NEST CONSULTING GROUP

BCA
ASSESSMENT REPORT

PROJECT:	2 Fishburn Crescent Castle Hill NSW 2154
STAGE:	Development Application Phase
REFERENCE:	24010.4-BCA
DATE:	15 September 2025
CLIENT:	ARADA Development Management Pty Ltd

PO Box 863 The Junction NSW 2291
0480 387 824
info@nestcg.com.au
www.nestcg.com.au

Document Information

Issue	Description	Date
1	Preliminary issue	18 February 2025
2	Final issue	25 June 2025
3	Report updated to assess revised architectural documentation and issued to accompany the Development Application submission	3 September 2025
4	Report updated to assess revised architectural documentation and issued to accompany the Development Application submission	15 September 2025

Table of Contents

1. Introduction

1.1 Project Description

The proposed development is understood to include the construction of a mixed used building comprising 431 residential sole occupancy units, communal spaces and associated off-street car parking located at 2 Fishburn Crescent Castle Hill NSW 2154 (Lot 1 DP 1316896).

Figure 1.1 – Perspective view

1.2 Intent of Report

The purpose of this report is to provide an assessment of the proposed scope of works against the relevant deemed-to-satisfy provisions of the Building Code of Australia (BCA) Volume 1 2022 Amendment 2.

Where non-compliances are identified, recommendations for resolution are to be provided in the form of a deemed to satisfy solution and/or performance-based solution, as applicable.

1.3 Limitations

This report does not include nor imply that an assessment of the following has been completed for the proposed works -

(a) Structural Adequacy, Design & Performance;

(b) Fire, Mechanical, Hydraulic and Electrical Services Design & Performance;

(c) Work Health & Safety Act 2011;

(d) Work Cover Authority Requirements;

(e) Service & Utilities Authority Requirements;

(f) Disability Discrimination Act (DDA) 1992;

(g) National Construction Code Volume 2 2022 Amendment 2;

(h) National Construction Code Volume 3 2022 Amendment 2;

(i) The relevant accessibility Deemed-to-Satisfy provisions of the National Construction Code Volume 1 2022 Amendment 2 (i.e. Part D4, E3D7 - E3D8, F4D5 - F4D7 & F4D12);

(j) The relevant energy efficiency Deemed-to-Satisfy provisions as contained within the National Construction Code Volume 1 2022 Amendment 2 (i.e. Section J).

1.4 Documentation Assessed

The assessment is based upon the documentation referenced within **Annexure 1** of this report.

2. Building Description

2.1 General

The proposed development is understood to include the construction of a mixed used building comprising 431 residential sole occupancy units, communal spaces and associated off-street car parking, that is positioned between four road frontages, Middleton Avenue, Fishburn Crescent, Sexton Avenue and Carrington Road.

As part of the proposed distribution of sole occupancy units, the building is to be divided into six cores that are to be referred to as A1, A2, B1, B2, C1 and C2.

The proposed floor layouts are indicated in the figures below.

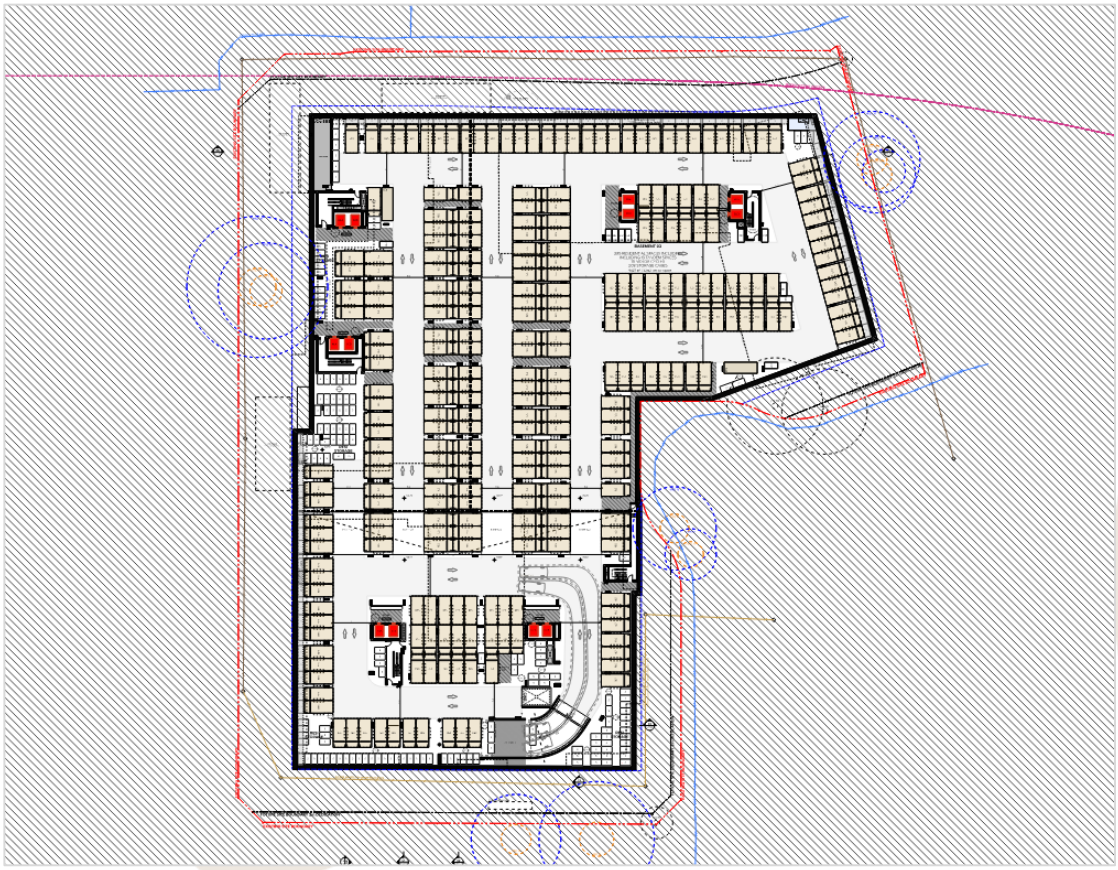


Figure 2.1 – Basement 02 plan

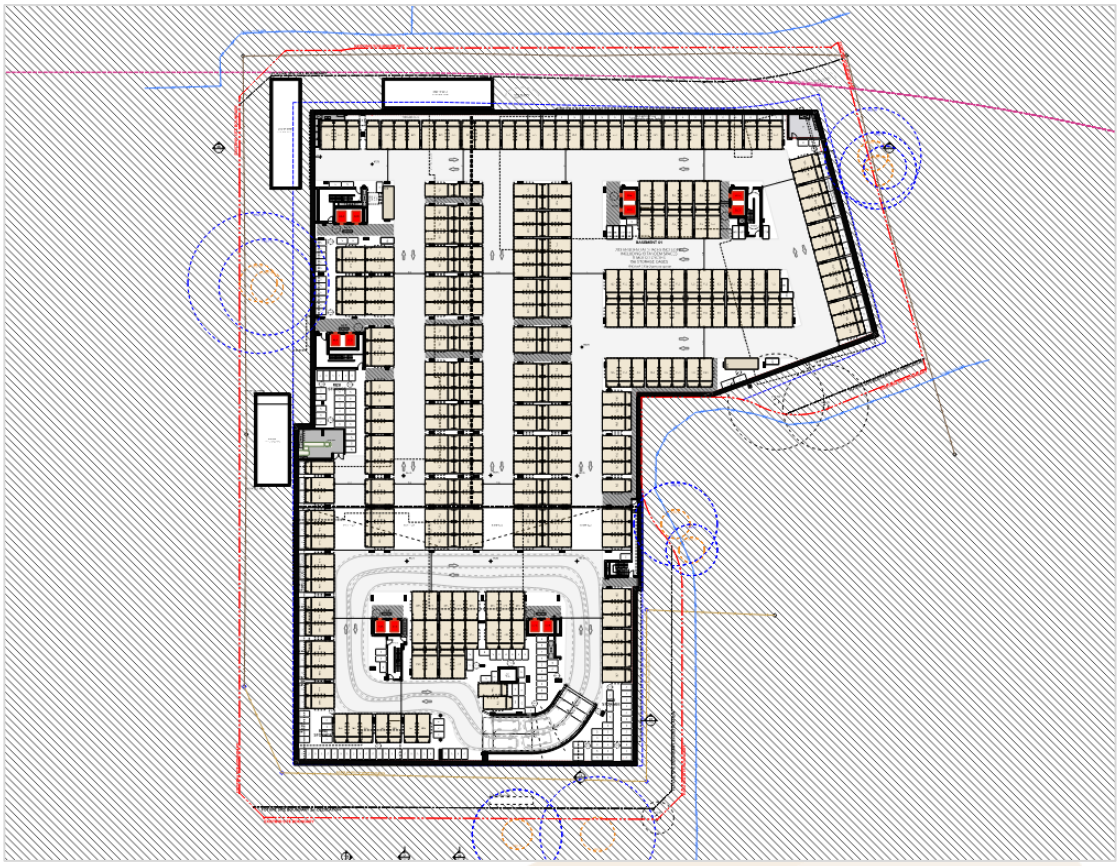


Figure 2.2 – Basement 01 plan

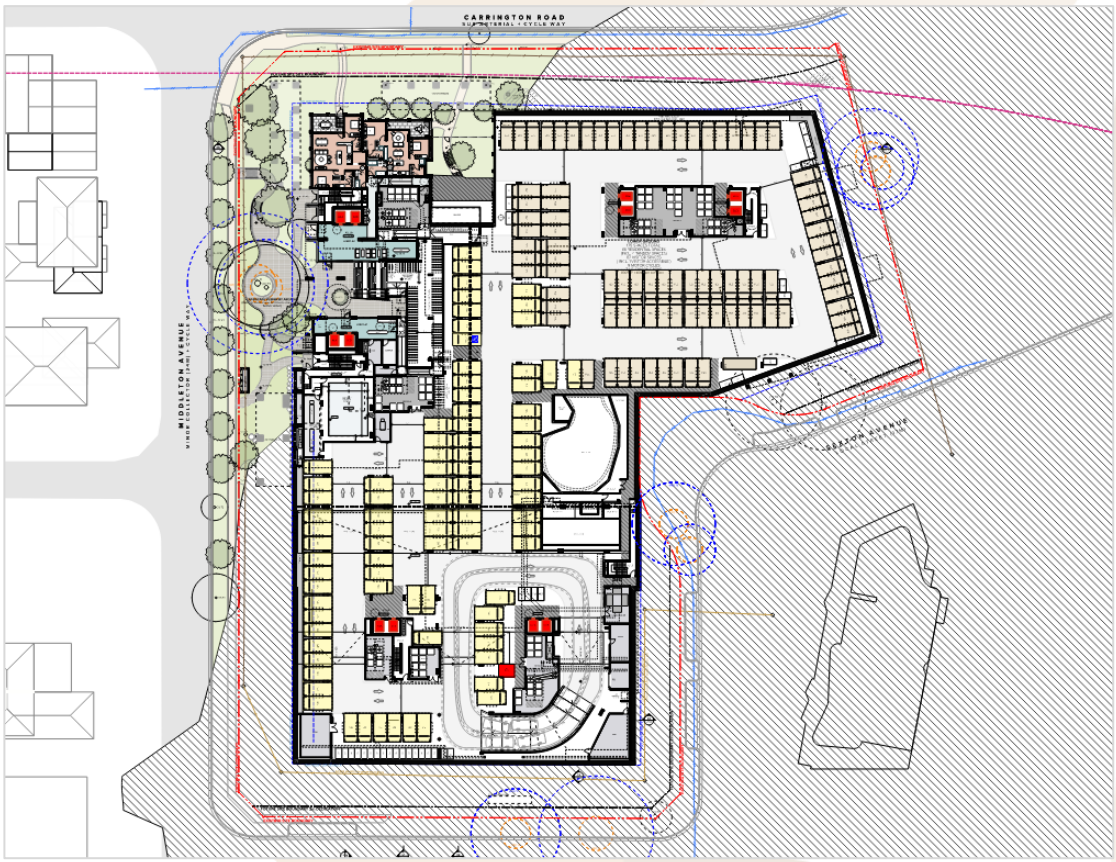


Figure 2.3 – Lower ground plan

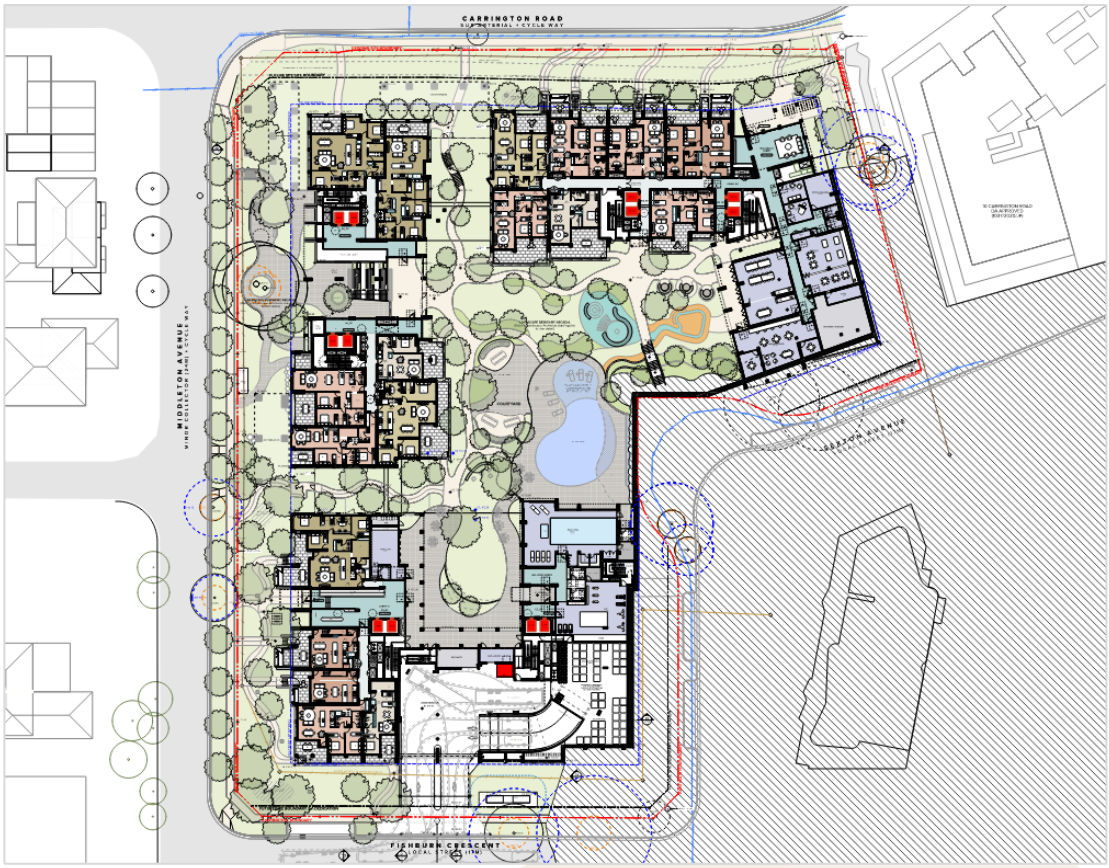


Figure 2.4 – Ground level plan

Figure 2.5 – Upper ground level plan

Figure 2.6 – Level 01 plan

Figure 2.7 – Level 02 plan

Figure 2.8 – Level 03 plan

Figure 2.9 – Level 04 plan

Figure 2.10 – Level 05 plan

Figure 2.11 – Level 06 plan

Figure 2.12 – Level 07 plan

Figure 2.13 – Level 08 plan

Figure 2.14 – Level 09 plan

Figure 2.15 – Level 10 plan

Figure 2.16 – Level 11 plan

Figure 2.17 – Level 12 plan

Figure 2.18 – Level 13 plan

Figure 2.19 – Level 14 plan

Figure 2.20 – Level 15 plan

Figure 2.21 – Level 16 plan

Figure 2.22 – Level 17 plan

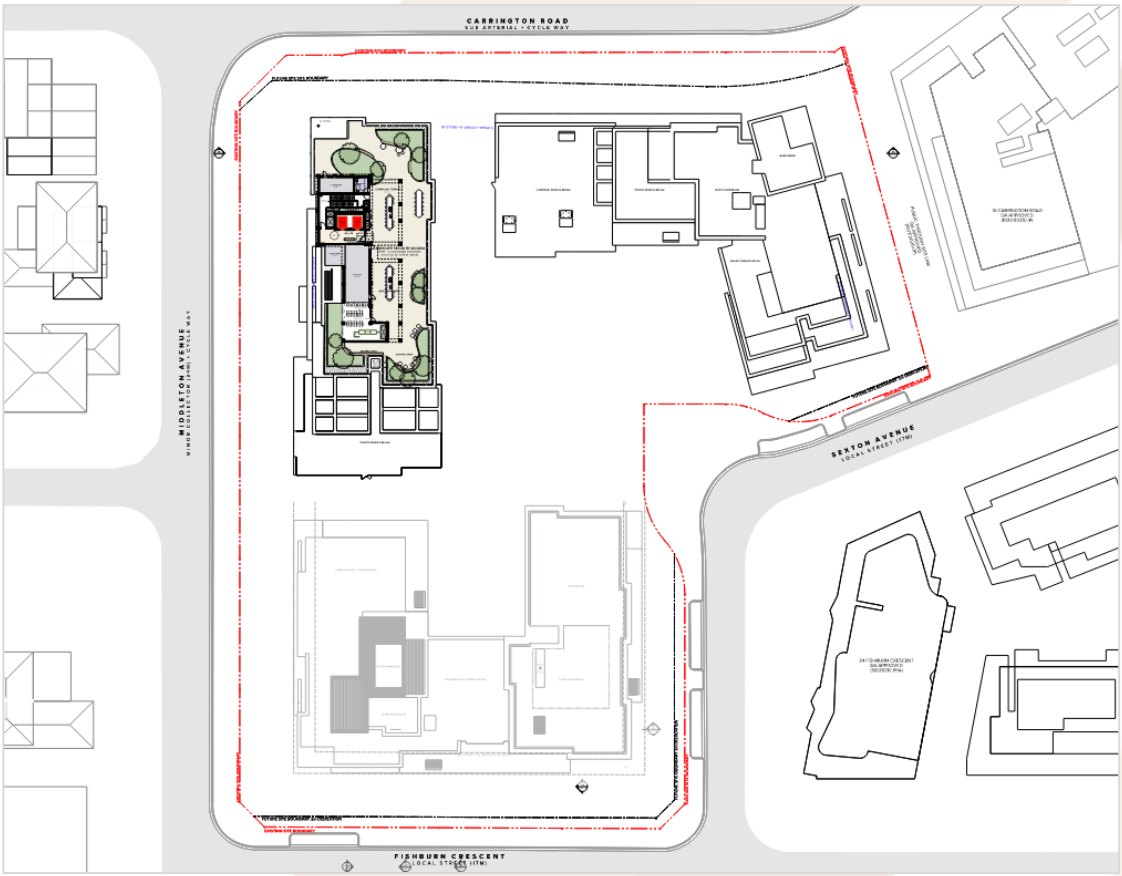


Figure 2.23 – Level 18 plan

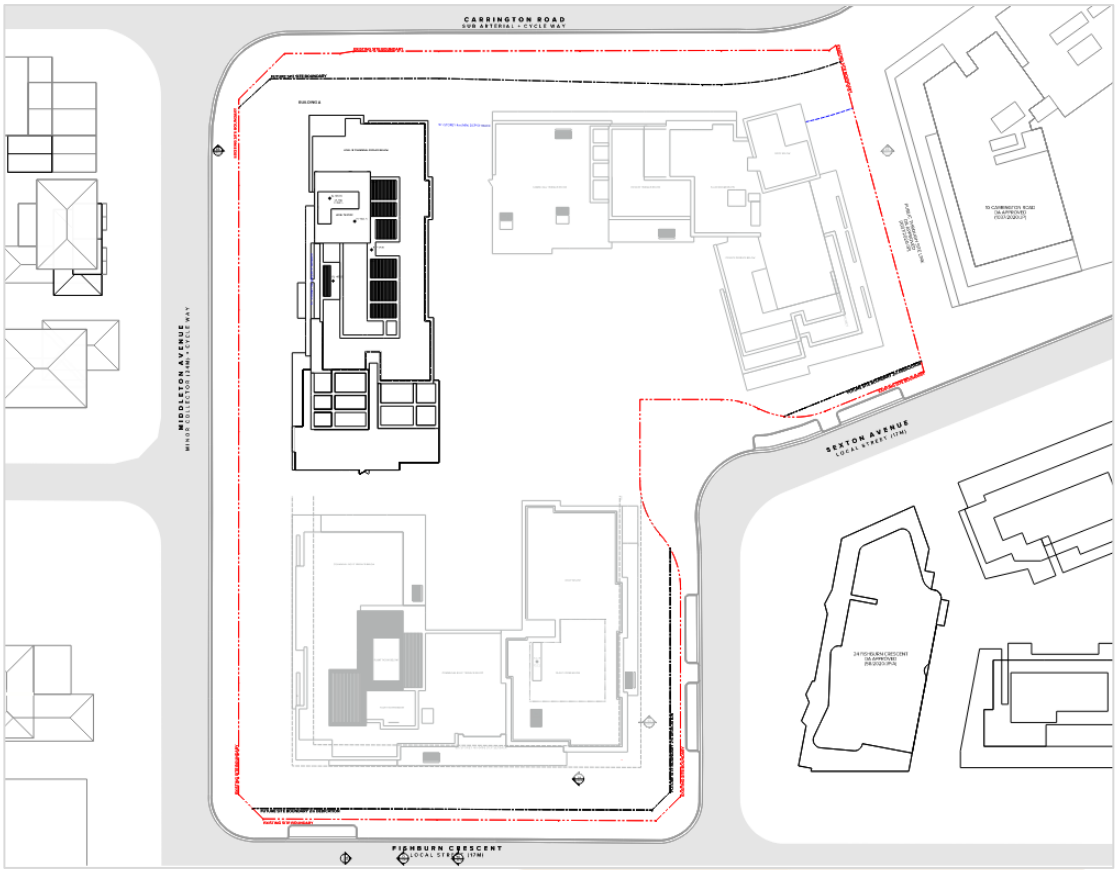


Figure 2.24 – Roof plan

2.2 Classification/s

The building has been identified as having the following building classification/s –

Classification	Description
2	Residential
7a	Carpark
7b	Storage
8	Maintenance workshop

2.3 Rise in Storeys

The building is determined as having a rise in storeys of 21.

2.4 Effective Height

The building is determined as having an effective height of approximately 65.1m.

2.5 Type of Construction

The building has been determined as being of Type A Construction.

2.6 Building Area & Volume

The building has been determined as having the following area and volume.

Largest fire compartment	Area (m^2)	TBC
	Volume (m^3)	TBC
Ground floor area (m^2)		TBC
Total floor area (m^2)		TBC
Total volume (m^3)		TBC

2.7 Climate Zone

The building is situated within Climate Zone 6[1].

2.8 Interpretation Notes

The following interpretations have been adopted as part of the assessment undertaken for the proposed development -

(a) The storage areas in the Basement 02 and Basement 01 storey have been determined as accounting for less than 10% of each corresponding storey.

(b) The building has been assessed as being provided with a sprinkler system complying with Specification 17 of the BCA and AS2118.1-2017.

(c) The common open spaces located on Level 7, Level 10, and Level 18 have been assessed as occupiable outdoor areas.

(d) The proposed development has been assessed as a single building.

(e) The plant spaces located at Level 11 of core C2 and at Level 16 of core B2, have been assessed as not being covered by roof and accessed only for maintenance.

(f) The atriums proposed at several locations throughout the building are identified as not –
  (i) Connecting more than 2 storeys; or
  (ii) Connecting more than 3 storeys and having one of the storeys situated at a level at which there is direct egress to a road or open space.

(g) The following sanitary facilities have been assessed as being for use by the Class 2 occupants as part of the proposed communal areas associated with and ancillary to the Class 2 parts –
  (i) Lobby B2 on the ground floor
  (ii) Wellness Lobby, Yoga Studio, Pool area on the ground floor
  (iii) Lobby B1 on Level 7
  (iv) Lobby C2 on Level 10
  (v) Communal Terrace area on Level 18

[1] Climate Zone Map: New South Wales and Australian Capital Territory, VC0031.3, Australian Building Codes Board, September 2019

(h) Referring to the figure below, parts highlighted red on Basement 02 and Basement 01, adjacent to the driveway ramp have been assessed as being inaccessible or non-trafficable –

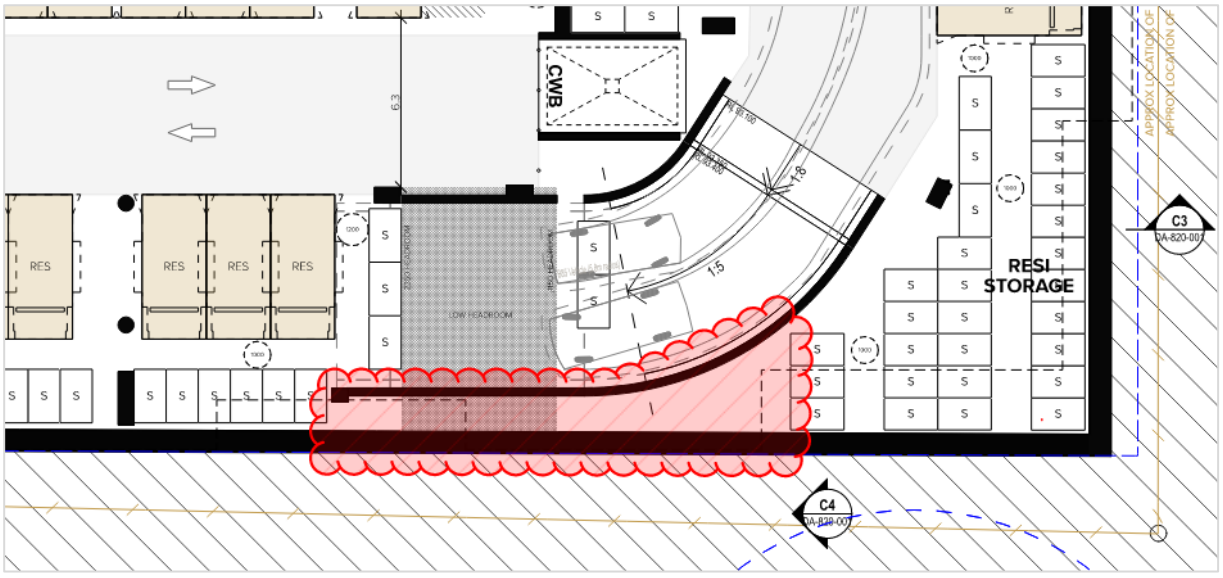


Figure 2.25 – Basement 02

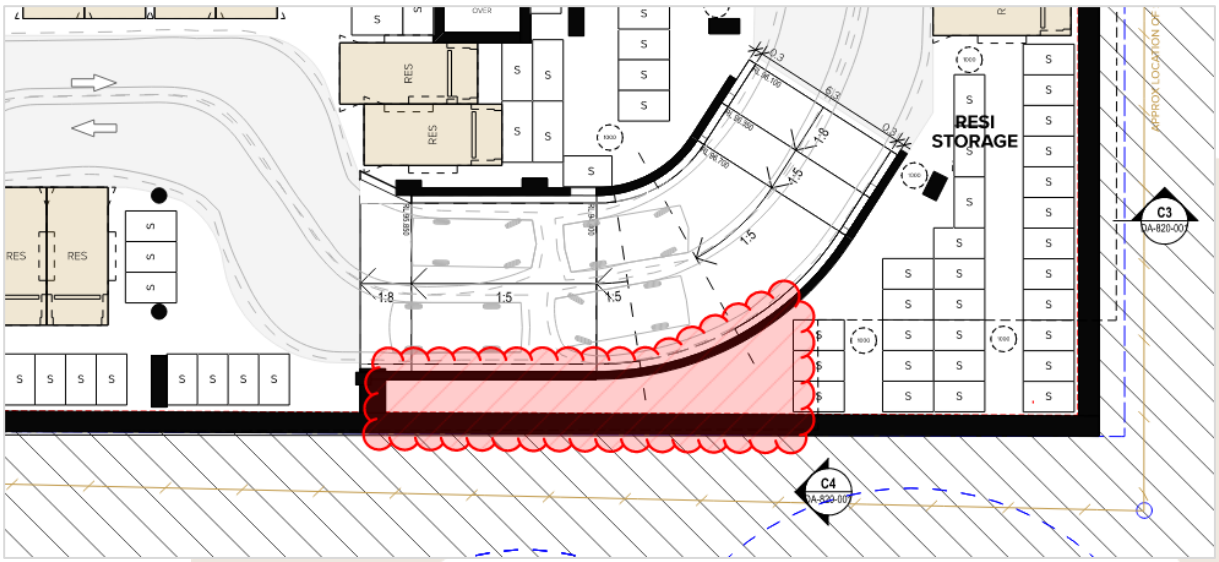


Figure 2.26 – Basement 01

(i) The following building parts have been assessed as being ancillary to the Class 2 parts of the building –

(i) Gym
(ii) Yoga Studio
(iii) Pool/s and associated areas;
(iv) Workshop
(v) Arts & Crafts
(vi) Communal Function Room
(vii) Communal WFH Hub
(viii) Music Rooms
(ix) Building Managers room

(j) Referring to the figure below, the doorways highlighted at the lower ground floor have been assessed as horizontal exits from the carpark part.

