Project	28 Lockwood Avenue, Belrose
Report	BCA Assessment Report
Reference	C21844-BCA Report-r2
Date	27 September 2022
Client	Momentum Project Group P/L
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Contents

Document Control

Reference/Revision	Date	Description	BCA Assessment Report
C21607-BCA Report-r1 C21607-BCA Report-r1.1	07/03/2022 16/03/2022	**Prepared by**	**Chris Campbell** Building Surveyor
		Reviewed by	**Adam Southwell** Associate Building Surveyor – Unrestricted BDC3305
C21607-BCA Report-r2	27/09/2022	**Prepared by**	**Chris Campbell** A1 – Unrestricted Building Surveyor BDC04854
			
		Reviewed by	**Adam Southwell** Associate Building Surveyor – Unrestricted BDC3305
			

1 Introduction

1.1 Building Location

The building, the subject of this report, is located at 28 Lockwood Avenue, Belrose. The building consists of two levels of basement car parking, three levels of Retail (basement 02, lower ground floor and ground floor), mixed use and four levels of integrated Residential from lobbies on basement 02 to Level 01 (49 units).

1.2 Objectives

The purpose of this report is to provide an assessment against Building Code of Australia 2019, Amendment 1 (BCA) addressing all relevant clauses therein to identify where the subject building achieves compliance and non-compliance, as well as provide appropriate Performance Solutions where available, which are required to be prepared under separate cover.

It is presumed the assumptions, content, and limitations of this report are reviewed, noted, and understood by the reader. Credwell Consulting are to be contacted to clarify any queries or assumptions made in relation to the contents of this report and further, Credwell Consulting take no responsibility for misinterpretation of any of the content herein.

1.3 Limitations

This report does not include, nor imply, any audit, assessment, or upgrading of:

1. The structural design of the building;
2. The capacity or design of any electrical, fire, hydraulic or mechanical services; and
3. The Disability (Access to Premises – Building) Standards 2010 and the Disability Discrimination Act 1992 (Cth)
4. Excludes accessibility parts of NCC (Part D3 and Clause E3.6 and F2.4).

An Access Consulting Report, by Credwell Consulting, is to be provided in a separate report.

This report does not include, nor imply any assessment of, or compliance with:

5. Any Development Consent conditions;
6. The Liquor Licencing Act 2007;
7. The Work Health and Safety Act 2011;
8. The Swimming Pools Act 1992; and
9. Requirements of Authorities including, but not limited to, WorkCover, RMS, Council, Telecommunications Supply Authority, Electricity Supply Authority, Water Supply Authority, Gas Supply Authority and the like.

1.4 Interpretations

A number of matters within the BCA are known to be interpretive. Where these matters are encountered, interpretations have been used that are consistent with Credwell Consulting's understanding of standard industry practice.

1.5 Dimensions and Tolerances

In some instances, the BCA specifies minimum dimensions for construction. The assessment of plans and specifications includes a review of such minimum dimensions that are relevant to the project, but Credwell Consulting does not guarantee that all relevant minimum dimensions have been assessed where they are not clearly and explicitly denoted/marked on the architectural drawings.

The relevant designer(s) and builder(s) should confirm that all minimum dimensions are achievable on site prior to works and consideration/attention should be given to construction tolerances impacted by wall set outs, applied finishes, and skirtings to corridors and bathrooms. For example, tiling bed thickness on walls and floors can adversely impact critical minimum dimensions relating to access for people with disabilities, stair and corridor widths, and balustrade heights.

1.6 Reviewed Documentation

This report is based on documentation referenced in Annexure A.

2 Building Description

For the purposes of the BCA, the building is described as follows:

2.1 Classification

Level	Class	Use	Area (approx.)
B04	**Total**		**4295 m²**
	Class 7a	Carpark – inc manager room	4295 m²
B03	**Total**		**4295 m²**
	Class 7a	Carpark	4295 m²
B02	**Total**		**2873 m²**
	Class 6	Retail	2032 m²
	Class 6	Retail Loading Dock and Bin Rooms	702 m²
	Class 2	Residential Lobbies	139 m²
LG	**Total**		**2822 m²**
	Class 6	Retail	830 m²
	Class 2	Residential	1992 m²
G	**Total**		**2784 m²**
	Class 6	Retail	666 m²
	Class 7b	Residential Bin Holding Room	88 m²
	Class 2	Residential	2030 m²
L01	**Total**		**1725 m²**
	Class 2	Residential	1725 m²
TOTAL			**18794 m²**

2.2 Rise in Storeys

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

2.3 Type of Construction

Given the classification of the top floor and the rise in storeys the building is to be of Type A Construction.

2.4 Effective height

The effective height has been calculated to be 9.7 m, being less than 25m and less than 12m (161.900 – 152.200 = 9.7 m).

2.5 Fire Compartments

The following fire compartments have been assumed:

1. Basement (Basement 04 and 03)
2. Bin rooms (Basement 02)
3. Retails areas – Lower ground and ground Lockwood Avenue side
4. Residential areas

2.6 Required Exits

The following have been considered as the exits from the building:

1. Four exits from basement – discharging at B02 (towards courtyard area and Glenrose Place),
2. Four exits from residential – discharging at B02 (towards courtyard area and Glenrose Place),
3. B02 doorways for retail, lobbies, loading dock and Bin rooms:

   a. Towards courtyard area, or
   b. Towards Glenrose Place
4. Ground Floor Doorways for retail and residential bin holding room towards Lockwood Avenue.

2.7 Climate Zone

The building is located within Climate Zone 5, being within the Northern Beaches local government area.

3 Fire Safety Measures

Given the assessment in this report, the following fire safety measures are required to be installed in the building. This list is subject to minor change if Performance Solutions are proposed, or other options are taken during the Construction Certificate (CC) and/or construction stages.

	Fire Safety Measure	Standard of Performance
1.	Access panels, doors and hoppers to fire-resisting shaft	BCA2019 Amnd 1 Clause C3.13 Manufacturer's Specifications
2.	Automatic fail-safe devices (automatic doors)	BCA2019 Amnd 1 Clause D2.19 Manufacturer's Specifications
3.	Automatic fail-safe devices (electronic latching)	BCA2019 Amnd 1 Clause D2.21 Manufacturer's Specifications
4.	Automatic fire detection and alarm systems	BCA2019 Amnd 1 Clause E2.2 and Specification E2.2a Clauses 4 and 6
5.	Building occupant warning system	BCA2019 Amnd 1 Clause E2.2 and Specification E2.2a Clause 6
6.	Automatic fire suppression systems (sprinklers)	BCA2019 Amnd 1 Clause E1.5 and Specification E1.5 and Specification E1.5a AS2118.1-2017
7.	Emergency lighting	BCA2019 Amnd 1 Clauses E4.2 and E4.4 AS2293.1-2018
8.	Exit signs	BCA2019 Amnd 1 Clauses E4.5, NSW E4.6 and E4.8 AS2293.1-2018
9.	Fire dampers	BCA2019 Amnd 1 Clause C3.15 Manufacturer's Specification
10.	Fire doors	BCA2019 Amnd 1 Clauses C3.8, C3.11 and Specification C3.4 Clause 2 AS1905.1-2015
11.	Fire hose reel systems	BCA2019 Amnd 1 Clause E1.4 AS2441-2005
12.	Fire hydrant systems	BCA2019 Amnd 1 Clause E1.3 AS2419.1-2005
13.	Fire seals protecting openings in fire-resisting components of the building	BCA2019 Amnd 1 Clause C3.15 AS1530.4-2014 Manufacturer's Specification
14.	Fire shutters (option for providing protection of openings)	BCA2019 Amnd 1 Clauses C3.2, C3.3, C3.4 and Specification C3.4 Clause 4 Manufacturer's Specification
15.	Fire windows (option for providing protection of openings)	BCA2019 Amnd 1 Clauses C3.2, C3.3, C3.4 and Specification C3.4 Clause 5 Manufacturer's Specification
16.	Lightweight construction (fire rated)	BCA2019 Amnd 1 Clause C1.8 and Specification C1.8 Manufacturer's Specification
17.	Mechanical air handling systems (automatic shutdown)	BCA2019 Amnd 1 Clause E2.2 and Specification E2.2a AS1668.1-2015
18.	Portable fire extinguishers	BCA2019 Amnd 1 Clause E1.6 AS2444-2001
19.	Smoke alarms and heat alarms (internal alarms in residential units)	BCA2019 Amnd 1 Clause E2.2 and Specification E2.2a Clause 3
20.	Smoke dampers	BCA2019 Amnd 1 Clause C2.5, Specification C2.5 and Clause E2.2

21.	Smoke doors	BCA2019 Amnd 1 Clause C2.5, Specification C2.5 and Specification C3.4 Clause 3
22.	Solid core doors	BCA2019 Amnd 1 Clause C3.11
23.	Standby power systems	BCA2019 Amnd 1 Clause G3.8 and Specification G3.8 Clause 6
24.	Wall-wetting sprinkler and drencher systems over permanently closed or self-closing glazed elements (option for providing protection of openings)	BCA2019 Amnd 1 Clauses C3.2, C3.3 and C3.4 AS2118.1-2017
25.	Warning and operational signs	BCA2019 Amnd 1 Clauses D2.23 & E3.3 Environmental Planning and Assessment Regulation 2000 (EP&A Reg) Clause 108
26.	Paths of travel	BCA2019 Amnd 1 Parts D1 and D2 EP&A Reg Clause 186
27.	Performance Solutions for: 1) Spec C1.1 Clause 3.6 2) C3.2 and C3.4 3) D1.4 4) D1.7 5) E1.3 6) E1.5 and Spec E1.5 7) G6.2 8) G6.4	The standard for performance required in the performance solution is to be detailed by the Fire Engineer.

4 Fire Resistance Levels

The following fire resistance levels (FRLs) are required for the various elements of the building. Where the table below refers to a fire source feature (FSF), this is as defined in the BCA as the far boundary of a road, river, lake or the like adjoining the allotment, or a side or rear boundary of the allotment, or an external wall of another building on the allotment which is not a Class 10 building.

Building Element – Type A Construction	Class 2	Class 7a	Class 6
Loadbearing External Walls - Less than 1.5m from a FSF - 1.5 - 3m from a FSF - 3m or more from a FSF	 90/90/90 90/60/60 90/60/30	 120/120/120 120/90/90 120/60/30	 180/180/180 180/180/120 180/120/90
Non-Loadbearing External Walls - Less than 1.5m from a FSF - 1.5 - 3m from a FSF - 3m or more from a FSF	 -/90/90 -/60/60 -/-/-	 -/120/120 -/90/90 -/-/-	 -/180/180 -/180/120 -/-/-
External Columns (not incorporated into an external wall) - Loadbearing - Non-loadbearing	 90/-/- -/-/-	 120/-/- -/-/-	 180/-/- -/-/-
Common Walls and Fire Walls	90/90/90	120/120/120	180/180/180
Internal Walls - Fire resisting lift and stair shafts – - Loadbearing - Non-loadbearing	 90/90/90 -/90/90	 120/120/120 -/120/120	 180/120/120 -/120/120
Internal Walls – Bounding public corridors, public lobbies and the like – - Loadbearing - Non-loadbearing	 90/90/90 -/60/60	 120/-/- -/-/-	 180/-/- -/-/-
Internal Walls – Between or bounding sole-occupancy units – - Loadbearing - Non-loadbearing	 90/90/90 -/60/60	 120/-/- -/-/-	 180/-/- -/-/-
Internal Walls – Ventilating, pipe, garbage and the like shafts not used for the discharge of hot products of combustion – - Loadbearing - Non-loadbearing	 90/90/90 -/90/90	 120/90/90 -/90/90	 180/120/120 -/120/120
Other loadbearing internal walls, internal beams, trusses and columns	90/-/-	120/-/-	180/-/-
Floors	90/90/90	120/120/120	180/180/180
Roofs	90/60/30	120/60/30	180/60/30

Notes:

General Concession: Structures housing the lift and hot water plant on the roof are not required to have a FRL (concession available under BCA Specification C1.1 Clause 2.5(c) if the structures are non-combustible).

[1] Basement B04 floor does not require an FRL (concession available under BCA Specification C1.1 Clause 3.2 as the floor is laid directly on the ground).

[2] Roofs are not required to have an FRL (concession available under BCA Specification C1.1 Clause 3.5 as the covering is non-combustible and the building is of Class 2).

Internal columns and walls to top floor are permitted to have a reduced FRL (concession available under BCA Specification C1.1 Clause 3.7 as the building has an effective height of <25m and a roof without an FRL in accordance with Clause 3.5).

[3] Carparks may have a reduced FRL, however, please note that Clause D2.12 requires a minimum FRL of 120/120/120 (concession available under BCA Specification C1.1 Clause 3.9 as the carpark is sprinkler protected and occupies part of a storey separated with a fire wall and which is located below the Class 2 part separated in accordance with C2.9).

Specification E1.5a Concessions for FRL's

Residential buildings (Class 2 or 3) provided with a sprinkler system complying with AS2118.1 or AS2118.4 receive a discount under BCA Specification E1.5 to have the following FRL's:

1. The FRL for self-closing fire doors, as required by C3.8 and C3.11, may be reduced to not less than -/30/30.
2. The FRL for all non-loadbearing internal walls and shafts constructed of fire-protected, as required by Specification C1.1 to have FRLs greater than -/60/60, may be reduced to -/60/60 and service penetrations through non-loadbearing internal walls and shafts constructed of fire protected timber, as required by C3.15, may be reduced to not less than -/60/15.
3. All other non-loadbearing internal walls, as required by specification C1.1, may be reduced to -/45/45 and the FRL for service penetrations through internal non-loadbearing walls and shafts, as required by C3.15, may be reduced to -/45/15.
4. The FRL for fire-isolated stairways enclosed with non-loadbearing construction, as required by D1.3, may be reduced to -/45/45.

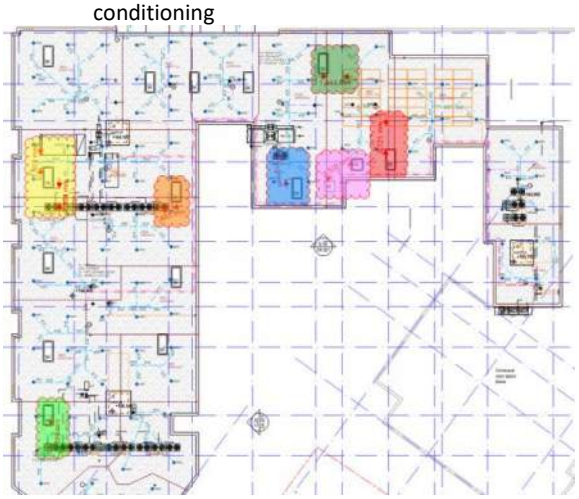
5 Matters for Further Consideration

5.1 Assessment

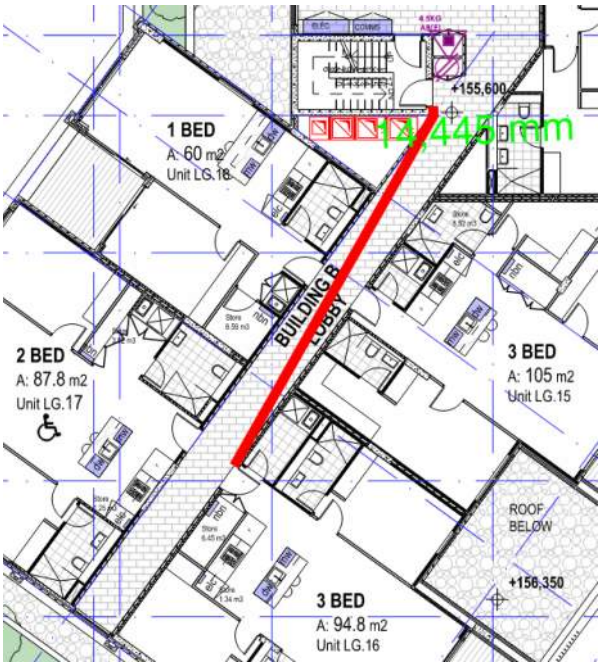
The reviewed documentation referenced in Annexure A of this report has been assessed against the Deemed-to-Satisfy (DtS) provisions of the BCA. This assessment has identified the following areas where compliance with the BCA will require further consideration.

