

**Our Ref: D2024-053**

**24 February 2025**

## **69-71 CENTRAL ROAD AVALON**

## **BUILDING CODE OF AUSTRALIA 2022**

## **CAPABILITY STATEMENT FOR DA SUBMISSION**

Prepared for

**TCG HOMES 1 PTY LTD**



VIEW OF DEVELOPMENT FROM CENTRAL ROAD



VIEW OF ENTRANCE FROM CENTRAL ROAD



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# 0.0 Author and Reviewer

## Revision history

Revision No.	Reviewed by	Description	Date
<b>R00</b>	Dean Morton (BDC0742)	Draft	11/02/2025
<b>R01</b>	Dean Morton (BDC0742)	Final	17/02/2025
<b>R02</b>	Dean Morton (BDC0742)	Final rev1	24/02/2025

## 1.0 Executive Summary

This report has been prepared to assess the architectural documentation as detailed in Part 6 in accordance with the Building Code of Australia Volume 1 (BCA) 2022 and adopted standards. The proposed development is the construction of a residential apartment building.

The assessment has revealed that the proposed development will be capable of achieving compliance with BCA 2022. The following matters will require further consideration during detailed design development at the construction stage of the project:

1. The building is to adopt type A construction throughout.
2. The car park storeys are to form multiple fire compartments associated with the proposed fire hydrant design and to adopt a general FRL of 120 minutes within those compartments including the slab to level 1.
3. The fire isolated exit stair discharging to the east side of the property will require consideration of the form of protection of the path of travel to the road complying with clause D2D12.
4. It is proposed to adopt a performance solution relating to the form of protection of external walls of adjacent fire compartments on the ground floor for one compartment to provide the protection required as opposed to each compartment separating from the other.
5. The vertical protection of openings in external walls is to comply with clause C3D7 and will be by a combination of spandrel spandrels and projections.
6. There will be non compliant exit travel distances to level 2 that will be subject to a performance solution.
7. The provision of fire services including smoke detection, fire hose reels and hydrants are to be coordinated with as accredited practitioner (fire safety) at the construction certificate stage.
8. Disabled access is generally compliant and subject to detailed review at the construction certificate stage.

## 2.0 Property Description

### 2.1 Location

The subject building is located at 69-71 Central Road Avalon, the property is bounded to the east and west by residential developments and to the south by the Toongari Reserve. The property is taken to face north for the purpose of the report.

### 2.2 Building Description

<b><i>Use / Classification</i></b>	<p>Class 2: apartments (ground – level 2) Class 7a: car park (basement - ground)</p> <p>NOTE – the storage areas of the basement do not exceed 10% of the floor area of the storey and therefore not separately classified.</p>
<b><i>Rise in Storeys</i></b>	The development will have a rise of 3 storeys (4 storeys contained)
<b><i>Compartmentation</i></b>	<p>There are no maximum floor area or volume limitations imposed on class 2 parts of the building.</p> <p>The class 7a parts will not exceed fire compartment limitations and considered compliant.</p>
<b><i>Effective Height</i></b>	The building will have an effective height of 6.20m (RL17.80m–RL11.60m)
<b><i>Type of Construction</i></b>	The building requires Type A Construction
<b><i>Climate Zone</i></b>	For the purposes of Section J the climate zone is 5
<b><i>Population</i></b>	<p>The population as determined from table D2D18 is:</p> <p><b>Basement</b> – 19 persons (1 person per 30m<sup>2</sup> for car park) <b>Ground</b> – 14 persons (1 person per 30m<sup>2</sup> for car park areas)</p> <p>Note the BCA does not impose a population by floor area ratio for the class 2 apartments however it is reasonable to consider a population of 2 persons per bedroom for the purpose of this report where applicable.</p>

## 3.0 Building Code of Australia Assessment

### 3.1 Fire Resistance and Stability (Section C, BCA)

#### **Fire Resistance**

The building is to comply with Clause C2D2 and Specification 5, for a building required to have Type A construction. Refer to clauses S5C11-S5C20 of Specification 5 of the BCA for the specific Fire Resistance Levels [FRL's].

