



BUILDING CODE OF AUSTRALIA ASSESSMENT REPORT (NCC 2019 Edition – Amendment 1)

67 PACIFIC PARADE, DEE WHY

Assessment based on the architectural drawings prepared by Benson McCormack Architecture, Project No. 2004A, Drawing No's DA-0100 (Rev.01), DA-0101 (Rev.01), DA-0102 (Rev.01), DA-0103 (Rev.01), DA-0104 (Rev.01), DA-0105 (Rev.01), DA-0106 (Rev.01), DA-0107 (Rev.01), DA-0200 (Rev.01), DA-0201 (Rev.01), DA-0202 (Rev.01), DA-0203 (Rev.01), DA-300 (Rev.01), DA-301 (Rev.01), DA-302 (Rev.01), DA-303 (Rev.01), DA-0910 (Rev.01), DA-0960 (Rev.01) & DA-1040 (Rev.01) all dated 25 November 2020.

BCA Assessment Report	1	DA Issue	Grant McGrath / 1.12.20	
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INTRODUCTION

1.1 General

The following Building Code of Australia assessment report has been prepared for Benson McCormack Architecture for the development of Affordable Rental Housing for a 'new generation co-living' boarding house development containing twenty five (25) rooms, plus one (1) managers room and two (2) levels of basement parking at 67 Pacific Parade, Dee Why.

1.2 Purpose of the Report

The purpose of this report is to detail all relevant deemed-to-satisfy provisions of the National Construction Code (BCA 2019 – Amendment 1) and to make recommendations to ensure compliance with these provisions.

1.3 Report Basis

This report is based on:

- i. The Building Code of Australia 2019, inclusive of NSW variations.
- ii. The architectural drawings of Benson McCormack Architecture referenced above.

1.4 Exclusions

This report does not consider the following except where specifically mentioned;

- i. The Disability Discrimination Act 1992 (Commonwealth).
- ii. The requirements of other service providers (i.e. Ausgrid, Sydney Water, Jemena, NBN Co. ...etc.)
- iii. Fire engineering analysis of any matter found not to meet with the deemed-to-satisfy provisions of the BCA.
- iv. Volume 3 of the National Construction Code (Plumbing Code of Australia).



BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART A1 - INTERPRETING THE NCC				
Interpreting the NCC	A1.0	Noted.	DTS	Noted. No recommendations.
BCA PART A2 - COMPLIANCE WITH THE NCC				
Compliance with the NCC	A2.0 – A2.4	Noted.	DTS	Noted. No recommendations.
BCA PART A3 - APPLICATION OF THE NCC IN STATES AND TERRITORIES				
State and Territory Compliance	A3.0	Noted.	DTS	Noted. No recommendations.
BCA PART A4 - NCC REFERENCED DOCUMENTS				
NCC Referenced Documents	A4.0 – A4.2	Noted.	DTS	Noted. No recommendations.
BCA PART A5 - DOCUMENTATION OF DESIGN AND CONSTRUCTION				
Documentation of Design and Construction	A5.0 – A5.6	Noted.	DTS	Noted. No recommendations.
BCA PART A6 - BUILDING CLASSIFICATION				
Determining a Building Classification	A6.0 – A6.11	BCA building classifications.	DTS	Class 3: Boarding House Class 7a: Carpark <u>Note: This BCA Assessment Report does not consider the requirements of a Class 3 building to be used as a residential care building or for the accommodation of the aged, children or people with a disability. Where the building is to be used as a residential care building or to accommodate the aged, children or people with a disability, a separate BCA Assessment Report will need to be prepared by Building Code Professionals Pty Limited.</u>

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BCA PART A7 - UNITED BUILDINGS				
When Buildings are United	A7.0	BCA provisions applicable to buildings connected through openings in the external walls dividing them.	---	Not applicable.
Alterations in a United Building	A7.1	BCA requirements where buildings cease to be united buildings.	---	Not applicable.
BCA PART B1 - STRUCTURAL PROVISIONS				
Deemed to Satisfy Provisions	B1.0	Specifies DTS means to satisfy Performance Requirements BP1.1 and BP1.2.	DTS	<p>Building to Comply.</p> <p>Where a <i>Building Solution</i> is proposed to comply with the <i>Deemed-to-Satisfy Provisions</i>, Performance Requirement BP1.1 to BP1.3 are satisfied by complying with B1.1, B1.2 and B1.4 & BP5.</p> <p>All structural elements shall be designed and certified by a <i>professional Structural Engineer (NER)</i> in accordance with these BCA requirements.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
Resistance to Actions	B1.1	Resistance to actions.	DTS	<p>Building to Comply.</p> <p>The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions, where –</p> <p>i) the most critical action effect on a building or structure is determined in accordance with B1.2 and the general design procedures contained</p>

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				<p>in AS/NZS 1170.0-2002; and</p> <p>ii) the resistance of a building or structure is determined in accordance with B1.4.</p> <p>All structural elements shall be designed and certified by a <i>professional</i> Structural Engineer (NER) in accordance with these BCA requirements.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
Determination of Individual Actions	B1.2	Determination of individual actions.	DTS	<p>Building to Comply.</p> <p>The magnitude of individual actions must be determined in accordance with the following:</p> <p>(a) Permanent actions:</p> <p>(i) the design or known dimensions of the building or structure; and</p> <p>(ii) the unit weight of the construction; and</p> <p>(iii) AS/NZS 1170.1-2002.</p> <p>(b) Imposed actions:</p> <p>(i) the known loads that will be imposed during the occupation or use of the building or structure; and</p> <p>(ii) <i>construction activity actions</i>; and</p> <p>(iii) AS/NZS 1170.1-2002.</p> <p>(c) Wind and earthquake actions:</p> <p>(i) the applicable annual probability of design event for safety, determined by –</p> <p>(A) assigning the building or structure an Importance Level in accordance with Table B1.2a of the BCA; and</p>

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				<p>(B) determining the corresponding annual probability of exceedance in accordance with Table B1.2b of the BCA; and</p> <p>(ii) AS/NZS 1170.2-2011; and</p> <p>(iii) AS/NZS 1170.3-2003 & AS 1170.4-2007.</p> <p>(d) Actions not covered in (a), (b) and (c) above:</p> <p>(i) the nature of the action; and</p> <p>(ii) the nature of the building or structure; and</p> <p>(iii) the Importance Level of the building or structure determined in accordance with Table B1.2a of the BCA; and</p> <p>(iv) AS/NZS 1170.1-2002.</p> <p>(e) For the purposes of (d) the actions include but are not limited to—</p> <p>(i) liquid pressure action; and</p> <p>(ii) ground water action; and</p> <p>(iii) rainwater action (including ponding action); and</p> <p>(iv) earth pressure action; and</p> <p>(v) differential movement; and</p> <p>(vi) time dependent effects (including creep and shrinkage); and</p> <p>(vii) thermal effects; and</p> <p>(viii) ground movement caused by –</p> <p>(A) swelling, shrinkage or freezing of the subsoil; and</p> <p>(B) landslip or subsidence; and</p> <p>(C) <i>site-works</i> associated with the building or structure; and</p> <p>(ix) <i>construction activity actions</i>.</p> <p>All structural elements shall be designed and certified by a <i>professional</i> Structural Engineer (NER) in accordance with these BCA</p>

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				<p>requirements.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
---	B1.3	This clause has been deliberately left blank in the BCA.	---	---
Determination of Structural Resistance of Materials and Forms of Construction	B1.4	Determination of structural resistance of materials and forms of construction.	DTS	<p>Building to Comply.</p> <p>All structural and other building elements are to comply with the following Australian Standards (as applicable):</p> <ul style="list-style-type: none"> ▪ Masonry (including masonry-veneer, unreinforced masonry and reinforced masonry) - AS 3700-2018 ▪ Concrete Construction (including reinforced and prestressed concrete) – AS 3600-2018 ▪ Autoclaved aerated concrete: AS 5146.1-2015 ▪ Post-installed and cast-in fastenings: AS 5216-2018 ▪ Steel Structures – AS 4100-1998 ▪ Cold Formed Steel Structures – AS/NZS 4600-2018 ▪ Composite steel and concrete: AS/NZS 2327-2017 ▪ Piling – AS 2159-2009 ▪ Glazed Assemblies – AS 2047-2014 & AS 1288-2006 ▪ Metal Roofing – AS 1562.1-2018

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				<ul style="list-style-type: none"> ▪ Termite Risk Management – AS 3660.1-2014 <i>(A durable notice is to be provided in accordance with Clause B1.4(i)(ii) of the BCA)</i> <p>All structural elements shall be designed and certified by a <i>professional</i> Structural Engineer (NER) in accordance with these BCA requirements.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
Structural Software	B1.5	Structural software limitations.	DTS	<p>Building to Comply.</p> <p>Structural software used in computer aided design of a building or structure that uses design criteria based on deemed-to-satisfy provisions of the BCA (including its reference documents), must comply with the ABCB Protocol for Structural Software.</p> <p>All structural elements shall be designed and certified by a <i>professional</i> Structural Engineer (NER) in accordance with these BCA requirements.</p>
Construction of Buildings in Flood Hazard Areas	B1.6	Construction of Buildings in Flood Hazard Areas (Class 2, 3, 4, 9a, 9c buildings)	Council Requirements	<p>Building to Comply.</p> <p>Where the Development Consent identifies the site as being within a designated flood zone, the building is to be designed to comply with the ABCB Standards for Construction in Flood Hazard Areas – Version 2012.3.</p>

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BCA PART C1 - FIRE RESISTANCE & STABILITY				
Deemed to Satisfy Provisions	C1.0	Specifies DTS means to satisfy Performance Requirements CP1 to CP9.	---	Noted. No recommendations.
Type of Construction Required	C1.1 Table C1.1	This Clause stipulates the "Type of Construction" required based on a buildings "Rise in Storeys". Also see Clause C2.2 regarding maximum floor area limited requirements.	DTS	Type A construction required.
Calculation of Rise in Storeys	C1.2	This Clause stipulates how you calculate a buildings "rise in storeys".	DTS	The building has a rise in storeys of six (6) and an effective height of 17.4 metres.
Buildings of Multiple Classification	C1.3	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.	DTS	Noted.
Mixed Types of Construction	C1.4	Allows mixed types of construction if parts are fire separated.	---	Not applicable.
Two Storey Class 2, 3 or 9c Buildings	C1.5	Gives concession for construction of certain residential buildings.	---	Not applicable.
Class 4 Parts of Building	C1.6	Specified FRLs and separation for Class 4 parts.	---	Not applicable.
Open Spectator Stands and Indoor Sports Stadiums	C1.7	Requirement for construction of spectator stands and stadiums.	---	Not applicable.
Lightweight Construction	C1.8	This Clause stipulates that "lightweight" construction must comply with Specification C1.8 if used.	DTS	Buildings to Comply. Lightweight construction is to comply with Specification C1.8 of the BCA if it is used in a wall system –

