Date: 15 September 2021
Our Ref: P19179 (5)

Platinum Property Advisors No 1
C/- Mr William Messiter
25 Shelley St,
Sydney NSW 2000

Dear William,

RE: 28 Lockwood Ave, Belrose
DESIGN COMPLIANCE ASSESSMENT

Please find enclosed our BCA Design Compliance Report prepared in respect of the proposed design contained within the architectural documentation provided.

In reviewing the content of this Report, particular attention is drawn to the content of Parts 3 and 4 as: –

- Part 3 summarizes the compliance status of the proposed design in terms of each prescriptive provision of the BCA.
  The inclusion of this summary enables an immediate understanding of the compliance status of the proposed design to be obtained.
- Part 4 contains a detailed analysis of the proposed design, and provides informative commentary & recommendation in respect of each instance of prescriptive non-compliance and area of insufficient (design) detail, as applicable.

  This commentary enables the project team to readily identify and understand the nature and extent of information required within the Building Permit (or other) application to demonstrate the attainment of BCA compliance.

Should you require any further information, please do not hesitate to contact me on the number provided.

Yours faithfully

Kieran Tobin
Director

DESIGN COMPLIANCE ASSESSMENT

PREPARED FOR

Platinum Property Advisors No 1

REGARDING

28 Lockwood Ave, Belrose

Prepared By

BCA vision

REPORT REGISTER

The following report register documents the development and issue of this report and project as undertaken by this office, in accordance with the *Quality Assurance* policy of BCA Vision Pty Ltd.

Our Reference	Issue No.	Remarks	Issue Date
P19179	4	Design Compliance Assessment	15 September 2021

CONTENTS PAGE

1.0 INTRODUCTION

1.1 GENERAL

This "BCA Compliance Assessment" report has been prepared at the request Platinum Property Advisors No 1, and relates to 28 Lockwood Ave, Belrose

The project proposal is for construction of a new 4 storey Residential Unit Development with class 6 retail, class 7a car parking and class 7b storage.

This report is based upon, and limited to, the information depicted in the documentation provided for assessment, and does not make assumptions regarding "design intention" or the like.

1.2 REPORT BASIS

The content of this report reflects –

(a) The principles and provisions of BCA 2019, Amendment1, Volume 1 Parts C, D, E & F;

(b) Plans prepared by DKO Architecture: -

Numbered	Titled	Date of issue
DA000		02/09/21
DA102	Site Plan	02/09/21
DA200	Basement 4	02/09/21
DA201	Basement 3	02/09/21
DA202	Basement 2	02/09/21
DA203	Lower Ground Floor	02/09/21
DA204	Ground Floor	02/09/21
DA205	Level 1	02/09/21
DA300	Elevation	02/09/21
DA301	Elevation	02/09/21
DA302	Elevation	02/09/21
DA400	Section	02/09/21
DA401	Section	02/09/21
DA402	Section	02/09/21

1.3 EXCLUSIONS

It is conveyed that this report should not construed to infer that an assessment for compliance with the following has been undertaken –

(a) Structural and services design documentation;

(b) General building services (i.e. passenger lifts);

(c) The individual requirements of service providers (i.e. Telstra, Water Supply, Energy Australia);

(d) The individual requirements of the Workcover Authority;

(e) Disability Discrimination Act (DDA).

1.4 REPORT PURPOSE

The purpose of this report is to identify the extent to which the architectural design documentation complies with the relevant prescriptive provisions of the BCA 2019, Amendment1, Volume 1 Parts C, D, E & F.

Assessment of the proposed design considers each prescriptive BCA provision, and identifies such as either: –

(a) Being complied with; or
(b) Not being complied with; or
(c) Requiring the provision further detail with the future Building Permit or other application or
(d) Not being relevant to the particular building works proposal.

The status of the design, in terms of these four (4) categories, is summarised within Part 3 of this report.

Where prescriptive non-compliance is identified, suitable recommendations to remedy the non-compliance shall be detailed in Part 4.

In instances where insufficient detail exists, summary of the information required from the project team for inclusion within future applications (i.e. Building Permit) shall also be outlined in Part 4.

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2.0 BUILDING DESCRIPTION

2.1 GENERAL

In the context of the Building Code of Australia (BCA), the subject development is described within items 2.2 – 2.6 below.

2.2 RISE IN STOREYS (CLAUSE C1.2)

The existing building has a rise in storeys of Five

2.2 BUILDING CLASSIFICATION (CLAUSE A3.2)

The entire building incorporates the following classifications: -

Class 2	A Residential Unit building,
Class 6	A Retail Premises
Class 7a	A Car Park
Class 7b	Storage

2.3 EFFECTIVE HEIGHT (CLAUSE A1.1)

The building has an effective height Not exceeding 12 metres.

2.3 TYPE OF CONSTRUCTION (TABLE C1.1)

Table 4 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

External walls, common walls flooring and floor framing of lift pits must be non-combustible. Any internal wall having an FRL must extend to – (i) the underside of the floor above; or (ii) the underside of a complying roof; or (iii) if the roof is not required to comply, the underside of the non-combustible roof covering and must not be crossed by combustible building elements (except 75 x 50 mm roof battens); or (iv) a ceiling immediately below the roof having a resistance to the incipient spread of fire to the roof space of not less than 60 minutes. A loadbearing internal wall and fire wall (including part of a loadbearing shaft) must be of concrete or masonry. Non-loadbearing fire-resisting internal walls, fire and non-fire rated lift, ventilating, pipe, garbage, or similar shaft not for the discharge of hot products of combustion, must be of non-combustible construction. External column FRL's apply to any internal columns that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature. 2.4 Attachments not to impair fire-resistance (a) A combustible material may be used as a finish or lining to a wall or roof, or in a sign, sunscreen or blind, awning, or other attachment to a building element which has the required FRL if— (i) the material is exempted under C1.10 or complies with the fire hazard properties prescribed in Specification C1.10; and (ii) it is not located near or directly above a required exit so as to make the exit unusable in a fire; and (iii) it does not otherwise constitute an undue risk of fire spread via the facade of the building. (b) The attachment of a facing or finish, or the installation of ducting or any other service, to a part of a building required to have an FRL must not impair the required FRL of that par

Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building — FRL: (in minutes)			
	Structural adequacy/ Integrity/ Insulation			
	2, 3 or 4 part	**5, 7a or 9**	**6**	**7b or 8**
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any *fire-source feature* to which it is exposed is—				
For *loadbearing* parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120	240/240/180
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90	240/180/ 90
For non- *loadbearing* parts—				
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/ 60/ 60	–/ 90/ 90	–/180/120	–/240/180
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an *external wall*—				
For *loadbearing* columns—				
	90/–/–	120/–/–	180/–/–	240/–/–
For non- *loadbearing* columns—				
	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
Fire-resisting lift and stair *shafts*—				
Loadbearing	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non- *loadbearing*	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding *public corridors*, public lobbies and the like—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non- *loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non- *loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion—				
Loadbearing	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non- *loadbearing*	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES				

Building element	Class of building — FRL: (in minutes)			
	Structural adequacy/ Integrity/ Insulation			
	2, 3 or 4 part	**5, 7a or 9**	**6**	**7b or 8**
and COLUMNS—	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180	240/240/240
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60

3.0 BCA ASSESSMENT – SUMMARY

3.1. GENERAL

The tables contained within items 3.2 – 3.6 below summarise the compliance status of the proposed architectural design in terms of each prescriptive provision of the Building Code of Australia.

For those instances of either "prescriptive non-compliance" or "insufficient detail", a detailed analysis and commentary is provided within Part 4.

3.2. SECTION C – FIRE RESISTANCE

BCA reference	Complies	Does not comply	Detail required	Not relevant
Spec. C1.1 – fire resisting construction			✓	
C1.3 – buildings of multiple classification				✓
C1.4 – mixed types of construction				✓
C1.5 – two storey Class 2 or 3 buildings				✓
C1.6 – Class 4 parts of a building				✓
C1.7 – open spectator stands & indoor sports stadiums				✓
C1.8 – lightweight construction			✓	
C1.9 – non-combustible materials			✓	
C1.10 – fire hazard properties			✓	
C1.11 – performance of external walls				✓
C2.2 – general floor area & volume limits				✓
C2.3 – large isolated buildings			✓	
C2.4 – requirements for open spaces & vehicular access				✓
C2.5 – Class 9a and 9c buildings				✓
C2.6 – vertical separation of openings in external walls			✓	
C2.7 – separation of firewalls			✓	
C2.8 – separation of classifications in same storey			✓	
C2.9 – separation of classifications in different storeys			✓	
C2.10 – separation of lift shafts			✓	
C2.11 – stairways and lifts in one shaft				✓
C2.12 – separation of equipment			✓	
C2.13 – electricity supply system			✓	
C2.14 – public corridors in Class 2 and 3 buildings			✓	
C3.2 – openings in external walls			✓	
C3.3 – separation of external walls & associated openings			✓	
C3.4 – acceptable methods of protection			✓	
C3.5 – doorways in firewalls			✓	
C3.6 – sliding fire doors				✓
C3.7 – doorways in horizontal exits				✓
C3.8 – openings in fire-isolated exits			✓	
C3.9 – service penetrations in fire-isolated exits			✓	
C3.10 – openings in fire-isolated lift shafts			✓	
C3.11 – bounding construction: Class 2, 3, 4 and 9 buildings			✓	
C3.12 – openings in floors & ceilings for services			✓	
C3.13 – openings in shafts			✓	
C3.15 – openings for service installations			✓	
C3.16 – construction joints			✓	
C3.17 – columns protected with f/r lightweight construction			✓	

3.3. SECTION D – ACCESS AND EGRESS

BCA reference	Complies	Does not comply	Detail required	Not relevant
D1.2 – number of exits required		✓		
D1.3 – when fire-isolated exits are required			✓	
D1.4 – exit travel distances		✓		
D1.5 – distance between alternative exits			✓	
D1.6 – dimensions of exits and paths of travel to exits			✓	
D1.7 – travel via fire-isolated exits		✓		
D1.8 – external stairways or ramps in lieu of fire-isolated exits				✓
D1.9 – travel via non-fire isolated stairways or ramps				✓
D1.10 – discharge from exits			✓	
D1.11 – horizontal exits				✓
D1.12 – non-required stairways or ramps				✓
D1.13 – number of persons accommodated				✓
D1.16 – plant rooms and lift motor rooms: concession				✓
D1.17 – access to lift pits			✓	
D2.2 – fire-isolated stairways and ramps			✓	
D2.3 – non-fire isolated stairways and ramps				✓
D2.4 – separation of rising and descending stair flights	✓			
D2.5 – open access ramps and balconies				✓
D2.6 – smoke lobbies				✓
D2.7 – installations in exits and paths of travel			✓	
D2.8 – enclosure of space under stairs and ramps			✓	
D2.9 – width of stairways				✓
D2.10 – pedestrian ramps				✓
D2.11 – fire-isolated passageways				✓
D2.12 – roof as open space				✓
D2.13 – goings and risers			✓	
D2.14 – landings			✓	
D2.15 – thresholds			✓	
D2.16 – balustrades			✓	
D2.17 – handrails			✓	
D2.18 – fixed platforms, walkways, stairways and ladders				✓
D2.19 – doorways and doors			✓	
D2.20 – swinging doors			✓	
D2.21 – operation of latch			✓	
D2.22 – re-entry from fire-isolated exits				✓
D2.23 – signs on doors			✓	
D2.24 – Protection of Openable Windows			✓	
D3.1 – General Building Access requirements			✓	
D3.2 – Access to Buildings			✓	
D3.3 – parts of buildings to be accessible			✓	
D3.4 – concessions				✓
D3.5 – car parking			✓	
D3.6 – signage			✓	
D3.7 – hearing augmentation services and features				✓
D3.8 – tactile indicators			✓	
D3.9 – Wheelchair Seating				✓
D3.10 – Swimming Pools				✓
D3.11 - Ramps			✓	
D3.12 – Glazing on Access ways			✓	