#### **Lightweight construction & fire hazard properties**

Where lightweight fire rated construction is proposed for walls, the system must comply with clause C2D9 and specification 6 of the BCA and the manufactures tested specification.

The fire hazard properties of floor, wall and ceiling linings are to comply with clause C2D11 and Specification 7 of the BCA. All materials selected for use in the construction should be accompanied by a valid test report demonstrating compliance with defined fire hazard properties.

The use of combustible materials as either wall systems or as attachments to a wall are restricted under the BCA. The plans do not reflect the use of combustible materials generally.

#### **Compartmentation & separation**

Parts of the building with different classifications on the same storey must be fire separated by a fire wall of the higher FRL specified under Specification 5 of the BCA for the classifications concerned or the entire storey is to be constructed to the higher FRL. Intervening floors between different classes are required to have the FRL of the classification in the lower storey applied to the separating floor. In this regard the following is to be considered in respect of the structural design for fire resistance:

1. The basement car park level is to adopt class 7a FRL's throughout (generally being 120 minutes) with the slab separating level 1 having a FRL of 120/120/120.
2. Bounding construction between residential sole occupant units (SOU) in class 2 parts are to generally achieve a FRL of 90/90/90 (loadbearing) or -/60/60 (non loadbearing).
3. It is proposed to introduce fire compartments of the class 7a parts associated with the fire hydrant design with fire walls located to the basement level. The compartmentation of the class 7a part is not, in general, a BCA DTS requirement.

The proposed development is capable of achieving the required FRL's, and to be confirmed by the structural engineer, any reduction to FRL's is to be assessed by way of a performance solution.

### **Protection of Openings**

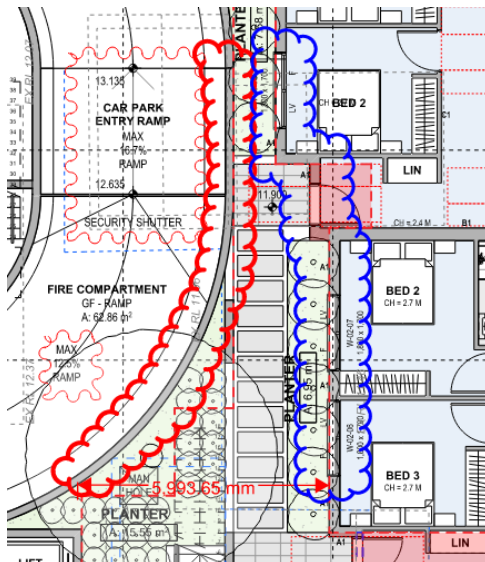
There are no openings to external walls within 3m of the side boundaries that will require protection in accordance with the provisions contained within Part C4 of the BCA.

Lift landing doors to the internal lifts must achieve an FRL not less than -/60/- in accordance with Clause C4D11 of the BCA and AS 1735.11.

All entry doors to residential units must be protected by self-closing -/60/30 fire doors as per clause C4D12.

### **Protection of Openings in adject fire compartments**

Based on the proposed design to have the class 7a parts form two separate fire compartments there will be instances where there are external walls of adjacent compartments located within exposure areas as per clause C4D4. In this regard it is proposed to adopt a performance solution to permit the form of protection being to one compartment only as opposed to both.



### **Vertical Separation of openings**

The vertical protection of external openings to different storeys as per Clause C3D7 of the BCA is required as a sprinkler system is not provided throughout. In this regard the form of protection is to be either by a spandrel panel, projection (such as a balcony) or by a performance solution as applicable.

### **Fire sealing of penetrations**

All service penetrations must be sealed to the requirements of Clause C4D13, C4D14, C4D15 and specification 13 of the BCA.

### **Electrical Supply**

Electrical equipment is to be separated from the building in accordance with Clause C3D14 of the BCA. The main switchboard is to be constructed to achieve a fire resistance level of 120/120/120 with the door being –/120/30 fire rated.