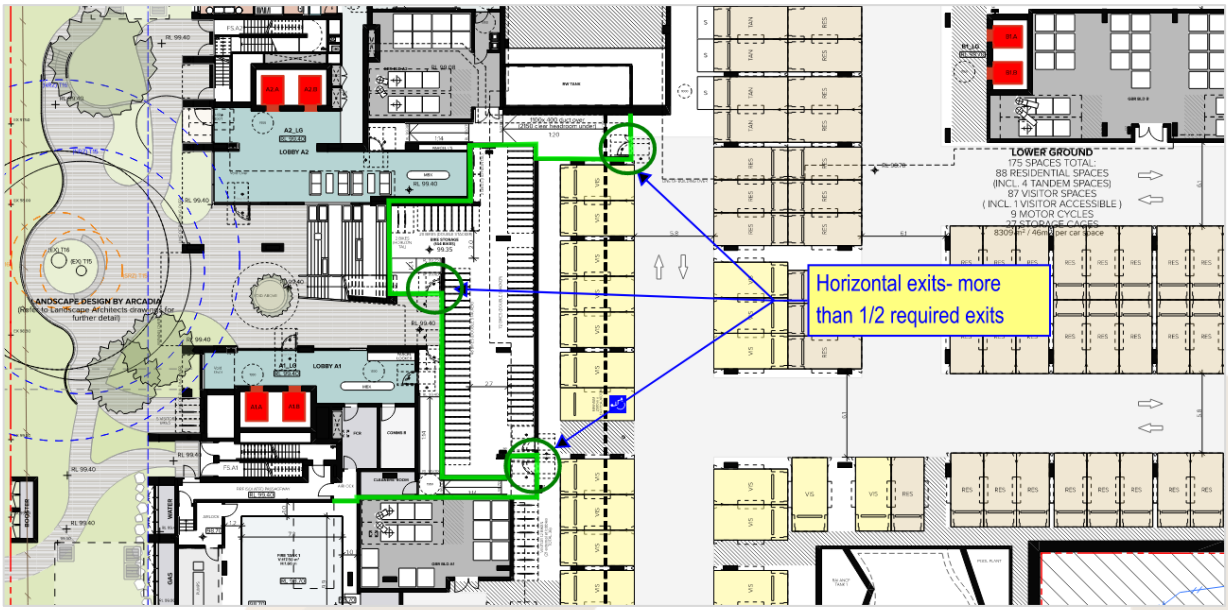


Figure 2.27 – Horizontal exits at lower ground floor

3. Preliminary Fire Safety Measures

Based on the building features and assessment undertaken, the following preliminary fire safety measures, as listed within Table 3.1 below, have been determined as required to be provided to the building.

NOTE – the fire safety measures listed below are not final and subject to design development, input from relevant project stakeholders and/or performance-based solutions (if applicable).

Item	Fire Safety Measure	Standard of Performance
1.	Access panels, doors and hoppers to fire-resisting shaft	C4D14 of the BCA
2.	Automatic fail-safe devices (if provided)	D3D24 & D3D26 of the BCA
3.	Automatic fire suppression system (sprinklers)	E1D4, E1D5, E1D9 & Specification 17 of the BCA
4.	Automatic smoke detection and alarm system	E2D5 & Specification 20 of the BCA
5.	Automatic air pressurization system – fire isolated stairways	D2D12 (if provided), E2D4 of the BCA & AS1668.1-2015
6.	Emergency lifts	E3D5 of the BCA
7.	Emergency warning and intercom system	E4D9 of the BCA & AS1670.4-2018
8.	Emergency lighting	E4D2, E4D4 of the BCA & AS/NZS 2293.1-2018
9.	Exit signs	E4D5, NSW E4D6, E4D8 of the BCA & AS/NZS 2293.1-2018
10.	Fire control centre & fire control room	E1D15 & Specification 19 of the BCA
11.	Fire doors	C3D13, C3D14, C4D5 (if provided), C4D6 C4D8, C4D9, C4D11, C4D12, Specification 12 of the BCA, AS1735.11-1986 & AS1905.1-2015
12.	Fire hose reels (excl. Class 2 parts)	E1D3 of the BCA & AS2441-2005
13.	Fire hydrant system	E1D2 of the BCA, AS2419.1-2021 & AS2118.6-2012
14.	Fire seals protecting openings in fire-resisting components of the building	C4D15, C4D16, Specification 13 of the BCA, AS1530.4-2014, AS4072.1-2005 & Manufacturers specifications
15.	Fire dampers (if provided)	C4D15 & E2D3 of the BCA & AS1668.1-2015
16.	Fire shutters (if provided)	C4D5 & Specification 12 of the BCA
17.	Fire windows (if provided)	C4D5 & Specification 12 of the BCA
18.	Lightweight construction	C2D9, C4D17 (if provided) & Specification 6 of the BCA
19.	Mechanical ventilation system - carpark	E2D12 of the BCA & Clause 5.5 of AS1668.1-2015
20.	Portable fire extinguishers	E1D14 of the BCA & AS2444-2001
21.	Smoke doors	C3D15, S11C2 & Specification 12 of the BCA
22.	Warning and operation signs	D3D28 & E3D4 of the BCA
23.	Wall wetting sprinklers (if provided)	C4D5 of the BCA
24.	Zone pressurisation system (if provided)	E2D6 of the BCA & AS1668.1-2015

Table 3.1 – Preliminary fire safety measures

4. Assessment Summary

The following table summarises matters identified as 'non-compliant' and/or requiring 'further information', with all other matters assessed considered to be either 'compliant' and/or 'capable of complying' via design detail.

A detailed clause by clause assessment is outlined in Section 5 of this report.

Item	BCA Clause	Issue	Recommendation/s for resolution
1.	C2D2 & Specification 5	The garbage chutes discharging into the corresponding garbage rooms are proposed to be unenclosed at the bottom in lieu of being enclosed at the bottom and laid directly to the ground.	It is understood that the proposed configuration of the garbage chutes is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
2.	C2D2 & Specification 5	Various roof lights and clerestory windows are identified as being located less than 3m from parts of the building that project above the roof.	The following options are recommended – (a) Protect parts of the wall/s projecting above the roof with construction achieving an FRL required for a fire wall and any opening in that part of the wall for 6m vertically above the roof light or the like protected in accordance with C4D5 of the BCA; OR (b) Justify the proposed location of roof lights and the like and omission of protection of parts of the walls projecting above the roof via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
3.	C3D9	The Class 7b parts on the lower ground and ground floor are identified as not being separated from the other classification/s in accordance with the requirements of this clause.	The following options are recommended – (a) Separate the Class 7b parts from the other building classifications in accordance with C3D9 of the BCA; OR (b) Justify a reduction in FRL of building elements in the Class 7b parts to 120 minutes to avoid separation of classifications, via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.

Item	BCA Clause	Issue	Recommendation/s for resolution
4.	C3D15	The public corridor at the ground floor of Lobby B2 is identified as having smoke proof walls at intervals exceeding 40m, being up to ~70m.	The following options are recommended – (a) Introduce a smoke proof wall complying with S11C2 at intervals not exceeding 40m within the subject public corridor; OR (b) Justify the increased public corridor lengths via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
5.	C4D12	The internal walls bounding various rooms to the public corridor in Lobby B2 on the ground floor are identified as consisting of glazing which are required to maintain and not reduce the required FRL of the bounding walls with respect to integrity and insulation.	The following options are recommended – (a) Construct walls bounding the public corridor with fire resisting construction in accordance with C4D12 and Specification 5 of the BCA; OR (b) Justify the omission or variation of bounding construction requirements to the internal walls bounding the public corridor from the subject rooms via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
6.	D2D3	The provision of a single exit in lieu of two is identified at the following locations – (a) General bin holding area and associated airlock on ground floor level; (b) Plant rooms and associated airlock on the upper ground level.	It is understood the provision of a single exit to the subject building parts is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.

Item	BCA Clause	Issue	Recommendation/s for resolution
7.	D2D5	Extended exit travel distances are identified as occurring throughout the building, as follows – (a) *Basement 02* - (i) The travel distance to a point of choice to alternative exits exceeds 20m, being up to ~25m; (ii) The travel distance to the nearest exit exceeds 40m, being up to ~46m. (b) *Basement 01* - (i) The travel distance to a point of choice to alternative exits exceeds 20m, being up to ~26m; (ii) The travel distance to the nearest exit exceeds 40m, being up to ~46m. (c) *Lower Ground* - (i) The travel distance to a point of choice to alternative exits exceeds 20m, being up to ~24m; (ii) The travel distance to the nearest exit exceeds 40m, being up to ~44m; (iii) The travel distance to an exit from the discharge of the horizontal exit serving the carpark part exceeds 20m, being up to ~38m; (iv) The travel distance from the unit entry door to the exit at the level of egress to open space exceeds 20m, being up to ~21m. (d) *Ground Level* - (i) The travel distance from the maintenance workshop to a point of choice to alternative exits exceeds 20m, being up to ~27m; (ii) The travel distance to the single exit from the general bin holding area exceeds 20m, being up to ~27m; (iii) The travel distance from a unit entry to a point of choice to alternative exits exceeds 6m, being up to ~16m. (e) *Upper Ground* - (i) The travel distance from a unit entry door to a point of choice to alternative exits	It is understood the extended exit travel distances identified are to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.

		exceeds 6m, being up to ~12m; (ii) The travel distance to the single exit from the plant room exceeds 20m, being up to ~21m. (f) *Level 1 – Level 10 –* (i) The travel distance from a unit entry door to a point of choice to alternative exits exceeds 6m, being up to ~12m. (g) *Level 11 – Level 13 -* (i) The travel distance from a unit entry door to a point of choice to alternative exits exceeds 6m, being up to ~9m. (h) *Level 18 –* (i) The travel distance from the communal terrace area to a point of choice to alternative exits exceeds 20m, being up to ~28m.	
Item	**BCA Clause**	**Issue**	**Recommendation/s for resolution**
8.	D2D6	Extended travel distances between alternative exits are identified as occurring at the following locations – (a) *Basement 02 -* (i) The travel distance between alternative exits exceeds 60m, being up to ~79m. (b) *Basement 01 -* (i) The travel distance between alternative exits exceeds 60m, being up to ~79m. (c) *Lower Ground -* (i) The travel distance between alternative exits from the carpark parts exceeds 60m, being up to ~78m.	It is understood the extended exit travel distances identified are to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
9.	D2D6	The distance between alternative exits within Lobby B2 is identified as being less than 9m, being ~8m, occurring on Upper Ground to Level 15.	It is understood the distance between alternative exits is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.

Item	BCA Clause	Issue	Recommendation/s for resolution
10.	D2D7	The height clearance below the driveway ramp at Basement 02 is identified as being less than 2m, being not less than 1.15m.	The following options are recommended- (a) Provide barrier/s to the subject parts where the height clearance reduces to less than 2m; OR (b) Justify the reduced height clearance identified via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
11.	D2D12	Fire isolated exits, FS.A1, and the western fire isolated exit serving the basement storeys, pump room and fire control room are identified as discharging to a covered area that is not open for at least 1/3 of its perimeter, (being ~18%).	It is understood the proposed discharge configuration is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
12.	D2D12	Fire isolated exits, FS.B2, and the northern fire isolated exit serving basement storeys are identified as discharging to a covered area that is not open for at least 1/3 of its perimeter (being ~22%) and more than 6m to the open space (being up to ~11m).	It is understood the proposed discharge configuration is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
13.	D2D15	The following fire isolated stairways serving as alternative exits from the corresponding residential parts are identified as discharging at a point that is not located as far apart as practical – (a) FS.A1 fire isolated stairways serving A1 residential parts; (b) FS.B2 fire isolated stairways serving B2 residential parts; (c) FS.C2 fire isolated stairways serving C2 residential parts.	It is understood the proposed location of discharge points of the alternative exits is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
14.	E1D2, E1D4 & AS2419.1-2021	The fire brigade booster assembly is proposed to be located remote from the building along the Middleton Road frontage, however the principal pedestrian entrance to the building is unable to be determined on the basis the building is provided with multiple pedestrian entrances.	It is understood that the location of the fire brigade booster assembly is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
15.	E1D15 & S19C9	The fire control room is proposed to be located in a position that does not provide access from the front entrance of the building as required by S19C9(2)(a), noting that the building is provided with multiple pedestrian entrances and the front entrance of the building is unable to be determined.	It is understood that the proposed fire control room location is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.

Item	BCA Clause	Issue	Recommendation/s for resolution
16.	E3D3	The passenger lift internally located within Unit 1506, that extends between level 15 and level 16 is not proposed to be provided with a stretcher facility.	It is understood that the omission of a stretcher facility to the passenger lift located internally within Unit 1506 is to be addressed via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
17.	F5D2	The height clearance below the driveway ramp at Basement 02 is identified as being less than 2.1m, being not less than 1.15m.	The following options are recommended- (a) Provide barrier/s to the subject parts where the height clearance reduces to less than 2.1m; OR (b) Justify the reduced height clearance identified via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.

Figure 4.1 – Assessment summary

5. Detailed Assessment

A detailed assessment of the proposed scope of works in the context of the applicable Deemed to Satisfy provisions of the Building Code of Australia (BCA) has been undertaken, as outlined below.

The status of compliance against each applicable BCA clause assessed has adopted the following abbreviations.

C	Complies. The proposed design satisfies the requirements of the BCA clause.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the BCA clause, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the BCA clause.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the BCA clause.
PS	Addressed by way of a Performance Solution prepared in accordance with A2G2 of the BCA.
PPS	Potential for Performance Solution prepared in accordance with A2G2 of the BCA.
Note	Information is provided to guide the reader and not as specific assessment of the BCA clause.
N/A	Not applicable. The requirements of the BCA clause do not apply.

SECTION B: STRUCTURE			
Part B1 – Structural Provisions			
BCA Clause		**Comment/s**	**Status**
B1D2	Resistance to Actions	The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions, where – (a) the most critical action effect on a building or structure is determined in accordance with B1D3 and the general design procedures contained in AS/NZS 1170.0-2002; and (b) the resistance of a building or structure is determined in accordance with B1D4.	CRA
B1D3	Determination of Individual Actions	The magnitude of individual actions must be determined in accordance with the requirements of this clause.	Note
B1D4	Determination of Structural Resistance of Materials and Forms of Construction	The structural resistance of materials and forms of construction shall be determined in accordance with the requirements of this clause, as appropriate.	CRA
B1D5	Structural Software	Structural software used in computer aided design of a building or structure, that uses design criteria based on the Deemed-to-Satisfy Provisions of the BCA, including its referenced documents, for the design of steel or timber trussed roof and floor systems and framed building systems, must comply with the ABCB Protocol for Structural Software.	Note

Part B1 – Structural Provisions			
BCA Clause		**Comment/s**	**Status**
B1D6	Construction of Buildings in Flood Hazard Areas	If the building is located in a flood hazard area, the building must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.	CRA

SECTION C: FIRE RESISTANCE			
Part C2 – Fire resistance and stability			
BCA Clause		**Comment/s**	**Status**
C2D2	Type of construction required	The following issue/s are identified in relation to the requirements of this clause – (a) The garbage chutes discharging into the corresponding garbage rooms are proposed to be unenclosed at the bottom in lieu of being enclosed at the bottom and laid directly to the ground; (b) Various roof lights and clerestory windows are identified as being located less than 3m from parts of the building that project above the roof. Notwithstanding the above the following commentary is provided - (1) The building has been determined as being of Type A construction. (2) The building elements are required to achieve the nominated FRLs as nominated within Specification 5 of the BCA, as applicable to each Type of construction. (3) A summary of the general requirements and required FRL of building elements is contained within **Annexure 2** of this report.	DNC / PPS
C2D3	Calculation of rise in storeys	The building has been determined as having a rise in storeys of 21.	Note
C2D4	Buildings of multiple classification	In a building of multiple classifications, the Type of construction required for the building is the most fire-resisting Type resulting from the application of Table C2D2 on the basis that the classification applying to the top storey applies to all storeys.	Note
C2D5	Mixed types of construction	The building has been determined as being of Type A construction, with no fire wall/s proposed for the separation of buildings, but rather to separate classifications into different fire compartments – see C3D9 & C3D10.	Note
C2D6	Two storey Class 2, 3 or 9c buildings	Not applicable.	N/A
C2D7	Class 4 parts of buildings	Not applicable.	N/A
C2D8	Open spectator stands and indoor sports stadiums	Not applicable.	N/A

Part C2 – Fire resistance and stability			
BCA Clause		**Comment/s**	**Status**
C2D9	Lightweight construction	(1) Lightweight construction must comply with Specification 6 if it is used in a wall system— (a) that is required to have an FRL; or (b) for a lift shaft, stair shaft or service shaft or an external wall bounding a public corridor including a non-fire-isolated passageway or non-fire-isolated ramp. (2) If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if— (a) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and (b) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.	Note
C2D10	Non-combustible building elements	(1) The following building elements and their components must be non-combustible - (a) External walls, including all components incorporated in them including the façade covering, framing and insulation; (b) The flooring and floor framing of lift pits; (c) Non-loadbearing internal walls where they are required to be fire-resisting. (2) 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. (3) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification 5 of the BCA. (4) The following elements need not be of non-combustible construction – (a) Gaskets. (b) Caulking. (c) Sealants. (d) Termite management systems (e) Glass, including laminated glass. (f) Thermal breaks associated with glazing systems. (g) Damp-proof courses. (h) Compressible fillers and backing materials, including those associated with articulation joints, closing gaps not wider than 50 mm. (i) Isolated— (i) construction packers and shims; or (ii) blocking for fixing fixtures; or (iii) fixings, including fixing accessories; or (iv) acoustic mounts.	CRA

(j) Waterproofing materials applied to the external face, used below ground level and up to 250 mm above ground level.

(k) Joint trims and joint reinforcing tape and mesh of a width not greater than 50 mm.

(l) Weather sealing materials, applied to gaps not wider than 50 mm, used within and between concrete elements.

(m) Wall ties and other masonry components complying with AS 2699 Part 1 and Part 3 as appropriate and associated with masonry wall construction.

(n) Reinforcing bars and associated minor elements that are wholly or predominately encased in concrete or grout.

(o) A paint, lacquer or a similar finish or coating.

(p) Adhesives, including tapes, associated with stiffeners for cladding systems.

(q) Fire-protective materials and components required for the protection of penetrations.

(5) The following materials, when entirely composed of itself, are non-combustible and may be used wherever a non-combustible material is required –

(a) Concrete.

(b) Steel, including metallic coated steel.

(c) Masonry, including mortar.

(d) Aluminium, including aluminium alloy.

(e) Autoclaved aerated concrete, including mortar.

(f) Iron.

(g) Terracotta.

(h) Porcelain.

(i) Ceramic.

(j) Natural stone.

(k) Copper.

(l) Zinc.

(m) Lead.

(n) Bronze.

(o) Brass.

(6) The following materials may be used wherever a non-combustible material is required –

(a) Plasterboard.

(b) Perforated gypsum lath with a normal paper finish.

(c) Fibrous-plaster sheet.

(d) Fibre-reinforced cement sheeting.

(e) 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.

(f) Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5.

(g) Bonded laminated materials where—

(i) each lamina, including any core, is non-combustible; and

		(ii) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and (iii) 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; and (iv) when located externally, are fixed in accordance with C2D15.	

Part C2 – Fire resistance and stability			
BCA Clause		**Comment/s**	**Status**
C2D11	Fire hazard properties	(1) The following fire hazard properties for internal linings, materials and assemblies must comply with Specification 7 of the BCA – (a) Floor linings and floor coverings. (b) Wall linings and ceiling linings. (c) Air-handling ductwork. (d) Lift cars. (e) In *Class 9b* buildings used as – (i) an entertainment venue, a material used to cover closed back upholstered seats; and (ii) a public hall or the like, a proscenium curtain required by Specification 32. (f) Escalators, moving walkways and non-required non fire-isolated stairways or pedestrian ramps subject to Specification 14. (g) Sarking-type materials. (h) Attachments to floors, ceilings, internal walls, common walls, fire walls and to internal linings of external walls. (i) Other materials including insulation materials other than sarking-type materials. Refer **Annexure 3** for required fire hazard properties of internal linings, materials and assemblies. (2) Paint or fire-retardant coatings must not be used in order to make a material comply with a required fire hazard property, except in respect of a material referred to in NSW Specification 7, Table S7C4 and to which Notes 4 and 5 are applicable. (3) The requirements of this clause do not apply to a material or assembly if it is – (a) plaster, cement render, concrete, terrazzo, ceramic tile or the like; or (b) a fire-protective covering; or (c) a timber-framed window; or (d) a solid timber handrail or skirting; or (e) a timber-faced door; or (f) an electrical switch, socket-outlet, cover plate or the like; or (g) a material used for— (i) a roof insulating material applied in continuous contact with a substrate; or (ii) an adhesive; or	CRA

		(iii) a damp-proof course, flashing, caulking, sealing, ground moisture barrier, or the like; or (h) a paint, varnish, lacquer or similar finish, other than nitro-cellulose lacquer; or (i) a clear or translucent roof light of glass fibre-reinforced polyester if— (i) the roof in which it is installed forms part of a single storey building required to be Type C construction; and (ii) the material is used as part of the roof covering; and (iii) it is not closer than 1.5 m from another roof light of the same type; and (iv) each roof light is not more than 14 m^2 in area; and (v) the area of the roof lights per 70 m^2 of roof surface is not more than 14 m^2; or (j) a face plate or neck adaptor of supply and return air outlets of an air handling system; or (k) a face plate or diffuser plate of light fitting and emergency exit signs and associated electrical wiring and electrical components; or (l) a joinery unit, cupboard, shelving, or the like; or (m) an attached non-building fixture and fitting such as— (i) a curtain, blind, or similar decor, other than— (A) a proscenium curtain required by Specification 32 of the BCA; or (B) in a *Class 9b* building used as an entertainment venue, a material regulated under NSW Table S7C4; and (ii) a whiteboard, window treatment or the like; or (n) timber treads, risers, landings and associated supporting framework installed in accordance with D3D30 where the Spread-of-Flame Index and the Smoke-Developed Index of the timber does not exceed 9 and 8 respectively; (o) any other material that does not significantly increase the hazards of fire.	

Part C2 – Fire resistance and stability			
BCA Clause		**Comment/s**	**Status**
C2D12	Performance of external walls in fire	Not applicable. The building has a rise in storeys exceeding 2.	N/A

Part C2 – Fire resistance and stability			
BCA Clause		**Comment/s**	**Status**
C2D13	Fire-protected timber: Concession	Fire protected timber may be used wherever an element is required to be non-combustible, provided – (a) the building is— (i) a separate building; or (ii) a part of a building— (A) which only occupies part of a storey, and is separated from the remaining part by a fire wall; or (B) which is located above or below a part not containing fire-protected timber and the floor between the adjoining parts is provided with an FRL not less than that prescribed for a fire wall for the lower storey; and (b) the building has an effective height of not more than 25 m; and (c) the building has a sprinkler system (other than a FPAA101D or FPAA101H system) throughout complying with Specification 17 of the BCA; and (d) any insulation installed in the cavity of the timber building element to have an FRL is non-combustible; and (e) cavity barriers are provided in accordance with Specification 9 of the BCA.	Note
C2D14	Ancillary elements	An ancillary element must not be fixed, installed, attached to or supported by the concealed 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, grille or similar cover not more than 2 m^2 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 S7C7 as for an internal element; and (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.	CRA

		(j) A part of a security, intercom or announcement system. (k) Wiring. (l) Waterproofing material installed in accordance with AS 4654.2-2012 and applied to an adjacent floor surface, including vertical upturn, or a roof surface. (m) Collars, sleeves and insulation associated with service installations. (n) Screens applied to vents, weepholes and gaps complying with AS 3959-2018. (o) Wiper and brush seals associated with doors, windows or other openings. (p) A gasket, caulking, sealant or adhesive directly associated with (a) to (o). *NOTE –* *(a) The requirements of this clause do not apply to ancillary elements fixed, installed or attached to the internal face or lining of an external wall.* *(b) The requirements of this clause do not prevent the mounting of domestic air-conditioning condenser units on external walls.* *(c) Ancillary elements fixed, installed or attached to the internal face or lining of an external wall may be subject to other provisions such as C2D11.*	

Part C2 – Fire resistance and stability			
BCA Clause		**Comment/s**	**Status**
C2D15	Fixing of bonded laminated cladding panels	(1) Externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame. (2) An externally located bonded laminated cladding panel need not comply with the above requirements, if it is one of the following - (a) A laminated glass system. (b) Layered plasterboard product. (c) Perforated gypsum lath with a normal paper finish. (d) Fibrous-plaster sheet. (e) Fibre-reinforced cement sheeting. (f) A component of a garage door. *NOTE/S –* *(a) Mechanical support or restraint means fixing that does not solely rely on chemical adhesive and includes concealed fixing systems such as cassette fixing, channel-type fixing and face fixing.* *(b) For structural requirements relating to the fixing of cladding, refer to Section B. For most cladding systems, the requirements of Section B will necessitate mechanical fixing of the cladding panel to the supporting frame.*	CRA

Part C3 – Compartmentation and separation			
BCA Clause		**Comment/s**	**Status**
C3D3	General floor area and volume limitations	The fire compartments comprising the *Class 7b & 8* parts in the lower ground floor storey and ground floor storey are identified as being within the permitted limitations prescribed by Table C3D3 of the BCA. *NOTE/S –* *(a) The storage areas in the Basement 02 and Basement 01 storey have been determined as accounting for less than 10% of each corresponding storey.* *(b) The Class 7a carpark is understood as being proposed to be protected by a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 and hence the requirements under this clause do not apply to the Class 7a part/s.*	Note

Table C3D3 Maximum size of fire compartments or atria

Classification	Type A construction	Type B construction	Type C construction
5, 9b or 9c	Max floor area—8 000 m^2	Max floor area—5 500 m^2	Max floor area—3 000 m^2
	Max volume—48 000 m^3	Max volume—33 000 m^3	max volume—18 000 m^3
6, 7, 8 or 9a (except for patient care areas)	Max floor area—5 000 m^2	Max floor area—3 500 m^2	Max floor area—2 000 m^2
	Max volume—30 000 m^3	Max volume—21 000 m^3	Max volume—12 000 m^3

C3D4	Large isolated buildings	Not applicable.	N/A
C3D5	Requirements for open spaces and vehicular access	Not applicable.	N/A
C3D6	Class 9 buildings	Not applicable.	N/A
C3D7	Vertical separation of openings in external walls	Not applicable. The building has been assessed as being provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 of the BCA.	N/A

Part C3 – Compartmentation and separation			
BCA Clause		**Comment/s**	**Status**
C3D8	Separation by fire walls	(1) *Construction* — A fire wall must be constructed in accordance with the following - (a) The fire wall has the relevant FRL prescribed by Specification 5 for each of the adjoining parts, and if these are different, the greater FRL. (b) Any openings in a fire wall must not reduce the FRL required by Specification 5 for the fire wall, except where permitted by the Deemed-to-Satisfy Provisions of Part C4. (c) Building elements, other than roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not pass through or cross the fire wall unless the required fire-resisting performance of the fire wall is maintained. (2) *Separation of fire compartments* — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate fire compartment if it is constructed in accordance with (a) and the fire wall extends to the underside of— (a) a floor having an FRL required for a fire wall; or (b) the roof covering.	CRA
C3D9	Separation of classifications in the same storey	The *Class 7b (General Bin Holding Area & Storage Areas / Units)* parts on the lower ground and ground floor are identified as not being separated from the other classification/s in accordance with the requirements of this clause. Notwithstanding the above, the following must be complied with - (1) Parts of the building with different classifications located alongside one another in the same storey must have - (a) each building element in that storey having the higher FRL prescribed in Specification 5 for that element for the classifications concerned; or (b) parts separated in that storey by a fire wall. (2) A fire wall required by (1)(b) must have the higher FRL prescribed in accordance with Specification 5 as applicable for that element and the classifications concerned.	DNC / PPS
C3D10	Separation of classifications in different storeys	Parts of different classifications situated one above the other must be separated between the adjoining parts must have an FRL of not less than that prescribed in Specification 5 of the BCA for the classification of the lower storey.	CRA

Part C3 – Compartmentation and separation			
BCA Clause		**Comment/s**	**Status**
C3D11	Separation of lift shafts	(1) The passenger lifts must be separated from the remainder of the building by enclosure in a shaft in which the walls have the relevant FRL prescribed by Specification 5 of the BCA. (2) An emergency lift must be contained within a fire resisting shaft having an FRL of not less than 120/120/120. (3) Openings for lift landings doors and services must be protected in accordance with the DtS provisions of Part C4.	CRA
C3D12	Stairways and lifts in one shaft	Not applicable.	N/A
C3D13	Separation of equipment	(1) Equipment other than that described in (2) and (3) must be separated from the remainder of the building with construction complying with (4), if that equipment comprises - (a) lift motors and lift control panels; or (b) emergency generators used to sustain emergency equipment operating in the emergency mode; or (c) central smoke control plant; or (d) boilers; or (e) a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more. (2) Equipment need not be separated in accordance with (1) if the equipment comprises - (a) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification 21 of the BCA; or (b) stair pressurising equipment installed in compliance with the relevant provisions of AS 1668.1-2015; or (c) a lift installation without a machine-room; or (d) equipment otherwise adequately separated from the remainder of the building. (3) Separation of on-site fire pumps must comply with the requirements of AS 2419.1-2021. (4) Separating construction must have— (a) except as provided by (b)— (i) an FRL as required by Specification 5 of the BCA, but not less than 120/120/120; and (ii) any doorway protected with a self-closing fire door having an FRL of not less than –/120/30; or (b) when separating a lift shaft and lift motor room, an FRL not less than 120/–/–.	CRA

