceed 9.5 m² per sprinkler, and</i> b) <i>so that the sprinklers provide a minimum average density of 6.5L/min/m² over the furnace room area.</i> <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with these building elements.</p> <p>The allowance to provide automatic sprinkler protection recognizes the significant enhancement to limit the growth and spread of a fire originating in a service room.</p> <p>Impact:</p> <p>This alternative compliance deems that the existing construction of assemblies with solid/complete membranes are sufficient and would include typical construction used for houses.</p>

6.9.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

Service room fire separations are not specifically addressed in the same manner as the OBC or the NBC.

6.9.6 Approach to Compliance Options

The following table provides a summary of the options to compliance with the OBC as outlined above.

Service/Furnace Room Fire Separations			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
Building is 2-storeys or Less and Building Area (footprint) is 400 m ² or Less			
1	No renovation/upgrade is required		
Building is up to 3-storeys and Building Area (footprint) between 401 m ² and 600 m ²			
2	Provide 30-min ratings to wall assemblies and to floor assembly above service room.	Complies with CA-C153	<p>Add one layer of Type X GWB to each side of interior walls and to the underside of ceilings.</p> <p>Walls = 15.9 mm Type X GWB (if no insulation)</p> <p>Walls = 12.7 mm Type X GWB (if insulated)</p> <p>Ceilings = 12.7 mm Type X GWB</p> <p>No additional construction is required.</p>
3	Provide an automatic sprinkler system within the service room.	Complies with OFC Sentence 9.5.2.5.(3)	<p>Alternative Solution</p> <p>Installation of a sprinkler system will include:</p> <p>a) spacing that does not exceed 9.5 m² per sprinkler, and</p> <p>b) so that the sprinklers provide a minimum average density of 6.5L/min/m² over the furnace room area.</p> <p>Justification:</p>

Service/Furnace Room Fire Separations			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
			Provides consistency with the OFC and is an extension of the compliance alternative provided for floor assemblies in Table 11.4.3.4.A.

6.9.7 Alternative Solution

As noted in Compliance Option 3 above, the proposal to apply the criteria of OFC 9.5.2.5.(3) as an alternative solution for furnace rooms in buildings that are up to 3-storeys and have a building area that is between 401 m² and 600 m² is based on this allowance of the OFC addressing the same functional statements and objectives of OBC Sentence 9.10.10.4.(1). Specifically, OFC 9.5.2.5.(3) addresses the functional statement F03 and objective OS1.2.

This alternative solution is also consistent with the alternative compliance identified in OBC Table 11.4.3.4.A that waives the requirement for floor assembly fire-resistance ratings based on the provision of automatic sprinkler protection where the assembly does not provide the required fire-resistance rating.

6.10 Fire Dampers

6.10.1 OBC Requirement

In accordance with Sentence 9.10.13.13.(1), except as permitted by Sentences (2) to (5) and Sentence 9.10.5.1.(4), a duct that penetrates an assembly required to be a fire separation with a fire-resistance rating shall be equipped with a fire damper in conformance with Articles 3.1.8.4. and 3.1.8.9.

In accordance with Sentence 9.10.13.13.(2), a fire damper is not required where a noncombustible branch duct pierces a required fire separation provided the duct:

- a) has a melting point not below 760°C (excludes aluminum ducts),
- b) has a cross-sectional area less than 130 cm², and
- c) supplies only air-conditioning units or combined air-conditioning and heating units discharging air at not more than 1.2 m above the floor.

In accordance with Sentence 9.10.13.13.(3), a fire damper is not required where a noncombustible branch duct pierces a required fire separation around an exhaust duct riser in which the air flow is upward provided:

- a) the melting point of the branch duct is not below 760°C (excludes aluminum ducts),
- b) the branch duct is carried up inside the riser at least 500 mm, and
- c) the exhaust duct is under negative pressure as described in Article 9.10.9.18.

In accordance with Sentence 9.10.13.13.(4), noncombustible ducts that penetrate a fire separation separating a vertical service space from the remainder of the building need not be equipped with a fire damper at the fire separation provided:

- a) the ducts have a melting point above 760°C (excludes aluminum ducts), and
- b) each individual duct exhausts directly to the outside at the top of the vertical service space.

In accordance with Sentence 9.10.13.13.(5), a duct serving commercial cooking equipment and piercing a required fire separation need not be equipped with a fire damper at the fire separation.

It should be noted that a damper is only required to be located in a fire separation that is required to have a fire-resistance rating. For example, in existing buildings, fire dampers would not be required at penetrations where the fire-resistance rating of a fire separation has been waived through Part 11 Compliance Alternatives.

Notes Provided in OBC Appendix A

None.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

Sentence	Functional Statement(s)	Objectives
		<i>Fire Dampers in Fire Separations</i>
9.10.13.13.(1)	F03 – To retard the effects of fire on areas beyond its point of origin.	<ul style="list-style-type: none"> OS1.2 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin. OP1.2 – To limit the probability that, as a result of its design or construction, the building will be exposed to an unacceptable level of risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin.

Building Code Intent Statements

The following intent statements are attributed to the requirement for the provision of fire dampers at duct penetrations in fire separations:

Intent 1:

To limit the probability that fire will spread from one fire compartment to another fire compartment through openings in a fire separation, which could lead to harm to persons in, or damage to, the other fire compartment.

Intent 2:

To expand the application of Articles 3.1.8.4. and 3.1.8.10. to Part 9 buildings.

Allowance to waive dampers within duct that meet certain conditions:

Intent 1:

To exempt certain branch ducts from the requirements of Sentence 9.10.13.13.(1), which would otherwise require fire dampers to be installed, on the basis that:

- o the ducts are small,*
- o the ducts are capable of withstanding high temperatures,*
- o it is unlikely that hot gases will contact combustible building components, and*
- o the lack of dampers in this case will not contribute significantly to the spread of fire.*

Allowance to waive dampers within kitchen exhaust ducts:

Intent 1:

To exempt certain ducts from the requirements of Sentence 9.10.13.13.(1), which would otherwise require fire dampers to be installed, on the basis that:

- o the lack of dampers in this case will not contribute significantly to the spread of fire,*
- o accidental closing of the dampers by the cooking operations would cause an undue hardship to the operations, and*
- o the fire dampers and their operating parts could collect grease, be very difficult to clean, and add to the fire hazard.*

6.10.2 Identified Challenges with Compliance

Installing fire dampers in accordance with the manufacturers instructions is challenging within existing typical residential construction when considering fire separation assemblies and typical duct materials.

6.10.3 Applicable OBC Part 11 Compliance Alternatives

The following table provides the compliance alternatives attributed to Sentence 9.10.13.13.(1)

OBC Permitted Compliance Alternative	Table 11.5.5.1.C - C167 Except as permitted in C.A. C168, in a building containing not more than four dwelling units the existing heating or air-conditioning system may be altered to serve more than one dwelling unit, provided smoke alarms are installed in each dwelling unit and provided a smoke detector is installed in the supply or return air duct system serving the entire building which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.
	Table 11.5.5.1.C - C168 <i>In a house, existing is acceptable.</i>

	<p>Note: C168 is applicable only to a house and cannot be applied to a rooming house. It is further noted that C167 applies to a building containing up to 4 dwelling units and does not reference the number of suites. However, clarity could be sought from MMAH to confirm that C167 is intended to also include suites similar to C91.</p> <p>Table 11.5.5.1.C – C91 (to 6.2.3.9.(1))</p> <p><i>In a building containing not more than four dwelling units or residential suites, the existing heating or air-conditioning system may be altered to serve more than one dwelling unit or suite, provided smoke alarms are installed in each dwelling unit or suite and provided a smoke detector is installed in the supply or return air duct system serving the entire building which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.</i></p> <p>Rationale:</p> <p>Application of C167 (Part 9) should be consistent with the application of C91 (Part 3).</p> <p>Impact:</p> <p>No impact in consideration the less than five suites in a rooming house is considered to be a house and would not be subject to fire damper requirements.</p>
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6.10.4 Ontario Fire Code Companion Requirements

See OFC permitted compliance alternative below.

OFC Permitted Compliance Alternative	<p>OFC Sentence 9.3.2.5.(7)</p> <p>Fire dampers or fire-stop flaps are not required in ducts at penetrations of a fire separation.</p> <p>Rationale:</p> <p>Typically, existing solid membrane fire separations are deemed to be acceptable without a fire-resistance rating and fire dampers are not otherwise required in fire separations that do not have a fire-resistance rating.</p> <p>Impact:</p> <p>N/A.</p>
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6.10.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

Requirements and allowances provided in the IBC are consistent with those provided in the OBC. The IBC further stipulates duct materials where a fire damper is exempted as being sheet steel with a minimum thickness of 0.55 mm.

6.10.6 Approach to Compliance Options

The following table provides a summary of the options to compliance with the OBC as outlined above.

Fire Dampers			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
1	Building has been provided with an early warning system and/or has been provided with sprinklers to waive fire separation fire-resistance ratings.	Complies with Table 11.4.3.4.A	Fire dampers are not required at duct penetrations in fire separation assemblies that do not have a fire-resistance rating.
2	<p>If penetrating a fire separation with a fire-resistance rating, ducts:</p> <ul style="list-style-type: none"> a) have a melting point not below 760°C (excludes aluminum ducts), b) have a cross-sectional area less than 130 cm², and c) supplies only air-conditioning units or combined air-conditioning and heating units discharging air at not more than 1.2 m above the floor. 	Compliance with Acceptable Solution	<p>Fire dampers are not required if sheet steel duct materials are used and meet the stipulated dimensional and location requirements.</p> <p>Aluminum ducts cannot be used.</p> <p>Where HVAC systems are installed to provide supply air from the ceiling level, the duct openings would need to be extended to be not more than 1.2 m above the floor.</p>

Fire Dampers			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
3	Where Compliance Option 1 or 2 does not waive the requirement for a damper and for a rooming house with sleeping accommodation up to 8 , the requirement for fire dampers is waived based on the provision of a fire alarm system within the building that includes a duct-type smoke detector on the return side of the HVAC unit that would turn off the electrical and fuel supply to the HVAC unit.	Alternative Solution Extension of the application of CA-C167	Fire dampers are not required at duct penetrations in rated fire separations for small rooming houses equipped with a fire alarm system and automatic HVAC shut-offs. Justification: Correlates a similar allowance that would be permitted for multiple dwelling units and is consistent with the allowances of the OFC. This solution provides a similar limit to the number of suites as provided elsewhere in the OBC and the NBC.

6.10.7 Alternative Solution

The alternative solution described in Compliance Option 3 accounts for the presence of a fire alarm system serving the room house which, in turn, would allow the fire-resistance rating of the floor assembly fire separations to also be waived.

This solution is also consistent with the limit that the NBC waives the separation of suites and addresses the nature of “supervision” through the provision of a fire alarm system and shut-offs that wouldn’t otherwise be required in the building (i.e., sleeping accommodation for up to 8 persons).

In the event of a fire being detected in the building either by the operation of smoke detectors in suites or public corridors, through the operation of a manual pull station, or via the duct-type smoke detector on the return side of the HVAC unit, the power would be disconnected to the HVAC unit and the fuel supply shut off. This would be accomplished by relay from the fire alarm system.

It should be noted that, as identified by Sentence 9.10.18.3.(3), where a fire alarm system is provided, the provision of the shut-down of an HVAC system that serves more than one suite or more than one storey (as prescribed by Article 3.2.4.13.) is not required for a Part 9 building. That is, the concept of recirculation of smoke in a Part 9 building is not considered to be of significance.

The above measures represent an enhancement to the building with respect to addressing Objective OS1.2 (i.e., the risk of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin). Specifically, occupants will be provided with an earlier warning of a fire condition via the duct-type smoke detector and will be protected from the possibility of smoke being recirculated through the building during the initial stages of a fire. Neither of which is provided through the provision of a fire damper.

While Objective OP1.2 (the risk of damage due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin) is not specifically addressed through the application of this compliance option, it is acknowledged that many of the fire-resistance ratings of fire separations have been waived through the provision of a fire alarm system and placing a limit on the maximum number of sleeping accommodations.

6.11 Flame Spread Rating of Interior Finishes

6.11.1 OBC Requirement

In accordance with Sentence 9.10.3.2.(1), where a flame-spread rating is required in this Section for an element of a building, such rating shall be determined in accordance with the test methods described in Part 3, or in accordance with MMAH Supplementary Standard SB-2, "Fire Performance Ratings."

