



BLACKETT
MAGUIRE+
GOLDSMITH

BCA ASSESSMENT REPORT

PROJECT: 242-244 Beecroft Road, Epping
PREPARED FOR: Beecroft Property Development

Date: 29 June 2022
Reference: 210552



Address

Suite 2.01,
22-36 Mountain St
Ultimo NSW 2007

Contact

Ph: 02 9211 7777
Fax: 02 9211 7774



EXECUTIVE SUMMARY

The following comprises a summary of the key compliance issues identified under the clause-by-clause assessment in APPENDIX 1 of this report that will be addressed prior to the BCA Certification for the project.

A. MATTERS REQUIRING REDESIGN OR ADDITIONAL INFORMATION AT THE CC STAGE:

BCA (DtS) CLAUSE		DESCRIPTION
1.	D1.4 / D1.5	The exits and any intertenancy walls are to be shown within the Class 5 (office) and Class 6 (retail) spaces located on the Ground Level to verify compliance. Adjustment to carparking and storage cage set out is necessary in some instances to ensure that travel distances do not exceed what is justifiably by a fire engineered Performance Solution.
2.	D1.6	Adjustments within the carparking levels are necessary where parking spaces, storage cages or structural elements obstruct the required 1m wide path of travel
3.	D1.7	Each of the fire isolated exits necessitate occupants to pass within 6m of the external wall of the building and are required to be treated to the degree necessary in lieu of Clause C3.4.
4.	D1.8	Fire rated bounding construction is to be introduced such that the external stair is not exposed to the building.
5.	D2.20	The egress doorway discharging from Residential Lobby D onto the Beecroft Road frontage is to swing outwards in the direction of egress.
6.	E3.4	Where more than one lift is used to serve a part of the building, two lifts must be shown to be located in separate shafts.
7.	F2.3	Population numbers and the number of sanitary facilities proposed to serve the Class 5 & 6 parts of the building are to be provided to verify compliance.

B. MATTERS REQUIRING FIRE SAFETY ENGINEERED PERFORMANCE SOLUTIONS:

BCA (DtS) CLAUSE		DESCRIPTION
1.	C2.8	The aggregate area of the storage within the carparking levels exceeds 10% of the total floor area of the storey but will not be separated by fire walls complying with Clause C2.7.
2.	C2.14	The length of public corridors exceeds 40m and it is not proposed to introduce smoke doors.
3.	C3.3	The external walls of separate fire compartments that are exposed to one will be protected to the degree necessary in lieu of Clause C3.4 in some instances.
4.	D1.2	Basement 1 Residential Lobby A and the Lower Ground Fire Services Pump Room will be provided with access to a single exit in lieu of two.
5.	D1.4 / D1.5	The travel distances within the building exceed the prescriptive requirements of these clauses.
6.	D1.6	The exit located adjacent the services vehicular entry on Ray Road has a flood gate located directly in front of the point of discharge potentially obstructing the exit.
7.	D1.8	The external stair providing egress for Building D serves a storey (level 5) that has an effective height of more than 25m.
8.	D2.12	The openings located within 3m of the path of travel of egressing occupants from the podium are to be treated to the degree to support a Performance Solution.
9.	E2.2	The Class 5/6 parts of the building located on the Ground Level are less than 2,000m ² but contained in separate fire compartments and therefore should zone smoke control be omitted it would need to be done so with inclusion within the Fire Engineering Report.

C. OTHER MATTERS REQUIRING PERFORMANCE SOLUTIONS:

BCA (DtS) CLAUSE		DESCRIPTION
1.	FP1.4	A performance solution report is required to be prepared to Performance Requirement FP1.4 in relation to weatherproofing of external walls.



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REPORT STATUS

DATE	REVISION	STATUS	AUTHOR	REVIEWED
29/06/2022	0	Preliminary BCA Report – DA Lodgment	JH	BM

Prepared by:

Josh Hagenson
Building Surveyor
Blackett Maguire + Goldsmith

Reviewed by:

Brian Maguire
Director
Blackett Maguire + Goldsmith



1. INTRODUCTION

1.1. PROPOSAL

Blackett Maguire + Goldsmith Pty Ltd have been commissioned by Beecroft Property Development to undertake an assessment of the proposed mixed use development located at 242-244 Beecroft Road, Epping against the relevant provisions of the Building Code of Australia 2019 Amendment 1 (BCA).

1.2. AIM:

The aim of this report is to:

- + Undertake an assessment of the proposed development against the deemed-to-satisfy provisions of the BCA;
- + Identify matters that require plan amendments in order to achieve compliance with the BCA;
- + Identify matters that are to be required to be addressed by Performance Solutions;

1.3. PROJECT TEAM

The following BM+G Team Members have contributed to this Report:

- + Josh Hagenson– Report Preparation | Building Surveyor
- + Brian Maguire– Peer Review | Director

1.4. REFERENCED DOCUMENTATION

The following documentation has been reviewed, referenced and/or relied upon in the preparation of this report:

- + Building Code of Australia 2019 Amendment 1 (BCA).
- + The Guide to the Building Code of Australia 2019 Amendment 1 (BCA).
- + Architectural Plans prepared by Turner Architects

1.5. RELEVANT VERSION OF THE NCC BUILDING CODE OF AUSTRALIA

Pursuant to clause 145(1)(b) of the Environmental Planning and Assessment Regulation 2000 the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the time of the application for the Construction Certificate was made. The current version of the BCA is BCA 2019 Amendment 1, with the next revision of the BCA coming into effect 1 September 2022.



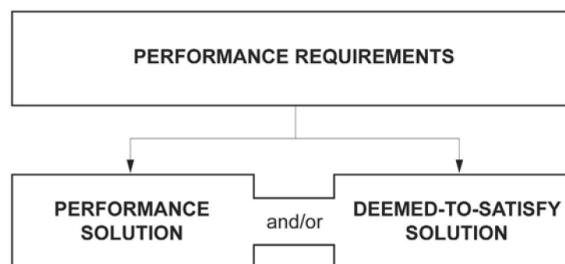
1.6. COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE

Compliance with the NCC is achieved by complying with—

- + the Governing Requirements of the NCC; and
- + the Performance Requirements.

Performance Requirements are satisfied by one of the following, as shown in the Figure below:

- + A Performance Solution.
- + A Deemed-to-Satisfy Solution.
- + A combination of the above two options



Where a *Performance Requirement* is proposed to be satisfied by a *Performance Solution*, the following steps must be undertaken:

- + Prepare a performance-based design brief in consultation with relevant stakeholders.
- + Carry out analysis, using one or more of the Assessment Methods listed in A2.2(2), as proposed by the performance-based design brief.
- + Evaluation the results against the acceptance criteria in the performance-based design brief.
- + Prepare a final report that includes –
 - All Performance Requirements and/or Deemed-to-Satisfy provisions identified through A2.2(3) or A2.4(3) as applicable; and
 - Identification of all Assessment Methods used; and
 - Details of steps (a) to (c); and
 - Confirmation that the Performance Requirement has been met; and
 - Details of conditions or limitations, if any exist, regarding the Performance Solution

1.7. LIMITATIONS AND EXCLUSIONS

The limitations and exclusions of this report are as follows:

- + No assessment has been undertaken with respect to the Disability Discrimination Act 1992 (DDA). The building owner needs be satisfied that their obligations under the DDA have been addressed.
- + Please note that whilst the BCA specifies a minimum standard of compliance with AS1428 (Parts 1-3) and Part D3 of the BCA for access and facilities for people with disabilities, compliance with such requirements may not necessarily preclude the possibility of a future complaint made under the DDA 1992. The DDA is a complaint based legislation and is presently not identified by the State Building Codes and Regulations. In this regard the building owner should be satisfied that their obligations under the DDA have been addressed.
- + No assessment has been undertaken with respect to SEPP 65 Design Quality of Residential Apartment Development / Apartment Design Guide, SEPP Affordable Rental Housing 2009 or SEPP (Housing for Seniors or People with a Disability) 2004. It is understood that suitably qualified consultants will be engaged to determine the relevance of any Council planning requirements or SEPP requirements and provided detailed assessment reports where applicable.

Where relevant to this development, it is assumed that these assessments will be undertaken by others.

- + This report does not consider BCA Part G5 (Volume 1), specifically Clause G5.2 which makes provision for construction of buildings in bushfire-prone areas, therefore no assessment has been undertaken in consideration of RFS, Planning for Bushfire Protection and AS 3959. Where Part G is applicable to the site, then it is recommended that assessment / due diligence is undertaken by a specialist consultant to verify compliance.
- + This report does not constitute a detailed assessment of the architectural documentation against the requirements of Section J. It is understood that a suitably qualified consultant will be engaged to determine compliance in this regard.
- + BM+G has not undertaken an assessment of any Alternative Solution Reports at the time of the preparation of this report.
- + The Report does not address matters in relation to the following Local Government Act and Regulations:
 - i. Work Health and Safety Act and Regulations.
 - ii. Work Cover Authority requirements.
 - iii. Water, drainage, gas, telecommunications and electricity supply authority requirements.
 - iv. Disability Discrimination Act 1992.



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1.8. REPORT TERMINOLOGY

BCA Completion Certificate – A certificate issued at the completion of works which confirms the building is suitable for occupation in accordance with its classification under the BCA.

BCA Crown Certificate – A certificate issued against building works carried out by or on behalf of the Crown which verifies that the works comply with the requirements of the BCA prior to works commencing, subject to S6.28 of the Environmental Planning and Assessment Act 1979.

Building Code of Australia - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

Climatic Zone – Means an area defined in Figure 2 and in Table 2 (of BCA Schedule 3) for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

Construction Certificate – Building Approval issued by the Certifying Authority pursuant to Part 6 of the EP&A Act 1979.

Construction Type – The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1, except as allowed for—

- (i) certain Class 2, 3 or 9c buildings in C1.5; and
- (ii) a Class 4 part of a building located on the top storey in C1.3(b); and
- (iii) open spectator stands and indoor sports stadiums in C1.7.

Note: Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.

Deemed-to-Satisfy (DTS) Provisions of the BCA – Means the prescriptive provisions of the BCA which are deemed to satisfy the performance requirements.

Effective Height – The vertical distance between the floor of the lowest storey included in the calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift, or other equipment, water tanks or similar service units).

Exit – Any, or any combination of the following if they provide egress to a road or open space;

- + An internal or external stairway.
- + A ramp.
- + A fire-isolated passageway.
- + A doorway opening to a road or open space.

Fire Compartment – The total space of the building; or when referred to in

- + The Performance Requirements – any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
- + The Deemed-to-Satisfy Provisions – any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to-Satisfy Provisions of the relevant part.

Fire Resistance Level (FRL) – The grading periods in minutes for the following criteria-

- (a) structural adequacy; and
 - (b) integrity; and
 - (c) insulation,
- and expressed in that order



Fire Source Feature (FSF) - The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

National Construction Code Series (NCC) – The NCC was introduced 1 May 2011 by the Council of Australian Governments (COAG). The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

Occupiable outdoor area means a space on a roof, balcony or similar part of a building—

- + that is open to the sky; and
- + to which access is provided, other than access only for maintenance; and
- + that is not open space or directly connected with open space.

Occupation Certificate (OC) – Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 6 of the EPA Act 1979.

Open Space - Means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

Performance-based Design Brief - Means the process and the associated report that defines the scope of work for the performance-based analysis, the technical basis for analysis, and the criteria for acceptance of any relevant Performance Solution as agreed by stakeholders.

Performance Requirements of the BCA - A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must meet.

Compliance with the Performance Requirements can only be achieved by-

- (a) complying with the Deemed-to-Satisfy Provisions; or
- (b) formulating an Alternative Solution which-
 - (i) complies with the Performance Requirements; or
 - (ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
- (c) a combination of (a) and (b).

Performance Solution – Means a method of complying with the performance requirements other than by a *Deemed-To-Satisfy Solution*.

Professional Engineer means a person who is—

- + if legislation is applicable — a registered professional engineer in the relevant discipline who has appropriate experience and competence in the relevant field; or
- + if legislation is not applicable—
 - registered in the relevant discipline on the National Engineering Register (NER) of the Institution of Engineers Australia (which trades as 'Engineers Australia'); or
 - eligible to become registered on the Institution of Engineers Australia's NER and has appropriate experience and competence in the relevant field.

Rise in Storeys – The greatest number of storeys calculated in accordance with C1.2.

Sole Occupancy Unit – means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and can include a dwelling and/or office suite.



2. BUILDING CHARACTERISTICS

2.1. PROPOSED DEVELOPMENT

The building is classified as follows:

BCA Classification:	Class 2 (SOU) Class 7a (Carparking), Class 7b (storage), Class 5 (office) Class 6 (retail)
Rise in Storeys:	Seventeen (17)
Storeys Contained:	Seventeen (17)
Type of Construction:	Type A Construction
Importance Level (Structural):	Structural Engineer to confirm
Sprinkler Protected Throughout:	Yes
Effective Height:	Greater than 50m
Floor Area:	TBC
Max. Fire Compartment Size:	8,000m ² & 48,000m ³
Climate Zone:	Zone 6

Note: Basement Level 2 has been counted as constituting a rise in storey on the basis that the RL noted externally is 77.00 and the RL of the FFL internally is 76.210 which is expected to result in a portion of the external wall protruding above the finished ground level by more than 1m.