3.4. SECTION E – SERVICES AND EQUIPMENT

BCA reference	Complies	Does not comply	Detail required	Not relevant
E1.3 – fire hydrants			✓	
E1.4 – fire hose reels			✓	
E1.5 – sprinklers			✓	
E1.6 – portable fire extinguishers			✓	
E1.8 – fire control centres				✓
E1.9 – fire precautions during construction			✓	
E1.10 – provision for special hazards				✓
E2.2a – general provisions			✓	
E2.2b – specific provisions				✓
E2.3 – provision for special hazards				✓
E3.2 – stretcher facility in lifts			✓	
E3.3 – warning against use of lifts in fire			✓	
E3.4 – emergency lifts				✓
E3.5 – landings			✓	
E3.6 – facilities for people with disabilities			✓	
E3.7 – fire service controls			✓	
E3.8 – aged care buildings				✓
E3.9 – fire service recall switch			✓	
E3.10 – fire service drive control switch			✓	
E4.2 – emergency lighting			✓	
E4.4 – design and operation of emergency lighting			✓	
E4.5 – exit signs			✓	
E4.6 – direction signs			✓	
E4.7 – Class 2 and 3 buildings and Class 4 parts: exemptions	✓			
E4.8 – design and operation of exit signs			✓	
E4.9 – emergency warning and intercommunication systems				✓

3.5. SECTION F – HEALTH AND AMENITY

BCA reference	Complies	Does not comply	Detail required	Not relevant
F1.1 – stormwater drainage			✓	
F1.5 – roof coverings			✓	
F1.6 – sarking			✓	
F1.7 – water proofing of wet areas			✓	
F1.9 – damp proofing			✓	
F1.10 – damp proofing of floors on ground			✓	
F1.11 – floor wastes			✓	
F1.12 – sub-floor ventilation				✓
F1.13 – glazed assemblies			✓	
F2.1 – facilities in residential buildings			✓	
F2.3 – facilities in Class 3 to 9 buildings			✓	
F2.4 – facilities for people with disabilities			✓	
F2.5 – construction of sanitary compartments			✓	
F2.7 – microbial (legionella) control				✓
F2.8 – waste management				✓
F3.1 – height of rooms			✓	
F4.1 – provision of natural light			✓	
F4.2 – methods and extent of natural lighting			✓	
F4.3 – natural lighting borrowed from adjoining room				✓
F4.4 – artificial lighting			✓	
F4.5 – ventilation of rooms			✓	
F4.6 – natural ventilation			✓	
F4.7 – ventilation borrowed from an adjoining room				✓
F4.8 – restriction on position of water closets and urinals			✓	
F4.9 – airlocks			✓	
F4.11 – car parks			✓	
F4.12 – kitchen local exhaust ventilation			✓	
F5.2 – sound transmission class: interpretation			✓	
F5.3 – sound transmission of floors between units			✓	
F5.4 – sound insulation of walls between units			✓	
F5.5 – sound insulation rating of walls			✓	
F5.6 – sound insulation rating of services			✓	
F5.7 – sound insulation of pumps			✓	

4.0 BCA ASSESSMENT – DETAILED ANALYSIS

4.1 GENERAL

With reference to the "BCA Assessment Summary" contained within Part 3 above, the following detailed analysis and commentary is provided.

This commentary is formulated to enable the design documentation to be further progressed, for the purpose of evidencing the attainment of compliance with the relevant provisions of the BCA.

In our opinion compliance with the Building Code of Australia 2019, amendment 1, Volume 1 Parts C, D, E & F can be achieved subject to the implementation of the following details into the Construction documentation.

4.2 SECTION C – FIRE RESISTANCE

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. C1.1	Type of construction required (a) The minimum Type of *fire-resisting construction* of a building must be that specified in Table C1.1 and Specification C1.1, (b) Type A construction is the most fire-resistant and Type C the least fire-resistant of the Types of construction.	Generally the building construction must achieve the minimum FRL requirements specified within clause 2.3 (page 3, 4 & 5) of this report for Type A Construction. Clarification on how the FRLs will be achieved – Construction method will be required. Note external wall attachments are required to comply with Clause 2.4 of specification C1.1 and BCA Clause C1.9. Details of the method and type of construction will be required within the

		Construction documentation.
Cl. C1.9	Non-combustible building elements (a) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible: (i) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. (ii) The flooring and floor framing of lift pits. (iii) Non-loadbearing internal walls where they are required to be fire-resisting. (b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in— (i) a building required to be of Type A construction; and (ii) a building required to be of Type B construction, subject to C2.10, in— (A) a Class 2, 3 or 9 building; and (B) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys. (c) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1. (d) The requirements of (a) and (b) do not apply to the following: (i) Gaskets. (ii) Caulking. (iii) Sealants. (iv) Termite management systems. (v) Glass, including laminated glass. (vi) Thermal breaks associated with glazing systems. (vii) Damp-proof courses. (e) The following materials may be used wherever a non-combustible material is required: (i) Plasterboard. (ii) Perforated gypsum lath with a normal paper finish. (iii) Fibrous-plaster sheet. (iv) Fibre-reinforced cement sheeting. (v) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.	Details of the method and type of construction will be required within the Construction documentation.

	(vi) Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5. (vii) Bonded laminated materials where— (A) each lamina, including any core, is non-combustible; and (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and (C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.	
Cl. C1.10	Fire Hazard Properties (a) The *fire hazard properties* of the following linings, materials and assemblies in a Class 2 to 9 building must comply with Specification C1.10	Confirmation of the Fire Hazard properties will be required with the Construction Certificate Documentation. Floor linings and floor coverings A floor lining or floor covering must have— (a) a *critical radiant flux* not less than a grouping of 2.2; and (b) in a building not protected by a sprinkler system complying with Specification E1.5, a maximum *smoke development rate* of 750 percent-minutes; and (c) a group number complying with Clause 6(a)(ii), for any portion of the floor covering that is continued more than 150 mm up a wall. Wall and ceiling linings – requires groupings as follows Fire Isolated Exit = Grouping of 1 Public Corridors = a grouping of 1,2 Other areas = a grouping of 1,2,3 (a) For the purposes of this Clause, the

		group number of a material is determined by either— (i) physical testing in accordance with AS ISO 9705; or (ii) prediction in accordance with Clause 3 of Specification A2.4 using data obtained by testing the material at 50 kW/m^2 irradiance in the horizontal orientation with edge frame in accordance with AS/NZS 3837. (b) The *group number* of a material is as follows when tested or predicted in accordance with sub-clause (a): (i) A Group 1 material is one that does not reach *flashover* when exposed to 100 kW for 600 seconds followed by exposure to 300 kW for 600 seconds. (ii) A Group 2 material is one that reaches *flashover* following exposure to 300 kW within 600 seconds after not reaching *flashover* when exposed to 100 kW for 600 seconds. (iii) A Group 3 material is one that reaches *flashover* in more than 120 seconds but within 600 seconds when exposed to 100 kW. (iv) A Group 4 material is one that reaches *flashover* within 120 seconds when exposed to 100 kW. (c) A material used as a finish, surface,

		lining or attachment to a wall or ceiling must be a Group 1, Group 2 or Group 3 material used in accordance with Table 3 and for buildings not fitted with a sprinkler system complying with Specification E1.5, have— (i) a *smoke growth rate index* not more than 100; or (ii) an *average specific extinction area* less than 250 m^2/kg. Lift cars (a) Materials used as— (i) floor linings and floor coverings must have a *critical radiant flux* not less than 2.2; and (ii) wall and ceiling linings must be a Group 1 material or a Group 2 material in accordance with Clause 4(b). (a) Materials, other than those referenced in (a), used in the construction of a lift car in a Class 2 to 9 building must comply with the *fire hazard properties required* by AS 1735.2.
Cl. C2.6	Vertical separation of openings in external walls (a) If in a building of Type A construction, any part of a *window* or other opening in an *external wall* is above another opening in the *storey* next below and its vertical projection falls no further than 450 mm outside the lower opening (measured horizontally), the	Verification will be required within the Construction Documentation

	openings must be separated by— (i) a spandrel which— (A) is not less than 900 mm in height; and (B) extends not less than 600 mm above the upper surface of the intervening floor; and (C) is of *non-combustible* material having an FRL of not less than 60/60/60; or (ii) part of a *curtain wall* or *panel wall* that complies with (i); or (iii) construction that complies with (i) behind a *curtain wall* or *panel wall* and has any gaps packed with a *non-combustible* material that will withstand thermal expansion and structural movement of the walling without the loss of seal against fire and smoke; or (iv) a slab or other horizontal construction that— (A) projects outwards from the external face of the wall not less than 1100 mm; and (B) extends along the wall not less than 450 mm beyond the openings concerned; and (C) is *non-combustible* and has an FRL of not less than 60/60/60.	
Cl. C2.7	Separation by fire walls (a) Construction — A *fire wall* must be constructed in accordance with the following: (i) The *fire wall* has the relevant FRL prescribed by Specification C1.1 for each of the adjoining parts, and if these are different, the greater FRL, except where Tables 3.9, 4.2 and 5.2 of Specification C1.1 permit a lower FRL on the *carpark* side. (ii) Any openings in a *fire wall* must not reduce the FRL *required* by Specification C1.1 for the *fire wall*, except where permitted by the	Verification will be required within the Construction Documentation

Deemed-to-Satisfy Provisions of Part C3.

(iii) Building elements, other than roof battens with dimensions of 75 mm x 50 mm or less or *sarking-type material*, must not pass through or cross the *fire wall* unless the *required fire resisting* performance of the *fire wall* is maintained.

(b) Separation of buildings — A part of a building separated from the remainder of the building by a *fire wall* may be treated as a separate building for the purposes of the *Deemed-to-Satisfy Provisions* of Sections C, D and E if it is constructed in accordance with (a) and the following:

(i) The *fire wall* extends through all *storeys* and spaces in the nature of *storeys* that are common to that part and any adjoining part of the building.

(ii) The *fire wall* is carried through to the underside of the roof covering.

(iii) Where the roof of one of the adjoining parts is lower than the roof of the other part, the *fire wall* extends to the underside of—

(A) the covering of the higher roof, or not less than 6 m above the covering of the lower roof; or

(B) the lower roof if it has an FRL not less than that of the *fire wall* and no openings closer than 3 m to any wall above the lower roof; or

(C) the lower roof if its covering is *non-combustible* and the lower part has a sprinkler system complying with Specification E1.5.