In accordance with Sentence 9.10.3.2.(2), unless the flame-spread rating is referred to in this Part as a "surface flame-spread rating", it shall apply to any surface of the element being considered that would be exposed by cutting through it as well as to the exposed surface of the element.

In accordance with Sentence 9.10.17.1.(1), except as otherwise provided in this Subsection, the exposed surface of every interior wall and ceiling, including skylights and glazing, shall have a surface flame-spread rating of not more than 150.

In accordance with Sentence 9.10.17.1.(2), doors need not conform to Sentence (1) provided they have a surface flame-spread rating of not more than 200.

In accordance with Sentence 9.10.17.2.(1), at least 90% of the exposed surface of every ceiling in an exit or unsprinklered ceiling in a public corridor shall have a surface flame-spread rating of not more than 25.

In accordance with Sentence 9.10.17.3.(1), except as provided in Sentence (2), at least 90% of the exposed surfaces of every wall in an exit shall have a surface flame-spread rating of not more than 25.

In accordance with Sentence 9.10.17.3.(2), at least 75% of the wall surface of a lobby used as an exit in Article 9.9.8.5. shall have a surface flame-spread rating of not more than 25.

In accordance with Sentence 9.10.17.5.(1), at least 90% of the total wall surface in any unsprinklered public corridor shall have a surface flame-spread rating of not more than 75, or at least 90% of the upper half of such walls shall have a surface flame-spread rating of not more than 25.

The following table provides a summary of the flame-spread rating limits applicable to interior finishes within a rooming house:

Location or Building Element		Maximum Flame-Spread Rating of Surface ^{(a)(c)}
Exits ^(b)	Ceilings	25 150 for max 10% of ceiling area
	Walls	25 150 for max 10% of wall area
Public Corridors ^(b)	Ceilings	25 150 for max 10% of ceiling area
	Walls	75 for min 90% of wall area or 25 for min 50% of upper wall area
Bathrooms	Walls	200
	Ceilings	200
All other locations	Walls	150
	Ceilings	150
Doors	All locations	200

Notes:

- a) Skylights, glazing, combustible doors, and combustible light diffusers and lenses shall not be considered in the calculation of wall and ceiling areas.
- b) Flame spread rating limit for all surfaces is increased to 150 if sprinklered.
- c) All flame spread rating limits are applicable to the surface only.

It should be noted that Part 9 differs from Part 3 with respect to the limit of flame spread ratings. Specifically, Part 3 of the OBC requires that flame spread rating limits be applied “through” a material in order to address not only the surface of the interior finish, but also the substrate. There is also a limit to the overall thickness of an interior finish that includes the surface as well as the substrate. Whereas Part 9 identifies specific elements where the limit to the flame spread rating is applicable to the surface only.

As identified in OBC Supplementary Standard SB-2, Table 3.1.1.A, typical gypsum wallboard with a minimum thickness of 9.7 mm has a flame spread rating of 25 while gypsum plaster has a flame spread rating of 0. Additionally, a surface coating of up to 1.3 mm of paint/varnish (alkyd or latex based) or one layer of wallpaper does not affect the flame spread rating. Most wood products have a flame spread rating that is 150 or less (e.g., plywood, hardboard, or particle board).

Notes Provided in OBC Appendix A

None.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

Sentence	Functional Statement(s)	Objectives
9.10.17.1.(1)	F02 – To limit the severity and effects of fire or explosions.	<p>Flame Spread Rating Limits</p> <ul style="list-style-type: none"> OS1.2 – To limit the probability that, as a result of the design or construction of the building, a person in or adjacent to the building will be exposed to an unacceptable level of risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by fire or explosion impacting areas beyond its point of origin.
9.10.17.2.(1) 9.10.17.3.(1) and (3) 9.10.17.1.(5)	F05 – To retard the effects of fire on emergency egress facilities.	<ul style="list-style-type: none"> OS1.5 – To limit the probability that, as a result of the design or construction of a building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to fire caused by persons being delayed in or impeded from moving to a safe place during a fire emergency.

Building Code Intent Statements

The following intent statements are attributed to the requirement for the limits to flame spread ratings:

Intent 1:

To limit the probability that certain finishes having an inappropriately high flame spread property will be used, which could lead to the spread of fire across the exposed surfaces of the finishes, which could lead to harm to persons.

Intent 2:

To limit the probability that certain finishes having an inappropriately high flame-spread property will be used in exits or public corridors that are a part of a means of egress, which could lead to the spread of fire across the exposed surfaces of the finishes, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.

6.11.2 Identified Challenges with Compliance

It may be difficult to determine the flame spread rating of existing interior finishes such as wood panels, composite plastic material panels, paints or other applied wall and ceiling interior finishes.

6.11.3 Applicable OBC Part 11 Compliance Alternatives

It is noted that there are no compliance alternatives attributed to Subsection 9.10.17.

6.11.4 Ontario Fire Code Companion Requirements

In accordance with OFC Article 9.3.3.11., the flame-spread rating of interior finishes on walls and ceilings within a means of egress shall not exceed 200.

It is noted that there are no compliance alternatives attributed to OFC Article 9.3.3.11.

6.11.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

The acceptable solution is the same as the OBC.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

In accordance with Table 803.13, the following provides the maximum permitted flame spread rating limits for comparable elements identified in this report:

Location or Building Element	Maximum Flame-Spread Rating of Surface
Exits	75
Corridors	75
All other locations	200

6.11.6 Approach to Compliance Options

The following table provides a summary of the options to compliance with the OBC as outlined above.

Interior Finishes			
Option	Means of Achieving Compliance	Rationale	Impact/Limitations
1	Remove, revise, or cover noncompliant interior finishes.	Compliance with Acceptable Solution	May require cosmetic work following removal. May require the installation of a covering membrane over the interior finish such as gypsum wallboard.
2	Apply fire-retardant coating over interior finish to reduce flame spread rating.	Compliance with Acceptable Solution	Application of a ULC listed fire-retardant coating will limit the surface flame spread rating to meet the OBC requirement.
3	Provide an automatic sprinkler system throughout each floor area containing suites.	Compliance with Acceptable Solution	Provision of sprinklers allows public corridors to utilize the maximum flames spread rating of 150.

6.12 Barrier-Free Accessibility

6.12.1 OBC Requirement

In accordance with Sentence 9.5.2.1.(1), except as provided in Sentence (2) and Article 3.8.1.1., every building shall be designed in conformance with Section 3.8. Barrier-Free Design.

In accordance with Sentence 9.5.2.1.(2), the requirements of Section 3.8. Barrier-Free Design need not be provided for houses, triplexes and boarding or rooming houses with fewer than eight boarders or roomers. In accordance with Sentence 3.8.1.1.(1), the requirements of this Section (i.e., 3.8 Barrier-Free Design) apply to all buildings except:

- a) houses, triplexes and boarding or rooming houses with fewer than **8** boarders or roomers,
- b) buildings of Group F, Division 1 major occupancy,
- c) buildings that are not intended to be occupied on a daily or full-time basis, including automatic telephone exchanges, pumphouses and substations, and
- d) camps for housing of workers.

In accordance with Sentence 3.8.2.1.(2), a barrier-free path of travel is not required to extend to Group C occupancies that are in floor areas in a building that is three or fewer storeys in building height and has a building area not exceeding 600 m² (i.e., any Part 9 building).

Notes Provided in OBC Appendix A

A-3.8.2.1. (2) Portions of Floor Areas not Required to be Barrier-Free:

The permission to waive a barrier-free path of travel for wheelchair access to certain specified areas of a building is not intended to waive accessibility requirements for persons with physical disabilities who do not require special provision for access to raised or sunken

levels. The concept of providing similar amenities and facilities applies, among other things, to food, beverage, and entertainment facilities within restaurants, and to window areas providing a view of an exterior attraction.

Availability of specific spaces depends on reservation policy and the sequence in which patrons arrive at a restaurant or other facility, and therefore is beyond the scope of this Code.

Accessibility “within” a floor area is intended to mean that in general all normally occupied spaces are to be accessible, except where essential obstructions in the work area would make a barrier-free path of travel hazardous. Examples of excluded floor areas could include small, raised office areas in retail and industrial premises, storage platforms in industrial occupancies, repair garages and areas within commercial kitchens.

Where a floor area does not require a barrier-free path of travel, certain barrier-free design provisions of Section 3.8. will still be applicable. These requirements can provide greater accessibility for persons with limited mobility who do not use wheelchairs or for those with sensory disabilities. People using walking aids, service animals or those with hearing and vision loss may still be able to climb stairs or use escalators. Accessibility features such as wider door openings, lever door handles and larger washroom stalls can also assist other building users.

The applicable requirements include:

- 3.8.1.3.(6) – Headroom and walking surfaces*
- 3.8.2.3.(6) – Non-barrier-free washrooms*
- 3.8.3.1.(6) – Accessibility signs*
- 3.8.3.3.(19) – Doors, door hardware and vision panels*
- 3.8.3.8.(10) – Ambulatory water closet stalls*
- 3.8.3.10.(5) – Urinals*
- 3.8.3.11.(5) – Lavatories*
- 3.8.3.15.(5) – Counters for telephones*
- 3.8.3.16.(4) – Drinking fountains*

A-3.8.2.1.(2)(b) Exemptions from Barrier-Free Path of Travel for Small Buildings.

Some small buildings are restricted in building area by lot size, including small infill properties between existing buildings. In those cases, it may not be feasible to require an elevator for the building.

A-11.3.3.2.(3) Application of Limited Barrier-Free Design Requirements in Renovations.

Certain barrier-free design provisions must be incorporated into all renovations where new interior walls or floor assemblies are installed other than in a suite described in Sentence (2) or in a suite in a building described in Sentence 3.8.1.1.(1). This includes construction within suites less than 300 m² and suites on storeys or floor levels not accessible by a barrier-free path of travel. In those cases, any new construction is subject to the barrier-free design

provisions listed in 11.3.3.2.(3). Sentence 1.1.2.7.(1) of Division A continues to apply, so that any existing construction that is not being materially altered as part of the renovation need not include barrier-free design features.

The intent of these provisions is to make more suites and buildings accessible for people with sensory and other non-mobility disabilities. Not every person with a disability uses a wheelchair. Many people who use mobility aids such as canes or service animals or who have sensory disabilities are able to navigate stairs but would benefit from certain barrier-free elements such as lever door handles or an ambulatory washroom stall.

Attributed Functional Statements and Objectives

The table below provides a summary of the attributed Functional Statements and Objectives as identified by Table 9 of Supplementary Standard SA-1.

The Functional Statements and Objectives attributed to Sentence 3.8.2.1.(1) have been used in consideration that Article 9.5.2.1 and Article 3.8.1.1. are not attributed with either.

Sentence	Functional Statement(s)	Objectives
		Barrier-Free Accessibility
3.8.2.1.(1)	F73 – To facilitate access to and circulation in the building and its facilities by persons with physical or sensory disabilities.	<ul style="list-style-type: none"> OA1 – To limit the probability that, as a result of the design or construction of a building, a person with a physical or sensory disability will be unacceptably impeded from accessing or using the building or its facilities.

Building Code Intent Statements

The following intent statements are attributed to the requirement for barrier-free design:

Sentence 9.5.2.1.(1)

Intent 1:

To expand the application of Section 3.8. to include Part 9 buildings.

Sentence 3.8.2.1.(2)

Intent 1:

To exempt certain areas of buildings from the requirements of Sentence 3.8.2.3.(1) (OBC 3.8.2.1.(1)), which would otherwise require a barrier-free path of travel, on the basis that it is impractical and onerous to provide barrier-free access to and egress from these areas. Lower storey of a building to an upper storey or to the exterior, which could lead to damage to the building.

6.12.2 Identified Challenges with Compliance

The requirements for barrier-free accessibility are not applicable to houses. As such, any barrier-free requirements applied to an existing house would require retrofit or upgrades including consideration of exterior ramps, provision of sleeping accommodations and amenities on the first storey, or the provision of a lift within the existing building, the provision of barrier-free path of travel, etc.

6.12.3 Applicable OBC Part 11 Compliance Alternatives

In accordance with 11.3.3.2.(2), except as provided in Section 11.5., the proposed construction within an existing suite shall comply with the requirements of Section 3.8. Barrier-Free Design where:

- a) new interior walls or floor assemblies are installed,
- b) the suite has an area greater than 300 m², and
- c) the suite is located in:
 - i. a floor area where the existing difference in elevation between the adjacent ground level and the floor level is not more than 200 mm, or
 - ii. a normally occupied floor area which is accessible by a passenger type elevator or other platform equipped passenger elevating device from an entrance storey where the existing difference in elevation between the adjacent ground level and the entrance storey level is not more than 200 mm.