2.2. FIRE COMPARTMENT FLOOR AREA LIMITATIONS

Maximum size of fire compartment / atria is:

Classification		Type A	Type B	Type C
6 & 7	Max. floor area	5,000m ²	3,500m ²	2,000m ²
	Max. volume	30,000m ³	21,000m ³	21,000m ³
5	Max. floor area	8,000m ²	5,500m ²	3,000m ²
	Max. volume	48,000m ³	33,000m ³	18,000m ³

2.3. DISTANCE TO FIRE SOURCE FEATURES

Based upon a review of the plans, it is noted that each elevation of the building is located within the following distances from fire source features on the site.

Elevation	Fire Source Feature	Distance
North	Side Boundary	More than 6m
East	Far side of Beecroft Road	More than 6m*
West	Side boundary	Less than 6m
South	Side boundary	Less than 6m

*The easement boundary shown on the drawings is understood to relate to a subterranean easement benefiting Sydney Metro and as such has not been assessed as being a fire source feature.

Note: Fire Source Feature (FSF) - The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.



APPENDIX 1 - BCA ASSESSMENT

LEGEND:

+ Complies:	The referenced plans show compliance with this clause
+ Compliance Readily Achievable:	The referenced plans do not show sufficient information to establish compliance with this clause. Design certification, should be submitted with the application for the Construction Certificate
+ Further Information Required:	The referenced plans do not show sufficient information to establish compliance with this clause. Further details, should be submitted with the application for the Construction Certificate
+ Performance Solution:	The referenced plans do not comply with this clause and an Performance Solution is required/proposed to demonstrate compliance with the Performance Requirements
+ Does Not Comply:	The proposal does not comply with this clause and redesign is required.
+ Noted:	Provisions contained within this BCA clause are provided for guidance, or are to be read in conjunction with other BCA clauses
+ Not applicable/ Not critical information:	This clause is not applicable or not critical to the proposed development. <u>These clauses have been removed from the assessment table below.</u>

CLAUSE	REFERENCE	COMMENT
SECTION B	STRUCTURE	
Part B1	Structural Provisions	
B1.2 Determination of Individual Actions	Structural engineering details prepared by an appropriately qualified structural engineer to be provided to demonstrate compliance with Part B1 in relation to the new structural elements of the building.	Compliance Readily Achievable: Design Statement from a Professional Engineer to be provided confirming that the design achieves compliance with the following is required at the time of the Construction certificate application, inclusive of reference to the following Australian Standards (where relevant): AS 1170.0 – 2002 General Principles AS 1170.1 – 2002, including certification for balustrading (dead and live loads) AS 1170.2 – 2002, Wind loads AS 1170.4 – 2007, Earthquake loads AS 3700 – 2018, Masonry code AS 3600 – 2018, Concrete code AS 4100 – 1998, Steel Structures AS 4600 – 2018, Cold formed steel. AS 2047 – 2014, Windows in buildings AS 1288 – 2006, Glass in buildings A compliance certificate from a Professional Engineer is required for all structural works at the completion of building works and prior to the issuance of an occupation certificate.
B1.4 Determination of Structural Resistance of Materials	Materials & Forms of Construction	Compliance Readily Achievable: Detail and design certification to be provided at the Construction Certificate stage.
B1.6 Construction of Buildings Flood Hazard Areas	A Class 2 or 3 building, Class 9a health-care building, Class 9c building or Class 4 part of building, in a flood hazard area must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.	Further Information required Noting that flood the Ray Road frontage is indicated to have flood gates proposed specific verification from the Structural



CLAUSE	REFERENCE	COMMENT
		Engineer is to be provided at the Construction Certificate stage.

SECTION C FIRE RESISTANCE

Part C1 Fire Resistance and Stability

C1.1 Type of Construction Required	The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1 except as allowed for in this clause.	Type A Construction applies to the building. Refer to Spec C1.1 & APPENDIX 3 for the table of FRL's
C1.3 Buildings of Multiple Classification	In a building of multiple classifications, the type of construction required for the building is the most fire-resisting type resulting from the application of Table C1.1 on the basis that the classification applying to the top storey applies to all storeys.	Noted: Higher FRL of each classification to apply or be fire separated.
C1.8 Lightweight Construction	Lightweight construction must comply with Specification C1.8 if used in a wall system in accordance with sub-clauses (a) & (b).	Compliance Readily Achievable: Detail to be included in the design to ensure compliance with this clause.
C1.9 Non-Combustible Building Elements	In a building of Type A construction, the following building elements and their components must be non-combustible. + External walls and common walls, including all components incorporated in them, including the façade covering, framing and insulation. + The flooring and floor framing of lift pits. + Non-loadbearing internal walls where they are required to be fire-resisting. This clause contains provisions for combustible materials that may be used wherever a non-combustible material is required under the BCA. Note: Sarking type materials that do not exceed 1mm in thickness and have a Flammability Index not greater than 5 are permitted to be installed with an external wall.	Further Information Required: Documentation is required to be provided as relevant to: + Any external wall claddings. + Any framing or integral formwork systems. I.e. timber framing, sacrificial formwork, etc. + Any external linings or trims. I.e. external UPVC window linings, timber window blades, etc. + Any sarking or insulation contained within the wall assembly. This is not an exhaustive list, and any element incorporated within any external wall assembly must be identified and provided for review. Any departures from non-combustibility or deemed non-combustible materials under this clause (C1.9[e]) are to be advised.

BUILDING ELEMENT	TYPE A CONSTRUCTION
External wall	Non-combustible
Common wall	Non-combustible
Floor and floor framing of lift pit	Non-combustible
All loadbearing internal walls (including those of shafts)	Concrete, masonry or fire-protected timber
Loadbearing fire walls	Concrete, masonry or fire-protected timber
Non-Loadbearing Internal Walls Required to be Fire-Resistant	Non-combustible
Non-loadbearing lift, ventilating, pipe, garbage and the like shafts which do not discharge hot products of combustion.	Non-combustible

C1.10 Early Fire Hazard Properties	The fire hazard properties of the outlined linings, materials and assemblies in a Class 2 to 9 building must comply with Specification C1.10. Refer below to extracts from Tables 2 and 3 of Spec C1.1. as relevant to wall, floor, an ceiling linings. For additional detailed requirements relating to additional building elements, refer to the relevant clause of Spec C1.1. as outlined below: + Floor linings and coverings – Clause 3. + Wall linings and ceiling linings – Clause 4. + Air-handling ductwork – Clause 5.	Further Information Required: A schedule of all wall, floor, and ceiling linings along with associated test reports are to be provided for review to ensure compliance with the fire hazard property requirements of the BCA. Noting: + Minimum Group Numbers apply to wall and ceiling linings. AS 5637 test reports must be provided to determine compliance. + Minimum Critical Radiant Flux values apply to floor linings. AS ISO 9239.1 test
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CLAUSE	REFERENCE	COMMENT
	+ Lift Cars – Clause 6. + Fire control rooms and fire-isolated exits – Clause 7 + Escalators, moving walkways, and non-required non-fire-isolated stairways and ramps – Clause 7. + Sarking-type materials – Clause 7. + Attachments to internal floors, walls, and ceilings – Clause 7. + Other materials – Clause 7	reports must be provided to determine compliance.

TABLE 2 OF SPECIFICATION C1.10 – CRITICAL RADIANT FLUX OF FLOOR LININGS AND FLOOR COVERINGS

Class of building	Building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system)	Fire-isolated exits and fire control rooms
Class 2, 3, 5, 6, 7, 8 or 9b, excluding—	1.2 kW/m ²	2.2 kW/m ²

TABLE 3 OF SPECIFICATION C1.10 – WALL AND CEILING LINING MATERIALS (MATERIALS GROUPS PERMITTED)

Class of building	Fire-isolated exits and fire control rooms	Public corridors	Specific areas	Other areas
Class 2 or 3, Sprinklered Excluding accommodation for the aged, people with disabilities, and children	Walls: 1 Ceilings: 1	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3
Class 5, 6, 7	Walls: 1 Ceilings: 1	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3

C1.14 Ancillary Elements	An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following: + Gutter/downpipe/other plumbing fixture + A flashing. + A grate/grille <2m² associated with a building service. + An electrical switch/GPO/cover plate, or the like. + A light fitting. + A required sign. + A combustible non-required sign may be permitted if achieving a Group Number of 1 or 2 and not extending beyond one storey or fire compartment, and vertically separated by other signs by at least 2 storeys. + A combustible awning, sunshade, canopy, blind, or shading hood may be permitted at ground storey or a storey immediately above ground storey if complying as relevant to fire hazard properties and not affecting a required exit. + A part of a security, intercom or announcement system. + Wiring. + A paint, lacquer or a similar finish. + A gasket, caulking, sealant, or adhesive associated with the above ancillary elements.	Compliance Readily Achievable: Detail to be included in the design and verified prior to the Construction Certificate Stage.
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Part C2 Fire Compartmentation and Separation

C2.2 General Floor Area Limitations	Limitations on the area and volume of fire compartments in Class 5 / 6 / 7 buildings as required by sub-clauses (a), (b) & (c) must be adhered to unless excepted by Clause C2.3.	Complies:
C2.7 Separation by Fire Walls	<u>Construction</u>- A fire wall must be in accordance with the following: + The fire wall has the relevant FRL prescribed by Spec C1.1.	Compliance Readily Achievable: There are a number of instances where fire walls complying with the requirements of this clause are required to separate parts the

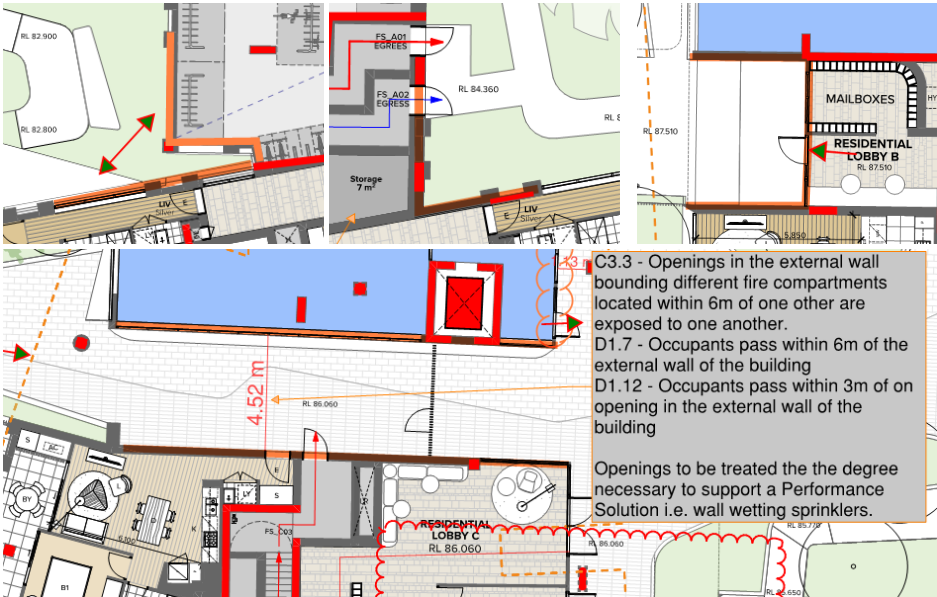


CLAUSE	REFERENCE	COMMENT
	+ Unless permitted by Part C3, must not reduce the FRL prescribed by C1.1. + Building elements (other than roof battens of 75x50 or sarking-type material) must not pass through a fire wall unless the FRL of the wall can be maintained. <u>Separation of buildings</u>- A part of a building may be considered separate from the remainder of the building if separated by a fire wall in accordance with the following: + The fire wall extends through all storeys and is carried through to the underside of the roof covering. + Where roofs of separate buildings are at different heights, the fire wall must extend to the underside of: ▪ The higher roof, or >6m above the lower roof. ▪ The lower roof if it has an FRL not less than that of the fire wall and no openings closer than 3m to any wall above the lower roof. ▪ The lower roof if its covering is non-combustible and the lower part is sprinkler protected. <u>Separation of fire compartments</u>- A part of a building, separated from the remainder by a fire wall, may be treated as a separate fire compartment if the fire wall extends to the underside of: + A floor having an FRL required for a fire wall; or + The roof covering.	building allocated different classifications located on the same level. Fire compartmentation drawings and details of the wall type proposed to be used are to be provided at the Construction certificate stage to verify specific compliance.
C2.8 Separation of Classifications in the Same Storey	Each building element in that storey must have the higher FRL prescribed in Specification C1.1 or have those parts of the building separated by a fire wall.	Performance Solution: In this instance the storage areas located within the carparking areas of the building in aggregate exceed 10% of the floor area and therefore constitute Class 7b (storage). Due to the configuration of the storage areas fire separating them in accordance with the requirements of this clause is not practicable therefore it is proposed to pursue a Fire Engineered Performance Solution to permit the omission of fire separation between the Class 7a (carparking) and the Class 7b (storage) Compliance Readily Achievable: The class 2 parts located on the same level as the class 5, 6 or 7a parts of the building will be fire separated from one another by a fire wall complying with Clause C2.7. Fire Compartmentation drawings that identify the FRL and location of the fire walls are to be provided at the Construction Certificate stage to demonstrate specific compliance.
C2.9 Separation of Classifications in Different Storeys	Parts of different classification that are situated one above the other in adjoining storeys must be separated as follows: 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 <u>lower</u> storey.	Compliance Readily Achievable: Fire Compartmentation drawings demonstration compliance are to be provided at the Construction Certificate stage to demonstrate specific compliance.
C2.10 Separation of Lift Shafts	This clause applies to all classes of buildings and specifies the protection requirements for openings for lift shafts and lift landing doors. The requirements are set out in sub-clauses (a), (b) (c) & (d) which relate to openings in Type A construction. Also note the Deemed to Satisfy Provisions of Part C3.	Compliance Readily Achievable: Detail to be included in the design and shown on the drawings submitted with the Construction Certificate application.
C2.11 Stairways and Lifts in One Shaft	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	Compliance Readily Achievable: The delineation of the lift shafts and the shafts containing the fire isolated stairs is to be clearly shown on the drawings submitted with