(c) Separation of fire compartments — A part of a building separated from the remainder of the building by a *fire wall* may be treated as a separate *fire compartment* if it is constructed in accordance with (a) and the *fire wall* extends to the underside of—

(i) a floor having an FRL *required* for a *fire wall*; or

(ii) the roof covering.

Cl. C2.9	Separation of classifications in different storeys If parts of different classification are situated one above the other in adjoining *storeys* they must be separated as follows: (a) Type A construction — The floor between the adjoining parts must have an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower *storey*.	Verification will be required within the Construction Documentation
Cl. C2.10	Separation of lift shafts (a) Any lift connecting more than 2 *storeys*, or more than 3 *storeys* if the building is sprinklered, (other than lifts which are wholly within an *atrium*) must be separated from the remainder of the building by enclosure in a *shaft* in which— (i) in a building *required* to be of Type A construction—the walls have the relevant FRL prescribed by Specification C1.1; and (ii) in a building *required* to be of Type B construction — the walls— (A) if *loadbearing*, have the relevant FRL prescribed by Table 4 of Specification C1.1; or (B) if non- *loadbearing*, be of *non-combustible* construction. (b) Any lift in a *patient care area* in a Class 9a *health-care building* or a *resident use area* in Class 9c *aged care building* must be separated from the remainder of the building by a *shaft* having an FRL of not less than— (i) in a building of Type A or B construction — 120/120/120; or (ii) in a building of Type C construction — 60/60/60. (c) An emergency lift must be contained within a *fire-resisting shaft* having an FRL of not less than 120/120/120. (d) Openings for lift landing doors and services must be protected in accordance with the	Verification will be required within the Construction Documentation

	Deemed-to-Satisfy Provisions of Part C3. (a) Equipment other than that described in (b) and (c) must be separated from the remainder of the building with construction complying with (d), if that equipment comprises— (i) lift motors and lift control panels; or (ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or (iii) central smoke control plant; or (iv) boilers; or (i) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours. (b) Equipment need not be separated in accordance with (a) if the equipment comprises— (i) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification E2.2b; or (ii) stair pressurising equipment installed in compliance with the relevant provisions of AS/NZS 1668.1; or (iii) a lift installation without a machine-room; or (iv) equipment otherwise adequately separated from the remainder of the building. (c) Separation of on-site fire pumps must comply with the requirements of AS 2419.1. (d) Separating construction must have— (i) except as provided by (ii)— (A) an FRL as *required* by Specification C1.1, but not less than 120/120/120; and (B) any doorway protected with a *self-closing* fire door having an FRL of not less than –/120/30; or (ii) when separating a lift *shaft* and lift motor room, an FRL not less than 120/–/–.	
Cl. C2.12	Separation of equipment (a) Equipment other than that described in (b) and (c) must be separated from the	Verification will be required within the Construction Documentation.

remainder of the building with construction complying with (d), if that equipment comprises—

(i) lift motors and lift control panels; or

(ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or

(iii) central smoke control plant; or

(iv) boilers; or

(v) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours.

(b) Equipment need not be separated in accordance with (a) if the equipment comprises—

(i) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification E2.2b; or

(ii) stair pressurising equipment installed in compliance with the relevant provisions of AS/NZS 1668.1; or

(iii) a lift installation without a machine-room; or

(iv) equipment otherwise adequately separated from the remainder of the building.

(c) Separation of on-site fire pumps must comply with the requirements of AS 2419.1.

(d) Separating construction must have—

(i) except as provided by (ii)—

(A) an FRL as *required* by Specification C1.1, but not less than 120/120/120; and

(B) any doorway protected with a *self-closing* fire door having an FRL of not less than –/120/30; or

	(ii) when separating a lift *shaft* and lift motor room, an FRL not less than 120/–/–.	
Cl. C2.13	Electricity supply system (a) An electricity substation located within a building must— (i) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (ii) have any doorway in that construction protected with a *self-closing* fire door having an FRL of not less than –/120/30. (b) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must— (i) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (ii) have any doorway in that construction protected with a *self-closing* fire door having an FRL of not less than –/120/30. (c) Electrical conductors located within a building that supply— (i) a substation located within the building which supplies a main switchboard covered by (b); or (ii) a main switchboard covered by (b), must— (iii) have a classification in accordance with AS/NZS 3013 of not less than— (A) if located in a position that could be subject to damage by motor vehicles — WS53W; or (B) otherwise — WS52W; or (iv) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120.	Verification will be required within the Construction Documentation.

	(d) Where emergency equipment is *required* in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear. (e) For the purposes of (d), emergency equipment includes but is not limited to the following: (i) Fire hydrant booster pumps. (ii) Pumps for *automatic* sprinkler systems, water spray, chemical fluid suppression systems or the like. (iii) Pumps for fire hose reels where such pumps and fire hose reels form the sole means of fire protection in the building. (iv) Air handling systems designed to exhaust and control the spread of fire and smoke. (v) Emergency lifts. (vi) Control and indicating equipment. (vii) Sound systems and intercom systems for emergency purposes.	
Cl C2.14	Public corridors in Class 2 and 3 buildings In a Class 2 or 3 building, a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with Clause 2 of Specification C2.5.	Smoke doors are required within the residential corridors at LGF and GF as they exceed 40m in length Verification will be required within the Construction Documentation.
Cl. C3.5	Doorways in fire walls (a) The aggregate width of openings for doorways in a fire wall, which are not part of a horizontal exit, must not exceed ½ of the length of the fire wall, and each doorway must be protected by— (i) 2 fire doors or fire shutters, one on each side of the doorway, each of which has an FRL of	Verification will be required within the Construction Documentation.

	not less than ½ that required by Specification C1.1 for the fire wall except that each door or shutter must have an insulation level of at least 30; or (ii) a fire door on one side and a fire shutter on the other side of the doorway, each of which complies with (i); or (iii) a single fire door or fire shutter which has an FRL of not less than that required by Specification C1.1 for the fire wall except that each door or shutter must have an insulation level of at least 30. (b) A fire door or fire shutter required by (a)(i), (ii) or (iii) must be self-closing, or automatic closing in accordance with (c) and (d). (c) The automatic closing operation required by (b) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening. (d) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification E1.5, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic closing operation.	
Cl. C3.8	Openings in fire-isolated exits (a) (i) Doorways that open to *fire-isolated stairways*, *fire-isolated passageways* or *fire-isolated ramps*, and are not doorways opening to a road or *open space*, must be protected by –/60/30 fire doors that are *self-closing*, or *automatic*-closing in accordance with (ii) and (iii). (ii) The *automatic*-closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with *AS 1670* if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of *AS 1670.1* and located not more than 1.5 m horizontal distance from the approach side of the doorway.	Verification will be required within the Construction Documentation.

	(iii) Where any other *required* suitable fire alarm system, including a sprinkler system complying with Specification E1.5, is installed in the building, activation of the system must also initiate the *automatic*-closing operation. (b) A *window* in an *external wall* of a *fire-isolated stairway*, *fire-isolated passageway* or *fire-isolated ramp* must be protected in accordance with C3.4 if it is within 6 m of, and exposed to, a *window* or other opening in a wall of the same building, other than in the same fire-isolated enclosure.	
Cl. C3.9	Service penetrations in fire-isolated exits Fire-isolated *exits* must not be penetrated by any services other than— (a) electrical wiring permitted by D2.7(e) to be installed within the *exit*; or (b) ducting associated with a pressurisation system if it— (i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and (ii) does not open into any other part of the building; or (c) water supply pipes for fire services.	Verification will be required within the Construction Documentation.
Cl. C3.10	Openings in fire-isolated lift shafts (a) Doorways — If a lift *shaft* is *required* to be fire-isolated, an entrance doorway to that *shaft* must be protected by –/60/– fire doors that— (i) comply with AS 1735.11; and (ii) are set to remain closed except when discharging or receiving passengers, goods or vehicles. (b) Lift indicator panels — A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift *shaft* must be backed by construction having an FRL of not less than –/60/60 if it exceeds 35 000 mm^2 in area	Verification will be required within the Construction Documentation.
Cl. C3.11	Doorways leading from sole occupancy units to a public corridor, public lobby, a room not within a sole occupancy unit and any other sole occupancy unit must be self-closing -/60/30 fire doors.	Verification will be required with the Construction Documentation
Cl. C3.12	Service openings through any floors in the building must be either fire sealed or enclosed in a fire rated	Verification will be required with the

	shaft, using materials having an FRL not less than the floor concerned.	Construction Documentation
Cl. C3.13	Openings to shafts must be self-closing and 1-hour fire rated (i.e. access panels, doors, hoppers).	Verification will be required with the Construction Documentation
Cl. C3.15	Openings for service installations Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an *external wall* or roof) that is *required* to have an FRL with respect to *integrity* or *insulation* or a *resistance to the incipient spread of fire*, that installation must comply with any one of the following: (a) **Tested systems** (i) The service, building element and any protection method at the penetration are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the *required* FRL or *resistance to the incipient spread of fire*. (ii) It complies with (i) except for the *insulation* criteria relating to the service if— (A) the service is a pipe system comprised entirely of metal (excluding pipe seals or the like); and (B) any *combustible* building element is not located within 100 mm of the service for a distance of 2 m from the penetration; and (C) *combustible* material is not able to be located within 100 mm of the service for a distance of 2 m from the penetration; and (D) it is not located in a *required exit*. (b) **Ventilation and air-conditioning** — In the case of ventilating or air-conditioning ducts or equipment, the installation is in accordance with AS/NZS 1668.1. (c) **Compliance with Specification C3.15** (i) The service is a pipe system comprised entirely of metal (excluding pipe seals or the like) and is installed in accordance with Specification C3.15 and it— (A) penetrates a wall, floor or ceiling, but not a ceiling *required* to have a *resistance to the incipient spread of fire*; and	Verification will be required with the Construction Documentation

	(B) connects not more than 2 *fire compartments* in addition to any *fire-resisting* service *shafts*; and (C) does not contain a flammable or *combustible* liquid or gas. (ii) The service is sanitary plumbing installed in accordance with Specification C3.15 and it— (A) is of metal or UPVC pipe; and (B) penetrates the floors of a Class 5, 6, 7, 8 or 9b building; and (C) is in a *sanitary compartment* separated from other parts of the building by walls with the FRL *required* by Specification C1.1 for a stair *shaft* in the building and a *self-closing* –/60/30 fire door. (iii) The service is a wire or cable, or a cluster of wires or cables installed in accordance with Specification C3.15 and it— (A) penetrates a wall, floor or ceiling, but not a ceiling *required* to have a *resistance to the incipient spread of fire*; and (B) connects not more than 2 *fire compartments* in addition to any *fire-resisting* service *shafts*. (iv) The service is an electrical switch, outlet, or the like, and it is installed in accordance with Specification C3.15.	
Cl. C3.16	Construction joints between fire resistant elements must be fire sealed with a material having a fire resistance level not less than the elements being joined.	Verification will be required with the Construction Documentation