Part C3 – Compartmentation and separation			
BCA Clause		**Comment/s**	**Status**
C3D14	Electricity supply system	(1) An electricity substation located within a building must— (a) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (b) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30. (2) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must— (a) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (b) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30. (3) Subject to (4), electrical conductors must— (a) have a classification in accordance with AS/NZS 3013 of not less than— (i) if located in a position that could be subject to damage by motor vehicles — WS53W; or (ii) otherwise — WS52W; or (b) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120. (4) The requirements of (3) only apply to electrical conductors located within a building that supply— (a) a substation located within the building which supplies a main switchboard covered by (2); or (b) a main switchboard covered by (2). (5) Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear. (6) For the purposes of (5), emergency equipment includes but is not limited to the following: (a) Fire hydrant booster pumps. (b) Pumps for automatic sprinkler systems, water spray, chemical fluid suppression systems or the like. (c) Air handling systems designed to exhaust and control the spread of fire and smoke. (d) Emergency lifts. (e) Control and indicating equipment. (f) Emergency warning and intercom systems.	CRA

Part C3 – Compartmentation and separation			
BCA Clause		**Comment/s**	**Status**
C3D15	Public corridors in Class 2 and 3 buildings	The public corridor at the ground floor of Lobby B2 is identified as having smoke proof walls at intervals exceeding 40m, being up to ~ 70m. Notwithstanding the above, in the *Class 2* parts, a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with S11C2.	DNC / PPS

Figure 5.1 – Building B lobby at ground floor level

Part C4 – Protection of openings			
BCA Clause		**Comment/s**	**Status**
C4D3	Protection of openings in external walls	Openings in external walls required to achieve an FRL are identified as being located more than 3m from a fire source feature.	Note

Part C4 – Protection of openings

BCA Clause		Comment/s	Status
C4D4	Separation of external walls and associated openings in different fire compartments	The distance between parts of external walls and any openings within them in different fire compartments separated by a fire wall must not be less than that set out in Table C4D4, unless— (a) those parts of each wall have an FRL not less than 60/60/60; and (b) any openings are protected in accordance with C4D5.	CRA

Table C4D4: Distance between external walls and associated openings in different fire compartments

Angle between walls	Minimum distance (m)
0° (walls opposite)	6
more than 0° to 45°	5
more than 45° to 90°	4
more than 90° to 135°	3
more than 135° to less than 180°	2
180° or more	Nil

C4D5	Acceptable methods of protection	(1) Where protection is required, doorways, windows and other openings must be protected as follows – (a) Doorways— (i) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (ii) –/60/30 fire doors that are self-closing or automatic closing. (b) Windows— (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 automatic closing or permanently fixed in the closed position; or (iii) –/60/– automatic closing fire shutters. (c) Other openings— (i) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or (ii) construction having an FRL not less than –/60/–. (2) Fire doors, fire windows and fire shutters must comply with Specification 12 of the BCA.	Note

Part C4 – Protection of openings			
BCA Clause		**Comment/s**	**Status**
C4D6	Doorways in fire walls	(1) The aggregate width of openings for doorways in a fire wall, which are not part of a horizontal exit, must not exceed ½ of the length of the fire wall, and each doorway must be protected by – (a) 2 fire doors or fire shutters, one on each side of the doorway, each of which has an FRL of not less than ½ that required by Specification 5 for the fire wall except that each door or shutter must have an insulation level of at least 30; or (b) a fire door on one side and a fire shutter on the other side of the doorway, each of which complies with (a); or (c) a single fire door or fire shutter which has an FRL of not less than that required by Specification 5 for the fire wall except that each door or shutter must have an insulation level of at least 30. (2) A fire door or fire shutter required by (1)(a), (b) or (c) must be self-closing, or automatic closing in accordance with (3) and (4). (3) The automatic closing operation required by (2) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1-2018 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1-2018 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening. (4) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic closing operation.	CRA
C4D7	Sliding fire doors	Not applicable.	N/A

Part C4 – Protection of openings			
BCA Clause		**Comment/s**	**Status**
C4D8	Protection of doorways in horizontal exits	(1) A doorway that is part of a horizontal exit must be protected by either— (a) a single fire door that has an FRL of not less than that required by Specification 5 for the fire wall except that the door must have an insulation level of at least 30; or (b) in a *Class 7* or *8* building — 2 fire doors, one on each side of the doorway, each with an FRL of not less than ½ that required by Specification 5 for the fire wall except that each door must have an insulation level of at least 30. (2) Each door required by (1) must be self-closing, or automatic-closing in accordance with the following - (a) The automatic-closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1-2018 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1-2018 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening. (b) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic-closing operation.	CRA

Part C4 – Protection of openings			
BCA Clause		**Comment/s**	**Status**
C4D9	Openings in fire-isolated exits	(1) Doorways that open to fire-isolated stairways, fire-isolated passageways or fire-isolated ramps, and are not doorways opening to a road or open space, must be protected by –/60/30 fire doors that are self-closing, or automatic closing in accordance with (2) and (3). (2) The automatic-closing operation required by (1) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1-2018 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1-2018 and located not more than 1.5 m horizontal distance from the approach side of the doorway. (3) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17, is installed in the building, activation of the system must also initiate the automatic-closing operation. (4) A window in an external wall of a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp must be protected in accordance with C4D5 if it is within 6 m of, and exposed to, a window or other opening in a wall of the same building, other than in the same fire-isolated enclosure.	CRA
C4D10	Service penetrations in fire-isolated exits	Fire-isolated exits must not be penetrated by any services other than - (a) electrical wiring permitted by D3D8(6) to be installed within the exit; or (b) ducting associated with a pressurisation system if it— (i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and (ii) does not open into any other part of the building; or (c) for fire services, water supply and test drain pipes.	CRA
C4D11	Openings in fire isolated lit shafts	(1) *Doorways* — If a lift shaft is required to be fire-isolated, an entrance doorway to that shaft must be protected by –/60/– fire doors that - (a) comply with AS 1735.11-1986; and (b) are set to remain closed except when discharging or receiving passengers, goods or vehicles. (2) *Lift indicator panels* — A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than –/60/60 if it exceeds 35 000 mm^2 in area.	CRA

Part C4 – Protection of openings			
BCA Clause		**Comment/s**	**Status**
C4D12	Bounding construction: Class 2 and 3 buildings and Class 4 parts	The internal walls bounding various rooms to the public corridor in Lobby B2 on the ground floor are identified as consisting of glazing which are required to maintain and not reduce the required FRL of the bounding walls with respect to integrity and insulation. Notwithstanding the above, the following must be complied with – (1) A doorway in the *Class 2 parts* must be protected if it provides access from a sole-occupancy unit to – (a) a public corridor, public lobby, or the like; or (b) a room not within a sole-occupancy unit; or (c) the landing of an internal non fire-isolated stairway that serves as a required exit; or (d) another sole-occupancy unit. (2) A doorway in the *Class 2 parts* must be protected if it provides access from a room not within a sole-occupancy unit to - (a) a public corridor, public lobby, or the like; or (b) the landing of an internal non fire-isolated stairway that serves as a required exit. (3) Protection for a doorway must be at least a self-closing –/60/30 fire door. (4) Other openings in internal walls which are required to have an FRL with respect to integrity and insulation must not reduce the fire-resisting performance of the wall.	DNC / PPS
C4D13	Openings in floors and ceilings for services	(1) Where a service passes through— (a) a floor that is required to have an FRL with respect to integrity and insulation; or (b) a ceiling required to have a resistance to the incipient spread of fire, the service must be protected – (a) by a shaft complying with Specification 5; or (b) in accordance with C4D15. (2) 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.	CRA
C4D14	Openings in shafts	An opening in wall providing access to a ventilating, pipe, garbage or other service shaft 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.	CRA

Part C4 – Protection of openings			
BCA Clause		**Comment/s**	**Status**
C4D15	Openings for service installations	Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that installation must comply with one of the following – (a) Tested systems. (b) Ventilation and air conditioning - in the case of ventilating or air-conditioning ducts or equipment, the installation is in accordance with AS 1668.1-2015. (c) Compliance with Specification 13 of the BCA.	CRA
C4D16	Construction joints	(1) 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 - (a) identical with a prototype tested in accordance with AS 4072.1-2005 and AS 1530.4-2014 to achieve the required FRL; or (b) that differs from a prototype in accordance with Section 4 of AS 4072.1-2005 and achieves the required FRL. (2) The determination of the required FRL must be confirmed in a report from an Accredited Testing Laboratory in accordance with Specifications 1 and 2. (3) The requirements above do not apply where joints, spaces and the like between fire protected timber elements are provided with cavity barriers in accordance with Specification 9 of the BCA.	CRA
C4D17	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.	CRA

SECTION D: ACCESS AND EGRESS			
Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D3	Number of exits	The provision of a single exit in lieu of two is identified at the following locations – (a) General bin holding area and associated airlock on ground floor level; (b) Plant rooms and associated airlock on the upper ground level. Notwithstanding the above, the following egress provisions are identified as being provided - (a) in addition to any horizontal exit, not less than 2 exits must be provided from each storey; (b) access to at least 1 exit, where a part of a storey is provided with direct egress to a road or open space; and satisfies the exit travel distance requirements of D2D5 of the BCA by the provision of 1 exit; and (c) without passing through another sole-occupancy unit every occupant of a storey or part of a storey must have access to— (i) an exit; or (ii) at least 2 exits if 2 or more exits are required. *NOTE – the roof level serving the plant spaces has been assessed as not being covered by roof and accessed only for maintenance and hence not assessed as an occupiable outdoor area.*	DNC / PPS

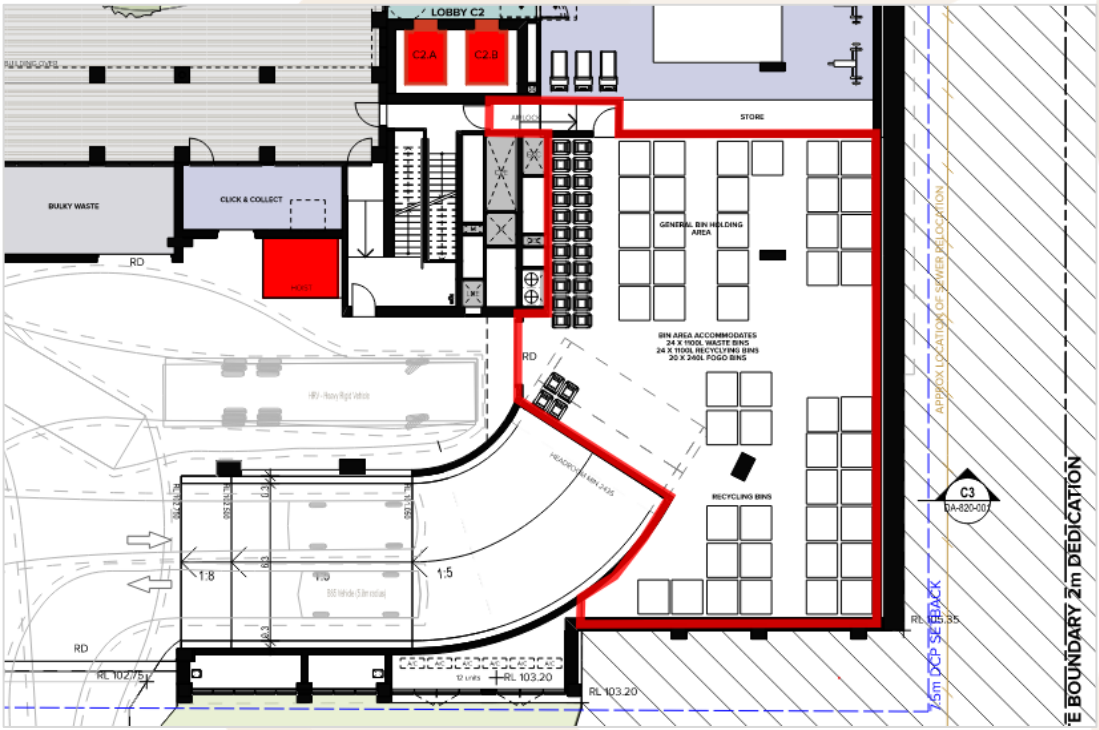


Figure 5.2 – General bin holding area and associated airlock on ground level

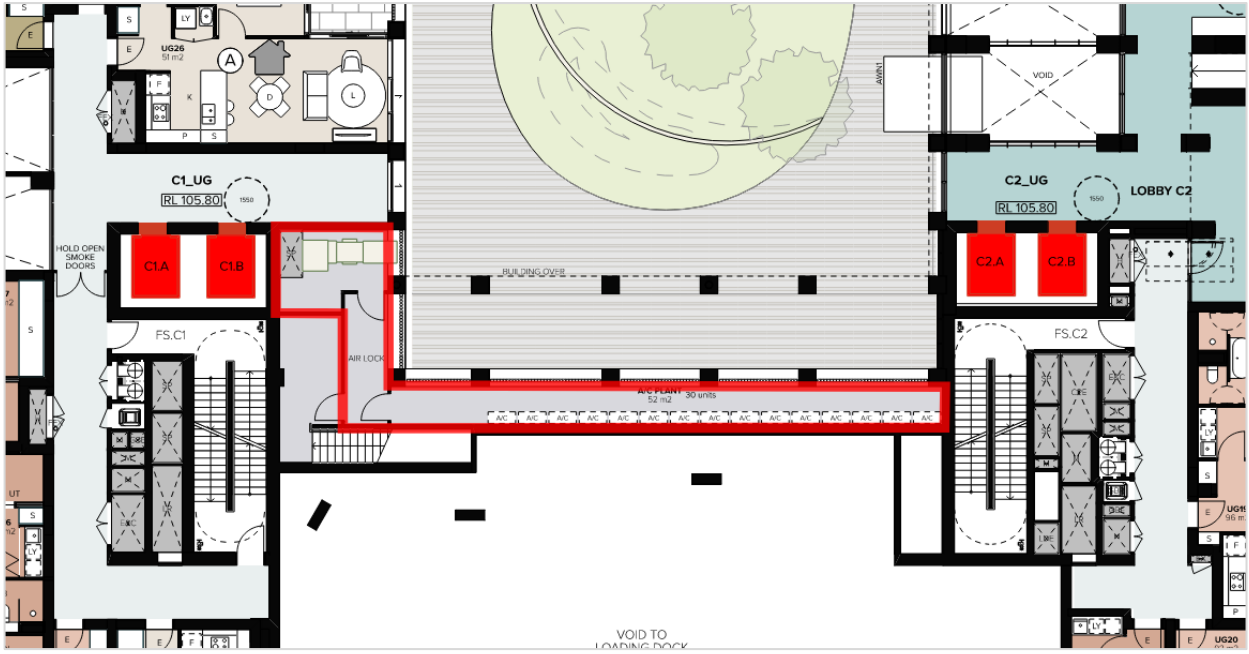


Figure 5.3 – Plant rooms and associated airlock on upper ground level

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D4	When fire isolated stairways and ramps are required	The required stairway located between building part A1 and A2, discharging to Middleton Avenue at the lower ground floor has been assessed as non-fire isolated. Apart from the above required stairway, all other required stairways have been assessed as fire isolated.	Note

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D5	Exit travel distances	Extended exit travel distances are identified as occurring throughout the building, as follows – (a) *Basement 02* - (i) The travel distance to a point of choice to alternative exits exceeds 20m, being up to ~25m; (ii) The travel distance to the nearest exit exceeds 40m, being up to ~46m. (b) *Basement 01* - (i) The travel distance to a point of choice to alternative exits exceeds 20m, being up to ~26m; (ii) The travel distance to the nearest exit exceeds 40m, being up to ~46m. (c) *Lower Ground* - (i) The travel distance to a point of choice to alternative exits exceeds 20m, being up to ~24m; (ii) The travel distance to the nearest exit exceeds 40m, being up to ~44m; (iii) The travel distance to an exit from the discharge of the horizontal exit serving the carpark part exceeds 20m, being up to ~38m; (iv) The travel distance from the unit entry door to the exit at the level of egress to open space exceeds 20m, being up to ~21m. (d) *Ground Level* - (i) The travel distance from the maintenance workshop to a point of choice to alternative exits exceeds 20m, being up to ~27m; (ii) The travel distance to the single exit from the general bin holding area exceeds 20m, being up to ~27m; (iii) The travel distance from a unit entry to a point of choice to alternative exits exceeds 6m, being up to ~16m. (e) *Upper Ground* - (i) The travel distance from a unit entry door to a point of choice to alternative exits exceeds 6m, being up to ~12m; (ii) The travel distance to the single exit from the plant room exceeds 20m, being up to ~21m. (f) *Level 1 – Level 10* – (i) The travel distance from a unit entry door to a point of choice to alternative exits exceeds 6m, being up to ~12m. (g) *Level 11 – Level 13* - (i) The travel distance from a unit entry door to a point of choice to alternative exits exceeds 6m, being up to ~9m. (h) *Level 18* – (i) The travel distance from the communal terrace area to a point of choice to alternative exits exceeds 20m, being up to ~28m.	DNC / PPS

		Notwithstanding the above, the exit travel distances are to be provided in accordance with the following – *Class 2 parts* – (a) The entrance doorway of any sole occupancy unit must be not more than – (i) 6m from an exit or from a point which travel in different directions to 2 exits is available: or (ii) 20m from a single exit serving the storey at the level of egress to a road or open space. (b) No point on the floor which is not a sole occupancy unit must be more than 20m from an exit or from a point at which travel in different directions to 2 exits is available. *Class 7 & Class 8 parts* **–** (a) 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.	