CLAUSE	REFERENCE	COMMENT										
		the application for Construction Certificate stage.										
C2.12 Separation of Equipment	Equipment as listed below must be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 (or that required by Spec C1.1, whichever is greater) and doorways being self-closing - /120/30 fire doors: + Lift motors and lift control panels; or + Emergency generators used to sustain emergency equipment operating in the emergency mode; or + Central smoke control plant; or + Boilers; or + A battery or batteries installed in the building that have a voltage exceeding 12 volts and a capacity exceeding 200kWh. Separation of on-site fire pumps must comply with the requirements of AS 2419.1.	Compliance Readily Achievable: Detail to be included in the design.										
C2.13 Electricity Supply System	An electrical substation located within a building or a main switchroom which sustains emergency equipment, must: + Be separated from the building by construction achieving an FRL of 120/120/120; and + Have any doorway protected with a self-closing fire door achieving an FRL of -/120/30. Electrical conductors within a building must be protected in accordance with sub-clause (c).	Compliance Readily Achievable: Detail to be included in the design.										
C2.14 Public Corridors in Class 2 Buildings	A public corridor, if more than 40m in length, must be divided at intervals of not more than 40m with smoke proof walks complying with Clause 2 of Specification C2.5	Performance Solution: The length of the public corridor on the Ground Floor of Building E and the public corridor located on levels 1-4 of Building D is approximately 41.5m and 47m respectively in lieu of the maximum permitted by this clause being 40m.										
Part C3 Protection of Openings												
C3.1 Application of Part	Openings listed in C3.1(a) need not comply with the Deemed-to-Satisfy Provisions of Part C3.	Noted										
C3.2 Protection of Openings in External Walls	Openings in an external wall required to have an FRL must be protected in accordance with C3.4 if the opening is less than: + 3m from a side or rear boundary; or + 6m from the far boundary of a road, river, lake or the like adjoining the allotment if not located at or near ground level; or + Less than 6m from another building on the allotment that is not Class 10.	Compliance Readily Achievable: Openings in the external wall are located further than 3m from the side or ready property boundaries.										
C3.3 Separation of External Walls and Associated Openings in Different Fire Compartments	The distance between parts of external walls and any openings within them in different fire compartments separated by a fire wall must be at least that set out in Table C3.3 unless- + Those parts of each wall have an FRL of at least 60/60/60; and + Any openings protected in accordance with C3.4. Method of measurement between adjoining fire compartments is set out below: - <table><tr><th>Angle between walls</th><th>Min. Distance</th></tr><tr><td>0° (walls opposite)</td><td>6m</td></tr><tr><td>More than 0° to 45°</td><td>5m</td></tr><tr><td>More than 45° to 90°</td><td>4m</td></tr><tr><td>More than 90° to 135°</td><td>3m</td></tr></table>	Angle between walls	Min. Distance	0° (walls opposite)	6m	More than 0° to 45°	5m	More than 45° to 90°	4m	More than 90° to 135°	3m	Compliance Readily Achievable / Performance Solution There are a number of instances which the external walls of separate fire compartments are exposed to one another and will either require protection in accordance with Clause C3.4 or do the degree necessary such that a Performance Solution is justifiable.
Angle between walls	Min. Distance											
0° (walls opposite)	6m											
More than 0° to 45°	5m											
More than 45° to 90°	4m											
More than 90° to 135°	3m											



CLAUSE	REFERENCE	COMMENT				
	<table><tr><td>More than 135⁰ to 180⁰</td><td>2m</td></tr><tr><td>0⁰ or more</td><td>Nil</td></tr></table>	More than 135 ⁰ to 180 ⁰	2m	0 ⁰ or more	Nil	
More than 135 ⁰ to 180 ⁰	2m					
0 ⁰ or more	Nil					
	 C3.3 - Openings in the external wall bounding different fire compartments located within 6m of one other are exposed to one another. D1.7 - Occupants pass within 6m of the external wall of the building D1.12 - Occupants pass within 3m of an opening in the external wall of the building Openings to be treated the the degree necessary to support a Performance Solution i.e. wall wetting sprinklers.					
	<i>Note: The above extracts show a range of instances where exposure occurs but not all instances.</i>					
C3.4 Acceptable Methods of Protection	Where protection is required, doorways, windows and other openings must be protected as follows: + Doorways – ▪ Internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or ▪ -/60/30 fire doors that are self-closing or automatic closing. + Windows – ▪ Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or ▪ -/60/- automatic closing fire shutters. + Other openings – ▪ Excluding voids – internal or external wall-wetting sprinklers, as appropriate; or ▪ Construction having FRL not less than -/60/-.	Compliance Readily Achievable: Detail to be included in the design where applicable.				
C3.5 Doorways in Fire Walls	Openings in fire walls, that are not part of a horizontal exit, must be protected in accordance with one of the methods set out in this clause. Doorways in fire walls, that are not part of a horizontal exit, must: + In aggregate door width, not exceed ½ of the length of the fire wall. + Be protected by fire doors achieving the FRL required for the wall in accordance with Spec C1.1 for Type A Construction. + Be self-closing or automatically close on the activation of a smoke detector and applicable sprinkler system.	Compliance Readily Achievable: Details to be included into the design and shown on the fire compartmentation drawings submitted with the application for Construction certificate.				
C3.7 Protection of Doorways in Horizontal Exits	A doorway that is part of a horizontal exit must be protected by: + A fire door with an FRL as required for the wall under Spec C1.1, except that the door must have an insulation level of at least 30; or;	Not Applicable: The design does not rely upon horizontal exits				



CLAUSE	REFERENCE	COMMENT
	+ Class 7 / 8 – Two fire doors, one on each side of the doorway, achieving ½ the FRL required for the wall under Spec C1.1, except that the door must have an insulation level of at least 30. + Be self-closing, or automatic-closing activated by heat or smoke detector activation and the activation of an applicable sprinkler system.	
C3.8 Openings in Fire Isolated Exits	Doorways that open to fire-isolated exits (excluding those that open to a road or open space), must be protected by -/60/30 self-closing, or automatic closing fire doors. A window in an external wall of a fire-isolated exit must be protected in accordance with C3.4 if it is exposed to and within 6m of another opening in wall of the same building. (excludes openings in the same fire-isolated exit)	Compliance Readily Achievable: Details to be included into the design and shown on the fire compartmentation drawings submitted with the application for Construction certificate.
C3.9 Service Penetrations in Fire Isolated Exits	Fire isolated exits may only be penetrated by: + Electrical wiring permitted by D2.7 (e). + Ducting associated with a pressurisation system. + Water supply pipes for fire services.	Compliance Readily Achievable: Detail to be included in the design where applicable.
C3.10 Openings in Fire Isolated Lift Shafts	<u>Doorways</u> - Lift shafts required to be fire-isolated must be protected by -/60/- self-closing fire doors complying with AS1735.11. <u>Lift Indicator Panels</u> - If exceeding 35,000mm², lift indicator panels must be backed by no less than FRL-/60/60 construction.	Compliance Readily Achievable: Detail to be included in the design where applicable.
C3.11 Bounding Construction: Class 2, 3 and 4 Parts	A doorway in a Class 2 building must be protected if it provides access from a SOU to: + A public corridor, lobby, or the like; or + A room not within a SOU; or + The landing of an internal non-fire-isolated required stairway; or + Another SOU. If it provides access from a room not within a SOU to, the following doorways must be protected: + A public corridor, lobby, or the like; or + The landing of an internal non-fire-isolated required stairway. <i>Protection</i> under this part refers to: + Type A Construction: self-closing, -/60/30 fire door In a Class 2 building where a path of travel does not offer a choice of travel in different directions to different exits and is located along an open balcony, landing, or the like and passes an external wall of- + Another SOU or a room not within a SOU, Then that external wall must- + Be constructed of concrete or masonry, or lined internally with a fire-protective covering. + Have any door fitted with a self-closing solid core door >35mm thick. + Having any windows or other openings protected in accordance with C3.4 or located >1.5m above finished floor level.	Compliance Readily Achievable: Details to be included into the design and shown on the fire compartmentation drawings submitted with the application for Construction certificate.
C3.12 Openings in Floors and Ceilings for Services	Where a service passes through: + A floor required to have an FRL (integrity and insulation), or; + A ceiling required to have a resistance to the incipient spread of fire, That service must be protected: + In a building of Type A construction, by a shaft complying with Spec C1.1, and;	Compliance Readily Achievable: Details to be included into the design.



CLAUSE	REFERENCE	COMMENT
	The performance of any <i>required</i> fire-protective floor covering must not be reduced by service penetrations.	
C3.13 Openings in Shafts	In a building of Type A Construction, service shafts must be protected by: + A fire door, hopper or access panel achieving FRL - 60/30. + If in a sanitary compartment - a non-combustible door and frame achieving an FRL of -/30/30. + If the shaft is a garbage shaft – a non-combustible door or hopper.	Compliance Readily Achievable: Details to be included into the design.
C3.15 Openings for Service Installations	When a service penetrates a building element that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that penetration must: + Be identical to a tested prototype assembly, tested in accordance with AS4072.1 and AS1530.4. + In the case of ventilating or air-conditioning ducts/equipment, the installation must comply with AS1668.1.	Compliance Readily Achievable: Certification to be provided at the Construction Certificate and Occupation certificate stage.
C3.16 Construction Joints	Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4 to achieve the required FRL.	Compliance Readily Achievable: Details to be included into the design. Certification to be provided at the Construction Certificate stage.
C3.17 Columns Protected with Lightweight Construction to Achieve an FRL	A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.	Compliance Readily Achievable: Certification to be provided at the Construction certificate stage.
Spec.	Part C Specifications	
Spec C1.1 Fire-Resisting Construction	The new building works are required to comply with the requirements detailed under Table 3 of Specification C1.1 for Type A Construction.	Compliance Readily Achievable: Design statement to be provided at the Construction certificate stage.
Spec C3.4 Fire Doors and Smoke Doors	<u>Fire doors</u> must comply with AS1905.1 and not fail the period specified for integrity in the required FRL due to glazed parts. <u>Smoke doors</u> must be constructed to prevent the free passage of smoke from one side of the doorway to the other. If they are glazed, there must be minimal danger of a person being injured by walking in to them. A smoke door must be constructed as follows- + The door must swing in direction of egress, or both directions. + The leaves are capable of resisting smoke at 200°C for 30 minutes. Solid core leaves of minimum 35mm thick satisfy. + The leaves are fitted with smoke seals. + The leaves are normally in the closed position, or the leaves are closed automatically through interface with smoke detectors present on each side of the doorway no more than 1.5m horizontal distance from the doorway. In the event of a power failure, the leaves must fail-safe to the closed position. + The leaves return to the fully closed position after each manual opening. + Any glazing part complies with AS1288. If a glazed panel may be mistake for an unobstructed exit,	Compliance Readily Achievable: Details to be included into the design.



CLAUSE	REFERENCE	COMMENT
	identification via opaque construction must be present. A required fire shutter or fire window must be identical with a tested prototype that has met the required FRL as well as installed in the same manner. If a metallic fire shutter is not prohibited by C3.5, a required fire shutter must be a steel shutter complying with AS1905.2.\	
SECTION D ACCESS AND EGRESS		
Part D1 Provisions for Escape		
D1.2 Number of Exits Required	In addition to horizontal exits, following buildings/areas are required to be provided with two exits- + Class 2 / 5 / 6 / 7: Each storey if the building has an effective height >25m. + Basements that require a vertical rise of >1.5m to egress, unless the basement comprises <50m² and the exit can be reached in <20m.	Performance Solution: The following locations have access to a single exit in lieu of the two required: + Basement 1 Residential Lobby A + Lower Ground Fire Services Pump Room Further Information Required The exits and any intertenancy walls are to be shown within the Class 5 (office) and Class 6 (retail) spaces located on the Ground Level to verify compliance.
D1.3 When Fire Isolated Exits are Required	Class 2 Buildings – Every stairway or ramp serving as a required exit must be fire-separated unless it connects or passes by not more than: + 3 consecutive storeys in a Class 2; or + 2 consecutive storeys in a Class 3. One additional storey of any classification may be included if: + It is only for the accommodation of motor vehicles or for other ancillary purposes; or + The building is sprinkler protected; or + The required exit does not provided access to or egress from the additional storey, and is fire and smoke separated. Class 5 / 6 / 7 Buildings – Every stairway or ramp serving as a required exit must be fire-isolated.	Compliance Readily Achievable: Each stair serving as a required exit is a fire isolated stair with the exception of the Fire Stair D03 which is designed as an External stair in lieu of a fire isolated stair (refer to Clause D1.8). Drawings demonstrating compliance are to be provided at the Construction Certificate stage.
D1.4 Exit Travel Distances	For Class 2 buildings: + Maximum 6m to an exit or to a point of choice between alternative exits from sole-occupancy units + 20m from a single exit to open space or road when the storey is on the same level of egress from sole-occupancy units + Maximum 20m to an exit or to a point of choice between alternative exits from any other part of the floor not in a sole-occupancy unit. For Class 5, 6, 7 buildings: + Maximum 20m to an exit or to a point of choice between alternative exits. + 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 30m. + Maximum distance to one of those exits is 40m.	Performance Solution: Travel distances throughout the building exceed the maximum permitted by the prescriptive requirements of this clause and will be subject of a fire engineered Performance Solution – + Up to 14m to an exit or point of choice from the doorway of a Class 2 SOU + Up to 32m to a point of choice withing a Class 2 part other than from an SOU. + Up to 30 to a point which there is a choice to travel in alternative directions to separate exits within the Class 7a Carparking area. + Up to 44m to an exit from within the Class 7a car parking area. Further Information Required The exits and any intertenancy walls are to be shown within the Class 5 (office) and Class 6 (retail) spaces located on the Ground Level to verify compliance. Also, adjustment to carparking and storage cage set out is necessary in some instances to ensure that travel distances do not exceed