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				<p>i) that is required to have an FRL; or</p> <p>ii) for a lift shaft, stair shaft or service shaft, or an external wall bounding a public corridor.</p> <p>Full documentation (including fire test certification) is to be provided with the Construction Certificate application.</p>
Non-combustible Building Elements	C1.9	The Clause outlines where non-combustible materials are to be used in buildings.	DTS	<p>Building to Comply.</p> <p>A) In buildings of this type, the following building elements and their components must be non-combustible:</p> <ul style="list-style-type: none"> i) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. ii) The flooring and floor framing of lift pits. iii) Non-loadbearing internal walls where they are required to be fire-resisting. <p>B) In buildings of this type, a shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction.</p> <p>C) In buildings of this type, a loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1 of the BCA.</p> <p>D) The requirements of (A) and (B) above do not apply to gaskets, caulking, sealants and damp-proof courses.</p> <p>Full documentation (including fire test certification) is to be provided with the Construction Certificate application.</p>

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Fire Hazard Properties	C1.10	Clause C1.10 requires materials and assemblies to comply with Fire Hazard Properties as outlined in Specification C1.10.	DTS	<p>Building to Comply.</p> <p>The fire hazard properties of all materials, assemblies, fixtures and linings are to comply with Specification C1.10 of the BCA, as applicable.</p> <p>The following minimum fire hazard requirements are applicable to this project subject to an AS 2118.1-2017 or AS 2118.6-2012 sprinkler system being installed throughout the building.</p> <p><u>Note: Where an FPAA101D or FPAA101H sprinkler system is proposed to be installed throughout the building to satisfy Clause E1.5 & Table E1.5 of the BCA, the below fire hazard properties are to be amended to ensure compliance with Specification C1.10 of the BCA.</u></p> <p><u>1) General Requirements (Class 3 part)</u></p> <p>a) Walls & Ceilings All Areas (Walls & Ceilings) - Group No. 1, 2 or 3</p> <p>b) Floor Coverings General Areas – <i>Critical Radiant Flux</i> of not less than 1.2 kW/m².</p> <p><u>2) General Requirements (Class 7a parts)</u></p> <p>a) Walls & Ceilings i) Walls - Group No. 1, 2 or 3. ii) Ceilings - Group No. 1 or 2.</p> <p>b) Floor Coverings General Areas – <i>Critical Radiant Flux</i> of not less than 1.2 kW/m².</p>

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				<p>3) Air-handling Ductwork Rigid and flexible ductwork is to comply with the fire hazard properties set out in AS 4254.1-2012 and AS 4254.2-2012.</p> <p>4) Lift Car i) Walls & Ceilings – Group No. 1 or 2 ii) Floor linings & floor coverings - <i>Critical Radiant Flux</i> of not less than 2.2 kW/m².</p> <p>5) Sarking & Other Materials i) Sarking – <i>Flammability Index</i> no greater than 5. ii) Insulation Materials – <i>Spread of Flame Index</i> not greater than 9 and a <i>Smoke Developed Index</i> not greater than 8 if the <i>Spread of Flame Index</i> is more than 5.</p> <p>Full documentation (including fire test certification) is to be provided with the Construction Certificate application.</p>
Performance of External Walls in Fire	C1.11	Requirements for tilt up walls and fixings.	---	Not applicable.
---	C1.12	This clause has been deliberately left blank in the BCA.	---	---
Fire-protected timber: Concession	C1.13	The clause outlines concessions for fire - protected timber in Class 2, 3 and 5 buildings.	---	Not applicable.
Ancillary Elements	C1.14	The Clause outlines permitted ancillary elements that may be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible.	DTS	<p>Building to Comply.</p> <p>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 elements listed in Clause C1.14(a) – C1.14(m) of the BCA.</p>

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<p><u>Note: All ancillary elements installed to the internal and external face of the building are to be of non-combustible construction.</u></p> <p>Full documentation (including fire test certification) is to be provided with the Construction Certificate application.</p>				
<p>BCA PART C2 - COMPARTMENTATION & SEPARATION</p>				
Deemed to Satisfy Provisions	C2.0	This Clause stipulates that the proposed development complies with BCA Section C Performance Requirements if the deemed to satisfy provisions are met.	---	Noted. No recommendations.
Application of Part	C2.1	Fire compartment sizes and volumes do not apply to either a carpark provided with a sprinkler system, an open deck carpark or a spectator stand, or residential occupancies. All other classes of building to comply as required.	---	Noted. No recommendations.
General Floor Area & Volume Limitations	C2.2	This Clause stipulates the maximum floor areas and volumes for all classes of buildings and for each type of construction.	DTS	<p>Complies.</p> <p>The maximum floor areas and volumes of the Class 7a building (parts) comply as required.</p> <p><u>Note: Not applicable to the Class 3 building (parts).</u></p>
Large Isolated Buildings	C2.3	Fire compartments can exceed specified areas and volumes under certain open space, fire protection and vehicular access conditions.	---	Not applicable.
Requirements for Open Spaces & Vehicular Access	C2.4	Conditions applying to vehicular access are required by Clause C2.3.	---	Not applicable.

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Class 9a & Class 9c Buildings	C2.5	Additional fire and smoke compartmentation that is required for Class 9a Healthcare and 9c Aged Care buildings.	---	Not applicable.
Vertical Separation of Openings in External Walls	C2.6	This Clause stipulates how vertical separation can be achieved for buildings of Type A Construction.	DTS	<p>Building to Comply.</p> <p>Spandrel separation is required to be provided in buildings of Type A construction where any window or door opening (or other) in an external wall is above another opening (in the storey next below) and its vertical projection falls no further than 450mm outside the lower opening. Spandrels must be provided as follows:</p> <p>A) Vertical Spandrels:</p> <ul style="list-style-type: none"> i) Not less than 900 mm in height; and ii) Extend not less than 600mm above the upper surface of the intervening floor; and iii) Be of <i>non-combustible</i> material having an FRL of not less than 60/60/60. <p>B) Horizontal Spandrels:</p> <p>A slab or other horizontal construction that-</p> <ul style="list-style-type: none"> i) Projects outwards from the external face of the wall not less than 1100 mm; and ii) extends along the wall not less than 450 mm beyond the opening concerned; and iii) is <i>non-combustible</i> and has an FRL of not less than 60/60/60. <p>Assessment of the drawings has revealed that compliant spandrel separation <u>has not</u> been provided in accordance with Clause C2.6 of the BCA.</p>

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				<p><u>Note i: The drawings are to be fully documented demonstrating full compliance with Clause C2.6 of the BCA.</u></p> <p><u>Note ii: For the purposes of Clause C2.6 of the BCA, window or other opening means that part of the external wall of a building that does not have an FRL of 60/60/60 or greater.</u></p> <p><u>Note iii: Spandrel separation is not required where the building is to be provided with an automatic sprinkler system (other than a FPAA101D or FPAA101H system) in accordance with Clause E1.5 and Specification E1.5 of BCA (i.e. AS 2118.1-2017 or AS 2118.6-2012 or AS 2118.4-2012).</u></p> <p>(See also Clause E1.5 below)</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Separation by Fire Walls	C2.7	This clause stipulates how you achieve fire separation	---	Not applicable.
Separation of Classifications in the Same Storey	C2.8	This clause stipulates how you can treat different classifications in the same storey	---	Not applicable.
Separation of Classifications in Different Storeys	C2.9	This Clause stipulates how you fire separate classifications in different storeys.	DTS	<p>Building to Comply.</p> <p>The concrete floor slab separating the Lower Ground Floor Level from the Upper Ground Floor Level is to achieve an FRL of not less than 120/120/120.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

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Separation of Lift Shafts	C2.10	Lift shafts are required in Specification C1.1 (Type A Construction) to achieve an FRL as stated where lifts are not wholly within an atrium.	DTS	<p>Building to Comply.</p> <p>i) Fire Separation - In a building of this type, lifts are to be separated from the remainder of the building by enclosure in a shaft having an FRL in accordance with Specification C1.1 of the BCA.</p> <p>ii) Lift Entry Doors - Openings for lift landing doors are to be protected by --/60/-- FRL fire doors that:</p> <p>a) comply with AS 1735.11-1986; and</p> <p>b) are set to remain in the closed position except when discharging or receiving passengers or goods.</p> <p>iii) Lift Indicator Panels – A lift call panel, indicator panel or other panel in the wall of the <i>fire-isolated</i> lift shaft are to be backed by construction having an FRL of not less than --/60/60 if it exceeds 35,000 mm².</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Stairways & Lifts in One Shaft	C2.11	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	DTS	<p>Complies.</p> <p>The lift and the fire-isolated stair shaft are separated as required.</p>
Separation of Equipment	C2.12	Certain equipment (lift motors, lift control panels, emergency generators, central smoke control plant, boilers, and batteries) must be separated from the remainder of the building with construction achieving an FRL of not less than 120/120/120.	DTS	<p>Building to Comply.</p> <p>1) Lift motors and lift control panels are required to be separated from the remainder of the building by construction achieving an FRL of not less than 120/120/120.</p> <p><u>Note: Not applicable where the lift is not provided with a machine room.</u></p> <p>2) Separation of on-site fire pumps must comply with Clause E1.3 of the BCA and AS 2419.1-2005.</p>

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				<p>3) Doorways to fire separated rooms are to be protected by self-closing, --/120/30 FRL fire doors.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Electricity Supply System	C2.13	<p>Certain electricity supply equipment must be protected with construction of not less than 120/120/120 FRL. Equipment includes:</p> <ul style="list-style-type: none"> ▪ Electricity substations. ▪ Main switchboards "which sustain emergency equipment operating in emergency mode". ▪ Electricity conductors that supply main switchboard. ▪ Switchboards must also be segregated (where applicable) 	DTS	<p>Building to Comply.</p> <p>1) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode (i.e. fire hydrant pump) must be separated from the remainder of the building by construction achieving a minimum FRL of 120/120/120 and have any doorway protected by a self-closing, --/120/30 FRL fire door.</p> <p>2) Electrical conductors located within the building that supply a main electrical switchboard that sustains emergency equipment operating in the emergency mode, are to have a classification in accordance with AS/NZS 3013-2005 of not less than:</p> <ul style="list-style-type: none"> a) WS 53W (if capable of being damaged by vehicles; or b) WS 52W; or c) enclosed or protected by construction achieving an FRL of not less than 120/120/120. <p>3) Switchboards that sustain electricity supply to the buildings emergency equipment (i.e. fire systems pumps if required) are to be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from non-emergency equipment switchgear.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

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Public Corridors in Class 2 & 3 Buildings	C2.14	In a Class 2 or 3 building a public corridor, if more than 40 metres in length must be divided at intervals of not more than 40 metres with smoke proof walls complying with Clause 2 of Specification C2.5.	DTS	Complies.
BCA PART C3 - PROTECTION OF OPENINGS				
Deemed to Satisfy Provisions	C3.0	This Clause stipulates that the proposed development complies with BCA Section C Performance Requirements if the DTS provisions are met.	---	Noted. No recommendations.
Application of Part	C3.1	Exempts openings such as control joints, weep holes, non-combustible ventilators for sub floor or cavity ventilation, etc, are exempted from protection requirements.	---	Noted. No recommendations.
Protection of Openings in External Walls	C3.2	This Clause stipulates that openings less than 3 m from a side or rear boundary or 6 m from the far boundary of a road must be protected.	DTS and/or Performance Solution Report by a C10 Accredited Fire Safety Engineer	<p>Building to Comply.</p> <p>In buildings of this type, openings in an external wall (i.e. a wall that is required to have a fire resistance level) must if situated less from a fire-source feature to which it is exposed than 3.0 m from a side or rear boundary of the allotment (both parallel and perpendicular) must be protected in accordance with Clause C3.4 of the BCA, and if wall-wetting sprinklers are used, they are located externally and not occupy more than 1/3 of the area of the external wall of the storey in which it is located.</p> <p>The BCA provides the following options for the protection of windows, doors and other openings:</p> <p>A) Window Openings:</p> <ul style="list-style-type: none"> ▪ --/60/-- FRL fire shutters; or