In accordance with 11.3.3.2.(3), except as provided in Section 11.5., the proposed construction within an existing suite, other than a suite described in Sentence (2) or a suite in a building described in Clause 3.8.1.1.(1)(a), (b), (c) or (d), shall comply with the requirements of Sentences 3.8.1.3.(6), 3.8.2.3.(6), 3.8.3.1.(6), 3.8.3.3.(19), 3.8.3.7.(1), 3.8.3.15.(5) and 3.8.3.16.(4) where new interior walls or floor assemblies are installed.

Appendix Note: A-11.3.3.2. (3) Application of Limited Barrier-Free Design Requirements in Renovations.

Certain barrier-free design provisions must be incorporated into all renovations where new interior walls or floor assemblies are installed other than in a suite described in Sentence (2) or in a suite in a building described in Sentence 3.8.1.1.(1). This includes construction within suites less than 300 m² and suites on storeys or floor levels not accessible by a barrier-free path of travel. In those cases, any new construction is subject to the barrier-free design provisions listed in 11.3.3.2.(3). Sentence 1.1.2.7.(1) of Division A continues to apply, so that any existing construction that is not being materially altered as part of the renovation need not include barrier-free design features.

The intent of these provisions is to make more suites and buildings accessible for people with sensory and other non-mobility disabilities. Not every person with a disability uses a wheelchair. Many people who use mobility aids such as canes or service animals or who have sensory disabilities are able to navigate stairs but would benefit from certain barrier-free elements such as lever door handles or an ambulatory washroom stall.

<p>OBC Permitted Compliance Alternative</p>	<p>Table 11.5.5.1.C – C81 through C87.3</p> <p>There are a number of compliance alternatives that provide dimensions that may be more achievable in existing construction.</p> <p>Rationale:</p> <p>This alternative compliance is a prescriptively permitted reduction in the required performance level of this aspect of the building in order to address the related construction difficulties associated with these building elements. This alternative compliance is deemed to comply with the acceptable solution, and by extension, the Functional Statements and the Objectives attributed to the acceptable solution. This application of this alternative compliance is not subject to satisfying the Chief Building Official of construction difficulties.</p> <p>Impact:</p> <p>It may be possible that existing elements, such as doorways, will meet the dimensional requirements provided in the associated compliance alternatives.</p>
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6.12.4 Ontario Fire Code Companion Requirements

Barrier-free accessibility is not addressed in the Ontario Fire Code.

6.12.5 Comparative Jurisdictions

The following provides a summary of the same or similar requirements in comparative jurisdictions.

National Building Code – 2020

In accordance with Sentence 9.5.2.1.(1), except as provided in Articles 9.5.2.3. and 3.8.2.1., every building shall be designed in conformance with Section 3.8. (Accessibility).

In accordance with Sentence 3.8.2.1.(1), the requirements of this Section apply to all buildings except detached houses, semi-detached houses, houses with a secondary suite, duplexes, triplexes, townhouses, row houses and boarding houses.

There are no compliance alternatives provided for existing buildings.

Vancouver Building Bylaw – 2019

In accordance with Sentence 9.5.2.1.(1), every building shall be designed to conform with Section 3.8 (Accessibility).

In accordance with Sentence 3.8.2.1.(1), except as provided in Clause 3.8.2.3.(2)(j), the requirements of Subsections 3.8.2. through 3.8.4. apply to all buildings and all areas of buildings where work functions can reasonably be expected to be performed by persons with disabilities except:

- a) dwelling units, row houses, boarding houses, lodging houses and construction camps, except as required by
 - i. Article 3.8.2.12. (n/a to boarding or lodging house), or

ii. Subsection 3.8.5. (n/a to boarding or lodging house).

As identified above, barrier-free path of travel requirements are not applicable to a boarding or lodging house.

There are no compliance alternatives provided for existing buildings.

International Building Code – 2021

The IBC was not reviewed with respect to barrier-free accessibility on the basis that the IBC refers to external regulatory documents and its own requirements are minimal.

6.12.6 Approach to Compliance Options

As noted, Section 3.8 is only applicable to proposed construction and the OBC does not identify an upgrade requirement triggered by change of use alone. Additionally, and consistent with the intent of Part 11, the OBC is not seeking retroactive application of the OBC to existing buildings.

Further to above, barrier-free accessibility requirements would typically not be applicable to an existing Part 9 residential building typically as a result of OBC Sentence 11.3.3.2.(2) given that typical houses will have an existing difference in elevation that is more than 200 mm between the adjacent ground level and the floor level.

On this basis, the requirements that may be applicable would generally be limited to headroom obstructions, walking surfaces, the provision of ambulatory accessible facilities in new washrooms, and the providing of lever-type door handles not more than 1100 mm above the floor level.

An elevator would not be required added to an existing building nor would a barrier-free entrance be required to be added to an existing building.

As identified, the barrier-free design requirements that could be applicable to an existing building conversion to a boarding, lodging, or rooming house with 8 or more boarders or roomers are fairly limited and are not expected to create a significant challenge for compliance.

It is suggested that a revision could be made to OBC Clause 3.8.1.1.(1)(a) to exempt houses, triplexes and boarding or rooming houses with **8 or fewer** boarders or roomers to provide greater consistency with the remainder of the OBC in treating rooming houses with sleeping accommodation for not more than 8 persons.

7.0 Cost and Engineering Analysis

One component of this report is to investigate construction related costs associated with renovations that may be required to comply with the OBC for a boarding, lodging, or rooming house. Ideally, the development of generic alternative compliance measures that could be applied to typical conversions would be available with a means to identify a general cost associated with that solution.

As has been demonstrated through the technical analysis of the evaluated building aspects, there are a number of options available to achieve compliance with the OBC depending on the building aspect that needs to be addressed. Meaning, while there may be common issues that are encountered by building owners or operators and by municipal building and fire departments, the means selected to achieve compliance may be dependent on a number of factors that would include an evaluation of cost and of risk and that would be particular to that building.

A significant consideration is the means by which the most appropriate solution has been determined. As discussed in this report, there is a “gap” between the knowledge that a typical owner/operator may possess with respect to rooming house conversions and the ability of the municipal building or fire department to assist in evaluating potential solutions. Questions that will fall upon the owner/operator to address may include:

- *Of the available options, which is the most appropriate from a cost and constructability perspective?*
- *How does the selection of one option to resolve a compliance issue potentially affect the selection or availability of options to address other compliance issues?*

Additionally, there is enough variability in housing types and the age of housing, with differing sizes and construction materials or techniques used, that each would either benefit from, or perhaps require, a specific engineering analysis to evaluate the most appropriate approach to compliance for a given compliance issue or the building as a whole.

In order to address the above risks associated with the above discussion, it is our opinion that a professional that has a demonstrated experience in the application of Part 11 of the OBC to residential occupancies could be engaged to complete an engineering analysis to determine the most appropriate and/or cost-effective solution to the OBC requirements. The consultant would be engaged by the building owner or operator (i.e., the building permit applicant) to provide an engineering evaluation to assess and recommend compliance approaches that will:

- a) Provide the building permit applicant with an opportunity to understand the cost and constructability implications and select the appropriate compliance approach(es) to address their needs, and
- b) Provide the municipal building department with an evaluation of the approach to compliance from which they can evaluate the submitted plans for compliance.

The engineering analysis would include the preparation of a project specific report (i.e., Building Code Analysis Report) identifying the applicable requirements relative to the specific renovations proposed for the building and the proposed approach to the OBC including:

- a) Identification of the applicable Division B acceptable solutions,
- b) Identification of the Division B Part 11 compliance alternative that are available,
- c) Evaluation of City of Toronto approved approaches to compliance (as may be applicable), or
- d) Evaluation and identification of project specific alternative solutions.

The consultant(s) who prepared the engineering analysis would be expected to be available to support the report findings during the permit review and construction inspection process.

The expectation is that this approach will facilitate the timely review (i.e., reduce the potential of delays) of the building permit application by Toronto Building in consideration that the technical analysis has been completed and the approach to compliance articulated. This approach is also expected to reduce the potential of “surprise” costs related to compliance with the OBC in consideration that an evaluation of costs and constructability will have been completed by the owner/operator prior to the submission of a building permit.

It is estimated that the cost for the professional services described would be in the range of \$10,000 to \$25,000 exclusive of project specific alternative solutions.

8.0 Summary

8.1 Summary of Findings

This report reflects on the challenges faced by municipalities and building owners/operators related to compliance with regulatory requirements for boarding, lodging, and rooming houses with a specific focus on the fire protection and life safety requirement of the Ontario Building Code as they apply to the conversions of existing buildings. Many of the challenges identified have, in fact, been challenges associated with this type of residential use since its inception.

These challenges include understanding the application of the regulatory requirements, understanding the options to compliance that are available, the typical difficulties encountered with the renovation of an existing building, and the availability of knowledgeable designers, trades and contractors to complete the work within the technical specifications required by the OBC.

The options towards achieving compliance with the OBC for boarding, lodging, and rooming house fire protection and life safety requirements, as described in this report, are intended to provide a level of fire protection and life safety that at least equals the minimum acceptable levels established by the requirements of the OBC.

Compliance with the OBC has been described via:

- a) the application of the “Acceptable Solutions” identified in Division B of Part 9,
- b) the application of “Compliance Alternatives” identified in Division B, Part 11, and
- c) the application of “Alternative Solutions” as described in Division A, Part 1.

A key element in determining the level of performance that is intended to be achieved is acknowledging that the OBC prescriptively allows for reduced performance levels through the use of Compliance Alternatives in Part 11. It is also important to acknowledge that a building permit applicant is not required to demonstrate “construction difficulty” to the satisfaction of the Chief Building Official when using a Compliance Alternative for a Part 9 building. That is, the OBC Part 11 Compliance Alternatives are effectively treated the same as the Acceptable Solution for that building element or system.

Each fire protection or life safety aspect that has been evaluated in this report provides options towards achieving compliance with the OBC. These options are intended to provide building owners and rooming house operators with a “menu” of available means to achieve compliance so that they can determine which is the most practical solution when considering costs, timing/duration of construction, disruption to tenants, etc. As can be observed, there are a multitude of options available and likely a high degree of variability of upgrade or retrofit that may be necessary for their particular building to comply with the OBC.

There is, however, some commonality found between certain building elements and solutions that are available. The three significant elements are:

- a) the provision of a fire alarm system within the building,
- b) the provision of automatic sprinklers within the building or part(s) of the building, and

- c) limiting the number of boarders or lodgers to **8** with no cooking facilities within suites and the suites form part of the proprietor's residence.

The following table provides an overview of the evaluated aspects (i.e., OBC requirements) that can be addressed in full or in part by the provision of a fire alarm system, sprinkler system and/or limits to the number of boarders or lodgers as described above:

Building Element	Addressed by the Provision of a Fire Alarm System		Addressed by the Provision of Automatic Sprinklers	Alternative Solution Required?
Floor Assembly Fire-resistance Ratings	Yes	or	Yes	No
Loadbearing Element Fire-resistance Ratings	Yes	or	Yes	No
Suite Fire-resistance Ratings – Ceilings Only	No		Yes	No
Suite Fire Separations – Walls and Ceilings	No		No	Yes (Limit up to 8 boarders)
Public Corridor Fire Separations	Yes	&	Yes	Yes (Limit up to 8 boarders)
Furnace Room Fire Separation (if required)	No		Yes	Yes
Fire Dampers	Yes (Limit up to 8 boarders)		No	Yes
Interior Finish Flame Spread Rating Limits	No		Yes (limits increased to 150)	No

8.2 Summary of Potential Alternative Solutions

The following provides a summary of the proposed alternative solutions provided in this report:

Report Section	Alternative Solution	Mitigating Feature(s)	Rationale
6.6	Suite fire separations are waived	The number of boarders or lodgers does not exceed 8 , there are no cooking facilities within suites, and the suites form part of the proprietor's residence.	Uses the same considerations as the OBC uses in Sentence 9.10.9.14.(2) (i.e., to reduce the fire separation rating from 45-min to 30-min) and provides harmonization with the NBC.
6.7	Public corridor fire separations are waived	Provide a fire alarm system for the building, an automatic sprinkler system throughout each floor area containing suites in lieu of providing fire separations	Permit the allowance already provided for a Part 3 building (including residential occupancies) to a boarding,

Report Section	Alternative Solution	Mitigating Feature(s)	Rationale
		for public corridors, <u>and</u> number of boarders or lodgers does not exceed 8 .	lodging, rooming house on the same basis. The provision of a fire alarm system and a sprinkler system is a significant enhancement in a building where the number of boarders or lodgers does not exceed 8 .
6.9	Service room fire separations are waived	Provide an automatic sprinkler system within the service room.	Provides consistency with the OFC and is an extension of the compliance alternative provided for floor assemblies in Table 11.4.3.4.A.
6.10	Fire dampers are waived	Fire dampers are not required at duct penetrations in rated fire separations for small rooming houses equipped with a fire alarm system and automatic HVAC shut-offs, <u>and</u> number of boarders or lodgers does not exceed 8 .	Correlates a similar allowance that would be permitted for multiple dwelling units and is consistent with the allowances of the OFC. This solution provides a similar limit to the number of suites as provided elsewhere in the OBC and the NBC.

