Minister’s Code

Upgrading health and safety in existing buildings

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PART 1  PRELIMINARY

Section 101 – Introduction and Purpose

101.1  As recognised internationally, upgrading and reactivating existing buildings can be cost-prohibitive if buildings are expected to comply with the requirements for new construction, as these can require extensive changes that go well beyond the value of the building or the original scope of any proposed alterations.

101.2  However, when existing buildings are found to be unsafe, structurally unsound or in an unhealthy condition, or when they are undergoing a change of building classification, councils and private certifiers can require them to be upgraded to a reasonable condition.

101.3  Without guidance on the extent of upgrading required when a building is undergoing alterations, some buildings may be required to be upgraded to an extent beyond that which is considered reasonable or economically viable, and this can discourage building owners from voluntarily upgrading and reusing their buildings.

101.4  This Code has therefore been developed to provide clarification on the extent of upgrading that may be required or expected when triggered by legislation, so that developers can factor such safety upgrading work into their plans for reactivating existing buildings in South Australia.

Section 102 – Application

102.1  The Development Act 1993 (the Act) and the Development Regulations 2008 (the Regulations) have provisions that can trigger and impose requirements for the upgrading safety of existing buildings under certain circumstances. These triggers and the objectives sought by these requirements are set out in Table 102-1 below.

Table 102-1 – Legislative triggers that may require the upgrading of existing buildings

<table>
<thead>
<tr>
<th>Act or Reg. reference</th>
<th>Application trigger</th>
<th>Objective of requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 36</td>
<td>A council or private certifier finds that development is inconsistent with State or local heritage considerations.</td>
<td>Building soundness, occupant safety and amenity must be as good as can reasonably be achieved in the circumstances.</td>
</tr>
<tr>
<td>Section 53A, Reg 80 Reg 80A</td>
<td>A council or private certifier finds an existing building constructed before 1 January 2002 to be unsafe, structurally unsound or unhealthy when it is undergoing alterations.</td>
<td>Additional building work may be required to upgrade parts of the building to ensure that it is safe, structurally sound and in a healthy condition.</td>
</tr>
<tr>
<td>Section 69</td>
<td>A council issues an emergency order to address a threat to life safety or a threat to a State or local heritage place.</td>
<td>A building owner may be required to carry out building work as necessary to remove the threat to life safety.</td>
</tr>
<tr>
<td>Section 71</td>
<td>A Council Building Fire Safety Committee (BFSC) considers the fire safety of a building is not adequate.</td>
<td>Building owner to report to BFSC on proposed work or other measures necessary to ensure that the fire safety of the building is adequate.</td>
</tr>
<tr>
<td>Reg 76</td>
<td>Essential safety provisions in a building are not being maintained – may be referred to a BFSC to be addressed under s71.</td>
<td>Action may be taken under section 71 by a BFSC (see above).</td>
</tr>
<tr>
<td>Reg 82</td>
<td>When an application for a change of building classification is made to a council or private certifier.</td>
<td>Additional work may be required to ensure that the building possesses the attributes appropriate to its present or intended use.</td>
</tr>
</tbody>
</table>
Section 103 – Scope

103.1 This Code establishes minimum health and safety standards that may be applied to existing buildings when the need to upgrade a building is triggered by circumstances listed in Table 102-1. The Code provides clarification on the extent of upgrading that may reasonably be expected and is intended to encourage the use and reuse of existing building stock.

103.2 Part 2 of this Code contains provisions for structural safety standards in existing buildings, including strengthening to resist earthquake damage.

103.3 Part 3 of this Code contains provisions for fire safety standards, including accessibility, sound insulation and energy efficiency in existing buildings.

103.4 Part 4 of this Code contains provisions for health and amenity standards in existing buildings.

103.5 Part 5 of this Code outlines attributes that individual building classifications are expected to have when an existing building is undergoing a change of building classification.

Section 104 – General

104.1 Existing materials - Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation are permitted to remain in use unless they are determined by a council or private certifier to be unsafe, structurally unsound or in an unhealthy condition.

104.2 New and replacement materials – Except as otherwise required by this Code-

104.2.1 Like materials can be used provided their use does not create a threat to life safety; and

104.2.2 Combustible materials must not be used in alterations unless permitted by the Building Code for new construction.

104.3 Compliance with the Building Code - Except as provided otherwise by this Code, when alterations are made to an existing building, any building work carried out as part of those alterations must comply with the relevant provisions of the Building Code for new construction. Additional building work required by the relevant authority to be carried out to improve safety must comply with the requirements of the Building Code to the maximum extent reasonably necessary to ensure that the building will be safe and conform to proper structural and health standards.

104.4 Alterations made to an existing building must not result in the building (including parts of the building not being altered) becoming less conforming to the provisions of the Building Code or a valid building approval than the building did prior to the proposed alterations.

104.5 Generally, where no alterations or occupancy changes have been made to an existing building constructed in accordance with a valid building approval, that building may only be required to be upgraded if there is a threat to health or life safety, a threat to a State or local heritage place, or if the fire safety of the building is not adequate to ensure the safety of its occupants in the event of a fire in the building (refer to triggers listed in
Table 102-1). The extent of work required in such cases should not exceed the minimum work necessary to address the particular issues identified.

Section 105 – Definitions

105.1 For the purpose of this Code, the following definitions apply.

**Act** means the *Development Act 1993*

**Addition** means an extension or increase in floor area, number of storeys, or height of a building or structure.

**Alteration** means any change to a building involving building work that is required by the regulations to comply with the *Building Rules*. An alteration may include an addition to a building, the rearrangement of any space by the construction of walls or partitions or by a change in ceiling height, the addition or elimination of any door or window, the extension or rearrangement of any system, the installation of any additional equipment or fixtures and any work that reduces the load-bearing capacity of or which imposes additional loads on a primary building element.

In this Code alterations do not include-

(a) repairs that restore worn, deteriorated or broken materials, systems or components to a good or sound condition; or

(b) renovations that involve the removal and replacement or covering of existing interior or exterior finish, trim, doors, windows, or other materials that serve the same purpose and do not change the configuration of space.

**Appropriate authority** has the same meaning as defined in section 71(18) of the *Development Act 1993*.

**Building approval** means any approval to build issued under the Building Act or the Development Act (includes a development approval).

**Building Code** has the same meaning as defined in section 4 of the *Development Act 1993*.

**Building Rules** has the same meaning as defined in section 4 of the *Development Act 1993*.

**Change of use**, a change in the purpose or level of activity within a building. A change of use may or may not trigger a change of building classification to the one previously assigned to it under the *Building Rules* or any former regulations under the *Building Act 1971* and for which it was designed, constructed and occupied.

**Evacuation route** has the same meaning as defined in the *Building Code*.

**Fabric** means the basic building structural elements and components of a building, including the roof, ceilings, walls and floors.

**Heritage building** means a building or structure listed in the *South Australian Heritage Register* or in a local council development plan as a State or local heritage place or object that is protected under the *Heritage Places Act 1993* and the *Development Act 1993*.

**Primary building element** means a structural element of a building designed specifically to withstand design loads or actions and includes roof, ceiling, floor, balcony, stairway or ramp, load-bearing wall and wall framing (including bracing members designed for the specific purpose of acting as a brace to those members).
Professional engineer has the same meaning as defined in the Building Code.

Rapid seismic assessment means a simplified seismic screening process to identify buildings that are, or have features that are, potentially seismically vulnerable and require further seismic assessment or action to reduce the risk they pose to life safety. The acceptable rapid seismic assessment process outlined in Form A202 in Appendix A is based on the seismic hazard of the Adelaide region.

Regulations mean the Development Regulations 2008.

Relevant authority has the same meaning as defined in section 4 of the Development Act 1993.

Required means required as part of a building approval previously issued for the building or part of the building, or by the Building Code or this Code as relevant.

Structurally unsound in relation to an existing building or part of an existing building means that the structure or individual structural members are no longer able to fully resist the loads and other actions to which they may reasonably be subjected. This may be because-

(a) alterations have been made that have affected the structural capacity of the structure or individual structural members;

(b) additional loads have been placed on the structure or on individual structural members that exceed their design loads; or

(c) the structural capacity of individual structural members or primary building elements has been reduced by termite damage, salt attack, corrosion, moisture ingress, earthquake, fire or other adverse occurrence.

Technically infeasible means an alteration that has little likelihood of being accomplished because-

(a) the proposed alteration would require the removal or alteration of an essential load-bearing structural frame member and to strengthen the building to accommodate its removal would cause unjustifiable hardship; or

(b) other existing physical or site constraints would prohibit modification or addition of elements, spaces or features complying fully with the minimum requirements for new construction.

Unhealthy in relation to an existing building or part of an existing building means that there are conditions in the building that may be detrimental to the health and amenity of the building occupants. This may occur where-

(a) sanitary facilities are not available for occupant use;

(b) insufficient natural light is available for occupant health;

(c) insufficient lighting is available for safe movement;

(d) insufficient ventilation is available to maintain adequate air quality; or

(e) an unacceptable level of sound is being transmitted between sole-occupancy units that could cause illness and loss of amenity for residential occupants.

Unsafe in relation to an existing building or part of an existing building means that it no longer considered safe for the occupants of the building. This may be due to-
(a) the building or part of a building having collapsed or being at risk of collapse or in an imminent state of collapse;
(b) illegal or improper occupancy affecting structural capacity and safe egress;
(c) means of egress for safe evacuation being inadequate;
(d) inadequate fire and/or smoke protection provided for evacuating occupants;
(e) a fire hazard existing that poses a risk to occupant life safety;
(f) facilities for fire brigade use not being available or adequate;
(g) essential safety provisions not functioning or performing adequately; or
(h) a vacant structure not being secured against entry.

Work area that portion or portions of a building consisting of all reconfigured or altered spaces as indicated on the construction documents submitted for building approval. Work area excludes other portions of the building where-
(a) incidental work entailed by the proposed work must be performed;
(b) work is being undertaken that does not require a building approval; and
(c) work not initially intended by the owner is specifically required by this Code.
PART 2   STRUCTURAL SAFETY

Section 201 – General

201.1 Scope - This Part of the Code contains provisions for the upgrading of structural safety in existing buildings. These provisions can be used to address structural safety issues in existing buildings that may arise when a building is undergoing alterations, a change of building classification or when the building or building elements are found to be structurally unsound.

Section 202 – Structural Safety Requirements

202.1 Performance requirement for resistance to loads and other actions: Primary building elements in an existing building must continue to be able to withstand the combination of loads and other actions that they were designed to resist or to which they may reasonably be subjected.

202.2 Subject to 202.3, alterations made to an existing building or part of an existing building must not reduce the ability of the building and individual primary building elements to withstand wind, dead, live and earthquake loads.

202.3 Where an existing building is subject to alterations or a change of use that will result in-

(a) an increase in any live or dead loads imposed on the building or onto a primary building element; or

(b) a reduction in the ability of a primary building element to withstand the combination of loads and other actions that they are required to resist or to which they may reasonably be subjected; or

(c) removal of a primary building element that is essential to the structural resistance of the building,

existing primary building elements must be strengthened, replaced or otherwise supported using primary building elements capable of resisting any relevant loads or other actions to which they may be subjected.

202.4 Where the structural capacity of existing primary building elements has been reduced by termite damage, salt attack, corrosion, moisture ingress, earthquake, fire or other adverse occurrence, the affected primary building elements must be strengthened, replaced or otherwise supported with primary building elements that are capable of resisting any relevant loads or other actions to which they may reasonably be subjected.

202.5 Where glazing is being replaced in-

(a) existing doors, side panels or openings that could be mistaken for a doorway or opening;

(b) shop fronts, partitions and areas subject to high risk of breakage;

(c) schools and early childhood centres; or

(d) aged care buildings and nursing homes;

(e) the replacement glass must comply with any safety glazing requirements of AS 1288.
202.6 Performance requirements for earthquake resistance: Alterations made to an existing building must not-

(a) result in any primary building element having less resistance to damage from earthquake than it was capable of resisting prior to the alterations; nor

(b) reduce the ability of the building fabric to resist earthquake action, which could occur where walls, ceilings, roofs or floors or part thereof are removed or proposed to be removed; and

(c) where appropriate due to the extent of the alterations or the Importance Level of the building (refer Table 202-1), must incorporate strengthening of any vulnerable building elements that are likely to fall or collapse and injure evacuating occupants during an earthquake.

