

FINAL BUILDING CODE OF AUSTRALIA 2022 REPORT

PROPOSED SENIORS LIVING DEVELOPMENT

7-9 Brighton Road, 21 Charles Street Peakhurst NSW 2210

Report prepared for: NSW Land and Housing Corporation
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	Name	Signed	Date
Verified by	Frank De Pasquale		01/08/2023

REVISION HISTORY

Revision No.	Prepared by	Description	Date
R01	Mona Elkassar	Draft BCA Capability Report for Review and Comment	06/04/2023
R02	Sophie Beskin	Final BCA Capability Report	01/08/2023
R03	Sophie Beskin	Final BCA Capability Report	03/11/2023



1.0 Introduction and Documentation

At the request of NSW Land and Housing Corporation, we offer comments and recommendations in respect to Building Code of Australia 2022 compliance for the proposed Seniors Living Development at 7-9 Brighton Road, 21 Charles Street Peakhurst NSW 2210.

We have made every attempt to cover the main issues under Parts A, B, C, D, E, F, G and J of Volume One of the Building Code of Australia. Areas of the design are still being refined so that resolution will be possible prior to the issue of a Crown Design Verification Certificate (S6.28 CDVC) in accordance with S6.28 of the Environmental Planning and Assessment Act 1979 for the works.

This report does not assess the impact of the Disability Discrimination Act (DDA) which is outside the scope of the BCA nor does it include compliance with Part D3 of the BCA. Refer relevant Accessibility Report. Any Access design amendments or additional information is to be addressed prior to the issue of a Crown Design Verification Certificate (S6.28 CDVC).

This report is for the exclusive use of the client and cannot be used for any other purpose without prior permission from Philip Chun Building Code Consulting. The report is valid only in its entire form. "Philip Chun Building Code Consulting accepts no responsibility for any loss suffered as a result of any reliance upon such assessment or report other than as being accurate at the date of issue of the report".





Documentation available and assessed:

The drawings assessed are those issued by SARM Architects:

Drawing No	Title	Revision	Date
A000	COVER PAGE & DRAWING LIST	G	20/10/2023
A101	SITE ANALYSIS	D	20/10/2023
A102	CONTENT BLOCK ANALYSIS	E	20/10/2023
A103	PATH TO BUS STOP STUDY – BONDS Rd	E	20/10/2023
A104	PATH TO BUS STOP STUDY - BROADMEADOW Rd	C	20/10/2023
A105	DEMOLITION PLAN	G	20/10/2023
A106	CUT AND FILL PLAN	D	20/10/2023
A107	SEDIMENT EROSION & CONTROL PLAN	B	20/10/2023
A108	EXCAVATION CALCULATIONS	B	20/10/2023
A109	PERSPECTIVE SKETCH VIEWS	A	20/10/2023
A200	SITE PLAN	J	20/10/2023
A201	GROUND FLOOR PLAN	I	20/10/2023
A202	FIRST FLOOR PLAN	I	20/10/2023
A203	ROOF PLAN	I	20/10/2023
A301	ELEVATIONS NORTH, SOUTH	J	20/10/2023
A302	ELEVATIONS EAST, WEST & MATERIAL SCHEDULE	J	20/10/2023
A305	SECTIONS – Long	G	20/10/2023
A306	SECTIONS – Short	G	20/10/2023
A800	VIEW FROM THE SUN STUDY	D	20/10/2023
A901	SHADOW DIAGRAMS – WINTER 9AM	C	20/10/2023
A902	SHADOW DIAGRAMS – WINTER 12PM	C	20/10/2023
A903	SHADOW DIAGRAMS – WINTER 3pm	C	20/10/2023



2.0 Building Code of Australia 2022 Comments

Section A – Governing Requirements

1. Compliance with the NCC (BCA) is achieved by complying with –

1. The Governing Requirements of the NCC; and
2. The Performance Requirements.

This development will comply with the Governing Requirements and adopt Performance Solutions to satisfy the Performance Requirements of the NCC (BCA). Performance Solutions are identified in the body of this report.