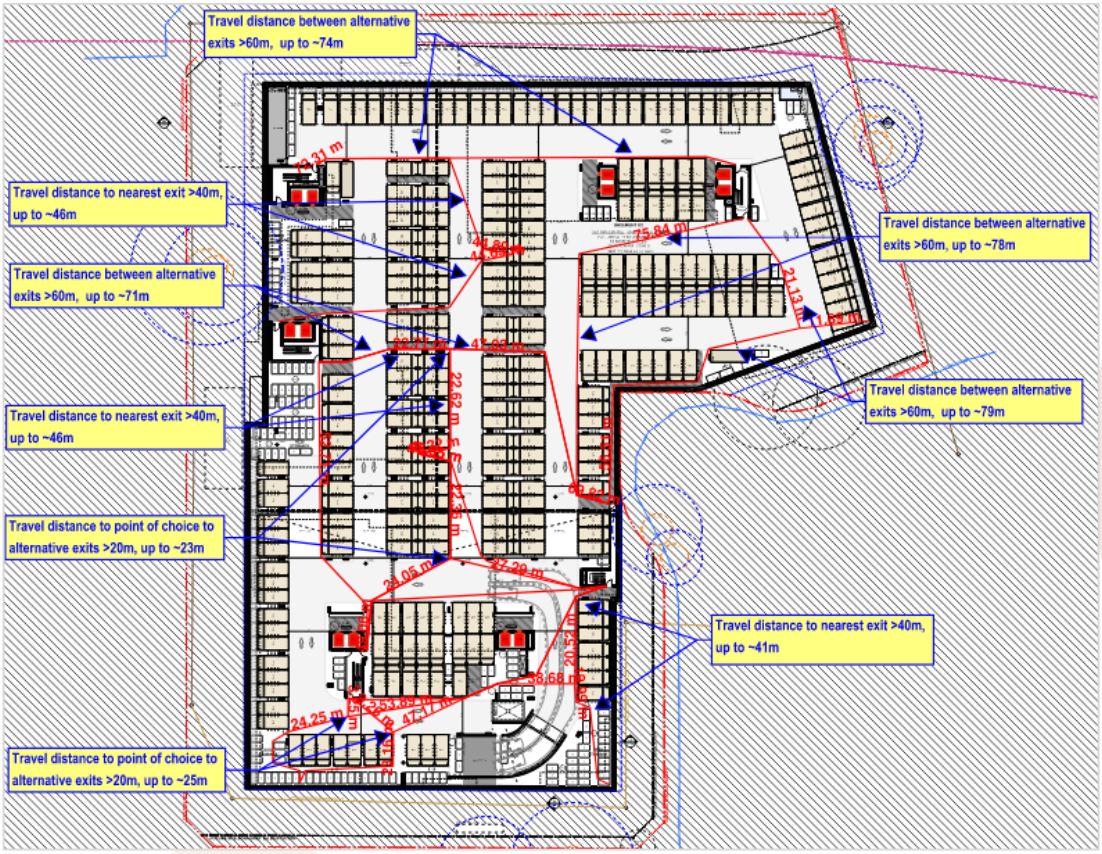


Figure 5.4 – Basement 02 exit travel distances

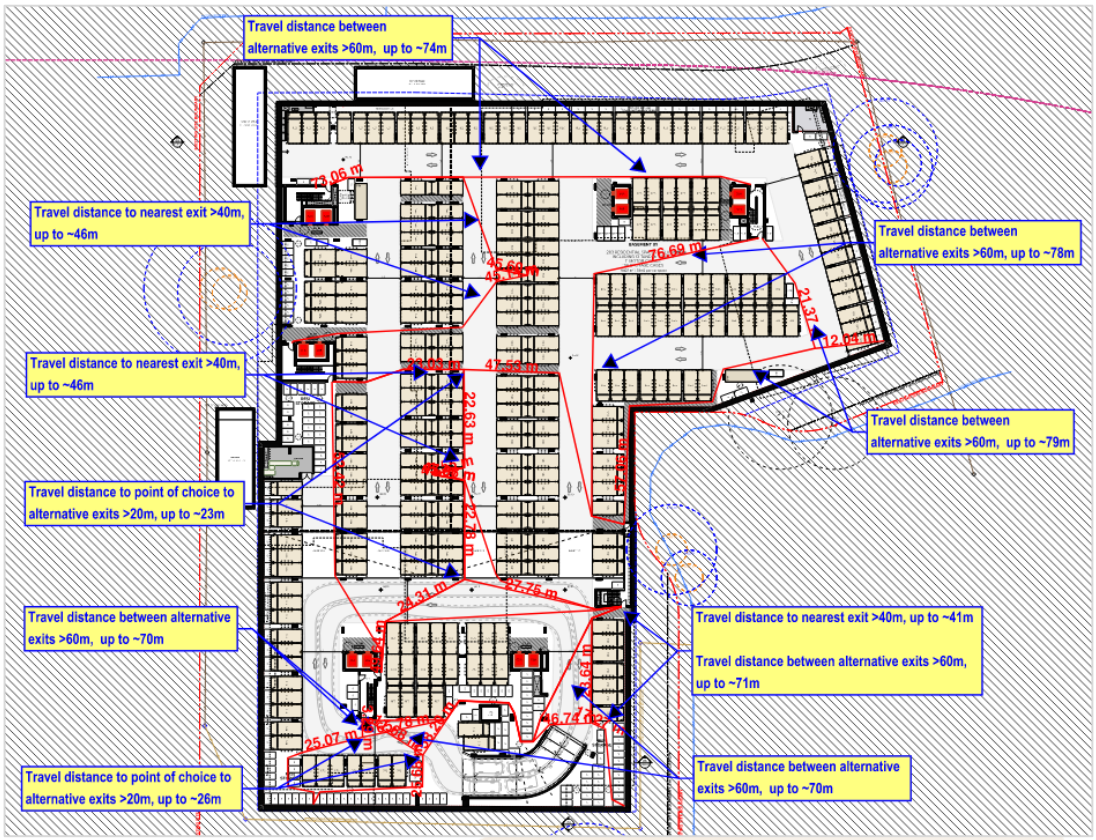


Figure 5.5 – Basement 01 exit travel distances

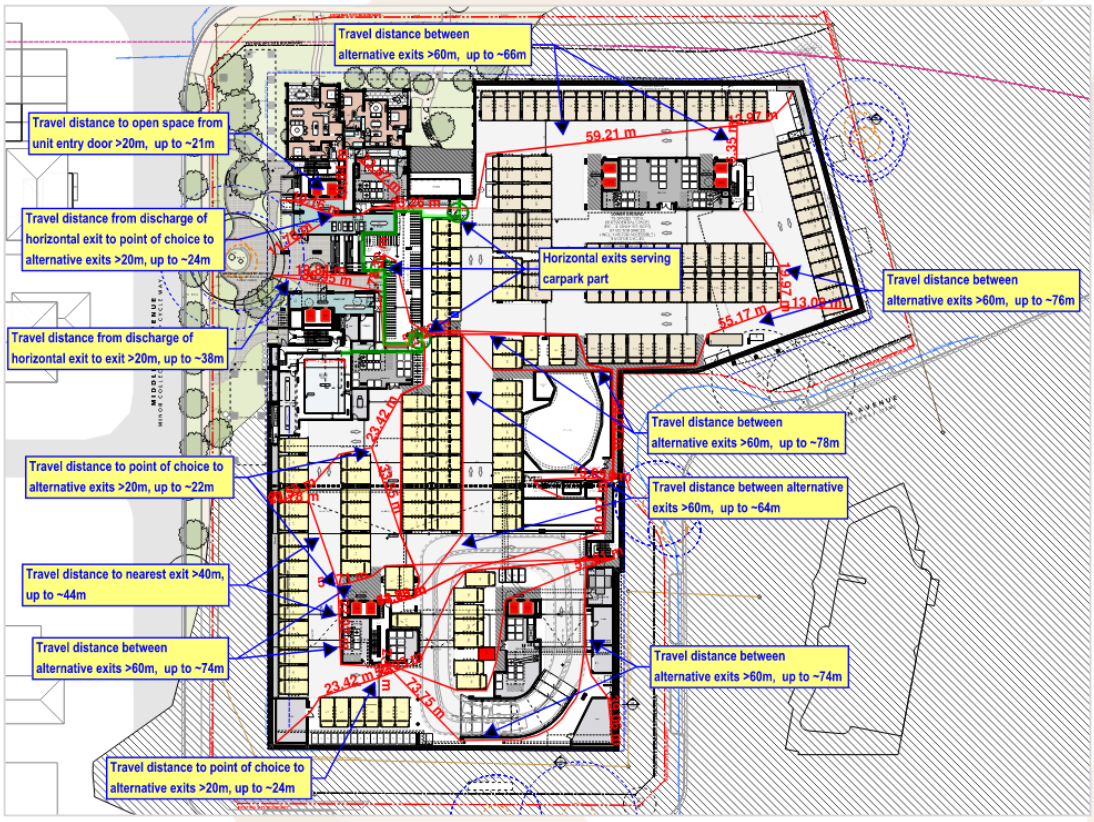


Figure 5.6 – Lower ground level exit travel distances

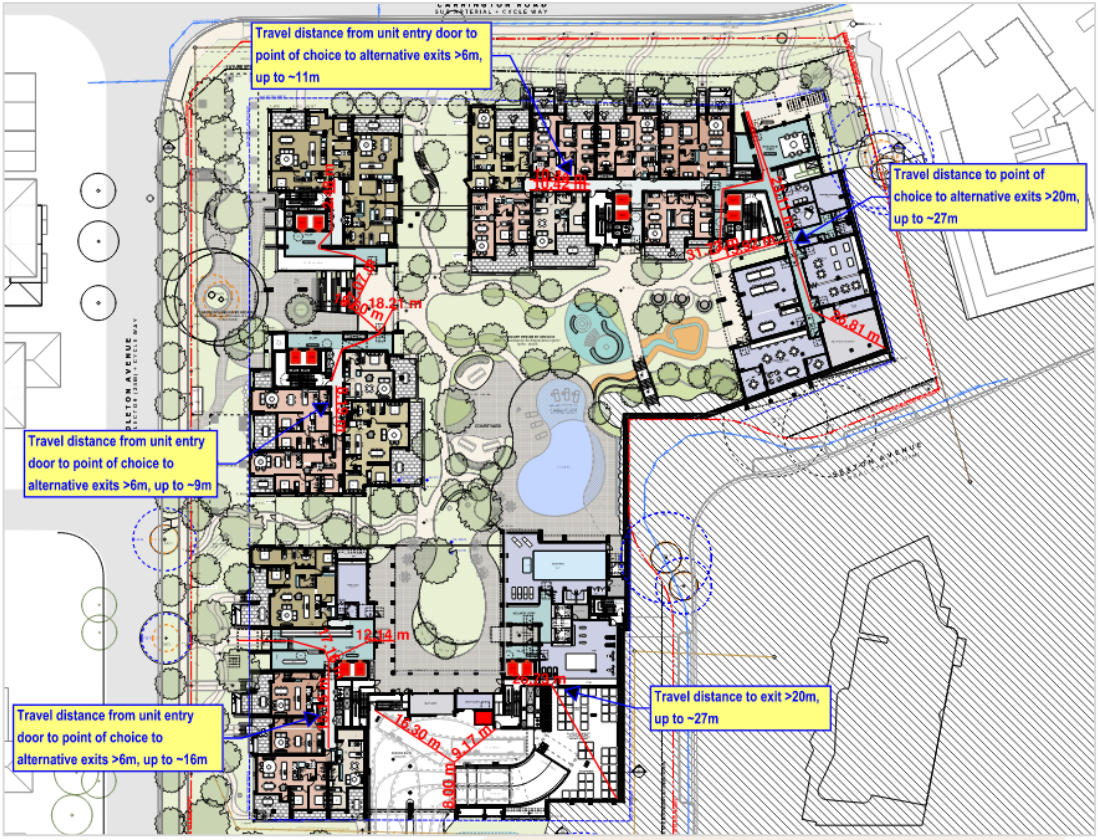


Figure 5.7 – Ground level exit travel distances

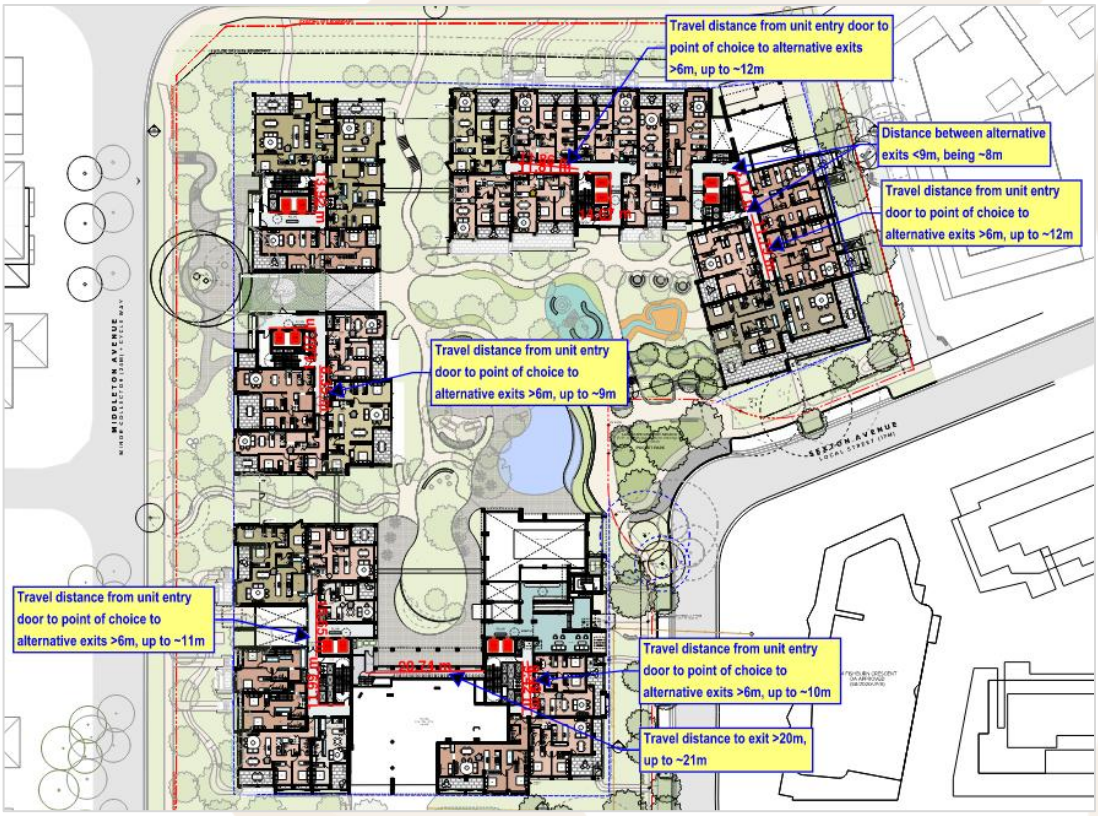


Figure 5.8 – Upper ground level exit travel distances

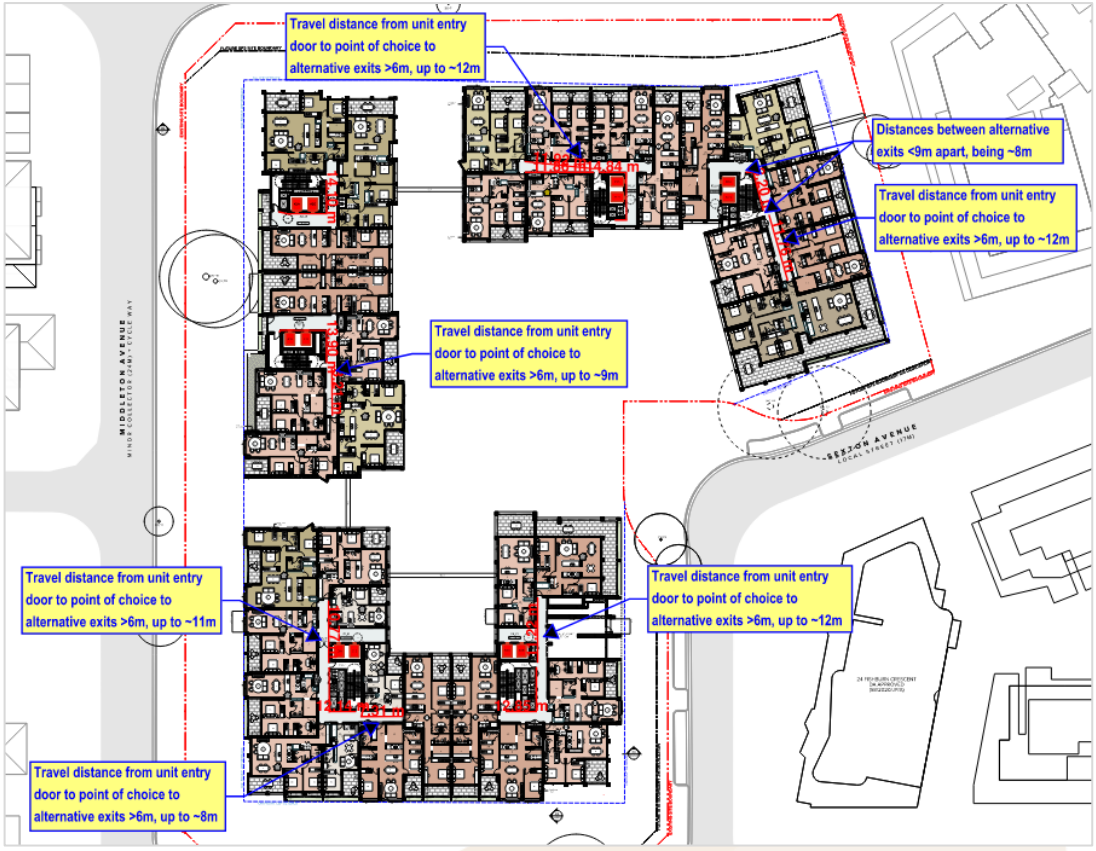


Figure 5.9 – Level 1 exit travel distances

Figure 5.10 – Level 2 exit travel distances

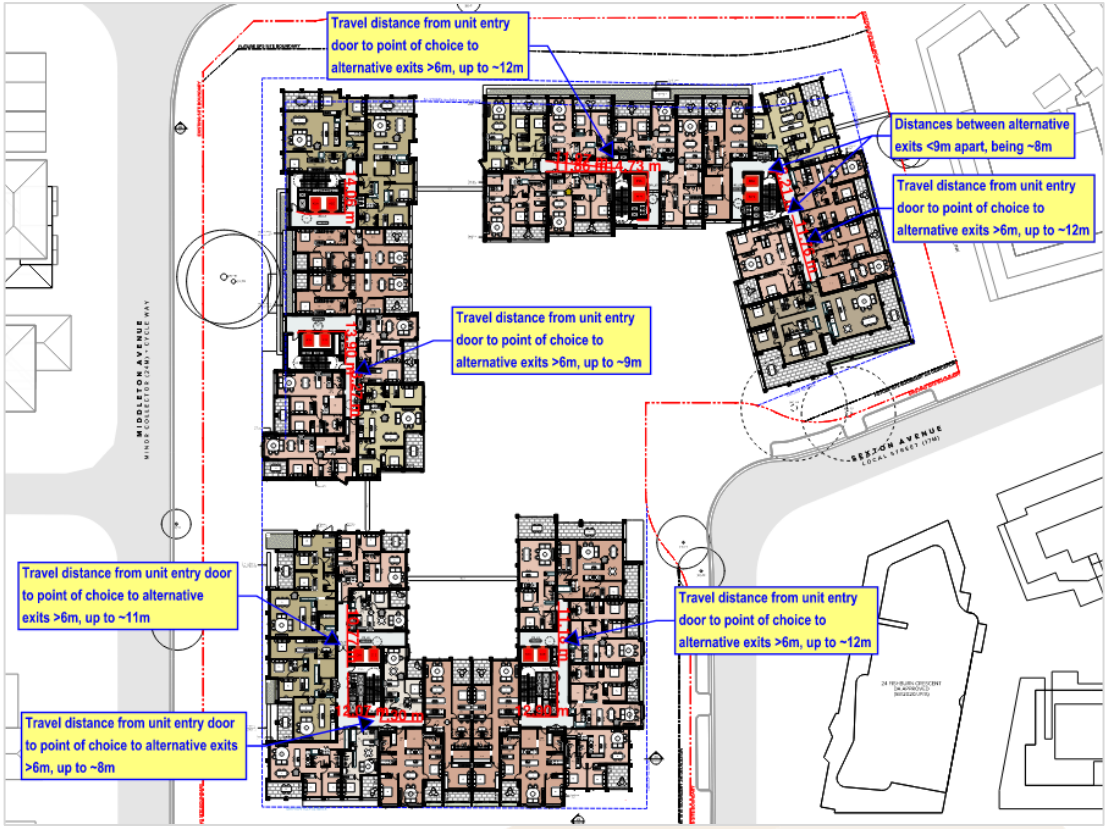


Figure 5.11 – Level 3 exit travel distances

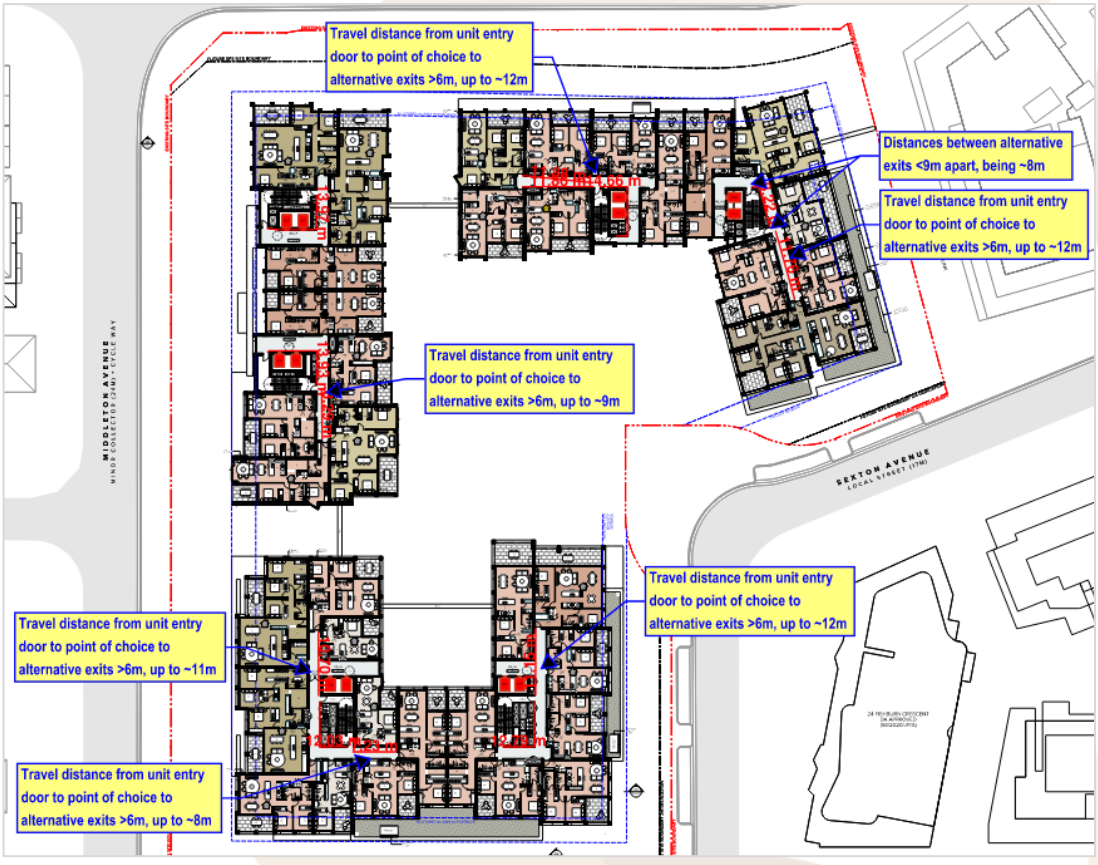


Figure 5.12 – Level 4 exit travel distances

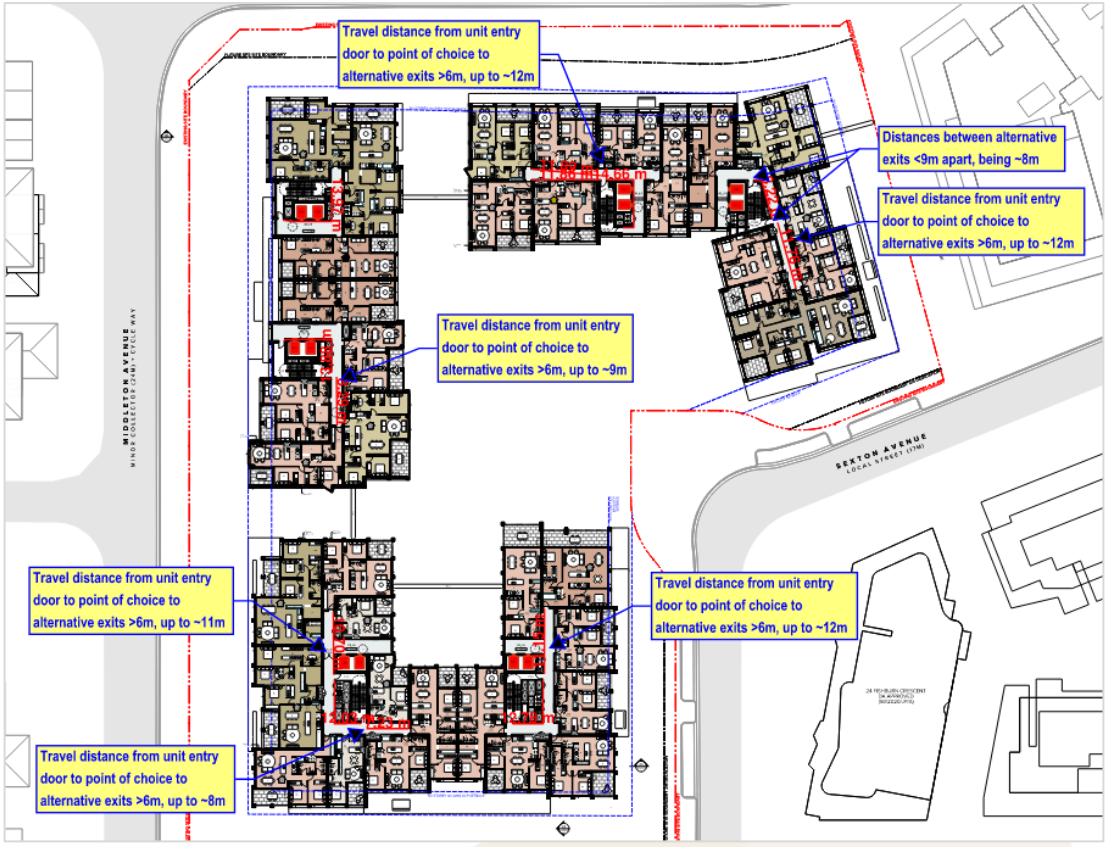


Figure 5.13 – Level 5 exit travel distances

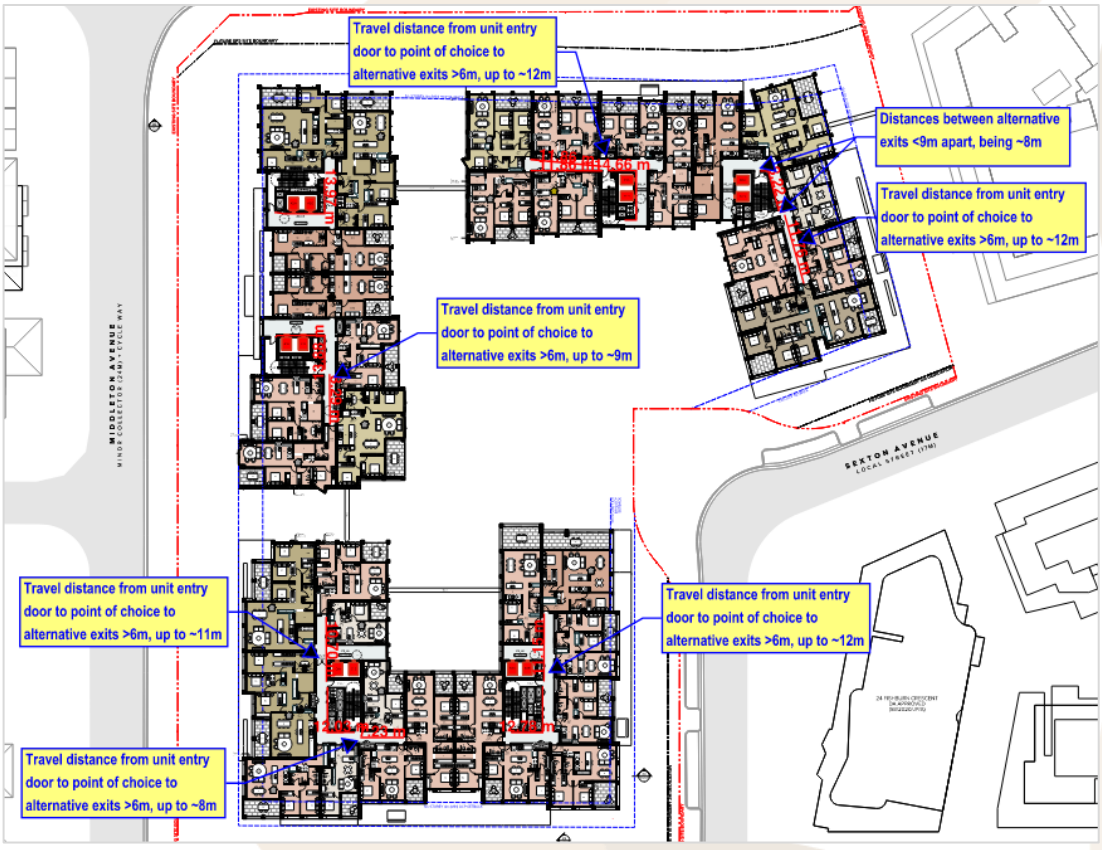


Figure 5.14 – Level 6 exit travel distances

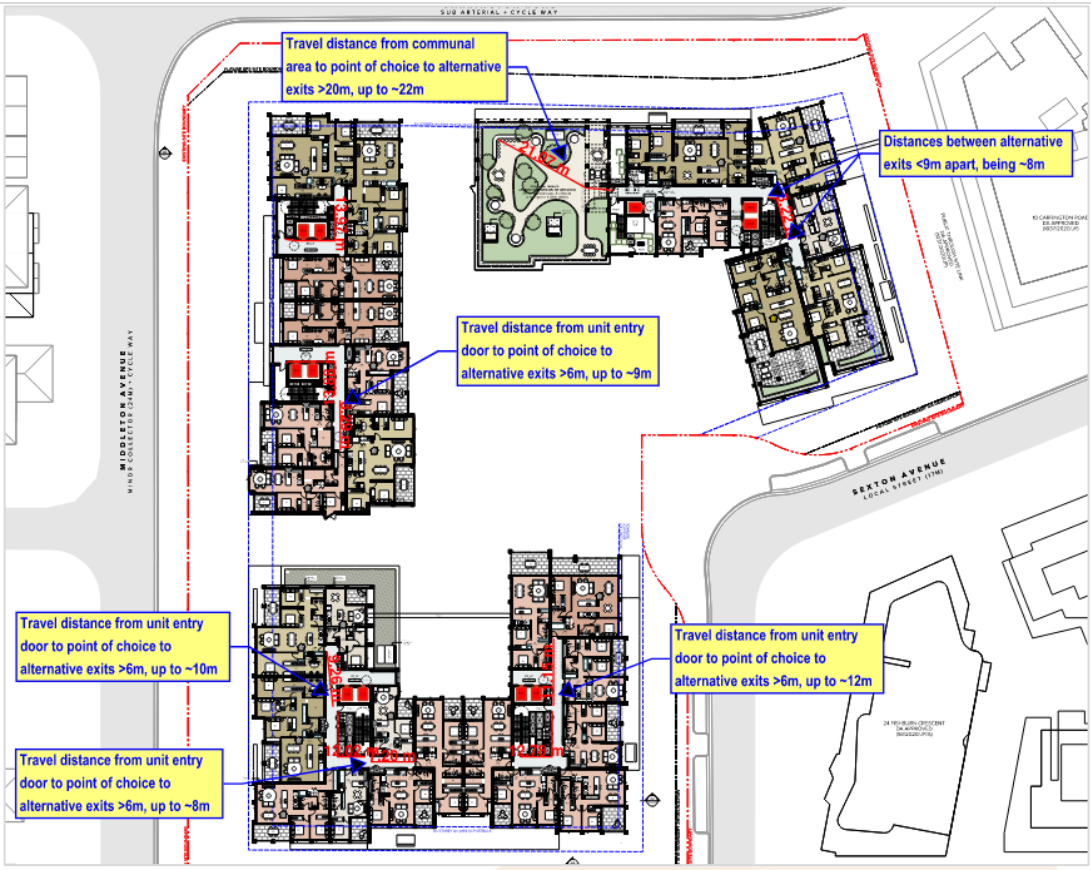


Figure 5.15 – Level 7 exit travel distances

Figure 5.16 – Level 8 exit travel distances

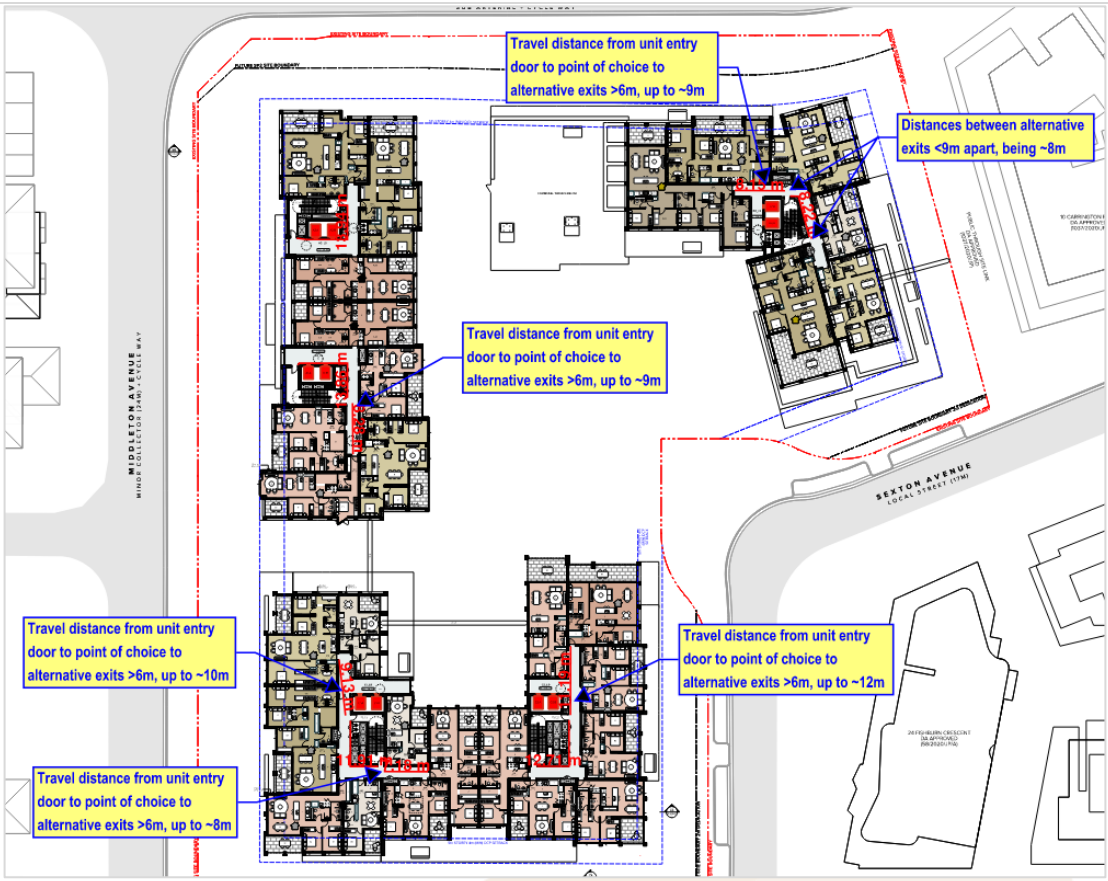


Figure 5.17 – Level 9 exit travel distances

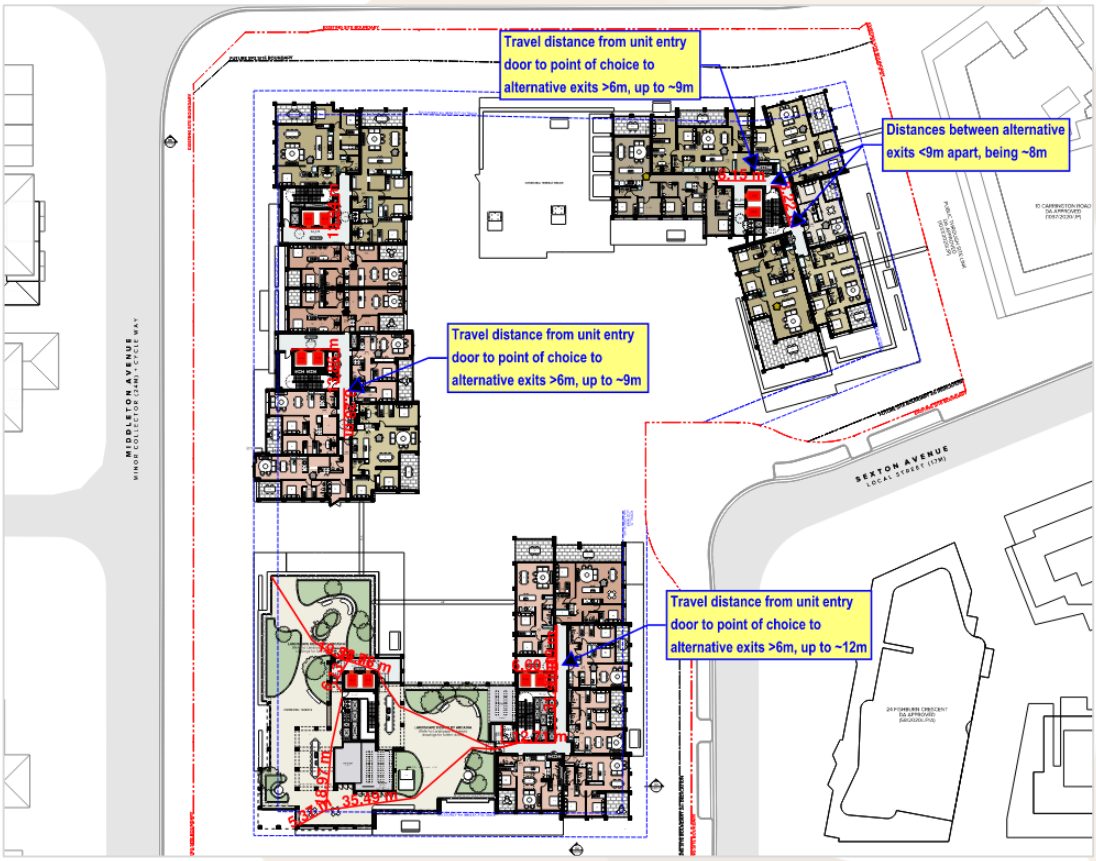


Figure 5.18 – Level 10 exit travel distances

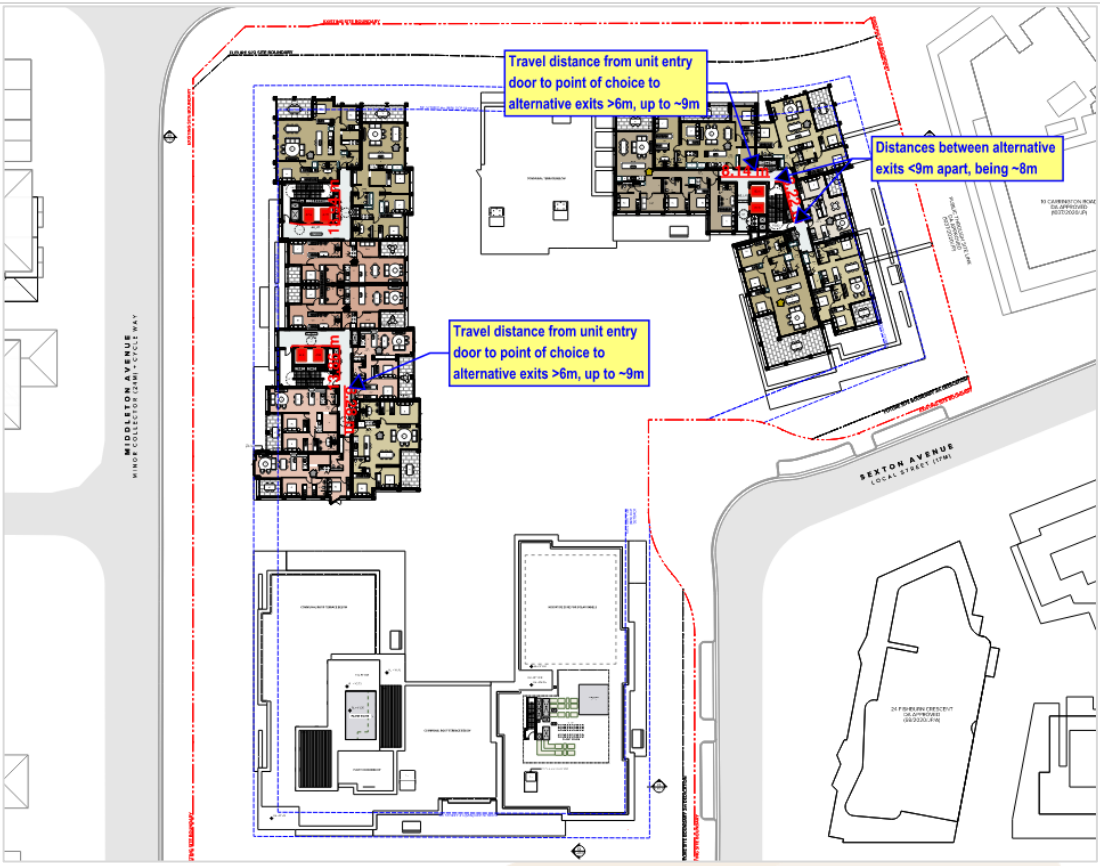


Figure 5.19 – Level 11 exit travel distances

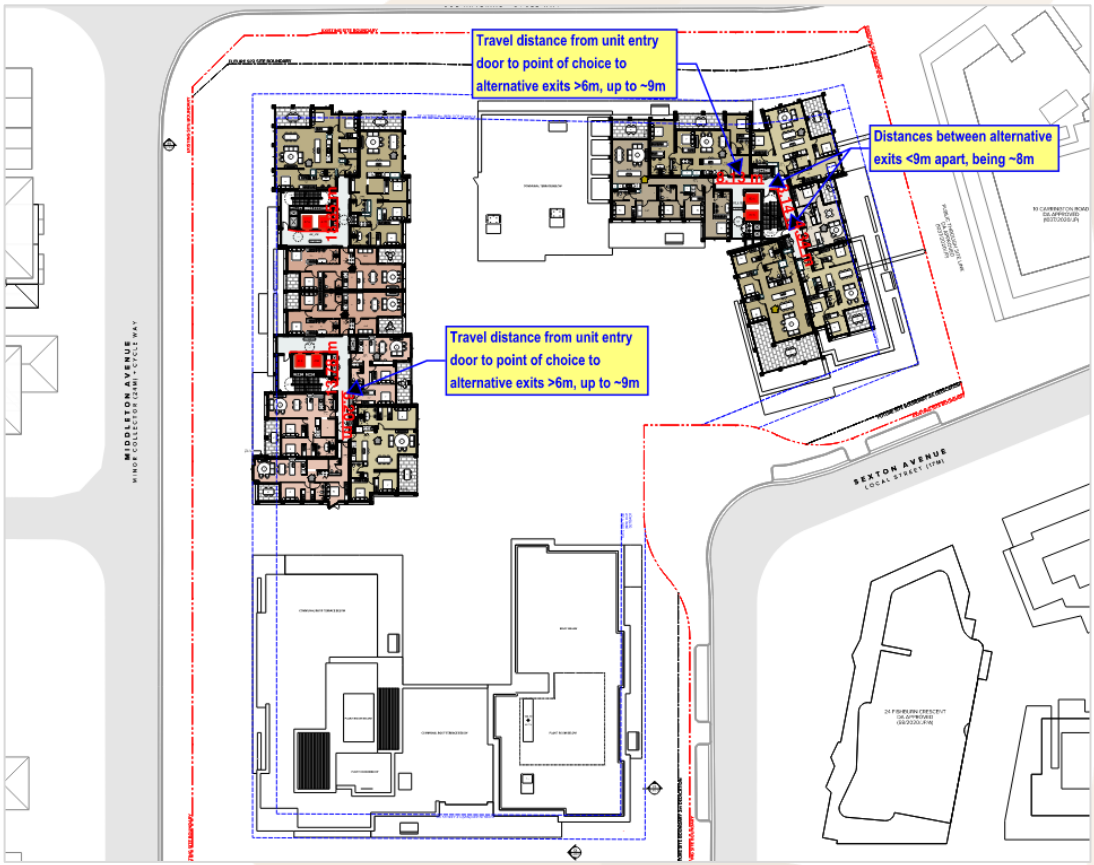


Figure 5.20 – Level 12 exit travel distances

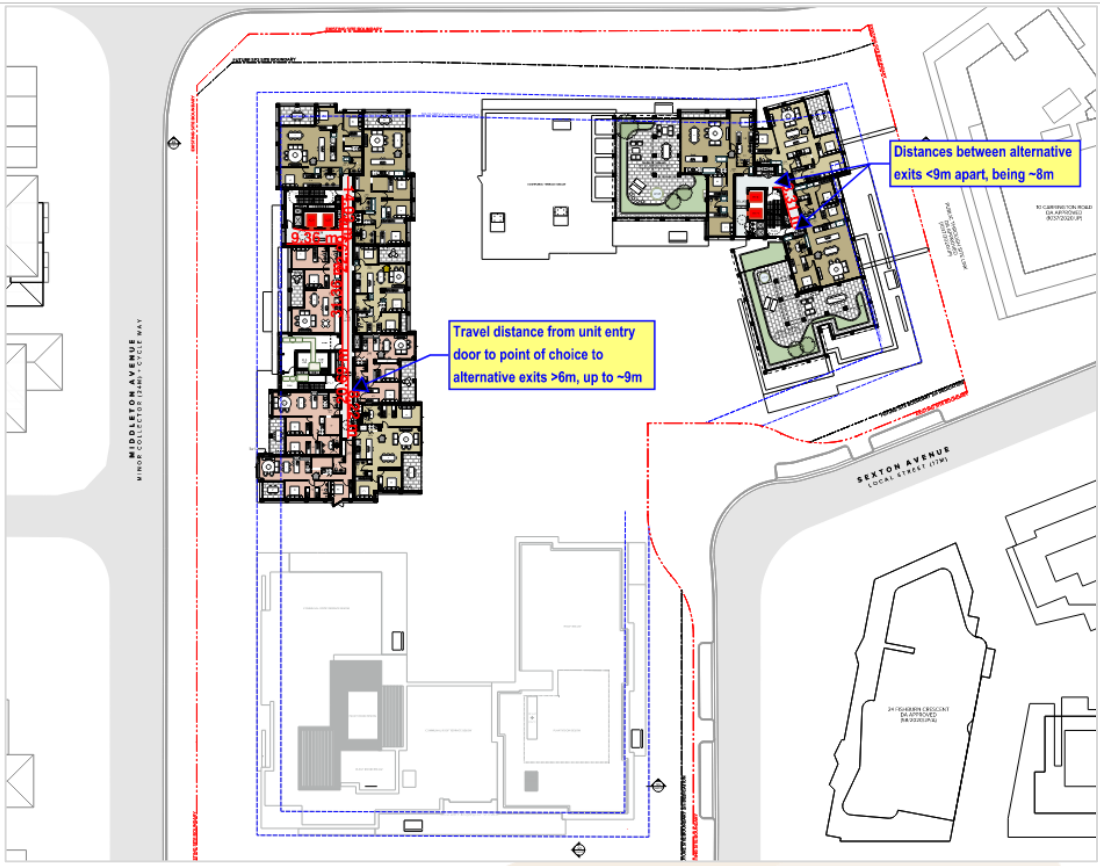


Figure 5.21 – Level 13 exit travel distances

Figure 5.22 – Level 14 exit travel distances

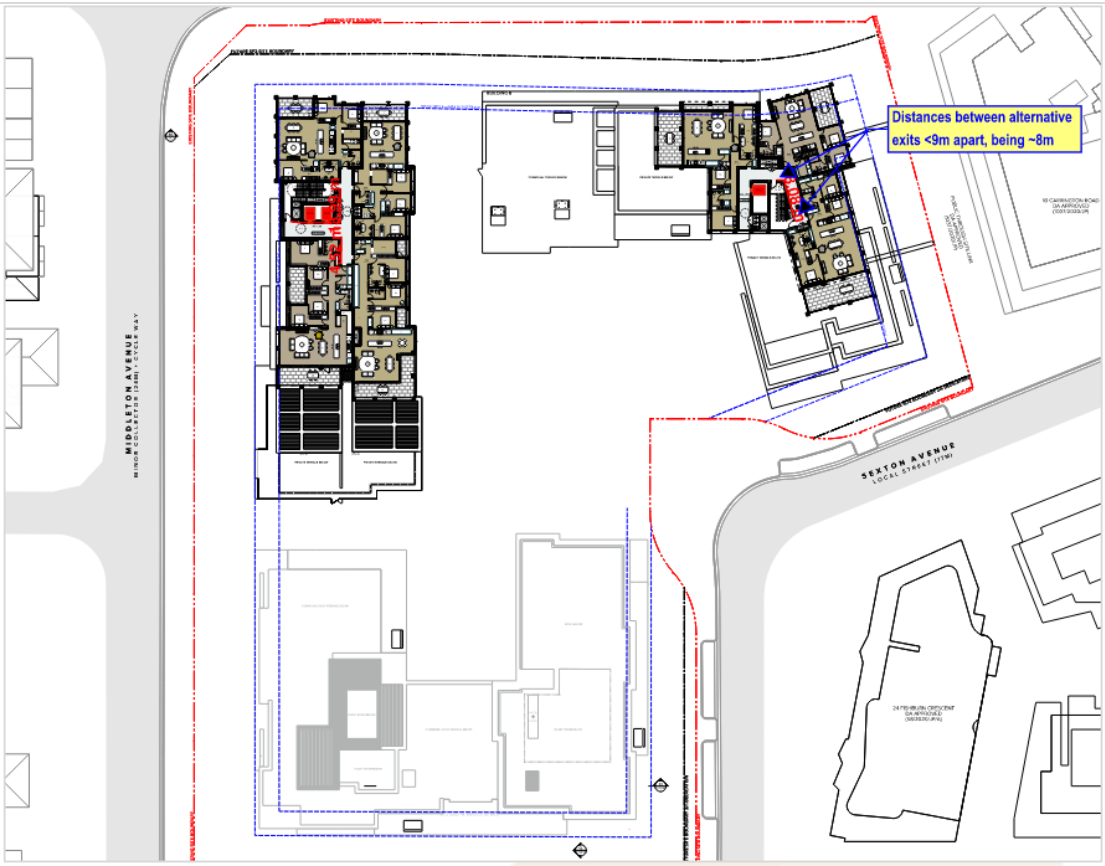


Figure 5.23 – Level 15 exit travel distances

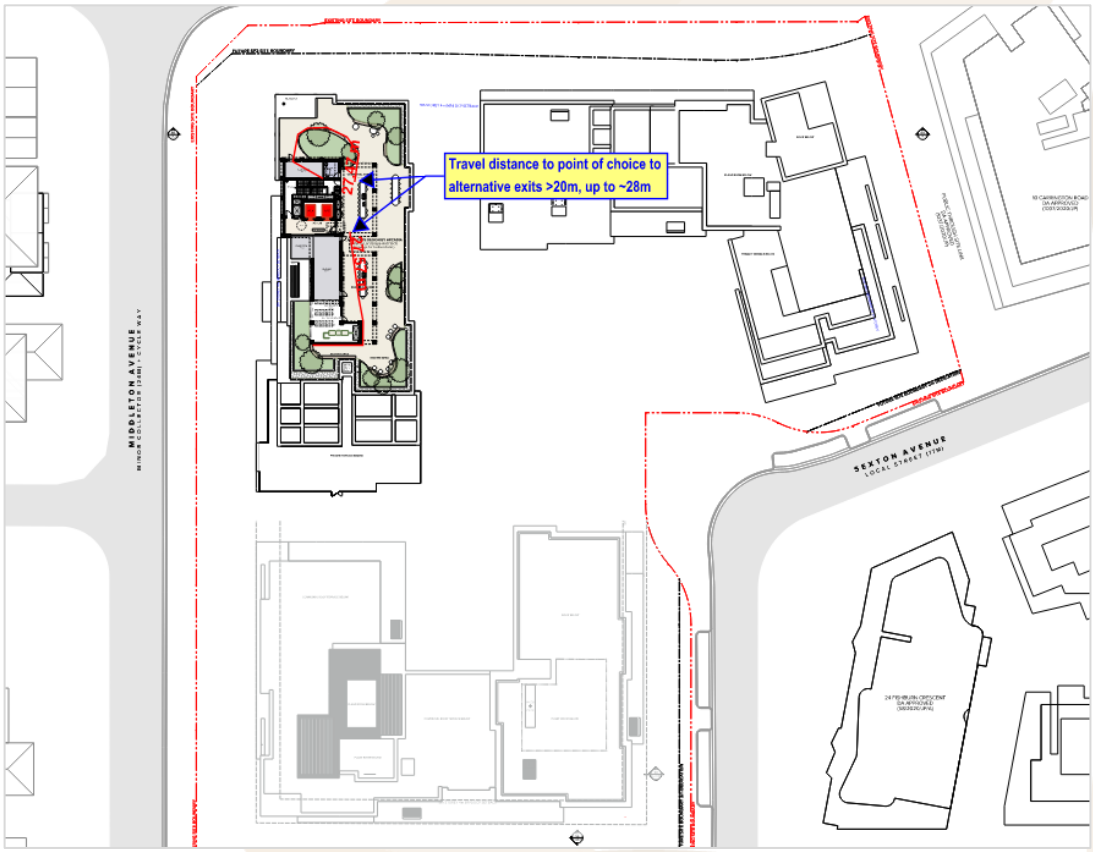


Figure 5.24 – Level 18 exit travel distances

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D6	Distance between alternative exits	The following issue/s are identified as occurring in relation to the requirements of this clause – (a) *Basement 02* - (i) The travel distance between alternative exits exceeds 60m, being up to ~79m. (b) *Basement 01* - (i) The travel distance between alternative exits exceeds 60m, being up to ~79m. (c) *Lower Ground* - (i) The travel distance between alternative exits from the carpark parts exceeds 60m, being up to ~78m. (d) *Upper Ground – Level 15 (Lobby B2)* - (i) The distance between alternative exits is less than 9m, being ~8m. Notwithstanding the above, exits that are required as alternative means of egress must be in accordance with the following — (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 (c) not more than – 45m apart in the *Class 2* parts; and (d) not more than – 60m apart in all other parts; and (e) located so that alternative paths of travel do not converge such that they become less than 6 m apart.	DNC / PPS
D2D7	Heights of exits, paths of travel to exits and doorways	The height clearance below the driveway ramp at Basement 02 is identified as being less than 2m, being not less than 1.15m. Notwithstanding the above, in a required exit or path of travel to an exit the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm.	DNC / PPS

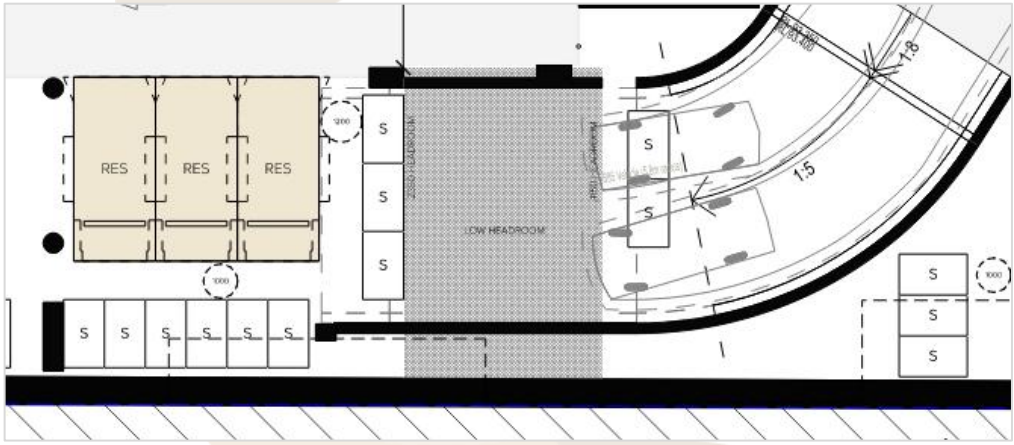


Figure 5.25 – Area below driveway ramp on Basement 02

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D8	Widths of exits and paths of travel to exits	The unobstructed width of each required exit or path of travel to an exit, except for doorways, must be not less than 1 m.	CRA
D2D9	Width of doorways in exit or paths of travel to exits	In a required exit or path of travel to a required exit, the unobstructed width of a doorway must be not less than – (a) The unobstructed width of each exit to comply with D2D8, minus 250mm; or (b) In any other case except where it opens to a sanitary compartment or bathroom – 750mm.	CRA
D2D10	Exit width not to diminish in direction of travel	The unobstructed width of a required exit must not diminish in the direction of travel to a road or open space.	CRA
D2D11	Determination and measurement of exits and paths of travel to exits	(a) The required width of a stairway or ramp in a required exit or path of travel to an exit must— (i) be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and (ii) extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosings of the treads or the floor surface of the ramp or landing. (b) To determine the aggregate unobstructed width, the number of persons accommodated must be calculated according to D2D18.	Note