### **Protection of Equipment**

The following equipment is to be fire separated with construction complying with Clause C3D13 of the BCA.

- (i) lift motors and lift control panels; or
- (ii) a battery or batteries installed in the building that have a voltage exceeding 12 volts and a storage capacity exceeding 200kWh.
- (iii) Separation of on-site fire pumps must comply with the requirements of AS 2419.1-2021.

## **3.2 Access and Egress (Section D, BCA)**

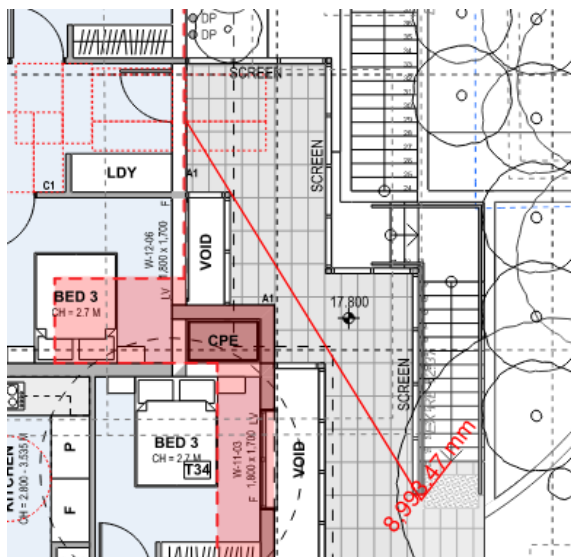
### **Number of exits required**

There is a requirement for a minimum of 1 exit for each above ground storey and two exits for the basement storey and the design is considered compliant.

### **Exit travel distances**

Exit travel distances to a required exit generally complies with Clause D2D5 and Specification 17 of the BCA.

On level 2 there will be non compliant exit travel distances to a single exit of up to 9m (6m max) and will be addressed via a performance solution:





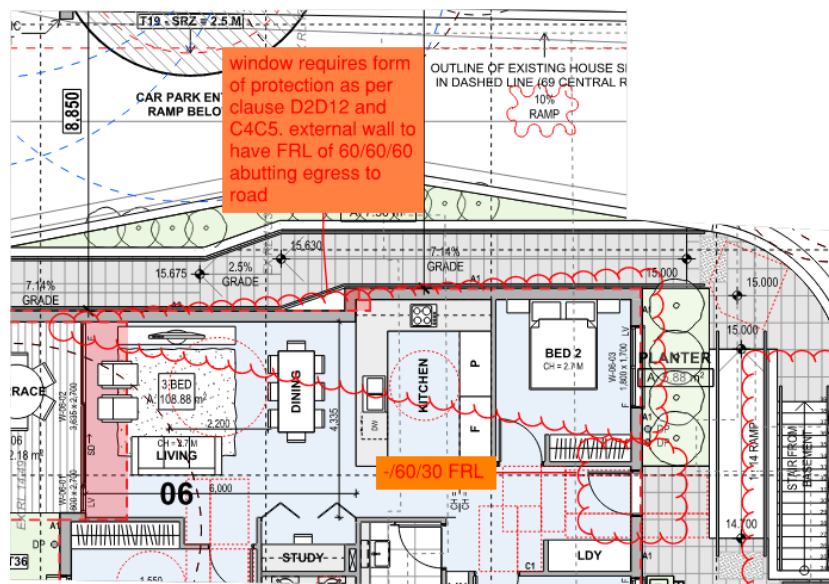
### **Fire isolated exits:**

The east stair connecting the basement level to level 1 is required to be a fire isolated exit as is not separated from level 1 with construction achieve a FRL of 90/90/90 (load bearing) or -/60/60 non load bearing as per clause D2D4.

All other exits are considered to be non fire isolated.

### **Discharge of fire isolated exits:**

The form of protection from the discharge of the fire isolated exits to the east side of the building will require external walls located within 6m of the path of travel (measured at right angles) to a height of 3m to have a FRL of 60/60/60 and any opening within the wall to be protected per the permissible methods of clause C4D5 or is to be subject to a performance solution to omit the protection.