4.4 SECTION D – ACCESS AND EGRESS

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. D1.2	Number of exits required (a) All buildings — Every building must have at least one exit from each storey. (b) Class 2 to 8 buildings — In addition to any horizontal exit, not less than 2 exits must be provided from the following: (i) Each storey if the building has an effective height of more than 25 m. (ii) A Class 2 or 3 building subject to C1.5. (c) Basements — In addition to any horizontal exit, not less than 2 exits must be provided from any storey if egress from that storey involves a vertical rise within the building of more than 1.5 m, unless— the floor area of the storey is not more than 50 m2 ; and (ii) the distance of travel from any point on the floor to a single exit is not more than 20 m.	Only one Exit has been provided from the LGF retail areas
Cl. D1.3	When fire-isolated stairways and ramps are required (a) Class 2 and 3 buildings — Every stairway or ramp serving as a *required exit* must be fire-isolated unless it connects, passes through or passes by not more than— (i) 3 consecutive *storeys* in a Class 2 building; or (ii) 2 consecutive *storeys* in a Class 3 building, and one extra *storey* of any classification may be included if— (iii) it is only for the accommodation of motor vehicles or for other ancillary purposes; or (iv) the building has a sprinkler system complying with Specification E1.5 installed throughout; or (v) the *required exit* does not provide access to or egress for, and is separated from, the extra *storey* by construction having—	The stairs must be Fire Isolated stairs

	(A) an FRL of –/60/60, if non- *loadbearing;* and (B) an FRL of 90/90/90, if *loadbearing*; and (C) no opening that could permit the passage of fire or smoke. (b) Class 5, 6, 7, 8 or 9 buildings — Every stairway or ramp serving as a *required exit* must be fire-isolated unless— (i) in a Class 9a *health-care building* — it connects, or passes through or passes by not more than 2 consecutive *storeys* in areas other than *patient care areas*; or (ii) it is part of an *open spectator stand*; or (iii) in any other case except in a Class 9c *aged care building*, it connects, passes through or passes by not more than 2 consecutive *storeys* and one extra *storey* of any classification may be included if— (A) the building has a sprinkler system complying with Specification E1.5 installed throughout; or (B) the *required exit* does not provide access to or egress for, and is separated from, the extra *storey* by construction having— (aa) an FRL of –/60/60, if non- *loadbearing*; and (bb) an FRL of 90/90/90 for Type A construction or 60/60/60 for Type B construction, if *loadbearing*; and (cc) no opening that could permit the passage of fire or smoke.	
Cl. D1.4	Exit travel distances (a) Class 2 and 3 buildings— (i) The entrance doorway of any sole-occupancy unit must be not more than— (A) 6 m from an exit or from a point from which travel in different directions to 2 exits is available; or (B) 20 m from a single exit serving the storey at the level of egress to a road or	Exit travel distance exceeds 20m to an Exit or to a point of choice (between alternate Exits); within:- The Garbage/Loading area basement 2 Level Exit travel distance exceeds 12m to an Exit

	open space; and (ii) no point on the floor of a room which is not in a sole-occupancy unit must be more than 20 m from an exit or from a point at which travel in different directions to 2 exits is available. (b) Class 4 parts of a building — The entrance doorway to any Class 4 part of a building must be not more than 6 m from an exit or a point from which travel in different directions to 2 exits is available. (c) Class 5, 6, 7, 8 or 9 buildings — Subject to (d), (e) and (f)— (i) no point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m; and (ii) in a Class 5 or 6 building, the distance to a single exit serving a storey at the level of access to a road or open space may be increased to 30 m. (d) Class 9a buildings — In a patient care area in a Class 9a building— (i) no point on the floor must be more than 12 m from a point from which travel in different directions to 2 of the required exits is available; and (ii) the maximum distance to one of those exits must not be more than 30 m from the starting point. (e) Open spectator stands — The distance of travel to an exit in a Class 9b building used as an open spectator stand must be not more than 60 m. (f) Assembly buildings — In a Class 9b building other than a school or early childhood centre, the distance to one of the exits may be 60 m if— (i) the path of travel from the room concerned to that exit is through another area which is a corridor, hallway, lobby, ramp or other circulation space; and (ii) the room is smoke-separated from the circulation space by construction having an FRL of not less than 60/60/60 with every doorway in that construction protected by a tight fitting, self-closing, solid-core door not less than 35 mm thick; and (iii) the maximum distance of travel does not exceed 40 m within the room and 20 m from the doorway to the room through the circulation space to the exit.	residential LGF Retail General travel distance will require a review as current travel distance exceeds 20m to an exit

Cl. D1.6	Dimensions of exits and paths of travel to exits In a *required exit* or path of travel to an *exit*— (a) the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; and (b) the unobstructed width of each *exit* or path of travel to an *exit*, except for doorways, must be not less than 1m	Verification will be required within the Construction Documentation
Cl. D1.7	**Travel via fire-isolated exits** **(a)** A doorway from a room must not open directly into a stairway, passageway or ramp that is *required* to be fire-isolated unless it is from— (i) a *public corridor*, public lobby or the like; or (ii) a *sole-occupancy unit* occupying all of a *storey*; or (iii) a *sanitary compartment*, airlock or the like. **(b)** Each *fire-isolated stairway* or *fire-isolated ramp* must provide independent egress from each *storey* served and discharge directly, or by way of its own *fire-isolated passageway*— (i) to a road or *open space*; or (ii) to a point— (A) in a *storey* or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least $^{2}/_{3}$ of its perimeter; and (B) from which an unimpeded path of travel, not further than 20 m, is available to a road or *open space*; or (iii) into a covered area that— (A) adjoins a road or *open space*; and (B) is open for at least 1/3 of its perimeter; and	The west side Fire Isolated Stairs do not egress directly to open space Verification will be required within the Construction Documentation

	(C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and (D) provides an unimpeded path of travel from the point of discharge to the road or *open space* of not more than 6 m. **(c)** Where a path of travel from the point of discharge of a fire-isolated *exit* necessitates passing within 6 m of any part of an *external wall* of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have— (i) an FRL of not less than 60/60/60; and (ii) any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. **(d)** If more than 2 access doorways, not from a *sanitary compartment* or the like, open to a *required* fire-isolated *exit* in the same *storey*— (i) a smoke lobby in accordance with D2.6 must be provided; or (ii) the *exit* must be pressurised in accordance with *AS/NZS 1668.1*.	
Cl. D1.10	Discharge from exits (a) An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it. (b) If a required exit leads to an open space, the path of travel to the road must have an unobstructed width throughout of not less than— (i) the minimum width of the required exit; or (ii) 1 m, whichever is the greater. (c) If an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by— (i) a ramp or other incline having a gradient not steeper than 1:8 at any part, or not steeper than 1:14 if required by the Deemed-to-Satisfy Provisions of Part D3	Verification will be required within the Construction Documentation
Cl. D1.17	Access to lift pits	Verification will be required with the

	Access to lift pits must— (a) where the pit depth is not more than 3 m, be through the lowest landing doors; or (b) where the pit depth is more than 3 m, be provided through an access doorway complying with the following: (i) In lieu of D1.6, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with AS 1657. (iv) In lieu of D2.21, doors fitted to the doorway must be— (A) of the horizontal sliding or outwards opening hinged type; and (B) self-closing and self-locking from the outside; and (C) marked on the landing side with the letters not less than 35 mm high: "DANGER LIFTWELL − ENTRY OF UNAUTHORIZED PERSONS PROHIBITED − KEEP CLEAR AT ALL TIMES"	Construction Documentation
Cl. D2.2	Fire-isolated stairways and ramps A stairway or ramp (including any landings) that is *required* to be within a *fire-resisting shaft* must be constructed— (a) of *non-combustible* materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the *shaft*.	Verification will be required with the Construction Documentation
Cl. D2.4	Separation of rising and descending stair flights If a stairway serving as an exit is required to be fire-isolated— (a) there must be no direct connection between— (i) a flight rising from a storey below the lowest level of access to a road or open space; and (ii) a flight descending from a storey above that level; and (b) any construction that separates or is common to the rising and descending flights must be—	Verification will be required with the Construction Documentation

	(i) non-combustible; and (ii) smoke proof in accordance with Clause 2 of Specification C2.5.	
Cl. D2.7	Electrical ducts, meter or distribution boards, and communication boards or equipment, and electrical motors, must be separated from an exit or path of travel by smoke sealed non-combustible construction.	Verification will be required with the Construction Documentation
Cl. D2.8	Enclosure of space under stairs and ramps (a) Fire-isolated stairways and ramps — If the space below a *required fire-isolated stairway* or *fire-isolated ramp* is within the fire-isolated *shaft*, it must not be enclosed to form a cupboard or similar enclosed space. (b) Non fire-isolated stairways and ramps — The space below a *required* non *fire-isolated stairway* (including an external stairway) or non *fire-isolated ramp* must not be enclosed to form a cupboard or other enclosed space unless— (i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and (ii) any access doorway to the enclosed space is fitted with a *self-closing* –/60/30 fire door.	For reference
Cl. D2.13	Goings and risers (a) A stairway must have— (i) not more than 18 nor less than 2 risers in each *flight*; and (ii) except as permitted by (b) and (c), going (G), riser (R) and quantity (2R + G) in accordance with Table D2.13; and (iii) except as permitted by (b) and (c), goings and risers that are constant throughout in one *flight*; and (iv) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and (v) treads which have— (A) a surface with a slip-resistance classification not less than that	Verification will be required with the Construction Documentation

	listed in Table D2.14 when tested in accordance with AS 4586; or (B) a nosing strip with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; and (vi) treads of solid construction (not mesh or other perforated material) if the stairway is more than 10 m high or connects more than 3 *storeys*; and (viii) in the case of a *required* stairway, no winders in lieu of a landing. (b) In the case of a non- *required* stairway— (i) the stairway must have— (A) not more than 3 winders in lieu of a quarter landing; and (B) not more than 6 winders in lieu of a half landing; and (ii) the going of all straight treads must be constant throughout the same *flight*; and (iii) the going of all winders in lieu of a quarter or half landing may vary from the going of the straight treads within the same *flight* provided that the going of all such winders is constant. (c) Where a stairway discharges to a sloping public walkway or public road— (i) the riser (R) may be reduced to account for the slope of the walkway or road; and (ii) the quantity (2R+G) may vary at that location.	
Cl. D2.14	Landings In a stairway— (a) landings having a maximum gradient of 1:50 may be used in any building to limit the number of risers in each *flight* and each landing must—	Verification will be required with the Construction Documentation

	(i) be not less than 750 mm long, and where this involves a change in direction, the length is measured 500 mm from the inside edge of the landing; and (ii) have— (A) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; or (B) a strip at the edge of the landing with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586, where the edge leads to a *flight* below	
Cl. D2.15	Thresholds The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless— (a) in *patient care areas* in a Class 9a *health-care building*, the door sill is not more than 25 mm above the finished floor level to which the doorway opens; or	Thresholds at the building entry points must comply with AS 1428.1 – 2009. Verification will be required within the Construction Documentation.

