BCA Assessment Report

7 &8 Coronation Street, Mona Vale

Project:	7 &8 Coronation Street, Mona Vale
Reference No:	114700-BCA-r2
Date:	28 September 2021
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Document Control

Revision	Date	Description	
114700-BCA-r2	28 September 2021	Final BCA Assessment Report (DA Stage)	
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			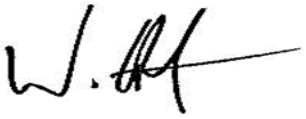

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EXECUTIVE SUMMARY

This document provides an assessment of the architectural design drawings for the proposed construction of a four (4) storey residential flat building (seniors living) containing one (1) level of basement carparking) at 7 &8 Coronation Street, Mona Vale , against the Deemed-to-Satisfy provisions of the Building Code of Australia (BCA) 2019, Volume One Amendment 1.

Part 3 'Matters for Further Consideration' of this report outlines the identified BCA compliance issues that require further information or consideration and/or assessment as Performance Solutions.

Any Performance Solution will need to be detailed in a separate report and must clearly indicate methodologies for achieving compliance with the relevant BCA Performance Requirements.

Item	Description	BCA Provision
Performance Solutions Required		
1.	The distance to an exit from the storage rooms exceeds 20 metres (measured up to 31 metres)	BCA Clause D1.4
2.	The construction of external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements.	No DtS Provisions – FP1.4 Performance Provisions Only
Building Code of Australia Compliance Matters to be Addressed at Construction Certificate Stage		
1.	Façade Engineer to review external wall build up at CC stage with regards to compliance with Condensation Management	BCA Clause F6.2
2.	Sufficient architectural drawings are to be provided to demonstrate compliance with BCA Clause F1.4 AS 4654.1 & 2 for external above ground membranes. Waterproofing specialist and Hydraulic Consultant to review design at CC stage.	BCA Clause F1.4
Further Information Required		
1.	The location of the booster & associated infrastructure shall be indicated on the architectural drawings	BCA Clause E1.3

Annexure D to this report provides a detailed assessment of the proposal against ALL relevant Deemed-to-Satisfy Provisions of the BCA.

1 BASIS OF ASSESSMENT

1.1. Location and Description

The building development, the subject of this report, is located at 7 &8 Coronation Street, Mona Vale . The development application proposes a four (4) storey residential flat building (seniors living).

The lot is legally defined as Lot 34 and Lot 35, DP25446 and located within the Northern Beaches LGA.

Pedestrian and vehicular access is provided to the building from Coronation Street.

Image source from Google Maps

1.2. Building Code of Australia

This report is based on the Deemed-to-Satisfy Provisions of the National Construction Code Series Volume 1 – Building Code of Australia, 2019 Edition (BCA) incorporating the State variations where applicable. Please note that the version of the BCA applicable to new building works is the version applicable at the time of the lodgement of the Construction Certificate application to the Accredited Certifying Authority. The BCA is updated generally on a three-yearly cycle, starting from the 1st of May 2016.

1.3. Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of BCA 2019, and to clearly outline those areas (if any) where compliance is not achieved, where areas may warrant redesign to achieve strict BCA compliance or where areas may be able to be assessed against the relevant performance criteria of BCA 2019. Such assessment against relevant performance criteria will need to be addressed by means of a separate Performance Based Fire Safety Engineered Assessment Report to be prepared under separate cover.

1.4. Limitations

This report does not include nor imply any detailed assessment for design, compliance or upgrading for:

(a) the structural adequacy or design of the building;

(b) the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and

(c) the design basis and/or operating capabilities of any proposed electrical, mechanical or hydraulic fire protection services.

This report does not include, or imply compliance with:

(a) the National Construction Code – Plumbing Code of Australia Volume 3

(b) the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to),

(c) Access Requirements of Part D3 and Clauses E3.6, F2.4 and F2.9. A separate Access Consultant is to be engaged to address the Access Provisions of the BCA;

(d) Demolition Standards not referred to by the BCA;

(e) Work Health and Safety Act 2011;

(f) Requirements of Australian Standards unless specifically referred to;

(g) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning and the like; and

(h) Conditions of Development Consent issued by the Local Consent Authority.

1.5. Design Documentation

This report has been based on the Design plans and Specifications listed in Annexure A of this Report.

2 BUILDING DESCRIPTION

For the purposes of the Building Code of Australia (BCA) the development may be described as follows.

2.1. Rise in Storeys (Clause C1.2)

The building has a rise in storeys of four (4).

Note: The BCA definition of rise in storeys varies from that within State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

The following statement is contained within said policy *" In calculating the number of storeys in a development for the purposes of this Policy, a car park that does not extend above ground level by more than 1 metre is not to be counted as a storey."*

2.2. Classification (Clause A6.0)

The building has been classified as follows.

Table 1. Building Classification

Class	Level	Description
2	Lower Ground – First Floor	Residential Sole-Occupancy Units
7a	Basement	Carpark
7b	Lower Ground (part)	Storage

Under BCA Cl. A6.2 a Seniors Living residential flat building is classified Class 2 whereby the building contains two or more apartments / sole-occupancy units (SOU's) and each SOU is a separate dwelling, apartment or domicile which is dedicated to independent seniors / residents over the age of 55 or persons with a disability.

2.3. Effective Height (Clause A1.0)

The building has an *effective height* of 9.13m (RL 30.8-21.67)

2.4. Type of Construction Required (Table C1.1)

The building is required to be of Type A Construction.

2.5. Floor Area and Volume Limitations (Table C2.2)

The building is subject to maximum floor area and volume limits of:-

Class 7a	Maximum Floor Area	5,000m^2
	Maximum Volume	30,000m^3
Class 2	The Class 2 portions of the building are not subject to floor area and volume limitations of C2.2 as Table 3 of Specifications C1.1 and Clause C3.11 of the BCA regulates the compartmentation and separation provisions applicable to buildings, or building portions, of Class 2 classifications.	

2.6. Fire Compartments

The following *fire compartments* have been assumed:

(a) Each residential storey will be considered a single fire compartment.

(b) The basement carpark will be considered a single fire compartment.

(c) Storage area considered a single compartment

2.7. Exits

The following points in the building have been considered as the exits:

Basement Level

a. Non-fire-isolated stair from the west of basement level

b. Non-fire-isolated stair discharging to Coronation street

Lower Ground Floor

a. Main entry/exit doorway discharging to Coronation Street

Ground Floor-First Floor

a. Non-fire isolated stairway

2.8. Climate Zone (Clause A1.0)

The building is located within Climate Zone 5

2.9. Location of Fire-source features

The fire source features for the subject development are:

North: The far boundary of Coronation Street

South-: The allotment boundary

East: The allotment boundary adjoining 9 Coronation Street

West: The allotment boundary adjoining 6 Coronation Street

In accordance with Clause 2.1 of Specification C1.1, a part of a building element is exposed to a *fire-source feature* if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that–

(a) has an FRL of not less than 30/–/–; and

(b) is neither transparent nor translucent.

3 MATTERS FOR FURTHER CONSIDERATION

3.1. General

Assessment of the Architectural design documentation against the Deemed-to Satisfy Provisions of the Building Code of Australia, 2019 (BCA) has revealed the following areas where compliance with the BCA may require further consideration and/or may involve assessment as *Performance Solutions*. Any *Performance Solutions* will be required to clearly indicate methodologies for achieving compliance with the relevant *Performance Requirements*.

Annexure D to this report provides a detailed assessment of the proposal against ALL relevant Deemed-to-Satisfy Provisions of the BCA.

The architectural design documentation as referred to in report has been assessed against the applicable provisions of the Building Code of Australia, (BCA) and it is considered that such documentation is capable of complying (as outlined in Annexure D) with that Code.

Note: It is important that Annexure D is read in conjunction with the items below, as some matters may not have had sufficient information provided to allow a detailed assessment to be undertaken.

3.2. Dimensions and Tolerances

The BCA contains the minimum standards for building construction and safety, and therefore generally stipulates minimum dimensions which must be met. BCA Logic's assessment of the plans and specifications has been undertaken to ensure the minimum dimensions have been met.

The designer and builder should ensure that the minimum dimensions are met onsite and consideration needs to be given to construction tolerances for wall set outs, applied finishes and skirtings to corridors and bathrooms for example, tiling bed thicknesses and the like which can adversely impact on critical maters such as access for people with disabilities, stair and corridor widths and balustrade heights.

3.3. Performance Based Design – Performance Solutions

There are specific areas throughout the development where strict Deemed-to-Satisfy BCA Compliance will not be achieved by the proposed design and site constraints. These matters will need to be address in a detailed Performance Solution Report to be prepared for this development under separate cover:

Table 2. Performance Solutions

Item	Description	BCA Provision
Performance Solutions Required		
1.	The distance to an exit from the storage rooms exceeds 20 metres (measured up to 31 metres)	BCA Clause D1.4
2.	The construction of external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements.	No DtS Provisions – FP1.4 Performance Provisions Only

3.4. Matters to be addressed at Construction Certificate Stage

3.4.1. BCA Clause C1.9– Non Combustible Building Elements (Façade Construction)

As the building is required to be of Type A, the external façade is required to be *non-combustible* and comply with Clause C1.9 of BCA2019 which states as follows:

(a) *In a building required to be of Type A construction, the following building elements and their components must be non-combustible:*
  (i) *External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation.*
  (ii) *The flooring and floor framing of lift pits.*
  (iii) *Non-loadbearing internal walls where they are required to be fire-resisting.*

(b) *A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in—*
  (i) *a building required to be of Type A construction; and*
  (ii) *…*

(c) *A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1.*

(d) *The requirements of (a) and (b) do not apply to gaskets, caulking, sealants, termite management systems, Glass including laminated glass, thermal breaks associated with glazing systems and damp-proof courses.*

(e) *The following materials, may be used wherever a non-combustible material is required:*
  (i) *Plasterboard.*
  (ii) *Perforated gypsum lath with a normal paper finish*
  (iii) *Fibrous-plaster sheet.*
  (iv) *Fibre-reinforced cement sheeting.*
  (v) *Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.*
  (vi) *Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5.*
  (vii) *Bonded laminated materials where—*
    (A) each lamina, including any core, is non-combustible; and
    (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
    (C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

Currently the external façade construction has not been clearly nominated on the plans to permit an assessment. It shall be ensured that all selected materials are *non-combustible* where/as required by C1.9 and C1.14 of the BCA2019 in subsequent detailed design stages to facilitate for an assessment.

It is also noted that this clause also prohibits the use of in situ formwork containing combustible elements including PVC lined formwork products where the PVC lining remains in place for the life of the building where proposed to be used as an external wall element, common walls, the flooring and floor framing of lift pits, services riser shafts or non-*loadbearing* internal walls required to be fire resisting. Note that perimeter walls of basement (below ground) floor levels are also deemed to be external walls.

3.4.2. BCA Clause E1.3- Fire Hydrant System

The building exceeds 500m^2 in total floor area, therefore the building must be protected with a fire hydrant system in accordance with BCA Clause E1.3 and AS 2419.1-2005.

Upon review of a Dial Before You Dig search, it has been determined a street hydrant is located on Coronation Street, this street hydrant may be able to serve the building provided pressures, flows and coverage can be achieved.

A Hydraulic designer who is an accredited practitioner (Fire Safety) is to review the available pressures, flow and provide coverage plans to confirm system compliance with BCA E1.3, AS 2419 – 2005.

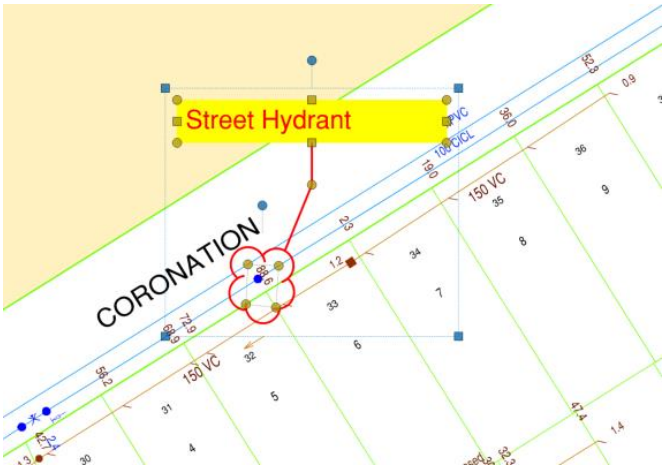


Figure 1-Street Hydrant

3.4.3. BCA Clause F1.0- Weatherproofing & BCA F6.2 Condensation Management

As there are no Deemed-to-Satisfy Provisions for weatherproofing of external walls, it is recommended that a façade Engineer or suitably qualified Architect (subject to Principal Certifier discretion) be engaged to address the Performance Requirement FP1.4.

Roof and External walls are required to prevent water penetration which cause dangerous conditions, loss of amenity or dampness and deterioration of building elements.

Furthermore, the DtS requirements of the BCA Clause F6.2 require external walls to have a pliable sarking membrane, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity.

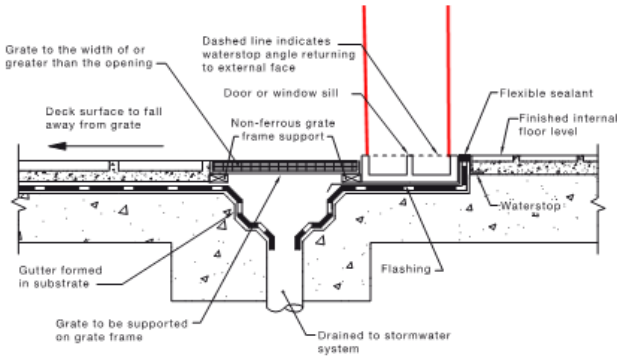
Except for single skin masonry and single skin concrete, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity

It is recommended that a façade engineer or suitably qualified architect review the proposed wall build up and provide design compliance advice.

3.4.4. BCA Clause F1.4 –External above ground membranes

To achieve compliance with Clause F1.4, AS 4654.1 & 2 the external balconies are required to provide a minimum step-down or hob of 70mm (N3 wind class) between the internal and external finished floor levels. If the required stepdown or hob cannot be achieved the external balconies will require a grated drain at the threshold in accordance with AS 4654.2.

Sufficient sections and elevations demonstrating compliance with BCA Clause F1.4 & AS4654.1 & 2 are required to be submitted for assessment prior to Construction Certificate stage.



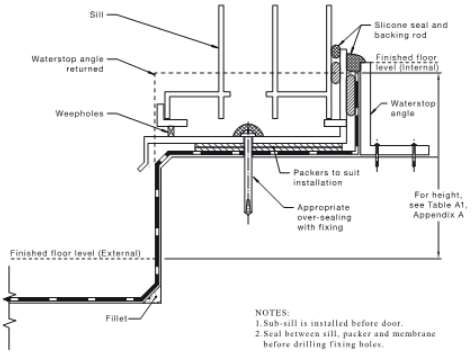


Figure 2-External Waterproofing

ANNEXURE A DESIGN DOCUMENTATION

Annexure A – Design Documentation

This report has been based on the following design documentation.

Table 3. Architectural Plans

Architectural Plans Prepared by Gartner Trovato Architects			
Drawing Number	**Revision**	**Date**	**Title**
A02	A	SEPT 2021	SITE PLAN
A03	A	SEPT 2021	BASEMENT PLAN
A04	A	SEPT 2021	LOWER GROUND FLOOR PLAN
A05	A	SEPT 2021	GROUND FLOOR PLAN
A06	A	SEPT 2021	FIRST FLOOR PLAN
A07	A	SEPT 2021	ELEVATIONS NORTH + SOUTH
A08	A	SEPT 2021	ELEVATIONS EAST + WEST
A09	A	SEPT 2021	SECTIONS

ANNEXURE B ESSENTIAL SERVICES

Annexure B - Essential Services

The following fire safety measures are required to be installed in the building. The following table may be required to be updated as the design develops and options for compliance are confirmed.