Table 202-1 Importance levels of buildings and design events for safety

<table>
<thead>
<tr>
<th>Importance level</th>
<th>Building types</th>
<th>Annual probability of exceedance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Wind (non-cyclonic)</td>
</tr>
<tr>
<td>1</td>
<td>Buildings presenting a low degree of hazard to life and other property in the case of failure</td>
<td>1:100</td>
</tr>
<tr>
<td>2</td>
<td>Buildings not included in Importance levels 1, 3 or 4</td>
<td>1:500</td>
</tr>
<tr>
<td>3</td>
<td>Buildings that are designed to contain a large number of people</td>
<td>1:1000</td>
</tr>
<tr>
<td>4</td>
<td>Buildings that are essential to post-disaster recovery or associated with hazardous facilities</td>
<td>1:2000</td>
</tr>
</tbody>
</table>

202.7 Where any alterations will remove or alter existing primary building elements that contribute to the lateral stability of the building, strengthening of the structure for earthquake resistance must be undertaken to address any increased risk to life safety posed by the alteration.

202.8 Where a building that was approved before 1 January 1995\(^1\) is undergoing alterations or repairs to vulnerable building elements such as heavy unreinforced cladding, unreinforced chimneys, parapets, gable walls, awnings or the like, which could become falling hazards during an earthquake, remedial action must be undertaken to strengthen such building elements in order to reduce the hazard to an acceptable level of safety.

202.9 With the exception of Importance Level 4 buildings, which are addressed in 202.20, where a building approved before 1 January 1995 is undergoing-

(a) a change of building classification that raises its Importance Level from level 1 to level 2, or from level 2 to level 3 (refer Table 202-1); or

(b) any structural alterations (ie any alterations made or proposed to the building fabric), or

\(^1\) The date from which all Class 2 to 9 buildings have been required to be designed to resist earthquake loads or actions under the Building Code.
(c) alteratons where the total of all work areas in the existing building comprises more than 30% of the total floor area of the building or more than 30% of the total volume of the building,

a rapid seismic assessment of the building must be carried out by a professional engineer in accordance with Form A101 in Appendix A1 to identify any potential seismic hazards.

202.10 Results from the rapid seismic assessment process must be submitted with the application for building approval, together with details of any strengthening work that is proposed in order to address any identified seismic hazards.

202.11 Results from a rapid seismic assessment must identify-

(a) the building and its location;
(b) the type of structural system and construction used;
(c) the height of the building;
(d) any vertical irregularities;
(e) any horizontal irregularities;
(f) any falling hazards and other non-structural seismic hazards;
(g) any evidence of significant damage or alterations to the structural system that have reduced its lateral load resisting capacity;
(h) any proposed alterations to the fabric of the building;
(i) the date of assessment;
(j) the name, qualifications and signature of the person undertaking the assessment;
(k) indicate the level of risk posed by the building and if further evaluation and detailed seismic assessment of the building is necessary due to the level of risk identified (using the scoring system as outlined in Table A101 in Appendix A1) or if remedial action can be taken to address the risks.

202.12 Where a rapid seismic assessment undertaken in accordance with Table A101 indicates a score of 2.0 or more and no non-structural seismic hazards (eg falling hazards, heavy cladding etc) have been identified and no structural alterations are proposed to be made to the building fabric (eg new openings in walls, removal of walls, removal of ceilings etc); no further seismic risk assessment is required.

202.13 Where a rapid seismic assessment undertaken in accordance with Table A101 indicates a score of 2.0 or more but it identifies that the building has potential high risk seismic hazards such as-

(a) unreinforced chimneys, parapets, gable walls, awnings, or the like that could become a falling hazard during an earthquake;
(b) heavy, unreinforced cladding that could become a falling hazard during an earthquake; or
(c) evidence of significant damage to the structural system; or
(d) *alterations* that are proposed to be made to the building *fabric* (eg new openings in walls, removal of walls, removal of ceilings etc), 
remedial action must be taken to reduce those hazards to an acceptable level of seismic safety.

**202.14** Where a *rapid seismic assessment* undertaken in accordance with **Table A101** indicates a score of less than 2.0, a further detailed seismic assessment of the building must be undertaken by a *professional engineer* to-

(a) identify seismic hazards that pose a high risk to life safety;
(b) identify the extent of the seismic hazards; and
(c) detail remedial action to be undertaken to reduce the hazard/s to an acceptable level of seismic safety.

**202.15** The design procedure for a detailed seismic assessment of an existing building shall be in accordance with the requirements of AS 1170.4, except that for Importance Level 1, 2 and 3 buildings, the most critical action effect used in the design may be 67% of the earthquake actions determined in accordance with AS 1170.4.

**202.16** When undertaking a detailed seismic assessment of a building, the condition of existing building materials must be assessed to identify any deterioration that could jeopardise the capacity of the vertical or horizontal load resisting system. If their condition is deemed adequate, the deemed-to-comply material properties and strengths specified in AS 3826 section 3, or higher values determined from appropriate tests, may be used in the design of further seismic upgrading.

**202.17** For buildings with an Importance level of 2 or 3, an acceptable level of seismic safety can be achieved by strengthening vulnerable building elements to resist 67% of the earthquake design actions determined in accordance with AS 1170.4.

**202.18** Minimum requirements for the assessment and analysis of the earthquake resistance of existing Importance Level 2 and 3 buildings, and the design and detailing of any required strengthening, may be in accordance with AS 3826 – *Strengthening Existing Buildings for Earthquake*, except that threshold loads used shall be 67% of the design earthquake load determined in accordance with AS 1170.4.

**202.19** Building elements that have previously been strengthened in accordance with AS 3826 using a threshold load value of one-third of the earthquake load determined in accordance with an earlier edition of AS 1170.4, are deemed to have an acceptable level of seismic safety until such time as they are undergoing *alterations* that are likely to increase their vulnerability during an earthquake.

**202.20** Where a building with an Importance Level of 4 (refer **Table 202-1**) is undergoing-

(a) a change of building classification; or
(b) any structural *alterations* (ie any *alterations* made or proposed to the building *fabric*), or
(c) *alterations* where the total of all *work areas* in the existing building comprises more than 30% of the total floor area of the building or more than 30% of the total volume of the building,
a detailed seismic risk assessment of the building must be carried out by a professional engineer in accordance with AS 1170.4 (with no reduction to any of the critical design actions) to identify any potential seismic hazards.

202.21 For buildings with an Importance Level of 4, an acceptable level of seismic safety can be achieved by strengthening vulnerable building elements to fully resist 100% earthquake design actions determined in accordance with AS 1170.4.

202.22 Any remedial action taken to address seismic hazards in a building with an Importance Level of 4 must be designed to fully resist earthquake actions determined in accordance with AS 1170.4.

202.23 The results from a detailed seismic assessment must be submitted with the application for building approval, together with details of any remedial action to be undertaken to address any identified seismic hazards.
PART 3  FIRE SAFETY

Section 301 – General

301.1 Scope – This Part of the Code contains provisions for the upgrading of fire safety in existing buildings. These provisions can be used to address fire safety issues in an existing building that may arise when the building is undergoing alterations, a change of classification, or a Council Building Fire Safety Committee considers the fire safety of the building is not adequate.

301.2 The fire safety of an existing building may not be considered adequate for the safety of its occupants if-

(a) building occupants are not able to evacuate the building safely during a fire, due to-
   (i) blocked or obstructed exits;
   (ii) obstructions in paths of egress;
   (iii) damage to fire resistant building elements;
   (iv) unprotected openings in fire resistant building elements;
   (v) fire hazards that could impede evacuation;
   (vi) insufficient exits for the number of occupants;
   (vii) excessive travel distances to exits;

(b) there are insufficient means available (eg fire resisting construction, materials with low fire hazard properties or fire suppression systems), to control the spread of fire or smoke to exits and paths of egress to protect evacuating occupants; and/or

(c) the fire brigade does not have access to suitable fire services and equipment for it to use to undertake firefighting operations.

301.3 Buildings that comply with the fire safety provisions outlined in this Part will meet the fire safety performance requirements for existing buildings outlined in this Code.

Section 302 – Fire Protection

302.1 Performance requirement for maintaining structural stability: An existing building must be capable of maintaining structural stability in the event of a fire for a period of time that will allow-

(a) building occupants to evacuate the building safely; and

(b) the fire brigade to undertake its firefighting operations.

302.2 Performance requirement for fire resistance: Building elements in an existing building must be capable of protecting building occupants from the effects of fire and smoke during a fire in the building to the extent necessary to enable them to evacuate the building safely during an emergency.
302.3  *Alterations* made to an existing building must not-

(a) reduce its ability to-

   (i) maintain structural stability during a fire;
   
   (ii) control the spread of fire to exits and means of egress; or

(b) increase the risk of fire spreading-

   (i) to exits and means of egress;
   
   (ii) between fire compartments; or

   (iii) between buildings.

302.4  Subject to 302.5, where no *alterations* have been made to an existing building (including no change of use or classification) and no fire hazards, obstructions, damage or loss of fire or smoke resistance have been identified that could adversely affect building stability, the control of fire spread or safe egress during a fire, building elements in exits and paths of egress complying with the Building Rules that applied at the time of construction are deemed to satisfy the performance required by clauses 302.1 and 302.2.

302.5  Where an existing building has been altered, suffered damage or undergone a change of occupancy that has compromised the ability of existing fire resistant building elements to control fire or smoke spread to fire compartments, public corridors, fire isolated stairs, ramps and/or passageways; the integrity of the fire or smoke resistant building elements must be restored and any damage rectified to prevent evacuating occupants from being overcome by the effects of fire.

‘Damage’ includes any openings, service penetrations, joints and junctions in fire/smoke resistant elements that are not fully protected or fire stopped to resist fire or smoke penetration.

302.6  Where the construction in exits and paths of egress do not have a level of fire and/or smoke resistance to enable safe evacuation, one or more of the following options can be used to provide additional or alternative protection-

302.6.1  the building or part of the building can be sub-divided where necessary with additional fire-resisting construction complying with the fire resistance provisions of the *Building Code*;

302.6.2  a suitable automatic fire suppression system can be installed throughout the building in conjunction with stair and floor construction having fire resistance levels (FRLs) not less than those set out in-

   (a)  Table 302-1 for existing Class 2 buildings;
   
   (b)  Table 302-2 for existing Class 3 buildings;
   
   (c)  Table 302-3 for existing Class 5 and 6 buildings;
   
   (d)  Table 302-4 for existing Class 9b buildings; or
302.6.3 Existing building elements can be upgraded or replaced to the extent necessary with construction having the relevant fire resistance levels set out in the Building Code for new construction, including the protection of openings that could contribute to fire and/or smoke spreading to exits.

302.7 The fire resistance levels (FRLs) specified in Tables 302-1 to 302-4 assumes that the building has the same classification throughout the whole building. In a building with multiple classifications, the tables can still be used but the level of fire-resistance that must be applied throughout the whole building is the most fire resistant level that would apply to one or more of the individual classifications within the building as if it was of the same classification throughout.

302.8 In existing single storey buildings, it is not necessary to provide protection for existing openings in external walls if they are located not less than 900mm from a fire source feature.

302.10 Where a floor covering, wall lining or ceiling lining in an existing fire-isolated exit or a public corridor is hazardous and is likely to contribute to the spread of fire within an exit, the following measures may be taken to reduce the hazard-

302.10.1 replace the materials with non-hazardous materials; or

302.10.2 replace the materials with materials that have fire hazard properties complying with those required by the Building Code for new construction; or

302.10.3 install an automatic fire suppression system (eg sprinklers complying with AS 2118.1 or AS 2118.4 as applicable) to the extent necessary to protect the occupants from the effects of fire and smoke while evacuating the building.

302.11 Buildings undergoing a change of classification - In addition to the fire resistance requirements for safe evacuation, a building undergoing a change of classification must have the following attributes-

302.11.1 A Class 2 or Class 3 building, or a Class 4 part of a building, must have measures to inhibit the spread of fire to sole-occupancy units and public corridors. Acceptable measures include-

(a) one hour fire resisting construction between sole-occupancy units and bounding public corridors; or

(b) the installation of an automatic sprinkler system throughout the building.
Table 302-1: Acceptable fire resistance levels for existing floors and existing stairs in Class 2 buildings that are provided with a smoke detection and alarm system or an automatic sprinkler system installed in accordance with the *Building Code* or Part 3 of this Code throughout the whole building.