Table D2.14 SLIP-RESISTANCE CLASSIFICATION

Application	Surface conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

	(b) in a Class 9c *aged care building*, a ramp is provided with a maximum gradient of 1:8 for a maximum height of 25 mm over the threshold; or (c) in a building *required* to be *accessible* by Part D3, the doorway— (i) opens to a road or *open space*; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or (d) in other cases— (i) the doorway opens to a road or *open space*, external stair landing or external balcony; and (ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.	
Cl. D2.16	Balustrades or other barriers (a) A continuous balustrade or other barrier must be provided along the side of any roof to which public access is provided, any stairway or ramp, any floor, corridor, hallway, balcony, deck, verandah, *mezzanine*, access bridge or the like and along the side of any delineated path of access to a building, if— (i) it is not bounded by a wall; and (ii) its level above the surface beneath, is more than— (A) 4 m where it is possible for a person to fall through an openable *window*; or (B) 1 m in any other case. (c) A balustrade or other barrier in— (i) *fire-isolated stairways*, *fire-isolated ramps* and other areas used primarily for emergency purposes, excluding external stairways and external ramps; and (ii) Class 7 (other than *car parks*) and Class 8 buildings and parts of buildings containing those classes, must comply with (g) and (h)(i). (d) A balustrade or other barrier in stairways and ramps, other than those covered in (c), must comply	Verification will be required with the Construction Documentation

with (g) and (h)(ii).

(e) A balustrade or other barrier along the side of a horizontal or near horizontal surface such as a—

(i) roof to which public access is provided and any path of access to a building; and

(ii) floor, corridor, hallway, balcony, verandah, *mezzanine*, access bridge or the like,

must comply with (g) and (h)(ii).

(g) The height of a balustrade or other barrier must be constructed in accordance with the following:

(i) The height is not less than 865 mm above the nosings of the stair treads or the floor of a ramp or other path of travel with a gradient not less than 1:20.

(ii) The height is not less than—

(A) 1 m above the floor of any access path, balcony, landing or the like where the path of travel has a gradient less than 1:20; or

(B) 865 mm above the floor of a landing to a stair or ramp where the balustrade or other barrier is provided along the inside edge of the landing and does not exceed a length of 500 mm; or

(C) 865 mm above the floor beneath an openable *window*.

(iii) A transition zone may be incorporated where the balustrade or other barrier height changes from 865 mm on the stair *flight* or ramp to 1 m at the landing.

(iv) For a balustrade or other barrier provided under (f), the height above the floor must be not less than—

(A) 1 m; or

(B) 700 mm and a horizontal projection extends not less than 1 m outwards from the top of the balustrade.

(h) Openings in a balustrade or other barrier must be constructed in accordance with the following:

(i) For a balustrade or other barrier provided under (c)—

(A) the space between balusters or the width of any opening (including any openable *window* or panel) must not be more than 300 mm; or

(B) where rails are used, a rail must be provided at a height of not more than 150 mm above the nosings of the stair treads or the floor of the landing, balcony or the like and the space between rails must not be more than 460 mm.

	(ii) For a balustrade or other barrier other than those provided under (c)— (A) any opening does not permit a 125 mm sphere to pass through it and for stairs, the space is measured above the nosings; and (B) for floors more than 4 m above the surface beneath, any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.	
Cl. D2.17	Handrails must be provided to at least one side of all stairways and ramps less than 2-metres in width, and to both sides where more than 2-metres in width, and must: – ❑ Be continuous between stair flight landings ❑ Have no obstruction that would cause a break in the hand hold ❑ Have one rail fixed at a height not less than 865-mm	Verification will be required with the Construction Documentation
Cl. D2.19	Doorways and doors (a) A doorway in a resident use area of a Class 9c building must not be fitted with— (i) a sliding fire door; or (ii) a sliding smoke door; or (iii) a revolving door; or (iv) a roller shutter door; or (v) a tilt-up door. (b) A doorway serving as a required exit or forming part of a required exit, or a doorway in a patient care area of a Class 9a health-care building— (i) must not be fitted with a revolving door; and (ii) must not be fitted with a roller shutter or tilt-up door unless— (A) it serves a Class 6, 7 or 8 building or part with a floor area not more than 200 m2; and (B) the doorway is the only required exit from the building or part; and (C) it is held in the open position while the building or part is lawfully occupied; and (iii) must not be fitted with a sliding door unless— (A) it leads directly to a road or open space; and (B) the door is able to be opened manually under a force of not more than 110 N; and (iv) if fitted with a door which is power-operated— (A) it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and	Verification will be required with the Construction Documentation

	(B) if it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. (c) A power-operated door in a path of travel to a required exit, except for a door in a patient care area of a Class 9a health-care building as provided in (b), must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source.	
Cl. D2.20	Swinging doors A swinging door in a required exit or forming part of a required exit— (a) must not encroach— (i) at any part of its swing by more than 500 mm on the required width (including any landings) of a required— (A) stairway; or (B) ramp; or (C) passageway, if it is likely to impede the path of travel of the people already using the exit; and (ii) when fully open, by more than 100 mm on the required width of the required exit, and the measurement of encroachment in each case is to include door handles or other furniture or attachments to the door; and (b) must swing in the direction of egress unless— (i) it serves a building or part with a floor area not more than 200 m2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or (ii) it serves a sanitary compartment or airlock (in which case it may swing in either direction); and (c) must not otherwise impede the path or direction of egress.	Verification will be required with the Construction Documentation
Cl. D2.21	All doors in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily provided with door hardware located between 900-1100-mm above floor level and be readily openable without a key from the side facing a person seeking egress by a single downward action.	Verification will be required with the Construction Documentation
Cl. D2.23	A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to the doors leading into the fire-isolated stair and smoke doors within the corridor, on the side facing a person seeking egress (in the case of smoke doors which swing both ways, on each side of the doors).	Verification will be required with the Construction Documentation

	The aforementioned sign must be in capital letters not less than 20-mm high in a colour contrasting with the background and state- "FIRE (SMOKE) DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN"	
Cl. D2.24	Protection of openable windows (a) A window opening must be provided with protection, if the floor below the window is 2 m or more above the surface beneath in— (i) a bedroom in a Class 2 or 3 building or Class 4 part of a building; or (ii) a Class 9b *early childhood centre*. (b) Where the lowest level of the window opening is less than 1.7 m above the floor, a window opening covered by (a) must comply with the following: (i) The openable portion of the window must be protected with— (A) a device capable of restricting the window opening; or (B) a screen with secure fittings. (ii) A device or screen *required* by (i) must— (A) not permit a 125 mm sphere to pass through the window opening or screen; and (B) resist an outward horizontal action of 250 N against the— (aa) window restrained by a device; or (bb) screen protecting the opening; and (C) have a child resistant release mechanism if the screen or device is	Verification will be required with the Construction Documentation

	able to be removed, unlocked or overridden. (c) A barrier with a height not less than 865 mm above the floor is *required* to an openable window— (i) in addition to window protection, when a child resistant release mechanism is *required* by (b)(ii)(C); and (ii) where the floor below the window is 4 m or more above the surface beneath if the window is not covered by (a). (d) A barrier covered by (c) must not— (i) permit a 125 mm sphere to pass through it; and (ii) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing.	
Cl. D3.1	General building access requirements Buildings and parts of buildings must be *accessible* as *required* by Table D3.1, unless exempted by D3.4. Class 5 - 8 To all areas normally occupied within the building Common areas Class 3 Units At Least 2 Units are required to be fully "Accessible" Common Areas ▪ From a pedestrian entrance *required* to be *accessible* to at least 1 floor containing *sole-occupancy units* and to the entrance doorway of each *sole-occupancy unit* located on that level. To and within not less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, *swimming pool*, common laundry, games room, TV room, individual shop, dining room, public viewing area, ticket purchasing	Access within the subject building is required to the doorway of every unit from the street and to the any communal spaces. Access is required to comply throughout the retail and assembly areas The following key elements require further detail within the Construction plans:- 1) Details of compliant floor surface materials will be required in accordance with Clause 7 of AS 1428.1;

	service, lunch room, lounge room, or the like. Where a ramp complying with AS 1428.1 or a passenger lift is installed— (a) to the entrance doorway of each *sole-occupancy unit*; and (b) to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp. Not more than 2 *required accessible sole-occupancy units* may be located adjacent to each other. Where more than 2 *accessible sole-occupancy units* are *required*, they must be representative of the range of rooms available.	2) Details of proposed signage in accordance with Clause 8 of AS 1428.1; 3) Details of the walkways From the street to each unit entry will be required in accordance with Clause 10 & 12 of AS 1428.1; 4) Details of the door dimensions, circulation and door approach dimensions door hardware and colour contrast at doors in accordance with Clause 13 of AS 1428.1 5) Details of the Accessible and Ambulant sanitary facilities in accordance with Clause 15 and 16 of AS 1428.1 - 2009
Cl. D3.2	Access to Buildings ▪ Must be provided by an AS 1428.1 complying path of travel from – (i) a entry point from the road at the allotment boundary to the entrance doorway. (ii) any disabled car parking space on the allotment. (iii) any other accessible building on the allotment. (iv) through the principal public entrance. ▪ Parts of buildings required to be accessible must comply with AS 1428.1	For reference
Cl. D3.3	Parts of buildings to be accessible In a building *required* to be *accessible*:	For reference

	(a) every ramp and stairway, except for ramps and stairways in areas exempted by clause D3.4, must comply with: (i) for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1; and (ii) for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1; (iii) for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1; (b) every passenger lift must comply with clause E3.6; (c) *access ways* must have: (i) passing spaces complying with AS 1428.1 at maximum 20 m intervals on those parts of an *access way* where a direct line of sight is not available; and (ii) turning spaces complying with AS 1428.1: (A) within 2 m of the end of *access ways* where it is not possible to continue travelling along the *access way*; and (B) at maximum 20 m intervals along the *access way*; (d) an intersection of *access ways* satisfies the spatial requirements for a passing and turning space; (e) a passing space may serve as a turning space; (f) a ramp complying with AS 1428.1 or a passenger lift need not be provided to serve a *storey* or level other than the entrance *storey* in a Class 5, 6, 7b or 8 building- (i) containing not more than 3 *storeys*; and (ii) with a *floor area* for each *storey*, excluding the entrance *storey*, of not more than 200 m2.	
Cl. D3.5	Accessible carparking Accessible carparking spaces— (a) subject to (b), must be provided in accordance with Table D3.5 in— (i) a Class 7a building required to be accessible; and (ii) a carparking area on the same allotment as a building required to be accessible; and (b) need not be provided in a Class 7a building or a carparking area where a parking service is	Accessible car parking has not been detailed

provided and direct access to any of the carparking spaces is not available to the public; and
(c) subject to (d), must comply with AS/NZS 2890.6; and
(d) need not be identified with signage where there is a total of not more than 5 carparking spaces, so as to restrict the use of the carparking space only for people with a disability.