8.3 Summary of Recommendations

In addition to the identified approaches to compliance and potential alternative solutions derived as part of the technical review, this report provides a number of recommendations that relate to code development opportunities, considerations related to building permit administration, and considerations for building permit applicants. These recommendations can be grouped into three general categories:

- Code Development Potential,
- Toronto Building Permit Administration, and
- Rooming House Owner/Operator.

8.3.1 Code Development Potential

- OBC Definition of a boarding, lodging, rooming house** – Consideration should be given to reviewing the intent and purpose of the threshold in the OBC definition of more than four boarders or roomers before a building is required to provide the enhancements necessary for a boarding, lodging, or rooming house. This is a task that would be undertaken by the Ministry of Municipal Affairs and Housing and would be an assessment of the technical adequacy or appropriateness of the definition for this accommodation type.

2. **Suite fire separation OBC/NBC harmonization** – It is suggested that MMAH include harmonizing OBC Sentence 9.10.9.14.(2) with its counterpart in the 2020 NBC or provide clarification with respect to the purpose of the deviation from the national model code as it relates to the allowance to waive suite fire separations under certain conditions.

8.3.2 Toronto Building Permit Administration

1. **Determination of fire-resistance ratings of existing assemblies** – It is recommended that process or a set of procedures be implemented to formalize (or make consistent) an approach that would be deemed as an “Engineering Judgement” so that the fire-resistance rating documentation submitted in support of a building permit includes an engineering analysis based on a comparison of building element, component, or assembly designs having fire-resistance ratings as determined by the test procedures or assemblies as set forth in OBC Sentence 9.10.3.1.(1) and Compliance Alternative C143 and submitted by an Architect or Professional Engineer who has demonstrated knowledge of such analyses.
2. **Submission of generic alternative solutions** – It is recommended that changes to the Toronto Building submission and review process as well as the fee structure for alternative solutions be considered should Toronto Building will proceed with generic alternative solutions presented as part of this report. These changes would reflect the generic nature of the alternative solution submission reducing the period of time for the technical review, and therefore cost, of the submission.

8.3.3 Rooming House Owner/Operator

1. **Professional expertise and project specific engineering analysis/report** – A professional that has a demonstrated experience in the application of Part 11 of the OBC to residential occupancies could be engaged to complete an engineering analysis to determine the most appropriate and/or cost-effective solution to the OBC requirements. The consultant would be engaged by the building owner or operator (i.e., the building permit applicant) to provide an engineering analysis that would include the preparation of a project specific report (i.e., Building Code Analysis Report) identifying the applicable requirements relative to the specific renovations proposed for the building and the proposed approach to the OBC.



APPENDIX A

Summary of Exemplar Code Compliance Issues

APPENDIX A

The following table provides an abbreviated summary of the key findings of the data gathering process specific to rooming house buildings. This list of properties was provided by Toronto Building and Toronto Fire Services, with the enforcement challenges identified for each (the actual addresses for each has not been disclosed in this report).

As identified below, the majority of compliance/enforcement issue for the exemplar building is related how a boarding, lodging, or rooming house is defined by the OBC and OFC.

Building No.	Source	When in the process	Building Element	Issue
1 & 2	Toronto Building	Permit Application	Definitions	Can a rooming house be combined with dwelling units in the same building?
3	Toronto Fire	Inspection	Fire-resistance ratings Interior finishes Lighting Number of exits Fire Safety Plan Fire alarm system	Elements did not comply with OFC Section 9.3 and required remediation.
4	Toronto Fire	Inspection	Definitions Fire-resistance ratings Number of exits	6-room rooming house with 17 beds. Does not meet the definition of a rooming house. This is a dormitory.
5	Toronto Building	Permit Application	Definitions	Proposed renovations to convert building to a rooming house with 19 rooms within 2-3 "dwelling units."
6	Toronto Building	Permit Application	Definitions	Intent to legalize an existing 10-unit building. Each unit was provided with cooking facilities and washroom facilities. Therefore, not a rooming house.
7	Toronto Building	Permit Application	Definitions	Conversion of a dwelling unit into 3 dwelling units each with 4 rented rooms. By definition, the "building" exceeds 5 rented rooms and would be considered as a rooming house.
8	Toronto Building	Permit Application	Definitions	Addition of a 4 th and 5 th storey to an existing building to add 26 bachelor suites. This would not meet the definition of a rooming house.

Building No.	Source	When in the process	Building Element	Issue
9	Toronto Building	Permit Application	Definitions	Renovation to convert existing rooming house to 10 dwelling units each with cooking and washroom facilities. Therefore, not a rooming house.
10	Toronto Building	Permit Application	Definitions	Conversion of a 12-room rooming house to a 19-room rooming house via existing room modifications and an addition. Staff rooms were indicated on plans suggesting this is a group or care home rather than a rooming house.
11	Toronto Building	Permit Application	Definitions	Addition of 2 dwelling units to an existing basement. Not a rooming house by definition.
12	Toronto Fire	Inspection	Definitions	Building contained 2 dwelling units each with not more than 4 rented rooms. The "building" contains more than 4 rented rooms and would therefore be prescriptively defined as a rooming house.
13	Toronto Fire	Inspection	Definitions	Less than 4 rooms are rented, therefore not defined as a rooming house.
14	Toronto Building	Permit Application	Definitions	Conversion of a dwelling unit into 3 dwelling units each with 4 rented rooms. By definition, the "building" exceeds 5 rented rooms and would be considered as a rooming house. This building would not be considered as a "house" as a result of containing more than 2 dwelling units.
15	Toronto Building	Permit Application	Definitions	Conversion of a dwelling unit into 3 dwelling units each with 4 rented rooms. By definition, the "building" exceeds 5 rented rooms and would be considered as a rooming house. This building would not be considered as a "house" as a result of containing more than 2 dwelling units.



APPENDIX B

Multi-Tenant Housing Working Group –
Table of OBC Requirements

MULTI-TENANT HOUSING (BOARDING/LODGING) - CODE REQUIREMENTS COMPARISON

Revision 0 - June 12, 2023

OFC 2015	Proposed changes to the OFC (Spring 2023)	OBC 2012	OBC 2012 - Part 11	LMDG COMMENTS	CoT COMMENTS	Critical Challenge (Y/N)
Application 9.3.1.1. (1) This Section applies to boarding houses, lodging houses, rooming houses and private rest homes in which residents do not require care or treatment because of age, mental or physical limitations, where (a) the building height does not exceed 3 storeys and the building area does not exceed 600 m², (b) lodging is provided for more than four persons in return for remuneration or the provision of services or both, and (c) lodging rooms do not have both bathrooms and kitchen facilities for the exclusive use of individual occupants.	N/A	Definitions Boarding, lodging or rooming house means a building, (a) that has a building height not exceeding three storeys and a building area not exceeding 600 m², (b) in which lodging is provided for more than four persons [i.e., 5 or more suites?] in return for remuneration or for the provision of services or for both, and (c) in which the lodging rooms do not have both bathrooms and kitchen facilities for the exclusive use of individual occupants. Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes, (a)dwelling units, (b)individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories, and (c)individual stores and individual or complementary rooms for business and personal Dwelling unit means a suite operated as a housekeeping unit, used or intended to be used by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities	Table 11.2.1.1.I: Within the "small" classification, boarding, lodging, and rooming houses are categorized as having a hazard index of 3 whereas a house is categorized as having a hazard index of 2 . Table 11.4.3.4.A: To increase an existing construction index of 2 to match a hazard index of 3, provide 30-min floor fire separation ratings or provide an early warning system.	Toronto City Council directed that the new By-law include the following definitions: MULTI-TENANT HOUSE: 1. A building with four or more [OBC is five or more suites/sleeping areas] multi-tenant house rooms, inhabited or intended to be inhabited by persons who do not live together as a single housekeeping unit. For the purposes of this definition of a multi-tenant house, a "multi-tenant house room" is a room that: a. is used or intended to be used for living accommodation and is used or intended to be used as a bedroom; b. is available for rent; and c. may include a bathroom or kitchen facilities for the exclusive use of the room's occupant but does not include both . Clarificaton of and implications of definitions. Confirm intent from MMAH boarders, 2022-2023 A boarding, lodging or rooming house is a Suite. Provisions specific to Suites within part 9 are applicable. No further analysis is proposed. Each room is a suite.	Council Definition of a rooming house deviates from OBC Definition in whether it includes washroom and/or kitchen within guest rooms. YIMAHORI - The Ontario Fire Code is in conflict with this definition as it relates to Sections 9.3, 9.5 and 9.8 Proposed amendments to Section 9.3 of the OFC defines "house" as being used exclusively for boarding, lodging and rooming accommodation. The new wording does not leave room to include a dwelling unit with the building. Proposed amendments to the OFC permit a suite of 4 sleeping rooms sharing kitchen and bathroom facilites to be considered a residential unit (Section 9.8.1.1.(2) of proposed changes)	Yes
			-		As per the OBC Suite Definition individual guest rooms in rooming or lodging or boarding house is considered a suite.	Yes
			-			
(2) This Section applies to homes for special care within the meaning of the Homes for Special Care Act, where (a)the building height does not exceed 3 storeys and the building area does not exceed 600 m², (b)sleeping accommodation is provided for more than three but not more than 10 residents, and (c)residents do not require nursing care.	(2) This Section applies to homes for special care within the meaning of the Homes for Special Care Act or to homes that form part of the Community Homes for Opportunity program established by the Ministry of Health, where (a)the building height does not exceed 3 storeys and the building area does not exceed 600 m², (b)sleeping accommodation is provided for more than three but not more than 10 residents, and			This proposed amendment to OFC do not have an anticipated impact on OBC code compliance. No further analysis is proposed.	N/A	
	(3) For the purposes of Sentence (1), "house" means a detached house, a semi-detached house, or a row house used exclusively for boarding, lodging, or rooming accommodation. (4)For the purposes of Sentence (3), (a)a "row house" means a residential structure which (i)is one of a group of three or more horizontally attached residential structures, and (ii)is separated vertically from one or two of the other structures by common walls which do not provide for internal access from the living space in one structure to another; and (b)a "semi-detached house" means a residential structure which (i)is one of two horizontally attached residential structures, and (ii)is separated vertically from the other residential structure by a common wall which does not provide for internal access from the living space in one structure to	House means a detached house, semi-detached house or row house containing not more than two dwelling units.	-	The OBC limits a house to containing dwelling units. The proposed changes to the OFC clarifies that a boarding, lodging or rooming house is permitted to be located in a house. The difference in definitions should be understood, but proposed amendments do not have an anticipated impact on OBC code compliance. No further analysis is proposed.	N/A YIMAHORI - A house, could contain up to 8 sleeping rooms in 2 residential units which may contradict the classification of the building. (OFC - Section 9.3 vs Section 9.8) Furnace room separations may be required (Section 9.8) in one scenario and not in the other (Section 9.3) when inspected by TFS	