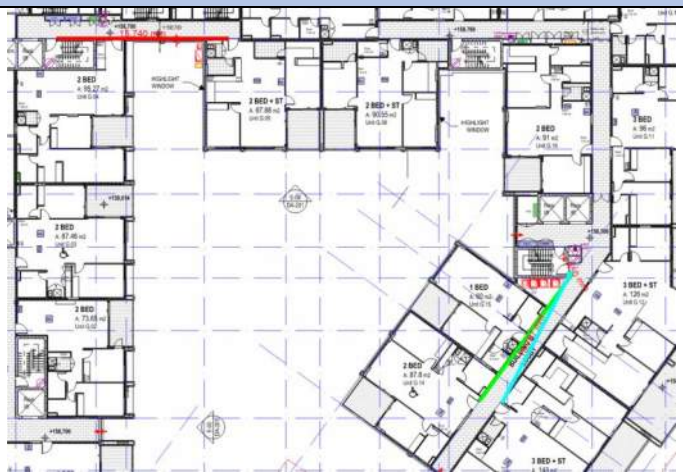
Annexure B of this report provides a detailed assessment of the proposal against each of the relevant DtS provisions of the BCA.

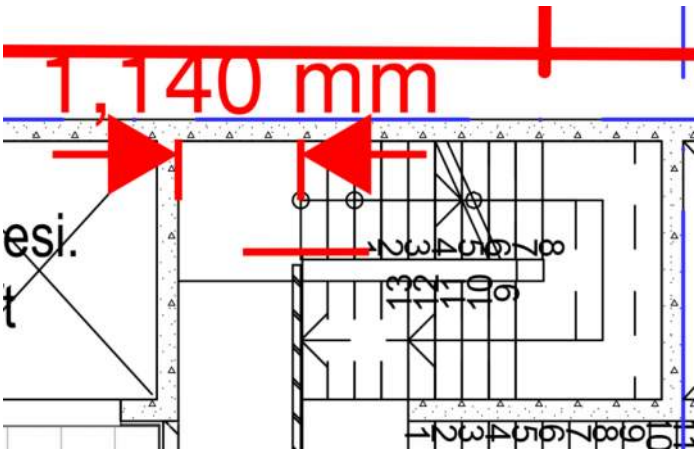
5.2 Summary of non-compliance with DtS Provisions (Summary of Annexure B)

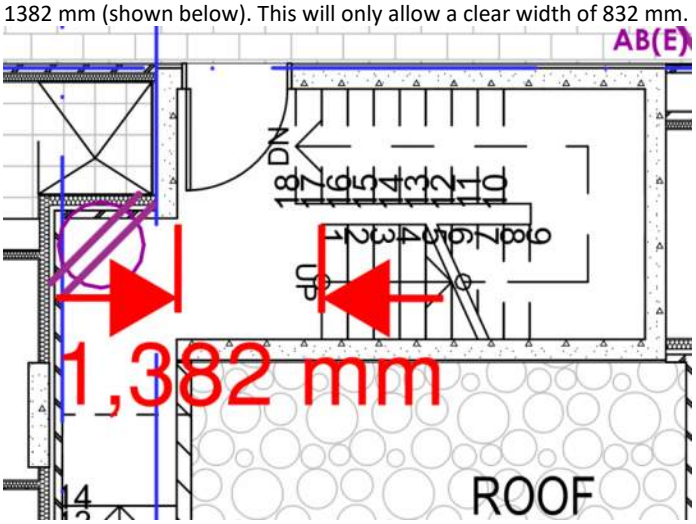
Clause		Comments	Assessment
Part C1 – Fire Resistance and Stability			
Spec C1.1 3.6	Roof lights	The roof light must not be within 3m of another part of the building that projects beyond the roof unless that part of the building has the FRL required of a firewall, or within 3 m of any other roof light or the like in an adjoining SOU if the walls bounding the unit are required to have an FRL. **Roof Lights** There are a eight roof lights that do not meet this concession of this clause. They are highlighted in the image below and are: 1. Dark Green – Roof light to unit 1.06, 1800 mm from the solar panels 2. Red - Roof light to unit 1.14, 2700 mm from the solar panels 3. Pink - Roof lights (2) for units 1.05 and 1.14, 2400 mm from each other 4. Blue - Roof light to unit 1.05, 2400 mm from the air-conditioning 5. Orange - Roof light to unit 1.04, 450 mm from the air-conditioning 6. Yellow - Roof light to unit 1.08, 1800 mm from the air-conditioning amd 1500 mm from the mechanical duct 7. Light Green - Roof light to unit 1.11, 2100 mm from the air-conditioning  **SOLUTION** These roof lights can be separated by 3 m or more to the requirements of this clause, or a Fire Engineer may be able to provide a Performance Solution	DNC/PS
Part C3 – Protection of Openings			

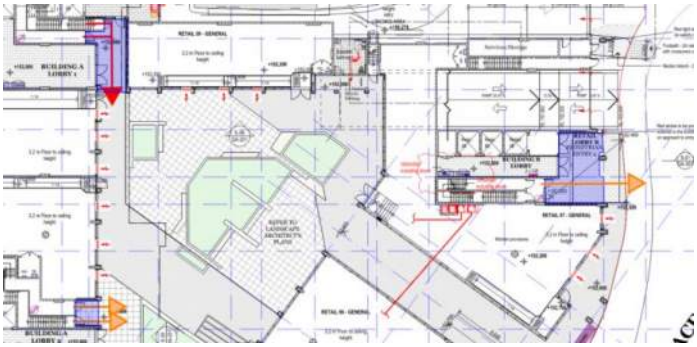
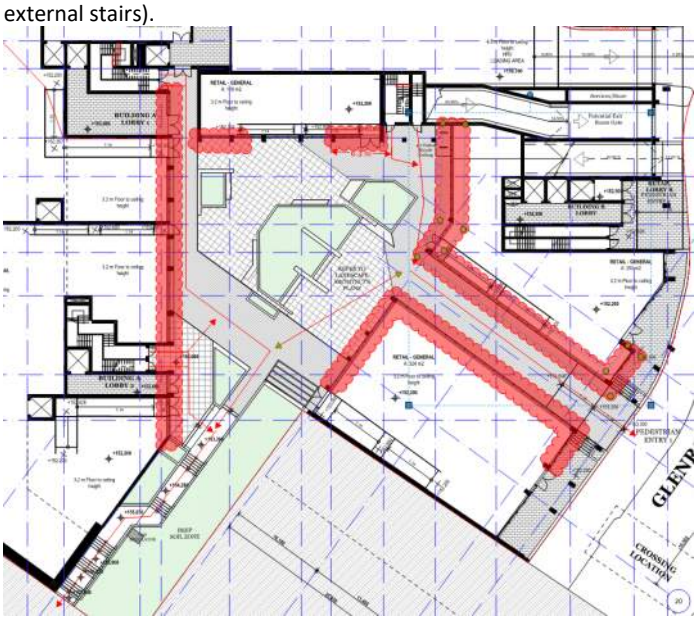
Clause		Comments	Assessment
C3.2	Protection of openings in external walls	Openings in an external wall that is required to have an FRL must if the distance between the opening and the fire-source feature to which it is exposed is less than— (i) 3 m from a side or rear boundary of the allotment; or (ii) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or (iii) 6 m from another building on the allotment that is not Class 10, be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally. **Retail 06** The retail tenancy at the eastern side of Glenrose Place has openings within approximately 1600 mm of the boundary where 3 m is the minimum required unless the window is protected by C3.4. This measurement is shown below:  **SOLUTION** These openings must be protected in accordance with C3.4 or a Fire Engineering Performance Solution is required.	CRA/PS
Part D1 – Provisions for Escape			
D1.4	Exit travel distances	A summary of the maximum travel distances applicable to this building are (assuming a sprinkler system meeting the requirements of Specification E1.5a): 1. Class 2 – SOU to exit (or point of choice) 12 m 2. Class 2 common areas – 20 m to an exit or point of choice. 3. Class 6 – 30 m to a single exit serving a storey at the level of access to a road or open space, or 4. Class 6 – 20 m to a single exit, or a point of choice where two exits are available, in which case the maximum distance to one of those exits must not exceed 40 m. 5. Class 7a – 20 m to a single exit or a point of choice where two exits are available, in which case the maximum distance to one of those exits must not exceed 40 m. **<u>Basement 02</u>** Basement 02 has travel distances that are greater than allowed by this clause. These travel distances are shown in the figure below and are: 1) **Retail 03** (shown in green) - Retail 03 has a travel distance of 36 m to a single exit at the level of access to a road or open space. This is greater than the 30 m maximum allowed. 2) **Retail Bin Room** (shown in blue) – the retail bin room has a travel distance of 31.8 m to a single exit at the level of access to a road or open space. This is greater than the 30 m maximum allowed. 3) **Loading Dock** (shown in orange) – the loading dock has a travel distance of 44 m to a single exit at the level of access to a road or open space. This is greater than the 30 m maximum allowed.	DNC/PS

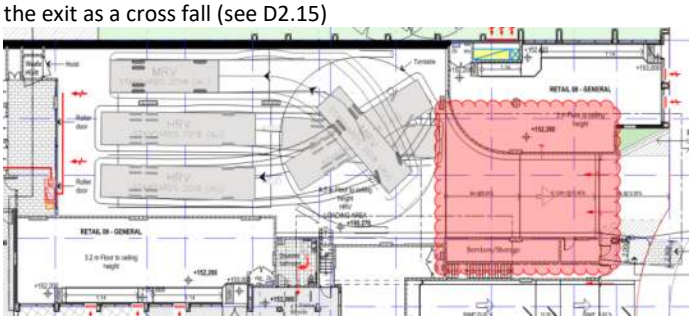
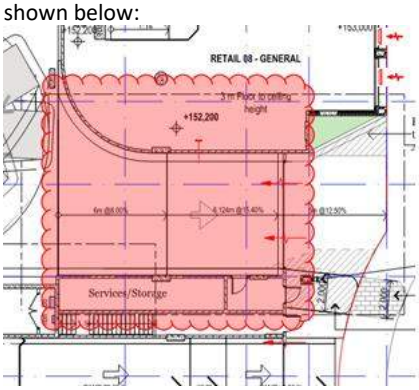
Clause	Comments	Assessment
	 **Lower Ground** Lower ground, Units LG.16 and LG.17 have a travel distance from the SOU doorway to a single exit of 14.4 m and 14.1 respectively. This is greater than the 12 m maximum allowed. The image below shows the 14.4 m travel distance for LG.16.  **Ground Level:** Ground level has multiple travel distances greater than allowed: 1) Unit G.05 has a travel distance from the SOU doorway to a single exit of 15.7 m (shown below in red) 2) Unit G.13 has a travel distance from the SOU doorway to a single exit of 13.8m. (shown below in blue) 3) Unit G.14 has a travel distance from the SOU doorway to a single exit of 14.4 m (shown below in green). These travel distances are greater than the 12 m maximum allowed to a single exit.	

Clause	Comments	Assessment
	 **Level 1** Level 1, Unit 1.09, has a travel distance from the SOU doorway to a single exit of 15 m (shown below in blue). This is greater than the 12 m maximum allowed. Level 1, Communal Open Space, has a travel distance to a single exit of 32.8 m (shown below is red). This is greater than the 20 m maximum allowed.  **SOLUTION** Amended plans may resolve some issues and a Fire Engineer may be able to justify the remaining extended travel distances in a Performance Solution.	
D1.6 Dimensions of exits and paths of travel to exits	The stair widths may need to be widened to provide 1m clear widths. Please note a constructed width of approximately 1,100mm is required to install a compliant handrail to one (1) side of a stairway (as required for a fire-isolated stairway), and a constructed width of approximately 1,200mm is required to install compliant handrails to both sides of a stairway (as required for a non-fire-isolated stairway). Termination of handrails must be considered in the design (see part 5.5 of this report. **Basement 04 fire-isolated stairway** – Three of the four fire-isolated stairway have will have issues with travel width when correct handrail terminations are provided. These are the southwest, north central and southeast fire-isolated stairway. These stairways are highlighted in red below:	DNC

Clause	Comments	Assessment
	 There is insufficient room to provide a 1m clear width to the fire hydrant when a compliant handrail is installed. A compliant handrail must continue one tread beyond the bottom riser and then 300 mm horizontal. This requires a space of 1000 + 250 + 300 = 1550 mm. As shown above only 1390 mm is provided to these three fire-isolated stairways. This will only provide a travel width of 880 mm which is less than the 1m minimum required. **Residential fire-isolated stairway –** The southwest and northwest residential fire-isolated stairways have insufficient room to provide a 1m clear width when a compliant handrail is installed. A compliant handrail must continue one tread beyond the bottom riser and then 300 mm horizontal. This requires a space of 1000 + 250 + 300 = 1550 mm. The southwest residential fire-isolated stairway is only provided with 1140 mm (shown below). This will only allow a clear width of 590 mm. 	