Table D3.5 Carparking spaces for people with a disability

Class of building to which the *carpark* or carparking area is associated	Number of *accessible* carparking spaces *required*
Class 1b and 3	
(a) Boarding house, guest house, hostel, lodging house, backpackers accommodation, or the residential part of a hotel or motel.	To be calculated by multiplying the total number of carparking spaces by the percentage of— (i) *accessible sole-occupancy units* to the total number of *sole-occupancy units*; or (ii) *accessible* bedrooms to the total number of bedrooms; and the calculated number is to be taken to the next whole figure.
(b) Residential part of a *school*, accommodation for the aged, disabled or children, residential part of a *health-care building* which accommodates members of staff or the residential part of a *detention centre*.	1 space for every 100 carparking spaces or part thereof.
Class 5, 7, 8 or 9c	1 space for every 100 carparking spaces or part thereof.
Class 6	
(a) Up to 1000 carparking spaces; and	1 space for every 50 carparking spaces or part thereof.
(b) for each additional 100 carparking spaces or part thereof in excess of 1000 carparking spaces.	1 space.
Class 9a	
(a) Hospital (non-outpatient area)	1 space for every 100 carparking spaces or part thereof.
(b)Hospital (outpatient area)—	
(i) up to 1000 carparking spaces; and	1 space for every 50 carparking spaces or part thereof.
(ii) for each additional 100 carparking spaces or part thereof in excess of 1000 carparking spaces.	1 space.
(c) Nursing home	1 space for every 100 carparking spaces or part thereof.
(d) Clinic or day surgery not forming part of a hospital.	1 space for every 50 carparking spaces or part thereof.
Class 9b	
(a) *School*	1 space for every 100 carparking spaces or part thereof.
(b) Other *assembly building*—	

Cl. D3.6	Signage In a building *required* to be *accessible*—	Verification will be required with the Construction Documentation

(a) braille and tactile signage complying with Specification D3.6 must—

(i) incorporate the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 and identify each—

(A) sanitary facility, except a sanitary facility within a *sole-occupancy unit* in a Class 1b or Class 3 building; and

(B) space with a hearing augmentation system; and

(ii) identify each door *required* by E4.5 to be provided with an *exit* sign and state—

(A) "**Exit**"; and

(B) "**Level**" followed by the floor level number; and

(b) signage including the international symbol for deafness in accordance with AS 1428.1 must be provided within a room containing a hearing augmentation system identifying—

(i) the type of hearing augmentation; and

(ii) the area covered within the room; and

(iii) if receivers are being used and where the receivers can be obtained; and

(c) signage in accordance with AS 1428.1 must be provided for *accessible* unisex sanitary facilities to identify if the facility is suitable for left or right handed use; and

(d) signage to identify an ambulant *accessible* sanitary facility in accordance with AS 1428.1 must be located on the door of the facility; and

(e) where a pedestrian entrance is not *accessible*, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest *accessible* pedestrian entrance; and

(f) where a bank of sanitary facilities is not provided with an *accessible* unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not *accessible*, to direct a person to the location of the nearest *accessible* unisex sanitary facility.

Cl. D3.8	Tactile indicators (a) For a building *required* to be *accessible*, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching— (i) a stairway, other than a *fire-isolated stairway*; and (ii) an escalator; and (iii) a passenger conveyor or moving walk; and (iv) a ramp other than a *fire-isolated ramp*, step ramp, kerb ramp or *swimming pool* ramp; and (v) in the absence of a suitable barrier— (A) an overhead obstruction less than 2 m above floor level, other than a doorway; and (B) an *accessway* meeting a vehicular way adjacent to any pedestrian entrance to a building, excluding a pedestrian entrance serving an area referred to in D3.4, if there is no kerb or kerb ramp at that point, except for areas exempted by D3.4. (b) Tactile ground surface indicators *required* by (a) must comply with sections 1 and 2 of AS/NZS 1428.4.1	Verification will be required with the Construction Documentation
Cl. D3.11	Ramps On an accessway— (a) a series of connected ramps must not have a combined vertical rise of more than 3.6 m; and (b) a landing for a step ramp must not overlap a landing for another step ramp or ramp.	Verification will be required with the Construction Documentation
Cl. D3.12	Glazing on an accessway On an *accessway*, where there is no chair rail, handrail or transom, all frameless or fully	Verification will be required with the Construction Documentation

	glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1.	

4.5 SECTION E – SERVICES AND EQUIPMENT

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. E1.3	Fire Hydrants ▪ Be provided to a building more than 500 m² and where fire brigades can attend. ▪ Be AS 2419.1 installed, meet the operational requirements of the Brigades for flows and pressures, and when internal, serve only the storey on which they are located except a – (i) Class 2, 3, 4 sole-occupancy unit may be served by a single hydrant at the level of egress from that unit (ii) Class 5, 6, 7, 8, 9 sole-occupancy unit 2 or less storeys may be served by a single hydrant at the level of egress from that unit provided the hydrant can cover the whole unit ▪ On-site pump sets provided to achieve the AS 2419.1 performance requirements must comprise – (i) two pumps, at least one driven by a compression ignition engine or electric motor supplied from an emergency power generator; or (ii) two electric motor pumps connected to independent power sources; or (iii) if connected to a reticulated water supply and in a building not greater than 25 m, one pump driven by – (a) a compression ignition engine; or (b) an electric motor supplied from an emergency power generator; or (c) an electric motor connected to two independent power sources through an automatic change-over facility ▪ Internal fixed on-site pump sets must be in a clearly indicated room having direct egress to a road or open space and, if the building is not sprinkled, separated by construction having an FRL of that required for a fire wall for the classification occupied. ▪ External fixed on-site pump sets are to be in clearly indicated weatherproof enclosures with direct egress to a road or open space, and if within 6 m of the building – (i) each wall of the enclosure exposed to the building; or (ii) that part of the building external wall 2 m each side and 3 m above the enclosure; or (iii) a wall between the building and enclosure extending 2 m each side and 3 m above	Verification will be required with the Construction Documentation

	the enclosure, has an FRL of that required for a fire wall for the classification occupied Where the supply system is from a static source, suitable connections and vehicular access must permit Brigade personnel to draw water, and a fire-service booster connection is provided adjacent to allow boosting of the system	
Cl. E1.4	Fire hose reels (a) E1.4 does not apply to— (i) a Class 2 or 3 building or Class 4 part of a building; or (ii) a Class 8 electricity network substation; or (iii) a Class 9c building; or (iv) classrooms and associated corridors in a primary or secondary school. (b) A fire hose reel system must be provided— (i) to serve the whole building where one or more internal fire hydrants are installed; or (ii) where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m2 (c) The fire hose reel system must— (i) have fire hose reels installed in accordance with AS 2441; and (ii) provide fire hose reels to serve only the storey at which they are located, except a sole-occupancy unit of not more than 2 storeys in a Class 5, 6, 7, 8 or 9 building may be served by a single fire hose reel located at the level of egress from that sole-occupancy unit provided the fire hose reel can provide coverage to the whole of the sole-occupancy unit. (d) Fire hose reels must be located internally, externally or in combination, to achieve the system coverage specified in AS 2441. (e) In achieving system coverage, one or a combination of the following criteria for individual internally located fire hose reels must be met in determining the layout of any fire hose reel system: (i) Fire hose reels must be located adjacent to an internal fire hydrant (other than one within a fire-isolated exit), except that a fire hose reel need not be located adjacent to every fire hydrant, provided system coverage can be achieved. (ii) Fire hose reels must be located within 4 m of an exit, except that a fire hose reel need not be located adjacent to every exit, provided system coverage can be achieved. (iii) Where system coverage is not achieved by compliance with (i) and (ii), additional fire hose	Fire Hose Reels are required to the car park, loading/garbage, retail and gym areas Verification will be required with the Construction Documentation

	reels may be located in paths of travel to an exit to achieve the required coverage. (f) Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except— (i) doorways in walls referred to in C2.5(a)(v) in a Class 9a building and C2.5(b)(iv) in a Class 9c building, separating ancillary use areas of high potential fire hazard; and (ii) doorways in walls referred to in C2.12 or C2.13 separating equipment or electrical supply systems; and (iii) doorway openings to shafts referred to in C3.13. (g) Where the normal water supply cannot achieve the flow and pressures required by AS 2441, or is unreliable— (i) a pump; or (ii) water storage facility; or (iii) both a pump and water storage facility, must be installed to provide the minimum flow and pressures required by clause 6.1 of AS 2441.	
Cl. E1.5	Sprinklers A sprinkler system must— (a) be installed in a building or part of a building when required by Table E1.5; and (b) comply with Specification E1.5 and Specification E1.5a as applicable. **Table E1.5 Requirements for sprinklers**	Verification will be required with the Construction Documentation

Occupancy	Where sprinklers are required
All classes— (a) including an *open-deck carpark* within a multi-classified building; but (b) excluding— (i) an *open-deck carpark* being a separate building; and (ii) a Class 8 *electricity network substation*, with a *floor area* not more than 200 m^2, located within a multi-classified building.	Throughout the whole building if any part of the building has an *effective height* of more than 25 m.
Class 2 or 3 building (excluding a building used as a *residential care building*) and any other class of building (excluding a building used as a *residential care building*) containing a Class 2 or 3 part.	Throughout the whole building, including any part of another class, if any part of the building has a *rise in storeys* of 4 or more and an *effective height* of not more than 25 m.
Class 3 building used as a *residential care building*	Throughout the building and in any *fire compartment* containing a Class 3 part used for residential care.
Class 6	In *fire compartments* where either of the following apply: (a) A *floor area* of more than 3500 m^2. (b) A volume more than 21000 m^3.
Class 7a, other than *open-deck carparks*	In *fire compartments* where more than 40 vehicles are accommodated.

Cl. E1.6	Portable fire extinguishers (a) Portable fire extinguishers must be— (i) provided as listed in Table E1.6; and (ii) for a Class 2 or 3 building or Class 4 part of a building, provided— (A) to serve the whole Class 2 or 3 building or Class 4 part of a building where one or more internal fire hydrants are installed; or (B) where internal fire hydrants are not installed, to serve any *fire compartment* with a *floor area* greater than 500 m^2, and for the purposes of this clause, a *sole-occupancy unit* in a Class 2 or 3 building or Class 4 part of a building is considered to be a *fire compartment*; and (iii) subject to (b), selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444. (b) Portable fire extinguishers provided in a Class 2 or 3 building or Class 4 part of a building must be— (i) an ABE type fire extinguisher; and (ii) a minimum size of 2.5 kg; and (iii) distributed outside a *sole-occupancy unit*— (A) to serve only the *storey* at which they are located; and (B) so that the travel distance from the entrance doorway of any *sole-occupancy unit* to the nearest fire extinguisher is not more than 10 m.	Verification will be required with the Construction Documentation
Cl. E2.2a	General requirements (a) A building must comply with (b), (c), (d) and— (i) Table E2.2a as applicable to Class 2 to 9 buildings such that each separate part complies with the relevant provisions for the classification; and (ii) Table E2.2b as applicable to Class 6 and 9b buildings such that each separate part	Verification will be required with the Construction Documentation

complies with the relevant provisions for the classification.

(b) An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a or Table E2.2b and which recycles air from one *fire compartment* to another *fire compartment* or operates in a manner that may unduly contribute to the spread of smoke from one *fire compartment* to another *fire compartment* must—

(i) be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1; or

(ii)

(A) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the *fire compartments* served; and

(B) be arranged such that the air-handling system is shut down and the smoke dampers are activated to close *automatically* by smoke detectors complying with clause 4.10 of AS/NZS 1668.1; and

for the purposes of this provision, each *sole-occupancy unit* in a Class 2 or 3 building is treated as a separate *fire compartment*.