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				<ul style="list-style-type: none"> ▪ External wall wetting sprinklers used with windows that are automatic or permanently fixed in the closed position; or ▪ --/60/-- FRL fire windows (automatic or permanently fixed in the closed position). <p>B) Door Opening:</p> <ul style="list-style-type: none"> ▪ External wall wetting sprinklers used with doors that are automatic closing or self-closing; or ▪ Self-closing or automatic closing --/60/30 FRL fire doors. <p>C) Other Openings (excluding voids):</p> <ul style="list-style-type: none"> ▪ External wall wetting sprinklers; or ▪ Construction having an FRL of not less than --/60/--. <p>Assessment of the drawings has revealed that the building has external windows, a door, voids and other openings that stand closer than 3.0 metres (both parallel and perpendicular) to the side property boundaries that are required to be protected in accordance with Clause C3.4 of the BCA.</p> <p><u>Note: Clause C3.4 of the BCA does not provide a deemed-to-satisfy solution for voids located in the external walls of the building.</u></p> <p>It is recommended that:</p> <ol style="list-style-type: none"> 1) The drawings are to be detailed to demonstrate compliance with Clauses C3.2 and C3.4 of the BCA; and/or 2) A Performance Solution Report is to be prepared by a C10 Accredited Fire Safety Engineer demonstrating compliance with Performance Requirements CP2 and CP8 of the BCA.

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				<p><u>General Notes:</u></p> <p><u>Note i: Restrictions will apply for the use of fixed window systems where natural ventilation is required to be provided to the building in accordance with Clauses F4.5 & F4.6 of the BCA.</u></p> <p><u>Note ii: Fire windows, fire doors and fire shutters are to comply with Specification C3.4 of the BCA.</u></p> <p><u>Note iii: Fire shutters are not able to be used with awning type windows or louvre type windows without specific design documentation being provided demonstrating the methods to be adopted to prevent the fire shutter from becoming inoperable by an open window.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Separation of External Walls and Associated Openings in Different Fire Compartments	C3.3	Separation required between external openings in different fire compartments.	---	Not applicable.
Acceptable Methods of Protection	C3.4	Acceptable methods of protecting openings in external walls.	DTS and/or Performance Solution Report by a C10 Accredited Fire Safety Engineer	Building to Comply. (See Clause C3.2 above)
Doorways in Fire Walls	C3.5	This stipulates how doorways in fire walls are to be constructed.	---	Not applicable.
Sliding Fire Doors	C3.6	Installation requirements for sliding fire doors.	---	Not applicable.

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Protection of Doorways in Horizontal Exits	C3.7	This stipulates how horizontal exits are to be protected.	---	Not applicable.
Openings in Fire Isolated Exits	C3.8	Construction details of doorways leading into fire isolated exits.	DTS	<p>Building to Comply.</p> <p>1) All doors opening into the buildings fire isolated stairways are to be protected by self-closing (or automatic closing), --/60/30 FRL fire doors designed and installed in accordance with AS 1905.1-2015.</p> <p>2) Where automatic closing fire doors are to be installed, the automatic closing operation must be initiated by the activation of a smoke detector, installed in accordance with AS 1670.1-2018, and be located not more than 1.5 metres horizontal distance from the approach side of the doorway. In addition, the automatic closing operation of the fire doors is to be activated on receipt of a signal from the buildings automatic sprinkler system.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Service Penetrations in Fire Isolated Exits	C3.9	Services shall not be installed in fire isolated exits, except as permitted in this Clause.	DTS	<p>Building to Comply.</p> <p>The buildings fire isolated stairways and fire isolated passageways are not to be penetrated by any services <u>other than</u> -</p> <p>1) Electrical wiring associated with -</p> <p>i) a lighting, detection, or pressurisation system serving the exit; or</p> <p>ii) a security, surveillance or management system serving the exit; or</p> <p>iii) an intercommunication system or an audible or visual alarm system in installed in accordance with Clause D2.22 of the BCA; or</p>

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				iv) the monitoring of hydrant or sprinkler isolating valves. 2) Water supply pipes for fire services. Full documentation is to be provided with the Construction Certificate application.
Openings in Fire Isolated Lift Shafts	C3.10	Construction details of doorways leading into fire isolated lift shafts and construction of lift indicator panels.	DTS	Building to Comply. i) Lift Entry Doors - Openings for lift landing doors are to be protected by --/60/-- FRL fire doors that: a) comply with AS 1735.11-1986; and b) are set to remain in the closed position except when discharging or receiving passengers or goods. ii) Lift Indicator Panels – A lift call panel, indicator panel or other panel in the wall of the <i>fire-isolated</i> lift shaft are to be backed by construction having an FRL of not less than --/60/60 if it exceeds 35,000 mm ² . Full documentation is to be provided with the Construction Certificate application.
Bounding Construction Class 2, 3, & 4 Buildings	C3.11	Stipulates how to protect openings in bounding construction (residential building / parts).	DTS and/or Performance Solution Report by a C10 Accredited Fire Safety Engineer	Building to Comply. In buildings of Type A construction, doorways that open from a sole occupancy unit (or from any room not within a sole occupancy unit) to a public corridor, public lobby or the like, a room not within a sole occupancy unit or into another sole occupancy unit, are to be fitted with self-closing, --/60/30 FRL fire doors, designed and installed in accordance with AS 1905.1-2015. <u>Note i: Fire doors to the sole occupancy rooms are also to achieve a sound transmission rating of not less than Rw 30 in accordance with</u>

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				<p><u>Clause F5.5(b) of the BCA.</u></p> <p><u>Note ii: The following rooms are required to be separated from the buildings public corridors (and other common area rooms) with fire rated walls achieving an FRL of not less than 90/90/90 (loadbearing) or --/60/60 (non loadbearing) and are to be fitted with self-closing, --/60/30 FRL fire doors, designed and installed in accordance with AS 1905.1-2015.</u></p> <p><u>A) The Upper Ground Floor Level "Common" room, "Laundry", "Storage" room & the "AC Pant Room".</u></p> <p><u>B) The Level 1 "Common" room, "Storage" room & the "AC Pant Room".</u></p> <p><u>C) The Level 2 "Storage" room & the "AC Pant Room".</u></p> <p><u>D) The Level 2 "Storage" room & the "AC Pant Room".</u></p> <p><u>E) The Level 3 "Common" room, "Storage" room & the "AC Pant Room".</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Openings in Floors & Ceilings for Services	C3.12	Services where passing through fire rated floors and/or walls shall be suitably protected to maintain the FRL of the building element(s) either by the introduction of fire rated shafts and/ or fire stopping / sealing at the penetration.	DTS	<p>Building to Comply.</p> <p>Any/all openings through the buildings fire rated floor and wall systems are to be protected in accordance with Clauses C3.12 and C3.15 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Openings in Shafts	C3.13	Any openings into fire rated service shafts shall be protected in accordance with this Clause.	DTS	<p>Building to Comply.</p> <p>Any/all openings into the buildings fire rated shafts (ventilating, pipe, or other service shaft) are to be protected as follows:</p>

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				i) if in a sanitary compartment – a door or panel which, together with its frame, is non-combustible or has an FRL of not less than --/30/30; or ii) a self-closing --/60/30 FRL fire door or hopper; or iii) an access panel having an FRL of not less than --/60/30; or iv) if the shaft is a garbage shaft – a door or hopper of non-combustible construction. Full documentation is to be provided with the Construction Certificate application.
---	C3.14	This clause has been deliberately left blank in the BCA.	---	---
Openings for Service Installations	C3.15	Services where passing through fire rated floor or walls shall be suitably protected to maintain the FRL of the building element(s).	DTS	Building to Comply. (See Clause C3.12 above) Full documentation is to be provided with the Construction Certificate application.
Construction Joints	C3.16	Construction joints shall achieve the same FRL as the building component in which it is installed.	DTS	Building to Comply. Construction joints between fire-rated building elements are to be "fire-stopped" with materials having the same fire resistance level as the element they are to be installed into. The method used is to be identical with an AS 1530.4-2014 tested prototype. Full documentation is to be provided with the Construction Certificate application.
Columns Protected with Lightweight Construction to achieve an FRL	C3.17	Any column protected with lightweight construction should maintain the fire integrity of a building element through which it passes.	---	Not applicable.

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PART C - SPECIFICATION C1.1 - FIRE RESISTING CONSTRUCTION				
Exposure to Fire Source Features	Specification C1.1 Clause 2.1	This Clause stipulates when a building element is exposed to a fire source feature.	---	Noted. No recommendations.
Fire Protection for a Support of Another Part	Specification C1.1 Clause 2.2	The structural integrity of any part of a building required to have a particular FRL shall not be reduced or undermined by reason of it being supported by a part of the building that does not have at least the same FRL as the part it supports.	DTS	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
Lintels	Specification C1.1 Clause 2.3	Details where lintels over doorways or openings require an FRL.	DTS	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
Attachments not to impair fire resistance	Specification C1.1 Clause 2.4	This clause outlines how combustible elements can be attached to an element that is required to have an FRL.	DTS	Building to Comply. The method of attaching or installing a finish, lining, ancillary element or service installation to a building element must not reduce the fire-resistance of that element to below that required. <u>Note: All cladding materials proposed to serve the building are to be specified on the architectural drawings as being non-combustible in accordance with Clauses C1.9, C1.14 and Clause 2.4 of Specification C1.1 of the BCA.</u> Full documentation is to be provided with the Construction Certificate application.
General Concessions	Specification C1.1 Clause 2.5	Outlines general FRL concessions that can be applied for various building components.	---	Not applicable.

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Mezzanine Floors Concession	Specification C1.1 Clause 2.6	Stipulates that a mezzanine and its supports do not need to achieve a fire rating provided other measures are adopted.	---	Not applicable.
Enclosure of Shafts	Specification C1.1 Clause 2.7	This Clause stipulates how you enclose various shafts both at the top and the bottom.	DTS	<p>Building to Comply.</p> <p>1) Shafts required to have an FRL are to be enclosed at the top, bottom and sides by construction having an FRL of not less than that required for the walls of a non-loadbearing shaft in the same building, except where the top of the shaft extends beyond the roof structure.</p> <p>2) The buildings fire-isolated stairway is to be enclosed at the top, bottom and sides with construction complying with Specification C1.1 of the BCA.</p> <p>3) The lift shaft is to be taken up to a point higher than the building's roof structure or alternatively are to be enclosed at the top with construction complying with Specification C1.1 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Carparks in Class 2 & 3 Buildings	Specification C1.1 Clause 2.8	This Clause allows for a concession to fire rating to carparks in Class 2 and 3 buildings.	---	Not applicable.
Residential Aged Care Building: Concession	Specification C1.1 Clause 2.9	Allows FRL concessions to sprinklered residential aged care buildings.	---	Not applicable.