<table>
<thead>
<tr>
<th>Rise in storeys</th>
<th>Building element</th>
<th>Smoke detection and alarm system installed</th>
<th>CATEGORY I 300m² or less gross floor area per floor</th>
<th>CATEGORY II 300m² - 600m² gross floor area per floor</th>
<th>CATEGORY III Greater than 600m² gross floor area per floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Floors</td>
<td>Fire protective covering Open</td>
<td>FRL 60/-/- /-/-</td>
<td>FRL 60/-/- /-/-</td>
<td>FRL 60/-/- /-/-</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td></td>
<td>Fire protective covering Open</td>
<td>Fire protective covering Open</td>
<td>Fire protective covering Open</td>
</tr>
<tr>
<td>3</td>
<td>Floors</td>
<td>Smoke resistant</td>
<td>Fire protective covering Open</td>
<td>Fire protective covering Open</td>
<td>No concession</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>60 incipient</td>
<td>60 incipient</td>
<td>60 incipient</td>
<td>Fire protective covering Open</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Smoke resistant</td>
<td>FRL 60/60/60</td>
<td>FRL 60/60/60</td>
<td>Fire protective covering Open</td>
</tr>
<tr>
<td>5</td>
<td>Floors</td>
<td>FRL 90/90/90</td>
<td>FRL 90/90/90</td>
<td>FRL 90/90/90</td>
<td>FRL 90/90/90</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>FRL 90/90/90</td>
<td>FRL 90/90/90</td>
<td>FRL 90/90/90</td>
<td>FRL 90/90/90</td>
</tr>
</tbody>
</table>

NOTE: See definitions and comments to Tables following Table 303-4.
### Table 302-2: Acceptable fire resistance levels for existing floors and existing stairs in Class 3 buildings that are provided with a smoke detection and alarm system or an automatic sprinkler system installed in accordance with the Building Code or Part 3 of this Code throughout the whole building.

<table>
<thead>
<tr>
<th>Rise in storeys</th>
<th>Building element requiring FRL</th>
<th>CATEGORY I 300m² or less gross floor area per floor</th>
<th>CATEGORY II 300m² - 600m² gross floor area per floor</th>
<th>CATEGORY III Greater than 600m² gross floor area per floor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Building element requiring FRL</td>
<td>Smoke detection and alarm system installed</td>
<td>AS 2118.4 sprinklers installed</td>
<td>AS 2118.1 sprinklers installed</td>
</tr>
<tr>
<td>2</td>
<td>Floors</td>
<td>Smoke protective covering</td>
<td>FRL -/-/- Open</td>
<td>FRL -/-/- Open</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>Fire protective covering</td>
<td>FRL -/-/- Open</td>
<td>FRL -/-/- Open</td>
</tr>
<tr>
<td>3</td>
<td>Floors</td>
<td>60 incipient Smoke resistant</td>
<td>60 incipient Smoke resistant</td>
<td>60 incipient Smoke resistant</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>60 incipient Smoke resistant</td>
<td>60 incipient Smoke resistant</td>
<td>60 incipient Smoke resistant</td>
</tr>
<tr>
<td>5</td>
<td>Floors</td>
<td>FRL 90/90/90 Fire isolated FRL 90/90/90</td>
<td>FRL 90/90/90 Fire isolated FRL 90/90/90</td>
<td>FRL 90/90/90 Fire isolated FRL 90/90/90</td>
</tr>
</tbody>
</table>

**NOTE:** See definitions and comments to Tables following Table 303-4.
Table 302-3: Acceptable fire resistance levels for existing floors and existing stairs in Class 5 and 6 buildings that are provided with a smoke detection and alarm system and/or an automatic sprinkler system installed in accordance with the Building Code or Part 3 of this Code throughout the whole building.

<table>
<thead>
<tr>
<th>Rise in storeys</th>
<th>Building element requiring FRL</th>
<th>Smoke detection and alarm system installed</th>
<th>AS 2118.1 sprinklers installed</th>
<th>Smoke detection and alarm system installed</th>
<th>AS 2118.1 sprinklers installed</th>
<th>Smoke detection and alarm system installed</th>
<th>AS 2118.1 sprinklers installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Floors</td>
<td>FRL -/- Smoke resistant</td>
<td>FRL -/- Smoke resistant</td>
<td>FRL -/- Smoke resistant</td>
<td>FRL -/- Smoke resistant</td>
<td>FRL -/- Smoke resistant</td>
<td>FRL -/- Smoke resistant</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>FRL 60 incipient</td>
<td>FRL 60 incipient</td>
<td>FRL 60 incipient</td>
<td>FRL 60 incipient</td>
<td>FRL - fire- isolated FRL 60/60/60</td>
<td>FRL - fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td>3</td>
<td>Floors</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Fire- isolated FRL 60/60/60</td>
<td>FRL -/- Fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Smoke-resistant</td>
<td>FRL -/- Fire- isolated FRL 60/60/60</td>
<td>FRL -/- Fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td>4</td>
<td>Floors</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Protective covering</td>
<td>FRL 90/90/90 Protective covering</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td>5</td>
<td>Floors</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td>6</td>
<td>Floors</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
<td>FRL 90/90/90 Fire- isolated FRL 60/60/60</td>
</tr>
<tr>
<td>7</td>
<td>Floors</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Fire- isolated FRL 90/90/90</td>
<td>FRL 90/90/90 Fire- isolated FRL 90/90/90</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Smoke-resistant</td>
<td>FRL 90/90/90 Fire- isolated FRL 90/90/90</td>
<td>FRL 90/90/90 Fire- isolated FRL 90/90/90</td>
</tr>
<tr>
<td>Basement</td>
<td>Floors</td>
<td>Floor immediately above basement to match the upper floors</td>
<td>Floor immediately above basement to match the upper floors</td>
<td>Floor immediately above basement to match the upper floors</td>
<td>Floor immediately above basement to match the upper floors</td>
<td>Floor immediately above basement to match the upper floors</td>
<td>Floor immediately above basement to match the upper floors</td>
</tr>
<tr>
<td></td>
<td>Stairs</td>
<td>If rise in storeys of more than 2, smoke enclosed unless having direct access to a street or open space</td>
<td>If rise in storeys of more than 2, smoke enclosed unless having direct access to a street or open space</td>
<td>If rise in storeys of more than 2, smoke enclosed unless having direct access to a street or open space</td>
<td>If rise in storeys of more than 2, smoke enclosed unless having direct access to a street or open space</td>
<td>If rise in storeys of more than 2, smoke enclosed unless having direct access to a street or open space</td>
<td>If rise in storeys of more than 2, smoke enclosed unless having direct access to a street or open space</td>
</tr>
</tbody>
</table>

NOTE: See definitions and comments to Tables following Table 303-4.
Table 302-4: Acceptable fire resistance levels (FRLs) for existing floors and existing stairs in Class 9b buildings, except any part that contains a nightclub, discotheque or early childhood centre, that have a smoke detection and alarm system or an automatic sprinkler system installed in accordance with the Building Code or Part 3 of this Code throughout the whole building.

<table>
<thead>
<tr>
<th>Rise in storeys</th>
<th>Building element requiring FRL</th>
<th>Smoke detection and alarm system installed</th>
<th>AS 2118.1 sprinklers installed</th>
<th>Smoke detection and alarm system installed</th>
<th>AS 2118.1 sprinklers installed</th>
<th>Smoke detection and alarm system installed</th>
<th>AS 2118.1 sprinklers installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (a) Floors</td>
<td>FRL --/-- Open</td>
<td>FRL --/-- Open</td>
<td>FRL --/-- Open</td>
<td>FRL --/-- Open</td>
<td>FRL --/-- Open</td>
<td>FRL --/-- Open</td>
<td>FRL --/-- Open</td>
</tr>
<tr>
<td>(b) Stairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (a) Floors</td>
<td>FRL --/-- Smoke-resistant</td>
<td>FRL --/-- Smoke-resistant</td>
<td>FRL --/-- Smoke-resistant</td>
<td>FRL --/-- Smoke-resistant</td>
<td>FRL --/-- Smoke-resistant</td>
<td>FRL --/-- Smoke-resistant</td>
<td>FRL --/-- Smoke-resistant</td>
</tr>
<tr>
<td>(b) Stairs</td>
<td>60 incipient Fire isolated FRL 60/60/60</td>
<td>FRL --/-- Smoke-resistant</td>
<td>60 incipient Fire isolated FRL 60/60/60</td>
<td>FRL --/-- Smoke-resistant</td>
<td>60 incipient Fire isolated FRL 60/60/60</td>
<td>FRL --/-- Smoke-resistant</td>
<td>FRL --/-- Smoke-resistant</td>
</tr>
<tr>
<td>5 (a) Floors</td>
<td>No concession FRL 120/120/120</td>
<td>FRL --/-- Smoke-resistant</td>
<td>No concession FRL 120/120/120</td>
<td>No concession FRL 120/120/120</td>
<td>60 incipient Fire isolated FRL 60/60/60</td>
<td>No concession FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
</tr>
<tr>
<td>(b) Stairs</td>
<td>Fire-isolated FRL 120/120/120</td>
<td>FRL --/-- Smoke-resistant</td>
<td>Fire-isolated FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 60/60/60</td>
</tr>
<tr>
<td>6 (a) Floors</td>
<td>No concession FRL 120/120/120</td>
<td>Fire-resistant covering</td>
<td>No concession FRL 120/120/120</td>
<td>No concession FRL 120/120/120</td>
<td>60 incipient Fire isolated FRL 60/60/60</td>
<td>No concession FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
</tr>
<tr>
<td>(b) Stairs</td>
<td>Fire-isolated FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 60/60/60</td>
</tr>
<tr>
<td>7 (a) Floors</td>
<td>No concession FRL 120/120/120</td>
<td>60 incipient Fire-isolated FRL 60/60/60</td>
<td>No concession FRL 120/120/120</td>
<td>No concession FRL 120/120/120</td>
<td>60 incipient Fire-isolated FRL 120/120/120</td>
<td>No concession FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
</tr>
<tr>
<td>(b) Stairs</td>
<td>Fire-isolated FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 120/120/120</td>
<td>Fire-isolated FRL 60/60/60</td>
<td>Fire-isolated FRL 60/60/60</td>
</tr>
<tr>
<td>Basement</td>
<td>(a) Floors</td>
<td>Floor immediately above basement to match the upper floors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Stairs</td>
<td>If rise in storeys of more than 2, smoke enclosed unless having direct access to a street or open space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations and comments to Tables 303-1, 303-2, 303-3 and 303-4:

Fire-protective covering – means fire-protective covering as defined in the Building Code.

60 incipient – means a ceiling with a resistance to the incipient spread of fire to the space above itself of 60 minutes.

Fire-isolated – means a stairway with a fire-resisting shaft complying with the fire resistant requirements of the Building Code and includes the floor and roof or top of enclosing structure.

Smoke-resistant – means a stair with smoke-resisting construction as described in Appendix B1 of this Code.

Smoke detection and alarm system means an automatic smoke detection and alarm system complying with the requirements of Specification E2.2a of the Building Code for the particular building classification and use.
Section 303 – Means of Egress

303.1 Performance requirement for exits and safe egress: The number, dimensions and locations of exits and paths of egress in an existing building must be adequate to enable the occupants to evacuate the building safely in the event of a fire in the building as appropriate to the number, mobility and responsiveness of the occupants.

303.2 Alterations to an existing building must not result in the number, dimensions or locations of exits and paths of egress to exits being no longer being sufficient or adequate for the occupants to be able to safely evacuate the building during an emergency.

303.3 Where an existing building is undergoing alterations or a change of classification, exits and paths of egress that comply with the exit and egress provisions of the Building Code or as relevant Tables B301 to B303 in Appendix B3 of this Code, are deemed to be adequate to enable safe evacuation of an existing building.

303.4 Subject to 303.5, where no alterations have been made to an existing building (including no change of use or classification), the number, dimensions and locations of exits and paths of egress complying with a relevant building approval are deemed to be adequate for safe evacuation.

303.5 Exits and paths of egress may not be considered adequate as a result of-

(a) alterations that affect the number, location or dimensions of exits;
(b) changes to the number or type of building occupants (eg more people in the building than the exits were designed for);
(c) a change of classification that increases the number of occupants or the type of occupants;
(d) the existence of any obstruction or fire hazard that could impede safe egress; or
(e) non-complying exit doors, locks or latches that could restrict or impede safe egress.