Table 4. Essential Fire Safety Measures

Item	Essential Fire and Other Safety Measures	Standard of Performance
Fire Resistance (Floors – Walls – Doors – Shafts)		
1.	Access Panels & doors/hoppers (fire rated)	**BCA2019 C3.13** (Openings in Shafts) **BCA2019 Spec C3.4** AS 1905.1:2015 (Fire Resistant Doorsets)
2.	Fire doors	**BCA2019 C3.4** (Acceptable methods of Protection) **BCA2019 C3.8** (Openings in Fire Isolated Exits) **BCA2019 C3.10** (Opening in Fire Isolated Lift Shafts) AS1735.11- 1986 **BCA2019 C3.11** (Bounding Construction) **BCA2019 C3.13** (Opening in Shafts) Spec C3.4 AS1905.1: 2015
3.	Fire seals protecting openings in fire resisting components of the building	**BCA2019 C3.15** (Openings for service installations) **BCA2019 C3.16** (Construction joints) **BCA2019 Spec C3.15** AS1530.4:2014 & AS4072.1-2005
4.	Lightweight construction	**BCA2019 C1.1, Spec. C1.1** **BCA2019 C1.8, Spec C1.8** **BCA2019 C3.11** (Bounding Construction) **BCA2019 D2.11** (Fire Isolated Passageways) AS1530.4:2014
General		
5.	Portable fire extinguishers	**BCA2019 E1.6** AS 2444–2001

General Egress		
6.	Operation of Door latches > Failsafe	**D2.21** (Operation of Latch) AS 1670.1:2018
7.	Warning & operational signs	**BCA2019 D3.6** (Braille Exit Signs) (Note: E4.5 (Exit Signs)) **BCA2019 E3.3** (Lift Signs)
Lifts		
8.	Access to Lift Pits > Located at lowest level or if >3m provided through an access door	**BCA2019 D1.17** (Access to Lift Pits) 'DANGER LIFT WELL – ENTRY OF UNAUTHORISED PERSONS PROHIBITED – KEEP CLEAR AT ALL TIMES'
Electrical Services		
9.	Automatic fire detection & alarm: > Clause 3 – AS 3786:2014 Smoke Alarm systems powered from consumer mains to all residential SOU's, and spaced, interlinked to AS 1670.1:2018 to all common areas connected to a BOWS @ 85dB(A). > Clause 4 – AS 1670.1:2018 system throughout the building/part connected to a BOWS @ 100dB(A) > Incorporating a thermal detection system in the basement carpark > **Note:** if there is a SSISEP or EWIS applies different dB(A) i.e. At bedheads not SOU doors.	**BCA2019 E2.2**, NSW Table E2.2a, Table 2.2b, **Spec E2.2a** **Spec E2.2a** - Clause 3 (Smoke alarm system) **Spec E2.2a** - Clause 4 (Smoke detection system) **Spec E2.2a** - Clause 5 (Combined smoke alarm and smoke detection system) **Spec E2.2a** - Clause 7 (BOWS) AS 3786:2014 (Amdt 1-4) AS 1670.1:2018 (Fire) – Section 4 and 5 (Detectors) AS 1670.1:2018 (Fire) – Section 7 (Smoke Control)
10.	Emergency lighting	**BCA2019 E4.2, E4.4** AS/NZS 2293.1:2018
11.	Exit signs	**BCA2019 E4.5** (Exit Signs) **BCA2019 E4.6** (Direction Signs) **BCA2019 E4.8** (Design and Operation - Exits) AS/NZS 2293.1:2018

Hydraulic Services		
12.	Automatic fire suppression systems > General Sprinklers	**BCA2019 E1.5** AS2118.1-2017
13.	Fire hydrant systems > NSW Storz Couplings	**BCA2019 E1.3** AS 2419.1:2005 FRNSW Technical Sheet D15/45534.V9 issued 10.01.19, 'Compatible Hose Connections'
14.	System Monitoring	**BCA2019 E2.2 , Table E2.2a,Spec E2.2a** AS 1670.3:2018 Monitoring Required for any: > Any Sprinkler System
15.	Hose reel systems	**BCA2019 E1.4** AS 2441:2005
Mechanical Services		
16.	Fire dampers	**BCA2019 E2.2, Spec E2.2a, Spec E2.2b** **BCA2019 C3.15** AS 1668.1:2015 (Amdt 1) AS 1682.1:2015 & AS 1682.2:2015
17.	Mechanical ventilation to carpark.	**BCA2019 E2.2, Table E2.2a, Table E2.2b** **Spec E2.2a, Spec E2.2b** AS 1668.1:2015 (Amdt 1) **Note: 5.5.3 Override control** To enable manual control by attending emergency services personnel, fans that are not required to shut down on initiation of fire mode in the car park shall be provided with a control switch at the designated building entry point. **Note:** Signage should be located at the car park entry indicating the location of the control switches.
Performance Solutions		
	Description of Performance Solution	**DTS Provision**
(f)	The distance to an exit from the storage rooms exceeds 20 metres (measured up to 31 metres)	BCA Clause D1.4

ANNEXURE C FIRE RESISTANCE LEVELS

Annexure C - Fire Resistance Levels

The following fire resistance levels (FRL's) are required for the various building elements, with a fire source feature being the far boundary of a road adjoining the allotment, a side or rear boundary or an external wall of another building on the allotment except a Class 10 structure.

Type A Construction

Table 5. Type A Construction

Item	Class 2	Class 7a	Class 7b
Loadbearing External Walls (including columns and other building elements incorporated therein) - Less than 1.5m to a *fire- source feature* - 1.5 – less than 3m from a *fire-source feature* - 3m or more from a *fire source feature*	90/90/90 90/60/60 90/60/30	120/120/120 120/90/90 120/60/30	240/240/240 240/240/180 240/180/90
Non-Loadbearing External Walls - Less than 1.5m to a *fire-source feature* - 1.5 – less than 3m from a *fire-source feature* - 3m or more from a *fire-source feature*	-/90/90 -/60/60 -/-/-	-/120/120 -/90/90 -/-/-	-/240/240 -/240/180 -/-/-
External Columns - Loadbearing - Non-loadbearing	90/-/- -/-/-	120/-/- -/-/-	240/-/- -/-/-
Common Walls & Fire Walls	90/90/90	120/120/120	240/240/240
Stair and Lift Shafts required to be fire-resisting - Loadbearing - Non-loadbearing	90/90/90 -/90/90	120/120/120 -/120/120	240/120/120 -/120/120
Internal walls bounding sole occupancy units - Loadbearing - Non-loadbearing	90/90/90 -/60/60	120/-/- -/-/-	240/-/- -/-/-
Internal walls bounding public corridors, public lobbies and the like: - Loadbearing - Non-loadbearing	90/90/90 -/60/60	120/-/- -/-/-	240/-/- -/-/-
Ventilating, pipe, garbage and like shafts: - Loadbearing - Non-loadbearing	90/90/90 -/90/90	120/90/90 -/90/90	240/120/120 -/120/120
Other loadbearing internal walls, beams trusses and columns	90/-/-	120/-/-	240/-/-
Floors	90/90/90	120/120/120	240/240/240
Roofs	90/60/30	120/60/30	240/90/60

ANNEXURE D DETAILED BCA 2019 ASSESSMENT

Annexure D – Detailed BCA 2019 Assessment

Outlined below is a detailed assessment of the design under the Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) including the State variations where applicable.

All Deemed-to-Satisfy clauses that are applicable to the subject building have been referred to below, including a comment adjacent to each clause of the proposal's ability to satisfy each respective clause.

The abbreviations outlined below have been used in the following table.

N/A	Not Applicable. The Deemed-to-Satisfy clause is not applicable to the proposed design.
Complies	The relevant provisions of the Deemed-to-Satisfy clause have been satisfied by the proposed design.
CRA – Refer Annexure F	'COMPLIANCE READILY ACHIEVABLE'. It is considered that there is not enough information included in the documentation to accurately determine strict compliance with the individual clause requirements. However, with further design development, compliance can readily be achievable. This item is to be read in conjunction with the BCA Specification included within Annexure F of this report.
FI	Further Information is necessary to determine the compliance potential of the building design.
PS	Performance Solution with respect to this Deemed-to-Satisfy Provision is necessary to satisfy the relevant Performance Requirements.
DNC	Does Not Comply.
Noted	BCA Clause simply provides a statement not requiring specific design comment or confirmation.

Deemed to Satisfy Clause Assessment

Table 6. Deemed to Satisfy Clause Assessment

Clause	Clause Requirements	Comment	Status
Section B: Structure			
Part B1 – Structural Provisions			
B1.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
B1.1: Resistance to actions	The resistance of the building must be greater than the most critical action effect resulting from different combinations of actions, where the most critical action has been determined in accordance with this Part	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F
B1.2: Determination of individual actions	The magnitude of actions must be determined in accordance with this Clause.	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F
B1.4: Determination of structural resistance of materials and forms of construction	The structural resistance of materials and forms of construction must be determined in accordance with this Clause.	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F
B1.5: Structural software	Structural software used in computer aided design of a building or structure within the geometrical limits of (b) of this Clause must comply with the ABCB Protocol for Structural Software.	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F
B1.6 Construction of buildings in flood hazard areas	N/A	The building is not located within a flood hazard zone.	N/A

Section C: Fire Resistance				
Part C1 – Fire Resistance and Stability				
C1.0:	Deemed-to-Satisfy Provisions	Informational	Noted	Noted
C1.1:	Type of construction required	The minimum Type of fire-resisting construction of a building must be determined in accordance with Table C1.1.	The building is required to be of Type A Construction. Refer to Specification C1.1 requirements at the end of this Section.	CRA – Refer Annexure F
C1.2:	Calculation of rise in storeys	The rise in storeys is the sum of the greatest number of storeys at any part of the external walls of the building and any storeys within the roof space— (a) above the finished ground next to that part; or (b) if part of the external wall is on the boundary of the allotment, above the natural ground level at the relevant part of the boundary. A storey is not counted if— it is situated at the top of the building and contains only heating, ventilating or lift equipment, water tanks, or similar service units or equipment	The building has a rise in storeys of four (4)	Noted
C1.3:	Buildings of multiple classification	Informational	The building contains multiple classifications including Class 2,7a & 7b	Noted
C1.4:	Mixed Types of construction	A building may be of mixed Types of construction where it is separated in accordance with C2.7 and the Type of construction is determined in accordance with C1.1 or C1.3.	The building in its entirety will be constructed as Type A Construction.	CRA – Refer Annexure F
C1.5:	Two Storey Class 2, 3 or 9c buildings	N/A	N/A	N/A
C1.6:	Class 4 Parts of building	N/A	N/A	N/A

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C1.7:	Open spectator stands and indoor sports stadium	N/A	N/A	N/A
C1.8:	Lightweight construction	Lightweight construction used in a fire-rated application is to comply with Specification C1.8.	Specific details regarding the location and use of lightweight construction has not been provided at this stage. Where lightweight construction is installed to provide a fire resistance level to building elements it shall be installed identical to the prototype that was submitted to the Standard Fire Test. It is recommended that detailed architectural drawings including BCA Specification be provided to demonstrate compliance at Construction Certificate Stage	CRA – Refer Annexure F
C1.9:	Non-combustible building elements	(a) In a building required to be of Type A construction, the following building elements and their components must be *non-combustible*: (i) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. (ii) The flooring and floor framing of lift pits. (iii) Non-loadbearing internal walls where they are required to be fire-resisting. (b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of *non-combustible* construction in— (i) a building required to be of Type A construction; and (c) A loadbearing internal wall and a loadbearing *fire wall*, including those that are part of a loadbearing shaft, must comply with Specification C1.1.	At this stage specific details with regards to the external wall components have not been provided. Specific details or test reports to demonstrate compliance with external cladding and other attachments have not been provided at this stage. Further assessment of the architectural drawings and specification is required at Construction Certificate stage.	**FI – Refer Part 3.3**

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	(d) The requirements of (a) and (b) do not apply to gaskets, caulking, sealants, termite management systems, Glass including laminated glass, thermal breaks associated with glazing systems and damp-proof courses. (e) The following materials, may be used wherever a *non-combustible* material is required: (i) Plasterboard. (ii) Perforated gypsum lath with a normal paper finish. (iii) Fibrous-plaster sheet. (iv) Fibre-reinforced cement sheeting. (v) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (vi) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5. (vii) Bonded laminated materials where— (A) each lamina, including any core, is *non-combustible*; and (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and (C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively. This clause also prohibits the use of in situ formwork containing combustible elements including PVC lined		

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	formwork products where the PVC lining remains in place for the life of the building. Where the use of such products is proposed – in all instances the material must be the subject of a site-specific Performance Assessment Report.		
C1.10: Fire hazard properties	Fire hazard properties of internal linings, materials and assemblies must comply with C1.10 of the BCA and Specification C1.10, including floor, wall and ceiling linings, air-handling ductwork, lift cars, insulation, *sarking-type materials* and attachments, or be considered *non-combustible*.	Specific details with regards to the linings of internal floors, walls and ceilings have not been provided at this stage. The following is to be achieved; <u>Floor Linings</u> A critical radiant flux of 1.2 kW/m2 <u>Wall & ceiling Linings</u> Fire Isolated Exits- Group 1 Public Corridors; Group 1, 2 or 3 SOU's ; Group 1, 2 or 3 <u>Ceilings</u>; Fire Isolated Exits- Group 1 Public Corridors; Group 1, 2 or 3 Rigid and flexible ductwork must comply with the fire hazard properties set out in AS 4254.1and AS 4254.2. A BCA specification and schedule of proposed materials and finishes is to be provided for further assessment.	CRA – Refer Annexure F
C1.11: Performance of external walls in fire	N/A	N/A	N/A
C1.12: Non-combustible materials	Clause now deleted and relocated to C1.9.		Noted

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C1.13: Fire-protected timber: Concession	N/A	N/A	N/A
C1.14: Ancillary elements	An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be *non-combustible* unless it is one of the following: (a) An ancillary element that is *non-combustible*. (b) A gutter, downpipe or other plumbing fixture or fitting. (c) A flashing. (d) A grate or grille not more than 2 m² in area associated with a building service. (e) An electrical switch, socket-outlet, cover plate or the like. (f) A light fitting. (g) A required sign. (h) A sign other than one provided under (a) or (g) that— (i) achieves a group number of 1 or 2; and (ii) does not extend beyond one storey; and (iii) does not extend beyond one fire compartment; and (iv) is separated vertically from other signs permitted under (h) by at least 2 storeys. (i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that— (i) meets the relevant requirements of Table 4 of Specification C1.10 as for an internal element; and	At this stage details of ancillary items that may be attached to the external wall have not been provided. In particular details should be provided for the following; > Awning, sunshade, canopy, blind or shading hood > Signage fixed to the external wall. Further assessment of the Construction Certificate documentation is required.	CRA – Refer Annexure F

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	(ii) serves a storey— (A) at ground level; or (B) immediately above a storey at ground level; and (iii) does not serve an *exit*, where it would render the *exit* unusable in a fire. (j) A part of a security, intercom or announcement system. (k) Wiring. (l) A paint, lacquer or a similar finish. (m) A gasket, caulking, sealant or adhesive directly associated with (a) to (k).		
Part C2 – Compartment and Separation			
C2.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
C2.1: Application of Part	Informational - C2.2, C2.3 and C2.4 do not apply to a carpark provided with a sprinkler system complying with Specification E1.5 (other than an FPAA101D or FPAA101H system), an open-deck carpark or an open spectator stand.	Noted	Noted
C2.2: General floor area and volume limitations	The size of *fire compartments* in the building must not exceed that specified in Table C2.2.	The compartment sizes of the proposed development are such that they are do not exceed the prescriptive requirements of BCA Clause C2.2.	**Complies**
C2.3: Large isolated buildings	N/A	N/A	N/A

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C2.4:	Requirements for open spaces and vehicular access	N/A	N/A	N/A
C2.5:	Class 9a and 9c Buildings	N/A	N/A	N/A
C2.6:	Vertical separation of openings in external walls	Where the vertical projection of an opening in an external wall falls no further than 450 mm outside an opening in the storey next below, the openings must be provided with vertical separation complying with Clause C2.6, that is: > They must be protected with a 900mm high (*FRL* 60/60/60) spandrel extending at least 600mm above the separating slab, or > They must be provided with a 1.1m horizontal projection (*FRL* 60/60/60) also extending at least 450mm either side of the openings. The above does not apply to openings within the same stairway. For the purposes of this clause, opening means that part of the external wall of a building that does not have an *FRL* of 60/60/60 or greater.	Based upon the conservative determination of the building having a rise in storeys of four (4) the building would require a sprinkler system as per Clause E1.5. However, should the certifier at Construction Certificate stage otherwise consider the building to have a rise in storeys of 3 then the building would need spandrel separation. Should spandrel separation be needed the external walls have heights of at least 900mm vertical spandrels and could readily achieve compliance with this clause subject to further design development.	CRA – Refer Annexure F
C2.7:	Separation by fire walls	**Construction** - A *fire wall* must be constructed in accordance with the following: > Any openings in a *fire wall* must not reduce the *FRL* required by Specification C1.1 for the *fire wall*, except where permitted by the Deemed-to-Satisfy Provisions of Part C3. > Building elements, other than roof battens with dimensions of 75 mm x 50 mm or less or *sarking-type material*, must not pass through or cross the	The building contains multiple classifications on lower ground floor (Class 2 & 7b). It is proposed to separate these classifications via a fire wall required to achieve a minimum FRL 240/240/240. The fire wall shall be constructed in accordance with BCA Clause C2.7 (c). It is assumed the building can readily comply.	CRA – Refer Annexure F

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	fire wall unless the required fire resisting performance of the *fire wall* is maintained. **Separation of buildings** – A part of a building separated from the remainder of the building by a *fire wall* may be treated as a separate building for the purposes of the Deemed-to-Satisfy provisions of Sections C, D and E if it is constructed in accordance with (a) and the following: (i) the *fire wall* extends through all storeys and spaces in the nature of storeys that are common to that part and any adjoining part of the building. (ii) The *fire wall* is carried through to the underside of the roof covering. (iii) Where the roof of one of the adjoining parts is lower than the roof of the other part, the *fire wall* extends to the underside of— (A) the covering of the higher roof, or not less than 6 m above the covering of the lower roof; or (B) the lower roof if it has an *FRL* not less than that of the *fire wall* and no openings closer than 3 m to any wall above the lower roof; or (C) the lower roof if its covering is *non-combustible* and the lower part has a sprinkler system complying with Specification E1.5. **Separation of *fire compartments*** – A part of a building separated from the remainder of the building by a *fire wall* may be treated as a separate *fire compartment* if it is constructed in accordance with this clause and the *fire wall* extends to the underside of – > a floor having an *FRL* required for a *fire wall*; or	Further assessment of the detailed design drawings required at Construction Certificate stage.	