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Type A Fire Resisting Construction	Specification C1.1 Clause 3.1 – 3.10 & Table 3	This Clause and Table outline the Fire Resistance Levels of various building elements for Type A Construction.	DTS and/or a Performance Solution by a C10 Accredited Fire Safety Engineer	<p>Building to Comply. The BCA assigns the following fire ratings to the listed building elements:</p> <p>1) Class 7a (parts) External Walls:</p> <ul style="list-style-type: none"> ▪ Less than 1.5 m (to fire source feature): 120/120/120 FRL (loadbearing) & --/120/120 FRL (non loadbearing). ▪ 1.5 m to 3.0 m (to fire source feature): 120/90/90 FRL (loadbearing) & --/90/90 FRL (non loadbearing). ▪ 3.0 m or more (to fire source feature): 120/60/30 FRL (loadbearing) & --/--/--- FRL (non loadbearing). ▪ External Columns: 120/--/--. ▪ Floors (LGFL & UGFL): 120/120/120 FRL. ▪ Loadbearing internal walls, beams and columns: 120/--/--. ▪ Lift Shaft: 120/120/120 FRL (loadbearing) or --/120/120 FRL (non loadbearing). ▪ Ventilation shafts (not used for the discharge of hot products of combustion): 120/90/90 FRL (loadbearing) or --/90/90 FRL (non-loadbearing). <p>3) Class 3 (parts) External Walls:</p> <ul style="list-style-type: none"> ▪ Less than 1.5 m (to fire source feature): 90/90/90 FRL (loadbearing) & --/90/90 FRL (non loadbearing). ▪ 1.5 m to 3.0 m (to fire source feature): 240/60/60 FRL (loadbearing) & --/60/60 FRL (non loadbearing). ▪ 3.0 m or more (to fire source feature): 90/60/30 FRL (loadbearing) & --/--/-- (non loadbearing).

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				<ul style="list-style-type: none"> ▪ External Columns: 90/--/--. ▪ Floors (Level 1– Level 4): 90/90/90 FRL. ▪ Loadbearing internal walls, beams and columns: 90/--/--. ▪ Between or bounding sole-occupancy units (General): 90/90/90 FRL (loadbearing) or --/60/60 FRL (non-loadbearing). ▪ Bounding public corridors, public lobbies or the like: 90/90/90 FRL (loadbearing) or --/60/60 FRL (non-loadbearing). ▪ Lift Shaft: 90/90/90 FRL (loadbearing) or --/90/90 FRL (non loadbearing). ▪ Fire-Isolated Stairway: 90/90/90 FRL (loadbearing) and --/90/90 FRL (non loadbearing). ▪ Ventilation shafts (not used for the discharge of hot products of combustion): 90/90/90 FRL (loadbearing) or --/90/90 FRL (non-loadbearing). ▪ Roof: 90/90/90 FRL. <p><u>General Note:</u> <u>In type A construction, all external walls that are required to have an FRL are to be rated for fire from both inside the building and outside the building. Brick veneer construction is not permitted.</u></p> <p>Design certification for the buildings fire rated structural elements is to be issued by a professional Structural Engineer (NER).</p>
Type B Fire Resisting Construction	Specification C1.1 Clauses 4.1 – 4.3	This Clause and Table outline the FRLs of various buildings elements for Type B construction.	---	Not applicable.
Type C Fire Resisting Construction	Specification C1.1 Clauses 5.1 – 5.2	This Clause and Table outlines the FRLs of various building elements for Type C construction.	---	Not applicable.

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PART C - SPECIFICATION C1.8 - STRUCTURE TESTS FOR LIGHTWEIGHT CONSTRUCTION				
Structural Tests for Lightweight Construction	Specification C1.8	This Specification describes the tests to be applied to & criteria to be satisfied by a wall system of lightweight construction that has an FRL.	DTS	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
PART C - SPECIFICATION C1.10 - FIRE HAZARD PROPERTIES				
Fire Hazard Properties	Specification C1.10	This Specification sets out requirements in relation to the fire hazard properties of materials, linings, & surface finishes in buildings.	DTS	Building to Comply. All floor, wall and ceiling materials and other assemblies are to comply as required. (See Clause C1.10 above & Part G6 below). Full documentation is to be provided with the Construction Certificate application.
PART C - SPECIFICATION C1.11 - PERFORMANCE OF EXTERNAL WALLS IN FIRE				
Performance of External Walls in Fire	Specification C1.11	Design considerations for tilt up construction.	---	Not applicable.
PART C - SPECIFICATION C2.5 - SMOKE-PROOF WALLS IN HEALTH CARE & AGED CARE				
Smoke Proof-Walls in Health Care & Aged Care Buildings	Specification C2.5	Requirements for smoke-proof walls in Clause 9a and 9c buildings.	---	Not applicable.
PART C - SPECIFICATION C3.4 - FIRE DOORS, SMOKE DOORS, FIRE WINDOWS, & SHUTTERS				
Fire Doors, Smoke Doors, Fire Windows, & Shutters	Specification C3.4	This Specification sets out the requirements for the construction of fire doors, smoke doors, fire windows, and fire shutters.	DTS	Building to Comply. Fire doors and smoke doors are to comply with Specification C3.4 of the BCA. (See Clauses C3.2, C3.4 & C3.11 above) Full documentation is to be provided with the Construction Certificate application.

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PART C - SPECIFICATION C3.15 - PENETRATION OF WALLS, FLOORS, & CEILINGS BY SERVICES				
Penetration of Walls, Floors, & Ceilings by Services	Specification C3.15	This Specification sets out prescribed materials and methods of installation for services that penetrate walls, and floors that are required to have an FRL.	DTS	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
BCA PART D1 - PROVISION FOR ESCAPE				
Deem to Satisfy Provisions	D1.0	The Clause stipulates that the proposed development complies with Section D Performance Requirements of the BCA if the deem to satisfy provisions are met.	---	Noted. No recommendations.
Application of Part	D1.1	This Clause stipulates that Part D of the BCA does not apply to the internal parts of a sole occupancy unit in a Class 2, 3, or 4 building (or part).	---	Not applicable.
Number of Exits Required	D1.2	This Clause outlines the number of exits required from each part of the building.	DTS or Performance Solution Report by a C10 Accredited Fire Safety Engineer	Non-Compliant. <u>Basement Level:</u> In addition to any horizontal exit, not less than two (2) exits must be provided from any storey if egress from that storey involves a vertical rise within the building of more than 1.5 m, unless - i) the floor area of the storey is not more than 50 m ² ; and ii) the distance of travel from any point on the floor to a single exit is not more than 20 metres. Assessment of the drawings has revealed that the Basement Level Carpark is provided with one (1) x compliant "exit" only as required by Clause D1.2(c) of the BCA. <u>Note i: Clause D1.10(c)(i) of the BCA states</u> <u>"If an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by a ramp or other incline having a gradient</u>

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				<p><u>not steeper than 1:8 at any part, or not steeper than 1:14 if required by the Deemed-to-Satisfy Provisions of Part D3.</u></p> <p><u>Note ii: The proposed second (2nd) exit from the Basement Level Carpark is via the vehicle access ramp that has a gradient (in part) of 1:5 and is not permitted to be used as a required exit.</u></p> <p>It is recommended that:</p> <p>1) The drawings are to be amended to detail a second (non) fire-isolated stairway to serve the Basement Level Carpark in accordance with Clauses D1.2, D1.4, D1.5, D1.9 and D1.10 of the BCA; or</p> <p><u>Note: These exits are required to be distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least two (2) exits is readily available from all points on the floor apart in accordance with Clause D1.5(a) of the BCA. In addition, these two (2) x required exits are to be located no closer than 9.0 metres apart in accordance with Clause D1.5(b) of the BCA and are required to discharge as far apart as practical in accordance with Clause D1.10(d) of the BCA.</u></p> <p>2) A Performance Solution Report is to be prepared by a C10 Accredited Fire Safety Engineer demonstrating compliance with Performance Requirements DP4 and EP2.2 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

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When Fire Isolated Exits are Required	D1.3	This Clause outlines when fire isolated exits are required in buildings.	DTS	<p>Complies.</p> <p>The exit stairway serving the residential levels and the exit stairway serving the Basement Level (including the "Hydrant Pump Room") are required to be fire-isolated.</p> <p>(See also Clauses D1.7 & E1.3 below)</p>
Exit Travel Distances	D1.4	Travel distances to exits in various building types.	DTS or Performance Solution Report by a C10 Accredited Fire Safety Engineer	<p>Non-Compliant.</p> <p>1) Basement Level:</p> <p>The maximum exit travel distances to a single exit exceeds 20.0 metres as permitted by Clause D1.4 of the BCA (i.e. measured as being approximately 25.0 metres).</p> <p>(See also Clause D1.2 above)</p> <p>2) Lower Ground Floor Level:</p> <p>The maximum exit travel distances to a single exit exceeds 20.0 metres as permitted by Clause D1.4 of the BCA (i.e. measured as being approximately 30.4 metres).</p> <p>3) Upper Ground Floor Level:</p> <p>The maximum exit travel distance from the entry fire door of Room UG03 to the entry door of the fire-isolated stairway exceeds 12.0 metres as permitted by Specification E1.5a of the BCA (i.e. measured as being approximately 12.4 metres).</p> <p>4) Level 1:</p> <p>The maximum exit travel distance from the entry fire door of Room L104 to the entry fire door of the fire-isolated stairway exceeds 12.0 metres as permitted by Specification E1.5a of the BCA (i.e. measured as being approximately 12.4 metres).</p>

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				<p>5) Level 2:</p> <p>The maximum exit travel distance from the entry fire door of Room L207 to the entry fire door of the fire-isolated stairway exceeds 12.0 metres as permitted by Specification E1.5a of the BCA (i.e. measured as being approximately 12.4 metres).</p> <p>It is recommended that:</p> <p>1) The drawings are to be amended to demonstrate full compliance with Clause D1.4 and Specification E1.5a of the BCA; or</p> <p>2) A Performance Solution Report is to be prepared by a C10 Accredited Fire Safety Engineer demonstrating compliance with Performance Requirements DP4 and EP2.2 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Distances between Alternative Exits	D1.5	Distance between alternative exits to be a maximum of 45 m (Class 2, 3 buildings and Class 9a patient care areas) and 60 m (in all other cases)	DTS	<p>Building to Comply.</p> <p>(See also Clause D1.2 above)</p>
Dimensions of Exits and Paths of Travel to Exits	D1.6	This Clause details clear dimensions and widths of exits.	DTS	<p>Building to Comply.</p> <p>1) In a required exit or path of travel to an exit the unobstructed height throughout must be not less than 2.0 m, except the unobstructed height of any doorway may be reduced to not less than 1.98 m.</p> <p>2) In a required exit or path of travel to an exit the unobstructed width of each <i>exit</i> or path of travel to an <i>exit</i>, except for doorways, must be not less than 1.0 m.</p>