303.6 Where the number, location or dimensions of exits and/or means of egress are not adequate to accommodate the number of building occupants to enable them to evacuate the building safely during an emergency, one or more of the following measures may be undertaken to address the inadequacy-

303.6.1 Exits and/or paths of egress can be altered to the extent necessary to ensure that they are adequate to accommodate the number of building occupants during an emergency (eg widen paths of egress and exits or provide additional exits).

303.6.2 The number of persons occupying the building or relevant fire compartment served by the exits and paths of egress can be restricted to ensure that the available exits are adequate for the number and type of occupants (any restrictions should be recorded on a new certificate of occupancy).

303.6.3 Additional fire resistant or smoke resistant construction (as appropriate) can be provided to reduce travel distances to exits.

303.6.4 A suitable automatic fire detection or automatic fire suppression system can be installed throughout the building or relevant fire compartment as necessary to protect evacuating occupants.
303.7 Where an obstruction or fire hazard exists that could impede safe egress, the obstruction or fire hazard must be removed or an alternative means of egress provided to the extent necessary to enable safe evacuation.

303.8 Where exit doors, locks or latches could restrict or impede safe egress, they must be rectified or replaced with doors, locks or latches that will facilitate safe evacuation.

303.9 Exits and paths of egress complying with the provisions of the Building Code for new construction will also satisfy the performance required by clause 303.1 of this Code.

303.10 Existing spiral stairways and stairways with winders can be used as exits in buildings that are not more than 3 storeys in effective height if they:

(a) have contrasting nosing in accordance with AS 1428.1; and
(b) are provided with handrails on both sides of the stairway; and
(b) have a high level of illumination; and
(c) have warning signs at the top and bottom of the stairs with lettering not less than 20mm high that say ‘WARNING - STEEP STAIR’.

303.11 An existing stairway used as an exit can continue to be used as an exit if-

(a) the stair going is not less than 228mm and not more than 395mm; and
(b) the stair riser is not less than 115mm and not more than 190mm.

303.12 Buildings undergoing a change of classification – in a building undergoing a change of use or classification, the number, location, and dimensions of exits, and the travel distances to exits must be adequate to suit the new occupancy and enable the building occupants to evacuate safely during a fire. Tables B301 and B302 in Appendix B3 set out acceptable requirements for exits in existing buildings relevant to different building classifications.

Section 304 – Fire Fighting Equipment – Fire Hydrants

304.1 Performance requirement for fire hydrants: Where required as part of a previous building approval, a fire hydrant system installed in an existing building must continue to be available and suitable for use by the fire brigade and provide coverage to all parts of a building that it was originally required to cover.

304.2 Alterations to a building must not affect the ability of a fire hydrant system to continue to perform as required by 304.1.

304.3 Subject to 304.4, where no alterations have been made to an existing building (including no change of occupancy), a fire hydrant system complying with the relevant building approval that has been regularly and appropriately maintained is deemed to be adequate and suitable for use by the fire brigade unless the fire brigade or another authority has determined that it is no longer suitable for fire fighting purposes.

304.4 A fire hydrant system may not be considered adequate if-

(a) insufficient coverage is provided by the fire hydrant system to protect evacuating occupants;
(b) components of the fire hydrant system have been damaged or deteriorated;
(c) water pressure and flow test results indicate that pressures and/or flows are not adequate for fire brigade use;

(d) fittings and connections of the fire hydrant system are incompatible with the fire fighting equipment used by the fire brigade; or

(e) the fire hydrant system is inaccessible for fire brigade connection and use.

304.5 Where an existing fire hydrant system is no longer considered adequate for fire fighting purposes, one or more of the following measures can be undertaken to address the inadequacy-

304.5.1 the fire hydrant system may be modified, repaired, altered, extended or replaced to provide the necessary coverage and/or improve its performance;

304.5.2 tanks and/or pumps may be installed to boost pressures and flows to a level appropriate for fire brigade use;

304.5.3 pipe fittings and connections may be replaced with fittings appropriate for fire brigade use; or

304.5.4 the existing fire hydrant system may be replaced with a new system complying with the fire hydrant provisions of the Building Code for new construction.

304.6 Where proposed alterations to an existing building will impact on the effective coverage or performance of a required fire hydrant system, one or more of the following measures may be undertaken to improve its performance-

304.6.1 the existing fire hydrant system may be rectified or extended to provide the necessary coverage, fittings, pressures and flows appropriate for fire brigade use; or

304.6.2 the existing hydrant system can be replaced with a new fire hydrant system that complies with the provisions of the Building Code and provides the additional coverage.

304.7 Where an existing building or part of a building is undergoing a change of use or classification and a fire hydrant system is required for the new classification, the building or relevant part of a building must have-

(a) a fire hydrant system complying with a previous relevant building approval that is still adequate and suitable for fire brigade use; or

(b) a new fire hydrant system complying with the fire hydrant provisions of the Building Code for new construction installed to the extent necessary to meet the requirements of the new classification.
Section 305 – Fire Fighting Equipment – Fire Hose Reels

305.1 Performance requirement for fire hose reels: Where required as part of a previous building approval, a fire hose reel system suitable for use by building occupants must be available to serve an existing building and provide coverage to all parts of a building that it was originally required to cover at installation.

305.2 Alterations to a building must not affect the ability of an existing fire hose reel system to continue to perform as required by 305.1.

305.3 Subject to 305.4, where no alterations have been made to an existing building (including no change of occupancy), a fire hose reel system complying with a relevant building approval that has been regularly and appropriately maintained is deemed to be adequate for occupants to use to suppress a fire in the building.

305.4 A fire hose reel system may not be adequate if it is no longer performing as it was required to perform at installation. This can occur where the system has-

(a) insufficient coverage;

(b) deterioration of system components;

(c) inadequate water pressures and flows;

(d) hoses, fittings and connections are no longer available; or

(e) the system is no longer accessible.

305.5 Where proposed alterations to an existing building are likely to impact on the performance of a required fire hose reel system or the fire hose reel system is no longer adequate for occupant use, one or more of the following measures may be used to address the inadequacy-

305.5.1 the existing fire hose reel system may be rectified or extended to provide the required coverage and performance; or

305.5.2 a new fire hose system complying with the provisions for fire hose reels in the Building Code may be installed as necessary; or

305.5.3 a suitable non-required automatic fire suppression system can be installed throughout the building or relevant fire compartment as necessary to provide additional protection for evacuating occupants.

305.6 Where an existing building is undergoing a change of use or classification and the building-

305.6.1 has a fire hose reel system but new occupancy would not require a fire hose reel system under the Building Code, the following options may be considered-

(a) an existing fire hose reel system can be retained and maintained in accordance with the relevant building approval; or

(b) the fire hose reel system can be decommissioned and removed.

305.6.2 does not have a fire hose reel system but the new occupancy would require a fire hose reel system under the Building Code, the following options may be considered-
(a) in a non-sprinklered building a new fire hose reel system complying with the fire hose reel provisions of the Building Code may be installed; or

(b) in a building or fire compartment provided with a non-required automatic sprinkler system, a fire hose reel system need not be provided if portable fire extinguishers for Class A fire risks are provided to serve the building or relevant fire compartment.

Section 306 – Fire Fighting Equipment – Fire Suppression Systems

306.1 Performance requirement for automatic fire suppression systems: Where required as part of a previous building approval, an automatic fire suppression system (e.g., a sprinkler system) must be available to control the development and spread of fire.

306.2 Alterations to an existing building must not reduce the ability of an existing fire suppression system to continue to perform as required by 306.1.

306.3 Subject to 306.4, where no alterations have been made to an existing building (including no change of use or classification), an existing automatic fire sprinkler system complying with a relevant building approval that has been regularly and appropriately maintained is deemed to be adequate unless its performance is less than that required to control the spread of fire appropriate to the current fire hazard level.

306.4 An automatic fire sprinkler system may not be considered adequate if it is no longer performing as it was required to perform or to control the spread of fire appropriate to the current fire hazard level. This may occur where:

(a) the system has insufficient coverage;
(b) components are damaged or have deteriorated; or
(c) the water service pressures and flows are inadequate;
(d) the occupancy hazard classification for the sprinkler system is less than the actual occupancy hazard classification (for more information on occupancy classifications refer to Appendix A in AS 2118.1).

306.5 Where proposed alterations to an existing building impact on the effective performance of a required automatic fire sprinkler system or the system is not performing adequately, one or more of the following options can be used to address the inadequacy:

306.5.1 the existing fire sprinkler system may be extended to provide additional coverage;
306.5.2 damaged or deteriorated components or inadequate sprinkler heads can be replaced or rectified as necessary to control the spread of fire;
306.5.3 tanks and/or pumps may be installed to boost water pressures and flows to a level appropriate for fire brigade use; and/or
306.5.4 a new automatic fire sprinkler system complying with the provisions for fire sprinklers in the Building Code may be installed to provide the necessary coverage and/or address the deficiencies.
306.6 Where a building listed below is undergoing *alterations*, the whole fire compartment containing the *work area* must have, or be provided with, a suitable automatic sprinkler system to control fire development-

306.6.1 a Class 3 building or part of a building used as a residential aged care building (where residents are provided with physical assistance in conducting their daily activities and to evacuate the building in an emergency);

306.6.2 a Class 3 building or part of a building used as a supported residential facility (a facility licensed under the Supported Residential Facilities Act, where residents are provided with personal care services);

306.6.3 any fire compartment in a Class 6 building that exceeds a floor area of more than 3500m² or a volume more than 21,000m³ as a result of the *alterations*;

306.6.4 a Class 9a building or part of a building used as a residential aged care building;

306.6.5 a Class 9c aged care building;

306.6.6 any storey containing a *work area* in any class of building that has an effective height of more than 25m.

306.6.7 any fire compartment in a Class 5, 6, 7, 8 or 9 building that exceeds the maximum fire compartment sizes permitted by the Building Code for a new building as a result of the *alterations* and which does not meet the provisions for open space and vehicular access required by the Building Code for a new building;

306.6.8 any fire compartment in a Class 5, 6, 7, 8 or 9 building with a floor area that will exceed 18,000m² as a result of the *alterations*; and

306.6.9 any fire compartment containing an occupancy of excessive hazard that has a floor area more than 2000m² or a volume of more than 12,000m³.

306.7 Where an existing building is undergoing a change of use or classification, the building must have, or be provided with, a suitable automatic sprinkler system to control fire development throughout any of the following newly classified areas-

306.7.1 a Class 3 building or part used as a residential aged care building (where residents are provided with physical assistance in conducting their daily activities and to evacuate the building in an emergency);

306.7.2 a Class 3 building or part used as a supported residential facility (a facility licensed under the Supported Residential Facilities Act, where residents are provided with personal care services);

306.7.3 any fire compartment of a Class 6 building that exceeds a floor area of more than 3,500m² or a volume more than 21,000m³;

306.7.4 a Class 9a building or part of a building used as a residential aged care building;

306.7.5 a Class 9c aged care building;

306.7.6 any storey with a new classification in a building that has an effective height of more than 25m;
306.7.7 any fire compartment in a Class 5, 6, 7, 8 or 9 building that exceeds the maximum fire compartment sizes permitted by the Building Code for a new building and which does not meet the provisions for open space and vehicular access required by the Building Code for a new building;

306.7.8 any fire compartment in a Class 5, 6, 7, 8 or 9 building with a floor area that exceeds 18,000m²; and

306.7.9 any fire compartment containing an occupancy of excessive hazard that has a floor area more than 2,000m² or a volume of more than 12,000m³.

Section 307 – Fire Fighting Equipment – Portable Fire Extinguishers

307.1 Performance requirement for portable fire extinguishers: Portable fire extinguishers must be available in an existing building to allow occupants to undertake initial attack on a fire appropriate to the function or use of the building, any other fire safety systems installed in the building and any identified fire hazard.

307.2 Alterations to an existing building must not diminish the ability of occupants to have access to required portable fire extinguishers and to be able to use them to undertake initial fire attack.

307.3 Subject to 307.4, where no alterations have been made to an existing building (including no change of occupancy), portable fire extinguishers complying with a relevant building approval that have been regularly and appropriately maintained are deemed to be adequate for occupants to use.

307.4 Portable fire extinguishers may not be deemed adequate if they are no longer performing as they were required to perform at installation. This may occur where-

(a) extinguishers are missing or are no longer available for occupants to use;

(b) the fire risks have changed; or

(c) the extinguishers have not been regularly inspected, maintained or replaced as necessary.

307.5 Where portable fire extinguishers covering Class A fire risks have been removed, they may be replaced with equivalent portable fire extinguishers; fire hose reels or an automatic fire sprinkler system.