Clause	Comments	Assessment
	The northwest residential fire-isolated stairway is only provided with 1382 mm (shown below). This will only allow a clear width of 832 mm.  **SOLUTION** All stairway designs should be revisited and the location of a compliant handrail should be detailed. Please review figures in section 5.5 of this report and review each handrail design so adequate space in the stairs is provided.	
D1.7 Travel via fire-isolated exits	A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from— 1. a public corridor, public lobby or the like; or 2. a sole-occupancy unit occupying all of a storey; or 3. a sanitary compartment, airlock or the like. 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— 1. to a road or open space; or 2. to a point— (A) in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/ 3 of its perimeter; and (B) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or 3. into a covered area that— (A) adjoins a road or open space; and (B) is open for at least 1/3 of its perimeter; and (C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and (D) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m. **Discharging internally** There are multiple fire-isolated exits that do not provide egress directly to open space or alternative covered areas as allowed by this clause. These fire-isolated exits are 1. the southwest residential fire-isolated stairway, 2. the southwest basement fire-isolated stairway, 3. the central north residential fire-isolated stairway, 4. the central north basement fire-isolated stairway,	DNC/PS

Clause	Comments	Assessment
	5. the southeast residential fire-isolated stairway, 6. the southeast basement fire-isolated stairway, These fire-isolated exits are shown below:  Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have— i. an FRL of not less than 60/60/60; and ii. any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. **Windows and walls adjacent to the path of travel from fire-isolated exits** The windows highlighted in red will need to be internally protected in accordance with C3.4 to comply with this clause. The same is true for windows not more than 3 m above the path of travel. Any walls, within 6 m of these paths, for a height of at least 3 m, must have a minimum FRL of 60/60/60 (attention should be paid to the eastern external stairs).  **SOLUTION** This design will need to be reviewed and updated to comply, or a Fire Engineer may be able to justify the non-compliances in a Performance Solution.	
Part D2 – Construction of Exits		
D2.10 Pedestrian ramps	(a) A fire-isolated ramp may be substituted for a fire-isolated stairway if the construction enclosing the ramp and the	DNC

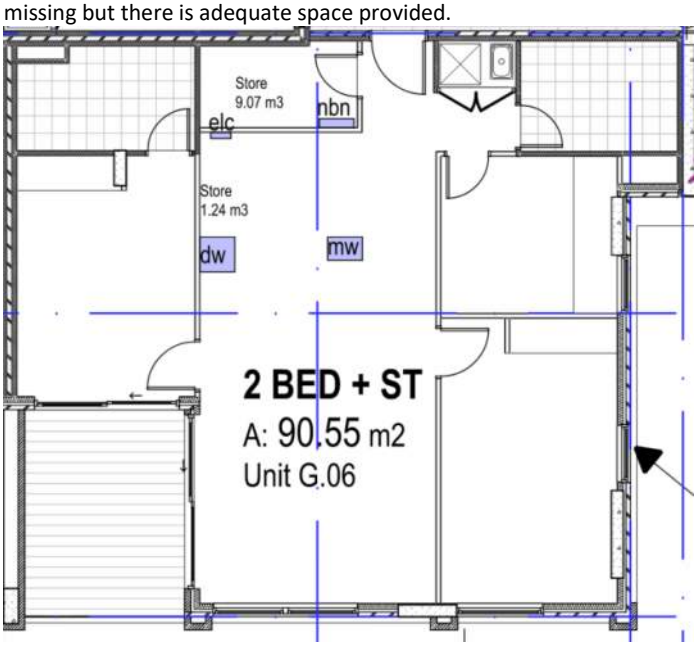
Clause	Comments	Assessment
	width and ceiling height comply with the requirements for a fire-isolated stairway. (b) A ramp serving as a required exit must— (i) where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS 1428.1; or (ii) in any other case, have a gradient not steeper than 1:8. (c) The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586. **Ramp serving loading dock exit:** The ramp serving the loading dock exit is both steeper than allowed by AS1428.1 and also steeper than 1:8 (12.5%). The ramp provided is 15.4%. Also this gradient is provided to the landing of the doorway to the exit as a cross fall (see D2.15)  **SOLUTION** Adjust the doorway location to avoid being located on a ramp.	
D2.15 Thresholds	The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless: (c) in a building required to be accessible by Part D3, the doorway— (i) opens to a road or open space; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or NSW (e) 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. **Ramp serving loading dock exit:** The ramp serving the loading dock exit is within the width of the door leaf of the doorway. The cross fall has a gradient of 15.4%. This is shown below:  **SOLUTION** Adjust the doorway location to provide a compliant threshold.	DNC

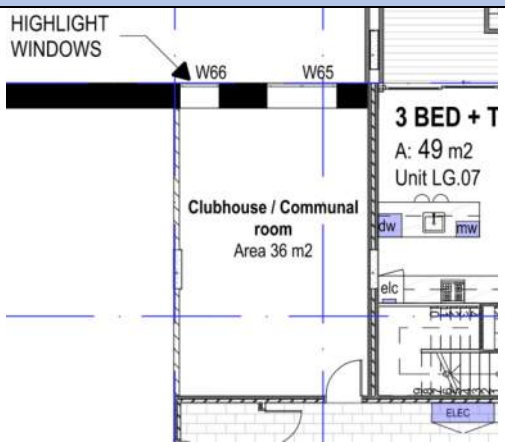
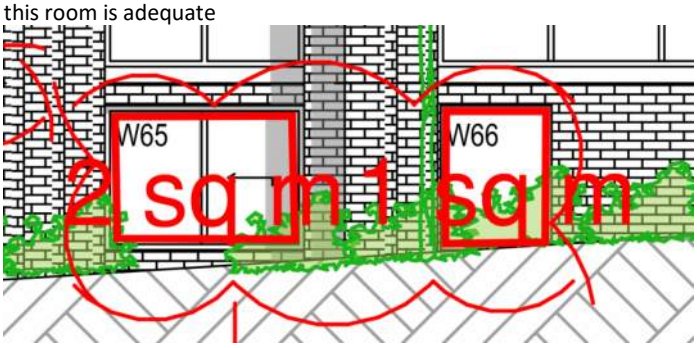
Clause		Comments	Assessment
Part E1 – Fire Fighting Equipment			
E1.3	Fire hydrants	The fire hydrant pumproom is required to have direct connection to road or open space. Any performance solution for the fire-isolated stairways used to access the fire-hydrant pumproom must consider the impact of these non-compliances on the access to the pumproom as a part of the performance solution.	PS
E1.5	Sprinklers	The entire building is to be protected with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 and E1.5a. The sprinkler valve room is required to have direct connection to road or open space. Any performance solution for the fire-isolated stairways used to access the sprinkler valve room must consider the impact of these non-compliances on the access to the valve room as a part of the performance solution.	PS
Specification E1.5 – Fire Sprinkler Systems			
6	Sprinkler valve enclosures	Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road and open space. The room or enclosure is to be secured with a system suitable for Fire and Rescue NSW (FRNSW)	PS
Part F2 – Sanitary and Other Facilities			
F2.3	Facilities in Class 3 to 9 buildings	Facilities must be provided separately for males and females. The "End-of-Trip" facilities should be provided for males and females (not as a unisex facility). **SOLUTION** The provisions of unisex facilities may be possible as a performance solution. The Certifier will need to determine if this is acceptable.	DNC/PS
Part G6 – Occupiable outdoor areas			
G6.2	Fire hazard properties	The Communal Open Space provided on Level 01 must comply with the fire hazard requirements of this clause. **Gardens** All gardens and other vegetation that are a part of the communal open space must have the fire hazard properties as specified by this clause.  **SOLUTION**	PS

Clause		Comments	Assessment
		A Fire Engineered Performance Solution be pursued for feasibility to determine the requirements of this clause are met	
G6.4	Provision of escape	The requirements of Part D1 are applicable to the Communal Open Space provided on Level 01 in accordance with this clause. The travel distance to a single exit of 32.5 m is greater than the 20 m maximum – previously discussed in D1.4	DNC

5.3 Further Information Required

The plans are missing some detail that will make compliance difficult. The main area is in the provision of fire services. These must be considered at design stage to ensure later compromises are not required. Please add details of the following:

Clause		Comments	Assessment
Part F2 – Sanitary and Other Facilities			
F2.1	Facilities in residential buildings	Details of many units are missing. Adequate space has been provided for all facility has been provided. An example is unit G.06 below. The bathroom and kitchen details are missing but there is adequate space provided.  **SOLUTION** Details can be added all unit for a full assessment	CRA/FI
Part F4 – Light and Ventilation			
F4.2	Methods and extent of natural light	Elevations or a window schedule is required to confirm the provision of adequate natural light **Clubhouse/Communal Room** The communal room is 36m^2 and therefore requires 3.6m^2 of natural light to be provided. The room is shown below:	FI

Clause	Comments	Assessment
	 The windows W65 and W66 scale 3 m^2 which is less than the 3.6m^2 required. This is shown below. The issue could be that the scaling is misleading. Further details are required to confirm the natural light for this room is adequate  **SOLUTION** Further details are required to confirm the natural light for habitable rooms is adequate. A window schedule may be provided with the area of the rooms and the area of glazing provided to be assessed and become part of this report	

5.4 Possible Performance Solutions

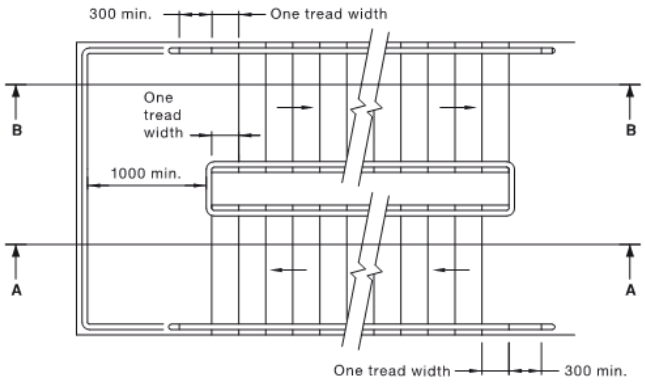
The following items relate to areas where a Performance Solution may be available to justify a deviation from the DtS requirements of the BCA. This report does not form a Performance Solution.

Item	Possible Performance Solution	DtS Provision
1.	Roofing lights within 3 m of parts of the building not allowed by Spec C1.1 Exemption 3.6.	Spec C1.1, 3.6
2.	Openings within 3 m of the boundary not protected in accordance with C3.4.	C3.2 & C3.4
3.	Extended travel distances in the Class 2 areas, retail areas (including bin room), loading dock and carpark.	D1.4
4.	Discharge of Fire-Isolated Stairways/Exits not to the requirements of D1.7.	D1.7
5.	Access to Fire Hydrant Pump Room.	E1.3
6.	Access to Sprinkler Valve Enclosure.	E1.5/SpecE1.5(6)

7.	The provision of unisex facilities	F2.3
8.	Gardens on Communal open space not meeting the required fire hazard properties	G6.2
9.	Extended travel distance for the communal open space (D1.4)	G6.4
10.	Weatherproofing of external walls – FP1.4	NA

5.5 Access within the Building – Clause D3.3

Ensure that the fire-isolated stairways have the stair set backs at the bottom of a stair flight as per Figure 26 of AS1428.1-2009 to ensure that the handrails maintain a consistent height.



(a) Plan

DIMENSIONS IN MILLIMETRES

FIGURE 28 (in part) HANDRAILS TO STAIRS WITH INTERMEDIATE LANDINGS

The bottom of the fire-isolated stairways are to be provided with handrail extensions representing one treads length on the angle, plus 300mm horizontally plus a turn down. The one treads length is required to extend straight out from the stairs in line with the direction of the stairs. Please show the handrail extensions.

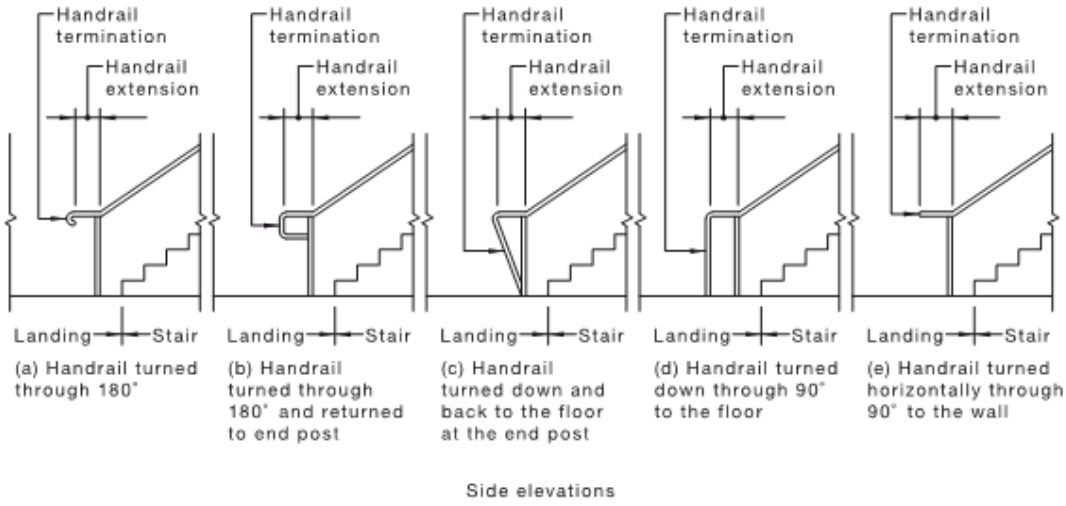


FIGURE 26(C) STAIR HANDRAILS—HANDRAIL TERMINATIONS

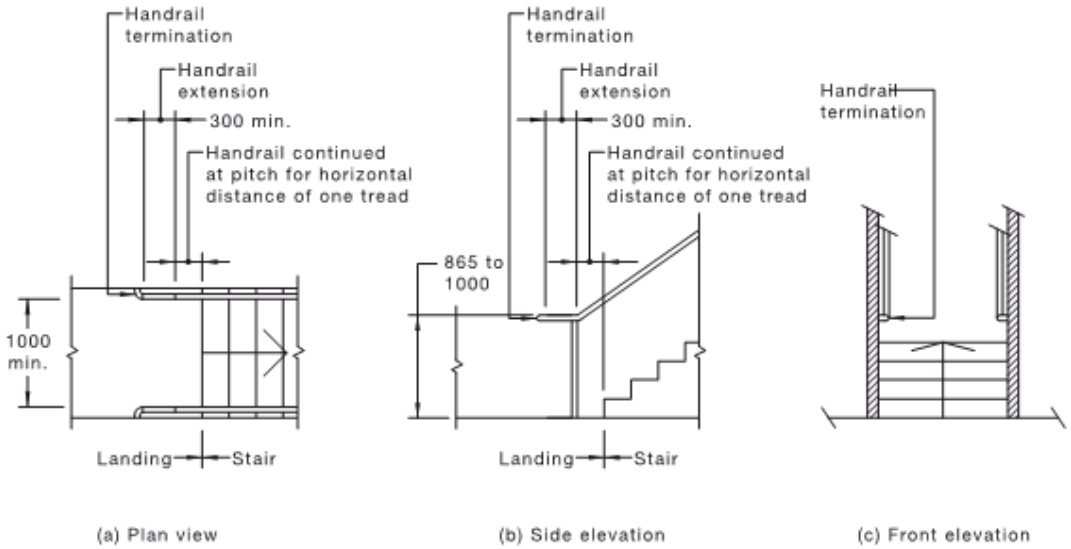


FIGURE 26(D) DETAIL FOR HANDRAILS TERMINATED BY TURNING HORIZONTALLY THROUGH 90° TO THE WALL

5.6 Damp and Weatherproofing- Part F1

Performance Requirement FP1.4, for the prevention of the penetration of water through external walls, must be complied with. There are no Deemed-to-Satisfy Provisions for this *Performance Requirement* in respect of external walls.

As there are no Deemed-to-Satisfy Provisions with respect to the prevention of the penetration of water through external walls a Performance Solution is necessary to satisfy the

Performance Requirements of the BCA. The assessment contained within this report does not include an assessment against Performance Provision FP1.4.

6 Statement of Compliance

The architectural design documentation as referred to in Annexure A of this report has been assessed against the relevant provisions of the BCA and it is considered that the documentation complies or is capable of complying with the BCA as outlined in Annexure B where the items within Part 5 of this report have been satisfactorily resolved.

Annexure A – Reviewed Documentation

This report has been based on the documentation listed below:

Architectural Details prepared by nicholas lycenko Architect			
Drawing Number	Issue	Date	Title
CC-101	1	Aug 2022	Basement 04 Plan
CC-102	1	Aug 2022	Basement 03 Plan
CC-103	1	Aug 2022	Basement 02 Plan
CC-104	1	Aug 2022	Lower Ground Floor Plan
CC-105	1	Aug 2022	Ground Floor Plan
CC-106	1	Aug 2022	Level 01 Plan
CC-107	1	Aug 2022	Roof Plan
CC-201	1	Aug 2022	Elevations
CC-202	1	Aug 2022	Elevations
CC-203	1	Aug 2022	Elevations
CC-301	1	Aug 2022	Sections
CC-302	1	Aug 2022	Sections

Annexure B – Detailed Assessment

Outlined below is a detailed assessment of the proposal against the DtS provisions of the BCA.

All relevant DtS Clauses applicable to the proposal have been reference, Clauses not are not relevant have been deleted.

The following abbreviations have been used in the tables below:

PS	-	A Performance Solution is proposed to achieve compliance with this Clause.
CRA	-	"Compliance Readily Achievable" – it is considered that whilst there is insufficient information currently provided to determine strict compliance with the DtS provisions of the BCA the proposed design is capable of comply subject to noting the requirements of the Clause. Additional information or documentation is necessary to confirm compliance. This may be in the form of additional drawing, a specification or design certification.
Complies	-	The proposal shows compliance with the DtS Clause.
DNC	-	The design does not comply with the DtS Clause.
FI	-	Further information is required for assessment of the proposal relative to the DtS Clause.
N/A	-	The DtS Clause is not applicable at this stage to this design.
Noted	-	The DtS Clause provides information not requiring specific assessment of the proposed design.