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D12	Travel via fire-isolated exits	The following issue/s are identified in relation to the requirement/s of this clause – (a) Fire isolated exits, FS.A1, and the western fire isolated exit serving the basement storeys, pump room and fire control room are identified as discharging to a covered area that is not open for at least 1/3 of its perimeter, (being ~18%). (b) Fire isolated exits, FS.B2, and the northern fire isolated exit serving basement storeys are identified as discharging to a covered area that is not open for at least 1/3 of its perimeter (being ~22%) and more than 6m to the open space (being up to ~11m). Additionally, the following is identified – (a) The paths of travel from the points of discharge of the fire isolated exits necessitate passing within 6m of the external walls of the building and hence those parts of the wall must have— (i) an FRL of not less than 60/60/60; and (ii) any openings protected internally in accordance with C4D5; and the protection required by (i) must extend for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. (b) More than 2 access doorways are identified as opening directly into the fire isolated passageway located on the lower ground floor and hence – (i) a smoke lobby in accordance with D3D7 must be provided; or (ii) the exit must be pressurised in accordance with AS 1668.1-2015. Notwithstanding the above, the following must be complied with – (1) A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from— (a) a public corridor, public lobby or the like; or (b) a sole-occupancy unit occupying all of a storey; or (c) a sanitary compartment, airlock or the like.	DNC / PPS

(2) Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway –
  (a) to a road or open space; or
  (b) to a point—
    (i) in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least ⅔ of its perimeter; and
    (ii) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or
  (c) into a covered area that—
    (i) adjoins a road or open space; and
    (ii) is open for at least ⅓ of its perimeter; and
    (iii) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and
    (iv) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m.

(3) Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, the following applies –
  (a) That part of the wall must have—
    (i) an FRL of not less than 60/60/60; and
    (ii) any openings protected internally in accordance with C4D5; and
  (b) The protection required by (a) must extend for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser.

(4) If more than 2 access doorways, not from a sanitary compartment or the like, open to a required fire-isolated exit in the same storey—
  (a) a smoke lobby in accordance with D3D7 must be provided; or
  (b) the exit must be pressurised in accordance with AS 1668.1-2015.

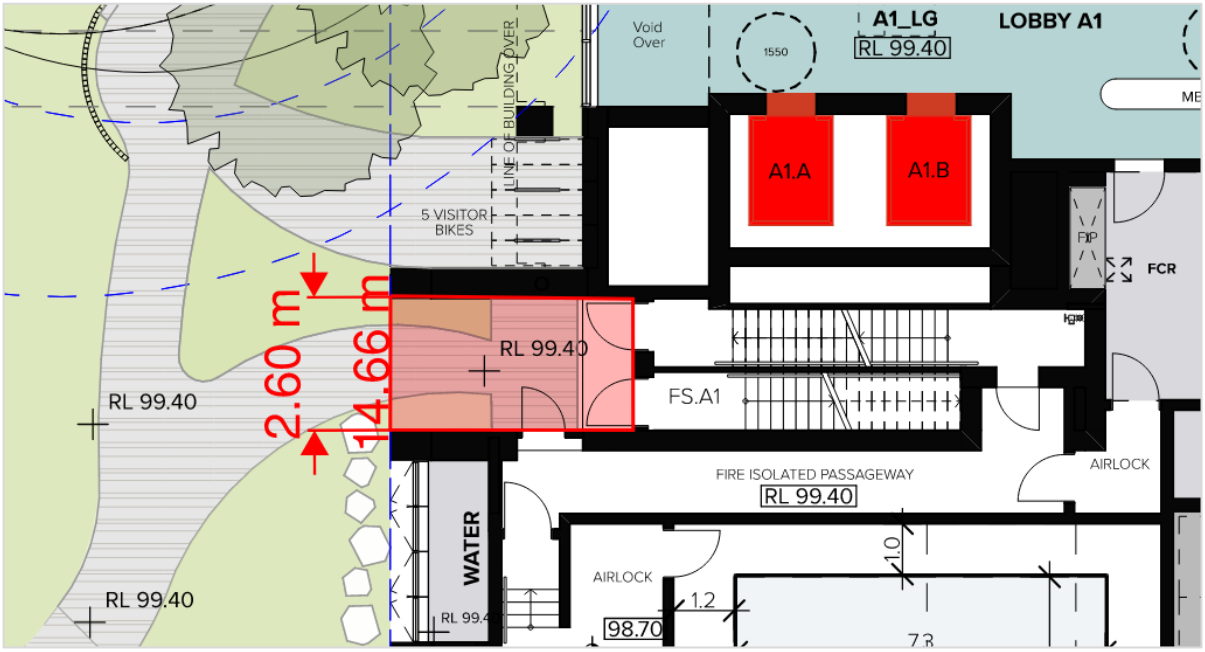


Figure 5.26 – Western fire isolated exits discharge configuration

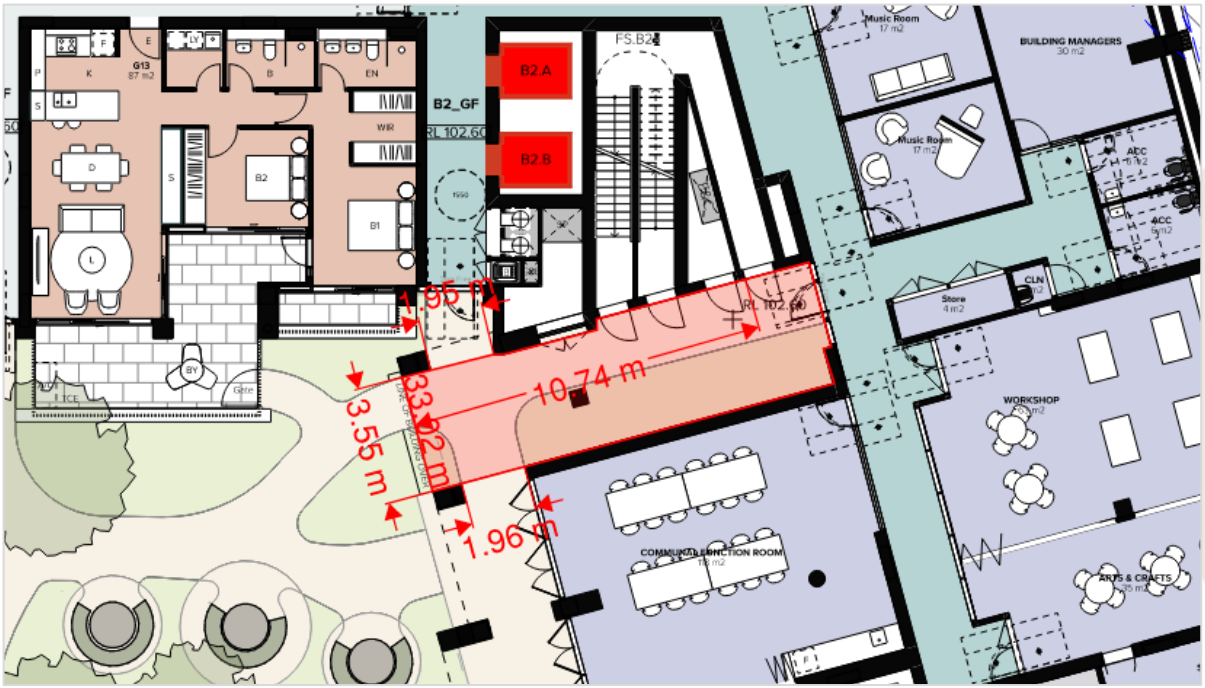


Figure 5.27 – Northern fire isolated exits discharge configuration

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D13	External stairways or ramps in lieu of fire isolated exits	Not applicable.	N/A
D2D14	Travel by non-fire-isolated stairways or ramps	The required non-fire isolated stairway located between building parts A1 and A2 discharging at the lower ground floor level is identified as being in accordance with the following requirement/s – (a) 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. (b) 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. (c) A required non-fire-isolated stairway 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 is in opposite or approximately opposite directions.	C
D2D15	Discharge from exits	The following fire isolated stairways serving as alternative exits from the corresponding residential parts are identified as discharging at a point that is not located as far apart as practical – (a) FS.A1 fire isolated stairways serving A1 residential parts; (b) FS.B2 fire isolated stairways serving B2 residential parts; (c) FS.C2 fire isolated stairways serving C2 residential parts. Notwithstanding the above, the following must be complied with - (1) An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it. (2) If a required exit leads to an open space, the path of travel to the road must have an unobstructed width throughout of not less than— (a) the minimum width of the required exit; or (b) 1 m, whichever is the greater.	DNC / PPS

		(3) If an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by – (a) a ramp or other incline having a gradient not steeper than 1:8 at any part, or not steeper than 1:14 if required by the Deemed-to-Satisfy Provisions of Part D4; or (b) a stairway complying with the Deemed-to-Satisfy Provisions of the BCA. (4) The discharge point of alternative exits must be located as far apart as practical.	