### **Dimensions of exits**

Exits and paths of travel to exits are to comply with clause D2D7 of the BCA. Generally exits widths are 1m in width clear of any obstruction including hand rails or other fixtures. Reductions in width are available at doorways to not less than 750mm clear.

The required aggregate width based on the population determined in Section 2.2 of the report is generally compliant.



### **Construction of Stairways**

Goings and risers are to be designed to comply with the provisions of Clause D3D14 of the BCA and to generally achieve a minimum going of 250mm and maximum rise of 190mm.

There is to be no step or ramp within the width of the door leaf to a door threshold unless it is an external door in which the maximum step is not to exceed 190mm. The plans generally detail compliance in this regard.

### **Handrails**

Handrails will be provided to stairways and ramps as required by Clause D3D22 of the BCA.

### **Barriers**

Barriers will be provided for all areas where it is possible to fall more than 1m from the floor level to a lower surface. In general balustrades are to have no gap that will permit a 125mm diameter sphere to pass through, balustrades protecting a difference in levels of over 4m must not have horizontal elements between 150mm and 760mm above the floor that facilitate climbing. The use of frameless glass barriers is to comply with AS 1288-2021.

### **Egress Doors**

All exit doors swing in the direction of egress and are required to be provided with the appropriate hardware in accordance with clause D3D26 of the BCA, the latches will be downward or pushing action on a single device located between 900-1100mm above floor level.

### **Protection of openable windows**

Openable windows in bedrooms where the floor is more than 2m above the surface beneath and with a sill height below 1.7m require restricted openings or protection in accordance with clause D3D29 of the BCA, measures to restrict the window opening may include security mesh or to restrict the opening to not permit a 125mm diameter sphere to pass through.

Where the window opening is restricted calculations are to be provided at Construction Certificate stage that sufficient natural ventilation is provided by clause F6D7. For all windows not in bedrooms where the fall exceeds 4m from floor level to the surface below the sill height is to be minimum 865mm above floor level or a balustrade or similar provided in front of the opening.

### **Access for people with a disability**

The proposed building is required to comply with the following:

- The Disability (Access to Premises — Buildings) Standards 2010 compilation No.3;
- Part D3 of BCA;
- Australian Standard AS 1428.1-2009, AS/NZS 1428.4.1-2009, AS/NZS 2890.6-2009

Compliance can be readily achieved and subject to detailed review at the construction certificate stage:

1. Lifts are to comply with AS 1735.12 and have an internal lift car dimension of 1400mm x 1100mm and a clear doorway opening width of 900mm
2. Accessible paths from the allotment boundary to the principal entry.
3. Fire isolated exits are to be provided with a handrail to one side of the flight and to both sides of external stairs and ramps.

## **3.3 Services and Equipment (Section E, BCA)**

### **Hydrant Systems**

The building is required to be provided with a system of hydrant coverage in accordance with the provisions of Clause E1D2 of the BCA and AS 2419.1-2021.

The design of the hydrant service is subject to input from an accredited practitioner (fire safety).

### **Hose Reel Systems**

The building will be provided with a fire hose reel system in accordance with the provisions of Clause E1D3 of the BCA and AS 2441-2005, this system must cover the car park areas of the development. Locations of fire hose reels are required to be within 4m from an exit. The design of the hose reel service is subject to input from an accredited practitioner (fire safety).

### **Portable Fire Extinguishers**

Fire extinguishers are to be provided in accordance the provisions of Clause E1D14 of the BCA and AS2444 - 2001. There is to be a type ABE 2.5kg extinguisher located within 10m of the entry door to every SOU within the common corridors and provided relative to specific risks.

### **Exit and Emergency Lighting**

Emergency lighting will be provided throughout the building in accordance with Part E4 of the BCA and AS/NZS 2293.1.2018.

### **Lifts**

A sign must be provided in accordance with Clause E3D4 of the BCA warning against the use of lifts in a fire. Compliance with Specification 24 is required for an electric or electrohydraulic lift installation. Every passenger lift is to be provided with handrails, minimum internal floor dimensions, clear door opening dimensions and car control buttons in accordance with AS1735.12 and be fitted with a series of sensory devices per clause E3D8 of the BCA.