SECTION B - STRUCTURE			
Clause		**Comments**	**Assessment**
Part B1 – Structural Provisions			
B1.0	DtS Provisions	Information only.	Noted
B1.1	Resistance to actions	Resistance to actions must be in accordance with this Clause. Structural Engineer to certify.	CRA
B1.2	Determination of individual actions	The magnitude of individual actions must be determined in accordance with this Clause.	CRA
B1.4	Determination of structural resistance of materials and forms of construction	The structural resistance of materials and forms of construction must be determined in accordance with this Clause. Structural Engineer to certify.	CRA
B1.5	Structural software	Structural software used in computer aided design of a building or structure must comply with the ABCB Protocol for Structural Software in accordance with this Clause. Structural Engineer to certify.	CRA
B1.6	Construction in buildings in flood hazard areas	A Class 2 or 3 building, Class 9a health-care building, Class 9c building or Class 4 part of a building in a flood hazard area must comply with this Clause – Not in Flood Prone area  NOTE- Flood prone area adjacent to site.	NA

SECTION C – FIRE RESISTANCE			
Clause		**Comments**	**Assessment**
Part C1 – Fire Resistance and Stability			
C1.0	DtS Provisions	Information only.	Noted
C1.1	Type of construction required	The building is to be of Type A Construction.	Noted
C1.2	Calculation of rise in storeys	The rise in storey of the building is 4. The rise in storey is the sum of storeys at any part of the external wall of the building and any storey within the roof space.	Noted
C1.3	Buildings of multiple classifications	The building has multiple classifications and is Type A based on the Type of Construction required for the top storey.	Noted
C1.4	Mixed types of construction	Not mixed type of construction – all type A	NA
C1.5	Two storey Class 2, 3 and 9c buildings	This clause does not apply to this building as it is not two storeys.	NA
C1.6	Class 4 parts of buildings	This clause does not apply to this building as it does not contain a class 4.	NA
C1.7	Open spectator stands and indoor sports stadiums	This clause does not apply to this building as it does not contain an open spectator stand or indoor sports stadium.	NA
C1.8	Lightweight construction	Lightweight construction used to achieve an FRL is to comply with this clause and as necessary Specification C1.8.	CRA
C1.9	Non-combustible building elements	Buildings of Type A and B Construction building elements are required to be non-combustible as listed within this Clause.	CRA

<table>
<tr><th colspan="2">Clause</th><th>Comments</th><th>Assessment</th></tr>
<tr><td colspan="2"></td><td>This Clause also provides a list of materials permitted to be used wherever non-combustible materials are required.

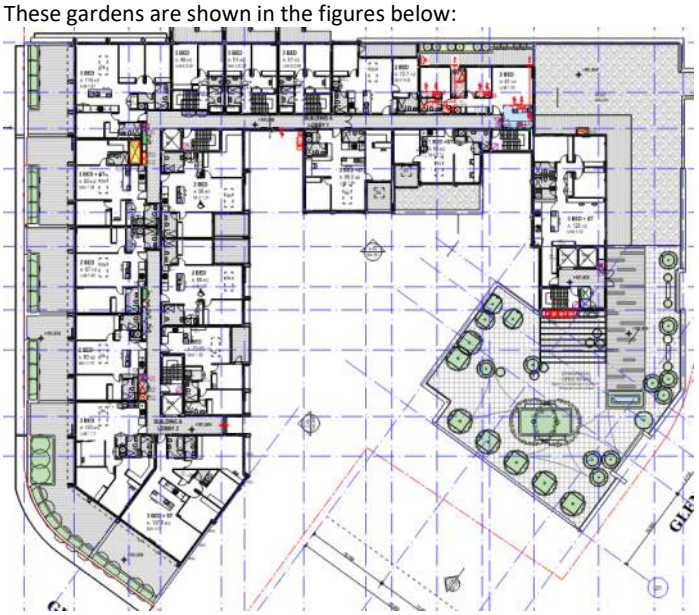
It is noted that a number of building elements are required to be of non-combustible construction, including the external walls. It should be noted that where a building element is required to be non-combustible all materials forming that element are to be non-combustible.

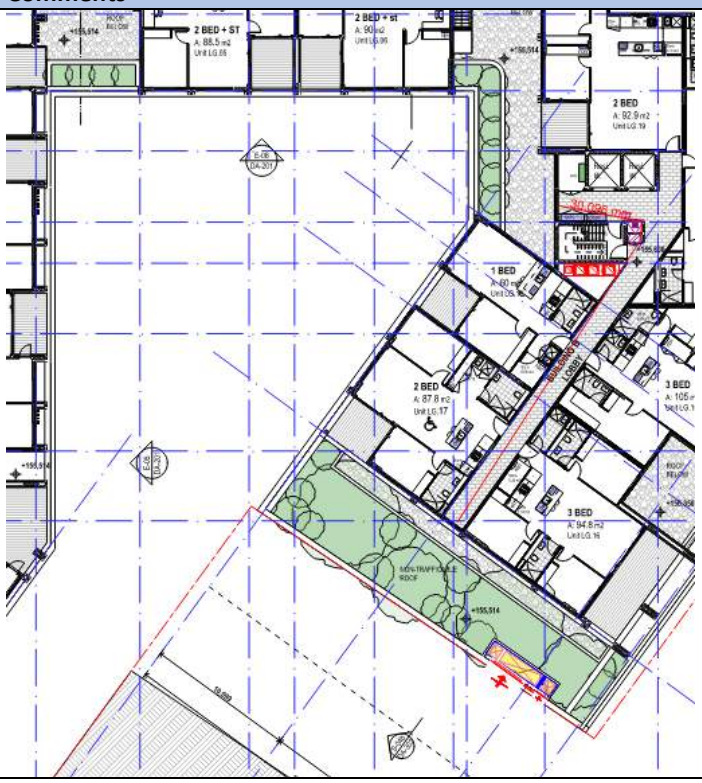
It should be noted that if a permanent polymer/PVC formwork for walls, such as Dincel, Rediwall, etc, is used where the BCA requires such an element to be non-combustible this material will need to be the subject of a Performance Solution at the Construction Certificate Stage of the development.</td><td></td></tr>
<tr><td>C1.10</td><td>Fire hazard properties</td><td>Fire hazard properties of all materials are to comply with this Clause and Specification C1.10.</td><td>CRA</td></tr>
<tr><td>C1.11</td><td>Performance of external walls in fire</td><td>This clause does not apply as it only applies to two-storey buildings</td><td>NA</td></tr>
<tr><td>C1.13</td><td>Fire-protected timber: Concession</td><td>This clause does not apply as no fire-protected timber is proposed</td><td>NA</td></tr>
<tr><td>C1.14</td><td>Ancillary elements</td><td>Ancillary elements, other than those listed in this Clause, are not to be fixed, installed or attached to internal parts or external face of an external wall that is required to be non-combustible.</td><td>CRA</td></tr>
<tr><td colspan="4">Part C2 – Compartmentation and Separation</td></tr>
<tr><td>C2.0</td><td>DtS Provisions</td><td>Information only.</td><td>Noted</td></tr>
<tr><td>C2.1</td><td>Application of Part</td><td>Information only. C2.2, C2.3 and C2.4 do not apply to a carpark provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5.</td><td>Noted</td></tr>
<tr><td>C2.2</td><td>General floor area and volume limitations</td><td><table><tr><td>Class 7a</td><td>The carpark is required to be protected by a sprinkler system complying with Spec E1.5</td></tr><tr><td>Class 6</td><td>Maximum Floor Area 5,000m2
Maximum Volume 30,000m3</td></tr><tr><td>Class 2</td><td>The Class 2 portions of the building are not subject to floor area and volume limitations of C2.2 as Table 3 of Specification C1.1 and Clause C3.11 of the BCA regulates the compartmentation and separation provisions applicable to buildings, or building portions, of Class 2 classifications.</td></tr></table></td><td>Noted</td></tr>
<tr><td>C2.3</td><td>Large isolated building</td><td>This clause does not apply as the building is not a large-isolated building</td><td>NA</td></tr>
<tr><td>C2.4</td><td>Requirements for open spaces and vehicular access</td><td>This clause does not apply as the building is not a large-isolated building</td><td>NA</td></tr>
<tr><td>C2.5</td><td>Class 9a and 9c buildings</td><td>This clause does not apply as the building is not a class 9a or 9c building</td><td>NA</td></tr>
<tr><td>C2.6</td><td>Vertical separation of openings in external walls</td><td>This clause does not apply as the building has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 installed throughout.</td><td>CRA</td></tr>
<tr><td>C2.7</td><td>Separation by fire walls</td><td>Where firewalls are utilised for separation, they must comply with this clause.</td><td>CRA</td></tr>
<tr><td>C2.8</td><td>Separation of classifications in the same storey</td><td>The entire Ground Floor must be constructed to achieve the FRLs applicable to a Class 6, or the different classifications must be separated from one another by firewalls.</td><td>CRA</td></tr>
<tr><td>C2.9</td><td>Separation of classifications in different storeys</td><td>Each storey must be separated from the storey below by construction having the FRL not less than the FRL applicable to a floor for the classification in the lower storey.</td><td>CRA</td></tr>
</table>

Clause		Comments	Assessment
		This requires the floor between the retail and residential parts to achieve a FRL of 180/180/180 above the commercial/retail tenancy and associated loading dock.	
C2.10	Separation of lift shafts	Any lift that connects more than three storeys must be enclosed within a shaft that has the FRLs outlined in Specification C1.1 with reference to the classification in which it is located. Openings for lift landing doors and services must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C3.	CRA
C2.11	Stairways and lifts in one shaft	The fire-isolated stairways and the lifts are in separate shafts.	CRA
C2.12	Separation of equipment	Equipment including lift motor rooms, emergency generators sustaining emergency equipment operating in emergency mode, central smoke control plan, boilers or battery areas with a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours are to be fire separated from the remainder of the building in accordance with this Clause.	CRA
C2.13	Electricity supply system	If the main switch room sustains emergency equipment operating in emergency mode, the room is to be separated from the remainder of the building with construction having a FRL of not less than 120/120/120. 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.	CRA
C2.14	Public corridors in a Class 2 and 3 buildings	Where Class 2 parts of the building incorporate any public corridors that have a length of more than 40 m, they must be divided into intervals of less than 40 m with smoke-proof walls complying with Clause 2 of Specification C2.5. Building A Lobby 1 (lower ground floor) has a corridor that measures 52 m. The doors separating the corridor must meet Clause 2 of Specification C2.5 Building A Lobby 1 (Level 01) has a corridor that measures 50 m. The doors separating the corridor must meet Clause 2 of Specification C2.5 Building B Lobby (ground floor) has a corridor that measures 64 m. The doors separating the corridor must meet Clause 2 of Specification C2.5.	CRA
Part C3 – Protection of Openings			
C3.0	DtS Provisions	Information only.	Noted
C3.1	Application of Part	Information only.	Noted
C3.2	Protection of openings in external walls	Openings in an external wall that is required to have an FRL must if the distance between the opening and the fire-source feature to which it is exposed is less than— (i) 3 m from a side or rear boundary of the allotment; or (ii) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or (iii) 6 m from another building on the allotment that is not Class 10, be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally. **Retail 06** The retail tenancy at the eastern side of Glenrose Place has openings within approximately 1600 mm of the boundary where 3 m is the	CRA/PS

Clause		Comments	Assessment
		minimum required unless the window is protected by C3.4. This measurement is shown below:  **SOLUTION** These openings must be protected in accordance with C3.4 or a Fire Engineering Performance Solution is required.	
C3.3	Separation of external walls and associated openings in different fire compartments	The distance between parts of external walls and any openings within them in different fire compartments separated by a fire wall must not be less than that set out in Table C3.3, unless— (a) those parts of each wall have an FRL not less than 60/60/60; and (b) any openings protected in accordance with C3.4.	CRA
C3.4	Acceptable methods of protection	Where protection is required, doorways, windows and other openings must be protected as follows: (i) Doorways— (A) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (B) –/60/30 fire doors that are self-closing or automatic closing. (ii) Windows— (A) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or (B) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or (C) –/60/– automatic closing fire shutters. (iii) Other openings— (A) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or (B) construction having an FRL not less than –/60/–. Fire doors, fire windows and fire shutters must comply with Specification C3.4. Alternatively, a Performance Solution can be prepared by a fire engineer for an alternative scope to rectify.	CRA
C3.5	Doorways in fire walls	Where fire walls are utilised, any doorways through them must be protected in accordance with the requirements of this clause.	CRA
C3.6	Sliding fire doors	This clause does not apply as no sliding fire doors are proposed.	NA
C3.7	Protection of doorways in horizontal exits	A doorway that is part of a horizontal exit must be protected by a single fire door that has an FRL of not less than that required by Specification C1.1 for the fire wall except that the door must have an insulation level of at least 30; or Each door required by must be self-closing, or automatic-closing to the requirements of this clause.	CRA
C3.8	Openings in fire-isolated exits	The doorways to the fire-isolated exits are to be self-closing -/60/30 fire door sets.	CRA

Clause		Comments	Assessment
C3.9	Service penetrations in fire-isolated exits	Fire-isolated exits may not be penetrated by any service other than electrical wiring for lighting and intercom systems, water supply for fire services and other fire related services.	CRA
C3.10	Openings in fire-isolated lift shafts	Lift doors are to achieve an FRL of not less than -/60/- and be in accordance with this Clause. Lift indicator panes are also to comply with this Clause.	CRA
C3.11	Bounding construction: Class 2 and 3 buildings and Class 4 parts	The doorways to the units, and rooms off the public corridors, are to be self-closing -/60/30 fire door sets.	CRA
C3.12	Openings in floors and ceilings for services	All service shafts are to have FRLs as set by Table 3 of BCA Specification C1.1.	CRA
C3.13	Openings in shafts	Access openings in fire rated service shafts are to be through an access panel, or self-closing fire door, having an FRL of not less than -/60/30.	CRA
C3.15	Openings for service installations	Service penetrations through fire rated building elements are to be sealed in accordance with a tested system and manufacturer specifications in accordance with this Clause and specification C3.15.	CRA
C3.16	Construction joints	Construction joints in fire rated building elements are to be appropriately treated to maintain the integrity and insulation of the element in which they are located.	CRA
C3.17	Columns protected with lightweight construction to achieve an FRL	Any columns protected with lightweight fire rated materials to achieve a required FRL are to comply with this Clause.	CRA
Specification C1.1 – Fire Resisting Construction			
1	Scope	This Specification contains the requirements for fire resisting construction of building elements.	Noted
2	General Requirements	-	-
2.1	Exposure to FSF	Fire-source feature means— (a) the far boundary of a road, river, lake or the like adjoining the allotment; or (b) a side or rear boundary of the allotment; or (c) an external wall of another building on the allotment which is not a Class 10 building. The building is exposed to FSF to the east from neighbouring properties (east boundary) – service station.	Noted
2.2	Fire protection for support of another part	Where a part of a building required to have a FRL depends on direct vertical or lateral support from another part to maintain its FRL. That supporting part must have a FRL not less than that required by other provisions as set out in this Clause. A detailed assessment of FRL has not been made as part of this assessment.	CRA
2.3	Lintels	A lintel must have the FRL required for the part of the building in which it is situated unless it does not contribute to the support of a fire door, fire window or fire shutter and it otherwise complies with this Clause.	CRA
2.4	Method of attachment reduce the fire-resistance of building element	The fire-resistance of a building element is not to be impacted by the method of attaching or installing a finish, lining, ancillary element or a service installation in accordance with this Clause	CRA
2.5	General concessions	A non-combustible structure on the roof, such as ventilation motors, need not comply with Spec C1.1.	CRA
2.6	Mezzanine floors: Concession	This clause does not apply to this building as there are no mezzanines proposed that will use this concession.	NA
2.7	Enclosure of Shafts	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, except that these provisions need not apply to—	CRA