2. Building Assessment

Building Classification(s)	Class 2 – Residential
Rise in Storeys	2
Type of Construction	Type B Construction
Effective Height (m)	Less than 12m

3. Building Classifications

Class 2 buildings

- (1) A Class 2 building is a building containing two or more sole-occupancy units.
(2) Each sole-occupancy unit in a Class 2 building is a separate dwelling.

Section B – Structure

4. Structural Provisions

The structural design engineers will need to complete the design for the proposed works in accordance with the Building Code of Australia including but not limited to:

- Compliance with the requirements of BCA B1D3 & B1D4;
- All adopted Australian Standards relevant to the design;
- Individual actions including permanent actions, imposed actions and wind, snow, ice and earthquake actions i.e. the following standards AS1170.1, AS1170.2 and AS1170.4;
- BCA Specification 5

Structural Engineer to provide structural drawings and design statement for further assessment prior to issue of **S6.28** CDVC.



Section C – Fire Resistance / Compartmentation / Separation

5. **Type of Construction** – The building will have a rise in storeys of 2 and is therefore required to be of not less than Type B Construction. The building needs to comply with BCA Table shown in Appendix B for Type B Construction.

The Structural Engineer will need to confirm and provide structural drawings and design certification prior to issue of S6.28 CDVC confirming the FRL's of the columns, slabs and load bearing walls. Architect to coordinate and note FRL's on the architectural drawings.

6. **Lightweight Construction (C2D9)** –

- (a) Lightweight construction must comply with Specification 6 if it is used in a wall system—
(i) that is required to have an FRL; or
(ii) for a lift shaft, stair shaft or service shaft or an external wall bounding a public corridor including a non fire-isolated passageway or non fire-isolated ramp, in a spectator stand, sports stadium, cinema or theatre, railway station, bus station or airport terminal.
- (b) If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if—
(i) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and
(ii) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.

Details to be provided prior to issue of CDVC should lightweight construction be used for the internal bounding walls.

7. **Non-combustible Building Elements (C2D10)**

- (1) In a Type B building, the following building elements and their components must be non-combustible:
a) External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation.
b) The flooring and floor framing of lift pits.
c) Non-load bearing internal walls where they are required to be fire-resisting.
- (2) A load bearing internal wall and a load bearing fire wall must comply with Specification 5.

Compliance achievable. Architect and Structural Engineer to note.

8. **Fire Hazard Properties (C2D11)** – All new surface finishes, assemblies and linings are to comply with BCA Clause C2D11 and Specification 7 regarding Fire Hazard Properties.

Architect to note any materials selected and or proposed, will require technical data sheets / test reports to ensure compliance with this clause prior to issue of a s6.28 CDVC and or Crown Occupation Verification Certificate (COVC).

9. **Ancillary Elements (C2D14)** – An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following;

- An ancillary element that is non-combustible.
- A gutter, downpipe or other plumbing fixture or fitting.
- A flashing.
- A grate or grille not more than 2m² in area associated with building service.
- An electrical switch, socket-outlet, cover plate or the like.
- A light fitting.
- A required sign etc.

Architect and structural engineer to note. An external wall design system certificate is to be provided prior to issue of a S6.28 CDVC.

10. **Fire Compartmentation (C3D3)** – The fire compartmentation of the Class 2 (Residential) building components are based on a floor-by-floor separation which is deemed compliant as no floor area limitations under Table C3D3 are applicable to Class 2 building parts.