CLAUSE	REFERENCE	COMMENT
		the maximum considered to be justifiable under a fire Engineered performance Solution
D1.5 Distances Between Alternative Exits	Exits that are required as alternative means of egress must be- + Distributed as uniformly as practical within the storey served. + Located so that unobstructed access to 2 exits is available from all points. + Not less than 9m apart + Not more than a) Class 2: 45m apart b) In all other cases – 60m. + Located so that alternative paths of travel do not converge <6m.	Performance Solution: Travel distances throughout the building exceed the maximum / minimum dimensions permitted by the prescriptive requirements of this clause and will be subject of a fire engineered Performance Solution – + The two (2) separate required exits contained within the scissor stairs serving a number of parts of the building are located within 9m of one another. + The distance between alternative exits within the Class 7a carparking area is up to 81m. + The distance between alternative exits serving the Class 2 parts containing SOUs is up to 60m. Further Information Required The exits and any intertenancy walls are to be shown within the Class 5 (office) and Class 6 (retail) spaces located on the Ground Level to verify compliance. Also, adjustment to carparking and storage cage set out is necessary in some instances to ensure that travel distances do not exceed the maximum considered to be justifiable under a fire Engineered performance Solution
D1.6 Dimensions of Exits	The unobstructed height throughout a required exit must not be less than 1m wide, 2m in height and not less than 1980mm for a doorway. For Class 2 buildings: The unobstructed width of paths of travel must be not less than 1m. The doorways in the building must have a minimum unobstructed <u>clear</u> opening as follows: + 850mm for accessible units and common doors + 750mm for other sole-occupancy unit doorways.	Performance Solution: The exit located adjacent the services vehicular entry on Ray Road has a flood gate located directly in front of the point of discharge potentially obstructing the exit. Further information Required: Compliance is readily achievable subject to adjustment to obstruction predominantly located within the carparking areas. Drawings demonstrating compliance are to be provided at the Construction Certificate stage.



CLAUSE	REFERENCE	COMMENT
D1.7 Travel via Fire Isolated Exits	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 a public corridor/lobby, sole-occupancy unit occupying all of a storey or a sanitary compartment/airlock. Each fire isolated stairway or ramp must provide independent egress from each storey served and must discharge to – + A road or open space; or + To a point in a space within the building that is only used for pedestrian movement or car parking that is open a minimum of 2/3 of its perimeter and from which a path of travel under 20m is available to a road or open space; or + A covered area that adjoins a road or open space, is open for a minimum of 1/3 of its perimeter, has an unobstructed height of at least 3m throughout and provides a path of travel the point of discharge to a road or open space within 6m. Where a path of travel from the point of discharge of a fire isolated exit necessitates passing within 6m of any part of an external wall of the same building, that part of the wall must have – + an FRL of not less than 60/60/60; and + Any openings protected internally in accordance with BCA Clause C3.4, + For a distance of 3m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser.	Performance Solution: Each of the fire isolated exits necessitate occupants to pass within 6m of the external wall of the building and are required to be treated to the degree necessary to support a Performance Solution. Further Information Required: It is to be confirmed and shown on drawings that at the point of discharge for Fire Stair C03 maintains a height of 3m.
D1.8 External Stairways or Ramps in Lieu of Fire-Isolated Stairways	An external stairway or ramp may serve as a required exit in lieu of a fire-isolated exit serving a storey below an effective height of 25m provided that it is constructed in accordance with the following. + The external stair is to achieve a minimum FRL of 60/60/60 – when tested from the inside; + Stair to be non-combustible; + Exit doors to the stair is to be self-closing -/60/30 fire door; + No openings to occur in the external wall of the building within 3m for the exit. If openings are within 3-6m of the exit they are to be protected in accordance with BCA Clause C3.4 (if drenchers are used, they are to be located internally). Opens are restricted from being within 0-3m of the exit.	Performance Solution: The external stair providing egress for Building D serves a storey (level 5) that has an effective height of more than 25m. A Performance Solution is considered to be readily justifiable on the basis that the number of stories connected in isolation do not exceed 25m in height and the top most level served (level 5) an outdoor occupiable space. Further Information Required: The sides of the external stair exposed to the building (illustrated in the below image) are to be shown to be of fire rated construction. D1.8 - - The portion of the external stair highlighted in red is to achieve an FRL not less than 60/60/60. - The portion of the stair is to remain substantially open (not less than 50%)

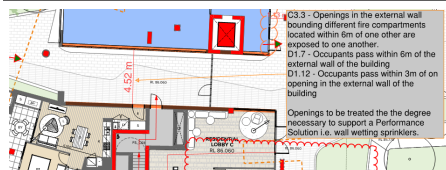


CLAUSE	REFERENCE	COMMENT
D1.9 Travel by Non-Fire Isolated Stairways or Ramps	In a Class 2 building: + The distance between the doorway of a room or SOU and the point of egress to a road or open space by way of a non-fire-isolated stairway or ramp must not exceed: ▪ 30m in a building of Type C; or ▪ 60m in all other cases. + If 2 or more exits are required and are provided by means of internal non-fire-isolated stairways or ramps, each exit must: ▪ Provide separate egress to a road or open space; and ▪ Be suitable smoke separated from each other at the level of discharge. In a Class 5 / 6 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or ramp must not exceed 80m. A required non-fire isolated stairway or non-fire-isolated ramp must discharge at a point not more than- + Class 2– 15m from a doorway or fire-isolated exit providing egress to road or open space, or 30m from one of 2 such exits if travel to each is in opposite or approximate opposite directions. + Class 5 / 6 / 7– 20m from a doorway or fire-isolated exit providing egress to road or open space, or 40m from one of 2 such exits if travel to each is in opposite or approximate opposite directions.	Compliance Readily Achievable: Details to be included into the design.
D1.10 Discharge From Exits	The path of travel to the road from a required exit leading to open space must have an unobstructed exit width of that of the required exit, or if larger, 1m. If the discharge point of the exit is at a different level from the road, a stairway or ramp achieving no more than 1:14 must be provided.	Compliance is Readily Achievable: Details to be included into the design and shown on the drawings submitted with the Application for Construction certificate.
D1.13 Number of Persons Accommodated	Outlines the number of persons accommodated in a storey as per Table D1.13 of BCA 2016.	Noted.
D1.16 Plant Rooms & Lift Motor Rooms Concession	A ladder may be used in lieu of a stairway to provide egress from a plant room with a floor area of not more than 100m² or all but one point of egress from a plant room or a lift machine room with a floor area not more than 200m². Sub-clause (b) sets out the parameters for the ladders permitted to be used in this circumstance.	Compliance is Readily Achievable: Details to be included into the design and shown on the drawings submitted with the Application for Construction certificate.
D1.17 Access to Lifts Pits	Access to lift pits with a depth of under 3m must be provided through the lowest landing doors. If a lift pit exceeds 3m in depth, access must be provided in accordance with sub-clause (b).	Compliance is Readily Achievable: Details to be included into the design and shown on the drawings submitted with the Application for Construction certificate.
PART D2 Construction of Exits		
D2.1 Application of Part	With the exception of specified clauses in this part the Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of sole-occupancy units of Class 2 buildings.	Noted.
D2.2 Fire Isolated Stairways & Ramps	A stairway or ramp, including landings that are required to be within a fire-resisting shaft must be constructed of non-combustible materials to protect the structural integrity of the shaft.	Compliance Readily Achievable: Details to be included into the design.
D2.4	In a required fire-isolated stairway there must be no direction connection between –	Compliance Readily Achievable:



CLAUSE	REFERENCE	COMMENT
Separation of Rising and Descending Stair Flights	+ A flight rising from a storey below the level of access to open space; and + A flight descending from a storey above that level. Any construction that separates or is common to the rising and descending flights must be non-combustible and smoke proof.	The architectural drawings indicate that compliance with the requirements of this clause is readily achievable.
D2.7 Installations in Exits and Paths of Travel	If installed in a path of travel to an exit, electrical distribution boards, communication cupboards and the like containing motors, etc. are to be enclosed with non-combustible construction, and doors are to be provided with smoke seals to the perimeter.	Compliance Readily Achievable: Details to be included into the design.
D2.8 Enclosure of Space Under Stairs and Ramps	The space below a required fire-isolated stairway or ramp in a fire-isolated shaft must not be enclosed to form a cupboard or other enclosed space. If the required stairway or ramp is non-fire-isolated, (including an external stairway) any cupboard underneath must have an FRL of 60/60/60, with a self-closing -/60/30 door.	Compliance Readily Achievable: Details to be included into the design.
D2.9 Width of Required Stairways and Ramps	A required stairway or ramp that exceeds 2m in width is considered as having a width of only 2m unless it is divided by a handrail or barrier and each division has a width not more than 2m.	Compliance Readily Achievable: Details to be included into the design.
D2.10 Pedestrian Ramps	A fire-isolated ramp may be substituted for a fire-isolated stairway if the enclosing structure satisfies the requirements of a fire-isolated stairway. A ramp serving as an exit must have a gradient not steeper than 1:8, and where the ramp serves as an accessible ramp, be in accordance with AS 1428.1. The floor surface of the ramp must have a slip-resistance classification not less than that listed in Table D2.14 of the BCA 2016.	Compliance Readily Achievable: Details to be included into the design.
D2.11 Fire-Isolated Passageways	The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the passageway in another part of the building of- + If the passageway discharges from a fire-isolated stairway or ramp – not less than that required for the stairway or ramp shaft; or + In any other case – not less than 60/60/60. Notwithstanding the above, the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of- + A non-combustible roof covering; or + A ceiling having a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment.	Compliance Readily Achievable: Details to be included into the design.
D2.12 Roof as Open Space	If an exit discharges to a roof, it must have an FRL of at least 120/120/120 and not have any roof-lights or other openings within 3m of the path of travel of persons using the exit to reach a road or open space.	Performance Solution: The podium located on Ground Level has been assessed as constituting roof as open space to accommodate egress from the non-fire isolated exits in to the area. The openings located within 3m of the path of travel of egressing occupants are to be treated to the degree necessary so that a fire engineered performance solution can be pursued.



CLAUSE	REFERENCE	COMMENT																	
																			
D2.13 Goings and Risers	The stairs must comply with the tread, riser and going dimensions of this clause and the nosing of the stairs must be provided with a non-slip treads and meet the provisions of AS1428.1-2009. The following will apply in relation to the construction of all stairways: + Stairway must have not more than 18 and not less than 2 risers in each flight. + Goings and risers within the stair flights must be constant throughout. + Risers must be solid construction with no gaps and treads must have non slip finishes and stair nosings. Goings and risers are to be in accordance with BCA Table D2.13	Compliance Readily Achievable: Details to be included into the design.																	
D2.14 Landings	In a stairway – + Landings must be a minimum of 750mm long, and where it involves a change of direction the length is measured 500mm from the inside edge of the landing + Have a slip resistance of the surface of the nosing strip in accordance with Table D2.14 and tested in accordance with AS 4586. <table border="1"> <thead> <tr> <th rowspan="2">Application</th><th colspan="2">Surface Conditions</th></tr> <tr> <th>Dry</th><th>Wet</th></tr> </thead> <tbody> <tr> <td>Ramps steeper than 1:14</td><td>P4/R11</td><td>P5/R12</td></tr> <tr> <td>Ramp steeper than 1:20 but not steeper than 1:14</td><td>P3/R10</td><td>P4/R11</td></tr> <tr> <td>Tread or landing surface</td><td>P3/R10</td><td>P4/R11</td></tr> <tr> <td>Nosing or landing strip</td><td>P3</td><td>P4</td></tr> </tbody> </table>	Application	Surface Conditions		Dry	Wet	Ramps steeper than 1:14	P4/R11	P5/R12	Ramp steeper than 1:20 but not steeper than 1:14	P3/R10	P4/R11	Tread or landing surface	P3/R10	P4/R11	Nosing or landing strip	P3	P4	Compliance Readily Achievable: Details to be included into the design.
Application	Surface Conditions																		
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Tread or landing surface	P3/R10	P4/R11																	
Nosing or landing strip	P3	P4																	
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 – + the doorway opens to a road or open space, external stair landing or external balcony; and + 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.	Compliance Readily Achievable: Details to be included into the design.																	
D2.16 Balustrades	This clause details where balustrades are required to be provided and sets out in specific detail the construction requirements. Typically, the following will apply: + Balustrades are required where the fall to the level below is more than 1m in height. The minimum height of a balustrade is 1m above the floor of the landing, walkway or the like; and 865mm above the floor of a stairway or a ramp. + For a fall of more than 4m to the surface level below, a window sill must be a minimum of 865mm in height above the height of the floor surface. + Where the floor is more than 4m above the surface beneath the balustrade any horizontal or near horizontal members between 150mm and 760mm above the floor must not facilitate climbing. + Balustrades must be constructed so as to not permit a sphere of 125mm diameter to pass through. The exception to this is within fire isolated exits within the building, or within a Class 7 or 8 building, where the rails can be positioned a maximum of 460mm apart,	Compliance Readily Achievable: Details to be included into the design where applicable.																	