Clause		Comments	Assessment
		(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 on the ground.	
2.8	Carparks in Class 2 and 3 buildings	This clause does not apply as this building has other classes other than class 2 and 3.	NA
2.9	Residential aged care building: Concession	This clause does not apply as this building is not a residential aged care building	NA
3	Type A Construction	-	-
3.1	Fire-resistance of building elements	The building elements are to have FRLs as determined by this Clause. See Part 4 of the Report.	CRA
3.2	Concessions for floors	A floor need not have an FRL in accordance with the concessions given in this clause.	CRA
3.3	Floor loading of Class 5 and 9b buildings: Concession	This clause does not apply as this building does not have any class 5 and 9b parts.	NA
3.4	Roof superimposed on concrete slab: Concession	A roof superimposed on a concrete slab need not have an FRL of it complies with this Clause.	CRA
3.5	Roof: Concession	A roof need not have an FRL if its covering is non-combustible and the building meets the requirements of this Clause. **Gardens** All gardens and other vegetation that form part of the roof, such as the vegetation on the communal open space, are combustible and therefore do not meet the requirements of this concession. Therefore, this concession does not apply. These gardens are shown in the figures below: 	N/A

Clause	Comments	Assessment
		
3.6 Rooflights	The roof light must not be within 3m of another part of the building that projects beyond the roof unless that part of the building has the FRL required of a firewall, or within 3 m of any other roof light or the like in an adjoining SOU if the walls bounding the unit are required to have an FRL. **Roof Lights** There are a eight roof lights that do not meet this concession of this clause. They are highlighted in the image below and are: 8. Dark Green – Roof light to unit 1.06, 1800 mm from the solar panels 9. Red - Roof light to unit 1.14, 2700 mm from the solar panels 10. Pink - Roof lights (2) for units 1.05 and 1.14, 2400 mm from each other 11. Blue - Roof light to unit 1.05, 2400 mm from the air-conditioning 12. Orange - Roof light to unit 1.04, 450 mm from the air-conditioning 13. Yellow - Roof light to unit 1.08, 1800 mm from the air-conditioning amd 1500 mm from the mechanical duct 14. Light Green - Roof light to unit 1.11, 2100 mm from the air-conditioning	DNC/PS

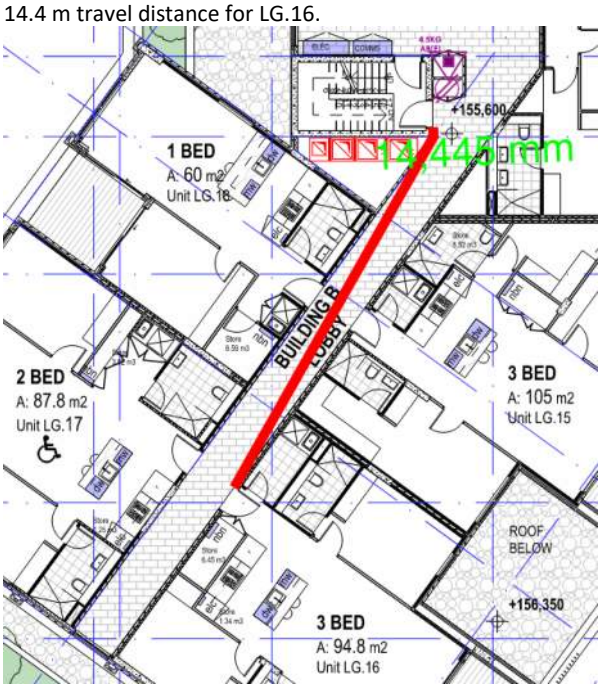
Clause		Comments	Assessment
		 **SOLUTION** These roof lights can be separated by 3 m or more to the requirements of this clause, or a Fire Engineer may be able to provide a Performance Solution	
3.7	Internal columns and walls: Concession	The internal columns (except those referred to in clause 3.1(f) Specification C1.1) and walls (except fire walls and shaft walls) within the storey immediately below the roof are granted a concession by this clause to have an FRL of no less than 60/60/60	CRA
3.8	Open spectator stands and indoor sports stadiums: Concession	This clause is not applicable to this building as it is not an open spectator stand or an indoor sports stadium.	NA
3.9	Carparks	This clause allows the reduction of the FRL for carparks that have a maximum ancillary of no greater than 10% of the floor area in accordance with this clause.	Noted
3.10	Class 2 and 3 buildings: Concession	The exemptions under this clause relate to low level residential buildings.	NA
Specification C1.8 – Structural Tests for Lightweight Construction			
1	Scope	This Specification describes test methods to be applied to and criteria to be satisfied by a wall system of light weight construction.	Noted
2	Application	Information only.	Noted
3	Tests	Tests to walls and lift shafts to comply with this Clause.	CRA
4	Test Specimens	Testing to comply with this Clause.	CRA
5	Test methods	Tests to be carried out in accordance with this Clause.	CRA
6	Criteria for compliance	The wall system or the specimen of it must comply with this Clause.	CRA
Specification C1.10 – Fire Hazard Properties			
1	Scope	This Specification sets out requirements in relation to the fire hazard properties of linings, materials and assemblies in buildings.	Noted
2	Application	Linings, materials and assemblies must comply with the appropriate provisions described in Table 1 of this Clause.	Noted
3	Floor linings and floor coverings	Fire hazard properties of the floor linings and floor coverings are to comply with this Clause.	CRA
4	Wall and ceiling linings	Fire hazard properties of the wall and ceiling linings are to comply with this Clause.	CRA
5	Air-handling ductwork	Fire hazard properties of the air-handling ductwork are to comply with this Clause.	CRA
6	Lift cars	Fire hazard properties of the lift cars are to comply with this Clause.	CRA
7	Other materials	Fire hazard properties of other materials not covered in Clauses 3, 4, 5 or 6 above are to comply with this Clause.	CRA
Specification C1.11 – Performance of External Walls in a Fire			
1	Scope	This Specification contains measure to minimise, in the event of fire, the likelihood of external walls covered by Clause 2 collapsing	Noted

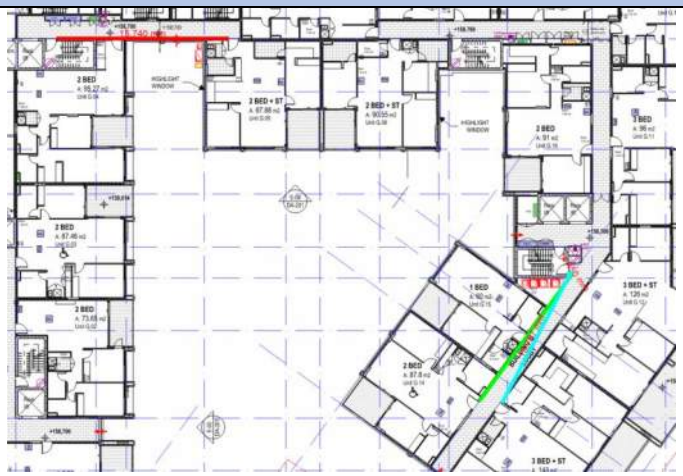
Clause		Comments	Assessment
		outwards as complete panels and the likelihood of panels separating from supporting members.	
2	Application	Information only.	Noted
3	General requirements for external wall panels	This clause does not apply as it only applies to two-storey buildings	NA
4	Additional requirements for vertically spanning external wall panels adjacent to columns	This clause does not apply as it only applies to two-storey buildings	NA
Specification C1.13 – Cavity Barriers for Fire-Protective Timber			
1	Scope	This Specification sets out requirements for cavity barriers in fire-protective timber construction.	Noted
2	Requirements	Cavity barriers for fire-protective timber must comply with this clause.	Noted
Specification C1.13a – Fire-protected timber			
1	Scope	This Specification sets out requirements for cavity barriers in fire-protective timber construction.	Noted
2	Requirements	-	-
2.1	General requirements	General requirements for fire-protected timber	Noted
2.2	Massive timber	General requirements for massive timber	Noted
3	Determination of time the timber interface temperature exceeds 300°C for timber at least 75 mm thick	Determination of time the timber interface temperature exceeds 300°C for timber at least 75 mm thick	Noted
3.1	Form of test	Tests must be carried out in accordance with the Standard Fire Test, or an equivalent or more severe test must comply with this clause	Noted
3.2	Smaller specimen permitted	Provides details of when pilot scale tests can be carried out	Noted
3.3	Acceptance criteria	The time the timber interface temperature exceeds 300°C must be taken as the minimum time any of the thermocouples specified in Clause 3.1 exceeded 300°C.	Noted
Specification C2.5 – Smoke-Proof Walls in Health-Care and Aged Care Buildings			
1	Scope	This Specification sets out requirements for the construction of smoke-proof walls in Class 9a health-care buildings and Class 9c buildings.	Noted
2	Class 9a health-care buildings	Smoke-proof walls required by C2.5 in Class 9a health-care buildings must comply with the following: (a) Be non-combustible and extend to the underside of— (i) the floor above; or (ii) a non-combustible roof covering; or (iii) a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes. (b) Not incorporate any glazed areas unless the glass is safety glass as defined in AS 1288. (c) Only have doorways which are fitted with smoke doors complying with Specification C3.4. (d) Have all openings around penetrations and the junctions of the smoke-proof wall and the remainder of the building stopped with non-combustible material to prevent the free passage of smoke. (e) Incorporate smoke dampers where air-handling ducts penetrate the wall unless the duct forms part of a smoke hazard management system required to continue air movement through the duct during a fire.	CRA
3	Class 9c buildings	Does not apply to this development	NA
4	Doorways in smoke-proof walls	Does not apply to this development	NA

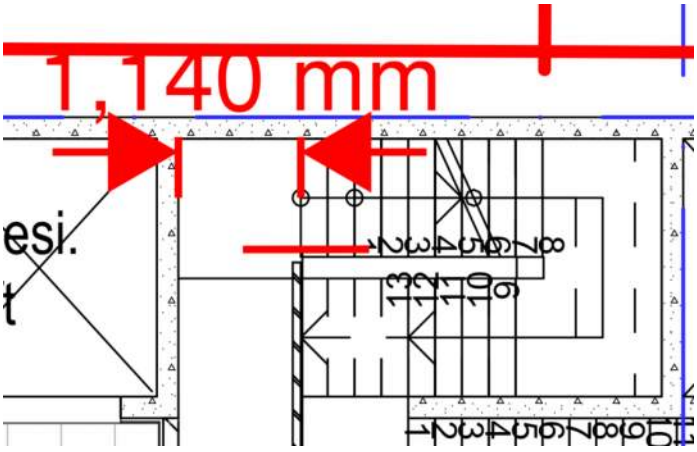
Clause		Comments	Assessment
Specification C3.4 – Fire Doors, Smoke Doors, Fire Windows and Shutters			
1	Scope	This Specification sets out requirements for the construction of fire doors, smoke doors, fire windows and fire shutters.	Noted
2	Fire doors	Fire doors are to comply with AS1905.1-2015 Amendment 1 and this Clause.	CRA
3	Smoke doors	Smoke doors are to comply with this Clause.	CRA
4	Fire shutters	Fire shutters are to comply with this Clause and the manufacturer's specifications.	CRA
5	Fire windows	Fire windows are to comply with this Clause and the manufacturer's specifications.	CRA
Specification C3.15 – Penetration of Walls, Floors and Ceilings by Services			
1	Scope	This Specification prescribes material and methods of installation for services that penetrate walls, floors and ceilings required to have an FRL.	Noted
2	Application	Information only.	Noted
3	Metal pipe systems	Metal pipe system penetration must comply with this clause.	CRA
4	Pipes penetrating sanitary compartments	Pipes penetrating sanitary compartments must comply with this	CRA
5	Wires and cables	Wire and cable penetrations must comply with this clause.	CRA
6	Electrical switches and outlets	Electrical switches and outlets must comply with this clause.	CRA
7	Fire-stopping	Fire-stopping must comply with this clause.	CRA

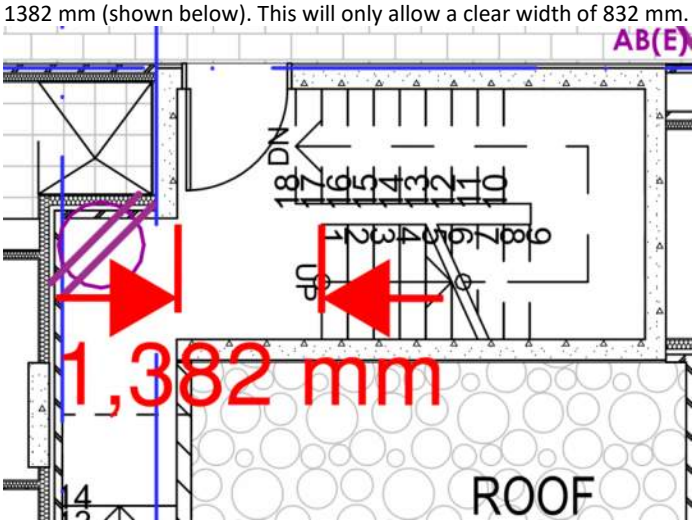
SECTION D – ACCESS AND EGRESS

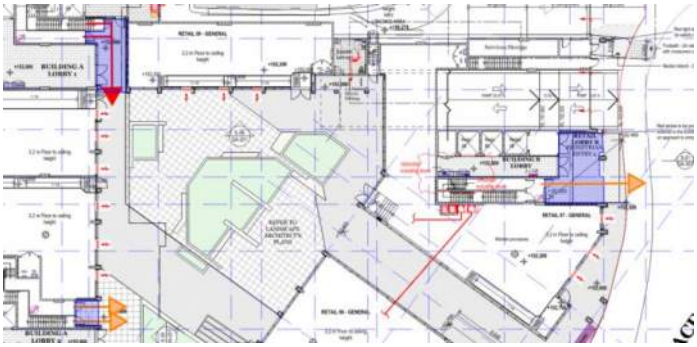
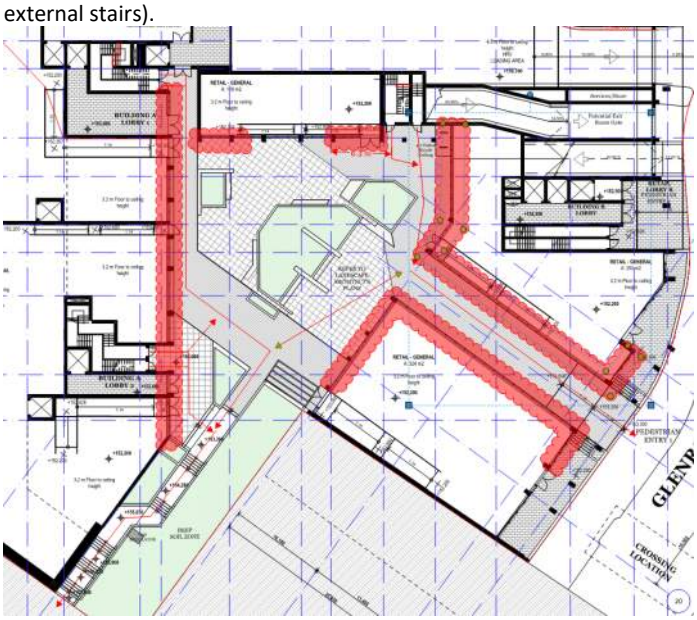
Clause		Comments	Assessment
Part D1 – Provisions for Escape			
D1.0	DtS Provisions	Information only.	Noted
D1.1	Application of Part	Information only.	Noted
D1.2	Number of exits required	At least one exit from each storey and two from the basement (rise greater than 1.5 m).	CRA
D1.3	When fire-isolated stairways and ramps are required	All stairways in the class 2 part, not within SOU, are required to be fire-isolated. All stairways in class 7a part are required to be fire-isolated.	CRA
D1.4	Exit travel distances	A summary of the maximum travel distances applicable to this building are (assuming a sprinkler system meeting the requirements of Specification E1.5a): 6. Class 2 – SOU to exit (or point of choice) 12 m 7. Class 2 common areas – 20 m to an exit or point of choice. 8. Class 6 – 30 m to a single exit serving a storey at the level of access to a road or open space, or 9. Class 6 – 20 m to a single exit, or a point of choice where two exits are available, in which case the maximum distance to one of those exits must not exceed 40 m. 10. Class 7a – 20 m to a single exit or a point of choice where two exits are available, in which case the maximum distance to one of those exits must not exceed 40 m. **Basement 02** Basement 02 has travel distances that are greater than allowed by this clause. These travel distances are shown in the figure below and are: 4) **Retail 03** (shown in green) - Retail 03 has a travel distance of 36 m to a single exit at the level of access to a road or open space. This is greater than the 30 m maximum allowed. 5) **Retail Bin Room** (shown in blue) – the retail bin room has a travel distance of 31.8 m to a single exit at the level of access to a road or open space. This is greater than the 30 m maximum allowed.	DNC/PS

Clause	Comments	Assessment
	6) **Loading Dock** (shown in orange) – the loading dock has a travel distance of 44 m to a single exit at the level of access to a road or open space. This is greater than the 30 m maximum allowed.  **Lower Ground** Lower ground, Units LG.16 and LG.17 have a travel distance from the SOU doorway to a single exit of 14.4 m and 14.1 respectively. This is greater than the 12 m maximum allowed. The image below shows the 14.4 m travel distance for LG.16.  **Ground Level:** Ground level has multiple travel distances greater than allowed: 4) Unit G.05 has a travel distance from the SOU doorway to a single exit of 15.7 m (shown below in red) 5) Unit G.13 has a travel distance from the SOU doorway to a single exit of 13.8m. (shown below in blue) 6) Unit G.14 has a travel distance from the SOU doorway to a single exit of 14.4 m (shown below in green). These travel distances are greater than the 12 m maximum allowed to a single exit.	