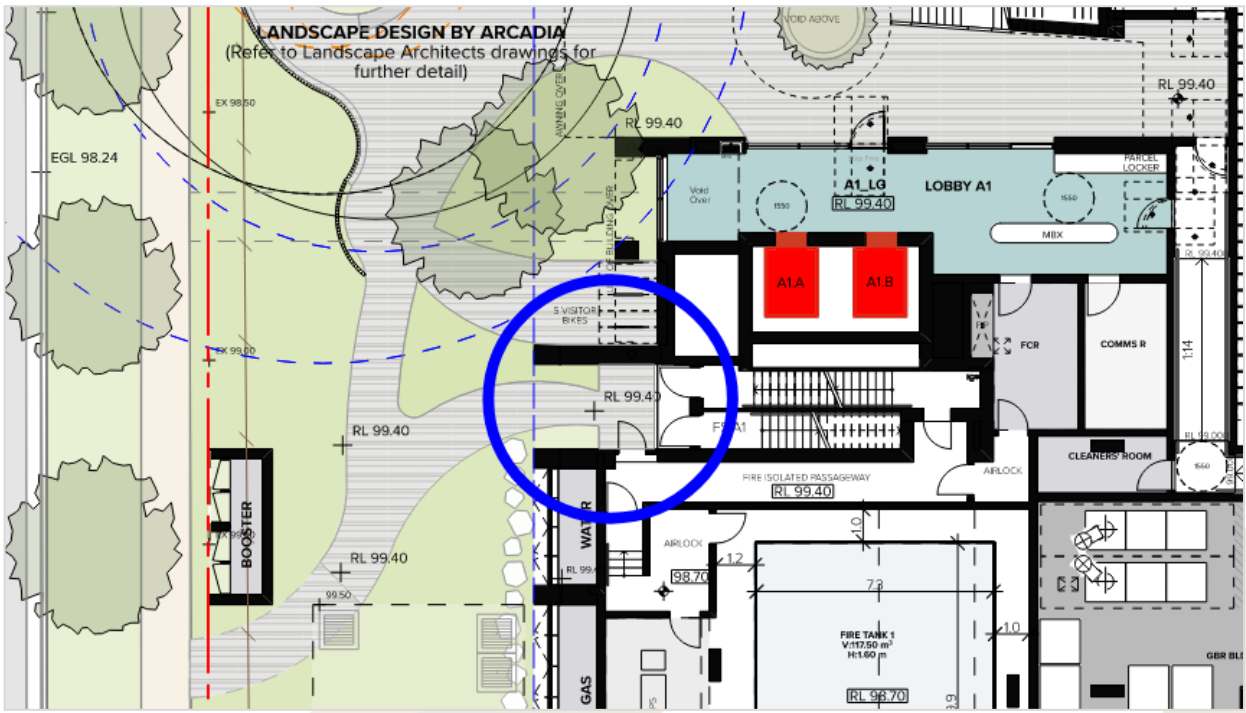


Figure 5.28 – Discharge from fire isolated exits FS.A1

Figure 5.29– Discharge from fire isolated stairways FS.B1 and FS.B2

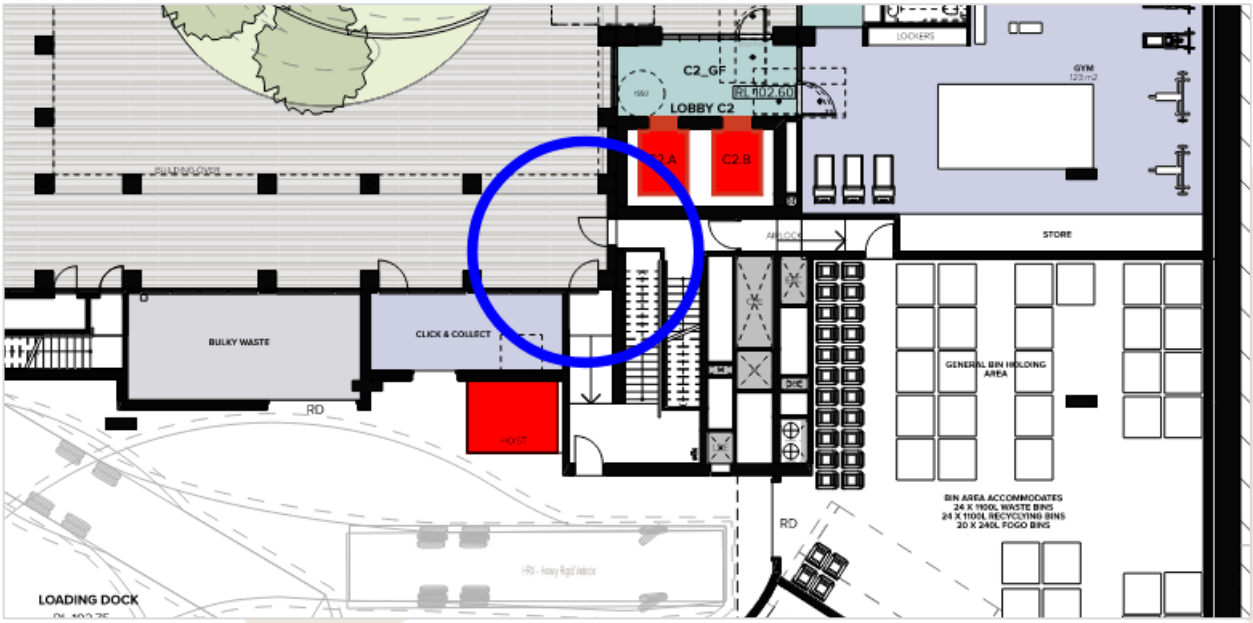


Figure 5.30 – Discharge from fire isolated stairways FS.C2

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D16	Horizontal exits	(1) Horizontal exits must not comprise more than half of the required exits from any part of a storey divided by a fire wall. (2) Horizontal exits must have a clear area on the side of the fire wall to which occupants are evacuating, to accommodate the total number of persons (calculated under D2D18) served by the horizontal exit of not less than 0.5m^2 per person. (3) Where a fire compartment is provided with only two exits, and one of those exits is a horizontal exit, the clear area required by (2) is to be of a size that accommodates all the occupants from the fire compartment being evacuated. (4) The clear area required by (3) must be connected to the horizontal exit by an unobstructed path that has at least the dimensions required for the horizontal exit and may include the area of the unobstructed path. For the purposes of this clause, the doorways highlighted in the figure below, at the lower ground floor have been assessed as horizontal exits.	CRA

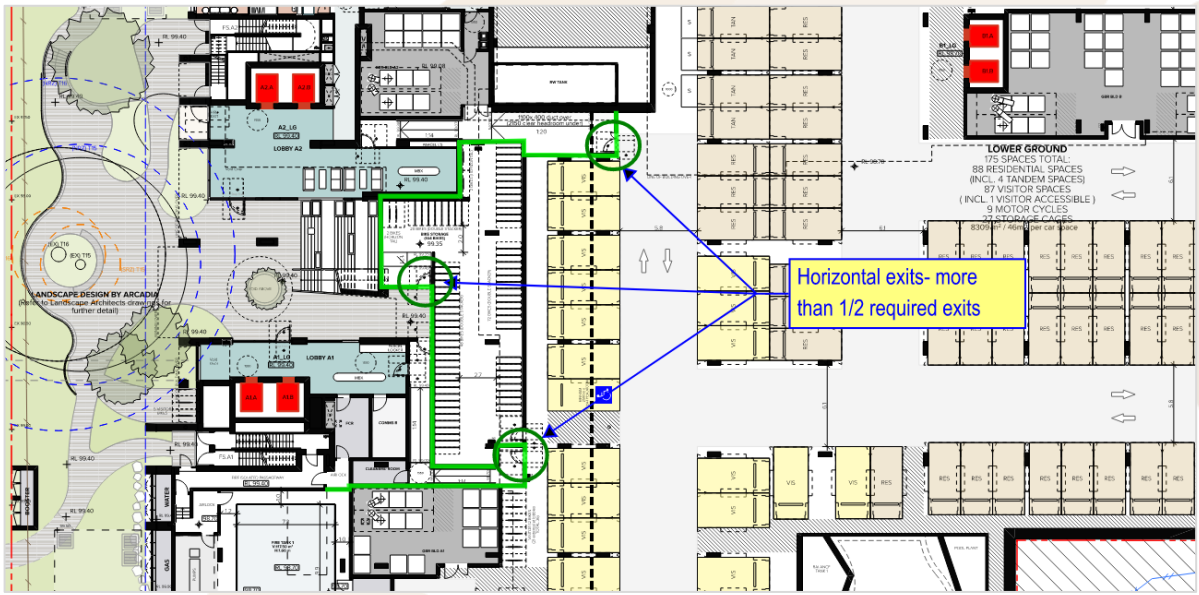


Figure 5.31 – Horizontal exits at lower ground floor

D2D17	Non-required stairways, ramps or escalators	Not applicable.	N/A
D2D18	Number of persons accommodated	Clause relates to method of calculating number of persons accommodated in a storey, room or mezzanine.	Note
D2D19	Measurement of distances	Clause relates to method of measurement in determining travel distance.	Note

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D20	Method of measurement	Clause relates to method of measurement in determining travel distance.	Note
D2D21	Plant rooms, lift machine rooms and electricity network substations: concession	(1) A ladder may be used in lieu of a stairway to provide egress from - (a) a plant room with a floor area of not more than 100 m^2; or (b) all but one point of egress from a plant room, a lift machine room or a *Class 8* electricity network substation with a floor area of not more than 200 m^2. (2) A ladder permitted under (1) - (a) may— (i) form part of an exit provided that in the case of a fire-isolated stairway it is contained within the shaft; or (ii) discharge within a storey in which case it must be considered as forming part of the path of travel; and (b) for a plant room or a *Class 8* electricity network substation, must comply with AS 1657-2018; and (c) for a lift machine room, where access is provided from within a machine room to a secondary floor, a fixed rung type ladder complying with AS 1657-2018 may be used, provided that— (i) the height between the floors is not more than 2800 mm; and (ii) the ladder is inclined at an angle to the horizontal not less than 65 degrees nor more than 75 degrees; and (iii) the distance between the front face of the ladder and any adjacent obstruction is not less than— (A) 960 mm, where the ladder is inclined 65 degrees to the horizontal; or (B) 760 mm, where the ladder is inclined 75 degrees to the horizontal; or (C) a distance that is determined by interpolating the values in (A) and (B), where the ladder is inclined at any angle between 65 degrees and 75 degrees to the horizontal; and (iv) a clear space not less than 600 mm exists between the foot of the ladder and any equipment.	Note

Part D2 – Provision for escape			
BCA Clause		**Comment/s**	**Status**
D2D22	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 D2D7 to D2D11, 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 1657-2018. (iv) In lieu of D3D26, doors fitted to the doorway must be— (A) of the horizontal sliding or outwards opening hinged type; and (B) self-closing and self-locking from the outside; and (C) marked on the landing side with the letters not less than 35 mm high: "DANGER LIFTWELL – ENTRY OF UNAUTHORIZED PERSONS PROHIBITED – KEEP CLEAR AT ALL TIMES"	CRA
D2D23	Egress from primary schools	Not applicable.	N/A
Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D3	Fire isolated stairways and ramps	A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed – (a) of non-combustible materials; an (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.	CRA
D3D4	Non-fire isolated stairways and ramps	Required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to D3D3, or only of— (a) reinforced or prestressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that— (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m^3 at a moisture content of 12%; and (iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D5	Separation of rising and descending stair flights	The fire isolated stairways are to have the flights rising from the storey below the lowest level of access to a road or open space; and the flight descending from a storey above that level separated by construction that is – (a) non-combustible; and (b) smoke proof in accordance with S11C2.	CRA
D3D6	Open access ramps and balconies	Where an open access ramp or balcony is provided to meet the smoke hazard management requirements of E2D4 to E2D13, it must— (a) have ventilation openings to the outside air which— (i) have a total unobstructed area not less than the floor area of the ramp or balcony; and (ii) are evenly distributed along the open sides of the ramp or balcony; and (b) not be enclosed on its open sides above a height of 1 m except by an open grille or the like having a free air space of not less than 75% of its area.	Note
D3D7	Smoke lobbies	A smoke lobby required by D2D12 must— (a) have a floor area not less than 6 m^2; and (b) be separated from the occupied areas in the storey by walls which are impervious to smoke, and— (i) have an FRL of not less than 60/60/– (which may be fire-protective grade plasterboard, gypsum block with set plaster, face brickwork, glass blocks or glazing); and (ii) extend from slab to slab, or to the underside of a ceiling with a resistance to the incipient spread of fire of 60 minutes which covers the lobby; and (iii) any construction joints between the top of the walls and the floor slab, roof or ceiling must be smoke sealed with intumescent putty or other suitable material; and (c) at any opening from the occupied areas, have smoke doors complying with S12C3 and S12C4 except that the smoke sensing device need only be located on the approach side of the opening; and (d) be pressurised as part of the exit if the exit is required to be pressurised under E2D3.	Note

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D8	Installations in exits and paths of travel	(1) Access to service shafts and services other than to fire-fighting or detection equipment as permitted in the Deemed-to-Satisfy Provisions of Section E, must not be provided from a fire-isolated stairway, fire isolated passageway or fire isolated ramp. (2) An opening to any chute or duct intended to convey hot products of combustion from a boiler, incinerator, fireplace or the like, must not be located in any part of a required exit or any corridor, hallway, lobby or the like leading to a required exit. (3) Gas or other fuel services must not be installed in a required exit. (4) Except for in a fire isolated exit specified in (1), services or equipment enclosed in accordance with (5) may be installed in a required exit, or in any corridor, hallway, lobby or the like leading to a required exit, where that service or equipment comprises - (a) electricity meters, distribution boards or ducts; or (b) central telecommunications distribution boards or equipment; or (c) electrical motors or other motors serving equipment in the building. (5) An enclosure for the purposes of (4) must be suitably sealed against smoke spreading from the enclosure and be - (a) non-combustible construction; or (b) a fire-protective covering. (6) Electrical wiring may be installed in a fire-isolated exit if the wiring is associated with— (a) a lighting, detection, or pressurisation system serving the exit; or (b) a security, surveillance or management system serving the exit; or (c) an intercommunication system or an audible or visual alarm system in accordance with D3D27; or (d) the monitoring of hydrant or sprinkler isolating valves.	CRA
D3D9	Enclosure of space under stairs and ramps	Not applicable.	N/A
D3D10	Width of required stairways and ramps	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.	Note

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D11	Pedestrian ramps	(1) A fire-isolated ramp may be substituted for a fire-isolated stairway if the construction enclosing the ramp and the width and ceiling height comply with the requirements for a fire-isolated stairway. (2) A ramp serving as a required exit must— (a) where the ramp is also serving as an accessible ramp under Part D4, be in accordance with AS 1428.1-2021; or (b) in any other case, have a gradient not steeper than 1:8. (3) The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013.	CRA
D3D12	Fire isolated passageways	(1) The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the passageway in another part of the building of— (a) if the passageway discharges from a fire-isolated stairway or ramp — not less than that required for the stairway or ramp shaft; or (b) in any other case — not less than 60/60/60. (2) Notwithstanding (1)(b), the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of— (a) a non-combustible roof covering; or (b) a ceiling having a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment.	CRA
D3D13	Roof as open space	If an exit discharges to a roof of a building, the roof must – (a) Have an FRL of not less than 120/120/120; and (b) Not have any roof lights or other openings within 3 m of the path of travel of persons using the exit to reach a road or open space.	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D14	Goings and risers	(1) A stairway must have – (a) not more than 18 and not less than 2 risers in each flight; and (b) going (G), riser (R) and quantity (2R + G) in accordance with Table D3D14; and (c) constant goings and risers throughout each flight, and the dimensions of goings (G) and risers (R) are considered constant if the variation between— (i) adjacent risers, or between adjacent goings, is no greater than 5 mm; and (ii) the largest and smallest riser within a flight, or the largest and smallest going within a flight, does not exceed 10 mm; and (d) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and (e) treads which have— (i) a surface with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013; or (ii) a nosing strip with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013. (f) In the case of a required stairway, no winders in lieu of a landing. (2) In the case of a non-required stairway— (a) the stairway must have— (i) not more than 3 winders in lieu of a quarter landing; and (ii) not more than 6 winders in lieu of a half landing; and (b) the going of all straight treads must be constant throughout the same flight and the dimensions of goings (G) is considered constant if the variation between— (i) adjacent goings, is no greater than 5 mm; and (ii) the largest and smallest going within a flight, does not exceed 10 mm; and (c) the going of all winders in lieu of a quarter or half landing may vary from the going of the straight treads within the same flight provided that the going of all such winders is constant. (3) Where a stairway discharges to a sloping public walkway or public road— (a) the riser (R) may be reduced to account for the slope of the walkway or road; and (b) the quantity (2R+G) may vary at that location.	CRA

Table D3D14: Riser and going dimensions

Stairway location	Riser (R)		Going (G)[Note 3]		Quantity (2R + G)	
	Max	Min	Max	Min	Max	Min
Public	190	115	355	250	700	550
Private [Note 1]	190	115	355	240	700	550

Table Notes

(1) Private stairways are—

(a) stairways in a *sole-occupancy unit* in a Class 2 building or Class 4 part of a building; and

(b) in any building, stairways which are not part of a *required exit* and to which the public do not normally have access.

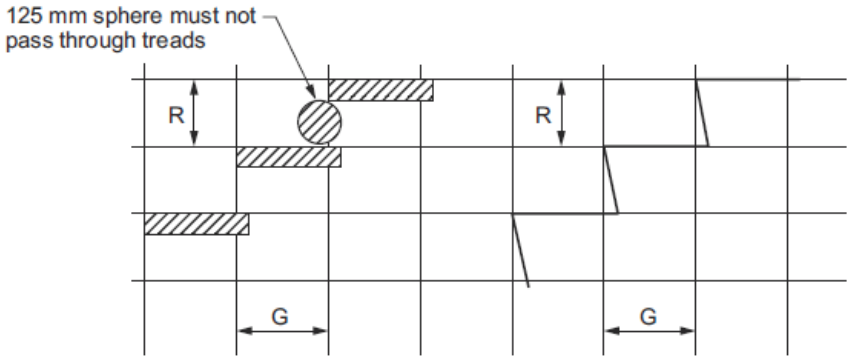
(2) *Going* and *riser* dimensions must be measured in accordance with Figure D3D14.

(3) The *going* in tapered treads (except *winders* in lieu of a quarter or half *landing*) in a curved or spiral stairway is measured—

(a) 270 mm in from the outer side of the unobstructed width of the stairway if the stairway is less than 1 m wide (applicable to a non-*required* stairway only); and

(b) 270 mm from each side of the unobstructed width of the stairway if the stairway is 1 m wide or more.

Figure D3D14: Riser and going dimensions



Part D3 – Construction of exits

BCA Clause		Comment/s	Status
D3D15	Landings	In a stairway, landings having a maximum gradient of 1:50 may be used in any building to limit the number of risers in each flight and each landing must – (a) be not less than 750 mm long, and where this involves a change in direction, the length is measured 500 mm from the inside edge of the landing; and (b) have – (i) a surface with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013; or (ii) a strip at the edge of the landing with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013, where the edge leads to a flight below.	CRA

Table D3D15: Slip-resistance classification

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

Part D3 – Construction of exits

BCA Clause		Comment/s	Status
D3D16	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 by Part D4, 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 1428.1-2021; 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.	CRA
D3D17	Barrier to prevent falls	(1) A continuous barrier must be provided along the side of — (a) a roof to which general access is provided; and (b) a stairway or ramp; and (c) a floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and (d) any delineated path of access to a building, if the trafficable surface is 1 m or more above the surface beneath. (2) The requirements of (1) do not apply to— (a) the perimeter of a stage, rigging loft, loading dock or the like; or (b) areas referred to in D3D23; or (c) a retaining wall, unless the retaining wall forms part of, or is directly associated with a delineated path of access to a building from the road, or a delineated path of access between buildings; or (d) a barrier provided to an openable window covered by D3D29. (3) A barrier required by (1) must be constructed in accordance with D3D18, D3D19, D3D20 and, if a wire barrier is used, D3D21.	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D18	Heights of barriers	(1) The height of a barrier required by D3D17 must be not less than the following: (a) For stairways or ramps with a gradient of 1:20 or steeper — 865 mm. (b) For landings to a stair or ramp where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length — 865 mm. (c) For all other locations – 1m. (2) For a barrier provided under (1) — (a) barrier heights are measured vertically from the surface beneath, except that for stairways the height must be measured above the nosing line of the stair treads; and (b) a transition zone may be incorporated where the barrier height changes from 865 mm on a stair flight or ramp to 1 m at a landing or floor. *NOTE – The Australian Building Codes Board (ABCB) provides the guidance on the determination of barrier heights where a plinth or hob is able to be stepped on -* *https://www.abcb.gov.au/media/oembed?url=https%3A//www.youtube.com/watch%3Fv%3DxF_hHbtirSo%26list%3DPLeJrC7bSBsBwhGnM_m7F5UUhrU89IZTXq%26index%3D3&max_width=0&max_height=0&hash=vgBNdIfKi6N6euHL_DbDe3gHKCRcoALE_VNBexqwBPU*	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D19	Openings in barriers	(1) Except where allowed by (2), openings in a required barrier must not allow a 125 mm sphere to pass through. (2) In a fire-isolated stairway, fire-isolated ramp or other area used primarily for emergency purposes, openings in a required barrier— (a) must not allow a 300 mm sphere to pass through; or (b) where rails are used— (i) 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 rail and the floor of the landing, balcony or the like; and (ii) the opening between rails must not be more than 460 mm. (3) The requirements of (2) do not apply to external stairways or external ramps. (4) For a barrier provided under (1), the maximum 125 mm barrier opening for a stairway, such as a non-fire-isolated stairway, is measured above the nosing line of the stair treads. (5) Where a required barrier is fixed to the vertical face forming an edge of a landing, balcony, deck, stairway or the like, the opening formed between the barrier and the face must not exceed 40 mm. (6) For the purposes of (5), the opening is measured horizontally from the edge of the trafficable surface to the nearest internal face of the barrier.	CRA
D3D20	Barrier climbability	(1) A barrier required by D3D17, located on a floor more than 4 m above the surface beneath, must not incorporate horizontal or near horizontal elements that could facilitate climbing between 150 mm and 760 mm above the floor. (2) The requirements of (1) do not apply to – (a) fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, other than external stairways and external ramps; and (b) *Class 7* (other than carparks) and *Class 8* building parts.	CRA
D3D21	Wire barriers	Where a required barrier is constructed of wire, it is deemed to meet the requirement of D3D19(1) if it is constructed in accordance with the requirements of this clause.	Note

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D22	Handrails	(1) Handrails must— (a) be located along at least one side of the ramp or flight; and (b) be located along each side if the total width of the stairway or ramp is 2 m or more; and (c) in any other case, be fixed at a height of not less than 865 mm, measured above the nosings of stair treads and the floor surface of the ramp, landing or the like; and (d) be continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold; and (e) in a required exit serving an area required to be accessible, be designed and constructed to comply with clause 9 of AS 1428.1-2021. (2) Handrails required to assist people with a disability must be provided in accordance with D4D4. (3) Handrails to a stairway within a sole-occupancy unit in the *Class 2* parts of the building must— (a) be located along at least one side of the flight or ramp; and (b) be located along the full length of the flight or ramp, except in the case where a handrail is associated with a barrier, the handrail may terminate where the barrier terminates; and (c) have the top surface of the handrail not less than 865 mm vertically above the nosings of the stair treads or the floor surface of the ramp; and (d) have no obstruction on or above them that will tend to break a handhold, except for newel posts, ball type stanchions, or the like.	CRA
D3D23	Fixed platforms, walkways, stairways and ladders	A fixed platform, walkway, stairway, ladder and any going and riser, landing, handrail or barrier attached thereto may comply with AS 1657-2018 in lieu of D3D14, D3D16, D3D17, D3D18, D3D19, D3D20, D3D21 and D3D22 if it only serves — machinery rooms, boiler houses, lift-machine rooms, plant-rooms, and the like.	Note

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D24	Doorways and doors	(1) A doorway serving as a required exit or forming part of a required exit — (a) must not be fitted with a revolving door; and (b) must not be fitted with a roller shutter or tilt-up door unless - (i) it serves a Class 7 or 8 building part with a floor area not more than 200 m^2; and (ii) the doorway is the only required exit from the building or part; and (iii) it is held in the open position while the building or part is lawfully occupied; and (c) must not be fitted with a sliding door unless - (i) it leads directly to a road or open space; and (ii) the door is able to be opened manually under a force of not more than 110 N; and (d) if fitted with a door which is power-operated - (i) it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and (ii) if it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. (2) 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 or failure of the power source.	CRA
D3D25	Swinging doors	Swinging doors in a required exit or forming part of a required exit must be provided in accordance with the following - (a) must not encroach— (i) at any part of its swing by more than 500 mm on the required width (including any landings) of a required stairway, ramp or passageway if it is likely to impede the path of travel of the people already using the exit. (ii) when fully open, by more than 100 mm on the required width of the required exit; and (b) must swing in the direction of egress unless - (i) it serves a building or part with a floor area not more than 200 m^2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or (ii) it serves a sanitary compartment or airlock (in which case it may swing in either direction); and (c) must not otherwise impede the path or direction of egress.	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D26	Operation of latch	(1) A door in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by— (a) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and if serving an area required to be accessible by Part D4— (i) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and (ii) 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 35 mm and not more than 45 mm; or (b) a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor. (2) 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— (i) not less than 500 mm from an internal corner; and (ii) for a hinged door, between 1 m and 2 m from the door leaf in any position; and (iii) 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 S15C3 and S15C6 must identify the latch operation device. (3) The requirements of (1) and (2) do not apply to a door that— (a) serves a vault, strong-room, sanitary compartment, or the like; or (b) serves only, or is within a *Class 2* sole occupancy unit; or (c) serves only, or is within a sole-occupancy unit with a floor area not more than 200 m^2 in a *Class 7* or *8* part of the building; or (d) serves only, or is within a space which is otherwise inaccessible to persons at all times when the door is locked; or (e) is fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler system (other than a FPAA101D system) complying with Specification 17 or smoke, or any other detector system deemed suitable in accordance with AS 1670.1-2018 installed throughout the building, and is readily openable when unlocked.	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D27	Re-entry from fire-isolated exits	(1) Doors of a fire-isolated exit must not be locked from the inside - in a fire-isolated exit serving any storey above an effective height of 25 m, throughout the exit. (2) The requirements of (1) do not apply to a door fitted with a fail-safe device that automatically unlocks the door upon the activation of a fire alarm and— (a) on at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating that re-entry is available; or (b) an intercommunication system, or an audible or visual alarm system, operated from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and method of operation.	CRA
D3D28	Signs on doors	(1) A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to— (a) a required — (i) fire door providing direct access to a fire-isolated exit, except a door providing direct egress from a sole-occupancy unit in the *Class 2* parts of the building; and (ii) smoke door. (b) any door which is a— (i) fire door forming part of a horizontal exit; and (ii) smoke door that swings in both directions; and (iii) door leading from a fire isolated exit to a road or open space. (2) A sign required by (1)(a) must be fixed on the side of the door that faces a person seeking egress and, if the door is fitted with a device for holding it in the open position, either a sign must be fixed on the wall adjacent to the doorway, or signs must be fixed to both sides of the door. (3) A sign required by (1)(b) must be fixed on each side of the door. (4) A sign referred to in (1) must be in capital letters not less than 20 mm high in a colour contrasting with the background and state the following - (a) For an automatic door held open by an automatic hold-open device— FIRE SAFETY DOOR — DO NOT OBSTRUCT (b) For a self-closing door— DO NOT OBSTRUCT DO NOT KEEP OPEN FIRE SAFETY DOOR (c) For a door discharging from a fire-isolated exit— FIRE SAFETY DOOR — DO NOT OBSTRUCT	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D29	Protection of openable windows	(1) A window opening must be provided with protection, if the floor below the window is 2 m or more above the surface beneath in— a bedroom in the *Class 2* parts of the building. (2) Where the lowest level of the window opening is less than 1.7 m above the floor, a window opening covered by (1) must comply with the following - (a) The openable portion of the window must be protected with— (i) a device capable of restricting the window opening; or (ii) a screen with secure fittings. (b) A device or screen required by (a) must— (i) not permit a 125 mm sphere to pass through the window opening or screen; and (ii) resist an outward horizontal action of 250 N against the— (A) window restrained by a device; or (B) screen protecting the opening; and (iii) have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden. (3) A barrier with a height not less than 865 mm above the floor is required to an openable window— (a) in addition to window protection, when a child resistant release mechanism is required by (2)(b)(iii); and (b) where the floor below the window is 4 m or more above the surface beneath if the window is not covered by (1). (4) A barrier covered by (3) must not— (a) permit a 125 mm sphere to pass through it; and (b) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing.	CRA

Part D3 – Construction of exits			
BCA Clause		**Comment/s**	**Status**
D3D30	Timber stairways: Concession	(1) Notwithstanding D3D3(a), timber treads, risers, landings and associated supporting framework within a required fire-isolated stairway or fire-isolated passageway may be constructed from fire-protected timber in accordance with C2D13— (a) if the timber— (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m^3 at a moisture content of 12%; and (b) subject to— (i) the building being protected throughout by a sprinkler system (other than a FPAA101D system) complying with Specification 17 which extends to within the fire-isolated enclosure; and (ii) fire protection being provided to the underside of stair flights and landings located immediately above a landing level which— (A) is at or near the level of egress; or (B) provides direct access to a carpark. (2) Fire protection required by (1) must be not less than one layer of 13 mm fire-protective grade plasterboard fixed in accordance with the system requirements for a fire-protective covering.	Note

SECTION E: SERVICES AND EQUIPMENT			
Part E1 – Firefighting equipment			
BCA Clause		**Comment/s**	**Status**
E1D2	Fire hydrants	The fire brigade booster assembly is proposed to be located remote from the building along the Middleton Road frontage, however the principal pedestrian entrance to the building is unable to be determined on the basis the building is provided with multiple pedestrian entrances. Notwithstanding the above, the building is required to be provided with a fire hydrant system complying with AS2419.1-2021.	DNC / PPS
E1D3	Fire hose reels	(1) A fire hose reel system complying with AS2441-2005 must be provided to serve the whole building, excluding the *Class 2 parts*. (2) In achieving system coverage, one or a combination of the following criteria for individual internally located fire hose reels must be met in determining the layout of any fire hose reel system - (a) Fire hose reels must be located adjacent to an internal fire hydrant. except that a fire hose reel need not be located adjacent to every fire hydrant, provided system coverage can be achieved. (b) Fire hose reels must be located within 4 m of an exit, except that a fire hose reel need not be located adjacent to every exit, provided system coverage can be achieved. (c) Where system coverage is not achieved by compliance with (a) and (b), additional fire hose reels may be located in paths of travel to an exit to achieve the required coverage. (3) 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 – (a) doorways in walls referred to in C3D13 or C3D14 separating equipment or electrical supply systems. (b) doorway openings to shafts referred to in C4D14.	CRA
E1D4	Sprinklers	The fire brigade booster assembly is proposed to be located remote from the building along the Middleton Road frontage, however the principal pedestrian entrance to the building is unable to be determined on the basis the building is provided with multiple pedestrian entrances. Notwithstanding the above, a sprinkler system must – (a) be installed in a building or part of a building when required by E1D5 to E1D13 as applicable; and (b) comply with Specification 17 and Specification 18 as applicable.	DNC / PPS
E1D5	Where sprinklers are required: all classifications	Sprinklers are required throughout the whole building.	CRA

Part E1 – Firefighting equipment			
BCA Clause		**Comment/s**	**Status**
E1D6	Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	Not applicable.	N/A
E1D7	Where sprinklers are required: Class 3 building used as a residential care building	Not applicable.	N/A
E1D8	Where sprinklers are required: Class 6 building	Not applicable.	N/A
E1D9	Where sprinklers are required: Class 7a building, other than an open-deck carpark	The *Class 7a* carpark of the building is to be provided with sprinklers due to the provision of more than 40 vehicles are accommodated within the fire compartment.	CRA
E1D10	Where sprinklers are required: Class 9a health-care building used as a residential care building, Class 9c buildings	Not applicable.	N/A
E1D11	Where sprinklers are required: Class 9b buildings	Not applicable.	N/A
E1D12	Where sprinklers are required: additional requirements	Not applicable.	N/A
E1D13	Where sprinklers are required: occupancies of excessive hazard	Not applicable.	N/A

Part E1 – Firefighting equipment			
BCA Clause		**Comment/s**	**Status**
E1D14	Portable fire extinguishers	(1) Portable fire extinguishers must be selected, located and distributed in accordance with Section 1, 2,3 and 4 of AS2444-2001. (2) Portable fire extinguishers provided in the *Class 2* parts must be – (a) an ABE type fire extinguisher; (b) a minimum size of 2.5kg; (c) distributed outside the sole occupancy unit – (i) to serve only the storey at which they are located; and (ii) so that the travel distance from the entry doorway of any sole occupancy unit to the nearest fire extinguisher is not more than 10m. (3) Portable fire extinguishers must be provided – (a) To cover Class AE or E fire risks associated with emergency services switchboards. (b) To cover Class F fire risks involving cooking oils and fats in kitchens. (c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not including that held in fuel tanks of vehicles). (d) To cover Class A fire risks associated with the *Class 2* parts of the building.	CRA
E1D15	Fire control centres	The fire control room is proposed to be located in a position that does not provide access from the front entrance of the building as required by S19C9(2)(a), noting that the building is provided with multiple pedestrian entrances and the front entrance of the building is unable to be determined. Notwithstanding the above, a fire control centre and fire control room must be provided in accordance with the following - (a) A fire control centre, located within the fire control room, must be provided in accordance with S19C3 to S19C6 of the BCA; and (b) A fire control room must be provided in accordance with S19C7 to S19C13 of the BCA.	DNC / PPS

The following is provided as a summary of requirements outlined under Specification 19 of the BCA for the fire control centre and fire control room –

S19C3 – Purpose and content of fire control centre

The fire control centre must—

(a) provide an area from which fire-fighting operations or other emergency procedures can be directed or controlled; and

(b) contain controls, panels, telephones, furniture, equipment and the like associated with the required fire services in the building; and

(c) not be used for any purpose other than the control of—
  (i) fire-fighting activities; and
  (ii) other measures concerning the occupant safety or security.