CLAUSE	REFERENCE	COMMENT
	so long as a bottom rail is located so a sphere of 150mm cannot pass through the opening between the nosing of the stair treads and the rail or between the floor of the landing, balcony or the like.	
D2.17 Handrails	Handrails must be located along at least one side of a ramp or flight unless the width is 2m or more requiring handrails on both sides. Handrails must be fixed at a minimum height of 865mm and be continuous between stair flight landings and have no on or above them that may break the hand hold. If in a required exit serving an accessible area, must comply with AS 1428.1. Handrails in a Class 2 must – + Be located along at least one side; and + Be located along the full length, except where it is associated with a barrier; and + Have the top surface of the handrail a minimum of 865mm above the stairs or floor; and + Have no obstruction on or above that may break a handhold, except for newel posts, stanchions or the like. These requirements do not apply to handrails referred to in D2.18, a stairway or ramp providing a change in elevation of less than 1m, a land or a winder where a newel post is installed to provide a handhold.	Compliance Readily Achievable: Details to be included into the design and compliance to be achieved with AS 1428.1-2009.
D2.18 Fixed Platforms, Walkways and Stairways and Ladders	A fixed platform, walkway, stairway, ladder, any going and riser, any balustrade or other barrier attached thereto may comply with AS1657 if it only serves a machinery or plant room or non-habitable part of a sole-occupancy unit in a Class 2 building or part.	Compliance Readily Achievable: Details to be included into the design.
D2.19 Doorways and Doors	A power-operated door in a path of travel to a required exit must be able to be opened manually under a maximum force of 110 N if there is a malfunction.	Compliance Readily Achievable: Details to be included into the design.
D2.20 Swinging Doors	A swinging door forming part of a required exit must not encroach the required width of a required exit by way of the swing of the door, or the door itself including associated hardware whilst in the open position. A swinging door must not swing against the direction of egress unless + it serves a building or part with a <i>floor area</i> not more than 200m², it is the only <i>required exit</i> from the building or part and it is fitted with a device for holding it in the open position; or + it serves a <i>sanitary compartment</i> or airlock (in which case it may swing in either direction); Also, it must not impede the path or direction of egress.	Further Information Required: The egress doorway discharging from Residential Lobby D onto the Beecroft Road frontage is to swing outwards in the direction of egress.
D2.21 Operation of Latch	A door forming part of a required exit must be readily openable via the provision of single downward lever action hardware located between 900mm and 1.1m from FFL in area required to be accessible, otherwise single pushing action hardware between 900mm and 1.2m from FFL is permitted. The requirements of sub-clause (a) do not apply to the items listed under sub-clause (b) providing concessions for high-security areas, SOUs, fail-safe devices, and the like.	Compliance Readily Achievable: Details to be included into the design.



CLAUSE	REFERENCE	COMMENT
D2.22 Re-entry From Fire-Isolated Exits	Doors of a fire-isolated exit must not be locked from the inside in a fire-isolated exit serving a storey above 25m effective height, throughout the exit. This clause details the exceptions to the above requirements if the doors are fitted with an automatic failsafe device that automatically unlocks the door upon the activation of a fire alarm as follows: + On at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating that re-entry is available; or + An intercommunication system, or an audible or visual alarm system, operated from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and method of operation.	Compliance Readily Achievable: Details to be included into the design.
D2.23 Signs on Doors	It is a requirement that signs to alert persons that the operation of smoke doors, fire doors, and doors discharging from fire isolated exits, must not be impaired must be installed where they can be readily seen.	Compliance Readily Achievable: Details to be included into the design.
D2.24 Protection of Openable Windows	In a Class 2 building a window must be provided with protection if the floor below the window is 2m or more above the surface beneath. Where the lowest level of the window opening is less than 1.7m above the floor, a window opening must be protected in accordance with sub-clause (b). A barrier no less than 865mm is required to an openable window when a child resistant release mechanism is required, as well as when the floor below the window is >4m above the surface beneath. A barrier required by this part is to comply with sub-clause (d) & (e).	Compliance Readily Achievable: Details to be included into the design.
PART D3 Access for People with Disabilities		
D3.1 General Building Access Requirements	The extent of access required depends on the classification of the building. Buildings and parts of buildings must be accessible as set out in Table D3.1 unless exempted by Clause D3.4. <u>Residential parts.</u> Access is required to all common areas and to the doorway of each sole-occupancy unit. <u>Class 6 parts.</u> To and within all areas normally used by occupants. <u>Commercial parts.</u> Access is required to and within all areas normally used by the occupants, including the ancillary class 7a part. A building, or part thereof, must comply with the requirements of BCA Part 3 if accessibility is deemed to be applicable under Table D3.1, unless otherwise exempted under Clause D3.4.	Compliance Readily Achievable: Design statement and Access Report to be provided at the Construction Certificate Stage.
D3.2 Access to Buildings	Accessways must be provided to accessible buildings from the main points of pedestrian entry at the allotment boundary and any accessible car parking space or accessible associated buildings connected by a pedestrian link. An accessway must be provided to a building required to be accessible- ▪ From the main points of a pedestrian entry at the allotment boundary; and ▪ From another accessible building connected by a pedestrian link; and ▪ From any required accessible car parking space on the allotment. In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance and	Compliance Readily Achievable: Design statement and Access Report to be provided at the Construction Certificate Stage.



CLAUSE	REFERENCE	COMMENT						
	through not less than 50% of all pedestrian entrances including the principal pedestrian entry.							
D3.3 Parts of buildings to be accessible	The works are required to comply with the requirements of AS 1428.1-2009.	Compliance Readily Achievable: Design statement and Access Report to be provided at Construction Certificate Stage.						
D3.4 Concessions	The following areas, and any path of travel providing access <u>only</u> to these areas, are not required to be accessible: + An area deemed inappropriate to access due to the areas particular use + An area that would pose a health or safety risk for people with a disability.	Compliance Readily Achievable: Design statement and Access Report to be provided at the Construction Certificate Stage.						
D3.5 Accessible carparking	Accessible carparking spaces – + Must be provided in accordance with Table D3.5 + Must comply with AS 2890.6-2009 <table><tr><th>Class of building carpark is associated with</th><th>Number of accessible spaces required</th></tr><tr><td>Class 5 & 7</td><td>1 accessible space for every 100 carparking spaces or part thereof.</td></tr><tr><td>Class 6</td><td>1 space for every 50 carparking spaces or part thereof</td></tr></table>	Class of building carpark is associated with	Number of accessible spaces required	Class 5 & 7	1 accessible space for every 100 carparking spaces or part thereof.	Class 6	1 space for every 50 carparking spaces or part thereof	
Class of building carpark is associated with	Number of accessible spaces required							
Class 5 & 7	1 accessible space for every 100 carparking spaces or part thereof.							
Class 6	1 space for every 50 carparking spaces or part thereof							
D3.6 Signage	In a building required to be accessible, braille and tactile signage must be provided to all: + Required accessible sanitary facilities + Spaces with hearing augmentation + Ambulant sanitary facilities + Non-accessible pedestrian entrances + Each door required to be provided with an exit sign Braille and tactile signage is to comply with sub-clause (a) and Specification 3.6.	Compliance Readily Achievable: Design statement and Access Report to be provided at Construction Certificate Stage.						
D3.7 Hearing Augmentation	A hearing augmentation system must be provided where an inbuilt amplification system (excluding emergency warning systems) is present in the following areas: + In a room in a Class 9b + In an auditorium, conference room, meeting room, or judicatory room, + In a ticket office, teller's booth, reception area of the like where the public is screened by the service provider. A hearing augmentation system is required to comply in the following way: + An induction loop – it must serve >80% of the floor area of the spaced served by the inbuilt amplification system; or + A system requiring the use of receivers or the like. It must be available to not less than 95% of the floor of the space served and provide the applicable number of receivers; a) 500 people – 1 receiver for every 25 persons and a minimum of 2 receivers; and b) 500-1000 people – 20 receivers plus 1 receiver for every 33 people in excess of 500; and c) 1000-2000 people – 35 receivers plus 1 receiver for every 50 people in excess of 1000; and	Compliance Readily Achievable: Design statement and Access Report to be provided at Construction Certificate Stage.						



CLAUSE	REFERENCE	COMMENT
	d) >2000 people – 55 receivers plus 1 receiver for every 100 people in excess of 2000. Any screen or scoreboard capable of displaying public announcements must be capable of supplementing any public address system.	
D3.8 Tactile Indicators	Tactile ground surface indicators must be provided to: + A stairway, other than a fire-isolated stairway; and + An escalator or passenger conveyor; and + A ramp other than a fire-isolated ramp; and + In the absence of a suitable barrier- a) An overhead obstruction <2m above floor level; and b) An accessway meeting a vehicular way adjacent to any pedestrian entrance to a building including a pedestrian entrance serving an area referred to in D3.4, if there is no kerb or kerb ramp at that point. Tactile indicators are required to be designed in accordance with AS 1428.4.1-2009.	Compliance Readily Achievable: Design statement and Access Report to be provided at Construction Certificate Stage.
D3.10 Swimming Pools	Not less than 1 means of accessible water entry/exit in accordance with Specification D3.10 must be provided for each <i>swimming pool</i>. Must have at least 1 accessible water entry/exit for each accessible swimming pool. This is achieved by means or – + A ramp and an aquatic wheelchair; or + A zero-depth entry at a maximum gradient of 1:14 and an aquatic wheelchair; or + A platform swimming pool lift and an aquatic wheelchair; or + A sling style swimming pool lift. Where a <i>swimming pool</i> has a perimeter of more than 70 m, at least one <i>accessible</i> water entry/exit must be any of the above exit a sling style lift. Latching devices on gates and doors forming part of a <i>swimming pool</i> safety barrier need not comply with AS 1428.1.	Compliance Readily Achievable: Design statement and Access Report to be provided at the Construction Certificate stage Stage.
D3.11 Ramps	Ramps may be used as part of an accessway where there is a change of level and must comply with the requirements set out in AS1428.1	Compliance Readily Achievable: Design statement and Access Report to be provided at the Construction Certificate Stage.
D3.12 Glazing on an Accessway	Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid and non-transparent contrasting line.	Compliance Readily Achievable: Design statement and Access Report to be provided at the Construction Certificate Stage.
SECTION E SERVICES AND EQUIPMENT		
Part E1 Fire Fighting Equipment		
E1.3 Fire Hydrants	A Hydrant system is required to be installed in accordance with AS 2419.1 – 2005 given the total floor area of the building exceeding 500msq. <i>Note: The requirement to separate a fire hydrant booster assembly from a building does not apply where that building is protected with a sprinkler system in accordance with Spec E1.5.</i> Any Internal Hydrants are to be located within the fire isolated exits or within 4m of the top riser of the non-fire isolated exits (external stairs in lieu of fire stairs). In	Compliance Readily Achievable: The fire hydrant booster assembly is located on the Beecroft Road frontage of the building within sight of the main entry of the building and also the vehicular entry of the building. Specific compliance with AS2419.1 is to be verified by the fire services designer at the Construction Certificate stage.



CLAUSE	REFERENCE	COMMENT
	addition, if floor coverage cannot be achieved supplementary fire hydrants may be provided to suit the operational requirements of the NSW Fire Brigades. External attack hydrants are required to be located not less than 10 metres from the building or protected by construction having an FRL of not less than 90/90/90 and extending 2 metres each side of the hydrant outlets and extending 3 metres above ground level. In addition, Hydrants must be located not less than 10 metres from high voltage main electrical distribution equipment or liquefied petroleum gas. Where required, a hydrant pump room is required to have a door opening to a road or open space, or a door opening direct into a fire isolated airlock connected to a fire stair.	
E1.4 Fire Hose Reels	A fire hose reel system must be provided to serve a building where one or more internal fire hydrants are installed or in a building with a floor area greater than 500m². Fire Hose Reels are to be located within 4m of an exit, or located adjacent to an internal hydrant (other than one within a fire isolated exit). Where system coverage is not achieved by the above, additional FHR may be located in paths of travel to an exit. Fire hose reels must be located internally, externally or in any combination to achieve the system coverage specified in AS 2441. Fire hose reels must not pass through any fire or smoke doors except if it is a doorway referred to in BCA Clause C2.5 (a)(v), C2.12, C2.13 or C3.13. Fire hose reels must only serve the storey on which they are located except for an SOU or not more than 2 storeys for a Class 5 / 6 / 7 may be served by a single fire hose reel located at the level of egress.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage. <i>Note: If the Class 5 (office) part is proposed to be divided into separate tenancies reassessment of FHR coverage will be required.</i>
E1.5 Sprinklers	A sprinkler system must be installed in a building or part of a building when required by Table E1.5 and comply with Specification E1.5. Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road or open space. Table E1.5 sets out which types of building occupancies and Classes which require having sprinkler systems installed in them.	Compliance Readily Achievable: The standard of performance for the system proposed to serve the building is to be confirmed and specific compliance with AS2118 verified by the fire services designer at the Construction Certificate stage.
E1.6 Portable Fire Extinguishers	Portable fire extinguishers must be provided as listed in Table E1.6 and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444 In a class 2 building, portable fire extinguishers must be: + An ABE type fire extinguisher; and + A minimum size of 2.5kg; and + Distributed outside a sole-occupancy unit- a) to serve only the storey at which they are located; and so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
E1.9 Fire Precautions During Construction	In buildings under construction at least one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to a required exit and if the building has reached an effective height of 12m the required hydrant and hose reel systems must be installed, as set out in (b)(ii) and be operational and any required booster connections must be installed	Contractor to note.