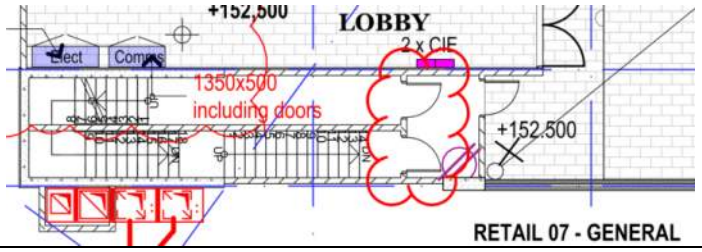
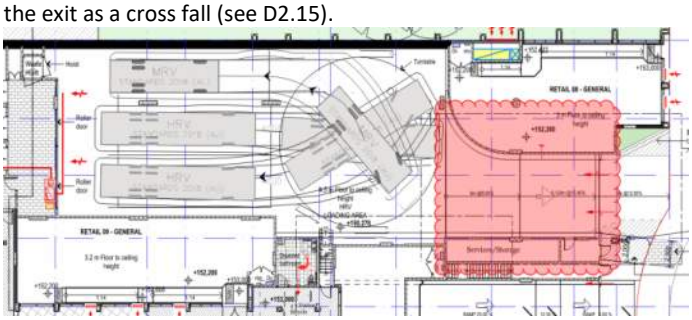
Clause		Comments	Assessment
		 **Level 1** Level 1, Unit 1.09, has a travel distance from the SOU doorway to a single exit of 15 m (shown below in blue). This is greater than the 12 m maximum allowed. Level 1, Communal Open Space, has a travel distance to a single exit of 32.8 m (shown below is red). This is greater than the 20 m maximum allowed.  **SOLUTION** Amended plans may resolve some issues and a Fire Engineer may be able to justify the remaining extended travel distances in a Performance Solution.	
D1.5	Distance between alternative exits	Requirements for distribution of alternative exits. With a sprinkler system meeting the requirements of Specification E1.5a, the distance between alternative exits in the class 2 part is increased from 45 m to 60 m. The maximum distance between alternative exits in a class 6 or 7 is also 60 m	CRA
D1.6	Dimensions of exits and paths of travel to exits	The stair widths may need to be widened to provide 1m clear widths. Please note a constructed width of approximately 1,100mm is required to install a compliant handrail to one (1) side of a stairway (as required for a fire-isolated stairway), and a constructed width of approximately 1,200mm is required to install compliant handrails to both sides of a stairway (as required for a non-fire-isolated stairway). Termination of handrails must be considered in the design (see part 5.5 of this report. **Basement 04 fire-isolated stairway –** Three of the four fire-isolated stairway have will have issues with travel width when correct handrail terminations are provided. These	DNC

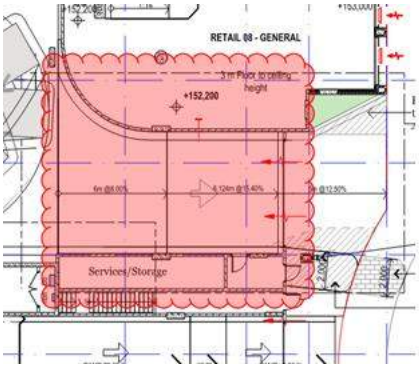
Clause	Comments	Assessment
	are the southwest, north central and southeast fire-isolated stairway. These stairways are highlighted in red below:  There is insufficient room to provide a 1m clear width to the fire hydrant when a compliant handrail is installed. A compliant handrail must continue one tread beyond the bottom riser and then 300 mm horizontal. This requires a space of 1000 + 250 + 300 = 1550 mm. As shown above only 1390 mm is provided to these three fire-isolated stairways. This will only provide a travel width of 880 mm which is less than the 1m minimum required. **Residential fire-isolated stairway –** The southwest and northwest residential fire-isolated stairways have insufficient room to provide a 1m clear width when a compliant handrail is installed. A compliant handrail must continue one tread beyond the bottom riser and then 300 mm horizontal. This requires a space of 1000 + 250 + 300 = 1550 mm. The southwest residential fire-isolated stairway is only provided with 1140 mm (shown below). This will only allow a clear width of 590 mm. 	

Clause	Comments	Assessment
	The northwest residential fire-isolated stairway is only provided with 1382 mm (shown below). This will only allow a clear width of 832 mm.  **SOLUTION** All stairway designs should be revisited and the location of a compliant handrail should be detailed. Please review figures in section 5.5 of this report and review each handrail design so adequate space in the stairs is provided.	
D1.7 Travel via fire-isolated exits	A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from— 4. a public corridor, public lobby or the like; or 5. a sole-occupancy unit occupying all of a storey; or 6. a sanitary compartment, airlock or the like. 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— 4. to a road or open space; or 5. to a point— (A) in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/ 3 of its perimeter; and (B) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or 6. into a covered area that— (A) adjoins a road or open space; and (B) is open for at least 1/3 of its perimeter; and (C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and (D) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m. **Discharging internally** There are multiple fire-isolated exits that do not provide egress directly to open space or alternative covered areas as allowed by this clause. These fire-isolated exits are 7. the southwest residential fire-isolated stairway, 8. the southwest basement fire-isolated stairway, 9. the central north residential fire-isolated stairway, 10. the central north basement fire-isolated stairway,	DNC/PS

Clause	Comments	Assessment
	11. the southeast residential fire-isolated stairway, 12. the southeast basement fire-isolated stairway, These fire-isolated exits are shown below:  Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have— iii. an FRL of not less than 60/60/60; and iv. any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. **Windows and walls adjacent to the path of travel from fire-isolated exits** The windows highlighted in red will need to be internally protected in accordance with C3.4 to comply with this clause. The same is true for windows not more than 3 m above the path of travel. Any walls, within 6 m of these paths, for a height of at least 3 m, must have a minimum FRL of 60/60/60 (attention should be paid to the eastern external stairs).  **SOLUTION** This design will need to be reviewed and updated to comply, or a Fire Engineer may be able to justify the non-compliances in a Performance Solution.	
D1.8 External stairways or ramps in lieu of fire-isolated exits	This clause does not apply as no external stairways or ramps are used in lieu of fire-isolated exits	NA

Clause		Comments	Assessment
D1.9	Travel by non-fire-isolated stairways or ramps	In a class 6 or 7 building the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80 m. The two stairways provided to the lower ground floor retail tenancies are non-fire-isolated stairways.	CRA
D1.10	Discharge from exits	The discharge from exits must comply with the requirements of this clause. This includes a suitable barrier to prevent vehicles from blocking the exit or access to it.	CRA
D1.11	Horizontal exits	This clause does not apply as there are no horizontal exits	NA
D1.12	Non-required stairways, ramps or escalators	This clause does not apply as there are no non-required stairways, ramps or escalators.	NA
D1.13	Number of persons accommodated	Without further information the occupancies assume for this report are one occupant per 30 m^2 for the carparking, one occupant per 3 m^2 for the retail at level of direct entry from open air and one occupant per 5 m^2 for other retail.	Noted
D1.14	Measurement of distances	Information only.	Noted
D1.15	Method of measurement	Information only.	Noted
D1.16	Plant rooms, lift machine rooms, electricity network substations: Concession	No details of ladders have been provided to serve the areas listed in this clause	NA
D1.17	Access to lift pits	Access to lift pits must comply with this clause. No details have been provided for assessment.	CRA
D1.18	Egress from early childhood centres	This clause does not apply as no early childhood centre has been details.	NA
Part D2 – Construction of Exits			
D2.0	DtS Provisions	Information only.	Noted
D2.1	Application of Part	Information only.	Noted
D2.2	Fire-isolated stairways and ramps	Construction of the fire-isolated stairways must be – (a) of non-combustible materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.	CRA
D2.3	Non-fire-isolated stairways and ramps	The construction of the non-fire-isolated exit stairways must be – (a) of non-combustible materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft. 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/m3 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
D2.4	Separation of rising and descending stair flights	Rising and descending stairs are separated to the requirements of this clause. **North central fire-isolated stairways** The construction that separates or is common to the rising and descending flights must be— 1. non-combustible; and	CRA

Clause		Comments	Assessment
		2. smoke proof in accordance with Clause 2 of Specification C2.5. This applies to the rising and descending north central fire-isolated stairs that are shown below: 	
D2.5	Open access ramps and balconies	This clause does not apply as no open access ramps and balconies have been detailed for smoke hazard management	NA
D2.6	Smoke lobbies	This clause does not apply as no smoke lobbies have been detailed	NA
D2.7	Installations in exits and paths of travel	Services or equipment comprising - (i) electricity meters, distribution boards or ducts; or (ii) central telecommunications distribution boards or equipment; or (iii) electrical motors or other motors serving equipment in the building may be installed in any corridor, hallway, lobby or the like leading to a required exit if the services or equipment are enclosed by non-combustible construction or a fire-protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.	CRA
D2.8	Enclosure of space under stairs and ramps	There are no planned enclosures under stairs.	CRA
D2.9	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.	Noted
D2.10	Pedestrian ramps	(a) 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. (b) A ramp serving as a required exit must— (i) where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS 1428.1; or (ii) in any other case, have a gradient not steeper than 1:8. (c) The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586. **Ramp serving loading dock exit:** The ramp serving the loading dock exit is both steeper than allowed by AS1428.1 and also steeper than 1:8 (12.5%). The ramp provided is 15.4%. Also, this gradient is provided to the landing of the doorway to the exit as a cross fall (see D2.15). 	DNC

Clause		Comments	Assessment
		SOLUTION Adjust the doorway location to avoid being located on a ramp.	
D2.11	Fire-isolated passageways	The fire-isolated passageways must have the required FRL of the stairways that discharge into it.	CRA
D2.12	Roof as open space	The minimum FRL of a roof used as open space is 120/120/120. This applies to all basement carparking roof that is used as a path of egress. The roof must 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
D2.13	Goings and risers	Stair geometry and treads slip resistance must comply with this Clause.	CRA
D2.14	Landings	The geometry and slip-resistance of landings must comply with this clause.	CRA
D2.15	Thresholds	The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless: (c) in a building required to be accessible by Part D3, the doorway— (i) opens to a road or open space; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or NSW (e) 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. **Ramp serving loading dock exit:** The ramp serving the loading dock exit is within the width of the door leaf of the doorway. The cross fall has a gradient of 15.4%. This is shown below:  **SOLUTION** Adjust the doorway location to provide a compliant threshold.	DNC
D2.16	Barriers to prevent falls	Barriers (balustrades) must be provided in accordance, and comply, with this clause.	CRA
D2.17	Handrails	Handrails are to comply with this Clause – see D1.6 for non-compliance issues for travel width that may be encountered when compliant handrails are added.	CRA
D2.18	Fixed platforms, walkways, stairways and ladders	Fixed platforms, walkways, stairways and ladders are not proposed at this time.	Noted
D2.19	Doorways and doors	A doorway serving as a required exit or forming part of a required exit, must comply with this clause.	CRA
D2.20	Swinging doors	A swinging door in a required exit, or forming part of a required exit, must swing in the direction of egress unless:	CRA

Clause		Comments	Assessment
		a) 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 b) it serves a sanitary compartment or airlock (in which case it may swing in either direction)	
D2.21	Operation of latch	All doorways must be provided with latches compliant with the requirements of this clause.	CRA
D2.22	Re-entry from fire-isolated exits	Not applicable as under 25 m in effective height.	NA
D2.23	Signs on doors	Signage is to be located on all fire and smoke doors in accordance with this Clause. For self-closing doors the sign is to stay "FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN" and for the door discharging from a fire-isolated exit "FIRE SAFETY DOOR – DO NOT OBSTRUCT". The text is to be a minimum of 20mm in height and a colour contrasting to the background of the sign.	CRA
D2.24	Protection of openable windows	Windows to the bedrooms of Class 2, where a fall of greater than 2m is possible, otherwise where a fall of greater than 4 m is possible, must comply with this clause.	CRA
D2.25	Timber stairway: Concession	Timber stairways must comply with this clause	Noted
Part D3 – Access for people with a disability			
An Access assessment of the development is part of separate report			

SECTION E – SERVICES AND EQUIPMENT

Clause		Comments	Assessment
Part E1 – Fire Fighting Equipment			
E1.0	DtS Provisions	Information only.	Noted
E1.3	Fire hydrants	The building must be served by a fire hydrant system compliant with AS 2419.1-2005. The fire hydrant pumproom is required to have direct connection to road or open space. Any performance solution for the fire-isolated stairways used to access the fire-hydrant pumproom must consider the impact of these non-compliances on the access to the pumproom as a part of the performance solution. The hydraulic consultant is to confirm coverage is achieved to the requirements of this clause and AS2419.1	PS
E1.4	Fire hose reels	All non-residential parts of the building must be protected by a fire hose reel system in accordance with this clause and AS 2441-2005. Please add the locations of the Fire Hose Reels to the plans for assessment.	CRA
E1.5	Sprinklers	The entire building is to be protected with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 and E1.5a. The sprinkler valve room is required to have direct connection to road or open space. Any performance solution for the fire-isolated stairways used to access the sprinkler valve room must consider the impact of these non-compliances on the access to the valve room as a part of the performance solution. The hydraulic consultant is to confirm coverage is achieved to the requirements of this clause.	PS
E1.6	Portable fire extinguishers	The building is to be provided with portable fire extinguishers.	CRA