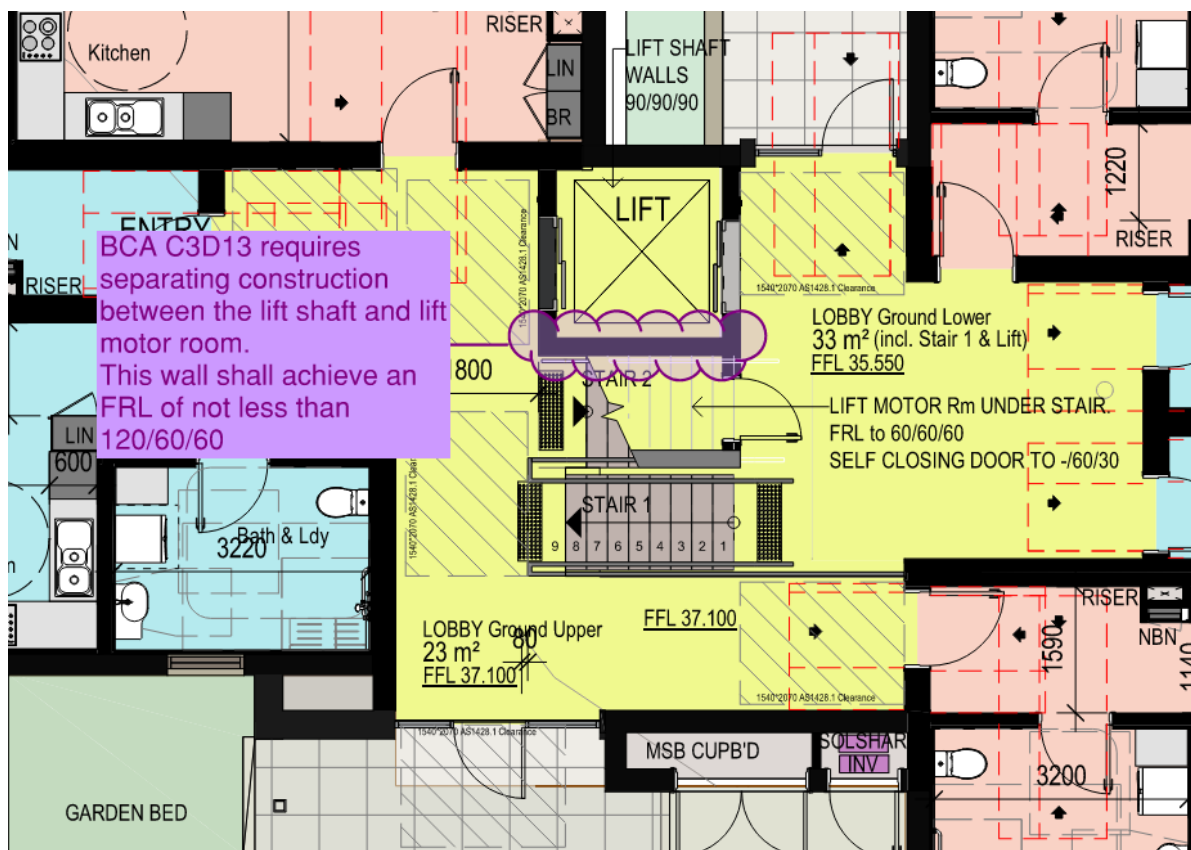


11. **Separation of equipment (C3D13)** – Equipment comprising of lift motors, lift control panels, emergency generators, central smoke control plant, boilers or a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more, must have separating construction by achieving:

(a) Except as provided by (b) -

- (i) An FRL as required by Specification 5, but not less than 120/120/120; and
- (ii) Any doorway protected with a self-closing fire door having an FRL of not less than - /120/30; or

(b) When separating a lift shaft and lift motor room, an FRL not less than 120/-/-.