307.6 Where portable fire extinguishers required to cover Class AE, E, F or B fire risks have been removed, they must be replaced with equivalent portable fire extinguishers.

307.7 Where an unprotected fire hazard or fire risk exits, such as an emergency services switchboard, commercial kitchen cooking equipment or where quantities of flammable liquids more than 50 litres are stored, which could affect the ability of the building occupants to safely use exits and paths of egress, the following options apply-

307.7.1 portable fire extinguishers complying with the requirements of the Building Code may be provided; or

307.7.2 the hazard may be enclosed or separated by construction having a minimum fire resistance level (FRL) of -/-60/60.
Where an existing building is undergoing a change of use or classification, portable fire extinguishers appropriate to the fire risks must be provided throughout the building or relevant part of the building in accordance with the requirements of the Building Code that apply to new construction.

Section 308 – Smoke Control

308.1 Performance requirement for automatic smoke detection and alarm systems: In an existing building providing sleeping accommodation, occupants must be provided with automatic warning on detection of smoke that will alert them to a fire in the building so that they can evacuate to a safe place.

308.2 Alterations made to a building or to a smoke detection and alarm system in an existing building must not affect the ability of the detection and alarm system to alert all sleeping occupants of a fire in the building when smoke is detected.

308.3 In this section, a smoke detection and alarm system includes-

(a) a smoke alarm system consisting of smoke alarms complying with AS 3786;
(b) a smoke detection system complying with AS 1670.1;
(c) a combined system consisting of (a) and (b);
(d) any system that automatically alerts sleeping occupants to a fire in the building on detection of smoke that was approved as part of a previous building approval.

308.4 Subject to 308.5, where no alterations have been made to an existing building providing sleeping accommodation (including no change of use or building classification), an existing automatic smoke detection and alarm system complying with a relevant building approval that has been regularly and appropriately maintained is deemed adequate to alert sleeping occupants to a fire in the building.

308.5 An automatic smoke detection and alarm system may not be considered adequate if it is no longer performing as it was required to perform at installation and is no longer capable of automatically alerting sleeping occupants to a fire in the building when smoke is detected.

308.6 Where an existing automatic smoke detection and alarm system is no longer capable of alerting sleeping occupants to a fire in the building on detection of smoke, or there is no automatic smoke detection and alarm system installed that will alert sleeping occupants to a fire so that they can evacuate the building safely during an emergency, the following options may be used to improve occupant safety-

308.6.1 The existing smoke detection and alarm system can be rectified to restore its performance to that required at installation;

308.6.2 The existing smoke detection and alarm system can be extended to the extent necessary for it to be capable of alerting all sleeping occupants to a fire when smoke is detected;

308.6.3 Where existing thermal detectors are connected to a fire alarm system they can be replaced with smoke detectors that will activate the fire alarms and alert the occupants on detection of smoke; or
A new automatic *smoke detection and alarm system* or smoke hazard management system complying with the relevant smoke hazard management provisions of the *Building Code* applicable to the particular building can be installed throughout-

(a) the whole building; or

(b) a fire compartment that contains a non-performing *smoke detection and alarm system*; or

(c) an area not covered by the existing *smoke detection and alarm system*.

Any existing Class 2, 3, 4, 9a and 9c building or part of a building undergoing *alterations* (including a change of use or classification) that provides sleeping accommodation must have an automatic *smoke detection and alarm system* installed to alert sleeping occupants of a fire in the building on detection of smoke so that they are able to respond and evacuate the building safely.

An automatic *smoke detection and alarm system* complying with the following clauses of Specification E2.2a of Volume One of the Building Code will meet the requirements of 308.7-

308.8.1 For Class 2, 3 and 4 buildings of parts of buildings-

(a) a smoke alarm system complying with Clause 3; or

(b) a smoke detection system complying with Clause 4; or

(c) a combination of a smoke alarm system complying with Clause 3 within sole-occupancy units and a smoke detection system complying with Clause 4 in areas not within the sole-occupancy units.

308.8.2 For a Class 3 building that has any Class 3 part located more than 3 storeys above ground level or that accommodates more than 20 residents and is used as a residential part of a school or accommodation for the aged, children or people with a disability-

(a) a smoke detection system complying with Clause 4.

308.8.3 For a Class 9a health-care building accommodating 6 or less bed patients-

(a) a smoke alarm system complying with Clause 3; or

(b) a smoke detection system complying with Clause 4.

308.8.4 For a Class 9a health-care building accommodating more than 6 bed patients-

(a) a smoke detection system complying with Clause 4.

308.8.5 For a Class 9c building-

(a) a smoke detection system complying with Clause 4.

An automatic *smoke detection and alarm system* provided to meet the requirements 308.7 in any Class 3 building or Class 3 part of a building used as a residential part of a school or accommodation for the aged, children or people with a disability, which has more than 20 residents and is located more than 2 storeys above ground level, must be connected to a fire alarm monitoring system connected to a fire station or fire dispatch centre.
308.10 **Any automatic smoke detection and alarm system** that is provided to meet the requirements of 308.7 in a Class 9c building or Class 9a health care building with more than 20 patients, must be connected to a fire alarm monitoring system connected to a fire station or fire dispatch centre.

308.11 **Performance requirement for smoke control in evacuation routes:** In the event of a fire in a building, the conditions in any evacuation route must be maintained clear of smoke for a period of time that will allow occupants to safely evacuate the part of the building.

308.12 *Alterations* made to an existing building must not reduce the ability of an existing smoke venting system or a smoke hazard management system to alert the building occupants to a fire in the building and, where relevant, to control and limit smoke in *evacuation routes*.

308.13 Where no *alterations* have been made to an existing building (including no change of use or occupancy), an existing smoke venting system or a smoke hazard management system installed in accordance with a previous *building approval* that has been regularly and appropriately maintained is deemed adequate to enable safe evacuation of the occupants before they are overcome by smoke, unless the system is no longer performing as it was required to at installation.

308.14 The performance of an existing smoke venting system or a smoke hazard management system may not be considered adequate where-

(a) the system has deteriorated because it has not been adequately tested and maintained;

(b) changes have been made to the building or system that have affected its performance or effectiveness;

(c) necessary components of the system have been damaged or disconnected;

(d) the system no longer interfaces with other fire safety systems it was *required* to interface with.

308.15 Where an existing smoke hazard management system is not considered adequate to alert building occupants of a fire in the building and, where relevant to control and limit smoke in *evacuation routes*, the following options may be used to improve occupant safety-

308.15.1 the existing smoke hazard management system can be rectified or extended to the extent necessary for it to alert occupants and/or control smoke spread in *evacuation routes* as it was required to at installation;

308.15.2 existing thermal detectors connected to a fire alarm system can be replaced with smoke detectors that will activate the fire alarms on detection of smoke;

308.15.3 a new smoke alarm system, smoke detection system or combined smoke alarm and smoke detection system complying with the smoke hazard management provisions of the *Building Code* applying to the particular building use and classification can be installed; or

308.15.4 for a Class 5, 6, 7, 8 and 9b building not more than 25 metres in effective height
(a) an automatic fire sprinkler system complying with the sprinkler requirements of the *Building Code* for new construction may be installed throughout the whole of a fire compartment containing a *work area* that is not covered by a smoke detection and alarm system; or

(b) an automatic sprinkler system complying with the sprinkler requirements of the *Building Code* for new construction may be installed throughout the whole building (including exits).

### 308.16
Where a building is considered *unsafe* because conditions in *evacuation routes* are likely to become untenable before the occupants have time to evacuate the building safely due to uncontrolled smoke spread, one or more of the following options may be used to improve occupant safety:

- **308.16.1** additional smoke-proof walls complying with the requirements for smoke-proof walls in *Appendix B2* of this Code can be installed to limit smoke spread to and within evacuation routes;

- **308.16.2** to give occupants more early warning, existing thermal detectors connected to a fire alarm system can be replaced with smoke detectors that will activate the fire alarms on detection of smoke; or

- **308.16.2** a new smoke alarm system, smoke detection system or combined smoke alarm and smoke detection system complying with the smoke hazard management provisions of the *Building Code* that apply to the relevant building use and classification can be installed; or

- **308.16.3** An AS 2118.1 or AS 2118.4 sprinkler system (as appropriate to the building use) can be installed throughout the relevant fire compartment.

### 308.17
A building more than 25m in effective height that is undergoing *alterations* (including a change of use or classification) must have an effective smoke hazard management system operating throughout the whole building to alert building occupants of a fire and control the development of smoke, thus enabling them to evacuate the building safely.

### 308.18
In older buildings that were not required to have a system of smoke control, the introduction of smoke control measures can be used to improve fire safety by protecting building occupants from the effects of smoke while evacuating the building during a fire. Refer to *Table 302-1* and *Table 302-2* for acceptable reductions in fire resistance levels for floors and stairs that may be permitted when a building has a smoke hazard management system (eg sprinklers) installed that was not required as part of a previous *building approval* or a current application.

### Section 309 – Emergency Lighting

#### 309.1 Performance requirement for emergency lighting:
An existing building must have a level of illumination that will assist occupants to safely evacuate the building during a fire emergency.

#### 309.2 Alterations made to an existing building must not:

- (a) reduce the level of illumination provided or available to assist occupants to safely evacuate the building during a fire emergency; or

- (b) diminish the ability of an existing emergency lighting system to provide adequate illumination for safe evacuation.
309.3 Subject to 309.4, where no alterations have been made to an existing building (including no change of use or occupancy), an emergency lighting system of complying with a relevant building approval that has been regularly and appropriately maintained; or any other means of illumination that will assist occupants to evacuate during a power failure; may be considered adequate for safe evacuation.

309.4 An emergency lighting system or other means of illumination that will assist emergency evacuation may not be considered adequate if it is no longer providing a level of illumination to assist occupants to safely evacuate. This may occur where-

(a) the system has deteriorated because it has not been regularly tested and maintained; or

(b) changes made to the building or the system have reduced its performance, coverage or effectiveness (eg where natural light is relied on, walls have been erected that block illumination to some areas or windows have been removed).

309.5 Where an existing emergency lighting system is no longer performing as it was required to perform at installation, or an alternative means of illumination has been compromised, or the following measures may be used to improve safety for evacuating occupants-

309.5.1 An existing emergency lighting system or alternative means of illumination can be altered and/or rectified to the extent necessary for it to provide adequate illumination; or

309.5.2 A new emergency lighting system complying with the emergency lighting provisions of the Building Code for new construction can be installed; or

309.5.3 Illuminated exit signs that provide adequate illumination for occupants to be able to find the exits may be used to provide the necessary illumination.

309.6 Where an existing building undergoing a change of use or classification does not have an emergency lighting system or is not provided with an alternative means of emergency illumination; a level of illumination must be provided in all exits and paths of egress within a fire compartment undergoing a change of use or classification or containing a work area, to the extent necessary to meet the performance requirement for emergency lighting in clause 309.1.

Section 310 – Exit Signs

310.1 Performance requirement for exit signs: Where necessary an existing building must have suitable, clearly visible signs or other appropriate means to identify exits, which can guide occupants to an exit during an emergency if there is a power failure.

310.2 Alterations made to an existing building must not reduce the ability of exit signs to identify exits and guide occupants to exits during an emergency and power failure.

310.3 Where no alterations have been made to an existing building, exit signs installed in compliance with a relevant building approval that have been regularly and appropriately maintained are considered adequate to identify exits.

310.4 Exit signs may be deemed inadequate if they are no longer performing as they were required to perform at installation. This may occur where-
(a) the exit signs have deteriorated or are no longer visible because they have not been regularly tested and maintained; or

(b) changes have been made to the building or the exit sign system that have affected their visibility or effectiveness.

310.5 Where required exit signs are no longer clearly visible or performing adequately to identify required exits, the following measures may be used to improve the safety of evacuating occupants:

310.5.1 The existing exit signs can be rectified to the extent necessary for them to perform as they were required to at installation; or

310.5.2 Additional exit signs can be installed that comply with the exit sign provisions of the *Building Code* for new construction; or

310.5.3 The existing exit signs can be replaced with new exit signs that comply with the exit sign provisions of the *Building Code* for new construction.

Note that an existing ‘EXIT’ sign is not considered to be performing inadequately simply because it does not use the ‘running man’ symbol.

310.6 An existing building undergoing a change of use or classification must have visible exit signs that comply with the exit sign provisions of the *Building Code*, except that any existing ‘EXIT’ signs that are performing well may remain in lieu of being replaced with exit signs using the ‘running man’ symbol.