CLAUSE	REFERENCE	COMMENT
E1.10 Provisions for Special Hazards	Suitable additional provisions must be made for fire-fighting if unique problems could arise due to; + The nature or quantity of materials stored, displayed or used in a building on the allotment; or + The location of the building in relation to a water supply for firefighting purposed.	Further Information Required Electronic vehicles can be perceived as a potential high-risk hazard and should be included in Fire Engineers trial design.
Spec. Part E1 Specifications		
E1.5a Class 2 and 3 Buildings Not More Than 25m in Effective Height (Class 2 / 3 Sprinkler Concessions)	<u>This Specification applies only to Class 2 or 3 buildings with a rise in storeys of 4 or more, and an effective height of less than 25m.</u> An automatic fire sprinkler system installed in a Class 2 or 3 building must comply with one of the following: + AS 2118.1 - 2017 or + AS 2118.4 - 2012 or + FPAA101D (except for residential care buildings); or + FPAA101H (except for residential care buildings). Where a Class 2 or 3 building is provided with a AS 2118.1 - 2017 or AS 2118.4 - 2012 may utilise the available concessions	Not Applicable: The subject building has an effective height in excess of 25m.
Part E2 Smoke Hazard Management		
E2.2 General Requirements for Smoke Hazard Management (including Tables E2.2a & E2.2b)	Buildings must comply with the provisions of Table E2.2a, as applicable to Class 2 to 9 building and Table E2.2b as applicable to Class 6 parts of a building with an effective height of more than 25m. Fire isolated stairs serving any level above the height of 25m in effective height must be provided with stair pressurisation in accordance with AS1668.1-2015	Performance Solution: In this instance the Class 5/6 parts of the building located on the Ground Level are less than 2,000m ² but contained in separate fire compartments and therefore should zone smoke control be omitted it would need to be done so with inclusion within the Fire Engineering Report at the Construction Certificate stage. Compliance Readily Achievable: The standard of performance for the system proposed to serve the building is to be confirmed and specific compliance verified by the fire services designer at the Construction Certificate stage.
E2.3 Provision for Special Hazards	Additional smoke hazard management measures may be necessary due to the nature of a buildings special characteristic, its use, the nature of materials being stored in them and special mix of classifications.	Further Information Required: Electronic vehicles can be perceived as a potential high-risk hazard and should be included in Fire Engineers trial design.
Part E3 Lift Installations		
E3.2 Stretcher Facilities in Lifts	Stretcher facilities, complying with this clause, must be provided in lifts in at least one emergency lift as required by E3.4 or in building where lifts serve any storey above an effective height of 12m. A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high above the floor level.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
E3.3 Warning Against Use of Lifts in Fire	Warning signs required be provided must be displayed where they can be readily seen and must comply with the details and dimensions of Figure E3.3 below.	Compliance Readily Achievable: Detail to be included in the design.



CLAUSE	REFERENCE	COMMENT
E3.4 Emergency Lifts	An emergency lift (complying with AS1735.2 or Appendix A of AS1735.1) must be installed in a building that exceeds 25m in effective height. The emergency lift must be connected to a standby power supply system where installed; be contained within a fire resisting shaft; and have the following <u>minimum</u> internal dimensions (measured clear of all obstructions including handrails): + Depth of car – 2280mm + Width of car – 1600mm + Floor to ceiling height – 2300mm + Door height – 2100mm + Door width – 1300mm	Further Information Required: Where more than one lift is used to serve a part of the building, two lifts must be located in separate shafts (refer to the below image). E3.4 - Where more than one lift is used to serve a part of the building, two lifts must be located in separate shafts as indicated by the orange line.
E3.5 Landings	E3.5(a) The provisions of clause 12.2 – “Access” of AS 1735.2 do not apply. E3.5(b) The provisions of Clause A3.2 – “Access to landings” of Appendix A of AS 1735.1 do not apply. E3.5(c) Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Part D.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
E3.6 Passenger Lifts	In an accessible building, every passenger lift must be one of the types identified in Table E3.6a, have accessible features in accordance with Table E3.6b and not rely on a constant pressure device for its operation if the lift car is fully enclosed.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
E3.7 Fire Service Controls	In passenger lifts designed in accordance with AS 1735 Parts 1 and 2, all lift cars serving any storey above an effective height of 12m must be provided with fire service controls.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
E3.9 Fire Service Recall Operation Switch	Each group of lifts must be provided with one fire service control switch (required by Clause E3.7 above) that activates the fire service recall operation. This clause details the switch, the labelling, the key and operation procedures for a fire service recall operation.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
E3.10 Lift Car Fire Service Drive Control Switch	The lift car fire service drive control switch required by E3.7 must be activated from within the lift car. This clause details the switch, the initiation, the labelling and operation for the fire service drive control switch.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
Part E4 Emergency Lighting, Exit Signage and Warning Systems		
E4.2 Emergency Lighting	This clause details when emergency lighting must be installed in Class 2 to 9 buildings. The requirements for buildings and parts of buildings are detailed in sub-clauses (a) to (i) and each sub-clause must be considered as more than one may apply to any single building.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
E4.4 Design and Operation of Emergency Lighting	Every required emergency lighting system must comply with AS2293.1 - 2018	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.



CLAUSE	REFERENCE	COMMENT
E4.5 Exit Signs	An exit sign must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to each door providing egress from a building. Sub-clauses (a) to (d) set out the situations where exit signs are required to be installed.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
E4.6 Direction Signs	If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
E4.8 Design and Operation of Exit Signs	Every required exit sign must comply with AS/NZS 2293.1 - 2018 and be clearly visible at all times when the building is occupied by any person having the legal right of entry into the building.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
E4.9 Emergency Warning Intercom System (EWIS)	Emergency Warning Intercom System (EWIS) complying with AS 1670.4 - 2018 must be installed in a building with an effective height of more than 25 m.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
SECTION F HEALTH AND AMENITY		
Part F1 Damp & Weather Proofing		
FP1.4 Weatherproofing	A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause— + unhealthy or dangerous conditions, or loss of amenity for occupants; and + undue dampness or deterioration of building elements. <u>Note: There are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls.</u>	Performance Solution: A performance solution report is required to be prepared to Performance Requirement FP1.4 in relation to weatherproofing of external walls. This may be through Verification Method FV1.1, or an alternative suitable method. This will be required from the Façade Engineer and the Architect.
F1.1 Stormwater Drainage	Stormwater drainage must comply with AS/NZ 3500.3 - 2018	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
F1.5 Roof Coverings	This clause details the materials and appropriate standards, with which roofs must be covered with. The roofing requirements are set out in sub-clauses (a), (b), (c), (d), (e) & (f) which set out the types of materials that may be used and the adopted Australian Standards that apply to their quality and installation.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
F1.6 Sarking	Sarking-type materials used for weatherproofing of roofs must comply with AS/NZS 4200 parts 1 and 2	Compliance Readily Achievable: Details to be included into the design.
F1.7 Waterproofing of Wet Areas in Buildings	This clause requires that wet areas in Class 2 to 9 buildings must be waterproofed. It prescribes the standards to which the work must be carried on the construction of rooms containing urinals and their installation.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
F1.9 Damp-Proofing	Moisture from the ground must be prevented from reaching: + The lowest floor timbers and the walls above the lowest floor joists; and + The walls above the damp-proof course; and + The underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. Where a damp-proof course is provided, it must consist of: + A material that complies with AS 2904; or	Compliance Readily Achievable: Details to be included into the design.



CLAUSE	REFERENCE	COMMENT
	+ Impervious sheet material in accordance with AS 3660.1.	
F1.10 Damp-Proofing of Floors on the Ground	If the 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. Damp-proofing need not be provided if weatherproofing is not required or the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means.	Compliance Readily Achievable: Details to be included into the design.
F1.13 Glazed Assemblies	Glazed assemblies in an external wall must comply with AS2047 - 2014 requirements for resistance to water penetration for windows, sliding doors with a frame, adjustable louvres, shop fronts and windows with one piece framing	Compliance Readily Achievable: Details to be included into the design.
Part F2 Sanitary & Other Facilities		
F2.1 Facilities in Residential Buildings	In a Class 2 building each residential sole occupancy unit is required to be provided with a kitchen sink with facilities for cooking, a bath or shower, a closet pan and washbasin, a washtub and a space for a washing machine and drier.	Compliance Readily Achievable: Details to be included into the design.
F2.2 Calculation of Number of Occupants and Fixtures	This clause sets out the requirements for the calculation of the number of occupants and the number of sanitary facilities required to be installed in Class 2 to 9 buildings as per D1.13, F2.1 and F2.3	Noted.
F2.3 Facilities in Class 3 to 9 buildings	This clause provides the requirements for sanitary facilities to be installed in Class 3, 5, 6, 7, 8 and 9 buildings in accordance with Table F2.3. When accessible sanitary facilities are provided, they account once for each sex.	Further Information Required: Population numbers and the number of sanitary facilities proposed to serve the Class 5 & 6 parts of the building are to be provided to verify compliance.
F2.4 Accessible Sanitary Facilities	Accessible unisex sanitary compartments must be provided, in accordance with Table F2.4(a) and unisex showers must be provided in accordance with Table F2.4(b), in buildings or parts that are required to be accessible. The details for the provision of disable facilities and the standard, AS 1428.1, are set out in sub-clauses (a) to (i).	Compliance Readily Achievable: Design statement and Access Report to be provided at Construction Certificate stage.
F2.5 Construction of Sanitary Compartments	Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend – + from floor level to the ceiling in the case of a unisex facility; or + a height of not less than 1.5m above the floor if primary school children are the principal users; or + 1.8m above the floor in all other cases. The door to a fully enclosed sanitary compartment must open outwards; or slide: or be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2m, measured in accordance with Figure F2.5 between the closet pan within the sanitary compartment and the doorway.	Compliance Readily Achievable: Details to be included into the design.
F2.6 Interpretation: Urinals and Wash Basins	A urinal may be an individual stall or wall-hung urinal, each 600mm length of a continuous urinal trough or a closet pan used in place of a urinal. A washbasin may be an individual basin or a part of a hand washing trough served by a single water tap	Noted



CLAUSE	REFERENCE	COMMENT
Part F3 Room Sizes		
F3.1 Height of Rooms and Other Spaces.	The ceiling heights are prescribed and should be checked for all classes and parts during assessment or the design process. The ceiling minimum heights for a Class 2 building are as follows: + Kitchen, laundry or the like – 2.1m + Corridor or passageway – 2.1m + A habitable room, excluding kitchen – 2.4m The minimum ceiling heights in a Class 5 / 6 / 7 building are as follows: + Generally - 2.4m. + Corridor, passageways, or the like - 2.1m. In any building: + Bathrooms, sanitary compartments, tea preparations rooms, pantries, store rooms or the like – 2.1m, + A commercial kitchen – 2.4m, + Above a stairway, ramp, landing or the like – 2m.	Compliance Readily Achievable: Details to be included into the design and shown on the drawings submitted with the Construction Certificate
Part F4 Light & Ventilation		
F4.1 Natural Lighting	Natural lighting must be provided in a Class 2 buildings to all habitable rooms.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
F4.2/F4.3 Method and Extent of Achieving Natural Lighting	Windows or the like are to have an aggregate light transmitting area of not less than 10% of the floor area of the room.	Compliance Readily Achievable: Details to be included in the design
F4.4 Artificial Lighting	Artificial lighting must be provided in required stairways, passageways, and ramps and where natural light is insufficient. The artificial lighting system must comply with AS/NZS 1680.0. Windows or the like are to have an aggregate light transmitting area of not less than 10% of the floor area of the room. Artificial lighting must be provided where occupants seeking egress in an emergency, in— + Class 2 buildings — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building. + Class 5, 6, 7, buildings — to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
F4.5 Ventilation of Rooms	A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F4.6 or a mechanical or air-conditioning system complying with AS1668.2 and AS/NZS 3666.1. <u>Note:</u> NSW F4.5(b) a mechanical ventilation or air-conditioning system complying with AS 1668.2 – the reference to AS/NZS 2666.1 is deleted from the BCA in NSW as the need to comply with this standard is regulated under the relevant section of the Public Health Act 1991.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage.
F4.6 Natural Ventilation	Natural ventilation must consist of openings, windows, doors or other devices which can be opened— with a ventilating area not less than 5% of the floor area of the	Compliance Readily Achievable:



CLAUSE	REFERENCE	COMMENT
	room required to be ventilated. Additionally, open to a suitably sized space open to the sky or an adjoining room in accordance with F4.7.	Design statement to be provided at the Construction Certificate stage.
F4.8 Restriction on Position of Water Closets and Urinals	A room containing a water closet pan or urinal must not open directly into a kitchen or pantry, public dining room or restaurant, a dormitory in a Class 3 building, a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand) or a workplace normally occupied by more than 1 person.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
F4.9 Airlocks	If a room containing a closet pan or urinal is prohibited under F4.8 from opening directly into another room then the provisions of sub-clauses (a) & (b) apply relating to the requirements of airlocks and mechanical ventilation standards.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
F4.11 Carparks	Every storey of a carpark, except an open-deck car park, must have: + A system of mechanical ventilation complying with AS 1668.2; or + A system of natural ventilation complying with Section 4 of AS 1668.4.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
F4.12 Kitchen Local Exhaust Ventilation	A commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and 1668.2.	Compliance Readily Achievable: Design statement to be provided at the Construction Certificate stage
Part F5 Sound Transmission and Insulation		
F5.3 Determination of Impact Sound Insulation Ratings	A floor must have the required value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w}$) determined in accordance with AS ISO 717.2 using results from laboratory measurements, or comply with Specification F5.2. For a class 2 building a wall must of discontinuous construction For a class 9c building a wall must, for other than masonry, be two or more separate leaves without rigid mechanical connection except at the periphery, or be identical with a prototype that is no less resistant to the transmission of impact sound when tested than a wall listed in Table 2 of Specification F5.2.	Compliance Readily Achievable: Design statement and Acoustic Report to be provided at the Construction Certificate stage.
F5.4 Sound Insulation Rating of Floors	A floor in a Class 2 & 3 building must have an $R_w + C_{tr}$ (airborne) not less than 50 and an L_{nw} (ipact0 not more than 62 A floor in a Class 9c building separating sole-occupancy units must have an R_w not less than 45.	Compliance Readily Achievable: Design statement and Acoustic Report to be provided at the Construction Certificate stage.
F5.5 Sound Insulation Rating of Walls	A wall separating a sole occupancy unit from another part of the building must have an airborne sound insulation rating of not less than 50 and be provided with discontinuous construction if it separates a bathroom, sanitary compartment, laundry, kitchen in another sole occupancy unit or a plant room or lift shaft. A door that separates a sole occupancy unit from a public corridor must have a weighted sound reduction index of not less than 30. For a class 9c building, a wall must have an R_w not less than 45 if it separates SOUs, or a SOU from a kitchen, bathroom, sanitary compartment (excluding an ensuite), laundry, plant room, or utilities room. Where a wall is required to have sound insulation and has a floor or roof above, the wall must continue to the	Compliance Readily Achievable: Design statement and Acoustic Report to be provided at the Construction Certificate stage.



CLAUSE	REFERENCE	COMMENT
	underside of the floor or roof above, or a ceiling that provides the sound insulation required for the wall.	
F5.6 Sound Insulation Rating of Internal Services	If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one SOU, the duct or pipe must be separated from the rooms of an SOU by construction with a $R_w + C_{tr}$ (airborne) not less than- + 40 if the adjacent room is a habitable room (other than a kitchen); or + 25 if the adjacent room is a kitchen or non-habitable room. If a storm water pipe passes through a SOU, it must also be separated in accordance with this clause.	Compliance Readily Achievable: Design statement and Acoustic Report to be provided at the Construction Certificate stage.
F5.7 Sound Isolation of Pumps	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.	Compliance Readily Achievable: Design statement and Acoustic Report to be provided at the Construction Certificate stage.
Part F6 Condensation Management		
F6.1 Application of Part	The <i>Deemed-to-Satisfy Provisions</i> of this Part only apply to a <i>sole-occupancy unit</i> of a Class 2 building and a Class 4 part of a building.	Compliance Readily Achievable: Detail to be included in the design.
F6.2 Pliable Building Membrane	+ Where a <i>pliable building membrane</i> is installed in an <i>external wall</i>, it must— ▪ comply with AS/NZS 4200.1; and ▪ be installed in accordance with AS 4200.2; and ▪ be a vapour permeable membrane for <i>climate zones</i> 6, 7 and 8; and ▪ be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building. + Except for single skin masonry and single skin concrete, where a <i>pliable building membrane</i> is not installed in an <i>external wall</i>, the <i>primary water control layer</i> must be separated from <i>water sensitive materials</i> by a drained cavity.	Compliance Readily Achievable: Detail to be included in the design.
F6.3 Flow Rate and Discharge of Exhaust Systems	+ An exhaust system installed in a kitchen, bathroom, <i>sanitary compartment</i> or laundry must have a minimum flow rate of— ▪ 25 L/s for a bathroom or <i>sanitary compartment</i>; and ▪ 40 L/s for a kitchen or laundry. + Exhaust from a kitchen must be discharged directly or via a shaft or duct to <i>outdoor air</i>. + Exhaust from a bathroom, <i>sanitary compartment</i>, or laundry must be discharged— ▪ directly or via a shaft or duct to outdoor air; or ▪ to a roof space that is ventilated in accordance with F6.4.	Compliance Readily Achievable: Detail to be included in the design.
F6.4 Ventilation of Roof Space	+ Where an exhaust system covered by F6.3 discharges directly or via a shaft or duct into a roof space, the roof space must be ventilated to outdoor air through evenly distributed openings. + Openings required by the above must have a total unobstructed area of 1/300 of the respective ceiling area if the roof pitch is greater than 22°, or 1/150 of the respective ceiling area if the roof pitch is less than or equal to 22°. + 30% of the total unobstructed area required by the above must be located not more than 900mm below the ridge or highest point of the roof space, measured vertically, with the remaining required area provided by eave vents.	Compliance Readily Achievable: Detail to be included in the design.



CLAUSE	REFERENCE	COMMENT
SECTION G ANCILLARY PROVISIONS		
NSW G1.101 Provision for Cleaning of Windows	A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level. A building satisfies this requirement where the windows can be cleaned wholly from within the building; or provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.	Compliance Readily Achievable: Details to be included into the design.
Part G1 Minor Structures and Components		
G1.1 Swimming Pools	A swimming pool with a depth of water more than 300 mm in a Class 2, 3 or 4 part of a building, must have suitable barriers to restrict access by young children to the immediate pool surrounds in accordance with AS 1926 Parts 1 and 2.	Compliance Readily Achievable: Details to be included into the design and compliance verified at the Construction Certificate stage.
Part G6 Occupiable Outdoor Areas		
G6.1 Application of Part	The Deemed-to-Satisfy Provisions of this Part apply to buildings containing an occupiable outdoor area in addition to the other Deemed-to-Satisfy Provisions of the BCA. The Deemed-to-Satisfy Provisions of this Part take precedence where there is a difference to the Deemed-to-Satisfy Provisions of Sections C, D, E, F and G. Except for G6.2, the Deemed-to-Satisfy Provisions of this Part do not apply to— + an occupiable outdoor area of a sole-occupancy unit in a Class 2 or 3 building, Class 9c building or Class 4 part of a building; or + an occupiable outdoor area with an area less than 10m ² .	Compliance Readily Achievable: Details to be included into the design.
G6.2 Fire Hazard Properties	Subject to (b), a lining, material or assembly in an occupiable outdoor area must comply with C1.10 as for an internal element. (b) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C1.10: + Average specific extinction area. + Smoke-Developed Index. + Smoke development rate + Smoke growth rate index	Compliance Readily Achievable: Details to be included into the design.
G6.3 Fire Separation	For the purposes of the Deemed-to-Satisfy Provisions of C2.7, C2.8 and C2.9, a reference to a storey includes an occupiable outdoor area, however a fire wall cannot be used to separate an occupiable outdoor area into different fire compartments.	Compliance Readily Achievable: Detail to be included in the design.
G6.4 Provision of Escape	For the purposes of the Deemed-to-Satisfy Provisions of Part D1, a reference to a storey or room includes an occupiable outdoor area.	Compliance Readily Achievable: Detail to be included in the design.
G6.5 Construction of Exits	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area.	Compliance Readily Achievable: Detail to be included in the design.
G6.6 Fire Fighting Equipment	Except for Clause 7(b)(i) of Specification E1.5, for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area.	Compliance Readily Achievable: Detail to be included in the design.



CLAUSE	REFERENCE	COMMENT
G6.7 Lift Installations	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area.	Compliance Readily Achievable: Detail to be included in the design.
G6.8 Visibility in an Emergency, Exit Signs, and Warning Signs	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area.	Compliance Readily Achievable: Detail to be included in the design. Ensure exit and emergency lighting comply within occupiable outdoor areas as if they were internal areas.
G6.9 Light and Ventilation	For the purposes of the Deemed-to-Satisfy Provisions of F4.4, F4.8 and F4.9, a reference to a room includes an occupiable outdoor area.	Compliance Readily Achievable: Detail to be included in the design.
SECTION J ENERGY EFFICIENCY		
JV3	Verification using referenced building	Compliance Readily Achievable: We understand that a JV3 report may be provided to achieve compliance in accordance with Section J.
J1 Building Fabric	The provision of insulation of the building envelope will be required in the proposed building, in accordance with Clauses J1.0 to J1.6, and the Tables therein, including Thermal Construction General, Roof and Ceiling Construction, Rooflights, Walls, Glazing and Floors. Design details and/or certification of design will be required to be provided in this regard.	Compliance Readily Achievable: Design statement and Section J Report to be provided at the Construction Certificate stage.
J3 Building Sealing	The proposed building envelope will be required to be sealed to prevent air infiltration in accordance with the requirements of Clauses J3.0 to J3.6. Details or certification that the proposed building design complies with the requirements of Part J3 is required to be provided	Compliance Readily Achievable: Design statement and Section J Report to be provided at the Construction Certificate stage.
J4 Air Movement	Details and/or design certification which confirm that air movement within the proposed building achieves compliance with the relevant requirements of Clauses J4.0 to J4.4 and the Table therein will be required to be provided from the mechanical engineer.	Compliance Readily Achievable: Design statement and Section J Report to be provided at the Construction Certificate stage.
J5 Air-Conditioning & Ventilation Systems	Details and/or design certification which confirm that any proposed air-conditioning system or unit within the proposed building achieves compliance with the relevant requirements of Part J5 will be required to be provided from the mechanical engineer.	Compliance Readily Achievable: Design statement and Section J Report to be provided at the Construction Certificate stage.
J6 Artificial Lighting & Power	Details and/or design certification which confirm that all artificial lighting, power control, and boiling/chilled water units within the proposed building achieves compliance with the relevant requirements of Part J6 will be required to be provided from the electrical engineer	Compliance Readily Achievable: Design statement and Section J Report to be provided at the Construction Certificate stage.
J7 Hot Water Supply & Swimming Pool & Spa Pool Plant	Details and/or design certification which confirm that any proposed hot water supply system within the proposed building achieves compliance with the relevant requirements of Part J7 (Section 8 of AS 3500.4) will be required to be provided from the hydraulic engineer	Compliance Readily Achievable: Design statement and Section J Report to be provided at the Construction Certificate stage.
J8 Access for Maintenance & Facilities for Monitoring	See NSW Subsection J8 for access to maintenance. Access must be provided to all plant, equipment and components that require maintenance in accordance with Part I2.	Compliance Readily Achievable: Design statement and Section J Report to be provided at the Construction Certificate stage.



APPENDIX 2- FIRE SAFETY SCHEDULE

The following table is a list of the required fire safety measures within the building. These measures may be subject to further change pending the outcomes of the final Fire Safety Engineering Review.

Statutory Fire Safety Measure	Design / Installation Standard	Proposed
Access Panels, Doors & Hoppers	BCA Clause C3.13 AS 1530.4 – 2014 and Manufacturer's Specifications	✓
Alarm Signalling Equipment	AS 1670.3 – 2018	✓
Automatic Fail Safe Devices	BCA Clause D2.21	✓
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a AS 1670.1 – 2018	✓
Automatic Fire Suppression Systems	BCA Spec. E1.5 AS 2118.1 – 2017 or AS 2118.4, 6 – 2012	✓
Building Occupant Warning System activated by the Sprinkler System	BCA Spec. E1.5 Clause 8 and / or Clause 3.22 of AS 1670.1 – 2018	✓
Emergency Lifts	BCA Clause E3.4 AS 1735.2 – 2001	✓
Emergency Lighting	BCA Clause E4.2 & E4.4 AS 2293.1 – 2018	✓
Emergency Evacuation Plan	AS 3745 - 2010	✓
Emergency Warning Intercom System (EWIS)	BCA E4.9 & AS1670.4 - 2018	✓
Exit Signs	BCA Clauses E4.5, NSW E4.6 & E4.8 AS 2293.1 – 2018	✓
Fire Control Rooms	BCA Spec E1.8	✓
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001	✓
Fire Dampers	BCA Clause C3.15 AS 1668.1 – 2015 & AS 1682.1 & 2 – 2015 and Manufacturer's Specification	✓
Fire Doors	BCA Clause C2.12, C2.13, C3.2, C3.4, C3.5, C3.8 & C3.11 AS 1905.1 – 2015 and Manufacturer's Specification	✓
Fire Hose Reels	BCA Clause E1.4 AS 2441 – 2005	✓
Fire Hydrant Systems	BCA Clause E1.3 AS 2419.1 – 2005	✓
Fire Seals	BCA Clause C3.15, AS 1530.4 – 2014 & AS 4072.1 – 2014 and Manufacturer's Specification	✓
Lightweight Construction	BCA Clause C1.8 AS 1530.4 – 2014 and Manufacturer's Specification	✓
Paths of Travel	EP&A Regulation	✓
Portable Fire Extinguishers	BCA Clause E1.6 AS 2444 – 2001	✓
Smoke Alarms	BCA Spec E2.2a AS 3786 – 2014	✓
Smoke Hazard Management Systems + Stair Pressurisation + Zone Smoke Control	BCA Part E2 AS/NZS 1668.1 –2015	✓
Smoke Dampers	BCA Spec C2.5 AS/NZS 1668.1 – 2015	✓
Smoke Doors	BCA Spec C3.4 & C2.5	✓
Wall-Wetting Sprinklers	BCA Clause C3.4 AS 2118.2 – 2010	✓
Warning & Operational Signs	BCA Clause D2.23, D3.6, E3.3 AS 1905.1 – 2015 & the EP&A Regulation 2021	✓