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				<p>3) In a required exit or path of travel to an exit the minimum width of a doorway (except where it opens to a sanitary compartment or bathroom) is to be no less than 750 mm.</p> <p><u>Note: The clear opening dimensions for the width of all exits and paths of travel to the buildings exits are to be documented on the Construction Certificate drawings.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Travel via Fire Isolated Exits	D1.7	This Clause details connection into and discharge from fire isolated stairs / passageways.	DTS or Performance Solution Report by a C10 Accredited Fire Safety Engineer	<p>Non-Compliant.</p> <p>1) Each fire-isolated stairway must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway –</p> <ul style="list-style-type: none"> i) to a road or open space; or ii) to a point in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3rds of its perimeter and from which an unimpeded path of travel, not further than 20.0 metres is available to a road or open space; or iii) into a covered area that adjoins a road or open space and is open for at least 1/3 of its perimeter and has an unobstructed clear height throughout, including the perimeter openings, of not less than 3.0 metres and provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6.0 metres. <p>Assessment of the drawings has revealed the following:</p> <ul style="list-style-type: none"> a) The required fire-isolated stairway serving the residential levels does not discharge directly to a road or open space via its own independent

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				<p>and separate fire-isolated passageway; and</p> <p>b) The required fire-isolated stairway serving the residential levels discharges at the Lower Ground Floor Level within the confines of the building that fails to comply with Clause D1.7(b) of the BCA.</p> <p>It is recommended that</p> <p>i) The drawings are to be amended to demonstrate full compliance with Clause D1.7 of the BCA; or</p> <p>ii) A Performance Solution Report is to be prepared by a C10 Accredited Fire Safety Engineer demonstrating compliance with Performance Requirements DP5 and EP2.2 of the BCA.</p> <p>2) In buildings of this type, where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6.0 metres of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have –</p> <p>i) an FRL of not less than 60/60/60; and</p> <p>ii) any openings protected internally in accordance with C3.4 of the BCA for a distance of 3.0 metres above (or below) the level of the path of travel, or for the height of the wall, whichever is the lesser.</p> <p>Assessment of the drawings has revealed the following:</p> <p>i) The stairway serving the Basement Level is required to be fire-isolated in accordance with Clause 6.4.2(a) of AS 2419.1-205; and</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>2) The discharge point of this required fire-isolated stairway passes by the external walls of the Lower Ground Floor Level main entry "Lobby" and the "Bin" rooms that are required to be protected in accordance with Clause D1.7(c) of the BCA.</p> <p>It is recommended that</p> <p>i) The drawings are to be amended to demonstrate full compliance with Clause D1.7(c) of the BCA; or</p> <p>ii) A Performance Solution Report is to be prepared by a C10 Accredited Fire Safety Engineer demonstrating compliance with Performance Requirements CP2 and DP5 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
External Stairways or Ramps in Lieu of Fire Isolated Exits	D1.8	Use of an external stair or ramp instead of a fire isolated stair.	---	Not applicable.
Travel by Non Fire Isolated Stairways or Ramps	D1.9	This Clause outlines how you can utilise an open stair for egress.	DTS	(See Clause D1.2 above)
Discharge from Exits	D1.10	Clear width and disposition of exit discharges.	DTS	<p>Building to Comply.</p> <p>An exit must not be blocked at the point of discharge and where necessary, suitable barriers (i.e. steel bollards) must be provided to prevent vehicles from blocking the exit <u>or</u> access to the exit.</p> <p><u>Note: Steel bollards are required to be detailed on the architectural drawings in proximity of all internal exit doorway (including all doors in the path of travel to the buildings exits) that are capable of being blocked by parked vehicles.</u></p>

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				<p>(See Clause D1.2 above)</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Horizontal Exits	D1.11	Use and construction of horizontal exits.	---	Not applicable.
Non-Required Stairways, Ramps or Escalators	D1.12	Non required stairways, ramps and escalators use and permissible storeys connected.	---	Not applicable.
Number of Persons Accommodated	D1.13	Calculation of the number of occupants in each part of a building based on floor area.	DTS	<p>The deemed-to-satisfy building population numbers are as follows:</p> <ul style="list-style-type: none"> ➤ Basement Carpark: 10 persons ➤ LGFL Carpark: 10 persons. <p><u>Note: Not applicable to the Class 3 building (parts).</u></p>
Measurement of Distances	D1.14	Details how distances are measured in relation to egress design.	---	Noted.
Method of Measurement	D1.15	Details how distances are measured in relation to egress design.	---	Noted.
Plant Rooms and Lift Motor Rooms: Concession	D1.16	Egress dispensations in relation to Plant Rooms and Lift Motor Rooms.	---	Not applicable.
Access to Lift Pits	D1.17	Access requirements to lift pits.	DTS	<p>Building to Comply.</p> <p>Where the lift pit is less than 3.0 metres in depth, access is permitted to be via the lowest lift landing doors.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Egress from Early Childhood Centres	D1.18	Early Childhood Centres are to be located wholly within a storey that provides direct egress to a road or open space. Excludes Early Childhood Centres containing not more than two (2) storeys where the Class 9b Early Childhood Centre is the only use in the building.	---	Not applicable.
BCA PART D2 - CONSTRUCTION OF EXITS				
Deem to Satisfy	D2.0	This Clause stipulates that the proposed development complies with Section D Performance Requirements of the BCA if the deem to satisfy provisions are met.	---	Noted. No recommendations.
Application of Part	D2.1	Except for Clauses D2.13, D2.14(a), D2.16, D2.17(d), D2.17(e), D2.18 and D2.24, the Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of a sole-occupancy unit in a Class2building or Class4 part of a building.	---	Noted.
Fire Isolated Stairways & Ramps	D2.2	Structural design of fire isolated stair shafts.	DTS	<p>Building to Comply.</p> <p>The proposed fire-isolated stairways serving the building are to be designed to ensure that if there is a local failure, that it will not cause structural damage to nor impair the fire resistance of the fire stairway shafts.</p> <p><u>Note: NER Structural Engineer is to certify the final Construction Certificate engineering drawings as complying with this clause of the BCA.</u></p>
Non Fire Isolated Stairways & Ramps	D2.3	This Clause stipulates how you must construct required open stairs where the rise in storeys of the building exceeds 2.	DTS	<p>Building to Comply.</p> <p>The non fire-isolated stairway(s) serving the building are required to be constructed using:</p> <p>a) reinforced or prestressed concrete; or</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>b) steel in no part less than 6 mm thick; or c) timber that -</p> <p>i) has a finished thickness of not less than 44 mm; and</p> <p>ii) has an average density of not less than 800 kg/m³ at a moisture content of 12%; and</p> <p>iii) has not been joined by means of glue <u>unless</u> it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.</p> <p>(See also Clause D1.2 above)</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Separation of Rising & Descending Stair Flights	D2.4	Fire isolated stairways must not connect storeys both above and below street level.	---	Not applicable.
Open Access Ramps & Balconies	D2.5	Construction of open access ramps and balconies in lieu of pressurised stairs.	---	Not applicable.
Smoke Lobbies	D2.6	Construction of smoke lobbies required by D1.7.	---	Not applicable.
Installations In Exits & Paths of Travel	D2.7	Outlines where service installations can be accessed and suitable separation to be incorporated.	DTS	<p>Building to Comply.</p> <p>Services or equipment (comprising electricity meters, distribution boards or ducts, central telecommunication distribution boards/ equipment or electrical motors or other motors serving equipment) that are to be installed in a path of travel to an exit, the equipment is to be enclosed in non-combustible construction with any access panel/door suitably smoke sealed against smoke spreading from the enclosure.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Enclosure of Space Under Stairs & Ramps	D2.8	This Clause highlights how you can store under an open stair. Storage under fire isolated stairs is not permissible.	DTS	<p>Building to Comply.</p> <p>1) Fire-isolated stairways - If the space below a required fire-isolated stairway is within the fire-isolated shaft, it must not be enclosed to form a cupboard or similar enclosed space.</p> <p>2) Non fire-isolated stairway - The space below a required non fire-isolated stairway must not be enclosed to form a cupboard or other enclosed space unless –</p> <p>i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and</p> <p>ii) any access doorway to the enclosed space is fitted with a self-closing, --/60/30 FRL fire door.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Width of Stairways	D2.9	This Clause stipulates how stair widths and heights are measured.	---	Noted.
Pedestrian Ramps	D2.10	Stipulates how a pedestrian ramp can serve as a required exit.	DTS	<p>Non-Compliant.</p> <p><i>(See Clause D1.2 above)</i></p>
Fire-Isolated Passageways	D2.11	Fire isolated passageways to have an FRL of 60/60/60 or that of the fire isolated stair from which is extends.	DTS	<p>Non-Compliant.</p> <p><i>(See Clause D1.2 above)</i></p>
Roof as Open Space	D2.12	If the roof is considered "open space" then the slab must have an FRL of 120/120/120, and rooflights and the like must be located not less than 3 m from path of travel.	DTS	<p>Building to Comply.</p> <p>If an exit discharges to a roof of a building, the roof must -</p> <p>a) have an FRL of not less than 120/120/120; and</p> <p>b) not have any rooflights or other openings within three (3) metres of the path of travel of persons using the exit to reach a road or open</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				space. Full documentation is to be provided with the Construction Certificate application.
Goings & Risers	D2.13	This Clause stipulates construction of stair treads and risers.	DTS	<p>Building to Comply. All stairways are to comply as required. All stairways are to have a non-slip surface or a non-slip nosing strip in accordance with Table D2.14 of the BCA and AS 4586-2013. The internal non fire-isolated stairway(s) required to serve the building are to be designed and constructed in accordance with Clause 11, Clause 12 and Figure 28 of AS 1428.1-2009. The internal fire-isolated stairway required to serve the residential levels is to be constructed in accordance with Clause 11.1(f), Clause 11.1(g) and Clause 12 & Figure 28 of AS 1428.1-2009. (See also Clause D1.3 above) Full documentation is to be provided with the Construction Certificate application.</p>
Landings	D2.14	This Clause stipulates construction of landings.	DTS	<p>Building to Comply. All landings are to have a non-slip surface or a non-slip nosing strip in accordance with Table D2.14 of the BCA and AS 4586-2013. Full documentation is to be provided with the Construction Certificate application.</p>
Thresholds	D2.15	This Clause stipulates construction of thresholds to doorways.	DTS	<p>Building to Comply. Full documentation is to be provided with the Construction Certificate application.</p>
Barriers to Prevent Falls	D2.16	Details of height and construction of balustrades to voids, stairs, balconies, etc.	DTS	<p>Building to Comply. All balustrades and barriers are to comply as required.</p>