Part 11 – Renovations		<p>9.40.1.1. Application (1) This Section applies where proposed construction in respect of an existing building will result in any of the following changes of use of all or part of the building:</p> <p>(b)a suite of a Group C major occupancy is converted into more than one suite of a Group C major occupancy</p> <p>9.40.2.1. Change of Use and Compensating Construction (1) Where proposed construction will result in a change of use described in Clauses 9.40.1.1.(1)(a) to (d), additional construction shall be required in order that the building or part of a building subject to the change of use conforms to the requirements of Subsections 9.5.1. and 9.5.3. to 9.5.10., Section 9.6., Article 9.7.2.3. Sentences 9.7.5.1.(2) and 9.7.6.2.(1) and (3), Articles 9.8.8.1. and 9.9.10.1., Subsection 9.10.17. and Sections 9.31., 9.32. and 9.34. as they apply to the new major occupancy that</p>		<p>Compliance required.</p> <p>Clarification/consistency of the application of Compliance Alternatives provided in Part 11 is proposed.</p>	<p>Part 11 can be used for existing building retrofits only and legally non confirming rooming house.</p>	<p>Yes</p>
		<p>Division C, 1.1.2.7. Existing Buildings (1) Except as provided in Section 3.17. of Division B, Section 9.40. of Division B and Part 11 of Division B, if an existing building is extended or is subject to material alteration or repair, this Code applies only to the design and construction of the extensions and those parts of the building that are subject to the material alteration or repair.</p>		<p>As further clarified in Appendix Note A-1.1.2.7.:</p> <p><i>...only the areas or portions of a building being renovated, or other parts of a building adversely affected by that renovation need comply with the requirements of the Code; all other areas or portions need not comply with the Code and may remain unchanged.</i></p>		
		<p>11.4.2.3. Change of Major Occupancy (1) Except as provided in Sentence 11.4.2.5.(4), the performance level of an existing building is reduced where proposed construction will result in, (b) the conversion of a suite of a Group C major occupancy into more than one suite of Group C major occupancy,</p> <p>(3) The performance level of an existing building is reduced where the early warning and evacuation systems requirements of other Parts for the proposed major occupancy exceed those of the existing building.</p>		<p>The conversion of a Group C dwelling unit into a boarding, lodging or rooming house is a change of use considering more than one suite is proposed and, potentially, the early warning and evacuation systems requirements of other Parts exceed those of the existing building.</p>		
		<p>11.4.3.4. Change in Major Occupancy (1) Where the performance level of an existing building is reduced under Clause 11.4.2.3.(1)(a), (b), (c), (d), (e) or (g), additional upgrading shall be required in conformance with Table 11.4.3.4.A. and so that the construction index of the building is increased to at least equal the hazard index of the new major occupancy that the building is to support.</p>		<p>In accordance with Table 11.2.1.1.I, the Hazard Index of a boarding, lodging or rooming house is 3 (small building size).</p> <p>In accordance with Table 11.2.1.1.I, the Hazard Index of a house is 2 (small building size).</p> <p>In accordance with Table 11.4.3.4.B, to increase a H.I. of 2 to a H.I. of 3:</p> <ul style="list-style-type: none">- Comply with Table 11.2.1.1.A. ratings for C.I. of 3 (i.e., 30-min floors),- Provide early warning system, or- Comply with any A.C.'s in Col. 4 to Table 11.4.3.4.B. <p>Accordingly, where an early warning system is provided, additional upgrades to increase the fire-resistance ratings of floor and roof ratings in accordance with Table 11.2.1.1.A. is not required.</p> <p>Further evaluation and analysis is proposed towards clarifying and/or defining what "an early warning system" means in the context of this Alternative Compliance measure (i.e., interconnected smoke alarms, Residential Fire Warning Systems, full fire alarm system, etc.).</p>	<p>Accordingly, where an early warning system is provided, additional upgrades to increase the fire-resistance ratings of floor and roof ratings in accordance with Table 11.2.1.1.A. is not required. Clarification required</p>	<p>Yes</p>
		<p>(3) Where the performance level of an existing building is reduced under Sentence 11.4.2.3.(3), the building shall be evaluated, and the early warning and evacuation systems shall be upgraded, in conformance with the applicable requirements of Table 11.4.3.3.</p>		<p>Early warning and evacuation to be checked against:</p> <ul style="list-style-type: none">(a)access to exit widths based on occupant load in Subsection 9.9.3.;(b)exit widths based on occupant load in Subsection 9.9.3.;(c)exit signs in Subsection 9.9.11.;(d)lighting of exits, lighting of access to exits and emergency lighting in Subsection 9.9.12.;(e)fire alarm system in Subsection 9.10.18.;(f)smoke alarms in Subsection 9.10.19.;(g)travel distance and number of exits 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. <p>No further evaluation of the above is proposed.</p>		

9.3.2. Containment 9.3.2.1. Fire separations required by this Section to have a fire-resistance rating shall comply with Subsection 9.10.3. of the 1986 Building Code.		9.10.3.1. Fire-Resistance and Fire-Protection Ratings (1) Where a fire-resistance rating or a fire-protection rating is required in this Section for an element of a building, such rating shall be determined in conformance with the test methods described in Part 3, or in accordance with MMAH Supplementary Standard SB-2, "Fire Performance Ratings", or MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies".	Compliance Alternative C143 Fire-resistance ratings may also be used where they are based on: 1. HUD Rehabilitation Guidelines, "Guideline on Fire Ratings of Archaic Materials and Assemblies". 2.DBR Technical Paper No. 194, "Fire Endurance of Protected Steel Columns and Beams". 3.DBR Technical Paper No. 207, "Fire Endurance of Unit Masonry Walls". 4.DBR Technical Paper No. 222, "Fire Endurance of Light-Framed and Miscellaneous Assemblies".mber C	Information related to the analysis of the fire-resistance of existing assemblies could be made available to applicants and the building department. Further guidance from MMAH is proposed to be sought to confirm the intent of the assemblage of a 30-min fire-resistance rating that has been identified throughout the OBC. Possible proposed revision to the OBC to be included in Appendix A or SB-2/3. Specifically allow tested assemblies.	Fire resistance rating of existing house structure is evaluated as per SB2. AS required for tested assemblies.	Yes
Floor assemblies						
9.3.2.2.(1) Floor assemblies shall (a) be constructed as fire separations, and (b) have a fire-resistance rating not less than 30 min. 9.3.2.2.(2) Existing floor assemblies with ceilings consisting of lath and plaster, gypsum board or noncombustible materials are deemed to be in compliance with Sentence (1). Basement fire separations 9.3.2.3. Where a basement does not contain a bedroom, recreation room, meeting room or hobby room, a fire separation having no fire-resistance rating between the basement and first storey is deemed to be in compliance with Clause 9.3.2.2.(1)(b).		9.10.8.1. Fire-Resistance Ratings for Floors and Roofs (1) Except as otherwise provided in this Subsection, the fire-resistance ratings of floors and roofs shall conform to Table 9.10.8.1. Floors - 45 min Mezzanine Floors - 45 min Roofs - Nil 9.10.8.10. Non-application to Houses (1) Table 9.10.8.1. does not apply to houses. 'House' means a detached house, semi-detached house or row house containing not more than two dwelling units. 9.10.9.4. Floor Assemblies (1) Except as permitted in Sentences (2) to (4), all floor assemblies shall be constructed as fire separations. (2) Floor assemblies contained within dwelling units need not be constructed as fire separations. (3) Floor assemblies for which no fire-resistance rating is required by Subsection 9.10.8. and floors of mezzanines not required to be counted as storeys in Articles 9.10.4.1. and 9.10.4.2. need not be constructed as fire separations.	Compliance Alternative C147 (a)Except as provided in (b) and (c), 30 min rating is acceptable. (b)In a house, 15 min horizontal fire separation is acceptable where, (i)smoke alarms are installed in every dwelling unit and in common areas in conformance with Subsection 9.10.19., and (ii)smoke alarms are interconnected. (c)In a house, the fire-resistance rating of the fire separation is waived where the building is sprinklered.	Refer to rows 9 through 14 of this spreadsheet for the application of Part 11 to the change in use of an existing dwelling unit into a boarding, lodging or rooming house. Where an early warning system is provided, additional upgrades to increase the fire-resistance ratings of floor assemblies is <u>not</u> required. Where construction is proposed, compliance alternative C147 permits 30-min floors. This is consistent with the OFC. Determination of a 30-min rating: SB-2 and SB-3 do not provide a rating for an assembly using 1/2" regular gypsum directly on the underside of floor joists (representing typical construction practices). The OFC has deemed the assembly to comply. Note: HUD Rehabilitation Guidelines, "Guideline on Fire Ratings of Archaic Materials and Assemblies" provides a floor assembly with 1/2" gypsum board that provides a fire-resistance rating of more than 30-min (refer to Table 3.3 of the HUD Rehabilitation Guidelines) Example F/C-W-8 (33 min FRR): 12' clear span—2" x 7" wood joists 16" O.C. 2" x 1 1/2" bridging at center span; deck: 1" (25 mm) nominal lumber; membrane: 1/2" gypsum board Alternatively, if a boarding, lodging or rooming house is treated similar to a house (which can accommodate up to two dwelling units), and the rooming house has interconnected smoke alarms, a 15-min rating is permitted. Existing partitions with 1/2" regular gypsum will provide the required 15-min (i.e., deemed to comply given no is listing available).--	Compliance Alternative is only for a house, since a rooming house does not fall under a house definition Part 9 requirements apply. Alternatively a Code Change or a City Policy is required for compliance.	Yes
Walls separating bedrooms 9.3.2.4.(1) Each guest room or suite of rooms shall have interior walls having a fire-resistance rating not less than 30 min. 9.3.2.4.(2) Existing wall assemblies consisting of membranes of lath and plaster or gypsum wallboard are deemed to be in compliance with Sentence (1).		9.10.9.14. Separation of Residential Suites (1) Except as provided in Sentences (2) and (3) and Article 9.10.21.2., suites in residential occupancies shall be separated from adjacent rooms and suites by a fire separation having a fire-resistance rating of not less than 45 min . (2) Sleeping rooms in boarding, lodging or rooming houses where sleeping accommodation is provided for not more than 8 boarders or lodgers [8 suites] shall be separated from the remainder of the floor area by a fire separation having a fire-resistance rating of not less than 30 min where the sleeping rooms form part of the proprietor's residence and do not contain cooking facilities.	Compliance Alternative C152 (a)Except as provided in (b) and (c), 30 min fire separation is acceptable. (b)In a house, 15 min horizontal fire separation is acceptable where, (i)smoke alarms are installed in every dwelling unit and in common areas in conformance with Subsection 9.10.19., and (ii)smoke alarms are interconnected. (c)In a house, the fire-resistance rating of the fire separation is waived where the building is sprinklered.	New construction to comply. Refer to rows 9 through 14 of this spreadsheet for the application of Part 11 to the change in use of an existing dwelling unit into a boarding, lodging or rooming house. Where Part 11 is applicable, compliance alternative C152 permits 30-min wall assemblies. This is consistent with the OFC. Approach #1 SB-2 and SB-3 do not provide a rating for an assembly using 1/2" regular gypsum for wall assemblies without the cavity filled with absorptive material (representing typical construction practices). The OFC has deemed the assembly to comply. Confirm assembly opritons of 30-min rating for walls. Approach #2 If a boarding, lodging or rooming house is treated similar to a house (which can accommodate up to two dwelling units), and the rooming house has interconnected smoke alarms, 15-min rating is permitted. Existing partitions with 1/2" regular	Approaches 1and 2 are not acceptable.	Yes
Public Corridors						
		9.10.9.15. Separation of Public Corridors (1) Except as provided in Sentences (2) and (3), public corridors shall be separated from the remainder of the building by a fire separation having not less than a 45 min fire-resistance rating. (2) not applicable (3) not applicable	Compliance Alternative C152 (a)Except as provided in (b) and (c), 30 min fire separation is acceptable. (b)In a house, 15 min horizontal fire separation is acceptable where, (i)smoke alarms are installed in every dwelling unit and in common areas in conformance with Subsection 9.10.19., and (ii)smoke alarms are interconnected. (c)In a house, the fire-resistance rating of the fire separation is waived where the building is sprinklered.	New construction to comply. Refer to rows 9 through 14 of this spreadsheet for the application of Part 11 to the change in use of an existing dwelling unit into a boarding, lodging or rooming house. Where Part 11 is applicable, compliance alternative C152 permits 30-min wall assemblies. This is consistent with the OFC. Approach #1 SB-2 and SB-3 do not provide a rating for an assembly using 1/2" regular gypsum for wall assemblies without the cavity filled with absorptive material (representing typical construction practices). The OFC has deemed the assembly to comply. Confirm assembly opritons of 30-min rating for walls. Approach #2 If a boarding, lodging or rooming house is treated similar to a house (which can accommodate up to two dwelling units), and the rooming house has interconnected smoke alarms, 15-min rating is permitted. Existing partitions with 1/2" regular	Approaches 1 and 2 not acceptable.	Yes