Clause		Comments	Assessment
		Within the residential areas a 2.5kg ABE powder extinguisher is to be located within 10m of all unit entry doors. Other areas in the building require coverage to AS2444. Please provide details of the portable fire extinguisher for assessment	
E1.8	Fire control centres	A fire control centre facility in accordance with Specification E1.8 must be provided for a Class 6, 7 building with a total floor area of more than 18 000 m2. The total building is over 18000m^2 but the part of the building that is class 6 and 7 is well under the 18,000m^2 that requires a Fire control centre.	NA
E1.9	Fire precautions during construction	In a building under construction 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.	Noted
E1.10	Provisions for special hazards	No special hazards have been identified	NA
Specification E1.5 – Fire Sprinkler Systems			
1	Scope	This Specification sets out requirements for the design and installation of fire sprinkler systems.	Noted
2	Adoption of AS2118	Subject to this Specification a sprinkler system must comply with AS2118.1 as set out in this Clause.	CRA
3	Separation of sprinklered and non-sprinklered areas	Where a part of a building is not protected with sprinklers, the sprinklered and non-sprinklered parts must be fire separated with fire rated construction meeting that of a fire wall with an FRL of not less than -/120/120 in accordance with this Clause.	CRA
4	Protection of openings	Any openings in construction separating sprinklered and non-sprinklered areas are to be protected in accordance with BCA Part C3, except where AS2118.1-2017 provides exemptions.	CRA
5	Fast response sprinklers	Fast response sprinklers may be installed only if they are suitable for the type of application proposed and it is demonstrated that the sprinkler system is designed to accommodate their use.	Noted
6	Sprinkler valve enclosures	Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road and open space. The room or enclosure is to be secured with a system suitable for Fire and Rescue NSW (FRNSW) The sprinkler valve room is required to have direct connection to road or open space. Any performance solution for the fire-isolated stairways used to access the sprinkler valve room must consider the impact of these non-compliances on the access to the valve room as a part of the performance solution.	PS
7	Water supply	The Grade of water supply to the sprinkler system must be in accordance with this Clause.	CRA
8	Building occupant warning system	The sprinkler system is to be connected to and activate a building occupant warning system complying with Clause 7 of Specification E2.2a.	CRA
9	Connection to other systems	Where a smoke hazard management system is installed and is activated by smoke detectors the sprinkler system must, wherever practicable, be arranged to also active the smoke hazard management system. No smoke hazard management system is required for this development	NA
10	Anti-tamper devices	Where a sprinkler system is installed— i. over any stage area in a theatre, public hall or the like, visual and audible status indication of sprinkler valves must be provided at the location normally used by the stage manager; or	CRA

Clause		Comments	Assessment
		ii. in a space housing lift electrical and control equipment (including machine rooms, secondary floors and sheave rooms), any valves provided to control sprinklers in these spaces must be located adjacent to the space. Any valves provided to control sprinklers required by (a) must be fitted with anti-tamper monitoring devices connected to a monitoring panel.	
11	Sprinkler systems in carparks	A carpark complying with Table 3.9 of Specification C1.1 is to comply with the requirements of this clause.	NA
12	Residential care buildings	This clause does not apply to this development as it does not contain any residential care parts	NA
13	Sprinkler system in lift installations	Where sprinklers are installed in a space housing lift electrical and control equipment, including machine rooms, secondary floors and sheave rooms, they must be of the dry system type in accordance with AS2118.1-1999.	CRA
Specification E1.5a – Class 2 and 3 buildings not more than 25m in effective height			
1	Scope and application	This Specification sets out requirements for the design and installation of fire sprinkler systems, and concessions for Class 2 and 3 buildings not more than 25 m in effective height with a rise in storeys of 4 or more. The Deemed to-Satisfy Provisions of this Specification take precedence where there is a difference to the Deemed-to-Satisfy Provisions of Sections C, D and E.	CRA
2	System requirements	A required automatic fire sprinkler system installed in a Class 2 or 3 building with an effective height of not more than 25 m and a rise in storeys of 4 or more must comply with— i. AS 2118.1; or ii. AS 2118.4, as applicable; or iii. FPAA101D, except for residential care buildings; or iv. FPAA101H, except for residential care buildings. A Class 2 or 3 building not more than 25 m in effective height with a rise in storeys of 4 or more provided with an automatic fire sprinkler system under Clause 2(a)(i) or 2(a)(ii) may be constructed in accordance with Clause 3(a), as applicable, provided— i. the automatic fire sprinkler system is permanently connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre in accordance with Specification E2.2d if— (A) the system has more than 100 sprinkler heads; or (B) in the case of a residential care building, the building will accommodate more than 32 residents; and ii. the automatic fire sprinkler system is fitted with sprinklers complying with clauses 4.4, 4.5 and 5.5.2 of AS 2118.4 in bedrooms; and iii. an automatic smoke detection and alarm system is installed in accordance with Specification E2.2a except that it need not be connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre, and in the case of a residential care building it must be installed in accordance with— (A) Specification E2.2a Clause 4; or (B) both— (aa) Specification E2.2a Clause 3, provided Specification E2.2a Clause 3(a)(ii) is applied as if the building was not protected with a sprinkler system; and (bb) Specification E2.2d; and iv. in a residential care building, the automatic smoke detection and alarm system and the automatic fire sprinkler system are connected to a local fire indicator panel provided in accordance with Specification E2.2d; and v. fire orders are provided in a Class 3 building in accordance with G4.9 as for a building in an alpine area.	CRA

Clause		Comments	Assessment
3	Permitted concessions	This clause outlines the permitted concession for the installation of the sprinkler system throughout.	CRA
Specification E1.8 – Fire Control Centres			
1	Scope	This Specification describes the construction and content of required fire control centres and rooms. A fire control room is a fire control centre in a dedicated room with additional specific requirements. Clauses 2 to 5 apply to fire control centres (including fire control rooms). Clauses 6 to 12 apply additional requirements to fire control rooms.	Noted
2	Purpose and content	A 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.	NA
3	Location of fire control centre	A fire control centre must be so located in a 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	NA
4	Equipment not permitted within a 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.	CRA
5	Ambient sound level for a fire control centre	(a) 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). (b) The measurement must be taken for a sufficient time to characterize the effects of all sound sources. Where there is not a great variation in noise level, a measurement time of 60 seconds may be used.	CRA
6	Construction of a fire control room	A fire control centre in a building more than 50 m in effective height … NA as not more than 50 m in effective height	NA
7	Protection of openings in a fire control room	Opening permitted by clause 6… clause 6 does not apply	NA
8	Doors to a fire control room	(a) Required doors to a 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. (b) The fire control room must be accessible via two paths of travel— (i) one from the front entrance of the building; and (ii) 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.	NA
9	Size and contents of a fire control room	This clause sets out the size and content of the fire control room	NA
10	Ventilation and power supply for a fire control room	This clause sets out the ventilation requirement and power supply for the fire control room	NA
11	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 of not less than 50 mm high and of a colour which contrasts with that of the background.	CRA
12	Lighting for a fire control room	Emergency lighting in accordance with the Deemed-to-Satisfy Provisions of Part E4 must be provided in a fire control room, except that an illumination level of not less than 400 lux must be maintained at the surface of the plan table.	CRA
Part E2 – Smoke Hazard Management			

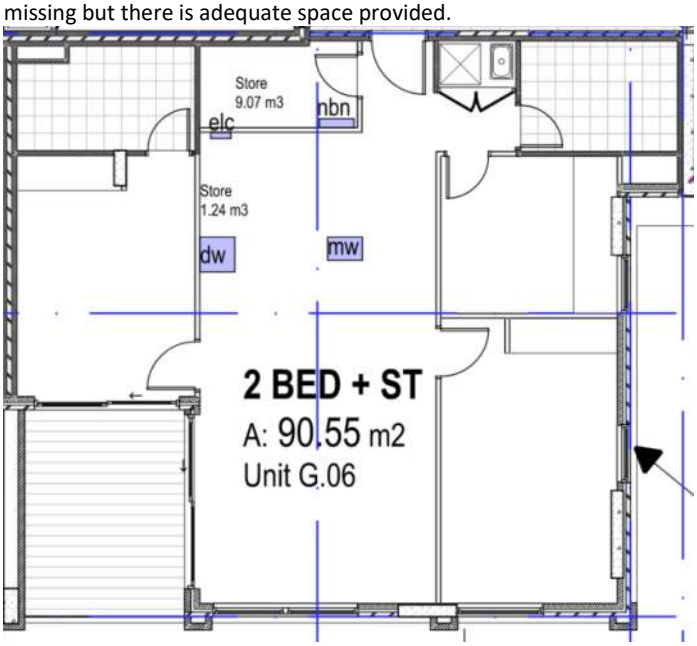
Clause		Comments	Assessment
E2.0	DtS Provisions	Information only.	Noted
E2.1	Application of Part	Information only.	Noted
E2.2	General requirements	The Class 2 parts of the building must be provided with an automatic smoke detection and alarm system complying with Specification E2.2a. **Basement Ventilation** The basement is required to have a mechanical ventilation system in accordance with AS 1668.2 must comply with clause 5.5 of AS 1668.1 except that— (a) fans with metal blades suitable for operation at normal temperature may be used; and (b) the electrical power and control cabling need not be fire rated.	CRA
E2.3	Provision for special hazards	Special hazards identified in this clause are satisfied with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5.	NA
Specification E2.2a – Smoke Detection and Alarm Systems			
1	Scope	This Specification describes the installation and operation of automatic smoke detection and alarm systems.	Noted
2	Type of System	The building must be provided with a smoke alarm system complying with clause 3 of Specification E2.2a, a smoke detection system complying with clause 4 of Specification E2.2a, or a combination of a smoke alarm system and a smoke detection system complying with clause 5 of Specification E2.2a.	CRA
3	Smoke alarm system	A smoke alarm system must comply with this clause.	CRA
4	Smoke detection system	A smoke detection system must comply with this clause.	CRA
5	Combined smoke alarm and smoke detection system	A combined smoke alarm and smoke detection system must comply with this clause.	CRA
6	Smoke detection for smoke control system	This clause does not apply	NA
7	Building occupant warning system	The Building Occupant Warning System must be activated by the detection system and sprinkler system	CRA
8	System monitoring	This clause does not apply	NA
Specification E2.2b – Smoke Exhaust Systems			
1	Scope	This Specification describes the requirements for mechanical smoke exhaust systems.	Noted
2	Smoke exhaust capacity	This clause does not apply	NA
3	Smoke exhaust fans	This clause does not apply	NA
4	Smoke reservoirs	This clause does not apply	NA
5	Smoke exhaust fan and vent location	This clause does not apply	NA
6	Make-up air	This clause does not apply	NA
7	Smoke exhaust system control	This clause does not apply	NA
8	Smoke detection	This clause does not apply	NA
Specification E2.2c – Smoke and Heat Vents			
1	Adoption of AS2665	This clause does not apply	NA
2	Controls	This clause does not apply	NA
Specification E2.2d – Residential fire safety systems			
1	Application	This Specification describes the requirements for residential fire safety systems referenced in Specification E1.5a. Clause 2 applies to Class 3 residential care buildings. It covers installation requirements for local fire indicator panels (or alarm panels) that provide information to staff when a fire alarm is activated.	Noted

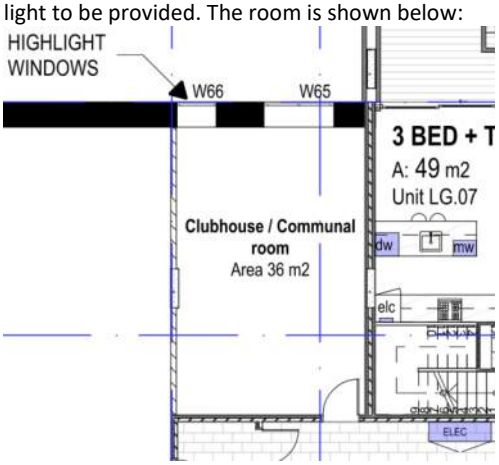
Clause		Comments	Assessment
		Clause 3 describes requirements for connecting residential sprinkler systems in Class 2 and 3 buildings or a residential care building, to a fire station or other approved monitoring service.	
2	Residential local fire alarm systems – Residential care buildings	This clause does not apply as this development does not contain a residential care part.	NA
3	Connection of residential sprinkler systems to a fire station or other approved monitoring services	(a) Connection to monitoring service: (i) Connection of a residential sprinkler system to a fire station or other approved monitoring service must be via a sprinkler alarm switch, connected to alarm signaling equipment. The connection from the alarm signaling equipment must be in accordance with AS 1670.3. (ii) The alarm signaling equipment must be installed— (A) in a secure, accessible position; and (B) in a weatherproof housing, if located externally; and (C) not more than 500 mm from the system flow switch. (b) Indication at the fire indicator panel — the fire signal from the alarm signalling equipment must be mimicked by an audible and visible signal at the fire indicator panel.	CRA
Part E3 – Lift Installations			
E3.0	DtS Provisions	Information only.	Noted
E3.1	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1.	CRA
E3.2	Stretcher facility in lifts	Stretcher lifts are not required as the effective height is less than 12 m.	NA
E3.3	Warning against use of lifts in fire	Warning signage stating DO NOT USE LIFTS IF THERE IS A FIRE is to be provided in accordance with this Clause.	CRA
E3.4	Emergency lifts	Emergency lifts are not required as the effective height is less than 25 m and not a class 9a building.	NA
E3.5	Landings	Access and egress to and from a lift well landing must comply with Section D.	CRA
E3.6	Passenger lifts	All lifts are capable of achieving an area greater than 1400 mm wide and 1600 mm deep.	CRA
E3.7	Fire service controls	Effective height is under 12 m therefore this clause does not apply	NA
E3.8	Residential care buildings	This building is not a residential care building and therefore this clause does not apply.	NA
E3.9	Fire service recall control switch	Where required by Clause E3.7 a fire service recall control switch is to be provided in accordance with this Clause.	NA
E3.10	Lift car fire service drive control switch	Where required by Clause E3.7 a lift car fire service drive control switch is to be provided in accordance with this Clause.	NA
Specification E3.1 – Lift Installations			
1	Scope	This Specification contains requirements for electric passenger lift installations and electrohydraulic passenger lift installations	Noted
2	Lift cars exposed to solar radiation	A lift car exposed to solar radiation directly, or indirectly through re-radiation must comply with this Clause.	CRA
3	Lift car emergency lighting	A lift car must have emergency lighting complying with this Clause.	CRA
4	Cooling of lift shaft	While in service a lift shaft must have cooling in accordance with this Clause.	CRA
5	Lift foyer access	Where there is a security foyer in a building access may be via locked security doors provided measures as set out in this Clause are in place.	CRA
6	Emergency access doors in a single enclosed lift shaft	Emergency access doors in a single enclosed lift shaft are to be in accordance with this Clause.	CRA
Part E4 – Emergency Lighting, Exit Signs and Warning Systems			
E4.0	DtS Provisions	Information only.	Noted

Clause		Comments	Assessment
E4.2	Emergency lighting requirements	The building is to be provided with emergency lighting in accordance with this Clause.	CRA
E4.3	Measurement of distance	Information only.	Noted
E4.4	Design and operation of emergency lighting	The emergency lighting system is to comply with AS2293.1-2005.	CRA
E4.5	Exit signs	The building must be provided with exit signage in accordance with this clause.	CRA
E4.6	Direction signs	Where required, the building must be provided with exit direction signage in accordance with this clause	CRA
E4.7	Class 2 and 3 buildings and Class 4 parts: Exemptions	The requirements of clause E4.5 do 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 a Class 2 or 3 building or Class 4 part of a building.	CRA
E4.8	Design and operation of exit signs	The exit lighting system is to comply with AS2293.1-2004 to 2018.	CRA
E4.9	Emergency warning and intercom systems	This clause does not apply as this clause does not specify that an emergency warning and intercom systems is required for this building	NA
Specification E4.8 – Photoluminescent Exit Signs			
1	Scope	This Specification contains the requirements for photoluminescent exit signs	Noted
2	Application	A photoluminescent exit sign must comply with Section 6 and Appendix D of AS2293.1-2005, except as varied by this Specification.	Noted
3	Illumination	If photoluminescent is proposed it is to comply with this Clause.	CRA
4	Pictorial elements	If photoluminescent is proposed it is to comply with this Clause.	CRA
5	Viewing distance	If photoluminescent is proposed it is to comply with this Clause.	CRA
6	Smoke control systems	If photoluminescent is proposed it is to comply with this Clause.	CRA