**Section 311 – Emergency Warning and Sound Systems**

311.1 **Performance requirement for emergency warning and sound systems:** Where necessary due to the size or height of a building, an existing building must have adequate means of providing warning to occupants to evacuate during an emergency and to manage the evacuation process.

311.2 **Alterations** made to an existing building must not reduce the ability of an existing emergency warning and sound system to operate effectively and perform as required by 311.1.

311.3 An emergency sound and intercom system complying with a relevant *building approval* that has been regularly and appropriately maintained is deemed to be adequate for the management of occupant warning and evacuation.

311.4 An emergency sound and intercom system may not be considered adequate if unless it is no longer performing at the same level that it was required to perform by a *building approval*. This may occur where-

(a) the system has deteriorated because it has not been adequately maintained; or

(b) changes have been made to the building or system that have impacted on its performance or effectiveness.

311.5 Where a required emergency sound and intercom system is not capable of providing adequate occupant warning to assist evacuation, the following measures may be used to improve the system-
311.5.1 it can be modified, rectified or extended to the degree necessary to enable it to perform as it was required to at installation; or

311.5.2 it can be replaced with a new emergency warning and sound system that complies with the emergency warning and sound systems provisions of the Building Code for new construction.

311.6 Where an existing building is undergoing a change of use or classification and it does not have an emergency sound and intercom system installed, if the new occupancy requires one under the Building Code, a suitable emergency sound and intercom system must be provided to meet the performance required by 311.1.
PART 4 HEALTH, AMENITY AND ACCESSIBILITY

Section 401 – General

401.1 Scope - This Part of the Code contains provisions for the upgrading of health and amenity in existing buildings. These provisions can be used to address health and amenity issues that may arise in existing buildings when they are undergoing alterations or a change of building classification.

401.2 Access - the requirements to upgrade and improve access within existing buildings are contained in the federal Disability (Access to Premises) Standards 2010 (the Premises Standard) adopted under the Disability Discrimination Act 1992 on 1 May 2011. These requirements can be found in section 53A of the Act and in regulations 80 and 80A of the Regulations.

Section 402 – Accessibility

402.1 Performance requirement for accessibility: As far as is reasonable, alterations made to an existing building and/or its associated site works should-

(a) seek to improve access to and within an existing building and remove barriers for a person with a disability to the maximum extent possible without incurring unjustifiable hardship; and

(b) not diminish or compromise existing access to and within the existing building for a person with a disability.

402.2 Where no alterations have been made to an existing building (including no change of use or classification) that complies with a relevant building approval, access to and within the building for a person with a disability is considered acceptable unless changes have occurred that have reduced or restricted accessibility.

402.3 Where an existing building is undergoing alterations that do not include any building work requiring an assessment against the access provisions of the Building Code, a council or private certifier cannot require the building or parts of the building, including within a work area or an ‘affected part’, to be upgraded to comply with the access provisions of the Building Code or the Regulations.

402.4 Subject to 402.6, 402.7 and 402.8, where a building is undergoing alteration work that includes building work that requires assessment against the access provisions of the Building Code, the new work must comply with the access provisions of the Building Code and a council or private certifier can require that further alteration work be undertaken to upgrade an ‘affected part’ to comply with the Building Code access provisions.

402.5 An affected part includes-

(a) the principal pedestrian entrance of the building; and

(b) any part of the building that is necessary to provide a continuous accessible path of travel from the principal pedestrian entrance to the location of the building work (ie to the work area).
402.6 Upgrading an *affected part* to make it accessible means that the main building entrance and an identified accessway to the new building work must comply with the access requirements of the *Building Code* and AS1428.1: 2009. This includes-

(a) not having any steps, stairways, turnstiles, revolving doors, escalators, moving walks, or other impediments within it that could restrict access for a person with a disability;

(b) having not less than the prescribed unobstructed widths and heights throughout the accessway and at doorways;

(c) having sufficient circulation space at doorways;

(d) having passing and turning spaces where necessary;

(e) having door handles not less than the required height above floor level;

(f) ensuring that any ramps within the identified accessway have the correct gradient, landings, kerbs and handrails; and

(g) having suitable slip resistant floor finishes.

402.7 A council or private certifier cannot require an *affected part* to be upgraded to comply with the *Building Code* access provisions if-

(a) to do so would cause unjustifiable hardship; or

(b) the lessee of the part of the building being altered is the applicant for the *alterations* and is not leasing the whole building; or

(c) the building being altered is a class 2 building that was constructed before 1 May 2011

and in relation to (a), compliance is still achieved to the maximum extent not involving unjustifiable hardship.

402.8 A council or private certifier cannot require an existing lift within the *affected part* of a building or within a *work area* to be upgraded to comply with the *Building Code* access provisions if-

(a) to do so would cause unjustifiable hardship; or

(b) the existing lift travels more than 12 metres and has a floor area of not less than 1100mm x 1400mm,

and in relation to (a), compliance is still achieved to the maximum extent not involving unjustifiable hardship.

402.9 Where existing sanitary facilities are being altered or new sanitary facilities are being provided, at least one unisex accessible sanitary facility complying with AS 1428.1 – 2001 must be available or at least one unisex accessible sanitary facility complying with the access provisions of the *Building Code* must be provided.

402.10 Notwithstanding 402.9, a council or private certifier cannot require existing sanitary facilities within a *work area* to be upgraded to comply with the *Building Code* access provisions if-

(a) to do so would cause unjustifiable hardship; or
(b) the existing sanitary facilities are suitable for use by people with a disability; or
(c) the existing sanitary facilities comply with AS 1428.1 – 2001

and in relation to (a), compliance is still achieved to the maximum extent not involving unjustifiable hardship.

402.11 Where a new lift is being installed in an existing building and the building does not already have an accessible lift, the new lift must be an accessible lift complying with the *Building Code* unless to do so would cause unjustifiable hardship.

402.12 Action plans for staging upgrading building accessibility over a period of time may be taken into account by a council, private certifier or the Building Rules Assessment Commission when they are considering a case for exemption from the requirement to upgrade an *affected part* of an existing building on the grounds that to do so would cause unjustifiable hardship and whether compliance is still achieved to the maximum extent not involving unjustifiable hardship.

402.13 Circumstances that can be taken into account when considering a claim of unjustifiable hardship are listed in Part 4 of the Premises Standard. If a claim is made to modify the access provisions on the grounds of unjustifiable hardship, the applicant and the council or private certifier have an obligation under the Premises Standard to ensure that compliance is still achieved to the maximum extent not involving unjustifiable hardship.

In determining whether upgrading parts of a building to comply with the access provisions of the *Building Code* would involve unjustifiable hardship, the Premises Standard requires all relevant circumstances of the particular case are to be taken into account, which can include the following:

(a) additional capital, operating or other costs, or loss of revenue, that would be directly incurred by, or reasonably likely to result from, compliance with this requirement;

(b) any reductions in capital, operating or other costs, or increases in revenue, that would be directly achieved by, or reasonably likely to result from, compliance with this requirement;

(c) the extent to which the construction of the building has or will be financed by government funding;

(d) the extent to which the building:
   (i) is used for public purposes; and
   (ii) has a community function;

(e) the financial position of a person required to comply with the Standards;

(f) any effect that compliance with the requirement is reasonably likely to have on the financial viability of a person required to comply;

(g) any exceptional technical factors (such as technical feasibility and the effect of load bearing elements on the structural integrity of the building) or geographic factors (such as gradient or topography) that could affect a person’s ability to comply with the requirement;
(h) financial, staffing, technical, information and other resources reasonably available to a person required to comply with the Standards, including any grants, tax concessions, subsidies or other external assistance provided or available;

(i) whether the cost of alterations to make a premises accessible is disproportionate to the value of the building, taking into consideration the improved value that would result from the alterations;

(j) benefits reasonably likely to accrue from compliance with the Standards, including benefits to people with a disability, to building users or to other affected persons, or detriment likely to result from non-compliance;

(k) detriment reasonably likely to be suffered by the building developer, building certifier or building manager, or people with a disability or other building users, including in relation to means of access, comfort and convenience, if compliance with the Standards is required;

(l) if detriment under paragraph (k) involves loss of heritage significance – the extent to which the heritage features of the building are essential, or merely incidental, to the heritage significance of the building (refer to Premises Standards for more detail);

(m) any evidence regarding efforts made in good faith by a person to comply with these Standards, including consulting access consultants or private certifiers;

(n) if a person has given an action plan to the Australian Human Rights Commission under section 64 of the Disability Discrimination Act – the terms of the action plan and any evidence about its implementation;

(o) the nature and results of any processes of consultation, including at local, regional, State, national, international, industry or other level, involving, or on behalf of, a building developer, building manager or building certifier and people with a disability, about means of achieving compliance with the requirement, including in relation to the factors listed in this subsection;

(p) any opinion of the Building Rules Assessment Commission as to whether the extent of accessibility to be provided is reasonable under the particular circumstances.

402.14 If a substantial issue of unjustifiable hardship is raised having regard to the factors mentioned in 402.13, the following additional factors are to be considered-

(a) the extent to which substantially equal access to public premises is or may be provided otherwise than by compliance with these Standards; and

(b) any measures undertaken or to be undertaken to ensure substantially equal access.
Section 403 – Damp and Weatherproofing

403.1 Performance requirements for stormwater drainage: A drainage system for the disposal of stormwater from an existing building must convey stormwater away from the building and avoid water entering and damaging the building.

403.2 Subject to 403.3, where no alterations have been made to an existing building (including no change of occupancy), a stormwater system installed in or associated with an existing building and complying with a relevant building approval is considered adequate.

403.3 A drainage system may not be considered adequate if it is no longer performing as it was required to perform at installation. This may occur where overflow from the system is entering the building and caused unhealthy conditions to arise.

403.4 Alterations made to a building and/or its associated site works must not:

(a) reduce the ability of its drainage system to dispose of collected water in a manner that prevents water from entering the building and affecting the stability of the building or creating an unhealthy or unsound condition; or

(b) reduce the ability of its roof or external walls (including openings around windows and doors) to prevent rain or other water from penetrating to the inner parts of the building.

Exemption: Requirement (b) does not apply to existing Class 7, 8 and 10 buildings that are not required by the Building Code to be damp or weatherproof.

Section 404 – Sanitary and Other Facilities

404.1 Performance requirements for sanitary facilities: Suitable sanitary facilities for personal hygiene must be available for use by the building occupants, appropriate to the function or use of the building, the number and gender of the occupants and their particular needs.

404.2 Sanitary facilities serving an existing building and complying with a relevant building approval are deemed to be adequate for personal hygiene purposes.

404.3 Sanitary facilities may not be considered adequate if they are in an unsanitary or unusable condition.

404.4 Where alterations are being made to existing sanitary facilities that involve moving or installing toilet partitions but existing fixtures are not being moved, the resulting sanitary facilities must be as accessible as is possible under the particular circumstances (refer to section 402, which covers upgrading for access in existing buildings).

404.4 Where alterations are being made to existing sanitary facilities that involve moving or installing toilet partitions and moving existing fixtures, the resulting sanitary facilities must comply with requirements of the Building Code to the maximum extent possible under the particular circumstances and at least one accessible unisex sanitary facility must be available or be provided, unless to do so would incur unjustifiable hardship.

404.5 Notwithstanding 404.4, where alterations are being made to a bank of existing sanitary facilities, it is not necessary to provide a sanitary compartment suitable for a person with an ambulant disability for use by males and females if to do so would be technically infeasible.
404.6 Where a building is undergoing a change of classification, sanitary facilities for personal hygiene must be available in the building to suit its function or use; the number and gender of the occupants and the disability or other particular needs of the new users to the maximum extent possible under the particular circumstances.

404.7 Where new sanitary facilities are being provided, they must comply with the relevant provisions of the Building Code.

Section 405 – Room Heights

405.1 Performance requirements for room heights: Habitable rooms and spaces must have sufficient height that does not interfere with its intended function.

405.2 In an existing building, habitable rooms and spaces complying with a relevant building approval are deemed to have sufficient height for their intended function.

405.3 Alterations made to a building must not result in the height of any room or space no longer being suitable for its use or function.

405.4 In a building undergoing alterations, room and spaces within a work area or within a building or part of a building that is undergoing a change of classification are deemed to have sufficient height if they comply with the minimum ceiling height provisions of the Building Code for a new building.

Section 406 – Light and Ventilation

406.1 Performance requirements for natural light: Sufficient natural light must be available through openings that provide a level of illuminance appropriate to the function or use of the building or part of the building.