Architect to note FRL of separating construction to ensure compliance - (wall between lift shaft and lift motor room under the stair)

12. **Electricity supply system (C3D14)** – Where emergency equipment is required in a building, all switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear. ***If the Main Switch Board is used for emergency equipment, it must be separated from the rest of the building in accordance with BCA C3D14. Services consultants to confirm use of MSB.***
13. **Protection of openings in external walls (C4D3)** – Openings within 3m of a side and rear boundary or 6m of the far boundary or from another building on the same allotment must be protected in accordance with Part C4D5 and if used, wall-wetting sprinklers are to be externally fitted.
N/A – there are no openings requiring protection in accordance with this clause.
14. **Bounding construction: Class 2 and 3 buildings (C4D12)** - SOU doors to be self-closing, tight fitting, solid core door, not less than 35mm thick. The bounding walls between residential sole occupancy units to be not less than 60/60/60 Fire Resistance Level (FRL) or -/60/60 if non-loadbearing.
Wall and door schedule to be provided prior to issue of S6.28 CDVC.
15. **Openings in floors and ceilings for services (C4D13)** –



- (1) Where a service passes through—
 - (a) a floor that is required to have an FRL with respect to integrity and insulation; or
 - (b) a ceiling required to have a resistance to the incipient spread of fire, the service must be installed in accordance with (2)
- (2) A service must be protected—
 - (a) in a building of Type A construction, by a shaft complying with Specification 5; or
 - (b) in a building of Type B or C construction, by a shaft that will not reduce the fire performance of the building elements it penetrates; or
 - (c) in accordance with CD415.
- (3) Where a service passes through a floor which is required to be protected by a fire-protective covering, the penetration must not reduce the fire performance of the covering.

Compliance achievable. Details to be provided prior to issue of S6.28 CDVC.

16. **Openings for service installations (C4D15)** – Electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrations that are required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, must be fire sealed, fire rated or otherwise comply with listed standards.

Compliance achievable. Details to be provided prior to issue of S6.28 CDVC.



Section D – Access and Egress

17. Access and Egress

- Every building must have at least one exit from each storey. (D2D3). – **Complies.**
- The entrance doorway of any sole-occupancy unit must be not more than 6m from an exit or from a point from which travel in different directions to 2 exits is available or 20m from a single exit serving the storey at the level of egress to a road or open space (D2D5). **Complies.**
- Widths of exits and corridors must be sufficient to provide safe passage for occupant egress. The unobstructed width of each exit or path of travel to an exit, except for doorways, must be not less than 1m (D2D8) – **Compliance readily achievable.**
- The distance between the doorway of a room or sole-occupancy unit and the point of egress to a road or open space by a way of a non-fire-isolated stairway must not exceed 60m (D2D14) – **Complies.**
- To comply with D3D4. Riser and going dimensions must comply with Table D3D14 of the BCA. **Compliance achievable. Architect to note. Details to be provided prior to s6.28 CDVC.**
- Electrical Distribution Boards (EDBs) must be enclosed by non-combustible construction or a fire protective covering with doorways and openings to be suitably smoke sealed (D3D8)
N/A - The electrical distribution board opens outside & is away from any paths of travel.
- The space below a required non-fire-isolated stairway must not be enclosed to form a cupboard or similar enclosed space unless the enclosing walls and ceilings have an FRL of not less than 60/60/60 and access doorway is a self-closing -/60/30 fire door (D3D9) – **Complies. The enclosed lift motor room under the stair is proposed to have a self-closing fire door and complies with the FRL requirements.**
- The construction of stairs, landings, thresholds, barriers, balustrades and handrails must meet the requirements of the BCA. **Detailed elevations to be provided prior to issue of S6.28 CDVC.**
- Signage should be provided to ground floor exits. The signage should be in accordance with D4D7 of the BCA. **Details to be provided prior to issue of S6.28 CDVC.**
- Fall protection needed to unit bedroom window openings located less than 1.7m high required in accordance with D3D29 - **Compliance readily achievable. Details to be provided prior to issue of S6.28 CDVC.**