Furnace room separations 9.3.2.5.(1) In a building where the building height is greater than 2 storeys or the building area is greater than 400 m2, a furnace room that is located on a floor area that contains a bedroom, recreation room, meeting room or hobby room shall be separated from the remainder of the building by a fire separation having a fire-resistance rating not less than 45 min. 9.3.2.5.(2) Existing fire separations consisting of membranes of lath and plaster or gypsum board are deemed to be in compliance with Sentence (1).		9.10.10.4. Appliances and Equipment to be Located in a Service Room (1) Except as provided in Sentences (2) and (3) and Article 9.10.10.5., fuel-fired appliances shall be located in a service room separated from the remainder of the building by a fire separation having not less than a 1 h fire-resistance rating. (2) Except as required in the appliance installation standards referenced in Sentences 6.2.1.4.(1) and 9.33.1.2.(1), fuel-fired space-heating appliances, space-cooling appliances and service water heaters need not be separated from the remainder of the building as required in Sentence (1) where the equipment serves, (a)not more than one room or suite, (b)a house, or (c)a building, other than a house, with a building area of not more than 400 m² and a building height of not more than 2 storeys . (3) Sentence (1) does not apply to fireplaces and cooking appliances. 9.10.10.2. Service Room Floors (1) The fire-resistance rating requirements in this Subsection (9.10.10.) do not apply to the floor assembly immediately below a service room. 9.10.8.3. Fire-Resistance Ratings for Walls, Columns and Arches (1) Except as otherwise provided in this Subsection, all loadbearing walls, columns and arches in the storey immediately below a floor or roof assembly shall have a fire-resistance rating of not less than that required for the supported floor or roof assembly.		Refer to rows 9 through 14 of this spreadsheet for the application of Part 11 to the change in use of an existing dwelling unit into a Boarding, lodging or rooming house. As identified in Row 14, the construction of a furnace room fire separation is not required to be evaluated and deficiencies upgraded. As such, where construction is not proposed, existing furnace room is acceptable. Where construction is proposed, in accordance with 9.10.10.4, a fire separation is only applicable to a building with a building area of more than 400 m² and a building height of more than 2 storeys (i.e., a 3-storey building with a building area between 400 m2 and 600 m2)	Where no compliance alternative available compliance with other parts (Part 9) is required. Mechanical engineer to provide comments. YIMAHORI - Proposed amendments to the OFC permit a suite of 4 sleeping rooms sharing kitchen and bathroom facilities to be considered a residential unit (Section 9.8.1.1.(2) of proposed changes) A house, could contain up to 8 sleeping rooms in 2 residential units which may contradict the classification of the building. (OFC - Section 9.3 vs Section 9.8) Depending on the allocation of rooms and amenities in the building, furnace room separations may be required in one scenario and not in the other when inspected by TFS	Yes
9.3.2.5.(3) Where the required vertical fire separation in a furnace room is maintained and it is not practical in the circumstances to construct the ceiling as a fire separation having a fire-resistance rating not less than 45 min, the furnace room area shall be sprinklered with a spacing that does not exceed 9.5 m2 per sprinkler head.	9.3.2.5.(3) Where the required vertical fire separation in a furnace room is maintained and it is not practical in the circumstances to construct the ceiling as a fire separation having a fire-resistance rating not less than 45 min, the furnace room area shall be sprinklered (a)with a spacing that does not exceed 9.5 m² per sprinkler, and (b)so that the sprinklers provide a minimum average			An option to address 3-storey buildings or those over 400 m ² but less than 600 m ² could be to add sprinkler protection to the service room as provided in the OFC proposed changes.	Mechanical Engineer to validate.	Yes
9.3.2.5.(4) Closures in fire separations for a furnace room shall have a fire-protection rating not less than 45 min.		9.10.13.1. Closures (1) Except as provided in Article 9.10.13.2., openings in required fire separations shall be protected with a closure conforming to Table 9.10.13.1. and shall be installed in conformance with NFPA 80, "Fire Doors and Other Opening Protectives", unless otherwise specified in this Part. In accordance with Table 9.10.13.1., a closures in a 1-hour fire separation require have a fire-protection rating not less than 45 min.	Compliance Alternative C155 Existing functional closures are acceptable subject to C.A.'s C8 and C156. Compliance Alternative C8 (a)Existing functional and sound doors in existing buildings that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.14.(2) are permitted in lieu of doors not required to exceed 45 min, (b)all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.14.(2), and (c)every fire door, window assembly or glass block used as a closure in a required fire separation shall be installed in conformance with good engineering practice. Compliance Alternative C154 In a house, existing unlabelled doors at least 45-mm solid core wood or metal clad are acceptable. For existing closures, ratings of 20-min will not be	Compliance required. No further actions proposed. 20-min doors are permitted in 30-min and 45-min fire separations.	Compliance required. No further comments.	No
9.3.2.5.(5) A hollow metal or kalamein door and frame are deemed to be in compliance with Sentence (4).						
9.3.2.5.(6) Closures referred to in Sentences (4) and (5) shall be equipped with latches and self-closing devices.						
9.3.2.5.(7) Despite Sentence (1), fire dampers or fire-stop flaps are not required in ducts at penetrations of a fire separation					JN- Require where duct penetrates into rated ceiling/floor assembly per OBC and see Ministry illustrated guide for reference. Additional measure may be considered e.g. sprinklers inside furnace room.. Also see row #63.	Depends on individual site conditions.

Combustion air 9.3.2.6. Where a furnace room is separated to comply with the requirements of Article 9.3.2.5., sufficient combustion air shall be brought directly from the exterior for the proper combustion and safe operation of the appliance.					JN - Combustion air from outside directly to comply with OFC, OBC, gas code and manufacturer specification. Where passing through any fire separation, it shall be enclosed in shaft. Also CO alarms per OFC 2.16., OBC 9.33.4. , where fuel-burning appliance is installed, locate adjacent to sleeping area in the suite, in the service room...	N
Number of exits 9.3.3.1. (1) Each floor area shall be served by at least two exits .		9.9.8.2. Number of Required Exits (1) Except as provided in Sentences (2) and (3) and Subsection 9.9.9., at least two exits shall be provided from every floor area, spaced so that the travel distance to the nearest exit is not more than, (a)40 m in the case of business and personal services occupancies, (b)45 m for all occupancies where the floor area is sprinklered, and (c) 30 m for all other occupancies.	Compliance Alternative C134 Existing travel distance acceptable where floor area is sprinklered and provided fire separations comply with Part 9.	Compliance required. No further analysis is proposed.	Compliance required.	Yes
(2) Where sleeping accommodation is not provided for more than 10 persons, one exit from each of the first and second floor floor areas is deemed to be in compliance with Sentence (1).		(2) Except as provided in Subsection 9.9.9., a single exit is permitted from each storey in buildings of 1 and 2 storeys in building height provided the floor area and travel distance requirements conform to those required in Article 9.9.7.4. and the total occupant load served by an exit facility does not exceed 60 persons.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
(3) Where sleeping accommodation is not provided in the basement, one exit from the basement is deemed to be in compliance with Sentence (1)		(3) In boarding, lodging or rooming houses, (a)where sleeping accommodation is provided for not more than eight persons [8 suites, if 4 suites this would be a house and exits are not applicable], a single exit is permitted from each floor area , or (b)where sleeping accommodation is not provided in the basement, a single exit is permitted from the basement floor area.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
Acceptable exits 9.3.3.2. (1) Exits required by Article 9.3.3.1. shall comply with the requirements of Articles 9.9.2.2. and 9.9.2.3. of the 1986 Building Code			Compliance Alternative C116 Except for hotels, the following types of exits may also be used: (a)connected balconies, which connect across firewalls, or connect to another exit, or with access to grade, (b)areas of refuge approved by the chief building official, where fire service rescue is possible, or (c) combustible or noncombustible exterior stairways or fire escapes which are protected in accordance with Sentence 3.2.3.13.(2). These may be reconstructed or recreated (as in the case of a	Compliance required. No further analysis is proposed.	Compliance required.	Yes
(2) Despite Sentence 9.3.3.5.(1), not more than one required exit from the basement may lead through the first floor floor area.		9.9.8.5. Exiting through a Lobby (1) Not more than one exit from a floor area is permitted to lead through a lobby. (2) The floor of the lobby referred to in Sentence (1) shall be not more than 4.5 m above grade, and the path of travel through the lobby to the outdoors shall not exceed 15 m. (3) The lobby referred to in Sentence (1) shall conform in all respects to the requirements for exits, except that rooms other than service rooms, storage rooms and rooms of residential or industrial occupancy are permitted to open directly onto such lobby. (4) Except as provided in Sentence (6), an exit is permitted to lead through a lobby referred to in Sentence (1) provided the lobby is not located within an interconnected floor space other than as described in Sentence 3.2.8.2.(6). (5) Passenger elevators are permitted to open onto the lobby referred to in Sentence (1) provided the elevator doors are designed to remain closed except while loading and unloading. (6) An exit that serves a hotel is permitted to lead through a lobby referred to in Sentence (1) provided the lobby is not located within an interconnected floor space. (7) Where the lobby referred to in Sentence (1) and adjacent occupancies that are permitted to open into the lobby are sprinklered, the fire separation		Compliance required. No further analysis is proposed.	Compliance required.	Yes
(3) Where sleeping accommodation is not provided for more than 10 persons, corridors that are contiguous to a stairway may form part of the stairway enclosure. (4) Only one stairway enclosure described in Sentence (2) may be used as an exit.				Compliance required. No further analysis is proposed.	Compliance required.	Yes

(5) Where a fire escape of the type referred to in Article 9.3.3.4. is used as an exit, it is deemed to comply with the requirements of Articles 9.9.2.2. and 9.9.2.3. of the 1986 Building Code.		9.9.2.1 Types of Exits (2) Fire escapes are permitted to be used as exits on existing buildings provided they are designed and installed in conformance with Subsection 3.4.7. (3) Fire escapes shall not be installed on any new buildings.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
9.3.3.3. Despite Articles 9.3.3.1. and 9.3.3.2., alternative measures may be approved where, in the opinion of the Chief Fire Official, they will provide protection for life safety similar to the protection provided by compliance with Articles 9.3.2.1. and 9.3.2.2.				Compliance required. No further analysis is proposed.	Compliance required.	Yes
Fire escapes 9.3.3.4. (1) Each fire escape used as an exit shall be constructed in compliance with Article 3.4.7.13., excluding Sentences (4) and (5), of the 1986 Building Code. (2) Despite Sentence (1), existing fire escapes may be preserved. (3) Access to fire escapes shall be from corridors		9.9.2.1 Types of Exits (2) Fire escapes are permitted to be used as exits on existing buildings provided they are designed and installed in conformance with Subsection 3.4.7. (3) Fire escapes shall not be installed on any new buildings.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
		3.4.7.3. Access to Fire Escapes (1) Access to fire escapes shall be from corridors through doors at floor level, except that access from a dwelling unit is permitted to be through a casement window having an unobstructed opening not less than 1 100 mm high by 550 mm wide with a sill height of not more than 900 mm above the finish floor.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
Fire Separation for Exits (Protection of exits) 9.3.3.5. (1) Each exit other than a doorway opening directly onto a fire escape or to the outdoors at ground level shall be separated from the remainder of the building or from another exit by a fire separation having a fire-resistance rating not less than 30 min. (2) Existing exit stairways separated from the remainder of the building by walls consisting of lath and plaster or gypsum wallboard are deemed to be in compliance with Sentence (1). (3) Despite Sentence (1), an existing separation of noncombustible material may be approved.		9.9.4.2. Fire Separation for Exits (1) Except as provided in Sentence (5) and Article 9.9.8.5., every exit other than an exit doorway shall be separated from each adjacent floor area or from another exit by a fire separation having a fire-resistance rating not less than that required for the floor assembly above the floor area. (2) Where there is no floor assembly above, the fire-resistance rating required in Sentence (1) shall not be less than that required by Subsection 9.10.8. for the floor assembly below, but in no case shall the fire-resistance rating be less than 45 min.	Compliance Alternative C122 30 min fire separation acceptable. Compliance Alternative C121 Except as permitted in C.A. C136, in a building containing not more than four dwelling units or suites, one exit need not be separated from the remainder of the building at the first storey where there are one or more other exits complying with C.A. C122.	Compliance required. No further analysis is proposed. See above for determination of 30 min FRR for existing assemblies.	Compliance required.	Yes
					Compliance Required	Yes
		(3) A fire separation common to two exits shall be smoke-tight and not be pierced by doorways, duct work, piping or any other opening that may affect the continuity of the separation.		Compliance required. No further analysis is proposed.	Compliance Required	Yes
		(4) A fire separation that separates an exit from the remainder of the building shall have no openings except those for electrical wiring, noncombustible conduit and noncombustible piping that serve only the exit, and for standpipes, sprinkler piping, exit doorways and wired glass and glass block permitted in Article 9.9.4.3.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
		(5) The requirements in Sentence (1) do not apply to an exterior exit passageway provided the passageway has at least 50 per cent of its exterior sides open to the outdoors and is served by an exit stair at each end of the passageway.		Compliance required. No further analysis is proposed.	Compliance required.	Yes