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	the roof covering.		
C2.8: Separation of classifications in the same storey	Where a storey has different classifications located alongside one another: > each building element in that storey must have the higher *FRL* prescribed in Specification C1.1 for that element for the classifications concerned; or > the parts must be separated in that storey by a *fire wall* having the higher *FRL* prescribed in Table 3; or > where one part is a carpark complying with Table 3.9, 4.2 or 5.2 of Specification C1.1, the parts may be separated by a *fire wall* complying with the appropriate Table.	As discussed within BCA Clause C2.7 it is proposed to separate the Class 2 parts of the building from the Class 7b parts of the building with a fire wall. The fire wall shall be constructed to achieve the higher FRL's as required for Type A Construction for a Class 7b part (FRL 240/240/240)	N/A
C2.9: Separation of classifications in different storeys	Floors separating storeys of different classifications must have an *FRL* of not less than that prescribed in Specification C1.1 for the classification of the lower storey. Note: Determination of Floor *FRL*'s must also consider compliance with C2.7 whereby the floor must have the same *FRL* as the fire wall of the *fire compartment* below and D2.12 whereby roof as open space must have an *FRL* not less than 120/120/120.	The building contains multiple classifications including class 2 (residential), class 7a (carpark) and class 7b (storage) To meet the deemed to satisfy provisions of the BCA the classifications are required to provide differing FRL's, the floor is required to be constructed using the greater FRL prescribed by Specification C1.1 for each of the adjoining parts. Basement Level Carpark shall be separate from the residential part of the building with an FRL of 120/120/120. Residential levels shall be separated from the Class 7b storage parts with a floor slab which achieves an FRL 240/240/240. Residential levels shall be separated via a floor slab which achieves an FRL 90/90/90.	CRA – Refer Annexure F

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C2.10: Separation of lift shafts	Passenger lifts must be separated from the remainder of the building by enclosure in a fire rated shaft achieving an *FRL* prescribed by Table 3 of Specification C1.1.	It is assumed that the building can readily comply due to the presence of separate lift shaft. Detailed architectural drawings including fire compartment/FRL drawings are to be submitted for further assessment.	CRA – Refer Annexure F
C2.11: Stairways and lifts in one shaft	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	The architectural drawings currently demonstrate that the lift is contained in a separate shaft from the stairway.	**Complies**
C2.12: Separation of equipment	Any of the following equipment located in the building must be separated from the remainder of the building: > emergency generators used to sustain emergency equipment operating in the emergency mode; or Equipment need not be separated in if the equipment comprises: > smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification E2.2b; or > stair pressurizing equipment installed in compliance with the relevant provisions of AS 1668.1:2015; or > a lift installation without a machine room; or > equipment otherwise adequately separated from the remainder of the building. Separation must be by construction having an *FRL* as required by Specification C1.1, but not less than *FRL* 120/120/120 with openings protected by self-closing fire doors having an *FRL* of not less than –/120/30. Separation of on-site fire pumps must comply with the requirements of AS 2419.1:2005.	This clause is not applicable to the equipment located within the building. It is assumed that all fire services have a battery backup system.	Noted

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C2.13: Electricity supply system	N/A	N/A	N/A
C2.14: Public corridors in Class 2 and 3 Buildings	Public corridors in Class 2 parts that exceed 40 m in length must be divided at intervals of not more than 40m with smoke-proof walls complying with Clause 2 of Specification C2.5.	The corridor lengths do not exceed 40 metres	**Complies**
Part C3 – Protection of Openings			
C3.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
C3.1: Application of Part	(a) The Deemed-to-Satisfy Provisions of this Part do not apply to– (i) Control joints, weep holes and the like in external walls of masonry construction and joints between panels in external walls of pre-cast concrete panel construction if, in all cases they are not larger than necessary for the purpose; and (ii) Non-combustible ventilators for subfloor or cavity ventilation, if each does not exceed 45 000 mm2 in face area and is spaced not less than 2 m from any other ventilator in the same wall; and (iii) Openings in the vertical plane formed between building elements at the construction edge or perimeter of a balcony or verandah, colonnade, terrace, or the like; and (iv) In a carpark– (A) Service penetrations through; and (B) Openings formed by a vehicle ramp in, (aa) A floor other than a floor that separates a part not used as a	Noted	Noted

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	carpark, providing the connected floors comply as a single fire compartment for the purposes of all other requirements of the Deemed-to-Satisfy Provisions of Sections C, D and E. (b) For the purposes of the Deemed-to-Satisfy Provisions of this Part, openings in building elements required to be fire-resisting include doorways, windows (including any associated fanlight), infill panels and fixed or openable glazed areas that do not have the required FRL. (c) For the purposes of the Deemed-to-Satisfy Provisions of this Part, openings, other than those covered under (a)(iii), between building elements such as columns, beams and the like, in the plane formed at the construction edge or perimeter of the building, are deemed to be openings in an external wall.		
C3.2: Protection of openings in external walls	Openings in an external wall that is required to have an *FRL* must be protected in accordance with C3.4 if the distance between the opening and the *fire-source feature* is: > less than 3 m from a side or rear boundary; or > less than 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or > less than 6 m from another building on the allotment that is not Class 10; and if required to be protected under (a), not occupy more than 1/3 of the area of the external wall of the storey in which it is located unless they are in a Class 9b building used as an open spectator stand.	There are openings located along the western allotment boundary which are located within 3 metres of the fire source feature. The door opening to the fire isolated stairways shall be protected in accordance with BCA Clause C3.4	Noted

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	Where wall-wetting sprinklers are used, they must be located externally.		
C3.3: Separation of external walls and associated openings in different fire compartments	N/A	N/A	N/A
C3.4: Acceptable methods of protection	Where protection is required, openings must be protected as follows: <u>Doorways:</u> (ii) Internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing; or (iii) –/60/30 fire doors that are self-closing. <u>Windows:</u> (i) Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or (ii) –60/– fire windows that are automatically closing or permanently fixed in the closed position; or (iii) –/60/– automatic closing fire shutters. <u>Other openings:</u> (i) Excluding voids – internal or external wall-wetting sprinklers; or (ii) Construction having an *FRL* not less than –/60/– Fire doors, fire windows and fire shutters must comply with BCA Specification C3.4.	The door opening of the fire isolated stair located within 3 metres of the western boundary shall be protected with a -/60/30 fire door. It is assumed the building can readily comply. Detailed design drawings are required to be provided for further assessment at Construction Certificate stage.	Noted

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C3.5: Doorways in fire walls	Doorways in the fire walls must be protected by a self-closing fire door that achieves an *FRL* of not less than that required by Specification C1.1 for the *fire wall* except that each door must have an insulation level of at least 30.	Sufficient details have not been provided at this stage. However, it is assumed the building can readily comply. The door providing access to and within the storage areas shall be provided with a -/240/30 fire door. Detailed architectural drawings including a door schedule are to be provided for further assessment at Construction Certificate stage.	N/A
C3.6: Sliding fire doors	N/A	N/A	N/A
C3.7: Protection of doorways in horizontal exits	N/A	N/A	N/A
C3.8: Openings in fire-isolated exits	N/A	N/A	N/A
C3.9: Service penetrations in fire-isolated exits	N/A	N/A	N/A
C3.10: Openings in fire-isolated lift shafts	> Lift landing doors are required to be fire doors with an *FRL* of -/60/- that comply with AS 1735.11:1986, and be set to remain closed except when discharging or receiving, passengers, goods or vehicles. > Panels in the wall of the lift shaft must be backed by construction having an *FRL* of not less than –/60/60 if it exceeds 35 000 mm2 in area.	A door schedule has not been provided at this stage. It is assumed the building can readily comply. Detailed architectural drawings, including door schedules and BCA Specification are required to be submitted for further assessment at Construction Certificate stage	CRA – Refer Annexure F
C3.11: Bounding Construction: Class 2, 3 and 4 Buildings	> The doorways between sole occupancy units and the public lobbies and any common / service rooms and the public lobbies (class 2 parts) must be protected by self–closing -/60/30 fire doors. > In a Class 2 building where a path of travel to an *exit* does not provide a person seeking egress with	It is assumed the building can readily comply. A door schedule has not been provided at this stage. Detailed architectural drawings, including door schedules and BCA Specification are required to be	CRA – Refer Annexure F

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	a choice of travel in different directions to alternative *exit*s and is along an open balcony, landing or the like and passes an external wall of– (i) another sole-occupancy unit; or (ii) a room not within a sole-occupancy unit, then that external wall must– (i) be constructed of concrete or masonry, or be lined internally with a fire-protective covering; and (ii) have any doorway fitted with a self-closing, tight-fitting solid core door not less than 35 mm thick; and (iii) have any windows or other openings– (A) protected internally in accordance with C3.4; or (B) located at least 1.5 m above the floor of the balcony, landing or the like.	submitted for further assessment at Construction Certificate stage	
C3.12: Openings in floors and ceilings for services	Where services pass through a floor which is required to achieve an *FRL* or a ceiling required to have a *resistance to the incipient spread of fire*, the service must be enclosed within a fire resisting shaft or fire protected in accordance with Clause C3.15. Where a service passes through a floor which is required to be protected by a *fire-protective* covering, the penetration must not reduce the fire performance of the covering.	Where services pass through floor and ceilings provided with an FRL the service should be protected in accordance with C3.12. The service, building element and any protection method at the penetration— are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire; or differ from a prototype assembly of the service, building element and protection method in accordance with Section 4 of AS 4072.1. All service drawings including Mechanical, Electrical, Hydraulic & Fire are to be submitted at Construction	CRA – Refer Annexure F

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		certificate Stage for further assessment at Construction Certificate stage	
C3.13: Openings in shafts	Openings in shafts must be protected by: (a) if it is 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 (b) a self-closing –/60/30 fire door or hopper; or (c) an access panel having an *FRL* of not less than –/60/30; or (d) if the shaft is a garbage shaft – a door or hopper of *non-combustible* construction.	A door schedule has not been provided at this stage. It is assumed the building can readily comply. Detailed architectural drawings, including door schedules and BCA Specification are required to be submitted for further assessment at Construction Certificate stage	CRA – Refer Annexure F
C3.15: Openings for service installations	Where services pass through an element which is required to achieve an *FRL* (other than an external wall or roof), the service must be fire protected in accordance with BCA Clause C3.15. **Note:** contractors should check with PCA to confirm compliance with their proposed fire stopping method.	Where services pass through building elements provided with an FRL, the service should be protected in accordance with C3.15. The service, building element and any protection method at the penetration— are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire; or differ from a prototype assembly of the service, building element and protection method in accordance with Section 4 of AS 4072.1. All service drawings including Mechanical, Electrical, Hydraulic & Fire Services are to be provided for further assessment at Construction Certificate stage	CRA – Refer Annexure F
C3.16: Construction joints	Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4:2014 to achieve the required *FRL*.	Where required, construction joints to be protected in accordance with clause C3.16.	CRA – Refer Annexure F

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C3.17:	Columns protected with lightweight construction to achieve an FRL	A column protected by lightweight construction to achieve an *FRL* which passes through a building element that is required to have an *FRL* or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required *FRL* or resistance to the incipient spread of fire.	Specific details regarding lightweight construction have not been provided at this stage. It is assumed the building can readily comply. Detailed architectural drawings and BCA Specification are required to be submitted to demonstrate compliance at Construction Certificate stage.	CRA – Refer Annexure F
Specification C1.1 – Fire-Resisting Construction				
2.0:	General Requirements	Informational	Noted	Noted
2.1:	Exposure to fire-source features	A building element is exposed to a *fire-source feature* if any of the horizontal straight lines between that part and the *fire-source feature*, or vertical projection of the feature, is not obstructed by another part of the building that– (i) has an *FRL* of not less than 30/–/–; and (ii) is neither transparent nor translucent.	Noted	Noted
2.2:	Fire protection for a support of another part	Where a part of a building required to have an *FRL* depends upon direct vertical or lateral support from another part to maintain its *FRL*, that supporting part must have an *FRL* not less than that required by other provisions of this Specification; and if located within the same *fire compartment* as the part it supports have an FRL in respect of structural adequacy the greater of that required for the supporting part itself and for the part it supports.	Structural engineer is to provide design certification and consider the requirements of spec C1.1.	CRA – Refer Annexure F
2.3:	Lintels	A lintel must have the FRL required for the part of the building in which it is situated unless it does not contribute to the support of a fire door, fire window or fire shutter and meets the requirements of Spec C1.1 clause 2.3 (a) & (b).	Structural engineer is to provide design certification and consider the requirements of spec C1.1.	CRA – Refer Annexure F

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2.4:	Attachments not to impair fire-resistance	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.	Structural engineer is to provide design certification and consider the requirements of spec C1.1.	CRA – Refer Annexure F
2.5:	General concessions	<u>Structures on roofs</u> Structures on roofs — A *non-combustible* structure situated on a roof need not comply with the other provisions of this Specification if it only contains— (i) lift motor equipment; or (ii) one or more of the following: (A) Hot water or other water tanks. (B) Ventilating ductwork, ventilating fans and their motors. (C) Air-conditioning chillers. (D) Window cleaning equipment. (E) Other service units that are *non-combustible* and do not contain flammable or combustible liquids or gases.	The concession for structures on the roof level may be applied.	CRA – Refer Annexure F
2.6:	Mezzanine floors: Concession	N/A	N/A	N/A
2.7:	Enclosure of shafts	Fire-isolated shafts are required to be enclosed at the top and bottom of the shaft with fire rated construction having an *FRL* required for the walls of a non-load-bearing shaft in the same building, as per specification C1.1. This fire rating is required in two directions. The above does not apply to shafts extending beyond the roof covering, other than fire isolated stair and lift shafts and the bottom of *non-combustible* shafts laid directly on the ground.	Fire isolated shafts (lift) required to have an FRL are to be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building. It is assumed the lift shaft will extend beyond the roof covering and therefore not required to be enclosed at the top via FRL	CRA – Refer Annexure F

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2.8:	Carparks in Class 2 and 3 Buildings	N/A	As the building contains Class 7a & 7b parts the concessions may not be applied to the building.	N/A
2.9:	Residential Aged Care building: Concession	N/A	N/A	N/A
3.0:	Type A fire-resisting construction	Type A fire-resisting construction is applicable to the development.	Refer to part 3 clauses below for the relevant Type A Construction requirements appliable to the project.	-
3.1:	Fire-resistance of building elements	> The FRL's of all elements are to be in accordance with the FRL's detailed in the Table contained within Part 4.0 of this report. > External walls, common walls and the flooring and floor framing of lift pits must be *non-combustible*. (Note: insulation and sarking used must be *non-combustible*) > Internal walls required to be fire rated must extend to– (i) to the underside of the floor next above; or (ii) the underside of a roof complying with Table 3; or (iii) if under Clause 3.5 the roof is not required to comply with Table 3, the underside of the *non-combustible* roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or *sarking-type material*, must not be crossed by timber or other combustible building elements; or (iv) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space above itself of not less than 60 minutes.	It is assumed the building can readily comply. Sufficient details have not been provided at this stage to demonstrate compliance. Structural Engineer is to provide design drawings and certification specifically referencing BCA Spec C1.1, Table 3, Type A construction, relevant Australian Standards and any applicable Fire Engineer Performance Solution Report.	CRA – Refer Annexure F