Statutory Fire Safety Measure	Design / Installation Standard	Proposed
Fire Engineered Performance Solutions relating to: 1.	BCA Performance Requirements ... Fire Safety Engineering Report prepared by Report No. Revision dated	✓



APPENDIX 3- FRL OF BUILDING ELEMENTS – TYPE A CONSTRUCTION

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 within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> 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 <i>non-loadbearing</i> 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 <i>external wall</i> —				
For <i>loadbearing</i> columns—	90/–/–	120/–/–	180/–/–	240/–/–
For <i>non-loadbearing</i> columns—	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
<i>Fire-resisting lift and stair shafts—</i>				
<i>Loadbearing</i>	90/ 90/ 90	120/120/120	180/120/120	240/120/120
<i>Non-loadbearing</i>	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding <i>public corridors</i> , public lobbies and the like—				
<i>Loadbearing</i>	90/90/ 90	120/–/–	180/–/–	240/–/–
<i>Non-loadbearing</i>	–/60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding <i>sole-occupancy units</i> —				
<i>Loadbearing</i>	90/90/ 90	120/–/–	180/–/–	240/–/–
<i>Non-loadbearing</i>	–/60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like <i>shafts</i> not used for the discharge of hot products of combustion—				
<i>Loadbearing</i>	90/90/ 90	120/ 90/ 90	180/120/120	240/120/120
<i>Non-loadbearing</i>	–/90/90	–/90/90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES 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

Notes:

- Any lightweight construction in a fire wall or an internal wall required to have an FRL is to comply with Specification C1.8.
- A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from; concrete or masonry.
- The method of attaching or installing a finish, lining, ancillary element, or service installation to a building must not reduce the fire-resistance of that element to below that required.
- Fire rated shafts are required to be enclosed at the top and bottom by construction having an FRL of not less than what the shaft requires (in both directions)



5. Lift shafts are required to be enclosed at the top of the shaft with fire rated construction having an FRL of 120/120/120.
6. Fire isolated exits are to be provided with a fire rated "lid" that achieves an FRL of 120/120/120.
7. Where roof lights are proposed they are required to be located not less than 3 metres from a roof light in an adjoining fire separated part; and must not be more than 20% of the area of the roof.
8. Any loadbearing internal walls or loadbearing fire walls are to be masonry or concrete.
9. External walls must be non-combustible construction. Non-loadbearing parts of an external wall that are more than 3m from a fire source feature need not be fire rated.



APPENDIX 4- BCA 2022 (preview) Summary

CLAUSE	DESCRIPTION
SECTION B	STRUCTURE
Part B1	Structural Provisions
B1D3 (Previously B1.2)	<u>New Requirement:</u> + Removal of 'as appropriate' with respect to the requirement to address AS 1170.4. + Requirement to include an additional permanent roof load of not less than 0.15kPa to support the addition of solar photovoltaic panels in certain Class 7b buildings.
SECTION C	FIRE RESISTANCE
Part C2	Fire Resistance and Stability
C2D10 (Previously C1.9)	<u>New Concessions:</u> Inclusion of additional elements which are permitted to be included within external walls of buildings of Type A or B Construction (with respect to external wall combustibility): + Thermal breaks associated with – ▪ Glazing systems, or ▪ External wall systems, where the thermal breaks – - Are no larger than necessary to achieve thermal objectives, and - Do not extend beyond one storey, and - Do not extend beyond one fire compartment. + Compressible fillers and backing materials, including those associated with articulation joints, closing gaps not wider than 50 mm. + Isolated— ▪ construction packers and shims; or ▪ blocking for fixing fixtures; or ▪ fixings, including fixing accessories; or ▪ acoustic mounts. + Waterproofing materials applied to the external face, used below ground level and up to 250 mm above ground level. + Joint trims and joint reinforcing tape and mesh of a width not greater than 50 mm. + Weather sealing materials, applied to gaps not wider than 50 mm, used within and between concrete elements. + Wall ties and other masonry components complying with AS 2699 Part 1 and Part 3 as appropriate, and associated with masonry wall construction. + Reinforcing bars and associated minor elements that are wholly or predominately encased in concrete or grout. + A paint, lacquer or a similar finish or coating. + Adhesives, including tapes, associated with stiffeners for cladding systems. Fire-protective materials and components <i>required</i> for the protection of penetrations. Inclusion of materials, when entirely composed of itself, are non-combustible and may be used wherever a non-combustible material is required: + Concrete. + Steel, including metallic coated steel. + Masonry, including mortar. + Aluminium, including aluminium alloy. + Autoclaved aerated concrete, including mortar. + Iron. + Terracotta. + Porcelain. + Ceramic. + Natural stone. + Copper. + Zinc. + Lead. + Bronze. + Brass.



CLAUSE	DESCRIPTION
C2D10 (Previously C1.14)	Clarification: Clarification that the requirements around elements ancillary to external walls only applies where they are fixed, installed, attached to or supported by <u>the internal space within</u>, or <u>external face of an external wall</u>. I.e. not where they are attached to the internal face of an external wall.
C2D10 (Previously C1.14)	New Concession: Addition of new concessions with regards to ancillary elements fixed, installed, or attached to an external wall. + Waterproofing material installed in accordance with AS 4654.2 and applied to an adjacent floor surface, including vertical upturn, or a roof surface. + Collars, sleeves and insulation associated with service installations. + Screens applied to vents, weepholes and gaps complying with AS 3959. + Wiper and brush seals associated with doors, windows or other openings. + Domestic air-condition condenser units. Clarification: Clarification that the requirements around elements ancillary to external walls only applies where they are fixed, installed, attached to or supported by <u>the internal space within</u>, or <u>external face of an external wall</u>.
SECTION D	ACCESS AND EGRESS
Part D2	Provision for Escape
D2D3 (Previously D1.2)	New Concessions: + <u>Class 2-8 Buildings:</u> Concession to permit a single exit to be provided to a part of a storey that otherwise requires the provision of two exits, provided that the storey; ▪ is provided with direct egress to a road or open space, and ▪ satisfies D2D5 by the provision of 1 exist.
Part D3	Construction of Exits
D3D19 (Previously D2.16)	New Requirement: + Requirement for 125mm balustrade systems to be provided to fire-isolated stairways or ramps serving Class 9b early childhood centres. + Where a barrier is fixed to the face of a landing, balcony, deck or the like, the opening between the barrier and the face must not permit a 40mm sphere to pass through.
SECTION E	SERVICES AND EQUIPMENT
Part E1	Fire Fighting Equipment
E1D2 (Previously E1.3)	Revised Requirement: New Fire Hydrant standard has been adopted AS2419 -2021.
SECTION F	HEALTH AND AMENITY
Part F1	External Waterproofing, Rainwater Management, and Rising Damp
F1D4 (New Clause)	New Requirement: Requirement for joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building to— (a) be protected by a discontinuous membrane in accordance with section 2.9 of AS 4654.2; and (b) not be located beneath or run through a planter box, water feature or similar part of the building. <u>Note 1: For the purposes of F1D4, an exposed joint is a construction joint, control joint, expansion joint, contraction joint or movement joint and includes an exposed joint which is directly below a drainage surface.</u> <u>Note 2: The above requirements do not apply to a surface covered with roof tiles, metal sheet roofing, plastic sheet roofing, terracotta, fibre-cement and timber slates and shingles.</u> <u>Note 3: The above requirements do not apply to a surface where the flooring is of timber decking or other perforated flooring, or which is located directly above ground.</u>



CLAUSE	DESCRIPTION
F1D5 (Previously F1.4)	<u>New Requirement:</u> A roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane— (a) consisting of materials complying with AS 4654.1; and (b) designed and installed in accordance with AS 4654.2. <u>Note 1: The above requirements do not apply to a surface covered with roof tiles, metal sheet roofing, plastic sheet roofing, terracotta, fibre-cement and timber slates and shingles.</u> <u>Note 2: The above requirements do not apply to a surface where the flooring is of timber decking or other perforated flooring, or which is located directly above ground.</u>

Part F2 Wet Areas and Overflow Protection

F2D4 (Previously F1.11)	<u>Revised Requirements:</u> Requirement to grade the flooring where a floor waste is installed. Where a floor waste is installed— (a) the minimum continuous fall of a floor plane to the waste must be 1:80; and (b) the maximum continuous fall of a floor plane to the waste must be 1:50.
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Part F3 Roof and Wall Cladding

Part F3	<u>New Provisions:</u> Introduction of Deemed-to-Satisfy provisions with respect to external wall weatherproofing, where previously compliance was only possible via a Performance Solution. <u>Note: The Deemed-to-Satisfy provisions are limited, and a Performance Solution will still be required in a number of instances.</u>
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Part F7 Sound Transmission and Insulation

Part F7 (Previously Part F5)	<u>Revised Performance Requirements:</u> + Performance Requirements F7P1 (FP5.1), and F7P2 (FP5.2), F7P3 (FP5.4), and F7P4 (FP5.5) have been revised contain quantified requirements for demonstrating compliance. + Performance Requirement FP5.2 has been deleted.
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Note: The below changes have been taken from the NCC Public Comment Draft document. A Preview version of these clauses has not been released as this forms part of the Stage 2 consultation by the ABCB due for release in August 2022

Part F8	Condensation Management
F8V1 (Previously FV6)	<u>Revised Performance Requirement:</u> F8V1 has been revised to include quantified criteria with regard to satisfying Performance Requirement F8P1. <u>Note: These requirements apply only to a Class 2 building or part of a building.</u>
F8D3 (Previously F6.2)	<u>Revised Requirements:</u> Where pliable building membranes, sarking-type materials, or insulation layers are installed on the exterior side of the primary insulation layer of an external wall they must have a vapour permeance of no less than- + in climate zones 4 and 5, 0.143 µg/N.s: and + in climate zones 6, 7 and 8 1.14 µg/N .s. <u>Note: These requirements apply only to a Class 2 building or part of a building.</u>
F8D4 (Previously F6.3)	<u>Revised Requirements:</u> Revised requirements around the provision of exhaust systems in Class 2 or 4 buildings or parts with respect to flow rate and discharge. <u>Note: These requirements apply only to a Class 2 building or part of a building.</u>
F8D5 (Previously F6.4)	<u>Revised Requirements:</u> Revised requirements around the ventilation of roof spaces in Class 2 or 4 buildings or parts. <u>Note: These requirements apply only to a Class 2 building or part of a building.</u>



Spec 26 Waterproofing And Water-Resistance Requirements For Building Elements In Wet Areas

S26C3 (Previously Table F1.7)	Revised Requirement: The walls of the shower area must be <u>waterproof</u> not less than 1800 mm above the floor substrate.
S26C6 (Previously Table F1.7)	New Requirements: Introduction of deemed-to-satisfy requirements relating to WCs with a hand-held bidet spray installation. The following applies: + Waterproof floor of the room. + Wall must be- ▪ Waterproof within a 1500mm radius from the wall connection of the hand held bidet spray device to a height of not less than 150mm above the substrate and ▪ Water resistant within a 1500mm radius from the wall connection of the hand held bidet spray device to a height of not less than 1200mm above the finished floor level of the WC + Waterproof wall junctions within WC area within 1500mm radius from the wall connection of the hand held bidet spray device. + Waterproof wall/floor junctions within 1500mm radius from the wall connection of the hand held bidet spray device. + Waterproof penetrations in WC area.

SECTION G ANCILLARY PROVISIONS

Part G7 Livable Housing Design

Part G7 (New Part)	New Requirements: + New requirements have been introduced which set requirements for Class 2 dwellings to include features that are designed to improve their accessibility and usability for occupant and visitors, including those with a mobility related disability. + Requirement for each Class 2 sole-occupancy unit in a Class 2 building to comply with the ABCB Standard for Livable Housing Design, except for Part 1.
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Note: Refer to the NCC Public Comment Draft document issued by the ABCB in July 2021 for proposed changes under Section J. A Preview version of these clauses has not been released as this forms part of the Stage 2 consultation by the ABCB due for release in May 2022

SECTION J ENERGY EFFICIENCY

Section J	New / Revised Requirements: Numerous changes to Verification Methods, Performance Requirements, and Deemed-to-Satisfy Provisions relating to the energy efficiency of buildings. Specialist advice from an ESD / Section J Consultant will be required in order to outline all relevant changes.
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SCHEDULE 1 DEFINITIONS

Schedule 1 (Previously Schedule 3)	New / Revised Definitions: Inclusion of a number of new / altered definitions for terms used within the NCC.
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SCHEDULE 2 REFERENCED DOCUMENTS

Schedule 2 (Previously Schedule 4)	<u>New Standards</u> + ABCB Livable Housing Design 2022 <u>Updated Standards</u> + AS 1170.2 – 2021 + AS 1288 – 2021 + AS 2419.1 – 2021 + AS 3740 – 2021 + AS 4100 – 2020
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