Exit facility Protection						
		9.9.4.5. Openings in Exterior Walls of Exits (1) Either openings in the exterior walls of an exit or openings in adjacent exterior walls of the building the exit serves shall be protected with wired glass in fixed steel frames or glass block installed in accordance with Articles 9.10.13.5. and 9.10.13.7., where, (a) the exit enclosure has exterior walls that intersect the exterior walls of the building at an angle of less than 135° measured on the outside of the building, and (b) the openings in the exterior walls of the building are within 3 m horizontally and less than 2 m above the openings in the exterior walls of		Compliance required. No further analysis is proposed.	Compliance required.	Yes
		9.9.4.6. Openings near Exit Doors (1) This Article applies to, (a) exit doors serving other than an individual dwelling unit, and (b) exit doors serving an individual dwelling unit where there is no second and separate exit from the dwelling unit. (2) Where an exterior exit door described in Sentence (1) in one fire compartment is within 3 m horizontally of an unprotected opening in another fire compartment and the exterior walls of these fire compartments intersect at an exterior angle of less than 135°, the opening shall be protected with wired glass in fixed steel frames or glass block conforming to Articles 9.10.13.5. and 9.10.13.7. or with a rated closure conforming to Table 9.10.13.1. with respect to the rating of the fire separation between the two compartments.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
Interior stairways						
9.3.3.6. (1) Floor separations shall be maintained at interior stairways that are not required exits . (2) The floor separation shall be maintained at an exit permitted in Sentence 9.3.3.2.(2). 9.3.3.7. Floor separations required in Article 9.3.3.6. shall be rated in accordance with Articles 9.3.2.2. and		9.10.9.5. Interconnected Floor Spaces (1) Except as permitted in Article 9.9.4.7., interconnected floor spaces shall conform to the requirements of Subsection 3.2.8.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
Protection of openings in fire separations (Closures) 9.3.3.8. (1) Closures in fire separations required under Article 9.3.3.5. and in floor separations required under Article 9.3.3.6. shall (a) be constructed in accordance with Article 9.10.3.1. of the 1986 Building Code, (b) have a fire-protection rating not less than 20 min, and (c) if the closure is openable, be equipped with self-closing and latching devices.		9.10.13.1. Closures (1) Except as provided in Article 9.10.13.2., ... openings in required fire separations shall be protected with a closure conforming to Table 9.10.13.1. and shall be installed in conformance with NFPA 80, "Fire Doors and Other Opening Protectives", unless otherwise specified in this Part.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
(2) Closures located along contiguous corridors permitted in Sentence 9.3.3.2.(3) shall comply with Sentence (1) . (3) A 45 mm solid core wood, hollow metal or kalamein door, equipped with self-closing and latching devices, is deemed to comply with Sentences (1) and (2).		9.10.13.2. Solid Core Wood Door as a Closure (1) A 45 mm thick solid core wood door is permitted to be used where a minimum fire-protection rating of 20 min is permitted or between a public corridor and a suite provided the door conforms to CAN/ULC-S113, "Wood Core Doors Meeting the Performance Required by CAN/ULC-S104 for Twenty Minute Fire Rated Closure Assemblies". 2) Doors described in Sentence (1) shall have not more than a 6 mm clearance beneath and not more than 3 mm at the sides and top. 9.10.13.10. Self-Closing Device (1) Except as described in Sentence (2), every door in a fire separation shall have a self-closing device		Compliance required. No further analysis is proposed.	Compliance required.	Yes

(4) Despite Sentences (1) and (2), frames for doors described in Sentence (3) may be of wood, hollow metal or kalamein construction.		9.10.13.3. Unrated Wood Door Frames (1) Doors required to provide a 20 min fire-protection rating or permitted to be 45 mm solid core wood shall be mounted in a wood frame of at least 38 mm thickness where the frame has not been tested and rated. 9.10.13.6. Steel Door Frames (1) Steel door frames forming part of a closure in a fire separation, including anchorage requirements, shall conform to CAN/ULC-S105, "Fire Door Frames Meeting the Performance Required by CAN/ULC-S104".		Compliance required. No further analysis is proposed.	Compliance required.	Yes
(5) Despite Sentences (1) and (2), fire dampers or fire-stop flaps are not required in ducts at penetrations of a fire separation.		9.10.13.13. Fire Dampers 1) Except as permitted by Sentences (2) to (5) and Sentence 9.10.5.1.(4), a duct that penetrates an assembly required to be a fire separation with a fire-resistance rating shall be equipped with a fire damper in conformance with Articles 3.1.8.4. and 3.1.8.9.	Compliance Alternative C167 Except as permitted in C.A. C168, in a building containing not more than four dwelling units, the existing heating or air-conditioning system may be altered to serve more than one dwelling unit, provided smoke alarms are installed in each dwelling unit and provided a smoke detector is installed in the supply or return air duct system serving the entire building which would turn off the fuel supply and electrical power to the heating system upon activation of such detector. Compliance Alternative C168 In a house, existing acceptable.	In lieu of Compliance Alternative C167, we suggest using Compliance Alternatives C91 and C95, which address the same issue from a Part 6 perspective. The bolded wording below highlights the differences between the two. C91 and C95: "In a building containing not more than 4 dwelling units or residential suites , the existing heating or air-conditioning system may be altered to serve more than one dwelling unit or suite, provided smoke alarms are installed in each dwelling unit or suite and provided a smoke detector is installed in the supply or return air duct system serving the entire building which would turn off the fuel supply and electrical power to the heating system upon activation of such detector. In accordance with Article 9.33.1.1., HVAC systems are to be designed to Part 6. This provides the flexibility to use Part 6 Compliance Alternatives if desired. With this approach, fire dampers are not required for up to 4 suites. Further analysis with respect to this approach is proposed.	Mechanical Team to comment on this. JN - Per Ministry comment in the past: "If it is a NEW fire separation then all relevant code references would apply, including the need for fire dampers, and firestopping if the ductwork penetrates the NEW fire separation in order to maintain the integrity of the fire separation so that the fire separation performs as intended". Thus, where there is new ductwork or NEW required rated fire separation, it shall comply with OBC 9.10.13.13(1) unless exempted per OBC 9.10.13.13.(2). e.g. protection on ceiling opening/supply air diffusers in basement & etc. See Ministry illustrated guide for reference. Note that smoke may spread/migrate very fast from basement ceiling openings to upper levels directly. According to C9, fire damper is not exempted on duct penetration through any "new" fire separation. Additional measure may require for consideration.	Yes Depends on individual site conditions.
		(2) A fire damper is not required where a noncombustible branch duct pierces a required fire separation provided the duct, (a) has a melting point not below 760°C, (b) has a cross-sectional area less than 130 cm², and (c) supplies only air-conditioning units or combined air-conditioning and heating units discharging air at not more than 1.2 m above the floor .		Compliance required. No further analysis is proposed. A system consisting of only floor registers will not require fire dampers.	Compliance required.	
		3) A fire damper is not required where a noncombustible branch duct pierces a required fire separation around an exhaust duct riser in which the airflow is upward provided a) the melting point of the branch duct is not below 760°C, b) the branch duct is carried up inside the riser not less than 500 mm, and c) the exhaust duct is under negative pressure as		Compliance required. No further analysis is proposed.	Compliance required.	
		4) Noncombustible ducts that penetrate a fire separation separating a vertical service space from the remainder of the building need not be equipped with a fire damper at the fire separation provided a) the ducts have a melting point above 760°C, and b) each individual duct exhausts directly to the outside at the top of the vertical service space.		Compliance required. No further analysis is proposed.	Compliance required.	Yes
		9.10.13.14. Fire Stop Flaps (1) Fire stop flaps in ceiling membranes referred to in Sentence 9.10.5.1.(4) shall, (a) conform to CAN/ULC-S112.2, "Fire Test of Ceiling Firestop Flap Assemblies", and (b) activate at a temperature approximately 30°C above the normal maximum temperature that occurs in the ducts, whether the air duct system is		Compliance required. No further analysis is proposed.	compliance required.	Yes
9.3.3.9. Existing wired glass closures set in fixed steel frames in a fire separation are deemed to be in compliance with Article 9.3.3.8.		9.10.13.5. Wired Glass as a Closure (1) Wired glass conforming to Article 9.6.1.2. that has not been tested in accordance with Article 9.10.3.1. is permitted as a closure in a vertical fire separation required to have a fire-resistance rating of not more than 1 h provided such glass is not less than 6 mm thick and is mounted in	Compliance Alternative C159 Existing wired glass acceptable. Existing transoms or sidelights located in required fire separations may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed.	Compliance required. No further analysis is proposed.	Compliance required.	Yes
		2) Wired glass described in Sentence (1) shall be mounted in fixed steel frames having a metal thickness of not less than 1.35 mm and a glazing stop of not less than 20 mm on each side of the glass		Compliance required. No further analysis is proposed.	Compliance required.	Yes
		3) Individual panes of glass described in Sentence (1) shall not exceed 0.8 m2 in area or 1.4 m in height or width, and the area of glass not structurally supported by mullions shall not exceed 7.5 m2		Compliance required. No further analysis is proposed.	Compliance required.	Yes

Exit signs 9.3.3.10. (1) Exit signs shall be located along a means of egress so that directions of exit travel are apparent to the occupants.		9.9.11.3. Exit Signs (1) Except as required in Sentence (7), every exit door shall have an exit sign placed over it or adjacent to it if the exit serves, (a) a building that is 3 storeys in building height, (b) a building having an occupant load of more than 150, or (c) a room or floor area that has a fire escape as part of a required means of egress.	Compliance Alternative C139 Existing illuminated legible signs are acceptable for exit signs, if approved by chief building official.	Compliance required. No further analysis is proposed.	Compliance required	Yes
(2) Exit signs required by Sentence (1) shall have the word "EXIT" in block letters and such letters shall be (a) internally or externally illuminated, (b) coloured red on an opaque or contrasting field, and (c) at least 115 mm high with a 19 mm stroke.		(2) Except as required in Sentence (6), every exit sign shall, (a) be visible on approach to the exit, (b) consist of a green pictogram and a white or lightly tinted graphical symbol meeting the colour specifications referred to in ISO 3864-1, "Graphical Symbols – Safety Colours and Safety Signs – Part 1: Design Principles for Safety Signs and Safety Markings", and (c) consist of a green pictogram and a white or lightly tinted graphical symbol meeting the colour specifications referred to in ISO 3864-1, "Graphical Symbols – Safety Colours and Safety Signs – Part 1: Design Principles for Safety Signs and Safety Markings", and (c) conform to ISO 7010, "Graphical Symbols – Safety Colours and Safety Signs – Registered Safety Signs", for the following symbols: (i) E001 emergency exit left, (ii) E002 emergency exit right, (iii) E005 90-degree directional arrow, and (iv) E006 45-degree directional arrow		Compliance required. No further analysis is proposed.	Compliance required.	
		(3) Internally illuminated exit signs shall be continuously illuminated, and, (a) where illumination of the sign is powered by an electrical circuit, be constructed in conformance with CSA C22.2 No. 141, "Emergency Lighting Equipment", or (b) where illumination of the sign is not powered by an electrical circuit, be, (i) constructed in conformance with CAN/ULC-S572, "Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems", and (ii) labelled in accordance with the time duration for which they have been tested and listed. (4) Externally illuminated exit signs shall be illuminated at all times by a light fixture supplied by an electrical circuit. (5) The circuitry serving lighting for externally and internally illuminated exit signs shall, (a) serve no equipment other than emergency lighting in the area where the exit signs are installed, and (b) be connected to an emergency power supply as described in Sentences 9.9.12.3.(2), (3) and (7). (6) An exit sign conforming to Clauses (2)(b) and (c) with an arrow or other indicator pointing at the direction of egress shall be provided where no exit is visible from,		Compliance required. No further analysis is proposed.	Compliance required.	
Interior finishes 9.3.3.11. The flame-spread rating of interior finishes on walls and ceilings within a means of egress shall not exceed 200	9.3.3.11.(1) The flame-spread rating of interior finishes on walls and ceilings within a means of egress shall not exceed 200. (2) Despite Sentence (1), the flame-spread rating of interior wall and ceiling finishes of corridors and stairs shall not exceed 150.	9.10.17.1. Flame-Spread Rating of Interior Surfaces (1) Except as otherwise provided in this Subsection, the exposed surface of every interior wall and ceiling, including skylights and glazing, shall have a surface flame-spread rating of not more than 150. (2) Except as permitted in Sentence (3), doors need not conform to Sentence (1) provided they have a surface flame-spread rating of not more than 200. (3) Doors within dwelling units, other than vehicle garage doors, need not conform to Sentences (1) and (2).		Note: Documentation provided by CoT indicated wood panelling was removed as a wall finish in some Projects. As an option, there are coatings available to reduce the surface FSR if necessary. Note: The actual wording used in the OBC in 9.10.17.1 relates to "exposed surfaces". On this basis, a surface coating would be a prescriptively compliant approach.	Evaluate on project basis for compliance options.	No