S19C4 – Location of fire control centre

The fire control centre must be so located in the building that egress from any part of its floor, to a road or open space, does not involve changes in level which in aggregate exceed 300 mm.

S19C5 – Equipment not permitted within fire control centre

An internal combustion engine, pumps, sprinkler control valves, pipes and pipe fittings must not be located in a fire control centre, but may be located in rooms accessed through the fire control centre.

S19C6 – Ambient sound level for a fire control centre

(1) The ambient sound level within the fire control centre measured when all fire safety equipment is operating in the manner in which it operates in an emergency must not exceed 65 dB(A).

(2) The measurement must be taken for a sufficient time to characterise the effects of all sound sources.

(3) Where there is not a great variation in noise level, a measurement time of 60 seconds may be used.

S19C7 – Construction of a fire control room

The fire control centre must be in a separate room where—

(a) the enclosing construction is of concrete, masonry or the like, sufficiently impact resistant to withstand the impact of any likely falling debris, and with an FRL of not less than 120/120/120; and

(b) any material used as a finish, surface, lining or the like within the room complies with the requirements of Specification 7; and

(c) services, pipes, ducts and the like that are not directly required for the proper functioning of the fire control room do not pass through it; and

(d) openings in the walls, floors or ceiling which separate the room from the interior of the building are confined to doorways, ventilation and other openings for services necessary for the proper functioning of the facility.

S19C8 – Protection of openings in a fire control room

Openings permitted by S19C7 must be protected as follows -

(a) Openings for windows, doorways, ventilation, service pipes, conduits and the like, in an external wall of the building that faces a road or open space, must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4.

(b) Openings in the floors, ceilings and internal walls enclosing a fire control room must, except for doorways, be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4.

(c) A door opening in the internal walls enclosing a fire-control room, must be fitted with a self-closing –/120/30 smoke sealed fire door.

(d) Openings associated with natural or mechanical ventilation must—

  (i) not be made in any ceiling or floor immediately above or below the fire control room; and

  (ii) be protected by a –/120/– fire damper if the opening is for a duct through a wall required to have an FRL, other than an external wall.

S19C9 - Doors to a fire control room

(1) Required doors to the fire control room must open into the room, be lockable and located so that persons using escape routes from the building will not obstruct or hinder access to the room.

(2) The fire control room must be accessible via two paths of travel—

  (a) one from the front entrance of the building; and

  (b) one direct from a public place or fire-isolated passageway which leads to a public place and has a door with an FRL of not less than –/120/30.

S19C10 – Size and contents of a fire control room

(1) The fire control centre must contain -

  (a) a Fire Indicator Panel and necessary control switches and visual status indication for all required fire pumps, smoke control fans and other required fire safety equipment installed in the building; and

  (b) a telephone directly connected to an external telephone exchange; and

  (c) a blackboard or whiteboard not less than 1200 mm wide x 1000 mm high; and

  (d) a pin-up board not less than 1200 mm wide x 1000 mm high; and

  (e) a raked plan layout table of a size suitable for laying out the plans provided under (f); and

  (f) colour-coded, durable, tactical fire plans.

(2) In addition, a fire control room may contain—
(a) master emergency control panels, lift annunciator panels, remote switching controls for gas or electrical supplies and emergency generator backup; and
(b) building security, surveillance and management systems if they are completely segregated from all other systems.

(3) A fire control room must—
(a) have a floor area of not less than 10 m^2 and the length of any internal side must be not less than 2.5 m; and
(b) if only the minimum prescribed equipment is installed — have a net floor area of not less than 8 m^2 with a clear space of not less than 1.5 m^2 in front of the Fire Indicator Panel; and
(c) if additional equipment is installed — have an additional area of not less than 2 m^2 net floor area for each additional facility and a clear space of not less than 1.5 m^2 in front of each additional control or indicator panel; and
(d) be constructed such that the area required for any path of travel through the room to other areas is provided in addition to the requirements (b) and (c).

S19C11 – Ventilation and power supply for a fire control room

(1) The fire control room must be ventilated by—
(a) natural ventilation from a window or doorway in an external wall of the building which opens directly into the fire control room from a road or open space; or
(b) a pressurisation system that only serves the fire control room, and—
(i) is installed in accordance with AS 1668.1-2015 as though the room is a fire-isolated stairway; and
(ii) is activated automatically by operation of the fire alarm, or sprinkler system complying with Specification 17, installed in the building and manually by an over-riding control in the room; and
(iii) provides a flow of fresh air through the room of not less than 30 air changes per hour when the system is operating and any door to the room is open; and
(iv) has fans, motors and ductwork that form part of the system but not contained within the fire control room protected by enclosing construction with an FRL of not less than 120/120/120; and
(v) has any electrical supply to the fire control room or equipment necessary for its operation connected to the supply side of the main disconnection switch for the building.

		(2) No openable devices, other than necessary doorways, pressure controlled relief louvres and windows that are openable by a key, must be constructed in the fire control room. *S19C12 – Sign for a fire control room* The external face of the door to the fire control room must have a sign with the words – FIRE CONTROL ROOM in letters not less 50mm high and of a colour which contrasts with that of the background. *S19C13 – Lighting for a fire control room* Emergency lighting in accordance with the Deemed-to-Satisfy Provisions of Part E4 must be provided in the fire control room, except that an illumination level of not less than 400 lux must be maintained at the surface of the plan table.	
Part E1 – Firefighting equipment			
BCA Clause		**Comment/s**	**Status**
E1D16	Fire precautions during construction	In a building under construction – (a) not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit; and (b) after the building has reached an effective height of 12 m— (i) the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storeys; and (ii) any required booster connections must be installed.	Note
E1D17	Provision for special hazards	Suitable additional provision must be made if special problems of fighting fire could arise because of – (a) the nature or quantity of materials stored, displayed or used in a building or on the allotment; or (b) the location of the building in relation to a water supply for fire-fighting purposes.	Note

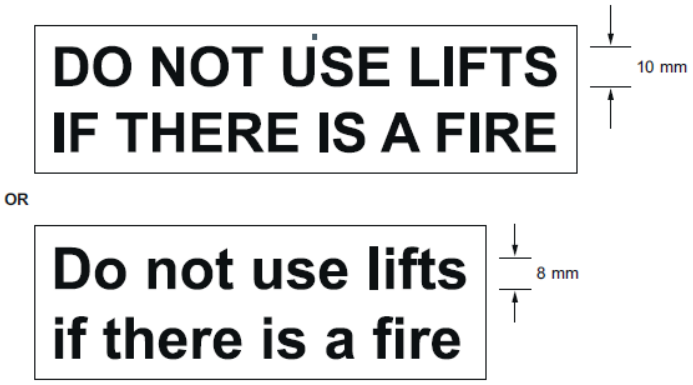
Part E2 – Smoke hazard management			
BCA Clause		**Comment/s**	**Status**
E2D3	General requirements	(1) An air-handling system which does not form part of a smoke hazard management system in accordance with E2D4 to E2D20 and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must, subject to (2), be designed and installed— (a) to operate as a smoke control system in accordance with AS 1668.1-2015; or (b) such that it— (i) incorporates smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and (ii) is 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 1670.1-2018. (2) For the purposes of (1), each sole-occupancy unit in the *Class 2* building is treated as a separate fire compartment. (3) Miscellaneous air-handling systems covered by Sections 5 and 6 of AS 1668.1-2015 serving more than one fire compartment (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with these Sections of the Standard. (4) A smoke detection system must be installed in accordance with S20C6 to operate AS 1668.1-2015 systems that are provided for zone pressurisation and automatic air pressurisation for fire-isolated exits.	CRA
E2D4	Fire-isolated exits	The required fire isolated stairways serving any storey above an effective height of 25m must be provided with – (a) an automatic air pressurisation system for fire-isolated exits in accordance with AS 1668.1-2015; or (b) open access ramps or balconies in accordance with D3D6. *NOTE – An automatic air pressurization system for a fire isolated exit must serve the entire exit.*	CRA
E2D5	Buildings more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of a building	An automatic smoke detection and alarm system complying with Specification 20 of the BCA must be provided to the *Class 2* parts of the building.	CRA

Part E2 – Smoke hazard management			
BCA Clause		**Comment/s**	**Status**
E2D6	Buildings more than 25m in effective height: Class 5, 6, 7b, 8 or 9b buildings	(1) The building must be provided with a zone pressurisation system between vertically separated fire compartments in accordance with AS1668.1-2015. (2) The requirements of (1) do not apply to the building that has a fire compartment containing a *Class 7b* or *Class 8* part where there is only one fire compartment containing these classifications in the otherwise Class 2 building. (3) For the purposes of (1), vertically separated fire compartments' are fire compartments above and below each other, and not fire compartments within the same storey.	CRA
E2D7	Buildings more than 25m in effective height: Class 9a buildings	Not applicable.	N/A
E2D8	Buildings not more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of a building	Not applicable.	N/A
E2D9	Buildings not more than 25m in effective height: Class 5, 6, 7b 8 and 9b buildings	Not applicable.	N/A
E2D10	Buildings not more than 25m in effective height: large isolated buildings subject to C3D4	Not applicable.	N/A
E2D11	Buildings not more than 25m in effective height: Class 9a and 9c buildings	Not applicable.	N/A
E2D12	Class 7a buildings	Where a mechanical ventilation system is provided within the *Class 7a* carpark parts in accordance with AS1668.2-2012, the mechanical ventilation system must comply with clause 5.5 of AS1668.1-2015.	CRA
E2D13	Basements (other than Class 7a buildings)	Not applicable.	N/A

Part E2 – Smoke hazard management			
BCA Clause		**Comment/s**	**Status**
E2D14	Class 6 buildings – in fire compartments more than 2000m^2: Class 6 building (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	Not applicable.	N/A
E2D15	Class 6 buildings – in fire compartments more than 2000m^2: Class 6 building (containing an enclosed common walkway or mall)	Not applicable.	N/A
E2D16	Class 9b – assembly buildings: all	Not applicable.	N/A
E2D17	Class 9b – assembly buildings: exhibition halls	Not applicable.	N/A
E2D18	Class 9b – assembly buildings: theatres and public halls	Not applicable.	N/A
E2D19	Class 9b – assembly buildings: theatres and public halls (not listed in E2D18) including lecture theatres and cinema/auditorium complexes	Not applicable.	N/A
E2D20	Class 9b assembly buildings: other assembly buildings (not listed in E2D16 to E2D19)	Not applicable.	N/A
E2D21	Provision for special hazards	Additional smoke hazard management measures may be necessary due to the— (a) special characteristics of the building; or (b) special function or use of the building; or (c) special type or quantity of materials stored, displayed or used in a building; or (d) special mix of classifications within a building or fire compartment, which are not addressed in E2D4 to E2D20.	Note

Part E3 – Lift installations			
BCA Clause		**Comment/s**	**Status**
E3D2	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification 24 of the BCA.	CRA
E3D3	Stretcher facility in lifts	The passenger lift internally located within Unit 1506, that extends between level 15 and level 16 is not proposed to be provided with a stretcher facility. Notwithstanding the above, the following must be complied with - (1) A stretcher facility must be provided in at least one emergency lift required by E3D5. (2) A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level.	DNC / PPS
E3D4	Warning against use of lifts in fire	(1) A warning sign must be displayed where it can be readily seen near every call button for a passenger lift or group of lifts throughout a building. (2) Each warning sign required by (1) must comply with the details and dimensions of Figure E3D4 and consist of - (a) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or (b) letters incised or inlaid directly into the surface of the material forming the wall.	CRA

Figure E3D4: Warning sign for passenger lifts



Part E3 – Lift installations			
BCA Clause		**Comment/s**	**Status**
E3D5	Emergency lifts	(1) At least one emergency lift contained within a fire resisting shaft in accordance with C3D11 must be installed in the building. (2) An emergency lift may be combined with a passenger lift and must serve those storeys served by the passenger lift so that all storeys of the building served by passenger lifts are served by at least one emergency lift. (3) Where two or more passenger lifts are installed and serve the same storeys, - (a) at least two emergency lifts must be provided to serve those storeys; and (b) if located within different shafts, at least one emergency lift must be provided in each shaft.	CRA
E3D6	Landings	Access and egress to and from lift well landings must comply with Parts D2, D3 and D4.	CRA
E3D9	Fire service controls	The passenger lifts must be provided with – (a) A fire service recall control switch complying with E3D11; and (b) A lift care fire service drive control switch complying with E3D12.	CRA
E3D10	Residential care buildings	Not applicable.	N/A
E3D11	Fire service recall control switch	(1) The passenger lifts must be provided with one fire service recall control switch required by E3D9 that activates the fire service recall operation at (6). (2) The switch required by (1) must— (a) be located at the landing nominated by the appropriate authority; and (b) be labelled “FIRE SERVICE” in indelible white lettering on a red background; and (c) have two positions with an “OFF” and an “ON” position identified; and (d) be operable only by the use of a key that is removable in either the “OFF” position or the “ON” position. (3) Adhesive labels must not be used for compliance with (2)(b) and (c). (4) The key in (2)(d) must be able to turn all fire service recall control switches in the building and must have a different key combination to other keys used for the lift in the building. (5) The fire service recall operation must be activated by – (a) switching the fire service recall control switch in (1) to “ON”; or (b) a signal from a fire management system approved by the appropriate authority.	CRA

(6) The activation of the fire service recall operation at (5) must—

(a) cancel all registered car and landing calls; and

(b) inactivate all door reopening devices that may be affected by smoke; and

(c) ensure the lift car travelling toward the nominated floor continue to the nominated floor without stopping; and

(d) ensure the lift car travelling away from the nominated floor stop at or before the next available floor without opening the doors (either automatically or by the door open button), reverse direction and travel without stopping to the nominated floor; and

(e) for the lift stopped at a floor other than the nominated floor, close the doors and travel without stopping to the nominated floor; and

(f) ensure the lift stays at the nominated floor with doors open; and

(g) permit the lift to return to normal service if the fire service recall control switch at (1) is switched to the "OFF" position during or after the fire service recall operation.

(7) The requirements of (6) do not apply to a lift on inspection service or when the lift car fire service control switch required by E3D12 is in the "ON" position.

(8) Lift having manual controls must signal an alert to the lift for the lift to return to the nominated floor containing the recall switch that activated the signal.

Part E3 – Lift installations			
BCA Clause		**Comment/s**	**Status**
E3D12	Lift car fire service drive control switch	(1) The passenger lifts must be provided with a lift car fire service drive control switch required by E3D9 must be activated from within the lift car. (2) The switch must— (a) be located between 600 mm and 1500 mm above the lift car floor; and (b) be labelled "FIRE SERVICE" by indelible white lettering on a red background; and (c) have two positions with an "OFF" and an "ON" position identified; and (d) operate only by the use of a key that is removable in either the "OFF" position or the "ON" position. (3) Adhesive labels must not be used for compliance with (2)(b) or (c). (4) When the lift car fire service drive control switch at (1) is turned to the "ON" position, the lift must— (a) not respond to the fire service recall control switch; and (b) cancel all registered lift car and landing calls; and (c) override all lift car call access control systems; and (d) inactivate all door reopening devices that may be affected by smoke; and (e) allow the registration of lift car call by lift car call buttons, however the lift doors must not close in response to the registration of lift car calls; and (f) activate door closing by constant pressure being applied on the "door close" button unless the button is released before the doors are fully closed, in which case the doors must reopen and any registered lift car calls must be cancelled; and (g) when the doors are closed, move the lift in response to registered lift car calls while allowing additional lift car calls to also be registered; and (h) travel to the first possible floor in response to registered lift car calls and cancel all registered lift car calls after the lift stops; and (i) ensure doors do not open automatically, rather by constant pressure being applied on the "door open" button unless the button is released before the doors are fully open, in which case the doors must re-close. (5) The requirements of (4) do not apply to a lift operating on inspection service.	CRA

		(6) A multi-deck lift installation must have systems in place that— (a) are able to communicate to the fire officer that the fire service drive control switch will not operate until all decks have been cleared of passengers; and (b) ensure there is an appropriate method of clearing all deck landings of passengers; and (c) maintain all doors to deck landings not containing the fire service control switch closed and inoperative while the lift is on fire service drive control.	
Part E4 – Visibility in an emergency, exit signs and warning systems			
BCA Clause		**Comment/s**	**Status**
E4D2	Emergency lighting requirements	An emergency lighting system must be installed – (a) in every fire isolated stairway or fire isolated passageway; and (b) in every passageway, corridor, hallway, or the like, that is part of the path of travel to an exit, throughout the building; and (c) in every required non-fire isolated stairway; and (d) in the fire control centre.	CRA
E4D3	Measurement of distance	Distances, other than vertical rise, must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	Note
E4D4	Design and operation of emergency lighting	Every required emergency lighting system must comply with AS/NZS 2293.1-2018.	CRA
E4D5	Exit signs	An exit sign must be clearly visible to persons approaching the exit, and must be installed on, above or adjacent to each – (a) door providing direct egress from a storey to – (i) an enclosed stairway, passageway or ramp serving as a required exit; and (ii) an external stairway, passageway or ramp serving as a required exit; and (iii) an external access balcony leading to a required exit; and (b) door from an enclosed passageway at the level of discharge to a road or open space; and (c) horizontal exit; and (d) door serving as, or forming part, of a required exit in a storey to be provided with emergency lighting in accordance with E4D2.	CRA
E4D6	Direction signs	If an exit is not readily apparent to persons occupying or visiting the building, then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.	CRA

Part E4 – Visibility in an emergency, exit signs and warning systems			
BCA Clause		**Comment/s**	**Status**
E4D7	Class 2 and 3 buildings and Class 4 parts: Exemptions	E4D5 does not apply to— (a) a *Class 2* building in which every door referred to is clearly and legibly labelled on the side remote from the exit or balcony – (i) with the word "EXIT" in capital letters 25 mm high in a colour contrasting with that of the background; or (ii) by some other suitable method; and (b) an entrance door of a sole-occupancy unit in the *Class 2* part of the building.	Note
E4D8	Design and operation of exit signs	Every required exit sign must comply with— (a) comply with – (i) AS/NZS 2293.1-2018; or (ii) for a photoluminescent exit sign, Specification 25 of the BCA; and (b) be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.	CRA
E4D9	Emergency warning and intercom systems	An emergency warning and intercom system complying, where applicable, with AS1670.4-2018 must be installed throughout the building.	CRA

SECTION F: HEALTH AND AMENITY			
Part F1 – Damp and weatherproofing			
BCA Clause		**Comment/s**	**Status**
F1D3	Stormwater drainage	Stormwater drainage must comply with AS/NZS 3500.3-2021.	CRA
F1D4	Exposed joints	Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must – (a) be protected in accordance with Section 2.9 of AS 4654.2-2012; and (b) not be located beneath or run through a planter box, water feature or similar part of the building.	CRA
F1D5	External above ground membranes	A roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane – (a) consisting of materials complying with AS 4654.1-2012; and (b) designed and installed in accordance with AS 4654.2-2012.	CRA
F1D6	Damp-proofing	(1) Moisture from the ground must be prevented from reaching— (a) the lowest floor timbers and the walls above the lowest floor joists; and (b) the walls above the damp-proof course; and (c) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. (2) Where a damp-proof course is provided, it must consist of— (a) a material that complies with AS/NZS 2904-1995; or (b) impervious sheet material in accordance with AS 3660.1-2014. (3) The following buildings need not comply with (1) - (a) A *Class 7* or *Class 8* part of the building where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes.	CRA
F1D7	Damp-proofing of floors on ground	(1) 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. (2) The requirements of (1) do not apply where— (a) weatherproofing is not required; or (b) the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means.	CRA
F1D8	Subfloor ventilation	Not applicable.	N/A

Part F2 – Wet areas and overflow protection			
BCA Clause		**Comment/s**	**Status**
F2D2	Wet area construction	Building elements in wet areas such as in a sink compartment within the subject premises must— (a) be water resistant or waterproof in accordance with Specification 26; and (b) comply with AS 3740-2021.	CRA
F2D3	Rooms containing urinals	(1) Where a slab or stall type urinal is installed— (a) the floor surface of the room containing the urinal must be an impervious material; and (i) where no step is installed, must— (A) be graded to the urinal channel for a distance of 1.5 m from the urinal channel; and (B) have the remainder of the floor graded to a floor waste; and (ii) where a step is installed— (A) the step must have an impervious surface and be graded to the urinal channel; and (B) the floor behind the step must be graded to a floor waste; and (b) the junction between the floor surface and the urinal channel must be impervious. (2) Where a wall hung urinal is installed— (a) the wall must be surfaced with impervious material extending from the floor to not less than 50 mm above the top of the urinal and not less than 225 mm on each side of the urinal; and (b) the floor must be surfaced with an impervious material and be graded to a floor waste. (3) In a room with timber or steel-framed walls and containing a urinal— (a) the wall must be surfaced with an impervious material extending from the floor to not less than 100 mm above the floor surface; and (b) the junction of the floor surface and the wall surface must be impervious.	Note
F2D4	Floor wastes	Where a floor waste is installed – (a) the minimum continuous fall of a floor plane to the waste must be 1:80; and (b) the maximum continuous fall of a floor plane to the waste must be 1:50.	CRA

Part F3 – Roof and wall cladding			
BCA Clause		**Comment/s**	**Status**
F3D2	Roof coverings	A roof must be covered with – (a) roof tiles complying with AS 2049-2002, fixed in accordance with AS 2050-2018; or (b) metal sheet roofing complying with AS 1562.1-2018; or (c) plastic sheet roofing designed and installed in accordance with AS 1562.3-2017; or (d) terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS 4597-1999, except in cyclonic areas; or (e) an external waterproofing membrane complying with F1D5.	CRA
F3D3	Sarking	Sarking type material used for weatherproofing of roofs and walls must comply with AS4200.1-2017 and AS4200.2-2017.	CRA
F3D4	Glazed assemblies	(1) The following glazed assemblies in an external wall, must comply with AS2047-2014 requirements for resistance to water penetration - (a) Windows. (b) Sliding and swinging glazed doors with a frame, including French and bi-fold doors with a frame. (c) Adjustable louvres. (d) Shopfronts. (e) Window walls with one-piece framing (2) The following buildings need not comply with (1) - (a) A *Class 7* or *Class 8* building part where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of the other part of the building. (3) The following glazed assemblies need not comply with (1) - (a) All glazed assemblies not in an external wall. (b) Revolving doors. (c) Fixed louvres. (d) Skylights, roof lights and windows in other than the vertical plane. (e) Sliding and swinging glazed doors without a frame. (f) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047-2014. (g) Second-hand windows, re-used windows and recycled windows. (h) Heritage windows.	CRA

Part F3 – Roof and wall cladding			
BCA Clause		**Comment/s**	**Status**
F3D5	Wall cladding	(1) External wall cladding must comply with one or a combination of the following - (a) Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700-2018. (b) Autoclaved aerated concrete: AS 5146.3-2018. (c) Metal wall cladding: AS 1562.1-2018. (2) The following buildings need not comply with (1) - (a) A *Class 7* or *Class 8* building part where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of the other part of the building.	CRA
Part F4 – Sanitary and other facilities			
BCA Clause		**Comment/s**	**Status**
F4D2	Facilities in residential buildings	The following facilities must be provided within the *Class 2* parts – (1) Within each sole-occupancy unit, provide— (a) a kitchen sink and facilities for the preparation and cooking of food; and (b) a bath or shower; and (c) a closet pan; and (d) a washbasin. (2) For laundry facilities, provide either— (a) in each sole-occupancy unit— (i) clothes washing facilities, comprising at least one washtub and a space for a washing machine; and (ii) clothes drying facilities comprising clothes line or a hoist with not less than 7.5 m of line, or space for one heat operated drying cabinet or appliance in the same room as the clothes washing facilities; or (b) a separate laundry for each 4 sole-occupancy units, or part thereof, that must comprise— (i) clothes washing facilities, comprising at least one washtub and a space for a washing machine; and (ii) clothes drying facilities comprising clothes line or a hoist with not less than 7.5 m of line per sole-occupancy unit, or space for one heat operated drying cabinet or appliance. (3) For the purposes of (a) and (b), a kitchen sink or washbasin must not be counted as a laundry washtub.	CRA
F4D3	Calculation of number of occupants and facilities	Clause relates to method of calculating number of occupants and sanitary facilities.	Note

Part F4 – Sanitary and other facilities			
BCA Clause		**Comment/s**	**Status**
F4D4	Facilities in Class 3 to 9 buildings	(1) Except where permitted by (2), F4D5(a) and F4D5(b), separate sanitary facilities for males and females must be provided for *Class 8* part in accordance with Table F4D4b, as appropriate. (2) If not more than 10 people are employed, a unisex facility may be provided instead of separate facilities for each sex. (3) Adequate means of disposal of sanitary products must be provided in sanitary facilities for use by females. *NOTE – The following sanitary facilities have been assessed as being for use by the Class 2 occupants as part of the proposed communal areas associated with and ancillary to the Class 2 parts –* *(a) Lobby B2 on the ground floor* *(b) Wellness Lobby, Yoga Studio, Pool area on the ground floor* *(c) Lobby B1 on Level 7* *(d) Lobby C2 on Level 10* *(e) Communal Terrace area on Level 18*	CRA
F4D8	Construction of sanitary compartments	(1) Sanitary compartments must have doors and partitions that separate adjacent compartments and extend – (a) from floor level to the ceiling in the case of a unisex facility; or (b) 1.8m above the floor. (2) The door to a fully enclosed sanitary compartment must— (a) open outwards; or (b) slide; or (c) be readily removable from the outside of the sanitary compartment (i.e. lift off hinges). unless there is a clear space of at least 1.2 m, between the closet pan within the sanitary compartment and the doorway.	CRA
F4D9	Interpretation: urinals and washbasins	(1) A urinal may be— (a) an individual stall or wall-hung urinal; or (b) each 600 mm length of a continuous urinal trough; or (c) a closet pan used in place of a urinal. (2) A washbasin may be— (a) an individual basin; or (b) a part of a hand washing trough served by a single water tap.	Note
F4D10	Microbial (legionella) control	Not applicable. This clause is deleted from the BCA in NSW, as the installation of hot water, warm water and cooling water systems (and their operation and maintenance) is regulated in the Public Health Regulation, 2012, under the Public Health Act, 2010.	N/A

Part F4 – Sanitary and other facilities			
BCA Clause		**Comment/s**	**Status**
F4D11	Waste management	Not applicable	N/A

Part F5 – Room heights			
BCA Clause		**Comment/s**	**Status**
F5D2	Heights of rooms and other spaces	The height clearance below the driveway ramp at Basement 02 is identified as being less than 2.1m, being not less than 1.15m. Notwithstanding the above, the following must be complied with - (1) The heights of rooms and other spaces in the *Class 2* parts must be not less than - (a) For a kitchen laundry or the like – 2.1m; (b) For a corridor, passageway or the like – 2.1m; (c) For a habitable room, excluding a kitchen – 2.4m; (d) In a habitable room, or space within a habitable room, with a sloping ceiling or projections below the ceiling line— (i) 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 (ii) in other rooms — a height of not less than 2.4 m for not less than two-thirds of the floor area of the room or space; and (e) In 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. (f) For a bathroom, sanitary compartment, store room, or the like - 2.1m; (g) Above a stairway, ramp, landing or the like – 2m. (2) The heights of rooms and other spaces in the *Class 7 and Class 8* parts must be not less than - (a) For a sanitary compartment, airlock, carparking areas, store room or the like – 2.1m; (b) For a commercial kitchen – 2.4m; (c) Above a stairway, ramp, landing or the like – 2m; (d) For a corridor, passageway or the like – 2.1m; (e) All other areas – 2.4m.	DNC / PPS