(c) Miscellaneous air-handling systems covered by Sections 5 and 11 of AS/NZS 1668.1 serving more than one *fire compartment* (other than a *carpark* ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard.

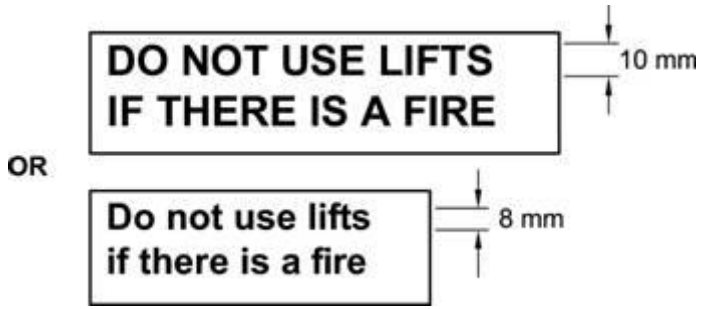
(d) A smoke detection system must be installed in accordance with Clause 5 of Specification E2.2a to operate AS/NZS 1668.1 systems that are provided for zone smoke control and *automatic* air pressurisation for fire-isolated *exits*.

CLASS 2 AND 3 BUILDINGS AND CLASS 4 PART OF A BUILDING

A Class 2 and 3 building or part of a building and Class 4 part of a building must be provided with an *automatic* smoke detection and alarm system complying with Specification E2.2a

Class 6, 7b, 8 or 9b building (other than a *school*) or part of a building having a *rise in storeys* of more than 2 a zone smoke control system in accordance with AS/NZS 1668.1, if the

	building has more than one *fire compartment*; or an *automatic* smoke detection and alarm system complying with Specification E2.2a; or a sprinkler system complying with Specification E1.5 **Class 5, 6, 7b, 8 and 9b buildings** In a— (a) Class 5 or 9b school building or part of a building having a rise in storeys of more than 3; or (b) Class 6, 7b, 8 or 9b building (other than a school) or part of a building having a rise in storeys of more than 2; or (c) building having a rise in storeys of more than 2 and containing— (i) a Class 5 or 9b school part; and (ii) a Class 6, 7b, 8 or 9b (other than a school) part, the building must be provided with— (d) in each required fire-isolated stairway, including any associated fire-isolated passageway or fire-isolated ramp, an automatic air pressurisation system for fire-isolated exits in accordance with AS 1668.1; or (e) a zone pressurisation system between vertically separated fire compartments in accordance with AS 1668.1, if the building has more than one fire compartment; or (f) an automatic smoke detection and alarm system complying with Specification E2.2a; or (g) a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5. Note: The requirement for pressurisation 'between vertically separated fire compartments' refers to fire compartments above and below each other, and does not apply to fire compartments within the same storey.	
Cl. E3.1	Lift installations An *electric passenger lift* installation and an *electrohydraulic passenger lift* installation must comply with Specification E3.1.	Verification will be required with the Construction Documentation
Cl. E3.2	Stretcher facility in lifts (a) A stretcher facility in accordance with (b) must be provided— (i) in at least one emergency lift required by E3.4; or	Verification will be required with the Construction Documentation

	(ii) where an emergency lift is not required, if passenger lifts are installed to serve any storey above an effective height of 12 m, in at least one of those lifts to serve each floor served by the lifts. (b) A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level.	
Cl. E3.3	Warning against use of lifts in fire A warning sign must— (a) be displayed where it can be readily seen— (i) near every call button for a passenger lift or group of lifts throughout a building; except (ii) a small lift such as a dumb-waiter or the like that is for the transport of goods only; and (b) comply with the details and dimensions of Figure E3.3 and consist of— (i) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or (ii) letters incised or inlaid directly into the surface of the material forming the wall. 	Verification will be required with the Construction Documentation
Cl. E3.6	Passenger lifts In an *accessible* building, every passenger lift must— (a) be one of the types identified in Table E3.6a, subject to the limitations on use specified in the Table; and	Verification will be required with the Construction Documentation

(b) have *accessible* features in accordance with Table E3.6b; and

(c) not rely on a constant pressure device for its operation if the lift car is fully enclosed.

Table E3.6a LIMITATIONS ON USE OF TYPES OF PASSENGER LIFTS

Lift type	Limitations on use	
Electric passenger lift	No limitation.	
Electrohydraulic passenger lift	No limitation.	
Stairway platform lift	Must not—	
	(a)	be used to serve a space in a building accommodating more than 100 persons calculated according to D1.13; or
	(b)	be used in a high traffic public use area such as a theatre, cinema, auditorium, transport interchange, shopping centre or the like; or
	(c)	be used where it is possible to install another type of passenger lift; or
	(d)	connect more than 2 *storeys*; or
	(e)	where more than 1 stairway lift is installed, serve more than 2 consecutive *storeys*; or
	(f)	when in the folded position, encroach on the minimum width of a stairway *required* by D1.6.
Inclined lift	No limitation.	
Low-rise platform lift	Must not travel more than 1000 mm.	
Low-rise, low-speed constant pressure lift	Must not—	
	(a)	for an enclosed type, travel more than 4 m; or
	(b)	for an unenclosed type, travel more than 2 m; or
	(c)	be used in high traffic public use areas in buildings such as a theatre, cinema, auditorium, transport interchange, shopping complex or the like.
Small sized, low-speed automatic lift	Must not travel more than 12 m.	

Table E3.6b APPLICATION OF FEATURES TO PASSENGER LIFTS

Feature	Application

Handrail complying with the provisions for a mandatory handrail in AS 1735.12	All lifts except—	
	(a)	a *stairway platform lift*; and
	(b)	a *low-rise platform lift*.
Lift floor dimension of not less than 1400 mm wide x 1600 mm deep	All lifts which travel more than 12 m.	
Lift floor dimensions of not less than 1100 mm wide x 1400 mm deep	All lifts which travel not more than 12 m except a *stairway platform lift*.	
Lift floor dimensions of not less than 810 mm wide x 1200 mm deep	A *stairway platform lift*	
Minimum clear door opening complying with AS 1735.12	All lifts except a *stairway platform lift*.	
Passenger protection system complying with AS 1735.12	All lifts with a power operated door.	
Lift landing doors at the upper landing	All lifts except a *stairway platform lift*.	
Lift car and landing control buttons complying with AS 1735.12	All lifts except—	
	(a)	a *stairway platform lift*; and
	(b)	a *low-rise platform lift*.
Lighting in accordance with AS 1735.12	All enclosed lift cars.	
(a) Automatic audible information within the lift car to identify the level each time the car stops; and	All lifts serving more than 2 levels.	
(b) audible and visual indication at each lift landing to indicate the arrival of the lift car; and		
(c) audible information and audible indication *required* by (a) and (b) is to be provided in a range of between 20–80 dB(A) at a maximum frequency of 1 500 Hz		
Emergency hands-free communication, including a button that alerts a call centre of a problem and a light to signal that the call has been received	All lifts except a *stairway platform lift*.	

Cl. E3.7	Fire service controls Where lifts serve any storey above an effective height of 12m, the following must be provided: (a) A fire service recall control switch complying with E3.9 for— (i) a group of lifts; or (ii) a single lift not in a group that serves the storey. (b) A lift car fire service drive control switch complying with E3.10 for every lift.	Verification will be required with the Construction Documentation
Cl. E3.9	Fire service recall control switch (a) Each group of lifts must be provided with one fire service recall control switch required by E3.7 that activates the fire service recall operation at	Verification will be required with the Construction Documentation

	(e). The switch must— (i) be located at the landing nominated by the appropriate authority; and (ii) be labelled "FIRE SERVICE" in indelible white lettering on a red background; and (iii) have two positions with an "OFF" and an "ON" position identified; and (iv) be operable only by the use of a key that is removable in either the "OFF" position or the "ON" position. (b) Adhesive labels must not be used for compliance with (a)(ii) and (a)(iii). (c) The key in (a)(iv) must be able to turn all fire service recall control switches in the building and must have a different key combination to other keys used for lifts in the building. (d) The fire service recall operation must be activated by— (i) switching the fire service recall control switch in (a) to "ON"; or (ii) a signal from a fire management system approved by the appropriate authority. (e) The activation of the fire service recall operation at (d) must— (i) cancel all registered car and landing calls; and (ii) inactivate all door reopening devices that may be affected by smoke; and (iii) ensure lift cars travelling toward the nominated floor continue to the nominated floor without stopping; and (iv) ensure lift cars travelling away from the nominated floor stop at or before the next available floor without opening the doors (either automatically or by the door open button), reverse direction and travel without stopping to the nominated floor; and (v) for lifts stopped at a floor other than the nominated floor, close the doors and travel without stopping to the nominated floor; and (vi) ensure that lifts stay at the nominated floor with doors open; and (vii) permit all lifts to return to normal service if the fire service recall control switch at (a) is switched to the "OFF" position during or after the fire service recall operation. (f) The requirements of (e) do not apply to lifts on inspection service or when the lift car fire service control switch required by E3.10 is in the "ON" position. (g) Lifts having manual controls must signal an alert to the lift for the lift to return to the nominated floor containing the recall switch that activated the signal.	

Cl. E3.10	E3.10 Lift car fire service drive control switch (a) The lift car fire service drive control switch required by E3.7 must be activated from within the lift car. The switch must— (i) be located between 600 mm and 1500 mm above the lift car floor; and (ii) be labelled "FIRE SERVICE" by indelible white lettering on a red background; and (iii) have two positions with an "OFF" and an "ON" position identified; and (iv) operate only by the use of a key that is removable in either the "OFF" position or the "ON" position. (b) Adhesive labels must not be used for compliance with (a)(ii) or (a)(iii). (c) When the lift car fire service drive control switch at (a) is turned to the "ON" position, the lift must— (i) not respond to the fire service recall control switch; and (ii) cancel all registered lift car and landing calls; and (iii) override all lift car call access control systems; and (iv) inactivate all door reopening devices that may be affected by smoke; and (v) allow the registration of lift car call by lift car call buttons, however the lift doors must not close in response to the registration of lift car calls; and (vi) activate door closing by constant pressure being applied on the "door close" button unless the button is released before the doors are fully closed, in which case the doors must reopen and any registered lift car calls must be cancelled; and (vii) when the doors are closed, move the lift in response to registered lift car calls while allowing additional lift car calls to also be registered; and (viii) travel to the first possible floor in response to registered lift car calls and cancel all registered lift car calls after the lift stops; and (ix) ensure doors do not open automatically, rather by constant pressure being applied on the "door open" button unless the button is released before the doors are fully open, in which case the doors must re-close; and the requirements of (c)(i) to (c)(ix) do not apply to a lift operating on inspection service. (d) A multi-deck lift installation must have systems in place that— (i) are able to communicate to the fire officer that the fire service drive control switch will not operate until all decks have been cleared of passengers; and (ii) ensure there is an appropriate method of clearing all deck landings of passengers; and	Verification will be required with the Construction Documentation