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				Full documentation is to be provided with the Construction Certificate application.
Handrails	D2.17	Details where handrails need to be incorporated along stairways.	DTS	<p>Building to Comply.</p> <p>1) The (additional) internal non fire-isolated stairway required to serve the Basement Level is to be provided with handrails on both sides in accordance with Clause 12 and Figure 28 of AS 1428.1-2009.</p> <p>2) The internal fire-isolated stairways required to serve the building are to be provided with handrails on at least one (1) side in accordance with Clause 12 and Figure 28 of AS 1428.1-2009.</p> <p>3) The internal stairways serving Rooms L301, L302 and L303 are to be provided with handrails on at least one (1) side in accordance with Clause D2.17 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Fixed Platforms, Walkways, Stairways, & Ladders	D2.18	Details compliance with AS 1657 in respect to walkways, stairways and ladders serving machinery rooms, boiler houses, lift motor rooms, plant rooms, and the like.	DTS	<p>Building to Comply.</p> <p>Where a fixed platform, walkway, stairway or ladder is provided to serve the buildings, they are to be designed and constructed in accordance with AS 1657-2018.</p> <p>(See also NSW Clause G1.101 below)</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Doorways & Doors	D2.19	Details how doors serving as required exits are to operate.	DTS	Complies.
Swinging Doors	D2.20	Swing Doors serving as required exits must swing in the direction of travel, unless it serves a building or part less than 200 m ² .	DTS	<p>Building to Comply.</p> <p>1) A swinging door in a required exit or forming part of a required exit must swing in the direction of egress from the building unless –</p>

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				<p>i) it serves a building or part with a floor area not more than 200 m², it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or</p> <p>ii) it serves a sanitary compartment or airlock (in which case it may swing in either direction); and</p> <p>iii) must not otherwise impede the path or direction of egress.</p> <p>2) A swinging door in a required exit or forming part of a required exit must not encroach at any part of its swing by more than 500 mm on the required width of a required passageway, if it is likely to impede the path of travel of the people already using the exit.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Operation of Latch	D2.21	This Clause details hardware / operating requirements for doors in a required exit, forming part of a required exit or in the path of travel to a required exit.	DTS	<p>Building to Comply.</p> <p>The BCA requires that all <i>exit</i> doors and doors in the path of travel to an <i>exit</i> are to be fitted with single handed action (downward) door hardware positioned at a height of between 900 mm – 1 100 mm above finished floor level.</p> <p>In addition, door hardware levers are to:</p> <p>a) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and</p> <p>b) have a clearance between the handle and the back of the plate or door face at the centre of the grip section of the handle of not less than 35 mm and not more than 45 mm.</p> <p><u>Note: Where the external sliding doors that provide egress from the Level 3 "Common Open Space", these doors are to be fitted with electric strikes (i.e. PADDE strikes or equivalent)</u></p>

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				<p><u>to ensure that they are automatically unlocked on the activation of the buildings fire alarm system and/or the sprinkler system.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Re-entry from Fire Isolated Exits	D2.22	Stipulates whether you can lock a fire stair entry door from the inside.	---	Not applicable.
Signs on Doors	D2.23	Appropriate signage is required to exit doors opening to fire isolated passageways, and stairways.	DTS	<p>Building to Comply.</p> <p>The building is to be provided with signage to the fire-isolated stairways/passageways doors as required by this clause of the BCA.</p> <p>A) Doors into Fire Isolated Stairway and Passageway (Self-Closing Doors)</p> <p>"FIRE SAFETY DOOR-DO NOT OBSTRUCT-DO NOT KEEP OPEN" - 20 mm high capital letters.</p> <p><i>Note: Signs to be positioned on the approach side of the door.</i></p> <p>B) Doors into Fire Isolated Stairway and Passageway (Automatic Closing Doors)</p> <p>"FIRE SAFETY DOOR-DO NOT OBSTRUCT" - 20 mm high capital letters.</p> <p><i>Note: Signs to be positioned on both sides of the door.</i></p> <p>C) Doors Discharging from Fire Isolated Passageway</p> <p>"FIRE SAFETY DOOR-DO NOT OBSTRUCT" - 20 mm high capital letters.</p> <p><i>Note: Signs to be positioned on both sides of the door.</i></p> <p>D) Offences Signs - Offences signs are to be displayed adjacent to the entry doors that give access into the buildings fire-isolated stairways</p>

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				<p>and passageways in accordance with Clause 183 of the <i>Environmental Planning and Assessment Regulation 2000</i>.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Protection of Openable Windows	D2.24	This Clause requires protection of window opening.	DTS	<p>Building to Comply.</p> <p>A) Windows in Bedrooms</p> <p>1) The BCA requires that openable bedroom windows in Class 3 buildings are to be provided with protection if the floor below the window is 2.0 metres or more above the surface beneath.</p> <p>2) Where the lowest level of the window opening is less than 1.7 metres above the floor, a window in a Class 3 bedroom is to comply with the following:</p> <p>i) The openable portion of the window must be protected with a device to restrict the window opening; or</p> <p>ii) a screen with secure fittings.</p> <p>The device or screen used to protect an openable window must comply with Clause D2.24(b)(ii) of the BCA.</p> <p>B) General Barriers to Windows</p> <p>A barrier with a height of not less than 865 mm above the floor is required to an openable window in addition to the requirements listed above for windows located 4.0 metres or more above the surface beneath.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Timber stairways: Concession	D2.25	This Clause provides concessions for fire-isolated stairways and passageways constructed from fire-protected timbers.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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BCA PART D3 - ACCESS FOR PEOPLE WITH DISABILITIES (Clauses D3.0 – D3.12 & Clause F2.4 of the BCA)

Building to Comply.

Disabled access and facilities are required to the building as follows:

- 1) Access is to be provided from the footpath in Pacific Parade to the whole of the Ground Floor Level of the building in accordance with AS 1428.1-2009.
- 2) Compliant circulation spaces are to be provided on both sides of all common area doorways as well as to the entry fire doors providing access into the two (2) x designed accessible sole-occupancy rooms in accordance with AS 1428.1-2009 (i.e. Rooms UG02 & L206).

Note i: All required doorways and circulation spaces are to be dimensioned on the architectural drawings showing full compliance with AS 1428.1-2009.

Note ii: All required doorways serving the building are to be provided with a minimum 850 mm clear opening width in accordance with AS 1428.1-2009.

Note iii: All lever action hardware to the required doors throughout the building is to comply with Clause D2.21 of the BCA and AS 1428.1-2009.

- 3) An accessway is to be provided to the Ground Floor Level passenger / stretcher lift from the Main Entry doorway in accordance with AS 1428.1-2009.
- 4) An accessway is to be provided to and within the Upper Ground Floor Level "Common" room, the Level 1 "Common" room and the Level 3 "Common" room in accordance with AS 1428.1-2009.
- 5) An accessway is to be provided to the Upper Ground Floor Level "Laundry" in accordance with AS 1428.1-2009.
- 6) An accessway is to be provided to the Level 3 external "Common Open Space" in accordance with AS 1428.1-2009.

Note: Where sliding doors are proposed to serve this area, the bottom tracks / rails are to be recessed into the concrete slab beneath to allow compliance with AS 1428.1-2009. In addition, grated drainage is to be provided adjoining the exterior of these sliding doors in accordance with AS/NZS 3500.3-2018 and AS 1428.1-2009.

- 7) A minimum of two (2) x accessible residential rooms are to be provided (i.e. Rooms UG02 & L103). Compliant circulation space is to be provided on both sides of the entry fire doors to these accessible residential rooms in accordance with AS 1428.1-2009.

Note: The sanitary / shower facilities required to serve Room UG02 & Room L103 are to be designed in accordance with AS 1428.1-2009. In addition, one (1) of these accessible sanitary facilities is have a left-hand transfer pan and one (1) of these accessible sanitary facilities is have a right-hand transfer pan in accordance with Clause F2.4(g) of the BCA. Detailed floor plans and four (4) x internal elevations of the accessible sanitary facilities are to be provided on the Construction Certificate drawings.

- 8) The unisex accessible sanitary facility proposed to serve the Level 1 "Communal" room (including the associated air-lock) is to be designed in accordance with AS 1428.1-2009.

Note: Detailed floor plans and four (4) x internal elevations of this accessible sanitary facilities are to be provided on the Construction Certificate drawings.

- 9) A minimum of two (2) x accessible carparking spaces (and an associated shared zone) are to be provided to serve the two (2) x required accessible carparking spaces in accordance with AS/NZS 2890.6-2009.

Note i: The minimum clear unobstructed height above these spaces is to be no less than 2500 mm.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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Note ii: The circulation space at the rear of the all designated accessible carparking spaces are to have the same gradient as the disabled carparking spaces (i.e. a slope no steeper than 1:40. In addition, the path(s) of travel from these circulation spaces are to have a gradient of not steeper than 1:40 nor a cross-fall greater than 1:40 in accordance with AS/NZS 2890.6-2009.

10) An accessway is to be provided from the two (2) x accessible carparking spaces (and the associated shared zone) to the passenger / stretcher lift in accordance with AS 1428.1-2009.

11) The internal passenger / stretcher lift is to comply with Part E3 of the BCA **(see Clauses E3.0 – E3.10 below).**

Note: All lift call buttons are to be located no less than 500 mm from any adjoining wall surface in accordance with AS 1735.12-1999.

12) All stormwater drainage pits are to be located outside all required accessways. Where this is not the case, the grates to these drainage pits and the associated slope of the adjoining accessways are to be fully compliant with AS 1428.1-2009.

13) On an accessway where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and glazing capable of being mistaken for a doorway or opening must be clearly marked in accordance with Clause D3.12 of the BCA and AS 1428.1-2009.

14) Turning spaces and passing spaces for persons in a wheelchair are to be provided throughout the development in accordance with Clause D3.3 of the BCA and AS 1428.1-2009.

15) Braille and tactile signage (including Braille & tactile "EXIT" signage) is required to serve the building in accordance with Clause D3.6 and Specification D3.6 of the BCA.

16) All accessway surfaces are to be non-slip in accordance with AS 1428.1-2009 and AS 4586-2013.

17) All switches and controls (other than GPO's) in the buildings common areas and within Rooms UG02 & L103 are to be located not less than 900 mm and not more than 1100 mm above the plane of the finished floor and not less than 500 mm from internal corners in accordance with Clause 14.1 & Figure 37 of AS 1428.1-2009.

18) Rocker action and toggle switches are to be provided in the buildings common areas and within Room MA-L103 & Room MA-L206 that have minimum dimensions of 30 mm x 30 mm. Push-pad switches shall have a minimum dimension of 25 mm in diameter.

19) General purpose outlets (GPO's) to be provided in the buildings common areas and within Room Rooms UG02 & L103 are to be located not less than 600 mm nor more than 1100 mm above the plane of the finished floor and not less than 500 mm from internal corners.

20) All doors (other than glazed doors) are to be painted in a colour having a 30% luminance contrast to the surrounding walls in accordance with AS 1428.1-2009.

21) Where carpet is to be installed on the buildings accessways, the pile height shall not exceed 11 mm and the carpet backing shall not exceed 4 mm.

22) The (required additional) internal fire-isolated stairway to serve the Basement Level carpark is to be provided with handrails on both sides in accordance with Clause 12 and Figure 28 of AS 1428.1-2009.

23) The internal fire-isolated stairway(s) required to serve the Basement Level carpark are to be provided with handrails on both sides in accordance with Clause 12 and Figure 28 of AS 1428.1-2009.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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24) The fire-isolated stairways required to serve the residential levels and the Basement Level are to be designed and constructed in accordance with Clause 11.1(f), 11.1(g), Clause 12 & Figure 28 of AS 1428.1-2009.