Section C: Fire Resistance			
	> Load bearing internal walls (including those part of a loadbearing shaft) and fire walls must be of concrete or masonry. > Non-loadbearing internal walls required to be fire rated, as well as non-load bearing lift, ventilating, pipe, garbage or similar shaft wall must be of non-combustible construction. **Note:** This includes *non-combustible* insulation. When an insulation material is not certified as *non-combustible*, this material will need to be the subject of a Fire Engineering Assessment at the CC stage. > The *FRL*s specified in Table 3 for an external column apply also to those parts of an internal column that face and are within 1.5m of a window and are exposed through that window to a *fire-source feature*. > It should also be noted that if Dincel material is to be used as an element where the BCA requires such element to be *non-combustible*, this material will need to be the subject of a Fire Engineering Assessment at the CC stage		
3.2: Concessions for floors	A floor need not comply with Table 3 if— it is laid directly on the ground; or in a Class 2 building, the space below is not a *storey*, does not accommodate motor vehicles, is not a storage or work area, and is not used for any other ancillary purpose; or it is within a *sole-occupancy unit* in a Class 2 building part of a building; or	The basement carpark slab need not be provided with an FRL.	Noted

Section C: Fire Resistance				
3.3:	Floor Loading of Class 5 and 9b buildings: Concession	N/A	N/A	N/A
3.4:	Roof superimposed on concrete slab: Concession	N/A	N/A	N/A
3.5:	Roof: Concession	A roof need not comply with Table 3 if its covering is *non-combustible* and the building— (a) has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 installed throughout; or (b) has a rise in storeys of 3 or less; or (c) is of Class 2 ; or (d) has an *effective height* of not more than 25 m and the ceiling immediately below the roof has a *resistance to the incipient spread of fire* to the roof space of not less than 60 minutes.	The concession may be applied to the building and the roof need not comply with Table 3.	Noted
3.6:	Roof lights	N/A	N/A	N/A
3.7:	Internal columns and walls: Concession	For a building with an *effective height* of not more than 25 m and having a roof without an FRL in accordance with Clause 3.5, in the storey immediately below that roof, internal columns other than those referred to in Clause 3.1(f) and internal walls other than *fire walls* and shaft walls may have— (a) in a Class 2 building: FRL 60/60/60	The concession may be applied to the building, the internal walls and columns need not comply with table 3 and the FRL may be reduced to 60/60/60. Detailed architectural drawings including fire compartment/FRL drawings are to be provided for further assessment.	CRA – Refer Annexure F
3.8:	Open spectator stands and indoor sports stadiums concession	N/A	N/A	N/A

Section C: Fire Resistance				
3.9:	Carparks	N/A	N/A	N/A
3.10:	Class 2 and 3 buildings Concession	N/A	N/A	N/A

Section D: Access and Egress				
Part D1 – Provision for Escape				
D1.0:	Deemed-to-Satisfy Provisions	Informational	Noted	Noted
D1.1:	Application of Part	The Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of a *sole-occupancy unit* in a Class 2 or 3 building or a Class 4 part of a building.	Noted	Noted
D1.2:	Number of exits required	**Basements–** Not less than 2 *exits* must be provided from any storey if egress from that storey involves a vertical rise within the building of more than 1.5 m, unless – (i) the floor area of the storey is not more than 50 m2; and (ii) the distance of travel from any point on the floor to a single *exit* is not more than 20 m. General > Without passing through another *sole-occupancy unit*, every occupant of a storey or part of a storey must have access to an *exit*.	The basement level has been provided with two (2) exits All storeys of the residential parts of the building have been provided with at least one exit. The number of exits provided throughout the building complies with the provisions of BCA Clause D1.2	**Complies**
D1.3:	When fire-isolated stairways and ramps are required	Class 2 – Every *exit* stairway must be fire-isolated unless it connects, passes through or passes by not more than—	As the internal stairway connects 3 storeys in a Class 2 building the stair is not required to be contained within a fire-isolated shaft.	Noted

Section D: Access and Egress			
	i. consecutive storeys in a Class 2 building; or and one extra storey of any classification may be included if— ii. it is only for the accommodation of motor vehicles or for other ancillary purposes; or iii. the building has a sprinkler system (other than a FPAA101D system) complying with Specification E1.5 installed throughout; or iv. the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having— (A)an FRL of –/60/60, if non-loadbearing; and (B)an FRL of 90/90/90, if loadbearing; and (C)no opening that could permit the passage of fire or smoke. **Class 7-** Every stairway or ramp serving as a required exit must be fire-isolated unless it connects, passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if- v. the building has a sprinkler system (other than a FPAA101D system) complying with Specification E1.5installed throughout; or vi. the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having— (aa) an FRL of –/60/60, if non-loadbearing; and (bb) an FRL of 90/90/90 for Type A if loadbearing; and (cc) no opening that could permit the passage of fire or smoke.		

Section D: Access and Egress			
D1.4: Exit travel distances	Class 2 residential — > The entrance doorway of each *sole-occupancy unit* must be not more than – o 6 m from an *exit* or from a point from which travel in different directions to 2 *exits* is available; or o 20 m from a single *exit* serving the storey at the level of egress to a road or open space; and > No point on the floor of a room which is not in a *sole-occupancy unit* must be more than 20 m from an *exit* or from a point at which travel in different directions to 2 *exits* is available. Class 7a carpark— No point on a floor must be more than 20 m from an *exit*, or a point from which travel in different directions to 2 *exits* is available, in which case the maximum distance to one of those *exits* must not exceed 40 m. > no point on a floor must be more than 20 m from an *exit*, or a point from which travel in different directions to 2 *exits* is available, in which case the maximum distance to one of those *exits* must not exceed 40 m; and	The current layout and configuration of the exits located on residential levels 1-4 are such that that the design complies with the provisions of D1.4. The distance to an exit in basement level complies the deemed to satisfy provisions of BCA Clause D1.4 The distance to an exit from the storage area exceeds 20m (measured up to 31m) A Fire Engineer is to be engaged at Construction Certificate stage to provide a Performance Solution to vary the Deemed to satisfy provisions of the BCA.	**Complies** **PS- Refer to Part 3.3 of this report.**
D1.5: Distance between alternative exits	*Exits* that are required as alternative means of egress must be– (a) distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 *exits* is readily available from all points on the floor including lift lobby areas; and (b) not less than 9 m apart; and	The distance between alternate exits within the basement carpark is less than 60m and therefore compliance with BCA Clause D1.5 has been demonstrated.	**Complies**

Section D: Access and Egress				
		(c) not more than— (i) in a Class 2 or 3 building — 45 m apart; or (ii) in all other cases — 60 m apart; and (d) located so that alternative paths of travel do not converge such that they become less than 6 m apart. Note: the distance between *exits* must be measured through the point at which travel two *exits* is available.		
D1.6:	Dimensions of exits and paths of travel to exits	In a required *exit* or path of travel to an *exit*– > the unobstructed height throughout *exits* and paths of travel to *exits* must not be less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; and > the unobstructed width of each *exit* or path of travel to an *exit*, except for doorways must be not less than 1m; > the unobstructed width of doorways must be not less than 750 mm, unless providing access for people with disabilities in which case the unobstructed width must be not less than 850 mm. > the required width of a stairway or ramp must be measured clear of all obstructions such as handrails. > the unobstructed width of a required *exit* must not diminish in the direction of travel to a road or open space.	The architectural drawings demonstrate that all doors achieve a minimum of 750mm and all paths of travel to an exit are generally a minimum of 1m clear.	CRA – Refer Annexure F
D1.7:	Travel via fire-isolated exits	N/A	N/A	N/A

Section D: Access and Egress				
D1.8:	External stairways or ramps in lieu of fire-isolated exits	N/A	N/A	N/A
D1.9:	Travel by non-fire-isolated stairways or ramps	> A non-fire-isolated stairway serving as a required *exit* must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided. > In a Class 2 building, the distance between the doorway of a room or *sole-occupancy unit* and the point of egress to a road or open space by way of a stairway or ramp that is not fire-isolated and is required to serve that room or *sole-occupancy unit* must not exceed 60m. > In a Class 7 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80m. > In a Class 2 building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than – (i) 15 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or (ii) 30 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions. > In a Class 7building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than –	The proposed construction of the non-fire-isolated stairways is such that the requirements of BCA Clause D1.9 have been satisfied. The distance between the doorway of a room the point of egress to a road or open space via the stairway does not exceed 60m. Furthermore, the stair does not discharge further than 15 metres from a doorway providing egress to a road or open space.	**Complies**

Section D: Access and Egress			
	(iii) 20 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or (iv) 40 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions. > In a Class 2 building, if 2 or more *exits* are required and are provided by means of internal non-fire-isolated stairways or non-fire-isolated ramps, each *exit* must— (v) provide separate egress to a road or open space; and (vi) be suitably smoke-separated from each other at the level of discharge.		
D1.10: Discharge from exits	*Exits* must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the *exit*. If a required *exit* leads to open space, the path of travel to the road must have an unobstructed width of not less than 1m. If an *exit* discharges to open space that is at a different level that the public road to which it is connected, the path of travel to the road must be by a ramp or other incline not steeper than 1:8, or a BCA compliant stairway. The discharge points of alternative *exits* must be as far apart as practical	The exits throughout the building are considered to be located where they cannot be blocked, therefore suitable barrier/bollards are not required. However, external factors that may have implications are out of our control.	**Complies**
D1.11: Horizontal exits	N/A	N/A	N/A

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D1.12: Non-required stairways, ramps or escalators	N/A	N/A	N/A
D1.13: Number of persons accommodated	Informational– The number of persons accommodated in a storey, room or mezzanine must be determined within consideration to the purpose for which it is used and the layout of the floor area by– (a) calculating the sum of the numbers obtained by dividing the floor area of each part of the storey by the number of square metres per person listed in BCA Table D1.13 according to the use of that part, excluding spaces set aside for— (i) lifts, stairways, ramps and escalators, corridors, hallways, lobbies and the like; and (ii) service ducts and the like, sanitary compartments or other ancillary uses; or (b) reference to the seating capacity in an assembly building or room; or (c) any other suitable means of assessing its capacity. Based on floor area and Table D1.13, the population numbers are as follows:	It is estimated that there will be not more than 5 persons per unit to residential units.	Noted
D1.14: Measurement of distances	Informational – The nearest part of an *exit* means in the case of— (a) a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp, the nearest part of the doorway providing access to them; and (b) a non-fire-isolated stairway, the nearest part of the nearest riser; and	Noted	Noted

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	(c) a non-fire-isolated ramp, the nearest part of the junction of the floor of the ramp and the floor of the storey; and (d) a doorway opening to a road or open space, the nearest part of the doorway; and (e) a *horizontal exit*, the nearest part of the doorway.		
D1.15: Method of Measurement	Informational	Noted	Noted
D1.16: Plant rooms, lift motor rooms and electricity network substations: concession	N/A	N/A	N/A
D1.17: Access to lift pits	Access to lift pits must— (a) where the pit depth is not more than 3 m, be through the lowest landing doors; or (b) where the pit depth is more than 3 m, be provided through an access doorway complying with the following: (i) In lieu of D1.6, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with AS 1657. (iv) In lieu of D2.21, doors fitted to the doorway must be— (A) of the horizontal sliding or outwards opening hinged type; and (B) self-closing and self-locking from the outside; and	Access to the lift pit is assumed to be through the bottom landing doors as the pit is assumed to be less than 3m deep.	CRA – Refer Annexure F

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	(C) marked on the landing side with the letters not less than 35 mm high: “DANGER LIFTWELL − ENTRY OF UNAUTHORIZED PERSONS PROHIBITED − KEEP CLEAR AT ALL TIMES”		
D1.18: Egress from early childhood centres	N/A	N/A	N/A
Part D2 – Construction of Exits			
D2.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
D2.1: Application of Part	Informational– Except for D2.13, D2.14(a), D2.16, D2.17(d), D2.17 (e), D2.18 & D2.24, the deemed-to-satisfy Provisions of this Part do not apply to internal parts of the Class 2 *sole-occupancy units.*	Noted	Noted
D2.2: Fire-isolated stairways and ramps	The fire isolated stairways must be constructed of *non-combustible* materials and constructed so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of the shaft.	The structural engineer will need to provide design certification at Construction Certificate stage with regards to the structural design.	CRA – Refer Annexure F
D2.3: Non-fire-isolated stairways and ramps	Required stairs and ramps (including landings and any supporting building elements) must be constructed according to D2.2, or only of- (f) reinforced or prestressed concrete; or (g) steel in no part less than 6 mm thick; or (h) timber that— (i) has a finished thickness of not less than 44 mm; and	The structural engineer will need to provide design certification at Construction Certificate stage with regards to the structural design.	CRA – Refer Annexure F

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		(ii) has an average density of not less than 800 kg/m3 at a moisture content of 12%; and has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue".		
D2.4:	Separation of rising and descending stair flights	If a stairway serving as an *exit* is required to be fire-isolated— (a) there must be no direct connection between— (i) a flight rising from a storey below the lowest level of access to a road or open space; and (ii) a flight descending from a storey above that level; and (b) any construction that separates or is common to the rising and descending flights must be (i) non-combustible; and (ii) smoke proof in accordance with Clause 2 of Specification C2.5.	There is no direct connection between the stairs rising from the basement level and the stairs from the residential part.	**Complies**
D2.5:	Open access ramps and balconies	N/A	N/A	N/A
D2.6:	Smoke lobbies	N/A	N/A	N/A
D2.7:	Installations in exits and paths of travel	> Access to service shafts and services other than to fire-fighting or detection equipment must not be provided from a fire-isolated stairway or fire-isolated passageway. > Gas or other fuel services must not be installed in a required *exit*. > Any electricity meters, distribution boards or ducts, or telecommunications distribution boards or	Sufficient details have not been provided at this stage however, it is assumed the building can readily comply. It is recommended that a door schedule be provided at Construction Certificate stage, identifying non-combustible construction or a fire protective covering with doorways suitably sealed against smoke spread.	CRA – Refer Annexure F

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	equipment installed in corridors/hallways/lobbies or the like must be enclosed with *non-combustible* construction or a fire protective covering with doorways suitably sealed against smoke spread. > Electrical wiring may be installed in a fire-isolated *exit* if the wiring is associated with: ○ a lighting, detection, or pressurization system serving the *exit*; or ○ a security, surveillance or management system serving the *exit*; or ○ an intercommunication system or an audible or visual alarm system in accordance with D2.22; or ○ the monitoring of hydrant or sprinkler isolating valves.	Detailed architectural drawings including a door schedule is required to be submitted for further assessment.	
D2.8: Enclosure of space under stairs and ramps	N/A	N/A	N/A
D2.9: Width of stairways and ramps	Informational– A required stairway or ramp that exceeds 2 m in width is counted as having a width of only 2 m unless it is divided by a handrail or barrier continuous between landings and each division has a width of not more than 2 m.	Noted	Noted
D2.10: Pedestrian ramps	> A ramp serving as a required *exit* must— (i) where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS 1428.1:2009; or (ii) in any other case, have a gradient not steeper than 1:8. > The floor surface of a ramp must have a slip-resistance classification complying with Table	It is assumed the building can readily comply. At this stage sufficient architectural drawings have not been provided to demonstrate compliance. Detailed architectural drawings are to include proposed gradients of all ramps in accordance with BCA Clause D2.10, Part D3 & AS1428.1-2009	CRA – Refer Annexure F

Section D: Access and Egress			
	D2.14 when tested in accordance with AS 4586:2013.		
D2.11: Fire-isolated passageways	N/A	N/A	N/A
D2.12: Roof as open space	N/A	N/A	N/A
D2.13: Goings and risers	Stairways must comply with the following: > Stairways must have not more than 18 and not less than 2 risers in each flight; > Goings must be between 240 mm and 355 mm within the residential units; > Goings must be between 250 mm and 355 mm; > Goings must be between 250 mm and 355 mm in other areas; > Risers must be between 115 mm high and 190 mm high; > The slope relationship (2 x riser dimension + going dimension) must be within the range of 550-700; > The goings and risers must be constant (uniform) throughout each flight and the dimensions of goings (G) and risers (R) are considered constant if the variation between– (A) adjacent risers, or between adjacent goings, is no greater than 5 mm; and (B) the largest and smallest riser within a flight, or the largest and smallest going within a flight, does not exceed 10 mm. > Risers must not contain any openings that would permit a 125 mm sphere to pass through.	The current configuration of the stairs appears to demonstrate compliance with clause D2.13 However, no specific details have been provided at this stage. Architectural drawings including 1:50 typical stair details are to be submitted for further assessment	CRA – Refer Annexure F

<table>
<tr><th colspan="4">Section D: Access and Egress</th></tr>
<tr><td></td><td>

Each tread must have a non-slip finish or an adequate non-skid strip near the edge of the nosings;
Treads must be of solid construction (not mesh or perforated) if the stairway is more than 10 m high or connects more than 3 storeys.
In the case of a required stairway, no winders in lieu of a landing
Treads must have a surface or nosing strip with a slip-resistant classification not less than that listed in Table D2.14 when tested in accordance with AS 4586-2013 Slip resistance classification of new pedestrian surface materials.