406.2 Where no alterations have been made to an existing building, habitable rooms and spaces complying with a relevant building approval are deemed to have adequate natural light for their function or use.

406.3 In a building undergoing alterations, the following rooms and spaces within the work area must have a level of natural light equivalent to that required by the Building Code for new construction-

(a) Class 2, 3 and 4 buildings and occupancies – all habitable rooms;
(b) Class 3 buildings and occupancies – all bedrooms; and
(c) Class 9a and 9c and occupancies buildings – all rooms used for sleeping purposes;
(d) Class 9b buildings and occupancies – all classrooms and children’s playrooms.

406.4 In a building undergoing a change of classification, the following rooms and spaces must have a level of natural light equivalent to that required by the Building Code for new construction-

(a) Class 2, 3 and 4 buildings and occupancies – all habitable rooms;
(b) Class 3 buildings and occupancies – all bedrooms; and
(c) Class 9a and 9c buildings and occupancies – all rooms used for sleeping purposes;
(d) Class 9b buildings and occupancies – all classrooms and children’s playrooms.

406.5 Performance requirements for light for safe movement: In an existing building, sufficient natural or artificial light must be available to provide a level of illuminance appropriate to the function or use of the building or part of the building to enable safe movement by occupants.

406.6 Where no alterations have been made to an existing building, habitable rooms and spaces complying with a relevant building approval are deemed to have adequate illuminance to enable safe movement by occupants.

406.7 In a building undergoing alterations, all habitable rooms and spaces within a work area must have a level of luminance equivalent to that required by the Building Code for safe movement and where natural light is not available, luminance may be provided by artificial lighting.

406.8 In a building or part of a building undergoing a change of classification, all habitable rooms and spaces within a newly classified area must have a level of luminance equivalent to that required by the Building Code for safe movement and where natural light is not available, the luminance may be provided by artificial lighting.

406.9 Alterations made to an existing building must not result in the level of luminance in rooms and spaces being reduced to a level that is less than the minimum luminance level required by the Building Code for a new building.

406.10 Performance requirements for ventilation: In an existing building, habitable rooms and spaces must have adequate natural or artificial ventilation that maintains satisfactory air quality.

406.11 Where no alterations have been made to an existing building, habitable rooms and spaces complying with a relevant building approval are deemed to have adequate ventilation that maintains satisfactory air quality.

406.12 Alterations made to an existing building must not result in the level of ventilation being reduced to a level less than the minimum ventilation level required by the Building Code for new construction.

406.13 In a building undergoing alterations, all habitable rooms and spaces within a work area must have a level of natural or artificial ventilation that maintains air quality at a level equivalent to that required by the Building Code for a new building.

406.14 In a building or part of a building undergoing a change of classification, all habitable rooms and spaces within a newly classified area must have a level of natural or artificial ventilation that will maintain air quality at a level equivalent to that required by the Building Code for a new building.

Section 407 – Sound Transmission and Insulation

407.1 Performance requirements for sound insulation: Walls and floors of habitable rooms and spaces in Class 2 or 3 sole-occupancy units undergoing alterations must have an acceptable level of insulation against the transmission of airborne and impact generated sound.

407.2 Where no alterations are being made to walls or floors of habitable rooms and spaces in Class 2 or 3 sole-occupancy units, complying with a relevant building approval
and floors are deemed to have acceptable levels of insulation against the transmission of airborne and impact generated sound until such time as they are undergoing alterations to the walls or floors.

407.3 Where a building is undergoing alterations to walls and floors of habitable rooms of Class 2 or 3 sole-occupancy units, but the floors and/or walls are not being replaced, those floors and walls must have an acceptable level of insulation against the transmission of airborne and impact generated sound. This can be achieved by adding sound insulation to walls and floors where possible; not allowing unprotected service penetrations to be made through walls and floors that would reduce insulation levels; and restricting hard floor surfaces from being used where it would increase the level of impact sound likely to be transmitted between rooms or spaces.

407.4 In a building or part of a building undergoing a change of classification to a Class 2 or Class 3 occupancy, the floors separating-

(a) sole-occupancy units; or
(b) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby, or the like; or
(c) a sole-occupancy unit from a part of the building with another classification, must have acceptable levels of insulation against the transmission of airborne and impact generated sound equivalent to that required by the Building Code for a new building.

407.5 In a building or part of a building undergoing a change in classification to a Class 2 or Class 3 occupancy, walls separating-

(a) sole-occupancy units; or
(b) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby, or the like; or
(c) a sole-occupancy unit from a part of the building with another classification, must have an acceptable level of insulation against the transmission of airborne sound; and impact generated sound if the wall is separating a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining sole-occupancy unit equivalent to that required by the Building Code for a new building.

Section 408 – Energy Efficiency

408.1 Performance requirements for energy efficiency: An existing building undergoing alterations or a change in classification must be capable of using energy as efficiently as is generally acceptable for a similar building of its age, type and construction.

408.2 Where no alterations have been made to an existing building that complies with a relevant building approval, the level of energy efficiency of the building is deemed to be acceptable and there is no requirement to upgrade to improve its energy efficiency.

408.3 When alterations are made to an existing building (including to change the building classification) it is not necessary to upgrade the energy efficiency of the building fabric
to existing areas beyond the work area to comply with the energy efficiency requirements of the Building Code for new construction.
PART 5 CHANGE OF CLASSIFICATION

Section 501 – General

501.1 Scope - This Part of the Code contains additional provisions for upgrading an existing building when it is undergoing a change of building classification.

501.2 A change of use of a building must not result in the building being a higher risk to life safety than it was prior to the proposed change.

Section 502 – Change of Use With No Change of Classification

502.1 Change of use with no change of classification. Part 5 does not apply to an existing building undergoing a change of occupancy that will not-
(a) increase the number of occupants from the number for which the building was designed and approved; or
(b) involve any building alterations; or
(c) change the use of the building from the use for which it was previously classified; or
(d) increase the fire load above that for which the building was designed and approved.

502.2 Changes in use that result in an increased fire load include the following-
(a) a Class 9b gymnasium being changed to a Class 9b nightclub;
(b) a Class 8 factory with low hazard occupancy being changed to a Class 8 factory with a high hazard occupancy

Section 503 – Change of Use With a Change of Classification

503.1 Change of use resulting in a change of classification. Where a change of occupancy gives rise to a change in building classification, a new classification can be assigned in accordance with regulation 82 if the building ‘possesses the attributes appropriate to its intended use’.

503.2 An existing building undergoing a change of use that triggers an application for a change in building classification, may be accepted as having the appropriate attributes for its intended use if-
503.2.1 it complies with-
(a) the relevant structural safety requirements for existing buildings set out in Part 2 of this Code that are applicable to the new classification; and
(b) the relevant fire safety requirements for existing buildings set out in Part 3 of this Code that are applicable to the new classification; and
(c) the relevant health, amenity and accessibility requirements for existing buildings set out in Part 4 of this code that are applicable to the new classification, and...
(d) any additional requirements for the new classification set out in this part
(Part 5 of this code); or

503.2.2 it complies with the provisions of the Building Code for new construction that are applicable for the new building classification being sought.

503.3 A relevant authority can approve a change of classification without requiring the existing building to be upgraded to comply with 503.2.1 or 503.2.2, provided there are no unacceptable safety risks arising from the new classification and the proposed building use does not-

(a) pose more hazardous structural or fire safety risks than the existing use; and/or
(b) increase the Importance Level of the building; and/or
(c) require a higher level of fire safety under the Building Code provisions than it would have required for the previous classification.

503.4 In an existing building, the following scenarios may pose unacceptable or hazardous life and safety risks to a new classification, which must be addressed before a change of classification can be approved-

503.4.1 The proposed use and/or number of occupants will result in increased loads that could alter or affect the structural stability of the building or parts of the building.

503.4.2 The mobility and characteristics of the proposed occupants could limit their ability to respond within sufficient time to evacuate safely in an emergency.

503.4.3 The number and location of exits are not adequate to enable the proposed number or type of occupants to evacuate safely in an emergency.

503.4.4 There are obstructions, reductions or limitations in the widths of exits and paths of travel to exits that could compromise the ability of the occupants to evacuate safely in an emergency.

503.4.5 Passive fire protection measures such as compartmentation and separation have been compromised by unprotected penetrations or openings that are not fire-stopped, reducing their ability to provide an acceptable level of protection for occupants evacuating during an emergency.

503.4.6 Active fire protection measures installed in the building are not operating adequately to provide an acceptable level of protection for occupants during an evacuation.

503.5 Where a proposed change of classification will result in an increase in the Importance Level of the building, the building must comply with the structural safety provisions required by the Building Code for the higher Importance Level.
APPENDIX A  STRUCTURAL SAFETY

Appendix A1 – Seismic Risk Assessment of Existing Buildings
(For buildings other than Importance Level 4 buildings)

Was the building lodged for building approval prior to 1 January 1995 when AS 1170.4 was adopted in South Australia?

YES
Pre 1995

NO
Post 1995

Does the proposal involve-
• a change in classification that raises its Importance Level; or
• any structural alterations (ie to building fabric); or
• alterations where the total work area comprises more than 30% of the floor area or volume of the building?

YES

NO

Does the building have any falling hazards or heavy cladding?

YES

NO

Score more than 2.0 and there are no falling hazards or heavy cladding and no alterations to the building fabric are proposed

Score more than 2.0 but has falling hazards or heavy cladding, or alterations are proposed to building fabric

Score more than 2.0 but there is significant damage to the structural system; or alterations are proposed to the building fabric

Score less than 2.0

No further seismic assessment of existing building required

Strengthening and/or repair details to be submitted with building consent application

Full seismic assessment required. Strengthening details to be submitted with building consent application

Undertake a rapid seismic assessment of the building, including the seismic impact of any proposed alterations (incl. additions) and include a copy of the results with the building consent application
Table A101 - Rapid seismic assessment form

Address: ____________________________________________

No. Storeys: _______ Year built: __________

Total Floor Area (m²): __________________

Building Name: _________________________________

Use: ____________________________________________

PHOTOGRAPH

Scale: __________________ Location Plan

NON-STRUCTURAL SEISMIC HAZARDS

Identify if the building has any of the following falling hazards or other seismic hazards:

<table>
<thead>
<tr>
<th>Unreinforced chimneys</th>
<th>Unbraced parapets</th>
<th>Unbraced gable end walls</th>
<th>Heavy cladding</th>
<th>Cantilever or tied street awnings</th>
<th>Structural damage</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BASIC SCORE, MODIFIERS, AND FINAL SCORE

<table>
<thead>
<tr>
<th>Construction type</th>
<th>Braced or moment frame steel, with or without concrete shear walls</th>
<th>Steel frame with masonry infill</th>
<th>Concrete moment frame</th>
<th>Concrete shear wall</th>
<th>Concrete frame with masonry infill</th>
<th>Unreinforced masonry</th>
<th>Timber Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Score</td>
<td>2.4</td>
<td>2.4</td>
<td>2.0</td>
<td>2.4</td>
<td>2.2</td>
<td>2.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Mid Rise (4 to 7 stories)</td>
<td>+0.4</td>
<td>+0.4</td>
<td>+0.2</td>
<td>+0.4</td>
<td>+0.2</td>
<td>-0.4</td>
<td>n/a</td>
</tr>
<tr>
<td>High Rise (&gt; 7 stories)</td>
<td>+1.4</td>
<td>+0.8</td>
<td>+0.5</td>
<td>+0.8</td>
<td>+0.4</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Vertical Irregularity</td>
<td>-2.0</td>
<td>-2.0</td>
<td>-2.0</td>
<td>-2.0</td>
<td>-2.0</td>
<td>-1.5</td>
<td>-3.0</td>
</tr>
<tr>
<td>Plan Irregularity</td>
<td>-0.5</td>
<td>-0.5</td>
<td>-0.5</td>
<td>-0.5</td>
<td>-0.5</td>
<td>-0.5</td>
<td>-0.5</td>
</tr>
<tr>
<td>Pre 1983</td>
<td>-0.4</td>
<td>-0.2</td>
<td>-1.0</td>
<td>-0.4</td>
<td>-1.0</td>
<td>-0.4</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

FINAL SCORE

COMMENTS

Detailed Seismic Assessment Required if Final Score ≤ 2.0

YES  NO

Assessed by: _____________________ Qualifications: _____________________

Signature: _____________________ Date: _____________________
Table A102 - Definitions of score modifiers in Form A101

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Rise</td>
<td>4 to 7 storeys</td>
</tr>
<tr>
<td>High-Rise</td>
<td>8 or more storeys</td>
</tr>
<tr>
<td>Vertical Irregularity</td>
<td>Steps in elevation view; inclined walls; building on hill; soft storey (e.g., house over garage); building with short columns. Discontinuous lateral load path.</td>
</tr>
<tr>
<td>Plan Irregularity</td>
<td>Buildings with re-entrant corners (L, T, U, E, + or other irregular building plan); buildings with good lateral resistance in one direction but not in the other direction; eccentric stiffness in plan, (e.g. corner building, or wedge-shaped building, with one or two solid walls and all other walls open).</td>
</tr>
</tbody>
</table>

**Rapid seismic assessment process**

The process for undertaking a *rapid seismic assessment* is as follows:

1. Identify the building and its location;
2. Identify the size, height, use of the building and year it was built;
3. Visually assess the building and identify if it has any non-structural hazards such as unreinforced chimneys, unbraced parapets or gable end walls, heavy cladding etc, and tick the relevant box on the Table A101 form if applicable.
4. Identify the construction type and note the relevant Basic Score from Table A101 applicable to that type of construction.
5. Identify if the building -
   (a) is a mid-rise building (4 – 7 storeys);
   (b) is a high rise building (8 or more storeys);
   (c) has any vertical irregularities;
   (d) has any plan irregularities;
   (e) it was constructed prior to 1983; and
   apply all relevant score modifiers listed in Table A101 to the Basic Score as determined for its construction type to produce its final score.
6. Identify if the building achieved a final score of less than 2.0 and therefore requires further detailed seismic assessment.
7. Complete all relevant details in Table A101 and sign and date the form, which must be attached to an application for building approval if required by this Code.