25) The (required additional) internal non fire-isolated stairway serving the Basement Level and all access ramps are to be provided with tactile ground surface indicators (TGSIs) in accordance with Sections 1 and 2 of AS/NZS 1428.4.1-2009.

A report is to be prepared by an ACAA Accredited Access Consultant detailing all works required to be carried out to the building to ensure compliance with Part D3 and Clause F2.4 of the BCA.

General Notes:

Note i: Where compliance is not achieved in accordance with the deemed-to-satisfy provisions of the BCA, a Performance Solution Report is to be prepared by an ACAA Accredited Access Consultant demonstrating compliance with the Performance Requirements of the BCA.

Note ii: The parties are advised of the need to comply with the requirements of the Disability Discrimination Act 1992 (Commonwealth).

Note iii: Additional facilities may be required by Council as a condition of Development Consent.

Full documentation is to be provided with the Construction Certificate application.

BCA PART E1 - FIRE FIGHTING EQUIPMENT

Deemed to Satisfy Provisions	E1.0	This Clause stipulates that the proposed development complies with Section E Performance Requirements of the BCA if the Deemed to Satisfy Provisions are met.	---	Noted. No recommendations.
---	E1.1	This clause has been deliberately left blank in the BCA.	---	---
---	E1.2	This clause has been deliberately left blank in the BCA.	---	---
Hydrants	E1.3	This Clause stipulates when fire hydrants are required.	DTS	<p>Building to Comply.</p> <p>Buildings of this type are required to be served by a fire hydrant system in accordance with Clause E1.3 of the BCA and AS 2419.1-2005.</p> <p>The fire hydrant system is to be designed and certified by a practising <i>professional</i> Hydraulic Engineer or other competent Hydraulic Designer.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p><u>Note i: The Basement Level "Hydrant Pump Room" is to detailed on the architectural drawings as complying with Clause D1.7(a) of the BCA and Clauses 6.4.1 & 6.4.2 of AS 2419.1-2005.</u></p> <p><u>Note ii: A fire hydrant booster assembly may be located between 3.5 metres and 10.0 metres of the building, and need not comply with Clause 7.3(d)(iii) of AS 2419.1-2005 where the assembly is protected by an adjacent fire-rated freestanding wall that -</u></p> <p><u>(aa) achieves an FRL of not less than 90/90/90; and</u></p> <p><u>(bb) extends not less than 1.0 metre each side of the outermost fire hydrant booster risers within the assembly and is not less than 3.0 metres wide; and</u></p> <p><u>(cc) extends to a height of not less than 2.0 metres above finished ground level.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Fire Hose Reels	E1.4	This Clause stipulates when fire hose reels are required.	DTS	<p>Building to Comply.</p> <p>A fire hose reel system is required to be provided to serve the Basement Level and the Lower Ground Floor Level.</p> <p>The fire hose reel system is to be designed and certified by a practising <i>professional</i> Hydraulic Engineer or other competent Hydraulic Designer.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Sprinklers	E1.5 & Table E1.5	This Clause stipulates when sprinklers are required.	DTS	<p>Building to Comply.</p> <p>Buildings of this type are required to be served by a sprinkler system in accordance with Clause E1.5, Table E1.5 and Specification E1.5 and E1.5a of the BCA.</p> <p>The sprinkler system is to be designed and certified by a practising <i>professional</i> Hydraulic Engineer or other competent Hydraulic Designer.</p> <p><u>Note i: Where a fire pump is required to serve the sprinkler system, the pump room is to be detailed on the architectural drawings in accordance with Clause 6.4.1 & Clause 6.4.2 of AS 2419.1-2005.</u></p> <p><u>Note ii: Concessions are available under Clause 3 of Specification E1.5a of the BCA.</u></p> <p><u>Note iii: The sprinkler alarm valves are to be located in a secure room or enclosure that has direct egress to a road or open space. In addition, the sprinkler valve room or enclosure is to be secured with a system suitable for use by the fire brigade in accordance with Clause 6 of Specification E1.5 of the BCA.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Portable Fire Extinguishers	E1.6 & Table E1.6	This Clause stipulates where extinguishers need to be installed.	DTS	<p>Building to Comply.</p> <p>Portable fire extinguishers are to be provided throughout the building in accordance with Table E1.6 of the BCA and AS 2444-2001.</p> <p><u>Note i: The portable fire extinguishers required to be provided throughout the building are to be positioned to ensure that they do not encroach on the minimum 1.0 m exit widths as well as the required circulation and turning</u></p>

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				<p><u>spaces required by Clause D3.3 of the BCA and AS 1428.1-2009.</u></p> <p><u>Note ii: The portable fire extinguishers required to serve the Class 3 building (parts) are to be positioned on each level of the building at a point no greater than 10.0 metres from the entry doorways of the residential roomss. These portable fire extinguishers are to be AB(E) type having a minimum size of 2.5 kg in accordance with Table E1.6 of the BCA.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
---	E1.7	This clause has been deliberately left blank in the BCA.	---	---
Fire Control Centres	E1.8	This Clause stipulates when a fire control centre is required.	---	Not applicable.
Fire Precautions during Construction	E1.9	Fire services must be provided and be operational during the construction phase in accordance with Clause E1.9.	DTS	<p>Building to Comply.</p> <p>1) Not less than one (1) portable fire extinguisher to suit Class A, B & C fires and electrical fires is to be provided at all times on each storey of the building adjacent to each required exit or temporary stairway or exit.</p> <p>2) After the building has reached an effective height of 12.0 metres –</p> <p>i) the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the two uppermost storeys; and</p> <p>ii) the fire hydrant booster facility must be operational.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

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Provision for Special Hazards	E1.10	Outlines where special provisions are required certain hazards.	DTS	Not applicable. No known special fire hazards.
BCA PART E1 - SPECIFICATIONS				
Fire Sprinkler Systems	Specification E1.5	This Specification sets out requirements for the design and installation of fire sprinkler systems.	DTS	Building to Comply. (See Clause E1.5 above)
Fire Control Centres	Specification E1.8	This Specification describes the construction & content of required Fire Control Centres or Rooms.	---	Not applicable.
BCA PART E2 - SMOKE HAZARD MANAGEMENT				
Deemed to Satisfy Provisions	E2.0	This Clause stipulates that the proposed development complies with Section E Performance Requirements of the BCA if the Deemed to Satisfy Provisions are met.	---	Noted. No recommendations.
Application of Part	E2.1	Stipulates where Smoke Hazard Management provisions do not apply.	---	Noted. No recommendations.
General Requirements	E2.2, Table E2.2a & E2.2b	Details how compliance is achieved with both Smoke Hazard Management Provisions including treatment of systems that may not be part of the overall Smoke Hazard Management System.	DTS	Building to Comply. A) Mechanical Ventilation (General) 1) An air handling system that does not form part of a smoke hazard management system and which recycles air from one fire compartment to another fire compartment <u>or</u> operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another must: i) be designed and installed to operate as a smoke control system to AS 1668.1-2015; <u>or</u> ii) incorporate smoke dampers where the air handling duct/s penetrate any fire compartment building element and be arranged to shut down and the smoke

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				<p>dampers activated to close automatically by smoke detectors complying with Clause 7.5 of AS 1670.1-2018.</p> <p><u>Note: For the purposes of this provision, each sole-occupancy residential room is treated as a separate fire compartment.</u></p> <p>2) Miscellaneous air-handling systems covered by Sections 5 and 6 of AS 1668.1-2015 serving more than one <i>fire compartment</i> (other than a <i>carpark</i> ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard.</p> <p>B) Automatic Fire Detection & Alarm Systems</p> <p>The building is to be provided with an automatic fire detection and alarm system in accordance with Specification E2.2a of the BCA.</p> <p><u>Note i: The buildings automatic fire detection system and the sprinkler system are to be interconnected to activate a Building Occupant Warning System (BOWS) throughout the whole building in accordance with Clause 7 of Specification E2.2a of the BCA.</u></p> <p><u>Note ii: The buildings automatic fire detection system and the sprinkler system are to be connected to FRNSW via an approved third-party fire alarm monitoring service provider in accordance with Clause 8 Specification E2.2a of the BCA.</u></p> <p>C) Carpark Ventilation Systems.</p> <p>The required mechanical ventilation system serving the Carparking Levels is to be designed in accordance with AS 1668.2-2012 and must comply with Clause 5.5 of AS 1668.1-2015, and</p>

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				i) fans with metal blades suitable for operation at normal temperatures may be used; and ii) the electrical power and control cabling need not be fire rated. Full documentation is to be provided with the Construction Certificate application.
BCA PART E2 - SPECIFICATIONS				
Smoke Detection & Alarm Systems	Specification E2.2a	This Specification outlines the design of various smoke detection and alarm systems.	DTS	Building to Comply. <i>(See Clause E2.2 above)</i>
Smoke Exhaust Systems	Specification E2.2b	This Specification highlights the requirements for mechanical smoke exhaust and zone smoke control systems.	---	Not applicable.
Smoke & Heat Vents	Specification E2.2c	Details use and construction of smoke and heat vents.	---	Not applicable.
Residential Fire Safety Systems	Specification E2.2d	Details the use of use of Residential Fire Safety Systems referenced in Specification E1.5a of the BCA.	DTS	Building to Comply. <i>(See Clause E2.2 above)</i>
BCA PART E3 - LIFT INSTALLATIONS				
Lift Installations	E3.0 – E3.10	These Clauses detail construction and design of lift installations.	DTS	Building to Comply. 1) The internal passenger / stretcher lift proposed to serve the building is to be capable of accommodating a raised stretcher with a patient lying on it horizontally by providing a clear space of not less than 1400 mm wide x 2000 mm long x 1400 mm high above the floor level. <u>Note i: The drawings are to be amended to demonstrate a passenger / stretcher lift having an internal length of not less than 2000 mm. The current drawings show an internal width of</u>

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				<p><u>2000 mm contrary to Clause E3.2(b) of the BCA.</u></p> <p><u>Note ii: The widths of the stretcher lift is required to be increased from 600 mm to 1400 mm to ensure compliance with Table E3.6b of the BCA.</u></p> <p>2) The internal passenger / stretcher lift proposed to serve the building is to be selected from one (1) of the following types in accordance with Table E3.6a and E3.6b of the BCA:</p> <ul style="list-style-type: none"> ▪ Electric Passenger Lifts; or ▪ Electrohydraulic Passenger Lifts. <p>2) Electric passenger lifts and electrohydraulic passenger lifts are to comply with Specification E3.1 of the BCA.</p> <p>3) The internal passenger / stretcher lift proposed to serve the building is required to be provided with the following facilities in accordance with Table E3.6b of the BCA:</p> <ul style="list-style-type: none"> i) A handrail complying with the provisions for a mandatory handrail in AS 1735.12-1999; and ii) Lift floor dimensions of not less than 1400 mm wide x 2000 mm long; and iii) Minimum clear door opening complying with AS 1735.12-1999; and iv) Passenger protection system complying with AS 1735.12-1999; and v) Lift car and landing control buttons complying with AS 1735.12-1999; and vi) Lighting in accordance with AS 1735.12-1999; and vii) Automatic audible information within the lift car to identify the level each time the car stops; and

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				<p>viii) Audible and visual indication at each lift landing to indicate the arrival of the car; and</p> <p>ix) Audible information and audible indication required is to be provided in a range of between 20 – 80 dB(A) at a maximum frequency of 1500 Hz.</p> <p>x) Emergency hands-free communication, including a button that alerts a call centre of a problem and a light to signal that the call has been received.</p> <p>4) Fire services controls are to be provided serve the proposed passenger / stretcher lift in accordance with Clause E3.7 of the BCA.</p> <p>5) The internal passenger / stretcher lift required to serve the building is to be provided with fire services recall control switches in accordance with Clauses E3.9 of the BCA.</p> <p>6) The internal passenger / stretcher lift required to serve the building is to be provided with lift car fire service drive control switches in accordance with Clauses E3.10 of the BCA.</p> <p>7) Warning signs are to be provided adjacent to all lift call buttons in accordance with Clause E3.3 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
BCA PART E4 - VISIBILITY IN AN EMERGENCY, EXIT SIGNS & WARNING SYSTEMS				
Deemed to Satisfy Provisions	E4.0	Specifies DTS means to satisfy performance requirements E4.1 to E4.9.	---	Noted. No recommendations.