</td><td></td><td></td></tr>
<tr><td>D2.14: Landings</td><td>Landings must be not less than 750 mm long and have either a surface with a slip-resistance classification complying with Table D2.14 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.
<table>
<tr><th rowspan="2">Application</th><th colspan="2">Surface Condition</th></tr>
<tr><th>Dry</th><th>Wet</th></tr>
<tr><td>Ramp steeper than 1:14</td><td>P4 or R11</td><td>P5 or R12</td></tr>
<tr><td>Ramp steeper than 1:20 but not steeper than 1:14</td><td>P3 or R10</td><td>P4 or R11</td></tr>
<tr><td>Tread or landing surface</td><td>P3 or R10</td><td>P4 or R11</td></tr>
<tr><td>Nosing or landing edge strip</td><td>P3</td><td>P4</td></tr>
</table>
</td><td>The spatial dimensions required for landings have been indicated on the architectural drawings.
However, no details demonstrating compliance with the slip resistance requirements have been submitted at this stage.
It is assumed the building can readily comply.
Architectural specification and test reports in accordance with 4586:2013 at to be provided for further assessment.</td><td>CRA – Refer Annexure F</td></tr>
</table>

Section D: Access and Egress			
D2.15: Thresholds	The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless– (a) in a building required to be accessible, the doorway– (i) opens to a road or open space; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1:2009; or (b) in other cases– (i) the doorway opens to a road or open space, external stair landing or external balcony; and (ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.	The current configuration of the doorways and adjoining steps and ramps are such that they demonstrate compliance with the provision of this clause. Note; where an exit discharges to road or open space a step up to 190mm can be incorporated within the threshold of the doorway.	CRA – Refer Annexure F
D2.16: Barriers to prevent falls	Balustrades must be provided to stairs and balconies, driveway ramps etc where there is a fall of more than 1m. Balustrades must comply with the following: <u>Balustrade minimum heights</u> > 865 mm above stair nosings; > 865 mm above landings to a stair where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length; and > 1 m in all other locations. <u>Balustrade openings – fire-isolated stairs</u> > maximum openings of 300 mm; or > where rails are used– o a 150 mm sphere must not be able to pass through the opening between the nosing line of the stair treads and the rail or between the	No details of barriers have been provided at this stage; however, the elevations and sections appear to show balustrades in locations and heights as required. Updated architectural drawings and BCA Specification to be provided for further assessment.	CRA – Refer Annexure F

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	rail and the floor of the landing, balcony or the like; and ○ the opening between rails must not be more than 460 mm <u>Balustrade openings – other than fire-isolated stairs</u> > A 125 mm sphere must not be able to pass through any opening and for stairways, the 125 mm is measured above the nosing line of the stair treads. <u>Climbability – other than fire-isolated stairs</u> For floors more than 4m above the surface beneath, the balustrade must not incorporate any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that could facilitate climbing.		
D2.17: Handrails	Handrails to stairways must: > be located along at least one side of the ramp or flight (a flight being 2 or more risers); and > located along each side if the total width of the stairway or ramp is 2m or more; and > be fixed at a height of not less than 865 mm above the nosings of the stair treads and the floor surface of the ramp, landing, or the like; and > be continuous between stair flight landings and have no obstruction that will break a hand-hold. > be constructed to comply with clause 12 of AS 1428.1:2009 (including handrails to the fire stairs). > Handrails in common areas (other than fire stairs) must also accord with D3.3. <u>Clause 12 of AS 1428.1:2009</u> A required *exit* (fire isolated or non-fire isolated) serving an area required to be accessible must be fitted with	No details of handrails have been provided at this stage; however, the elevations and sections appear to show handrails in locations and heights as required. Updated architectural drawings and BCA Specification to be provided for further assessment.	CRA – Refer Annexure F

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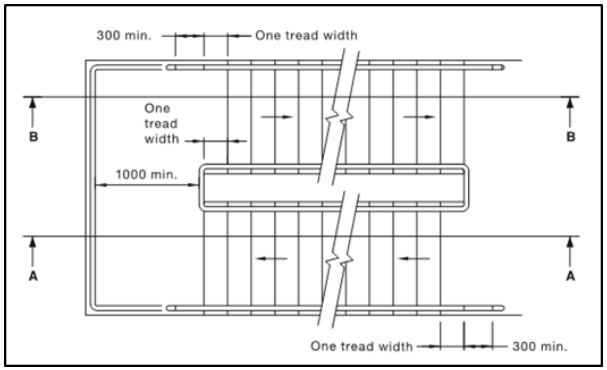
	handrails in accordance with Clause 12 of AS 1428.1:2009. The handrail shall follow the angle of the nosings and be consistent height through the stair flight and any landings with no vertical sections at the landing. Compliance can be achieved via offset risers at the bottom of the flight in accordance with Figure 28 in AS 1428.1:2009 or with larger landings to accommodate required handrail extensions.  Figure 28 in AS 1428.1:2009		
D2.18: Fixed platforms, walkways stairways and ladders	N/A	N/A	N/A
D2.19: Doorways and doors	> Sliding doors serving as *exit* doors must be openable manually under a force of not more than 110N. > *Exit* doors that are power operated must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power	There are no sliding doors proposed as part of this Development Application.	Noted

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	source and if leading to road or open space, open automatically if there is a power failure or on the activation of a fire or smoke alarm anywhere in the *fire compartment* served by the door. > A power operated door in a path of travel to a required *exit* must be able to be opened manually under a force of not more than 110 N if there is a malfunction of the power source.		
D2.20: Swinging doors	Swinging doors in a required *exit* must not encroach– (i) at any part of its swing by more than 500 mm on the required 1m width of the *exit* and (ii) when fully open, by more than 100 mm on the required 1m *exit* width; and the measurement of encroachment in each case is to include door handles or other furniture or attachments to the door. A swinging door in a required *exit* must swing in the direction of egress unless– > 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 > it serves a sanitary compartment or airlock (in which case it may swing in either direction).	Doors serving as a required exit swing in the direction of travel.	**Complies**
D2.21: Operation of latch	All doors in a required *exit* or forming part of a required *exit* AND doors in a path of travel to a required *exit* must be readily openable without a key from the side that faces a person seeking egress, by– (iii) a single hand downward action or pushing action on a single device which is located between	No details of hardware have been provided at this stage. It is assumed the building can readily comply. A door schedule and BCA specification is to be submitted at Construction Certificate stage which demonstrate compliance with D2.21 and AS1428.1-2009.	CRA – Refer Annexure F

Section D: Access and Egress			
	900mm and 1.1 m from the floor and if serving an area required to be accessible by Part D3 – (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 (B) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm and not more than 45mm; or (iv) a single hand pushing action on a single device which is located between 900mm and 1.2m from the floor. (v) where the latch operation device referred to in (ii) is not located on the door leaf itself— (A) manual controls to power-operated doors must be at least 25 mm wide, proud of the surrounding surface and located— (aa) not less than 500 mm from an internal corner; and (bb) for a hinged door, between 1 m and 2 m from the door leaf in any position; and (cc) for a sliding door, within 2 m of the doorway and clear of a surface mounted door in the open position. (B) braille and tactile signage complying with Clause 3 and 6 of Specification D3.6 must identify the latch operation device. The above requirements do not apply to a door that – (i) serves only or is within a *sole-occupancy unit* in a Class 2 building; or		

Section D: Access and Egress			
	(ii) are fitted with a fail-safe device which automatically unlocks the door upon the activation of an AS 1670.1 detection system installed throughout the building and is readily openable when unlocked.		
D2.22: Re-entry from fire-isolated exits	N/A	N/A	N/A
D2.23: Signs on doors	Signage in accordance with this clause is to be located on all fire and smoke doors stating “Fire Safety Door, Do Not Obstruct, Do Not Keep Open” and the discharge door from the fire isolated stairways are to state “Fire Safety Door – Do Not Obstruct” in capital letters not less than 20mm in height. Note: Fire signage in accordance with clause 183 of the Environmental Planning and Assessment Regulation 2000 is also required.	Signage details have not been provided at this stage. A signage schedule is to be submitted for further assessment demonstrating compliance with D2.23.	CRA – Refer Annexure F
D2.24: Protection of openable windows	(a) Bedroom windows must be provided with protection if the floor below the window is 2m or more above the surface beneath. (b) Where the lowest level of the window opening is less than 1.7m above the floor, a window opening covered by (a) must comply with the following: (i) The openable portion of the window must be protected with– (A) a device to restrict the window opening; or (B) a screen with secure fittings. (ii) A device or screen required by (i) must– (A) not permit a 125 mm sphere to pass through the window opening or screen; and	Window hardware details have not been provided at this stage. It is assumed the building can readily comply. A window schedule including details of window hardware and BCA specification are to be submitted for further assessment demonstrating compliance with D2.24	CRA – Refer Annexure F

Section D: Access and Egress			
	(B) resist an outward horizontal action of 250 N against the– (aa) window restrained by a device; or (bb) screen protecting the opening; and (C) have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden. (c) A barrier with a height not less than 865 mm above the floor is required to an openable window– (i) in addition to window protection, when a child resistant release mechanism is required by (b)(ii)(C); and (ii) where the floor below the window is 4m or more above the surface beneath if the window is not covered by (a). (d) A barrier covered by (c) except for (e) must not– (i) permit a 125 mm sphere to pass through it; and (ii) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing. (e) A barrier required by (c) to an openable window in— (i) fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, excluding external stairways and external ramps; and		
D2.25: Timber stairways: concession	N/A	N/A	N/A

Part D3 – Access for People with A Disability			
D3.0: Deemed-to-Satisfy Provisions	Informational	**The client has advised that a suitably qualified Access Consultant will be ended to assess the proposed development against the Part D3 Provisions of the BCA**	Noted

Section E: Services and Equipment			
Part E1 – Fire Fighting Equipment			
E1.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
E1.3: Fire hydrants	As the building has a floor area greater than 500 m2, a fire hydrant system complying with AS 2419.1:2005 must be provided to serve the building. > Hydrant booster assembly location. The booster location must comply with the following: o be within 8m of a hardstand for fire brigade appliance; o be within sight of the main entry; > Assuming it is attached to the building, be separated from the building by construction achieving FRL 90/90/90 for 2m either side of and 3m above the upper hose connections > Hydrant pump room location (if a pumpset is required). An internal pump room must have a door opening to a road or open space or egress to open space via a fire-isolated *exit*; > Internal hydrants in each fire-isolated *exit* at each storey providing coverage to all parts of the building. For internal fire hydrant coverage, all points on the floor must be covered by a 10m hose stream,	The location of a fire hydrant booster assembly has not been indicated on the architectural drawings. The architectural drawings are to be updated to demonstrate the indented location of the fire hydrant booster assembly and any other required infrastructure associated with a compliant hydrant system. A Hydraulic designer who is an accredited practitioner (Fire Safety) to provide Hydrant System & coverage plans, confirm system compliance with BCA E1.3, AS 2419 – 2005 and the relevant Fire Engineering Performance Solution report at Construction Certificate stage.	**FI- Refer to Part 3.5**

Section E: Services and Equipment			
	issuing from 30 m hose length, extending not less than 1m into the room.		
E1.4: Fire hose reels	A fire hose reel system complying with BCA clause E1.4 and AS 2441:2005 must be provided to the building (excluding Classes 2, 3, 4, 5, 8 and 9c). All points on a floor shall be within reach of a 4 m hose stream issuing from a nozzle at the end of the hose laid on floor. The hose length shall not exceed 36 m. Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except— (ii) doorways in walls referred to in C2.5(a)(v) in a Class 9a building and C2.5(b)(iv) in a Class 9c building, separating ancillary use areas of high potential fire hazard; and (iii) doorways in walls referred to in C2.12 or C2.13 separating equipment or electrical supply systems; and (iv) doorway openings to shafts referred to in C3.13.	The location of the fire hose reels have not been identified at this stage. However, it is assumed the building can readily comply. A Hydraulic designer who is an accredited practitioner (Fire Safety) to provide fire hose reel coverage plans and confirm system compliance with BCA E1.4, AS 2441 – 2005 and the relevant Fire Engineering Performance Solution Report at Construction Certificate stage.	CRA – Refer Annexure F
E1.5: Sprinklers	The building must be provided with a sprinkler system complying with Table E1.5 and Specification E1.5 installed throughout.	Based upon the conservative determination of the building having a rise in storeys of four (4) the building would require a sprinkler system in accordance with this clause. Should the certifier concur at Construction Certificate stage it will be necessary to protect the building with a sprinkler system in accordance with AS 2118.1-2017 or FPAA101H. Infrastructure associated with a compliant sprinkler system such as a booster and the sprinkler valve room should be indicated on the architectural drawings and Fire service Drawings (where required)	CRA – Refer Annexure F

Section E: Services and Equipment			
		A Hydraulic designer who is an accredited practitioner (Fire Safety) to provide plans and confirm system compliance with BCA E1.5, Specification E1.5 & AS2118.1-2017 or FPAA101H and the relevant Fire Engineering Performance Solution report at Construction Certificate stage.	
E1.6: Portable fire extinguishers	Portable fire extinguishers must be provided in accordance with clause E1.6 & Table E1.6 of the BCA and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444:2001. For the Class 2 parts, portable fire extinguishers must be– (i) an ABE type fire extinguisher; and (ii) a minimum size of 2.5 kg; and (iii) distributed outside a *sole-occupancy unit*— (A) to serve only the storey at which they are located; and (B) so that the travel distance from the entrance doorway of any *sole-occupancy unit* to the nearest fire extinguisher is not more than 10 m.	Sufficient details have not been provided at this stage to demonstrate compliance. It is assumed the building can readily comply. The architectural drawings are to be updated to denote the location of portable fire extinguishers in accordance with this BCA Clause E1.6 & AS2441-2001	CRA – Refer Annexure F
E1.8: Fire control centres	N/A	N/A	N/A
E1.9: Fire precautions during construction	Informational– > During construction, not less than one portable fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required / temporary *exit*; and > After the building has reach an *effective height* of 12m, the required fire hydrants and fire hose reels must be operational on all floor / roof covered	Noted	Noted

Section E: Services and Equipment			
	storeys, except for the 2 uppermost storeys; and all required booster connections must be installed.		
E1.10: Provision for special hazards	N/A	N/A	N/A
Specification E1.5a – Class 2 and 3 Buildings Not More Than 25m In Effective Height			
1. Scope and application	This specification sets out the design options and installation requirements for sprinklers in a class 2 or 3 residential building four or more storeys.	As outlined in Clause E1.5, based upon the conservative determination of the building having a rise in storeys of four (4) the building would require a sprinkler system in accordance with this Specification.	Noted
2. System requirements	A required automatic fire sprinkler system installed in a Class 2 or 3 building with an *effective height* of not more than 25 m and a rise in storeys of 4 or more must comply with— (iv) AS 2118.1:2017; or (v) AS 2118.4:2012, as applicable; or (vi) FPAA101H, except for residential care buildings	A Hydraulic designer who is an accredited practitioner (Fire Safety) to provide plans and confirm system compliance with BCA E1.5, Specification E1.5 & AS2118.1-2017 or FPAA101H and the relevant Fire Engineering Performance Solution report at Construction Certificate stage.	CRA – Refer Annexure F
3. Permitted concessions	**AS 2118.1:2017 system concession:** (i) The FRL for self-closing fire doors, as required by C3.8 and C3.11, may be reduced to not less than -/30/30. (ii) The FRL for— (A) all non-loadbearing internal walls and shafts constructed of fire-protected timber, as required by Specification C1.1 to have FRLs greater than -/60/60, may be reduced to -/60/60 and service penetrations through non-loadbearing	Concessions available via Specification E1.5a may be applied to the building provided a sprinkler system in accordance with AS2118.1-2017 or FPAA101H is provided throughout the building. Further assessment is required at Construction Certificate stage.	CRA – Refer Annexure F