18. Access for people with disabilities – to be provided by Access Consultant.



Section E – Services and Equipment

19. **Fire Hydrants (E1D2)** – The buildings must be served with external or internal fire hydrants complying with the requirements of BCA E1D2 and AS 2419.1-2021.
May Comply. The wet fire services consultant is to provide details including a single line diagram confirming if hydrant coverage is sufficient throughout the building prior to the issue of S6.28 CDVC (if relying on a street hydrant, and in addition the pressure and flow test shall be provided from Sydney Water). If coverage is not achieved, the building must be provided with an additional external or internal hydrant/s, designed in accordance with BCA E1D2 & AS 2419.1 - 2021.
20. **Smoke Detection and Alarm Systems (Specification 20)** – An automatic smoke detection and alarm system complying with Specification 20 must be provided throughout the building. Note Specification 20 also requires a Building Occupant Warning System in accordance with S20C7.
Fire services consultant to provide details prior to issue of S6.28 CDVC.
21. **Portable Fire Extinguishers (E1D14)** – Portable fire extinguishers are required to be installed to the class 2 buildings parts in lieu of fire hose reels. Extinguishers are to be of an ABE type and distributed throughout the floors so that the travel distance from the entrance doorway of any sole occupancy unit is not more than 10m from a fire extinguisher. Fire extinguishers must be provided to all locations which are deemed a potential risk to the occupants of the building, i.e. areas such as main switchboards – **Compliance readily achievable. Details to be provided prior to issue of S6.28 CDVC.**
22. **Exit and emergency lighting** – Emergency lighting must be installed in every passageway corridor, hallway or the like having a length of more than 6m from the entrance doorway of any sole-occupancy unit to the doorway opening directly to a road or open space. **Electrical consultant to provide details prior to issue of the S6.28 CDVC.**