	(iii) maintain all doors to deck landings not containing the fire service control switch closed and inoperative while the lift is on fire service drive control.	
Cl. E4.2	AS 2293.1 compliant emergency lighting must be provided throughout the car parking, retail and residential common areas and stairwells of the building.	Verification will be required with the Construction Documentation
Cl. E4.4	Refer Clause E4.2 above for emergency lighting requirements	Verification will be required with the Construction Documentation
Cl. E4.5 **Cl. E4.8**	AS 2293.1 compliant Exit Signage is required above each Exit (door or stair) A concession applies within the Sole Occupancy Units	Verification will be required with the Construction Documentation
Cl. E4.6 **Cl. E4.8**	AS 2293.1 compliant Directional signage must be provided where Exit signage is not directly visible A concession applies within the Sole Occupancy Units	Verification will be required with the Construction Documentation

4.6 SECTION F – HEALTH AND AMENITY

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. F1.1	Stormwater drainage must be AS/NZS 3500.3.2 compliant.	Verification will be required with the Construction Documentation
Cl. F1.5	Metal roof sheeting must be installed in accordance with AS 1562.1	Verification will be required with the Construction Documentation
Cl. F1.7	Wet areas must be water proofed in accordance with AS 3740	Verification will be required with the Construction Documentation
Cl. F1.10	Damp-proofing of floors on the ground If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870, except damp-proofing need not be provided if— (a) weatherproofing is not *required*; or (b) the floor is the base of a stair, lift or similar *shaft* which is adequately drained by gravitation or mechanical means.	Verification will be required with the Construction Documentation
Cl. F1.11	The floor of each bathroom and laundry must be graded to permit drainage to a floor waste.	Verification will be required with the Construction Documentation
Cl. F1.13	**Glazed assemblies** (a) Subject to (b) and (c), the following glazed assemblies in an *external wall*, must comply with AS 2047 requirements for resistance to water penetration: (i) Windows. (ii) Sliding doors with a frame. (iii) Adjustable louvres. (iv) Shopfronts.	Verification will be required with the Construction Documentation

	(v) Window walls with one-piece framing. (b) The following buildings need not comply with (a): (i) A Class 7 or 8 building where in the particular case there is no necessity for compliance. (ii) A garage, tool shed, *sanitary compartment*, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, *sanitary compartment* or the like contributes to the weatherproofing of the other part of the building. (iii) An *open spectator stand* or *open-deck carpark*. (c) The following glazed assemblies need not comply with (a): (i) All glazed assemblies not in an *external wall*. (ii) Hinged doors, including French doors and bi-fold doors. (iii) Revolving doors. (iv) Fixed louvres. (v) Skylights, roof lights and windows in other than the vertical plane. (vi) Sliding doors without a frame. (vii) Shopfront doors. (viii) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047. (ix) Second-hand windows, re-used windows, recycled windows and replacement windows. (x) Heritage windows.	
Cl. F2.1	Facilities in residential buildings Sanitary and other facilities for Class 2, 3 and 9c buildings and for Class 4 parts of buildings must be provided in accordance with Table F2.1.	Verification will be required with the Construction Documentation

	Within each sole-occupancy unit, provide— (a) a kitchen sink and facilities for the preparation and cooking of food; and (b) a bath or shower; and (c) a closet pan; and (d) a washbasin. Laundry facilities, provide either— (a) in each sole-occupancy unit— (i) clothes washing facilities, comprising at least one washtub and space for a washing machine; and (ii) clothes drying facilities comprising— (A) clothes line or hoist with not less than 7.5 m of line; or (B) space for one heat-operated drying cabinet or appliance in the same room as the clothes washing facilities; or Note: A kitchen sink or washbasin must not be counted as a laundry washtub. (b) a separate laundry for each 4 sole-occupancy units, or part thereof— (i) clothes washing facilities comprising at least one washtub and one washing machine; and (ii) clothes drying facilities comprising— (A) clothes line or hoist with not less than 7.5 m of line per sole-occupancy unit; or (B) one heat-operated drying cabinet or appliance for each 4 sole-occupancy units. Facilities for employees— If the building contains more than 10 sole-occupancy units, or a group of Class 2 buildings on the one allotment contains, in total, more than 10 sole-occupancy units — provide a closet pan and washbasin in a compartment or room at or near ground level and accessible to employees without entering a sole-occupancy unit. Note: A reference to "employees" includes owners, managers, workers and contractors.	
Cl. F2.3	Facilities in Class 3 to 9 buildings (a) Except where permitted by (b), (c), (f), F2.4(a), F2.4(b) and F2.9(b), separate sanitary facilities for males and females must be provided for Class 3, 5, 6, 7, 8 or 9 buildings in accordance with Table F2.3. (b) If not more than 10 people are employed, a unisex facility may be provided instead of separate facilities for each sex.	Verification will be required with the Construction Documentation

	(c) If the majority of employees are of one sex, not more than 2 employees of the other sex may share toilet facilities if the facilities are separated by means of walls, partitions and doors to afford privacy. (d) Employees and the public may share the same facilities in a Class 6 and 9b building (other than a school or early childhood centre) provided the number of facilities provided is not less than the total number of facilities required for employees plus those required for the public. (e) Adequate means of disposal of sanitary products must be provided in sanitary facilities for use by females. (f) Separate sanitary facilities for males and females need not be provided for patients in a ward area of a Class 9a building.	
Cl. F2.4	Accessible sanitary facilities In a building *required* to be *accessible*— (a) *accessible* unisex *sanitary compartments* must be provided in *accessible* parts of the building in accordance with Table F2.4(a); and (b) *accessible* unisex showers must be provided in accordance with Table F2.4(b); and (c) at each bank of toilets where there is one or more toilets in addition to an *accessible* unisex *sanitary compartment* at that bank of toilets, a *sanitary compartment* suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females; and (d) an *accessible* unisex *sanitary compartment* must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary towels; and (e) the circulation spaces, fixtures and fittings of all *accessible* sanitary facilities provided in accordance with Table F2.4(a) and Table F2.4(b) must comply with the requirements of AS 1428.1; and (f) an *accessible* unisex sanitary facility must be located so that it can be entered without	Verification will be required with the Construction Documentation

	crossing an area reserved for one sex only; and (g) where two or more of each type of *accessible* unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible; and (h) where male sanitary facilities are provided at a separate location to female sanitary facilities, *accessible* unisex sanitary facilities are only *required* at one of those locations; and (i) an *accessible* unisex *sanitary compartment* or an *accessible* unisex shower need not be provided on a *storey* or level that is not *required* by D3.3(f) to be provided with a passenger lift or ramp complying with AS 1428.1.	
Cl. F2.5	Construction of sanitary compartments (b) The door to a fully enclosed *sanitary compartment* must— (i) open outwards; or (ii) slide; or (iii) be readily removable from the outside of the *sanitary compartment*, unless there is a clear space of at least 1.2 m, measured in accordance with Figure F2.5, between the closet pan within the *sanitary compartment* and the doorway.	Verification will be required with the Construction Documentation
Cl. F3.1	Height of rooms and other spaces The ceiling height must be not less than— (a) in a Class 2 or 3 building or Class 4 part of a building— (i) a kitchen, laundry, or the like — 2.1 m; and (ii) a corridor, passageway or the like — 2.1 m; and (iii) a *habitable room* excluding a kitchen — 2.4 m; and	Verification will be required with the Construction Documentation

	(iv) in a room or space with a sloping ceiling or projections below the ceiling line within— (A) a *habitable room*— (aa) in an attic — a height of not less than 2.2 m for not less than two-thirds of the floor area of the room or space; and (bb) in other rooms — a height of not less than 2.4 m for not less than two-thirds of the floor area of the room or space; and (B) a non- *habitable room* — a height of not less than 2.1 m for not less than two-thirds of the floor area of the room or space; and when calculating the floor area of a room or space, any part that has a ceiling height of less than 1.5 m is not included	
Cl. F4.4	Artificial lighting must be AS 1680 compliant.	Verification will be required with the Construction Documentation
Cl. F4.5	Ventilation to rooms and spaces other than habitable rooms within the Residential Sole Occupancy Units must be either natural or AS 1668.2 compliant mechanical ventilation.	Verification will be required with the Construction Documentation
Cl. F4.8	Restriction on position of water closets and urinals A room containing a closet pan or urinal must not open directly into— (a) a kitchen or pantry	Verification will be required with the Construction Documentation
Cl. F4.9	Airlocks If a room containing a closet pan or urinal is prohibited under F4.8 from opening directly to another room— (a) in a *sole-occupancy unit* in a Class 2 or 3 building or Class 4 part of a building—	Verification will be required with the Construction Documentation

	(i) access must be by an airlock, hallway or other room; or (ii) the room containing the closet pan or urinal must be provided with mechanical exhaust ventilation	
Cl. F4.11	Carparks Every *storey* of a *carpark*, except an *open-deck carpark*, must have— (a) a system of mechanical ventilation complying with AS 1668.2; or (b) a system of natural ventilation complying with Section 4 of AS 1668.4.	Verification will be required with the Construction Documentation
Cl. F4.12	Kitchen local exhaust ventilation A commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and AS 1668.2 where— (a) any cooking apparatus has— (i) a total maximum electrical power input exceeding 8 kW; or (ii) a total gas power input exceeding 29 MJ/h; or (b) the total maximum power input to more than one apparatus exceeds— (i) 0.5 kW electrical power; or (ii) 1.8 MJ/hour gas, 2 per m of floor area of the room or enclosure.	Verification will be required with the Construction Documentation
Cl. F5.3	The floor of the residential units must have an impact sound insulation rating: ❑ having the required value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w}+C_1$) determined in accordance with AS/IOSO 717.2 using results from laboratory measurements; or ❑ complying with Specification F5.2 and walls with an impact sound insulation rating must be discontinuous construction.	Verification will be required with the Construction Documentation
Cl. F5.4	The floors of the residential units need have an $R_w + C_r$ (airborne) of not less than 50 and an $L_{n,w}+C_1$ (impact) not more than 62 .	Verification will be required with the Construction Documentation
Cl. F5.5	Sound insulation rating of walls (a) A wall in a Class 2 or 3 building must—	Verification will be required with the Construction Documentation

	(i) have an $R_w + C_{tr}$ (airborne) not less than 50, if it separates *sole-occupancy units*; and (ii) have an R_w (airborne) not less than 50, if it separates a *sole-occupancy unit* from a plant room, lift *shaft*, stairway, *public corridor*, public lobby or the like, or parts of a different classification; and (iii) comply with F5.3(b) if it separates— (A) a bathroom, *sanitary compartment*, laundry or kitchen in one *sole-occupancy unit* from a *habitable room* (other than a kitchen) in an adjoining unit; or (B) a *sole-occupancy unit* from a plant room or lift *shaft*.	
Cl. F5.6	Ducts, soil waste or water supply pipes that serve or pass through more than one residential unit must be separated by construction with an R_w (airborne) of not less than:– ❑ 40 where adjacent to a habitable room (other than a kitchen); ❑ 25 if the room is a kitchen or non-habitable room.	Verification will be required with the Construction Documentation
Cl. F5.7	Flexible coupling must be used at the point of connection of service pipes and circulating pumps.	Verification will be required with the Construction Documentation

Kieran Tobin
Senior Consultant,
Grad Dip Building Surveying UWS.