Section E: Services and Equipment			
	internal walls and shafts constructed of fire-protected timber, as required by C3.15, may be reduced to not less than -/60/15; and (B) all other non-loadbearing internal walls, as required by Specification C1.1, may be reduced to -/45/45 and the FRL for service penetrations through internal non-loadbearing walls and shafts, as required by C3.15, may be reduced to -/45/15. (iii) The FRL for fire-isolated stairways enclosed with non-loadbearing construction, as required by D1.3, may be reduced to -/45/45. (iv) Except in a residential care building, the maximum distance of travel, as required by D1.4(a)(i)(A), may be increased from 6 m to 12 m. (v) The maximum distance of travel from a single *exit* serving the storey at the level of egress to a road or open space, as required by D1.4(a)(i)(B), may be increased from 20 m to 30 m. (vi) The maximum distance between alternative *exits*, as required by D1.5(c)(i), may be increased from 45 m to 60 m. (vii) Internal fire hydrants in accordance with E1.3 are not required where— (A) the building is served by external fire hydrants that provide compliant coverage installed in accordance with E1.3, except that in a residential care building the nozzle at the end of the length of hose need only reach the entry door of any *sole-occupancy unit* to be considered as covering the area within the sole occupancy unit; or		

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	(B) a dry fire hydrant system that otherwise complies with AS 2419.1 is installed in the building and— (aa) each fire hydrant head is located in accordance with E1.3 and fitted with a blank end cap or plug; and (bb) the pipework is installed in accordance with E1.3 (as for a required fire main) except that it need not be connected to a water supply; and (cc) a hydrant booster inlet connection is provided in accordance with E1.3; and (dd) an external street or feed hydrant capable of providing the required system flow is located within 60 m of the hydrant booster connection. (viii) An emergency warning and intercom system need not be provided in a residential care building in accordance with E4.9 if a warning system with an override public address facility is installed in accordance with Specification E2.2d. **FRAA101H system concessions:** (ix) Window openings need not be protected in accordance with C3.11(g) provided the room served by the window is sprinkler protected. (x) The FRL for— (A) service penetrations through non-loadbearing internal walls and shafts, as required by C3.15, may be reduced to -/60/15; and		

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	(B) non-loadbearing fire-resisting lift and stair shafts, as required by Specification C1.1, may be reduced to - /60/60. (xi) The maximum distance of travel, as required by D1.4(a)(i)(A), may be increased from 6 m to 12 m. (xii) The maximum distance of travel from a single *exit* serving the storey at the level of egress to a road or open space, as required by D1.4(a)(i)(B), may be increased from 20 m to 30 m. (xiii) The maximum distance between alternative *exits*, as required by D1.5(c)(i), may be increased from 45 m to 60 m.		
Part E2 – Smoke Hazard Management			
E2.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
E2.1: Application of Part	Informational	Noted	Noted
E2.2: General requirements (including Tables E2.2a and E2.2b)	**General smoke hazard management requirements** An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a or Table E2.2b and which recycles air from one *fire compartment* to another *fire compartment* or operates in a manner that may unduly contribute to the spread of smoke from one *fire compartment* to another *fire compartment* (such as lobby air supply) must— (i) be designed and installed to operate as a smoke control system in accordance with AS 1668.1:2015; or (ii)	The building is a four (4) storey building containing a class 2,7a & 7b parts **Class 2** The class 2 portion of the development is required to be provided with the following; > Smoke detection and alarm system in accordance with table E2.2a, Clause 3 within Sole-occupancy units. > Building Occupant Warning System complying with Spec E2.2a and AS 1670.1 – 2018.(Clause 7) **Class 7a**	

Section E: Services and Equipment			
	(A) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the *fire compartments* served; and (B) be arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1668.1:2015; and for the purposes of this provision, each *sole-occupancy unit* in a Class 2 or 3 building is treated as a separate *fire compartment*. **Class 2 parts** Class 2 parts must be provided with an automatic smoke detection and alarm system complying with BCA Specification E2.2a. Note: Smoke alarms in sole occupancy units are now required to be interconnected. **Class 7a buildings** A Class 7a building including a basement provided with a mechanical ventilation system in accordance with AS 1668.2:2012 must comply with clause 5.5 of AS 1668.1:2015 except that fans with metal blades for operation at normal temperatures may be used, and the electrical power and control cabling need not be fire rated.	The class 7 portion of the development is required to be provided with the following; > A mechanical ventilation system in accordance with AS1668.2 must comply with clause 5.5 of AS 1668.1 except that— fans with metal blades suitable for operation at normal temperature may be used; and the electrical power and control cabling need not be fire rated. > Smoke detection and alarm system in accordance with AS1670.1-2018 > Building Occupant Warning System complying with Spec E2.2a and AS 1670.1 – 2018.(Clause 7) . **Class 7b** The class 7 portion of the development is required to be provided with the following; > Smoke detection and alarm system in accordance with table E2.2a and Clause 4. > Building Occupant Warning System complying with Spec E2.2a and AS 1670.1 – 2018.(Clause 7)	CRA – Refer Annexure F
E2.3: Provisions for special hazards	N/A	N/A	N/A
Specification E2.2a – Smoke Detection and Alarm System			
1. Scope	Informational	Noted	Noted

Section E: Services and Equipment				
2.	Type of system	A required automatic smoke detection and alarm system must be provided in accordance with the following: (a) Class 2 buildings parts of a building— (i) a smoke alarm system complying with Clause 3; or (ii) a smoke detection system complying with Clause 4; or (iii) a combination of a smoke alarm system and a smoke detection system complying with Clause 5. (b) Class 7 buildings— a smoke detection system complying with Clause 4.	A smoke detection and alarm system complying with BCA Clause E2.2a Clause 5, AS3786-2014 will be provided throughout the residential parts of the building Service drawings & design certification to be prepared by an accredited practitioner (Fire Safety) at Construction Certificate stage.	CRA – Refer Annexure F
3.	Smoke alarm system	(a) All Class 2 - 9 buildings— (i) A smoke alarm system must— (A) consist of smoke alarms complying with AS 3786; and (B) be powered from the consumer mains source. (ii) In kitchens and other areas where the use of the area is likely to result in smoke alarms causing spurious signals— (A) any other alarm deemed suitable in accordance with AS 1670.1 may be installed provided that smoke alarms are installed elsewhere in the sole-occupancy unit in accordance with Clause 3(b)(i) and Clause 3(b)(ii); or (B) an alarm acknowledgement facility may be installed, except where the kitchen or other area is in a building protected with a sprinkler system complying with	A smoke detection and alarm system complying with BCA Clause E2.2a, AS3786-2014 & AS1670.1-2018 will be provided throughout in accordance with Clause 5 below. Interlinked smoke alarms are required to the Class 2 residences at all levels and located between bedrooms and other parts of the building. The sound pressure level need not be measured within a sole-occupancy unit if a level of not less than 85 dB(A) is provided at the door providing access to the sole-occupancy unit; Service drawings & design certification to be prepared by an accredited practitioner (Fire Safety) at Construction Certificate stage.	CRA – Refer Annexure F

Section E: Services and Equipment			
	Specification E1.5 (other than a FPAA101D system), the alarms need not be installed in the kitchen or other areas likely to result in spurious signals. (b) Class 2 parts of a building — In a Class 2 part of a building provided with a smoke alarm system, the following applies: (i) Alarms must be installed within each sole-occupancy unit, and located on or near the ceiling in any storey— (A) containing bedrooms— (aa) between each part of the sole-occupancy unit containing bedrooms and the remainder of the sole-occupancy unit; and (bb) where bedrooms are served by a hallway, in that hallway; and (B) not containing any bedrooms, in egress paths. (ii) Where there is more than one alarm installed within a sole-occupancy unit, alarms must be interconnected within that sole-occupancy unit. (iii) Subject to (iv), alarms must be— (A) installed in public corridors and other internal public spaces, located in accordance with the requirements for smoke detectors in AS 1670.1; and (B) connected to activate a building occupant warning system in accordance with Clause 7. (iv) In a Class 2 part of a building protected with a sprinkler system complying with Specification E1.5 (other than a FPAA101D system), alarms		

Section E: Services and Equipment				
		are not required in public corridors and other internal public spaces.		
4.	Smoke detection system	(c) All Class 7 buildings— (i) A smoke detection system must— (A) subject to (b) and (c), comply with AS 1670.1; and (B) activate a building occupant warning system in accordance with Clause 7. (ii) In kitchens and other areas where the use of the area is likely to result in smoke detectors causing spurious signals— (A) any other detector deemed suitable in accordance with AS 1670.1 may be installed provided that smoke detectors are installed elsewhere in the sole-occupancy unit in accordance with the requirements for alarms in Clause 3(b)(i) and Clause 3(b)(ii); or (B) an alarm acknowledgement facility may be installed, except where the kitchen or other area is in a building protected with a sprinkler system complying with Specification E1.5 (other than a FPAA101D or FPAA101H system), the detectors need not be installed in the kitchen or other areas likely to result in spurious signals.	A smoke detection and alarm system complying with BCA Clause E2.2a, AS1670.1-2018 will be provided throughout the class 7b parts in accordance with Clause 4 activating a building occupant warning system in accordance with Clause 7. Service drawings & design certification to be prepared by an accredited practitioner (Fire Safety) at Construction Certificate stage	CRA – Refer Annexure F
5.	Combined smoke alarm and smoke detection system	(a) A Class 2 or 3 building or Class 4 part of a building provided with a combination of a smoke alarm system and smoke detection system in accordance with Clause 2 must—	A smoke detection and alarm system complying with BCA Clause E2.2a, AS3786-2014 & AS1670.1-2018 will be provided throughout in accordance with Clause 5 activating a building occupant warning system in accordance with Clause 7.	CRA – Refer Annexure F

Section E: Services and Equipment				
		(i) be provided with a smoke alarm system complying with Clause 3 within sole-occupancy units; and (ii) subject to (b), be provided with a smoke detection system complying with Clause 4 in areas not within sole-occupancy units. (b) In a Class 2 or 3 building or Class 4 part of a building protected with a sprinkler system complying with Specification E1.5 (other than a FPAA101D or FPAA101H system), smoke detectors are not required in public corridors and other internal public spaces.	The sound pressure level need not be measured within a sole-occupancy unit if a level of not less than 85 dB(A) is provided at the door providing access to the sole-occupancy unit. Service drawings & design certification to be prepared by an accredited practitioner (Fire Safety) at Construction Certificate stage	
6.	Smoke detection for smoke control system	N/A	N/A	N/A
7.	Building occupant warning system	Subject to E4.9, a building occupant warning system provided as part of a smoke hazard management system must comply with clause 3.22 of AS 1670.1 to sound through all occupied areas except— (a) in a Class 2 part of a building provided with a smoke alarm system in accordance with Clause 3(b)(iii)— (i) the sound pressure level need not be measured within a sole-occupancy unit if a level of not less than 85 dB(A) is provided at the door providing access to the sole-occupancy unit; and (ii) the inbuilt sounders of the smoke alarms may be used to wholly or partially meet the requirements; and (b) in a Class 2 part of a building provided with a smoke detection system in accordance with Clause 4(b), the sound pressure level from a building occupant warning system need not be measured within a sole-occupancy unit if a level of not less than 100	Service drawings & design certification to be prepared by an accredited practitioner (Fire Safety) at Construction Certificate stage	CRA – Refer Annexure F

Section E: Services and Equipment			
	dB(A) is provided at the door providing access to the sole-occupancy unit; and		
8. System Monitoring	N/A	N/A	N/A

Part E3 – Lift Installations				
E3.0:	Deemed-to-Satisfy Provisions	Informational	Noted	Noted
E3.1:	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1	No details provided at this stage. Detailed architectural drawings and specification to be provided for assessment for further assessment.	CRA – Refer Annexure F
E3.2:	Stretcher facility in lifts	N/A	N/A	N/A
E3.3:	Warning against use of lifts in fire	Warning signs indicating “DO NOT USE LIFTS IF THERE IS A FIRE” shall be displayed near every call button for a passenger lift or group of lifts throughout a building as per E3.3.	No details provided at this stage. Detailed architectural drawings and specification to be provided for assessment for further assessment.	CRA – Refer Annexure F
E3.4:	Emergency lifts	N/A	N/A	N/A
E3.5:	Landings	Access and egress to and from lift-well landings must comply with the Deemed-to-Satisfy Provisions of Section D.	The architectural drawings detail compliant landings in accordance with BCA Clause D2.14 Detailed architectural drawings and specification to be provided for further assessment.	**Complies**
E3.6:	Passenger lifts	In an accessible building, every passenger lift must be one of the types specified in Table E3.6a, have accessible features in accordance with Table E3.6b, and not rely on a constant pressure device for its operation if the lift car is fully enclosed.	Detailed lift drawings and specification have not been provided for at this stage for assessment. The floor size of the lift cars generally shows sufficient dimensions, which shall be not less than 1100 wide x 1400mm deep. Certification shall be provided from the lift supplier for the accessible features at Construction Certificate stage.	CRA – Refer Annexure F
E3.7:	Fire service controls	N/A	N/A	N/A

E3.8: Aged care buildings	N/A	N/A	N/A
E3.9: Fire service recall switch	N/A	N/A	N/A
E3.10: Lift car service drive control switch	N/A	N/A	N/A
Part E4 – Visibility In An Emergency, Exit Signs And Warning Systems			
E4.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
E4.2: Emergency lighting requirements	An emergency lighting system must be installed throughout the building in accordance with Clause E4.2 of the BCA and AS/NZS 2293.1:2018.	Electrical engineer (Fire Systems Design accredited practitioner) to provide drawings, design certification and electrical specification demonstrating compliance with Clause E4.2 of the BCA and AS/NZS 2293.1:2018 at Construction Certificate stage.	CRA – Refer Annexure F
E4.3: Measurement of distance	Informational	Noted	Noted
E4.4: Design and operation of emergency lighting	The emergency lighting system must comply with AS/NZS 2293.1:2018.	Electrical engineer (Fire Systems Design accredited practitioner) to provide drawings, design certification and electrical specification demonstrating compliance with Clause E4.4 of the BCA and AS/NZS 2293.1:2018 at Construction Certificate stage.	CRA – Refer Annexure F
E4.5: Exit signs	*Exits* signs are to be provided above or adjacent to a door providing egress as well as directional signage throughout the entire development where necessary.	Electrical engineer (Fire Systems Design accredited practitioner) to provide drawings, design certification and electrical specification demonstrating compliance with Clause E4.5 of the BCA and AS/NZS 2293.1:2018 at Construction Certificate stage.	CRA – Refer Annexure F
E4.6: Direction signs	Where an *exit* is not readily apparent, directional signage is to be installed indicating the direction of egress.	Electrical engineer (Fire Systems Design accredited practitioner) to provide drawings, design certification and electrical specification demonstrating compliance with Clause E4.6 of the BCA and AS/NZS 2293.1:2018 at Construction Certificate stage.	CRA – Refer Annexure F

E4.7:	Class 2 and 3 buildings and Class 4 Parts: Exemptions	Informational	Noted	Noted
E4.8:	Design and operation of exit signs	*Exit* signs must comply with AS/NZS 2293.1:2018 and be clearly visible at all times when the building is occupied.	Electrical engineer (Fire Systems Design accredited practitioner) to provide drawings, design certification and electrical specification demonstrating compliance with Clause E4.8 of the BCA and AS/NZS 2293.1:2018 at Construction Certificate stage.	CRA – Refer Annexure F
E4.9:	Emergency warning and intercom systems	N/A	N/A	N/A

Section F: Health and Amenity				
Part F1 – Damp and Weatherproofing				
F1.0:	Deemed-to-Satisfy Provisions	*Performance Requirement* FP1.4, for the prevention of the penetration of water through external walls, must be complied with. There are no Deemed-to-Satisfy Provisions for this *Performance Requirement* in respect of external walls. The assessment contained within this report does not include an assessment against Performance Provision FP1.4.	It must be demonstrated that the construction of the external walls prevents the penetration of water that could cause; a) unhealthy or dangerous conditions or loss of amenity for occupants; and b) undue dampness or deterioration of building elements.	**PS- Refer to Part 3.3**
F1.1:	Stormwater drainage	Stormwater drainage to comply with AS/NZS 3500.3:2018.	Sufficient details not provided at this stage. Hydraulic drawings to be provided at Construction Certificate stage to demonstrate compliance with AS/NZS 3500.3:2018.	CRA – Refer Annexure F
F1.4:	External above ground membranes	Waterproofing membranes for external above ground use to comply with AS 4654 Parts 1 and 2:2012.	No details provided at this stage. Special consideration should be given to the open stairway serving roof top level. Waterproofing specialist and Hydraulic Consultant to review design.	**FI- Refer to Part 3.4 of this report.**