Part F6 – Light and ventilation			
BCA Clause		**Comment/s**	**Status**
F6D2	Provision of natural light	Provision for natural light must be provided to all habitable rooms to the *Class 2* parts in accordance with F6D3 and F6D4.	CRA
F6D3	Methods and extent of natural light	(1) Method of required natural light must be provided by— (a) windows, excluding roof lights, that— (i) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room; and (ii) 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 (b) roof lights, that— (i) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 3% of the floor area of the room; and (ii) are open to the sky; or (c) a proportional combination of windows and roof lights required by (a) and (b). (2) 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 not be less than a horizontal distance from that boundary or wall that is the greater of – (a) generally – 1m; (b) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill.	Note
F6D4	Natural light borrowed from adjoining room	(1) Natural light in a sole occupancy unit of the *Class 2* parts, may come through one or more glazed panels or openings from an adjoining room if— (a) both rooms are within the same sole-occupancy unit; and (b) the glazed panels or openings have an aggregate light transmitting area of not less than 10% of the floor area of the room to which it provides light; and (c) the adjoining room has— (i) windows, excluding roof lights, that— (A) have an aggregate light transmitting area of not less than 10% of the combined floor areas of both rooms; and (B) 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) roof lights, that— (A) have an aggregate light transmitting area of not less than 3% of the combined floor areas of both rooms; and (B) are open to the sky; or (iii) a proportional combination of windows and roof lights required by (i) and (ii). (2) The areas specified in (1)(b) and (c) may be reduced as appropriate if direct natural light is provided from another source.	Note

Part F6 – Light and ventilation			
BCA Clause		**Comment/s**	**Status**
F6D5	Artificial lighting	(1) Artificial lighting must be provided— (a) in required stairways, passageways, and ramps; and (b) If natural light of a standard equivalent to that required by F6D3 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency – (i) *Class 2 Parts* – to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; (ii) *Class 7 and Class 8 Parts* - to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. (2) The artificial lighting system must comply with AS/NZS 1680.0-2009.	CRA
F6D6	Ventilation of rooms	A habitable room, office, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have— (a) natural ventilation complying with F6D7; or (b) a mechanical ventilation or air-conditioning system complying with AS 1668.2-2012.	CRA
F6D7	Natural ventilation	Natural ventilation provided in accordance with F6D6(a) must consist of openings, windows, doors or other devices which can be opened— (a) with a ventilating area not less than 5% of the floor area of the room required to be ventilated; and (b) open to— (i) a suitably sized court, or space open to the sky; or (ii) an open verandah, carport, or the like; or (iii) an adjoining room in accordance with F6D8.	CRA

Part F6 – Light and ventilation			
BCA Clause		**Comment/s**	**Status**
F6D8	Ventilation borrowed from adjoining room	Natural ventilation to a room may come through a window, opening, door or other device from an adjoining room if both rooms are within the same sole-occupancy unit or the enclosed verandah is common property, and – (a) In the *Class 2 parts* of the building - (i) the room to be ventilated is not a sanitary compartment; and (ii) the window, opening, door or other device has a ventilating area of not less than 5% of the floor area of the room to be ventilated; and (iii) the adjoining room has a window, opening, door or other device with a ventilating area of not less than 5% of the combined floor areas of both rooms. (b) In the *Class 7 and Class 8 parts* of the building - (i) the room to be ventilated is not a sanitary compartment; and (ii) the window, opening, door or other device has a ventilating area of not less than 10% of the floor area of the room to be ventilated, measured not more than 3.6 m above the floor; and (iii) the adjoining room has a window, opening, door or other device with a ventilating area of not less than 10% of the combined floor areas of both rooms. (c) The ventilating areas specified in (a) and (b) may be reduced as appropriate if direct natural ventilation is provided from another source.	CRA
F6D9	Restriction on location of sanitary compartments	A sanitary compartment must not open directly into – a kitchen or pantry.	Note
F6D10	Airlocks	If a sanitary compartment is prohibited under F6D9 from opening directly to a kitchen or pantry – in a sole-occupancy unit in the *Class 2 parts* of the building— (a) access must be by an airlock, hallway or other room; or (b) the sanitary compartment must be provided with mechanical exhaust ventilation.	CRA
F6D11	Carparks	The *Class 7a* carpark parts must have – (a) a system of mechanical ventilation complying with AS 1668.2-2012; or (b) a system of natural ventilation complying with Section 4 of AS 1668.4-2012.	CRA
F6D12	Kitchen local exhaust ventilation	Not applicable.	N/A

Part F7 – Sound transmission and insulation			
BCA Clause		**Comment/s**	**Status**
F7D2	Application of Part	The Deemed-to-Satisfy Provisions of this Part apply to the *Class 2* parts of the building.	Note
F7D3	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 (Rw) or weighted sound reduction index with spectrum adaptation term (Rw + Ctr) determined in accordance with AS/NZS ISO 717.1-2004 using results from laboratory measurements; or (b) comply with Specification 28 of the BCA.	Note
F7D4	Determination of impact sound insulation ratings	(1) A floor in a building required to have an impact sound insulation rating must— (a) have the required value for weighted normalised impact sound pressure level (Ln,w) determined in accordance with AS ISO 717.2-2004 using results from laboratory measurements; or (b) comply with Specification 28. (2) A wall in a building required to have an impact sound insulation rating must, for the *Class 2* parts, be of discontinuous construction; and (3) For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and (a) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (b) for other than masonry, there is no mechanical linkage between leaves except at the periphery.	CRA
F7D5	Sound insulation rating of floors	A floor in the *Class 2* parts must have an Rw + Ctr (airborne) not less than 50 and an Ln,w (impact) not more than 62 if it separates- (a) sole-occupancy units; or (b) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification.	CRA

Part F7 – Sound transmission and insulation			
BCA Clause		**Comment/s**	**Status**
F7D6	Sound insulation rating of walls	(1) A wall in the *Class 2* parts must— (a) have an Rw + Ctr (airborne) not less than 50, if it separates sole-occupancy units; and (b) have an Rw (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 (c) comply with F7D4(2) (i.e., discontinuous construction) if it separates— (i) 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 (ii) a sole-occupancy unit from a plant room or lift shaft. (2) A door may be incorporated in a wall in a *Class 2* part that separates a sole-occupancy unit from a stairway, public corridor, public lobby or the like, provided the door assembly has an Rw not less than 30. (3) Where a wall required to have sound insulation has a floor above, the wall must continue to— (a) the underside of the floor above; or (b) a ceiling that provides the sound insulation required for the wall. (4) Where a wall required to have sound insulation has a roof above, the wall must continue to— (a) the underside of the roof above; or (b) a ceiling that provides the sound insulation required for the wall.	CRA
F7D7	Sound insulation rating of internal services	(1) 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 Rw + Ctr (airborne) not less than— (a) 40 if the adjacent room is a habitable room (other than a kitchen); or (b) 25 if the adjacent room is a kitchen or non-habitable room. (2) If a storm water pipe passes through a sole-occupancy unit it must be separated in accordance with (1)(a) and (b).	CRA

Part F8 – Condensation management			
BCA Clause		**Comment/s**	**Status**
F8D2	Application of Part	The Deemed-to-Satisfy Provisions of this Part only apply to a sole-occupancy unit of the *Class 2* building parts.	Note
F8D3	Pliable building membrane	(1) Where a pliable building membrane is installed in an external wall, it must— (a) comply with AS 4200.1-2017; and (b) be installed in accordance with AS 4200.2-2017; and (c) be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building. (2) Where a pliable building membrane, sarking-type material or insulation layer is installed on the exterior side of the primary insulation layer of an external wall it must have a vapour permeance of not less than 1.14 µg/N.s. (3) 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.	CRA
F8D4	Exhaust systems	(1) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of— (a) 25 L/s for a bathroom or sanitary compartment; and (b) 40 L/s for a kitchen or laundry. (2) Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment or laundry must discharge directly or via a shaft or duct to outdoor air. (3) Where space for a clothes drying appliance is provided in accordance with F4D2(1)(b), space must also be provided for ducting from the clothes drying appliance to outdoor air. (4) (3) does not apply if a condensing-type clothes drying appliance is installed. (5) An exhaust system that is not run continuously and is serving a bathroom or sanitary compartment that is not ventilated in accordance with F6D7 must— (a) be interlocked with the room's light switch; and (b) include a run-on timer so that the exhaust system continues to operate for 10 minutes after the light switch is turned off. (6) Except for rooms that are ventilated in accordance with F6D7, a room with space for ducting a clothes drying appliance to outdoor air in accordance with (3) must be provided with make-up air in accordance with AS 1668.2-2012.	CRA

Part F8 – Condensation management			
BCA Clause		**Comment/s**	**Status**
F8D5	Ventilation of roof spaces	(1) The roof must have a roof space that – (a) Is located – (i) immediately above the primary insulation layer; or (ii) immediately above sarking with a vapour permeance of not less than 1.14 0.143 µg/N.s. (iii) immediately above ceiling insulation which meets the requirements J3D7(3) and J3D7(4); and (b) has a height of not less than 20 mm; and (c) is either— (i) ventilated to outdoor air through evenly distributed openings in accordance with Table F8D5; or (ii) located immediately underneath roof tiles of an unsarked tiled roof. (2) The requirements of (1) do not apply to a— (a) concrete roof; or (b) roof that is made of structural insulated panels; or (c) roof that is subject to Bushfire Attack Level FZ requirements in accordance with AS 3959-2018.	CRA

Table F8D5: Roof space ventilation requirements

Roof pitch	Ventilation openings
<10°	25,000 mm^2/m provided at each of two opposing ends
≥10° and <15°	25,000 mm^2/m provided at the eaves and 5,000 mm^2/m at high level
≥15° and <75°	7,000 mm^2/m provided at the eaves and 5,000 mm^2/m at high level, plus an additional 18,000 mm^2/m at the eaves if the roof has a cathedral ceiling

Table Notes

(1) Ventilation openings are specified as a minimum free open area per metre length of the longest horizontal dimension of the roof.

(2) For the purposes of this table, high level openings are openings provided at the ridge or not more than 900 mm below the ridge or highest point of the roof space, measured vertically.

SECTION G: ANCILLARY PROVISIONS			
Part G1 – Minor Structures and Components			
BCA Clause		**Comment/s**	**Status**
G1D2	Swimming pools	(1) NSW G1D2(2) applies to the technical construction requirements for barriers to restrict access to swimming pools, subject to— (a) out-of-ground pool walls and the walls of above ground pools, including inflatable pools, not being considered to be effective barriers; and (b) the reference in clause 2.3.1 of AS 1926.1-2012 to a barrier within a property including a boundary barrier. (2) A swimming pool with a depth of water more than 300 mm and which is associated with a *Class 2* building, must have suitable barriers to restrict access by young children to the immediate pool surrounds in accordance with— (a) AS 1926.1-2012 and AS 1926.2-2007; or (b) if the swimming pool is a spa pool— (i) the requirements of (a); or (ii) clause 9 of the Swimming Pools Regulation 2018. (3) A water recirculation system in a swimming pool with a depth of water more than 300 mm must comply with AS 1926.3-2010. *NOTE/S -* *(a) The Swimming Pools Act 1992 and the Swimming Pools Regulation 2018, applicable to swimming pool with a depth of water of more than 300 mm, regulate the circumstances in which a barrier is required and prevail in the case of any inconsistency*	CRA
G1D3	Refrigerated chambers, strong-rooms and vaults	Not applicable.	N/A
G1D4	Outdoor play spaces	Not applicable.	N/A
G1D5	Provision for cleaning windows	The building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level, which may be satisfied where – (a) the windows can be cleaned wholly from within the building; or (b) provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.	CRA

Part G2 – Boilers, pressure vessels, heating appliances, fireplaces, chimneys and flues			
BCA Clause		**Comment/s**	**Status**
G2D2	Installation of appliances	The installation of a stove, heater or similar appliance in a building must comply with - (a) Domestic solid-fuel burning appliances — installation: AS/NZS 2918-2018. (b) For boilers and pressure vessels: Specification 30.	CRA
G2D3	Open fireplaces	Not applicable.	N/A
G2D4	Incinerator rooms	Not applicable.	N/A
Part G3 – Atrium construction			
BCA Clause		**Comment/s**	**Status**
G3	Atrium construction	Not applicable. The atriums throughout the building are identified as not – (a) Connecting more than 2 storeys; or (b) Connecting more than 3 storeys and having one of the storeys situated at a level at which there is direct egress to a road or open space.	N/A
Part G4 – Construction in alpine areas			
BCA Clause		**Comment/s**	**Status**
G4	Construction in alpine areas	Not applicable.	N/A
Part G5 – Construction in bushfire prone areas			
BCA Clause		**Comment/s**	**Status**
G5D3	Construction in bushfire prone areas	If the building is located in a designated bushfire prone area, the following must be complied with — (a) AS 3959-2018 except— (i) as amended by Planning for Bush Fire Protection; and (ii) for Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ). Buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or (b) the requirements of (a) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 4.14 of the Environmental Planning and Assessment Act 1979 if required; or (c) the requirements of (a) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.	Note

Part G6 – Occupiable outdoor areas			
BCA Clause		**Comment/s**	**Status**
G6D1	Application of Part	Except for G6D2, the Deemed-to-Satisfy Provisions of this Part do not apply to— (a) an occupiable outdoor area of the sole-occupancy unit in a *Class 2* building; or (b) an occupiable outdoor area with an area less than 10m^2.	Note
G6D2	Fire hazard properties	(1) Subject to (2), a lining, material or assembly in an occupiable outdoor area must comply with C2D11 as for an internal element. (2) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C2D11: (a) Average specific extinction area. (b) Smoke-Developed Index. (c) Smoke development rate. (d) Smoke growth rate index ($SMOGRA_{RC}$).	Note
G6D3	Fire separation	For the purposes of the Deemed-to-Satisfy Provisions of C3D8, C3D9 and C3D10, a reference to a storey includes an occupiable outdoor area, however a fire wall cannot be used to separate an occupiable outdoor area into different fire compartments.	Note
G6D4	Provision for escape	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area	Note
G6D5	Construction of exits	For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area.	Note
G6D6	Firefighting equipment	Except for S17C7(2)(a), for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area.	Note
G6D7	Lift installations	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area.	Note
G6D8	Visibility in an emergency, exit signs and warning systems	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area.	Note
G6D9	Light and ventilation	For the purposes of the Deemed-to-Satisfy Provisions of F6D5, F6D9 and F6D10, a reference to a room includes an occupiable outdoor area.	Note
G6D10	Fire orders	Not applicable.	N/A

Part G7 – Livable housing design			
BCA Clause		**Comment/s**	**Status**
G7	Livable housing design	Not applicable.	N/A

SECTION I: SPECIAL USE BUILDINGS			
Part I1 – Class 9b buildings			
BCA Clause		**Comment/s**	**Status**
I1	Class 9b buildings	Not applicable.	N/A
Part I2 – Public transport buildings			
BCA Clause		**Comment/s**	**Status**
I2	Public transport buildings	Not applicable.	N/A
Part I3 – Farm buildings and farm sheds			
BCA Clause		**Comment/s**	**Status**
I3	Farm buildings and farm sheds	Not applicable.	N/A

6. Conclusion

In concluding the review undertaken, it is considered that based on the documentation provided (as referenced in Annexure 1), the proposed scope of works is capable of complying with the relevant deemed to satisfy provisions and/or performance requirements of the Building Code of Australia (BCA) Volume 1 2022 Amendment 2.

Where compliance is to be obtained via a performance-based solution for any BCA provision, it is considered that any such solution/s will not necessitate significant changes to the proposed design.

Nicolas Hurtado

Director | **NEST CONSULTING GROUP**

Grad.Dip. Fire Safety Engineering (UWS)
B.Eng. Construction (UTS)
Cert. IV Access Consulting (ATA)
AIBS Associate Member
ACAA Associate Member

ANNEXURE 1 – Documentation Assessed

This assessment is based on the following documentation –

Discipline	Architectural
Organisation	Turner Studio
Documentation Type	Plans

Plan No.	Title	Revision	Date
DA-110-005	GA Plans Basement 02	DA.01	12.09.2025
DA-110-006	GA Plans Basement 01	DA.01	12.09.2025
DA-110-007	GA Plans Lower Ground	DA.01	12.09.2025
DA-110-008	GA Plans Ground Level	DA.01	12.09.2025
DA-110-009	GA Plans Upper Ground Level	DA.01	12.09.2025
DA-110-010	GA Plans Level 01	DA.01	12.09.2025
DA-110-011	GA Plans Level 02	DA.01	12.09.2025
DA-110-012	GA Plans Level 03	DA.01	12.09.2025
DA-110-013	GA Plans Level 04	DA.01	12.09.2025
DA-110-014	GA Plans Level 05	DA.01	12.09.2025
DA-110-015	GA Plans Level 06	DA.01	12.09.2025
DA-110-016	GA Plans Level 07	DA.01	12.09.2025
DA-110-017	GA Plans Level 08	DA.01	12.09.2025
DA-110-018	GA Plans Level 09	DA.01	12.09.2025
DA-110-019	GA Plans Level 10	DA.01	12.09.2025
DA-110-020	GA Plans Level 11	DA.01	12.09.2025
DA-110-021	GA Plans Level 12	DA.01	12.09.2025
DA-110-022	GA Plans Level 13	DA.01	12.09.2025
DA-110-023	GA Plans Level 14	DA.01	12.09.2025
DA-110-024	GA Plans Level 15	DA.01	12.09.2025
DA-110-025	GA Plans Level 16	DA.01	12.09.2025
DA-110-026	GA Plans Level 17	DA.01	12.09.2025
DA-110-027	GA Plans Level 18	DA.01	12.09.2025
DA-110-028	GA Plans Roof Level	DA.01	12.09.2025
DA-200-101	Context Elevations North Elevation	DA.01	12.09.2025

Plan No.	Title	Revision	Date
DA-200-201	Context Elevations East Elevation	DA.01	12.09.2025
DA-200-301	Context Elevations South Elevation	DA.01	12.09.2025
DA-200-401	Context Elevations West Elevation	DA.01	12.09.2025
DA-210-101	Elevations North Elevation	DA.01	12.09.2025
DA-210-201	Elevations East Elevation	DA.01	12.09.2025
DA-210-301	Elevations South Elevation	DA.01	12.09.2025
DA-210-401	Elevations West Elevation	DA.01	12.09.2025
DA-220-101	Internal Elevations Building C – North Elevation	DA.01	12.09.2025
DA-220-201	Internal Elevations Buildings A & C – East Elevation	DA.01	12.09.2025
DA-220-301	Internal Elevations Buildings A & B – South Elevation	DA.01	12.09.2025
DA-220-401	Internal Elevations Buildings B & C – West Elevation	DA.01	12.09.2025
DA-310-101	Sections Section AA	DA.01	12.09.2025
DA-310-201	Sections Section BB	DA.01	12.09.2025
DA-890-001	Materials & Finishes Board External	DA.01	12.09.2025

ANNEXURE 2 – Fire Resistance Levels

A2.1 –Type A Construction: General Requirements Summary

(1) Each building element listed in Table A2.1 below must have a fire resisting level (FRL) as listed for the particular class of building or building part concerned; and

(2) 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—
- (a) have an FRL not less than that required by other provisions of Specification 5; and
- (b) 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—
  - (i) for the supporting part itself; and
  - (ii) for the part it supports; and
- (c) be non-combustible—
  - (i) if required by other provisions of Specification 5; or
  - (ii) if the part it supports is required to be non-combustible.

(3) A lintel must have the FRL required for the part of the building in which it is situated.

(4) A lintel need not achieve the FRL required for the part of the building in which it is situated if it does not contribute to the support of a fire door, fire window or fire shutter, and—
- (a) it spans an opening in—
  - (i) a wall of a building containing only one storey; or
  - (ii) a non-loadbearing wall of a Class 2 or 3 building; or
- (b) it spans an opening in masonry which is not more than 150 mm thick and—
  - (i) not more than 3 m wide if the masonry is non-loadbearing; or
  - (ii) not more than 1.8 m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall.

(5) Shafts required to have an FRL must 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, unless –
- (a) The top of a shaft extending beyond the roof covering, other than one enclosing a fire isolated stairway or ramp; or
- (b) The bottom of a shaft if it is non-combustible and laid directly to the ground.

(6) Any internal wall which is required to have an FRL with respect to integrity and insulation must extend to—
- (a) the underside of the floor next above; or
- (b) the underside of the roof complying with Table A2.1 below; or
- (c) if under S5C15 the roof is not required to achieve an FRL, 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
- (d) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes.

(7) A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from—
- (a) concrete; or
- (b) masonry; or
- (c) any combination of (a) and (b).

(8) For the purposes of Table A2.1 below, an external wall includes any column and other building element incorporated within it or other external building element.

(9) A floor need not comply with Table A2.1 below, if –
- (a) It is laid directly on the ground; or
- (b) In a Class 5 or 9 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
- (c) It is an open-access floor (for the accommodation of electrical and electronic services and the like above a floor with the required FRL.

(10) A roof need not comply with Table A2.1 below, if its covering is non-combustible and the building –
- (a) has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout; or
- (b) has a rise in storeys of 3 or less; or
- (c) is of Class 2 or 3; 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.

(11) If a roof is required to have an FRL or its covering is required to be non-combustible, roof lights or the like installed in that roof must—
- (a) have an aggregate area of not more than 20% of the roof surface; and
- (b) be not less than 3 m from—
  - (i) any boundary of the allotment other than the boundary with a road or public place; and
  - (ii) any part of the building which projects above the roof unless that part has the FRL required of a fire wall and any openings in that part of the wall for 6 m vertically above the roof light or the like are protected in accordance with C4D5; and
  - (iii) any roof light or the like in an adjoining sole-occupancy unit if the walls bounding the unit are required to have an FRL; and
  - (iv) any roof light or the like in an adjoining fire-separated section of the building; and
- (c) if a ceiling with a resistance to the incipient spread of fire is required, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space.

(12) A carpark may comply with Table A2.2 below if it is protected with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 and is—
- (a) a separate building; or
- (b) a part of a building—
  - (i) which only occupies part of a storey, and is separated from the remaining part by a fire wall; or
  - (ii) which is located above or below another classification, and the floor separating the classifications complies with C3D10; or
  - (iii) which is located above another Class 7 part of the building not used for carparking, and the floor separating the parts complies with Table A2.1 below for a Class 7 part other than a carpark; or
  - (iv) which is located below another Class 7 part of the building not used for carparking, and the floor separating the parts complies with this clause.

(13) In a Class 2 or 3 building with a rise in storeys of not more than 3—

(a) notwithstanding C2D10(1) and (2) and C3D7, timber framing may be used for—
  (i) external walls; and
  (ii) common walls; and
  (iii) the floor framing of lifts pits; and
  (iv) non-loadbearing internal walls which are required to be fire-resisting; and
  (v) non-loadbearing shafts, except shafts used for the discharge of hot products of combustion; and
  (vi) spandrels or horizontal construction provided for the purposes of C3D7; and

(b) notwithstanding S5C11(1)(c), for loadbearing internal walls and loadbearing fire walls—
  (i) timber framing may be used; and
  (ii) non-combustible materials may be used; and

(c) notwithstanding S5C3(1)(c), timber framing may be used for a part of a building that provides support to a part of a building constructed of timber framing or non-combustible material in accordance with (a) and (b).

(14) A Class 2 or 3 building having a rise in storeys of not more than 4 may have the top three storeys constructed in accordance with (13) provided—

(a) the lowest storey is used solely for the purpose of parking motor vehicles or for some other ancillary purpose; and

(b) the lowest storey is constructed of concrete or masonry including the floor between it and the Class 2 or 3 part of the building above; and

(c) the lowest storey and the storey above are separated by construction having an FRL of not less than 90/90/90 with no openings or penetrations that would reduce the fire-resisting performance of that construction except that a doorway in that construction may be protected by a –/60/30 self-closing fire door.

(15) In a Class 2 or 3 building complying with (13) or (14) and fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, any FRL criterion prescribed in Tables S5C11a, S5C11d, S5C11e, S5C11f and S5C11g—

(a) for any floor and any loadbearing wall, may be reduced to 60, except any FRL criterion of 90 for an external wall must be maintained when tested from the outside; and

(b) for any non-loadbearing internal wall, need not apply if—
  (i) it is lined on each side with 13 mm standard grade plasterboard or similar non-combustible material; and
  (ii) it extends—
    (A) to the underside of the floor next above; or
    (B) to the underside of a ceiling with a resistance to the incipient spread of fire of 60 minutes; or
    (C) to the underside of a non-combustible roof covering; and
  (iii) any insulation installed in the cavity of the wall is non-combustible; and
  (iv) any construction joint, space or the like between the top of the wall and the floor, ceiling or roof is smoke sealed with intumescent putty or other suitable material; and
  (v) any doorway in the wall is protected by a self-closing, tight fitting, solid core door not less than 35 mm thick.

A2.2 – Type A Construction: Fire Resistance of Building Elements

Each building element listed in the table below must have a fire resisting level (FRL) as listed for the particular class of building or building part concerned.

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

Table A2.1 – Type A construction: FRL of building elements

Building Element				FRL (not less than) Structural adequacy / Integrity / Insulation ESA/M (not greater than)
Walls				
(a)	External wall			
	(i)	less than 3m from a fire source feature to which it is exposed:		
		(A)	Loadbearing	60/ 60/ 60
		(B)	Non-loadbearing	--/ 60/ 60
	(ii)	3m or more from a fire source feature to which it is exposed		--/--/--
(b)	Internal wall			
	(i)	Loadbearing, other than one supporting only the roof (not used for carparking)		60/ --/ --
	(ii)	Supporting only the roof (not used for carparking)		--/--/--
	(iii)	Non-loadbearing		--/--/--
(c)	Fire wall			
	(i)	From the direction used as a carpark		60/ 60/ 60
	(ii)	From the direction not used as a carpark		As required by Table A2.1 above
Columns				
(a)	Supporting only the roof (not used for carparking) and 3m or more from a fire source feature to which it is exposed			--/--/--
(b)	Steel column, other than one covered by (a) and one that does not support a part of a building that is not used as a carpark			60/ --/ -- or an ESA/M of not greater than 26m²/tonne
(c)	Any other column not covered by (a) or (b)			60/ --/ --
Beam				
(a)	Steel floor beam in continuous contact with a concrete floor slab			60/ --/ -- or an ESA/M of not greater than 30m²/tonne
(b)	Any other beam			60/ --/ --
Fire-resisting lift and stair shaft (within the carpark only)				60/ 60/ 60
Floor slab and vehicle ramp				60/ 60/ 60
Roof (not used for carparking)				--/--/--

Table A2.2 – Type A construction: Requirements for carparks

ANNEXURE 3 – Fire Hazard Properties

The required fire hazard properties for building materials applicable to this development are as set out below.

Floor linings and floor coverings	
A floor lining or floor covering for each relevant building part must achieve the following critical radiant heat flux value-	
Fire isolated exits	Critical radiant flux of ≥ 2.2 kW/m^2
All other areas	Critical radiant flux of ≥ 1.2 kW/m^2
Additionally, a floor lining or floor covering must have – (a) A Group 1 or Group 2 material in accordance with AS 5637.1-2015 for any portion of the floor covering that is continued more than 150mm up a wall.	
Wall and ceiling linings materials (material groups permitted)	
A wall or ceiling system must comply with the group number specified below for each relevant building part -	
Fire isolated exits	
Walls & Ceilings	Group 1
Class 2 Parts	
All areas – Walls & Ceilings	Group 1, 2 or 3
Class 7 & Class 8 Parts	
All areas – Walls & Ceilings	Group 1, 2 or 3
Additionally, a wall or ceiling lining system must have – (a) A group number of a wall or ceiling lining and the smoke growth rate index or average specific extinction area must be determined in accordance with AS5637.1-2015.	
Air handling ductwork	
Rigid and flexible ductwork in a Class 2 to 9 building must comply with the fire hazard properties set out in AS4254.1-2021 and AS4254.2-2012.	
Lift cars	
Floor linings and floor coverings	Critical radiant flux not less than 2.2 kW/m^2
Wall and ceiling linings	Group 1 or Group 2 material in accordance with AS5637.1-2015
Other materials	
Fire control rooms subject to Specification 19 and fire isolated exits, other than a sarking type material used in a ceiling or used as an attachment or part of an attachment to a building element. *NOTE –* *(a) In a fire control room or fire isolated stairway, a material used as an attachment or part of an attachment to a building element must, if combustible, be attached directly to a non-combustible substrate and not exceed 1mm finished thickness.*	Spread-of-Flame Index ≤ 0 Smoke-Developed Index ≤ 2

Other materials	
Sarking-type materials: In a fire control room subject to Specification 19 or a fire isolated exit or fire control room used in the form of an exposed wall or ceiling.	Flammability Index of ≤ 0
Sarking-type materials: in other locations *NOTE –* *(a) A material, other than one located within a fire isolated exit or fire control room, may be covered on all faces by concrete or masonry not less than 50 mm thick, as an alternative to meeting the specified indices.*	Flammability Index of ≤ 5
Other materials or locations in materials other than sarking-type materials *NOTE/S –* *(a) A material, other than one located within a fire isolated exit or fire control room, may be covered on all faces by concrete or masonry not less than 50 mm thick, as an alternative to meeting the specified indices.* *(b) In the case of a composite member or assembly, the member or assembly must be constructed so that when assembled as proposed in a building -* *(i) any material which does not comply with this Table is protected on all sides and edges from exposure to the air; and* *(ii) the member or assembly, when tested in accordance with Specification 3, has Spread-of-Flame Index and Smoke-Developed Index not exceeding those prescribed in this Table; and* *(iii) the member or assembly retains the protection in position so that it prevents ignition of the material and continues to screen it from access to free air for a period of not less than 10 minutes.*	Spread-of Flame Index of ≤ 9 Smoke-Developed Index ≤ 8 if the Spread-of Flame Index is more than 5

Table A3.1 – Fire hazard properties