Illumination of egress 9.3.3.12. Corridors and stairways shall be lighted to the intensity of 50 lx measured at the floor level, or 5 watts/m2 of floor area.		9.9.12.2. Required Lighting in Egress Facilities (1) Every exit, public corridor or corridor providing access to exit for the public shall be equipped to provide illumination to an average level of not less than 50 lx at floor or tread level and at all points such as angles and intersections at changes of level where there are stairs or ramps. (2) The minimum value of the illumination required by Sentence (1) shall be not less than 10 lx.	Compliance Alternative C140 In a house, the requirements under this Subsection apply only where the condition described in (b) of C.A. C136 exists. Compliance Alternative C136 (b) In a house, exit requirements are acceptable if at least one of the following conditions exists: (b) an exit that is accessible to more than one dwelling unit and provides the only means of egress from each dwelling unit, provided that the means of egress is separated from the remainder of the building and common areas by a fire separation having a 30 min fire-resistance rating and provided further that the required access to exit from any dwelling unit cannot be through another dwelling unit, service room or other occupancy, and both dwelling units and common areas are provided with smoke alarms that are installed in conformance with Subsection 9.10.10, and are interconnected as required by Subsection 9.10.11.	Compliance required. No further analysis is proposed.	Compliance required.	
Emergency lighting 9.3.3.13. Where sleeping accommodation is provided for more than 10 persons, emergency lighting shall be provided to corridors and stairways in accordance with Articles 9.9.11.4. and 9.9.11.5. of the 1986 Building Code		9.9.12.3. Emergency Lighting (1) Emergency lighting shall be provided in, (a) exits, (b) principal routes providing access to exit in an open floor area, (c) corridors used by the public, (d) underground walkways, and (e) public corridors. (2) Emergency lighting required in Sentence (1) shall be provided from a source of energy separate from the electrical supply for the building. (3) Lighting required in Sentence (1) shall be designed to be automatically actuated for a period of not less than 30 min when the electric lighting in the affected area is interrupted. (4) Illumination from lighting required in Sentence (1) shall be provided to average levels of not less than 10 lx at floor or tread level. (5) The minimum value of the illumination required by Sentence (4) shall be not less than 1 lx. (6) Where incandescent lighting is provided, lighting equal to 1 W/m² of floor area shall be considered to meet the requirement in Sentence (4). (7) Where self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141, "Emergency Lighting Equipment".		Compliance required. No further analysis is proposed.	Compliance required.	
				Compliance required. No further analysis is proposed.	Compliance required.	
				Compliance required. No further analysis is proposed.	Compliance required.	
				Compliance required. No further analysis is proposed.	Compliance required.	
				Compliance required. No further analysis is proposed.	Compliance required.	
				Compliance required. No further analysis is proposed.	Compliance required.	
				Compliance required. No further analysis is proposed.	Compliance required.	
Fire alarm requirements 9.3.4.1.(1) A building to which this Section applies that does not have floor assemblies having a minimum 45 min fire-resistance rating and public corridors or corridors serving sleeping rooms not within a dwelling unit that are not fire-separated from the remainder of the building by a minimum 30 min fire-resistance rating shall have a fire alarm system that complies with Articles 9.10.17.5. and 9.10.17.11. of the 1986 Building Code, and shall have (a) smoke alarms that comply with Sentence (2) and that are installed and interconnected so that the activation of any smoke alarm will sound a similar signal in each of the interconnected devices, or (b) fire alarm system smoke detectors installed on the ceiling of each floor adjacent to each stairway, and on the ceiling in the basement adjacent to each stairway.		9.10.18.2. Fire Alarm System Required (1) Except as provided in Sentence (2), a fire alarm system shall be installed, (a) in every building that contains more than 3 storeys, including storeys below the first storey, (b) where the total occupant load exceeds 300, or (c) when the occupant load for any major occupancy in Table 9.10.18.2. is exceeded. [10 persons sleeping accommodations i.e., 2 persons per sleeping area.] (2) A fire alarm system is not required in a residential occupancy where an exit or public corridor serves not more than 4 suites or where each suite has direct access to an exterior exit facility leading to ground level.		In accordance with Sentence 9.10.18.2.(2), a fire alarm is not required for a Boarding, lodging or rooming house containing not more than 4 suites (assuming all are using the same exit). Assuming 2 person per room, this would accommodate 8 persons. Is the primary residence/dwelling included in the suit count? The primary residence would also be considered a suite. As such, 4 rentable suites + the primary residence suite = 5 suites (fire alarm system required).	Primary residence/dwelling would be included in the suite count. FA compliance is required. JN - Provide FAS as per OBC examiner review where applicable/required and primary residence/dwelling needs to be included in my opinion. Where fire alarm system is required per OBC examiner review or proposed, comply with 9.10.16. for SD in exit stairs & public corridor, MPS, FA bell and strobe light where applicable. YIMAHORI - Proposed amendments to the OFC defines "house" as being used exclusively for boarding, lodging and rooming accommodation.	Yes N

		9.10.19.1. Required Smoke Alarms (1) Except as permitted in Article 9.10.19.8., smoke alarms conforming to CAN/ULC-S531, "Smoke Alarms", shall be installed in, (a) each dwelling unit, (b) each sleeping room not within a dwelling unit, and (c) each interior shared means of egress and common area in a house. (2) Smoke alarms required in Sentence (1) shall have a visual signalling component conforming to the requirements in 18.5.3. (Light, Color and Pulse Characteristics) of NFPA 72, "National Fire Alarm and Signaling Code". (3) The visual signalling component required in Sentence (2) need not, (a) be integrated with the smoke alarm provided it is interconnected to it, (b) be on battery backup, or (c) have synchronized flash rates, when installed in a house or an individual dwelling unit.	Compliance Alternative C175 Smoke alarms may be battery operated.	Compliance required. No further analysis is proposed.	Compliance required. JN - Provision of smoke alarms inside the house per OFC 2.13., 9.3.4.1.(1) and (2). Also OBC 9.10.19. -Interconnected, hardwired smoke alarms with battery back-up and visual signals throughout the house, including in each bedroom	
(2) Smoke alarms referred to in Clause (1)(a) shall (a) be installed on the ceiling in the corridor of each floor adjacent to each stairway and on the ceiling in the basement adjacent to each stairway, (b) be on a separate circuit with no disconnect switch between the overcurrent device and the smoke alarms, and (c) employ devices and an interconnected installation						
9.3.4.2.(1) A fire alarm system complying with Articles 9.10.17.4., 9.10.17.5., 9.10.17.11. and Subsection 9.10.18. of the 1986 Building Code shall be installed where (a) sleeping accommodation is provided for more than 10 persons, and (b) the floor assemblies have a fire-resistance rating not less than 45 min and public corridors or corridors serving sleeping rooms not within a dwelling unit are separated from the remainder of the building by fire separations having a fire-resistance rating not less than	9.3.4.2.(1) A fire alarm system complying with Articles 9.10.17.4., 9.10.17.5., and 9.10.17.11. and Subsection 9.10.18. of the 1986 Building Code shall be installed where (a) sleeping accommodation is provided for more than 10 persons, and (b) the floor assemblies have a fire-resistance rating not less than 45 min and public corridors or corridors serving sleeping rooms not within a dwelling unit are separated from the remainder of the building by fire separations having a fire-resistance rating not less than					
9.3.4.3. Where a fire alarm system is required and sleeping accommodation is not provided for more than 14 persons, an interconnected smoke alarm system in accordance with Clause 9.3.4.1.(1)(a) is deemed to be in compliance with Article 9.3.4.2.						
9.3.4.4. Despite Articles 9.3.4.1. and 9.3.4.2., existing fire alarm systems may be approved where the system reliability and performance will not increase the risk of life safety.						
	9.3.4.5. Smoke Alarms in sleeping rooms 9.3.4.5.(1) A smoke alarm shall be installed in each sleeping room. (2) Smoke alarms shall (a) be permanently connected to an electrical circuit with no disconnect switch between the overcurrent device and the smoke alarm, or (b) be battery-operated. (3) Smoke alarms shall meet the requirements of (a) CAN/ULC-S531, 'Standard for Smoke Alarms', and (b) CAN/ULC-S553, "Standards for the installation of					
Portable extinguishers						
9.3.5.1. (1) Despite the provisions of Subsection 6.2.6., at least one 2A rated portable extinguisher shall be provided on each floor. (2) At least one 5B:C rated portable extinguisher shall be installed in each kitchen where shared cooking facilities exist.		9.10.20.4. Portable Fire Extinguishers (1) Portable fire extinguishers shall be installed in all buildings, except within dwelling units, in conformance with the provisions of the Fire Code made under the Fire Protection and Prevention Act, 1997.		Compliance required. No further actions proposed.	Compliance required. JN - Fire extinguishers per OFC 6.2.6. at least one 2A rated on each floor , and 5B:C in each kitchen per OFC 9.3.5.1.(1) and (2). N	

Accessibility		<p>9.5.2.1.(2) The requirements of Section 3.8. need not be provided for boarding or rooming houses with fewer than eight boarders or roomers [less than 4 suites or 8 suites?].</p> <p>3.8.2.1. Areas Requiring Barrier-Free Path of Travel (1) Except as permitted by Sentence (3), a barrier-free path of travel from the entrances required by Sentences 3.8.1.2.(1) and (3) to be barrier-free shall be provided, (a)throughout the entrance storey, (b)except as permitted by Sentence (2), to and throughout all normally occupied floor areas and rooftop amenity spaces, and (c)throughout all normally occupied floor areas and rooftop amenity spaces that, (i)are exempt from the application of Clause (b), and (ii)are served by a passenger elevator, escalator, inclined moving walk, or other platform equipped passenger elevating device.</p> <p>(2) A barrier-free path of travel described in Clause (1)(b) is not required to extend, (a)to floor areas or portions of floor areas containing a Group B, Division 2 or 3 occupancy that are not required by Article 3.5.2.1. to be connected by a ramp or served by an elevator, (b) to Group C or Group D occupancies that are in</p>		<p>Note: Given a barrier-free path of travel is not required to extend to Group C occupancy that is in a floor area of a building that is three or fewer storeys in building height and has a building area not exceeding 600 m2, barrier free requirements are not applicable to boarding, lodging or rooming house.</p> <p>Implications and applicability to be reviewed further. See also exemption per Sentence 11.3.3.2.(2) for entrance at > 200 mm.</p>	<p>According to 3.8.1.1.(10)(a) more than 8 boarders 3.8. is applicable, further analysis is required for applicable provisions. example 3.8.2.1.(1)(a) requirements are not exempt for Rooming house more than 8 boarders to extend throughout the entry storey. Other 3.8. requirements may apply.</p>	Yes
Plumbing Facilities						
		<p>9.31.1.1. Application (1) Except as provided in Sentence (2), this Section applies to plumbing facilities and plumbing systems serving dwelling units.</p> <p>(2) Plumbing facilities, grab bars, floor drains and floor and wall finishes around urinals shall conform to Subsection 3.7.4. and Article 7.1.5.2. in,</p> <p>(c) all other buildings not described in Sentence (1).</p>		<p>Compliance required. No further actions proposed.</p>	<p>Compliance required.</p> <p>JN - CSA backwater valve will be required where there is alteration in basement drainage/fixtures. to comply with OBC 7.4.6.4. (and not serving more than one dwelling unit). Also fire stopping of pipe penetration comply with OBC 3.1.9..</p>	N
		<p>3.7.4.6. Plumbing Fixtures for Other Residential Occupancies (1) Except for dwelling units and as provided in Sentence (2), the number of water closets required for residential occupancies shall conform to Table 3.7.4.6.</p>		<p>Compliance required. No further actions proposed.</p>	<p>Compliance required.</p>	