### **Smoke Hazard Management**

The building is to be provided with the following fire and smoke detection measures:

- Class 2: An automatic smoke detection and alarm system in accordance with clause E2D8 and Specification 20 and AS 1670.1-2018 and AS 3786-2014.
- Class 7a: car park mechanical exhaust system to comply with clause E2D12 and clause 5.5 of AS 1668.1-2015 and AS 1668.2-2012.

## **3.4 Health and Amenity (Section F, BCA)**

### **Damp and Weatherproofing**

Adequate measures will be employed to ensure compliance Part F3 of the BCA is achieved in terms of weatherproofing, this is to include compliance with AS 4654.2-2012 in respect of waterproofing of external balconies and roof. It is advised that the building façade must be designed to comply with F3D5 or where not incorporating a DTS outcome as a performance solution against the performance solution F3P1. Roofing materials are to comply with clause F3D2.

### **Sanitary and Other facilities**

Within each apartment there are to be facilities for cooking, washing and laundry facilities comprising a wash tub and space for a washing machine and either a clothes line min 7.5m long or space for a heat operated dryer in the same room as the washing machine. Plans generally detail compliance in this regard.

### **Ceiling Heights**

The following minimum building ceiling heights must be maintained.

- Common kitchen, laundry or the like – 2.1m
- Corridor, passageway or the like – 2.1m
- Bathroom, shower, sanitary compartment or the like – 2.1m
- Habitable rooms including common areas and office spaces – 2.4m
- Stairways – 2.0m

### **Natural and Artificial Lighting**

Natural lighting is to be provided class 2 sole occupancy units to habitable rooms and is to be not less than 10% of the floor area of the room concerned based on the light transmitting area of the glazing element (eg exclusive of framing elements), artificial lighting may be provided throughout other parts in accordance with the provisions of Clause F6D5 of the BCA and AS 1680.0. Compliance in general can be readily achieved and is subject to detailed design development at the construction certificate.

### **Ventilation**

The building is required to be provided with ventilation in accordance with the provisions of Clause F6D6 of the BCA. Ventilation may be provided by natural means or a mechanical system complying with AS 1668.2-2012.

### **Sound Transmission and Insulation**

The floor separating the residential units and separating the sole occupancy units from public areas must achieve a sound insulation rating of  $R_w+C_{tr}$  (airborne) of not less than 50 and an  $L_{n,w}+C_i$  (impact) not more than 62.

Walls separating units must achieve a sound insulation rating of  $R_w+C_{tr}$  (airborne) of not less than 50.

Walls separating units from plant rooms, lift shafts, stairways corridors or other public areas must have an insulation rating of  $R_w$  (airborne) not less than 50.

Walls separating a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room in another or separating a unit from a lift shaft must be of discontinuous construction.

The doorway separating to sole occupancy unit from the public area must have an  $R_w$  not less than 30. Soil, waste & stormwater services must be separated by construction having an  $R_w + C_{tr}$  (airborne) not less than:

- 40 if the room is a habitable room
- 25 if the room is a non-habitable room

### 3.5 Ancillary Provisions (Section G, BCA)

#### **Cleaning of Windows**

As per NSW Clause G1D5 a building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.

This is satisfied where—

- (i) the windows can be cleaned wholly from within the building; or
- (ii) provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.

### 3.6 Energy Efficient Construction (Section J, BCA)

#### **Building Fabric**

Parts of the building forming an envelope to a conditioned space are to achieve the minimum construction requirements for insulation R-Values required by BCA Part J4 and for the class 2 apartments BASIX applies as does clause J4D3. It is noted that in general there are no conditioned spaces for the class 7a part.

#### **Building Sealing**

Openings in the building such as doors, windows, exhaust fans and ventilation systems forming part of an envelope to a conditioned space must be sealed to the requirements of Part J5 of the BCA to prevent loss of conditioned air and applies to the class 2 parts of the building.