Section F: Health and Amenity			
		This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	
F1.5: Roof coverings	Roof coverings are to comply with BCA Clause F1.5.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	CRA – Refer Annexure F
F1.6: Sarking	*Sarking-type materials* used for weatherproofing must comply with AS/NZS 4200 Part 1 and 2:2017.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	CRA – Refer Annexure F
F1.7: Water proofing of wet areas in buildings	Wet areas must be constructed in accordance with AS 3740:2010 and F1.7 of the BCA.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	CRA – Refer Annexure F
F1.9: Damp-proofing	Moisture is to be prevented from reaching the walls above a damp-proof course, and the underside of the suspended floors.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	CRA – Refer Annexure F
F1.10: Damp-proofing of floors on the ground	If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870:2011 (N/A to areas that do not require weatherproofing – refer specific clause exemptions).	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	CRA – Refer Annexure F

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F1.11: Provision of floor wastes	In Class 2 or 3 buildings or Class 4 part of a building, a bathroom or laundry is to have a floor waste where the floor is graded to the floor waste to permit the drainage of water.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	CRA – Refer Annexure F
F1.12: Sub-floor ventilation	N/A	N/A	N/A
F1.13: Glazed Assemblies	Glazed assemblies are to comply with AS 2047:2014 and AS 1288:2006.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at Construction Certificate stage.	CRA – Refer Annexure F
Part F2 – Sanitary and Other Facilities			
F2.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
F2.1: Facilities in residential buildings (including Table F2.1)	Each SOU must be provided with sanitary facilities; a kitchen sink; facility for the preparation and cooking of food; a bath or shower; a closet pan; wash basin; laundry wash tub and space for a washing machine and dryer.	Assessment of the architectural drawings demonstrate compliance with F2.1 and the facilities required for Class 2 sole-occupancy units.	CRA – Refer Annexure F
F2.2: Calculation of number of occupants and facilities	Informational – (a) The number of persons accommodated must be calculated according to D1.13 if it cannot be more accurately determined by other means (b) Unless the premises are used predominantly by one sex, sanitary facilities must be provided on the basis of equal numbers of males and females (c) In calculating the number of sanitary facilities to be provided under F2.1 and F2.3, a unisex facility	Refer to D1.13	Noted

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		required for people with a disability may be counted once for each sex (d) For the purpose of this Part, a unisex facility comprises one closet pan, one washbasin and means for the disposal of sanitary towels		
F2.3:	Facilities in Class 3 to 9 buildings (including Table F2.3)	N/A	N/A	N/A
F2.4:	Accessible sanitary facilities (including Table F2.4)	N/A	N/A	N/A
F2.5:	Construction of sanitary compartments	(a) Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend— (i) from floor level to the ceiling in the case of a unisex facility; or (ii) to a height of not less than 1.5 m above the floor if primary school children are the principal users; or (iii) 1.8 m above the floor in all other cases. (b) The door to a fully enclosed sanitary compartment must— (i) open outwards; or (ii) slide; or (iii) be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2 m, measured in accordance with Figure F2.5, between the closet pan within the sanitary compartment and the doorway.	Doors to sanitary compartments without a clear space of 1200mm between the doorway and the toilet pan are required to be readily removable from the outside of the sanitary compartment. It is assumed the building can readily comply. Updated Architectural drawings including door hardware and BCA Specification is to be submitted for further assessment at Construction Certificate stage.	CRA – Refer Annexure F

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F2.6: Interpretation: urinals and washbasins	N/A	N/A	N/A
F2.8: Waste Management	N/A	N/A	N/A
F2.9: Accessible adult change facilities	N/A	N/A	N/A
Part F3 – Room Sizes			
F3.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
F3.1: Height of rooms and other spaces	(a) The height of rooms and other spaces must be not less than— (b) in a Class 2 part of a building— (i) a kitchen, laundry, or the like — 2.1 m; and (ii) a corridor, passageway or the like — 2.1 m; and (iii) a habitable room excluding a kitchen — 2.4 m; and (iv) in a room or space with a sloping ceiling or projections below the ceiling line (v) within— (A) a habitable room— (aa) in an attic — a height of not less than 2.2 m for not less than two thirds of the floor area of the room or space; and (bb) in other rooms — a height of not less than 2.4 m for not less than	Based on the architectural drawings including Section and elevations provided for assessment compliance is generally demonstrated. Detailed architectural drawings and internal section/elevations are to be submitted for further assessment at Construction Certificate stage	CRA – Refer Annexure F

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	two thirds of the floor area of the room or space; and (B) a non-habitable room — a height of not less than 2.1 m for not less than two thirds of the floor area of the room or space; and (aa) when calculating the floor area of a room or space, any part that has a ceiling height of less than 1.5 m is not included; and (c) in a Class 7 building— (i) except as allowed in (ii) and (f) — 2.4 m; and (ii) a corridor, passageway, or the like — 2.1 m		
Part F4 – Light and Ventilation			
F4.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
F4.1: Provision of natural light	Natural light must be provided to all habitable rooms.	All windows to habitable rooms have access to direct natural light as required.	**Complies**
F4.2: Methods and extent of natural lighting	(a) Natural light must be provided by: (i) Windows: (A) with an aggregate light transmitting area of not less than 10% the floor area of the room; and (B) that are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like; or (ii) Rooflights, that:	All windows to habitable rooms have access to direct natural light as required. It would appear that from the elevation drawings that the window dimensions will allow for 10% opening to that of the floor area of each room and sills are located not more than 500mm above finished floor level.	CRA – Refer Annexure F

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	(A) have an aggregate light transmitting area of not less than 3% the floor area of the room; or (iii) a proportional combination of windows and roof lights required by (i) and (ii). (b) A required window that faces a boundary of an adjoining allotment or a wall of the same building or another building on the allotment must be not less than a horizontal distance from that boundary or wall that is the greater of – (c) 1m; and (d) 50% of the square root of the exterior height of the wall in which the window is located, measured from its sill.		
F4.3: Natural light borrowed from adjoining room	N/A	N/A	N/A
F4.4: Artificial Lighting	Lighting to all areas is to comply with AS/NZS 1680.0:2009.	No details of lighting at this stage. Electrical consultant to provide drawings and design certification at Construction Certificate stage	CRA – Refer Annexure F
F4.5: Ventilation of rooms	All rooms to be provided with Clause F4.6 compliant natural ventilation **OR** a mechanical ventilation or air-conditioning system complying with AS 1668.2:2012.	No details of ventilation to rooms provided at this stage. Mechanical consultant to provide drawings and design certification for further assessment	CRA – Refer Annexure F
F4.6: Natural ventilation	(a) Natural ventilation provided in accordance with F4.5(a) must consist of permanent openings, windows, doors or other devices which can be opened—	The architectural drawings submitted demonstrate suitable openings to provided natural ventilation in accordance with F4.6. No details of ventilation to rooms provided at this stage. Mechanical consultant to provide drawings and design certification for further assessment.	CRA – Refer Annexure F

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	(i) with an aggregate opening or openable size not less than 5% of the floor area of the room required to be ventilated; and (ii) open to— (A) a suitably sized court, or space open to the sky; or (B) an open verandah, carport, or the like; or (C) an adjoining room in accordance with F4.7.		
F4.7: Ventilation borrowed from adjoining room	N/A	N/A	N/A
F4.8: Restriction on position of water closets and urinals	Sanitary compartments must not open directly into a – > kitchen or pantry	The location of sanitary compartments denoted on the architectural drawings demonstrate compliance with BCA Clause F4.8.	CRA – Refer Annexure F
F4.9: Airlocks	If sanitary compartments are prohibited from opening directly to another room: > access must be by an airlock, hallway or other room; or > the sanitary compartments must be provided with mechanical exhaust ventilation.	N/A	N/A
F4.11: Carparks	Every storey of a carpark (except an open deck carpark) must have: > a system of mechanical ventilation complying with AS 1668.2:2012; or > a system of natural ventilation complying with Section 4 of AS 1668.4:2012.	Sufficient details have not been provided at this stage. Mechanical Engineer to provide drawings and design certification at CC stage	CRA – Refer Annexure F

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F4.12: Kitchen local exhaust ventilation	N/A	N/A	N/A
Part F5 – Sound Transmission and Insulation			
F5.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
F5.1: Application of Part	Informational– The Deemed-to-Satisfy Provisions of this Part apply to Class 2 and 3 buildings and Class 9c buildings.	Noted	Noted
F5.2: Determination of airborne sound insulation ratings	A form of construction required to have an airborne sound insulation rating must— (a) have the required value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term (R_w + Ctr) determined in accordance with AS/NZS ISO 717.1 using results from laboratory measurements; or (b) comply with Specification F5.2.	Details concerning acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided for further assessment at Construction Certificate stage	CRA – Refer Annexure F
F5.3: Determination of impact sound insulation ratings	(a) A floor in a building required to have an impact sound insulation rating must— (i) have the required value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w}$ + CI) determined in accordance with AS/ISO 717.2 using results from laboratory measurements; or (ii) comply with Specification F5.2. (b) A wall in a building required to have an impact sound insulation rating must be of discontinuous construction; and	Details concerning acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided for further assessment at Construction Certificate stage	CRA – Refer Annexure F

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		(c) For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and (i) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (ii) for other than masonry, there is no mechanical linkage between leaves except at the periphery.		
F5.4:	Sound insulation rating of floors	A floor in a Class 2 building must achieve an $R_w + C_{tr}$ (airborne) not less than 50, and an $L_{n,w}+C_I$ (impact) not more than 62, if separating: > SOU's; or > An SOU from a plant room, lift shaft, public corridor, public lobby or parts of a different classification.	Details concerning acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided for further assessment at Construction Certificate stage	CRA – Refer Annexure F
F5.5:	Sound insulation rating of walls	(a) A wall in a Class 2 building must: (i) have an $R_w + C_{tr}$ (airborne) not less than 50 if it separates *sole-occupancy units*; and (ii) have an R_w (airborne) not less than 50 if it separates a sole occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification; and (iii) be of discontinuous construction in accordance with F5.3(b) if it separates: (A) a bathroom, sanitary compartment, laundry or kitchen in one *sole-occupancy unit* from a habitable room (other than a kitchen) in an adjoining unit; or (B) a *sole-occupancy unit* from a plant room or lift shaft.	Details concerning acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided for further assessment at Construction Certificate stage	CRA – Refer Annexure F

Section F: Health and Amenity			
	(b) Where a wall required to have sound insulation has a floor above, the wall must continue to: (i) the underside of the floor above; or (ii) a ceiling that provides the sound insulation required for the wall. (c) Where a wall required to have sound insulation has a roof above, the wall must continue to: (i) the underside of the roof above; or (ii) a ceiling that provides the sound insulation required for the wall. (d) Doorways in walls separating the Class 2 *sole-occupancy units* from a stairway, public corridor, public lobby or the like must be provided with a door assembly that has an R_w not less than 30.		
F5.6: Sound insulation rating of services	(a) If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one *sole-occupancy unit*, the duct or pipe must be separated from the rooms of any sole occupancy unit by construction with an $R_w + C_{tr}$ (airborne) not less than— (i) 40 if the adjacent room is a habitable room (other than a kitchen); or (ii) 25 if the adjacent room is a kitchen or non-habitable room. (b) If a storm water pipe passes through a *sole-occupancy unit* it must be separated in accordance with (a)(i) and (ii).	Details concerning acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided for further assessment at Construction Certificate stage	CRA – Refer Annexure F
F5.7: Sound isolation of pumps	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating pump.	Details concerning acoustic treatment have not been provided at this stage.	CRA – Refer Annexure F

Section F: Health and Amenity			
		Appropriate plans and specification are to be provided for further assessment at Construction Certificate stage	
Part F6 – Condensation Management			
F6.0: Deemed-to-satisfy provisions	Informational	Noted	Noted
F6.1: Application of Part	Informational	Noted	Noted
F6.2 Pliable building membrane	Where a pliable building membrane is installed in an external wall it shall comply with AS/NZS 4200.1:2017 and installed in accordance with AS 4200.2:2017.	Sufficient details have not been provided at this stage. Pliable sarking membrane is required to be installed on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building. Except for single skin masonry and single skin concrete, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity. Suitable architectural drawings and BCA specification are to be provided for further assessment at Construction Certificate stage.	**FI- Refer to Part 3.4**
F6.3: Flow rate and discharge of exhaust systems	(a) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of— (i) 25 L/s for a bathroom or sanitary compartment; and (ii) 40 L/s for a kitchen or laundry. (b) Exhaust from a kitchen must be discharged directly or via a shaft or duct to outdoor air. (c) Exhaust from a bathroom, sanitary compartment, or laundry must be discharged—	No mechanical details have been provided at this stage. Mechanical engineer to provide drawings and design certification for further assessment at Construction Certificate stage.	CRA – Refer Annexure F

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	(i) directly or via a shaft or duct to outdoor air; or (ii) to a roof space that is ventilated in accordance with F6.4		
F6.4: Ventilation of roof spaces	(a) Where an exhaust system covered by F6.3 discharges directly or via a shaft or duct into a roof space, the roof space must be ventilated to outdoor air through evenly distributed openings. (b) Openings required by (a) must have a total unobstructed area of 1/300 of the respective ceiling area if the roof pitch is greater than 22º, or 1/150 of the respective ceiling area if the roof pitch is less than or equal to 22º. (c) 30% of the total unobstructed area required by (b) must be located more than 900 mm below the ridge or highest point of the roof space, measured vertically, with the remaining required area provided by eave vents.	No mechanical details have been provided at this stage. Mechanical engineer to provide drawings and design certification for further assessment	CRA – Refer Annexure F

Section G: Ancillary Provisions			
Part G1 – Minor Structures and Components			
G1.0: Deemed-to-Satisfy Provisions	Informational	Noted	Noted
G1.1: Swimming pools	N/A	N/A	N/A
G1.2: Refrigerated chambers, strong-rooms and vaults	N/A	N/A	N/A
G1.3: Outdoor play spaces	N/A	N/A	N/A

Section G: Ancillary Provisions			
NSW G1.101: Provision for cleaning windows	A safe manner for cleaning of windows located 3 or more storeys above ground level must be provided, and compliance is achieved where: > the windows can be cleaned wholly from within the building; or > via a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.	No details provided at this stage. The method of cleaning of windows is to form part of the design at Construction Certificate stage, or otherwise be included in the BCA specification	CRA – Refer Annexure F
Part G2 – Boilers, Pressure Vessels, Heating Appliances, Fireplaces, Chimneys and Flues			
G2.0: Deemed-to-Satisfy Provisions	N/A	N/A	N/A
Part G3 – Atrium Construction			
G3.1: Atriums Affected by the Part	N/A	N/A	N/A
Part G4 – Construction in Alpine Areas			
G4.0: Deemed-to-Satisfy Provisions	N/A	N/A	N/A
Part G5 – Construction in Bushfire Prone Areas			
G5.0: Deemed-to-Satisfy Provisions	N/A	N/A	N/A
Part G6 – Occupiable Outdoor Areas			
G6.1: Application of part	(d) The Deemed-to-Satisfy Provisions of this Part apply to buildings containing an occupiable outdoor area in addition to the other Deemed-to-Satisfy Provisions of the BCA.	The external balconies of sole-occupancy units shall comply with the provisions of Part G6.2	Noted

	(e) The Deemed-to-Satisfy Provisions of this Part take precedence where there is a difference to the Deemed-to-Satisfy Provisions of Sections C, D, E, F and G. (f) Except for G6.2, the Deemed-to-Satisfy Provisions of this Part do not apply to – (i) an occupiable outdoor area of a *sole-occupancy unit* in a Class 2 or 3 building, Class 9c building or Class 4 part of a building; or (ii) an occupiable outdoor area with an area less than 10m^2.		
G6.2: Fire hazard properties	(g) Subject to (b), a lining material or assembly in an occupiable outdoor area must comply with C1.10 as for an internal element. (h) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C1.10: (i) *Average specific extinction area.* (ii) Smoke-Developed Index. (iii) Smoke development rate. (iv) *Smoke growth rate index* (SMOGRA$_{RC}$).	Specific details with regards to the linings of internal floors and walls have not been provided at this stage. The following is to be achieved; <u>Floor Linings</u> A critical radiant flux of 1.2 kW/m^2 <u>Wall & ceiling Linings</u> Group 1,2 or 3 A BCA specification and schedule of proposed materials and finishes are to be provided for further assessment.	CRA – Refer Annexure F
G6.3: Fire Separation	N/A	N/A	N/A
G6.4: Provision for escape	N/A	N/A	N/A
G6.5: Construction of exits	N/A	N/A	N/A
G6.6: Fire fighting equipment	N/A	N/A	N/A
G6.7: Lift installations	N/A	N/A	N/A

G6.8: Visibility in an emergency, exit signs and warning systems	N/A	N/A	N/A
G6.9: Light and ventilation	N/A	N/A	N/A
G6.10: Fire orders	N/A	N/A	N/A

Section H: Special Use Buildings
Part H1 – Class 9b Buildings- N/A

Section I: Maintenance
Part I1 – Equipment and Safety Installations
This Part has been deleted in BCA2019.