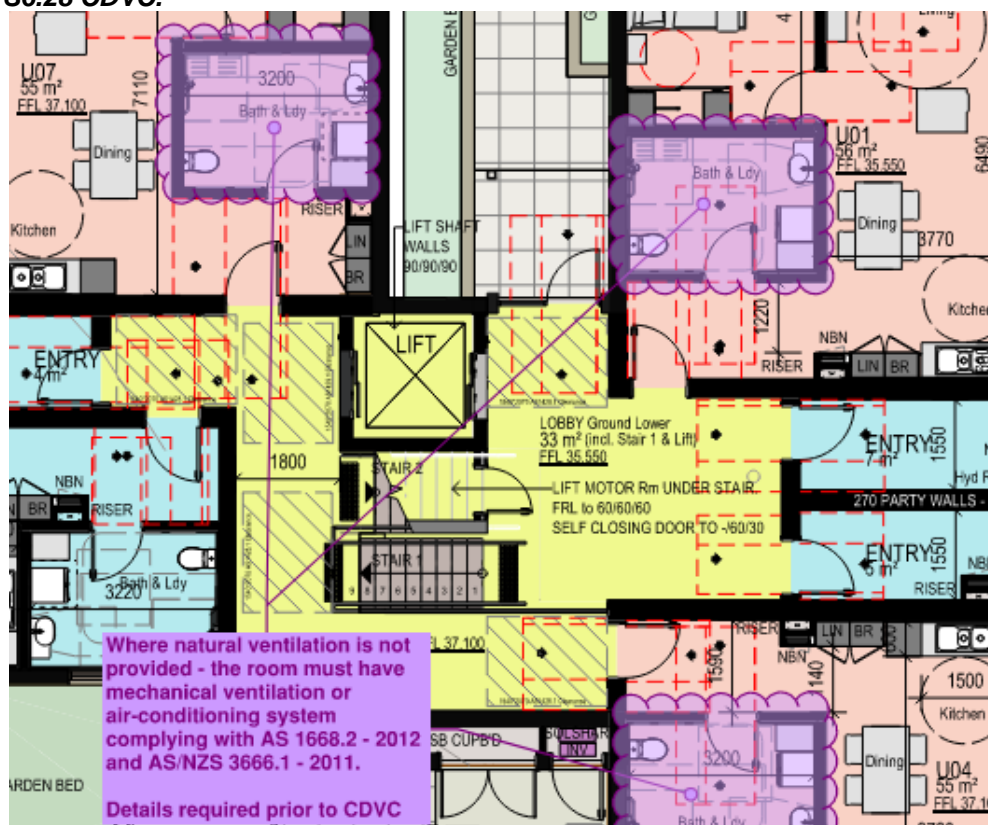
Section F – Health and Amenity

23. **Clause F1D6 – F1D7 (Damp-proofing)** – moisture from the ground must be prevented from reaching the structure by installation of damp-proof course or impervious sheet material in accordance with AS3660.1 where required. **Architectural and structural engineering details demonstrating compliance to be provided prior to the issue of the S6.28 CDVC.**
24. **F3D2 (Roof covering)** – a concrete roof must be covered with an external waterproofing membrane complying with F1D5 of BCA2022. **Section details demonstrating compliance to be provided prior to the issue of the S6.28 CDVC.**
25. **F3D5 (Wall cladding)** – External wall cladding must comply with one or a combination of the following:
- Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700.
 - Autoclaved aerated concrete: AS 5146.3.
 - Metal wall cladding: AS 1562.1.
- Any other type of cladding must be detailed in a performance solution report. **Architect to note.**
26. **External wall construction (F8D3)** – Where pliable building membranes installed, the must comply with AS4200.1 & 2 and requirement of this section of the BCA – **Architect to note. Details demonstrating compliance to be provided with the application for S6.28 CDVC.**
27. **Stormwater drainage (F1D3)** - Stormwater drainage must comply with AS/NZS 3500.3-2021. **Compliance achievable. Details to be provided prior to issue of S6.28 CDVC.**
28. **Waterproofing of wet areas in buildings (F2D2)** - Building elements in wet areas must be water resistant or waterproof in accordance with Specification 26 and comply with AS 3740-2021. **Compliance achievable. Details to be provided prior to issue of S6.28 CDVC.**
29. **Provision of floor wastes (F2D4)** - In a Class 2 building, a bathroom or laundry located at any level above a sole-occupancy unit or public space must have a floor waste. Where a floor waste is installed, the continuous fall of a floor plane to the waste must be no less than 1:80 and no greater than 1:50. **Compliance achievable. Details to be provided prior to issue of S6.28 CDVC.**
30. **Sanitary Facilities (F4D8)** – Each residential **sole-occupancy unit** must have the following:
- A kitchen sink and facilities for the preparation and cooking of food; and
 - A bath or shower;
 - A closet pan and washbasin; and
 - Laundry facilities provide either -
 - in each SOU; or
 - separate laundry for each 4 SOU
- Complies.**
31. **Construction for sanitary facilities (F4D8)** - Doors to fully enclosed sanitary compartments are to open outwards, or slide or have 1.2 metres clear space between door and closet plan or be readily removable from the outside of the sanitary compartment. **Complies.**
32. **Room Sizes** - The minimum ceiling height of 2.4m is required to all habitable rooms excluding kitchens. All other rooms are required to have a minimum height of 2.1m. **Compliance achievable. Details to be provided prior to issue of S6.28 CDVC.**
33. **Light** - Natural light must be provided to all habitable rooms within each SOU in accordance with F6D3 of the BCA. The windows should have an aggregate light transmitting area of not less than 10% of the floor area of the room. Window schedule required for compliance. Artificial lighting must comply with F6D5 of the BCA and AS/NZS 1680.0-2009. **Window schedule provided. Schedule to include % calculations to ensure compliance. Details to be provided prior to issue of S6.28 CDVC.**



34. **Ventilation** – A habitable room, office, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have—
- (a) Natural ventilation complying with F6D7; or
 - (b) a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1
- Where natural ventilation is provided, the openings must consist of openings, windows, doors or other devices which can be opened with a ventilating area not less than 5% of the floor area of the room required to be ventilated.

Window schedule to include % calculations for assessment. Details to be provided prior to issue of S6.28 CDVC.