SECTION F – HEALTH AND AMENITY

Clause		Comments	Assessment
Part F1 – Damp and Weatherproofing			
F1.0	DtS Provisions	Information only.	Noted
F1.1	Stormwater drainage	Stormwater drainage is to comply with AS/NZS3500.3-2015.	CRA
F1.4	External above ground membranes	Waterproofing membranes for external above ground use, such as balconies and roofs, must comply with AS4654.1-2012 and AS4654.2-2012.	CRA
F1.5	Roof coverings	A roof must be covered with materials set out in this Clause in accordance with the relevant standard also set out in this Clause.	CRA
F1.6	Sarking	Sarking type materials used for weatherproofing of roofs and walls must comply with AS4200.1-1994 and AS4200.2-1994.	CRA
F1.7	Waterproofing of wet areas in buildings	Waterproofing of wet areas in buildings must comply with this Clause, and AS3740-2010.	CRA
F1.9	Damp-proofing	Damp-proofing is to be provided in accordance with this Clause. Where a damp-proof course is provided the material must comply with AS/NZS2904-1995 or impervious termite shields in accordance with AS3660.1-2014.	CRA
F1.10	Damp-proofing of floors on the ground	Damp-proofing of floors on the ground is to be in accordance with this Clause. Where required the vapour barrier is to comply with AS2870-2011.	CRA
F1.11	Provision of floor wastes	In a Class 2, 3 or 4 building, or part, a bathroom or laundry located at any level above a sole-occupancy unit or public space mush have a	CRA

Clause		Comments	Assessment
		floor waste and the floor graded to the floor waste to permit the drainage of water.	
F1.12	Sub-floor ventilation	Where provided sub-floor ventilation is to be in accordance with this Clause.	CRA
F1.13	Glazed assemblies	Glazed assemblies in external walls or roofs are to comply with AS2047-2014 or AS1288-2006 as required by this Clause and BCA Clause B1.4.	CRA
Part F2 – Sanitary and Other Facilities			
F2.0	DtS Provisions	Information only.	Noted
F2.1	Facilities in residential buildings	Details of many units are missing. Adequate space has been provided for all facility has been provided. An example is unit G.06 below. The bathroom and kitchen details are missing but there is adequate space provided.  **SOLUTION** Details can be added all unit for a full assessment	CRA/FI
F2.2	Calculation of number of occupants and facilities	Details of Retail tenancy sanitary facilities have not been provided. It is assumed the provision of facilities is to be part of the fit-out for each tenancy and therefore are not part of this assessment.	Noted
F2.3	Facilities in Class 3 to 9 buildings	Facilities must be provided separately for males and females. Toilet facilities are to be provided for the tenancy fit outs at the time of the appropriate approvals.	CRA
F2.4	Accessible sanitary facilities	An Access assessment of the development is part of separate report.	CRA
F2.5	Construction of sanitary compartments	Sanitary facilities provided must comply with this clause.	CRA
F2.6	Interpretation: Urinals and washbasins	This clause provides detail for how to count continuous urinals and washbasins and closet pans replacing required urinals.	CRA
F2.7	Microbial (legionella) control	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.	Noted
F2.8	Waste management	This clause does not apply to this development as it has not Class 9a or Class 9c	NA
F2.9	Accessible adult change facilities	This clause does not apply to this development.	NA
Specification F2.9 – Accessible adult change facilities			
1	Scope	This clause does not apply to this development as clause F2.9 does not apply	NA

Clause		Comments	Assessment
2	General requirements	This clause does not apply to this development as clause F2.9 does not apply	NA
3	Hoist	This clause does not apply to this development as clause F2.9 does not apply	NA
4	Toilet pan, seat, backrest and grabrails	This clause does not apply to this development as clause F2.9 does not apply	NA
5	Washbasin and tap	This clause does not apply to this development as clause F2.9 does not apply	NA
6	Fixtures and fittings	This clause does not apply to this development as clause F2.9 does not apply	NA
7	Change table	This clause does not apply to this development as clause F2.9 does not apply	NA
8	Changing rail	This clause does not apply to this development as clause F2.9 does not apply	NA
9	Door and door controls	This clause does not apply to this development as clause F2.9 does not apply	NA
10	Signage	This clause does not apply to this development as clause F2.9 does not apply	NA
11	Operating instructions	This clause does not apply to this development as clause F2.9 does not apply	NA
Part F3 – Room Heights			
F3.0	DtS Provisions	Information only.	Noted
F3.1	Height of rooms and other spaces	The height of all spaces and rooms must comply with the requirements of this clause.	CRA
Part F4 – Light and Ventilation			
F4.0	DtS Provisions	Information only.	Noted
F4.1	Provisions of natural light	See below.	Noted
F4.2	Methods and extent of natural light	Elevations or a window schedule is required to confirm the provision of adequate natural light **Clubhouse/Communal Room** The communal room is 36m^2 and therefore requires 3.6m^2 of natural light to be provided. The room is shown below:  The windows W65 and W66 scale 3 m^2 which is less than the 3.6m^2 required. This is shown below. The issue could be that the scaling is misleading. Further details are required to confirm the natural light for this room is adequate	FI

Clause		Comments	Assessment
		 **SOLUTION** Further details are required to confirm the natural light for habitable rooms is adequate. A window schedule may be provided with the area of the rooms and the area of glazing provided to be assessed and become part of this report	
F4.3	Natural light borrowed from adjoining room	Where required, natural light can only be borrowed from adjoining rooms.	Noted
F4.4	Artificial lighting	Artificial lighting must be provided throughout the building in accordance with the requirements of AS 1680.0-2009.	CRA
F4.5	Ventilation of rooms	Habitable rooms, shops, sanitary compartment, bathrooms, shower rooms, laundry and any other room occupied by a person for any purpose must have: a. a ventilating (as below), or, b. mechanical ventilation or air handling systems must comply with AS 1668.2 – 2012 and AS/NZS 3666.1 - 2011	CRA
F4.6	Natural ventilation	Natural ventilation to habitable rooms and shops requires a ventilating area of no less than 5% of the floor area of the room.	CRA
F4.7	Ventilation borrowed from adjoining room	Natural ventilation can only be borrowed from adjoining rooms.	CRA
F4.8	Restriction on location of sanitary compartments	Sanitary compartments must comply with this clause or meet the requirement of F4.9.	CRA
F4.9	Airlocks	A sanitary compartment, that is prohibited under F4.8 from opening directly to another room, can meet requirements with the provision of mechanical exhaust ventilation to the sanitary compartment and privacy to the requirements of this clause.	CRA
F4.11	Carparks	Every storey of a carpark, except an open-deck carpark, must have a system of mechanical ventilation complying with AS1668.2-2012 or a system of natural ventilation complying with Section 4 of AS1668.4-2012.	CRA
F4.12	Kitchen local exhaust ventilation	Where a commercial kitchen has a cooking apparatus that has a total maximum electrical power input exceeding 8kW or a total gas power input exceeding 29mJ/h. There is reference to kitchen provision in retail 05. Details of the commercial kitchen and the exhaust system may be provided to become a part of this report.	CRA
Part F5 – Sound Transmission and Insulation			
F5.0	DtS Provisions	Information only.	Noted
F5.1	Application of Part	This Part applies to Class 2, 3 and 9c buildings.	Noted
F5.2	Determination of airborne sound insulation ratings	A form of construction required to have an airborne sound insulation rating must comply with this Clause. Acoustic engineer to design. If details are provided, they can be reviewed in this report.	CRA
F5.3	Determination of impact sound insulation ratings	Building elements required to have an impact sound insulation rating is to comply with this Clause. Acoustic engineer to design. If details are provided, they can be reviewed in this report.	CRA
F5.4	Sound insulation rating of floors	A floor in a Class 2 or 3 building must have a $R_w + C_{tr}$ (airborne) of not less than 50 and a $L_{n,w} + C_I$ (impact) for not more than 62 if it separates	CRA

Clause		Comments	Assessment
		sole-occupancy units (SOU's) or a SOU from plant, lift shaft, stairway, etc or parts of a different classification in accordance with this Clause. Acoustic engineer to design. If details are provided, they can be reviewed in this report.	
F5.5	Sound insulation rating of walls	Walls are to be sound insulated in accordance with this Clause. Acoustic engineer to design. If details are provided, they can be reviewed in this report.	CRA
F5.6	Sound insulation rating of internal services	Ducts and waste or water supply pipes that passes through more than one SOU must be separated by construction with an $R_w + C_{tr}$ (airborne) in accordance with this Clause. Acoustic engineer to design. If details are provided, they can be reviewed in this report.	CRA
F5.7	Sound insulation of pumps	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump. Acoustic engineer to design. If details are provided, they can be reviewed in this report.	CRA
Specification F5.2 – Sound Insulation for Building Elements			
1	Scope	This Specification contains details of common forms of construction and their weighted sound reduction index.	Noted
2	Construction DtS	Information only.	Noted
Specification F5.5 – Impact Sound – Test of Equivalence			
1	Scope	This Specification describes a method of test to determine the comparative resistance of walls to the transmission of impact sound	Noted
2	Construction to be tested	Information only.	Noted
3	Method	Information only.	Noted
Part F6 – Condensation management			
F6.0	DtS Provisions	Information only.	Noted
F6.1	Application of part	Information only.	Noted
F6.2	Pliable building membrane	Pliable building membrane must comply with this clause.	CRA
F6.3	Flow rate and discharge of exhaust systems	Flow rate and discharge of exhaust systems must comply with this clause	CRA
F6.4	Ventilation of roof spaces	Ventilation of roof spaces must comply with this clause.	CRA

SECTION G – ANCILLARY PROVISIONS

Clause		Comments	Assessment
Part G1 – Minor Structures and Components			
G1.0	DtS Provisions	Information only.	Noted
G1.1	Swimming pools	This clause does not apply as there is no swimming pool proposed.	NA
G1.2	Refrigerated chambers, strong-rooms and vaults	This clause does not apply as the proposed development has no refrigerated chambers, strong-rooms and vaults.	NA
G1.3	Outdoor play spaces	This clause does not apply as the proposed development has no childhood centre outdoor play spaces.	NA
NSW G1.101	Provision for cleaning windows	A building must be provided with a safe manner of cleaning any windows located 3 or more storeys above the ground level via either windows that can be cleaned wholly from within the building or provision for the cleaning of the windows by a method complying with the WH&S Act 2001 and regulations made under that Act.	CRA
Part G2 – Boilers, Pressure Vessels, Heating Appliances, Fire Places, Chimneys and Flues			
G2.0	DtS Provisions	Information only.	Noted
G2.2	Installation of appliances	The installation of a stove, heater or similar appliance in a building must comply with AS/NZS2918-2001 for domestic solid fuel burning appliances or AS1200-2000 for pressure equipment.	CRA

Clause		Comments	Assessment
		The installation of a boilers and pressure vessels is to comply with Specification G2.2.	
G2.3	Open fireplaces	This clause does not apply as the proposed development has no open fireplaces.	NA
G2.4	Incinerator rooms	This clause does not apply as the proposed development has no incinerator room.	NA
Specification G2.2 – Installation of Boilers and Pressure Vessels			
1	Scope	This Specification sets out the requirements for the installation of boilers and pressure vessels in buildings.	Noted
2	Boilers and pressure vessels	Any boiler or pressure vessels must comply with this clause	CRA
Part G3 – Atrium Construction			
G3.1	Application of Part	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
G3.2	Dimension of atrium well	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
G3.3	Separation of atrium by bounding walls	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
G3.4	Construction of bounding walls	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
G3.5	Construction at balconies	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
G3.6	Separation at roof	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
G3.7	Means of egress	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
G3.8	Fire and smoke control systems	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
Specification G3.8 – Fire and Smoke Control Systems in Buildings Containing Atriums			
1	Scope	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
2	Automatic fire sprinkler system	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
3	Smoke control system	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
4	Fire detection and alarm system	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
5	Emergency warning and intercom systems	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
6	Standby power system	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
7	System for excluding smoke from fire-isolated exits	This clause does not apply as the proposed development has no atrium connecting more than 2 storeys.	NA
Part G4 – Construction in Alpine Areas			
G4.0	DtS Provisions	Information only.	Noted
G4.1	Application of Part	This clause does not apply as the proposed development is not in an alpine area	NA
G4.3	External doors	This clause does not apply as the proposed development is not in an alpine area	NA
G4.4	Emergency lighting	This clause does not apply as the proposed development is not in an alpine area	NA
G4.5	External trafficable structures	This clause does not apply as the proposed development is not in an alpine area	NA
G4.6	Clear space around buildings	This clause does not apply as the proposed development is not in an alpine area	NA
G4.8	Fire-fighting services and equipment	This clause does not apply as the proposed development is not in an alpine area	NA
G4.9	Fire orders	This clause does not apply as the proposed development is not in an alpine area	NA

Clause		Comments	Assessment
Part G5 – Construction in Bushfire Prone Areas			
G5.0	DtS Provisions	Information only.	Noted
G5.1	Application of Part	This clause does not apply as the proposed development is not in a bushfire prone area	NA
NSW G5.2	Protection	This clause does not apply as the proposed development is not in a bushfire prone area	NA
Part G6 – Occupiable outdoor areas			
G6.1	Application of Part	This Part applies to "occupiable outdoor areas". The Communal Open Space provided on Level 01 is an occupiable outdoor area.	Noted
G6.2	Fire hazard properties	The Communal Open Space provided on Level 01 must comply with the fire hazard requirements of this clause. **Gardens** All gardens and other vegetation that are a part of the communal open space must have the fire hazard properties as specified by this clause.  **SOLUTION** A Fire Engineered Performance Solution be pursued for feasibility to determine the requirements of this clause are met	PS
G6.3	Fire separation	For the purposes of the Deemed-to-Satisfy Provisions of C2.7, C2.8 and C2.9, a reference to a storey includes an occupiable outdoor area, however a fire wall cannot be used to separate an occupiable outdoor area into different fire compartments	Noted
G6.4	Provision of escape	The requirements of Part D1 are applicable to the Communal Open Space provided on Level 01 in accordance with this clause. The travel distance to a single exit of 32.5 m is greater than the 20 m maximum – previously discussed in D1.4	DNC
G6.5	Construction of exits	The requirements of Part D2 apply to the Communal Open Space provided on Level 01 in accordance with this clause	CRA
G6.6	Fire fighting equipment	Fire fighting equipment must serve the Communal Open Space provided on Level 01 in accordance with this clause.	CRA
G6.7	Lift installations	The requirements of Part E3 apply to the Communal Open Space provided on Level 01 in accordance with this clause.	CRA
G6.8	Visibility in an emergency, exit signs and warning systems	The requirements of Part E4 are applicable to the Communal Open Space provided on Level 01 in accordance with this clause.	CRA

Clause		Comments	Assessment
G6.9	Light and ventilation	The requirements of clause F4.4, F4.8, and F4.9 are applicable to the Communal Open Space provided on Level 01 in accordance with this clause	CRA
G6.10	Fire orders	This clause does not apply as the proposed development as it only relates to building that are in an alpine area.	Noted

SECTION J – ENERGY EFFICIENCY

A separate Section J Report is to be obtained to confirm compliance with this Section.

Please contact Credwell Energy on 02 9281 8555 or info@credwell.com.au for further information.