Section J: Energy Efficiency (Class 3, 5, 6, 7b, 8, 9)			
Part J0 – Energy Efficiency			
J0.1: Application of Section J	Informational	**The client has advised that a suitably qualified Energy Efficiency Consultant will be engaged to assess the requirements of Section J of the BCA.**	Noted

ANNEXURE E DEFINITIONS

Annexure E - Definitions

Critical radiant flux

Critical radiant flux (CRF) means the critical heat flux at extinguishment (CHF in kW/m2) as determined by AS ISO 9239.1:2003.

Effective height

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

Exit

Exit means –

(a) Any, or any combination of the following if they provide egress to a road or open space—

(i) An internal or external stairway.

(ii) A ramp.

(iii) A fire-isolated passageway.

(iv) A doorway opening to a road or open space.

(v) A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Fire compartment

Fire compartment means –

(a) the total space of a building; or

(b) when referred to in—

(i) the Performance Requirements — any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or

(ii) the Deemed-to-Satisfy Provisions — any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to Satisfy Provisions of the relevant Part.

Fire-resistance level (FRL)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

(a) structural adequacy; and

(b) integrity; and

(c) insulation,

and expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

Fire-source feature

(a) the far boundary of a road, river, lake or the like adjoining the allotment; or

(b) a side or rear boundary of the allotment; or

(c) an external wall of another building on the allotment which is not a Class 10 building

Fire wall

Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

Flammability index

Flammability Index means the index number as determined by AS 1530.2:1993.

Group number

Group number means the number of one of 4 groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling.

Loadbearing

Intended to resist vertical forces additional to those due to its own weight.

Non-combustible

Non-combustible means—

(a) applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and

(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

Open space

Open space means a space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.

Performance Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Performance Solution

Performance Solution means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Sarking-type material

Sarking-type material means a material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.

Smoke developed index

Smoke developed index means the index number for smoke as determined by AS/NZS 1530.3.

Smoke development rate

Smoke development rate means the development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1.

Smoke growth rate index

Smoke growth rate index (SMOGRA RC) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

Sole-occupancy unit

Sole-occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—

(a) a dwelling; or

(b) a room or suite of rooms in a Class 3 building which includes sleeping facilities; or

(c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or

(d) a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

ANNEXURE F BCA COMPLIANCE SPECIFICATION

Annexure F – BCA Compliance Specification

The following BCA matters are to be addressed by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Construction Certificate Stage. This schedule should be forwarded to all consultants to obtain verification that these items have and will be included in the design documentation / specifications:

Architectural Design Certification

1. The FRLs of building elements for the proposed works have been designed in accordance with Table 3 of Specification C1.1 of BCA2019 for a building of Type A Construction
2. Lightweight construction used to achieve required fire resistance levels will comply with Specification C1.8 of BCA2019.
3. Building elements must be non-combustible in accordance with C1.9 of BCA2019.
4. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C1.10 and Specification C1.10 of BCA2019.
5. Any ancillary elements fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible will comply with Clause C1.14 of BCA2019.
6. Where the building is no sprinkler protected it will require spandrel separation in accordance with Clause C2.6 of BCA2019
7. Floors separating storeys of different classifications will comply with BCA Clause C2.9 of BCA2019.
8. Services penetrating elements required to possess an FRL including the floor slabs, walls, shafts, etc. will be protected in accordance with Clause C3.12, C3.13 and C3.15 and Specification C3.15 of BCA2019.
9. Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation will be protected in accordance with BCA Clause C3.16.
10. The lift doors will be -/60/- fire doors complying with AS 1735.11:1986 in accordance Clause C3.10 of BCA2019.
11. Doorways and other opening in internal walls required to have an FRL will be protected in accordance with Clause C3.11 of BCA2019.
12. Columns protected by light weight construction will achieve an FRL not less than the FRL for the element it is penetrating, in accordance with Clause C3.17 of BCA2019.
13. A lintel will have the FRL required for the part of the building in which it is situated, unless it does not contribute to the support of a fire door, fire window or fire shutter, and it spans an opening in masonry which is not more than 150 mm thick and is not more than 3m wide if the masonry is non-loadbearing; or not more than 1.8m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall, or it spans an opening in a non-loadbearing wall of the Class 2 or 3 building, in accordance with Specification C1.1 Clause 2.3 BCA2019.
14. All attachments to the external façade of the building will be fixed in a way that does not affect the fire resistance of that element in accordance with Clause 2.4 of Specification C1.1 of BCA2019.
15. The top and bottom of the riser shafts will achieve an FRL not less than the FRL required for the walls of the shaft in accordance with Clause 2.7 of Specification C1.1 of BCA2019.
16. Fire doors will comply with AS 1905.1:2015 and Specification C3.4 of BCA2019.
17. The number of exits provided to the building will be in accordance with Clause D1.2 of BCA2019

18. Travel distances to exits will be in accordance with Clause D1.4 of BCA2019, except as varied via Fire Engineered Performance Solution report.
19. The dimensions of exits and paths of travel to exits will be provided in accordance with Clause D1.6 of BCA2019.
20. Discharge from exits will be in accordance with Clause D1.10 of BCA2019.
21. Access to the lift pit will be in accordance with Clause D1.17 of BCA2019.
22. The construction of EDBs and telecommunications distribution boards will be in accordance with Clause D2.7 of BCA2019 with the enclosure bounded by non-combustible construction or fire protective covering and smoke seals provided around the perimeter of the non-combustible doors and any openings sealed with non-combustible mastic to prevent smoke spreading from the enclosure.
23. Stair geometry to the new stairways will be in accordance with Clause D2.13 of BCA2019. Stair treads are to have a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.
24. Landings and door thresholds throughout the development will be provided in accordance with Clause D2.14 and D2.15 of BCA2019. Landings to have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 where the edge ledge to a flight below.
25. The handrails and balustrades to all stairs and throughout the building will be in accordance with Clause D2.16, and D2.17 of BCA2019.
26. The fixed platform, walkway, stairway and ladder and any associated going and riser, landing handrail, balustrade, located within the machinery room, boiler house, lift-machine room, plant-room, or non-habitable attic/storeroom within the sole occupancy unit will comply with AS 1657:2013 or Part D2 of BCA2019.
27. The doorways and doors will be in accordance with Clause D2.19 and D2.20 of BCA2019.
28. Door latching mechanisms will be in accordance with Clause D2.21 of BCA2019
29. The openable portion of a window in a bedroom of a Class 2 building will be protected with a restricting device or secure screen that does not allow a 125mm sphere to pass through the opening or screen and resist an outward horizontal action of 250N in accordance with Clause D2.24 of BCA2019. In addition to window protection, and for other openable windows 4 meters or more above the ground below, a barrier with a height not less than 865mm above the floor will be installed to the openable window.
30. Fire precautions whilst the building is under construction fire precautions will be in accordance with Clause E1.9 of BCA2019.
31. External above ground waterproofing membranes will comply with Clause F1.4 of BCA2019 and AS 4654 Parts 1 & 2:2012.
32. The new roof covering will be in accordance with Clause F1.5 of BCA2019.
33. Any sarking proposed will be installed in accordance with Clause F1.6 of BCA2019.
34. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F1.7 of BCA2019 and AS 3740:2010.
35. Damp proofing of the proposed structure will be carried out in accordance with Clause F1.9 and F1.10 of BCA2019.
36. Floor wastes will be installed to bathrooms and laundries above sole occupancy units or public space in accordance with Clause F1.11 of BCA2019.

37. All new glazing to be installed throughout the development will be in accordance with Clause F1.13 of BCA2019 and AS 1288:2006 / AS 2047:2014.
38. Sanitary facilities will be provided in the building in accordance with Clause F2.1, Table F2.1, Clause F2.3 and Table F2.3 of BCA2019.
39. The construction of the sanitary facilities will be in accordance with Clause F2.5 of BCA2019.
40. Ceiling heights to the new areas will be in accordance with Clause F3.1 of BCA2019.
41. Natural light will be provided in accordance with Clause F4.1, F4.2, and F4.3 of BCA2019.
42. Natural ventilation will be provided in accordance with Clause F4.5, F4.6 and F4.7 of BCA2019.
43. Water closets and urinals will be located in accordance with Clause F4.8 of BCA2019.
44. The sanitary compartments will be either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F4.9 of BCA2019.
45. Pliable building membranes installed in external walls will comply with Clause F6.2 of BCA2019 and where a pliable building membrane is not installed in an external wall, the primary water control layer will be separated from water sensitive materials by a drained cavity.
46. Every storey of the carpark will be provided with an adequate system of permanent natural or mechanical ventilation in accordance with Clause F4.11 of BCA2019.
47. A safe manner for cleaning of windows located 3 or more storeys above ground level will be provided in accordance with the Work Health & Safety Act 2011 and regulations made under that Act in accordance with NSW G1.101 of BCA2019.
48. Essential fire or other safety measures must be maintained and certified on an ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2000.
49. The building is to comply with Section J of BCA2019.

Electrical Services Design Certification:

50. A smoke detection and alarm system will be installed throughout the building in accordance with Table E2.2a, and Specification E2.2a of BCA2019.
51. Emergency lighting will be installed throughout the development in accordance with Clause E4.2, E4.4 of BCA2019 and AS/NZS 2293.1:2018.
52. Exit signage will be installed in accordance with Clause E4.5, E4.7, and E4.8 of BCA2019 and AS/NZS 2293.1:2018.
53. Artificial lighting will be installed throughout the development in accordance Clause F4.4 of BCA2019 and AS/NZS 1680.0:2009.

Hydraulic Services Design Certification:

54. Storm water drainage will be provided in accordance with Clause F1.1 of BCA2019 and AS/NZS 3500.3:2018
55. Fire hydrant system will be installed in accordance with Clause E1.3 of BCA2019 and AS 2419.1:2005 as required.
56. Fire hose reels will be installed in accordance with Clause E1.4 of BCA2019 and AS 2441:2005.
57. Where the building is determined to have a rise in storeys of four (4), a sprinkler system will be required to be installed in accordance with Clause E1.5 of BCA2019, Specification E1.5 and appropriate part(s) of AS2118.1-2017.
58. Portable fire extinguishers will be installed in accordance with Clause E1.6 of BCA2019 and AS 2444:2001.

Mechanical Services Design Certification:

59. An air-handling system which does not form part of a smoke hazard management system will be installed in accordance with Clause E2.2 of BCA2019, and AS 1668.1:2015.
60. Stair pressurisation will be installed in the building in accordance with Table E2.2a of BCA2019 and AS 1668.1:2015, except as varied via Fire Engineered Performance Solution report.
61. Where not naturally ventilated the building will be mechanically ventilated in accordance with Clause F4.5 of BCA2019 and AS 1668.2:2012.
62. Every storey of the car park will be ventilated in accordance with Clause F4.11 of BCA2019 and where not naturally ventilated it will be mechanically ventilated in accordance with AS 1668.2:2012 as applicable.
63. Exhaust systems installed in a kitchen, bathroom, sanitary compartment or laundry of a Class 2 or 4 *sole-occupancy unit* will have a minimum flow rate and discharge location in accordance with Clause F6.3 of BCA2019.
64. Where exhaust discharges directly or via shaft into a roof space of a Class 2 or 4 *sole-occupancy unit*, ventilation of the roof space will comply with Clause F6.4 of BCA2019.
65. Rigid and flexible ductwork will comply with the fire hazard properties set out in AS 4254 Parts 1 and 2.

Structural Engineering Design Certification:

66. The material and forms of construction for the proposed works will be in accordance with Clause B1.2, B1.4 and B1.6 of BCA2019 as follows:
    a. Dead and Live Loads – AS/NZS 1170.1:2002
    b. Wind Loads – AS/NZS 1170.2:2011
    c. Earthquake actions – AS 1170.4:2007
    d. Masonry – AS 3700:2018
    e. Concrete Construction – AS 3600:2018
    f. Steel Construction AS 4100:1998
    g. Aluminium Construction – AS/NZS 1664.1 or 2:1997
    h. ABCB Standard for Construction of Buildings in Flood Hazard Areas.
67. The FRLs of the structural elements for the proposed works have been designed in accordance with Specification C1.1 of BCA2019, including Table 3 for a building of Type A Construction.
68. The lift shaft will have an FRL in accordance with Clause C2.10 and Specification C1.1 of BCA2019.
69. Lightweight construction used to achieve required fire resistance levels will comply with Specification C1.8 of BCA2019.
70. The construction joints to the structure will be in accordance with Clause C3.16 of BCA2019 to reinstate the FRL of the element concerned.
71. Upon completion of the works, a structural engineer will be able to certify that local failure will be in accordance with Clause D2.2 of BCA2019 for the fire isolated stairs.

Lift Services Design Certification:

72. The lifts throughout the development will be provided with stretcher facilities in accordance with Clause E3.2 of BCA2019 and will be capable of accommodating a stretcher with a patient lying

horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high above the floor level.

73. Warning signage in accordance with Clause E3.3 of BCA2019 will be provided to the lifts to advise not to use the lifts in a fire.

74. A fire service recall control switch is to be installed on a landing at a location nominated by the appropriate authority in accordance with Clause E3.9.

75. A lift car fire service drive control switch is to be installed within the lift car in accordance with Clause E3.10.

76. Access and egress to the lift well landings will comply with the Deemed-to-Satisfy Provisions of D3 of the BCA2019 and will be suitable to accommodate disabled persons.

77. The type of lifts will also be suitable to accommodate persons with a disability in accordance with Clause E3.6, Table E3.6a, and will have accessible features in accordance with Table E3.6b of BCA2019.

78. The lifts will comply with AS 1735.12:1999 in accordance with Clause E3.6 of BCA2019.

79. All electric passenger lifts and electrohydraulic passenger lifts shall comply with Specification E3.1 of BCA2019.

Acoustic Services Design Certification:

80. The sound transmission and insulation of the residential portions of the development will comply with Part F5 of BCA2019.

NSW Specification Design Certificate:

81. Materials, floor and wall linings/coverings, surface finished and air-handling ductwork used in the works will comply with the fire hazard properties in accordance with Clause C1.10, NSW Clause C1.10, Specification C1.10 and NSW Specification C1.10 of BCA2019.

82. Doorways and other openings in internal walls required to have an FRL will be protected in accordance with Clause C3.11, and NSW Clause C3.11(d) of BCA2019.

83. The number of exits provided to the building will be in accordance with Clause D1.2 and NSW Clause D1.2(d)(vii) of BCA2019, except were varied via fire engineering performance solution report.

84. The discharge points of exits will be in accordance with Clause D1.10, and NSW Clause D1.10(f) of BCA2019.

85. The dimensions of exits and paths of travel to exits will be provided in accordance with Clause D1.6, and NSW Clause D1.6(f)(vi)&(j) of BCA2019.

86. Stair geometry to the new stairways will be in accordance with Clause D2.13, and NSW Clause D2.13(a)(ix)(x)(xi) of BCA2019. Stair treads are to have a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a nosing strip with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.

87. Landings and door thresholds throughout the development will be provided in accordance with Clause D2.14 and D2.15, and NSW Clause D2.15(d)&(e) of BCA2019. Landings to have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 where the edge leads to a flight below.

88. The handrails and balustrades to all stairs and throughout the building will be in accordance with Clause D2.16, NSW Clause D2.16 & NSW Table D2.16a 1 and D2.17 of BCA2019.
89. The doorways and doors will be in accordance with Clause D2.19, NSW Clause D2.19(b)(v) and D2.20 of BCA2019.
90. The door latching mechanisms to the proposed required exit doors will be in accordance with Clause D2.21 and NSW Clause D2.21(c)&(d) of BCA2019.
91. A smoke detection and alarm systems will be installed throughout the building in accordance with Table E2.2a, NSW Table E2.2a and NSW Specification E2.2a of BCA2019.
92. Exit signage will be installed in accordance with Clause E4.5, NSW Clause E4.6, E4.7, and E4.8 of BCA2019 and AS/NZS 2293.1:2018.
93. The building will be mechanically ventilated in accordance with Clause F4.5, NSW F4.5(b) of BCA2019 and AS 1668.2:2012.