35. **Sound transmission and insulation** - The proposal will need to meet the sound insulation requirements of Part F7 of the BCA – Compliance readily achievable.
- Architect to provide details and Acoustic Consultant to provide certification confirming compliance prior to the issue if the S6.28 CDVC.**

Section G - Ancillary Provisions

36. **Occupiable Outdoor Areas – Fire Hazard Properties (G6D2)** –
- (1) Subject to (2), a lining, material or assembly in an occupiable outdoor area must comply with C2D11 as for an internal element.
 - (2) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C2D11:
 - (a) Average specific extinction area.
 - (b) Smoke-Developed Index.
 - (c) Smoke development rate.
 - (d) Smoke growth rate index (SMOGR_{RC}).

Applies to balconies with floor area of more than 10m², Architect to note – test data sheets to be provided prior to issue of an OVC.



Section J – Energy Efficiency

37. **Section J (Energy efficiency)** – There are aspects of Section J that are applicable to Class 2 building. These are to compliment the BASIX requirement. Consultant details are required to be provided with the application for s6.28 CDVC. Section J consultant to confirm compliance with the DtS provisions.
38. **BASIX** – A BASIX certificate is to accompany the Development Application hence, BASIX certificate to be submitted by others.

Conclusion

We have assessed the drawings with respect to the Building Code of Australia 2022. We are confident that the design is generally capable of meeting the Deemed-to-Satisfy and Performance Requirements of the Building Code of Australia 2022. Areas of the design are still being developed but are unlikely to impact on the Development Approval, these areas of the design will be addressed prior to issue of S6.28 CDVC.



Appendix A

Draft Fire Safety Schedule

No.	Measure	Standard of Performance
STATUTORY FIRE SAFETY MEASURES		
1.	Emergency Lighting	BCA 2022 E4D2, E4D4, AS/NZS 2293.1 – 2018
2.	Exit Signs	BCA 2022 E4D5, NSW E4D6, E4D8, AS/NZS 2293.1 – 2018
3.	Fire Seals protecting fire resisting components of the building	BCA 2022 C4D13, C4D15, C4D16, AS 1530.4 – 2014, AS 4072.1 - 2005
4.	Portable Fire Extinguishers	BCA 2022 E1D14, AS 2444 -2001
5.	Fire Door	BCA 2022 C3D13, C4D6, AS 1905
6.	Smoke Detection and Alarm System including Building Occupant Warning System	BCA 2022 Specification 20, AS 1670.1 – 2018, AS 3786 – 2014
7.	Solid Core Doors	BCA 2022 C4D12



Appendix B

FRL of Building Elements for Type B Construction (Class 2)	
Loadbearing parts of external walls	
Distance from fire source Feature	FRL (in minutes)
Less than 1.5 m	90/90/90
1.5 to less than 3 m	90/60/30
3 m to less than 9 m	90/30/30
9 m to less than 18 m	90/30/–
18 m or more	–/–/–
Non-loadbearing parts of external walls	
Distance from fire source Feature	FRL (in minutes)
Less than 1.5 m	–/90/90
1.5 m to less than 3 m	–/60/30
3 m or more	–/–/–
External columns not incorporated in an external wall	
Distance from fire source Feature	FRL (in minutes)
Loadbearing column — less than 18 m	90/–/–
Loadbearing column — 18 m or more	–/–/–
Non-loadbearing column	–/–/–
Common walls and fire walls	
Wall Type	FRL (in minutes)
Loadbearing or non-loadbearing	90/90/90
Loadbearing internal walls	
Location	FRL (in minutes)
Fire-resisting lift and stair shafts	90/90/90
Bounding public corridors, public lobbies, and the like	60/60/60
Between or bounding sole-occupancy units	60/60/60
Non-loadbearing internal walls	
Location	FRL (in minutes)
Fire-resisting lift and stair shafts	–/90/90
Bounding public corridor, public lobbies, and the like	–/60/60
Between or bounding sole-occupancy units	–/60/60
Other building elements not covered above	
Building Element	FRL (in minutes)
Other loadbearing internal walls and columns	60/–/–
Roofs	–/–/–
Note: Part S5C23 of the Specification 5 provides varies concession for class 2 buildings of type B construction.	