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Emergency Lighting	E4.2 – E4.4	Design and installation requirements for emergency lighting.	DTS	<p>Building to Comply.</p> <p>Emergency lighting is to be provided throughout the building in accordance with Clauses E4.2 and E4.4 of the BCA and AS/NZS 2293.1-2018.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Exit Lighting	E4.5 – E4.8	Design and installation requirements for exit lighting.	DTS	<p>Building to Comply</p> <p>Exit and directional signs are required to be provided throughout the building in accordance with Clauses E4.5, E4.6 and E4.8 of the BCA and AS/NZS 2293.1-2018.</p> <p>In addition, Braille and tactile "EXIT" signage is required to serve the building in accordance with Clause D3.6 (a)(ii) and Specification D3.6 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Early Warning & Intercommunication System (EWIS)	E4.9	This Clause details where an EWIS system is required.	---	<p>Not applicable.</p> <p><u>Where the building is approved by Northern Beaches Council as a residential care building, or for the accommodation of the aged, children or people with a disability, an Early Warning & Intercommunication System (EWIS) is to be provided throughout the whole building in accordance with Clause E4.9 of the BCA and AS 1670.4-2018.</u></p>
BCA SECTION F – HEALTH & AMENITY				
Damp / Weatherproofing	Part F1	Prevention of external and internal water / moisture accumulation.	DTS	<p>Building to Comply.</p> <p>1) Stormwater drainage is to comply with AS/NZS 3500.3-2018.</p> <p>2) Waterproofing of the buildings wet areas is to comply with Clause F1.7 of the BCA.</p>

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				<p>3) Damp-proofing of the building is to comply with Clauses F1.9 and F1.10 of the BCA.</p> <p>4) All sanitary compartments are to be provided with a floor waste. All floors are to be graded and drained to the floor waste to prevent the ponding of water.</p> <p>5) Waterproofing membranes for external above ground use are to comply with AS 4654.1-2012 and AS 4654.2-2012.</p> <p><u>General Note:</u> <u>The methods to be adopted to prevent the ingress of rainwater into the is to be provided on the Construction Certificate drawings demonstrating compliance with Performance Requirements FP1.2 & FP1.3 of the BCA.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Sanitary and Other Facilities	Part F2	Provisions of sanitary, washing facilities and control of micro-organisms.	DTS	<p>Building to Comply.</p> <p>1) Each residential room is to be provided with the following minimum facilities:</p> <ul style="list-style-type: none"> a) a bath or shower; and b) a WC; and c) a washbasin. <p><u>Note: Details are to be provided on the architectural drawings.</u></p> <p>2) The bathrooms required to serve Rooms UG02 and L103 (i.e. the required accessible sole-occupancy rooms) are to be designed to ensure full compliance with AS 1428.1-2009. In addition, one (1) of these sanitary facilities is to be designated as having a right hand (RH) transfer pan and one (1) of these sanitary facilities is to be designated as having a left hand (LH) transfer pan in accordance with Clause F2.4(g) of the BCA.</p>

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				<p>3) Sanitary compartments are to be constructed in accordance with Clause F2.5 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Room Sizes	Part F3	Requirements for minimum room height.	DTS	<p>Building to Comply.</p> <p>Minimum ceiling heights are to be as follows:</p> <ol style="list-style-type: none"> 1) Habitable rooms (excluding kitchens) – 2.4 m. 2) Kitchen – 2.1 m. 3) Corridor, passageway or the like – 2.1 m. 4) Bathroom, laundry, sanitary compartment, air-lock, pantry, storeroom, garage or the like – 2.1 m. 5) Stairways – 2.0 m measured vertically above the nosing line. 6) Basement Level Services Rooms / Plant Room & associated areas: 2.1 metres. <p><u>Note: The drawings are to be amended and dimensioned to demonstrate full compliance with the minimum ceiling heights in these areas of the building.</u></p> <ol style="list-style-type: none"> 6) Carpark (General): 2.2 m. 7) Accessible Carparking Space & Associated Shared Zone: 2.5 m. <p>(See also Part D3 above regarding the required accessible carparking space and associated shared zones)</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Light & Ventilation	Part F4	Requirements for light and ventilation.	DTS	<p>Building to Comply.</p> <p>1) Natural Lighting – natural lighting is required to be provided to all habitable rooms by windows that have an aggregate light transmitting area (measured exclusives of framing member, glazing bars or other obstructions) of not less than 10% of the floor area of the room.</p> <p>The glazing is to open to the sky or face a courtyard (or other space) that is open to the sky or an open verandah or the like.</p> <p>2) In buildings of this type, a required window that faces a boundary of an adjoining allotment must not be less than a horizontal distance from that boundary or wall that is the greater of -</p> <ul style="list-style-type: none"> i) generally – 1.0 m; and ii) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill. <p>2) Natural Ventilation - natural ventilation is required to be provided to all rooms by windows, doors or other devices which can be opened with an aggregate opening or openable size of not less than 5% of the floor area of the room required to be ventilated.</p> <p>These windows are to open to;</p> <ul style="list-style-type: none"> a) a suitably sized court or space open to the sky; or b) an open verandah or the like. <p>2) Mechanical ventilation is to be provided throughout all parts of the building that are not provided with compliant natural ventilation in accordance with AS 1668.2-2012 and AS 1668.1-2015 (as applicable).</p>

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				<p>Detailed plans, specifications and design certification are to be prepared by a <i>professional</i> Mechanical Engineer.</p> <p>3) Lighting - artificial lighting is to be provided throughout all parts of the building in accordance with AS/NZS 1680.0-2009.</p> <p>Plans and design certification are to be issued by a professional Electrical Engineer.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Sound Transmission	Part F5	Requirements for sound transmission in Class 2 and 3 buildings.	DTS	<p>Building to Comply.</p> <p>The following sound transmission and insulation categories apply throughout the building:</p> <p>A) UGFL – Level 3 - $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w}$ (impact) of not more than 62.</p> <p>B) Party Walls (between and bounding SOU's)</p> <p>i) $R_w + C_{tr}$ (airborne) not less than 50, if it separates <i>sole-occupancy units</i>; and</p> <p>ii) have an R_w (airborne) not less than 50 if it separates a <i>sole-occupancy unit</i> from a lift shaft, stairway, public corridor, public lobby or the like, or parts of a building with different classification; and</p> <p>iii) be of <u>discontinuous construction</u> and for masonry, where wall ties are required to connect leaves, the ties are to be of the resilient type; and for other than masonry, there is no mechanical linkage between leaves except at the periphery if it separates a bathroom, <i>sanitary compartment</i>, laundry or kitchen in one <i>sole-occupancy unit</i> from a <i>habitable room</i> (other than a kitchen) in an adjoining unit.</p>

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				<p>C) Services Ducts, soil, waste water or storm water pipes passing through residential sole-occupancy units are to achieve the following sound ratings:</p> <ul style="list-style-type: none"> ▪ $R_w + C_{tr}$ (airborne) not less than 40 if the adjacent room is a habitable room (other than a kitchen); or ▪ $R_w + C_{tr}$ (airborne) not less than 25 if the adjacent room is kitchen or non-habitable room). <p>D) 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. Full documentation is to be provided with the Construction Certificate application.</p>
Condensation Management	Part F6	Requirements for the control of condensation in Class 2 and 4 buildings.	---	Not applicable.
BCA PART G – ANCILLARY PROVISIONS				
Swimming Pools	G1.1(c)	Safety requirements for spa pools and swimming pools to prevent injury to persons.	---	Not applicable.
Refrigerated Chambers, Strong Rooms and Vaults	G1.2	Requirements for the safety of persons inside Coolrooms, Strong Rooms and Vaults	---	Not applicable.
Outdoor Play Spaces	G1.3	Details the requirements for the fencing of outdoor play spaces in Early Childhood Centres to provide for the safety of children.	---	Not applicable.

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Provisions for Cleaning Windows	NSW G1.101	Details the requirements for the cleaning of windows located three (3) or more storeys above the ground.	DTS	<p>Building to Comply.</p> <p>All external windows located three (3) or more storeys above ground level are to be provided with a safe manner of cleaning windows as follows:</p> <p>i) all windows are to be capable of being cleaned wholly from within the building (i.e. pivot or reversible windows etc.); or</p> <p>ii) by a method complying with the <i>Occupational Health and Safety Act 2000</i> and regulations made under that Act.</p> <p><u>Note: Secure access is required to be provided to the Roof Level(s) of the building to allow access by authorised window cleaning (and other building maintenance) personnel.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Boilers, Pressure Vessels, Heating Appliances, Fireplaces, Chimneys and Flues	G2.0 – G2.4	Details the requirements for the installation of boilers, pressure vessels, heating appliances, fireplaces, chimneys and flues.	---	Not applicable.
Atrium Construction	G3.1 – G3.8	Details additional requirements for buildings with atriums.	---	Not applicable.
Construction in Alpine Areas	G4.0 – G4.9	Details additional requirements for buildings constructed in designated alpine areas.	---	Not applicable.
Construction in Bushfire Prone Areas	G5.0 – G5.2	Details additional requirements for Class 2 and 3 buildings (and associated Class 10a structures) located in designated bushfire prone areas.	---	Not applicable.

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Occupiable Outdoor Areas	G6.1 – G6.10	Details additional requirements for "occupiable outdoor areas" as defined by the BCA.	DTS	<p>Building to Comply.</p> <p>The proposed Level 3 "Common Open Space" area is to be documented showing full compliance with Part G6 of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
<p>BCA SECTION J – ENERGY EFFICIENCY</p> <p>Building to Comply.</p> <p>The energy efficiency provisions of the <u>NSW Sub-section J(B) of the BCA</u> are applicable to the Class 3 and Class 7a building (parts).</p> <p>A report is to be prepared by an <u>ABSA Accredited Assessor</u> detailing all works required to be carried out to the buildings envelope and systems to ensure compliance with these requirements. All works listed in the report of the ABSA Accredited Assessor are to be incorporated into the building design and services documentation.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>				

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