**Vertical Irregularity**

If a building has a vertical irregularity, the relevant modifier shown in Table A101 for vertical irregularity must be applied to the basic score. Vertical irregularities can affect all building types. Examples of vertical irregularity include buildings with setbacks, hillside buildings, and buildings with soft storeys (see examples of vertical irregularities in Figure A1-01).

If the building is on a steep hill and the up-slope dimension of the building rises at least one storey above the lowest down-slope point of the building, a problem may exist because the horizontal stiffness along the lower side may be different from the uphill side. In addition, in the up-slope direction, the stiff short columns attract the seismic shear forces and may fail. In this case the performance modifier is applicable. See Figure A1-01 for an example.
A soft storey exists if the stiffness of one storey is dramatically less than that of most of the others (see Figure A1-02). Examples are shear walls or infill walls not continuous to the foundation. In many commercial buildings, the first storey is soft due to large window openings for display purposes. If one storey is particularly tall or has windows on all sides and the storeys above have fewer windows, then that storey is probably a soft storey.

A building may be adequate in one direction but be ‘soft’ in the perpendicular direction. For example, the front and back walls may be open but the side walls may be solid. Another common example of soft storey is where undercroft parking is provided, which is commonly found in apartment buildings (see Figure A1-03).

**Figure A1-01** Building elevations showing vertical irregularities, with arrows indicating locations of particular concern.

**Figure A1-02** Example of setback irregularity.
Plan Irregularity

If a building has a plan irregularity, the relevant modifier shown in Table A101 for plan irregularity must be applied to the basic score.

Plan irregularity can affect all building types. Examples of plan irregularity include buildings with re-entrant corners, where damage is likely to occur; buildings with good lateral-load resistance in one direction but not in the other; and buildings with major stiffness eccentricities in the lateral-force-resisting system, which may cause twisting (torsion) around a vertical axis.

Plan irregularities causing torsion are especially prevalent among corner buildings, in which the two adjacent street sides of the building are largely windowed and open, whereas the other two sides are generally solid. Wedge-shaped buildings, triangular in plan, on corners of streets not meeting at 90 degrees, are similarly susceptible.

Although plan irregularity can occur in all building types, primary concern lies with wood, tilt-up, pre-cast frame, reinforced masonry and unreinforced masonry construction. Damage at connections may significantly reduce the capacity of a vertical-load-carrying element, leading to partial or total collapse.

Figure A1-04 - Plan views of various building configurations showing plan irregularities; arrows indicate possible areas of damage.
APPENDIX B  FIRE SAFETY

Appendix B1 – Smoke Resistant Stairs

B1.1 General

A stair complying with the following requirements is considered to be smoke-resisting for the purpose of applying the concessions outlined in Tables 303-1 and 303-2 of this Code.

B1.2 Stair shaft

A smoke resistant stair shaft must be constructed using one of the following:

B1.2.1 Materials that are non-combustible (as defined in the Building Code) and which are non-shattering;

B1.2.2 Toughened glass with a minimum thickness of 10mm or wired glass with a minimum thickness of 6 mm in steel frames with a maximum pane size of 1.0 m². In a sprinklered building the maximum pane size may be increased to 3 m²; or

B1.2.3 Any other material not less fire protective than 16mm fire-protective grade plasterboard fixed on metal studs.

B1.3 Ceiling

B1.3.1 The ceiling of a smoke-resistant stair must have a fire-protective covering (as defined in the Building Code) that does not permit the free passage of smoke to or from adjoining spaces.

B1.4 Doors

B1.4.1 Doors shall be smoke doors complying with the requirements for smoke doors in Specification C3.4 of the Building Code.

B1.5 Discharge

B1.5.1 At least one stair will discharge directly to a road or open space in all cases.

B1.5.2 Stairs may discharge within the building where two or more stairs exist but the path of travel shall not exceed 5 metres from the enclosure to an external exit in any case.
Appendix B2 – Smoke-Proof Walls

B2.1 General
For the purpose of providing a smoke-proof wall in accordance with this Code, the wall must comply with the following requirements or meet the provisions for smoke-proof walls in the Building Code that are required for new construction.

B2.2 Walls
B2.2.1 a smoke-proof wall must be constructed using one of the following-
   (a) materials that are non-combustible (as defined in the Building Code) and which are non-shattering; or
   (b) any other material not less fire protective than 16mm fire-protective grade plasterboard fixed on metal studs.

B2.2.2 a smoke-proof wall must not incorporate any glazed areas unless the glass is-
   (a) toughened glass with a minimum thickness of 10mm or wired glass with a minimum thickness of 6 mm in steel frames with a maximum pane size of 1.0 m², or 3.0 m² in a sprinklered building; or
   (b) safety glass as defined in AS 1288.

B2.2.3 A smoke-proof wall must extend to the underside of-
   (a) the floor above; or
   (b) a non-combustible roof covering; or
   (c) a flush plasterboard ceiling lined with 13mm standard grade plasterboard or a fire-protective covering (as defined in the Building Code), with all penetrations sealed against the free passage of smoke to or from adjoining spaces.

B2.2.4 A smoke-proof wall must have all openings around penetrations and the junctions of the smoke-proof wall and the remainder of the building stopped with non-combustible material to prevent the free passage of smoke to or from adjoining spaces.

B2.3 Doors
B2.3.1 Doors in smoke-proof walls shall comply with the requirements for smoke doors in Specification C3.4 of the Building Code and provide a smoke reservoir by not extending within 400mm of-
   (a) a roof covering; or
   (b) the floor above; or
   (c) the ceiling above.
Appendix B3 – Egress Requirements

B3.1 General

The following tables give guidance on the maximum travel distances to exits required by the Building Code for different building classifications. Where additional non-required safety measures are provided, the travel distances to exits may be increased to those set out in Tables B301, B302 and B303 below.

Table B301 – Maximum travel distances to exits in Class 2, 3 and 4 buildings

<table>
<thead>
<tr>
<th>Building Class</th>
<th>NCC requirement</th>
<th>AS 2118.4 sprinklers are installed throughout</th>
<th>AS 2118.1 sprinklers are installed throughout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2 and 3 buildings</td>
<td>The entrance doorway to an SOU must not be more than 6m from an exit or a point from which travel in different directions to 2 exits is available; or 20m from a single exit at GFL.</td>
<td>The entrance doorway to an SOU must not be more than 9m from an exit or a point from which travel in different directions to 2 exits is available; or 22m from a single exit at GFL.</td>
<td>The entrance doorway to an SOU must not be more than 12m from an exit or a point from which travel in different directions to 2 exits is available; or 22m from a single exit at GFL.</td>
</tr>
<tr>
<td>Other than an SOU, no point can be more than 20 m from an exit or a point from which travel in different directions to 2 exits is available.</td>
<td>In buildings not more than 25m in effective height the required travel distances may be increased by up to 10% of the NCC requirement.</td>
<td>No concession</td>
<td></td>
</tr>
<tr>
<td>Corridors more than 40m long must be divided with smoke walls every 40m.</td>
<td>No concession</td>
<td>No concession</td>
<td></td>
</tr>
<tr>
<td>Exits must not be more than 45m apart.</td>
<td>No concession</td>
<td>No concession</td>
<td></td>
</tr>
<tr>
<td>Class 4 parts of a building</td>
<td>The entrance doorway to any Class 4 part of a building must not be more than 6m from an exit or a point from which travel in different directions to 2 exits is available</td>
<td>No concession</td>
<td>No concession</td>
</tr>
</tbody>
</table>
Table B302 – Maximum travel distances to exits in Class 5, 6, 7 and 8 buildings

<table>
<thead>
<tr>
<th>Building Class</th>
<th>NCC requirement</th>
<th>Chevron striping, strobe lighting and jumbo exit signs installed</th>
<th>AS 2118.1 sprinklers are installed throughout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 5, 6, 7 and 8 buildings</td>
<td>No point more than 20 m from an exit or a point from which travel in different directions to 2 exits is available and max 40m to one of the exits</td>
<td>In buildings not more than 25m in effective height the required travel distances may be increased by up to 10% of the NCC requirement.</td>
<td>In buildings not more than 25m in effective height the required travel distances may be increased by up to 10% of the NCC requirement.</td>
</tr>
<tr>
<td></td>
<td>In a Class 5 or 6 building the distance to a single exit at GFL may be increased to 30m</td>
<td>The required travel distance may be increased by up to 10% of the NCC requirement.</td>
<td>The required travel distance may be increased by up to 10% of the NCC requirement.</td>
</tr>
<tr>
<td>Exits must not be more than 60m apart</td>
<td>No concession</td>
<td>No concession</td>
<td>No concession</td>
</tr>
</tbody>
</table>


Table B303 – Maximum travel distances to exits in Class 7, 8 and 9 buildings

<table>
<thead>
<tr>
<th>Building Class</th>
<th>NCC requirement</th>
<th>Where non-required AS 2118.4 sprinklers are installed throughout</th>
<th>Where non-required AS 2118.1 sprinklers are installed throughout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 9a buildings</td>
<td>No point more than 20 m from an exit or a point from which travel in different directions to 2 exits is available and max 40m to one of the exits.</td>
<td>No concession</td>
<td>No concession</td>
</tr>
<tr>
<td></td>
<td>In patient care areas, no point more than 12m from a point from which travel to 2 exits is available and max distance to one exit is 30m</td>
<td>No point more than 20 m from an exit or a point from which travel in different directions to 2 exits is available and max 40m to one of the exits.</td>
<td>No point more than 20 m from an exit or a point from which travel in different directions to 2 exits is available and max 40m to one of the exits.</td>
</tr>
<tr>
<td></td>
<td>Exits must not be more than 60m apart and in patient care areas not more than 45m apart</td>
<td>No concession</td>
<td>No concession</td>
</tr>
<tr>
<td>Class 9b buildings</td>
<td>No point more than 20 m from an exit or a point from which travel in different directions to 2 exits is available and max 40m to one of the exits.</td>
<td>No concession</td>
<td>In buildings not more than 25m in effective height the required travel distances may be increased by up to 10% of the NCC requirement.</td>
</tr>
<tr>
<td></td>
<td>Exits must not be more than 60m apart</td>
<td>No concession</td>
<td>No concession</td>
</tr>
<tr>
<td>Class 9c buildings</td>
<td>No point more than 20 m from an exit or a point from which travel in different directions to 2 exits are available and max 40m to one of the exits</td>
<td>No concession as sprinklers are required throughout</td>
<td>No concession as sprinklers are required throughout</td>
</tr>
<tr>
<td></td>
<td>Exits must not be more than 60m apart and in patient care areas not more than 45m apart</td>
<td>No concession as sprinklers are required throughout</td>
<td>No concession as sprinklers are required throughout</td>
</tr>
</tbody>
</table>