In that regard, all external doorways and windows must be fitted with a draft seal, exhaust fans to have dampers, there are to be tight fitting skirting boards, cornices and architraves. The requirement for seals does not apply to fire doors fitted between the fire-isolated stairways in the conditioned areas of the building.

**Air-conditioning and Ventilation System**

The design of all mechanical air-conditioning and ventilation systems must achieve compliance with Part J6 of the BCA with regard to input power and efficiency features and applies to the class 2 parts of the building.

**Artificial Lighting and Power**

The building is to maintain maximum lighting power levels and control systems as applicable. The design of lighting systems must comply with BCA Part J7 to the class 7a parts of the building.

**Hot Water Supply**

Hot water supply systems will be installed in accordance with Part J8 of the BCA and AS/NZS 3500.4 and incorporate insulation to inlet and outlet lines of hot water storage units.

**Access for Maintenance and Facilities for Monitoring of Energy Use**

The building is to have facilities for maintenance and energy monitoring in compliance with BCA Part J9 and the NSW variations.

## 4.0 Fire Safety and Other Measures

### 4.1 Proposed Fire Safety Measures

In terms of the proposed works the following fire safety measures are proposed to be installed;

Fire Safety Measure	Standard of Performance
Access panels, doors and hoppers to fire-resisting shafts	BCA 2022 Clause C4D14
Automatic fire detection and alarm system	BCA 2022 Clause E2D8, E2D9, Spec. 20, AS 1670.1-2018, AS 3786-2014
Emergency lighting	BCA 2022 Clause E4D2 & E4D4, AS 2293.1-2018
Exit and directional signage	BCA 2022 Clause E4D5, (NSW E4D6) & E4D8, AS 2293.1-2018
Fire dampers	BCA 2022 Clause C4D15, AS/NZS 1668.1-2015, AS 1682.2-1990
Fire doorsets	BCA 2022 Clause C3D13, C3D14, C4D5, C4D9, C4D14, AS 1905.1-2015
Fire hydrant systems	BCA 2022 Clause E1D2, AS 2419.1-2021
Fire hose reel systems	BCA 2022 Clause E1D3, AS 2441-2005
Fire seals (protecting openings and service penetrations in fire resisting components of the building)	BCA 2022 Clause C4D15, Spec 13, Manufacturer's specifications
Lightweight construction	BCA 2022 Clause C12D9, Spec 6, Manufacturer's specifications
Mechanical air handling systems	BCA 2022 Clause E2D12, AS/NZS 1668.1-2015, AS 1668.2-2012 (clause 5.5 car park exhaust operation)
Openings in fire-isolated lift shafts	BCA 2022 Clause C4D11, AS 1735.11-1986
Portable fire extinguishers	BCA 2022 Clause E1D14, AS 2444-2001
Fire engineered solutions	TBA
Warning and operational signs	BCA 2022 Clause D3D28, D4D7, E3D4, Section 108 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021

## 5.0 Conclusion

Following an assessment of the proposed building it is considered that the proposed building is capable of compliance with the provisions of BCA 2022 and is subject to detailed design development at the time of seeking consent for construction.



## 6.0 Referenced plans

Architectural plans prepared by Gartner Trovato Architects revision D-P12 dated 21 February 2025

DEVELOPMENT APPLICATION DRAWING LIST	
DRAWING No:	DRAWING NAME
DA-00	COVER SHEET
DA-01	SITE PLAN & SITE ANALYSIS PLAN
DA-02	BASEMENT PLAN
DA-03	GROUND FLOOR PLAN
DA-04	LEVEL 1 PLAN
DA-05	LEVEL 2 PLAN
DA-06	ROOF PLAN
DA-07	ELEVATIONS
DA-08	ELEVATIONS
DA-09	SECTIONS A & B
DA-10	SECTIONS C & D
DA-11	SECTION E & F
DA-12	SECTION G
DA-13	SHADOW DIAGRAMS
DA-14	EXTERNAL COLOURS & MATERIALS
DA-15	PERSPECTIVE VIEW 1