

BCA CAPABILITY REPORT

Address: 1803 & 1803A Pittwater Rd, Mona Vale NSW 2103

Client: EDK Garfield Pty Ltd

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1.0 INTRODUCTION

Concise Certification Pty Ltd has been engaged by EDK Garfield Pty Ltd to undertake an assessment of the referenced architectural design for the proposed residential development located at 1803 & 1803A Pittwater Road, Mona Vale NSW against the Deemed-to-Satisfy provisions of the National Construction Code (Volume 1) Building Code of Australia 2022 Amendment 2.

1.1 REFERENCED DOCUMENTATION

The following documents have been reviewed and/or relied upon in the preparation of this report:

- The National Construction Code (Volume 1) Building Code of Australia 2022 Amendment 2 (BCA)
- Environmental Planning and Assessment Act 1979
- Environmental Planning and Assessment Regulation 2021
- Environmental Planning and Assessment (Development Certification & Fire Safety) Regulation 2021
- Architectural drawings prepared by Studio McCue as listed in [Appendix B](#).

1.2 REPORT OBJECTIVES

The objectives of this report are to:

- Confirm that the referenced architectural drawings have been assessed against the Deemed-to-Satisfy (DtS) provisions of BCA 2022 A2 by an appropriately qualified Building Surveyor and Registered Certifier;
- Enable the Consent Authority to be satisfied that the referenced architectural drawings are capable of complying with the applicable DtS provisions of BCA 2022 A2, with full compliance being achievable as the design is developed without requiring design changes which would require a DA Modification application under Section 4.55/6 of the EP&A Act.

In addition to the above, this report:

- Details the principal characteristics of the development (as relevant to BCA compliance) including the applicable building classification(s), rise in storeys, effective height, and required type of construction; and
- Outlines matters required to be addressed via design amendments and/or development of Performance Solutions as part of the post DA design development process; and
- Provides a summary of matters that are expected or required to be addressed as Performance Solutions, including key areas of non-compliance with Deemed-to-Satisfy (DtS) provisions; and
- Confirms the statutory fire safety measures (and applicable standards of performance) required for the proposed development.

Note: It is not the intent of this report to identify all BCA provisions that apply to the subject development, noting that the development will be subject further assessment as part of the post DA design development process which will be required prior to application for a Construction Certificate. Instead, this report serves to demonstrate that critical aspects such as building classification, rise in storeys, fire resistance levels, and essential fire safety measures have been considered and addressed as part the architectural design.

1.3 LIMITATIONS & EXCLUSIONS

The limitations and exclusions of this report are contained in [Appendix C](#).

1.4 TERMINOLOGY, ABBREVIATIONS & SYMBOLS

This report has been prepared using terminology consistent with that contained in NSW legislation, the National Construction Code and the Australian Standards / technical documents referenced within. To ensure the document is concise, the use of repetitious/cumbersome phrases have been limited through the use of Abbreviations & Symbols. To assist with interpretation and understanding, a Glossary of Terminology, Abbreviations and Symbols used in this report is contained in [Appendix D](#).

2.0 DEVELOPMENT OVERVIEW

2.1 SITE DESCRIPTION

The subject site is known as 1803 & 1803A Pittwater Road, Mona Vale NSW. The site comprises two existing lots being 1803 Pittwater Road (Lot 11/DP588908) and 1803A Pittwater Road (Lot 12/DP588908), which are understood will be consolidated to form a single site with a combined area of 1,560m².



Figure 1: Aerial view of subject site and surrounds (Source: Explorer)

2.2 PROPOSED DEVELOPMENT

The proposed development comprises demolition of existing buildings and construction of a multi-storey residential development containing twenty (20) units from ground to level 5 constructed over 2 levels of basement carparking.



Figure 2: 3D Perspective of the building

3.0 BUILDING CODE COMPLIANCE OVERVIEW

3.1 THE NATIONAL CONSTRUCTION CODE VOLUMES

The National Construction Code (NCC) is Australia's primary set of technical design and construction provisions for buildings. As a performance-based code, it sets the minimum required level for the safety, health, amenity, accessibility and sustainability of certain buildings. The Australian Building Codes Board, on behalf of the Australian Government and each State and Territory government, produces and maintains the National Construction Code.

The NCC has three (3) volumes being:

- The Building Code of Australia, Volume One – containing technical design and construction requirements for all Class 2 to 9 buildings
- The Building Code of Australia, Volume Two – containing technical design and construction requirements for certain residential (class 1) and non-habitable buildings and structures (Class 10).
- The Plumbing Code of Australia, Volume Three – Containing technical requirements for the design and construction for plumbing and drainage systems in new and existing buildings

This report has been prepared based on assessment of the development against the Deemed-to-Satisfy provisions of the Building Code of Australia, Volume One.

3.2 BCA EDITION APPLICABLE

Legislative Requirement for BCA Compliance in NSW

Under Section 19 of the EP&A (Development Certification & Fire Safety) Regulation 2021, the BCA edition applicable for building work requiring a Construction Certificate (CC) is determined as follows:

- Single-Storey Building – The BCA edition in force at the date of CC application applies.
- Multi-Storey Building single CC application – The BCA edition in force at the date of CC application applies.
- Multi-Storey Building with Staged CCs – The BCA edition in force at the date of CC application applies for each CC up to and including the CC that includes the 'entrance floor'. The BCA in force at the date of application for the Entrance Floor CC is then locked in and applies to any subsequent CCs

Note: The Entrance Floor is defined under Section 19(5) of the EP&A (Development Certification & Fire Safety) Regulation 2021 as: "The floor of the building containing the principal pedestrian entrance"

The application of the above provisions is illustrated below:

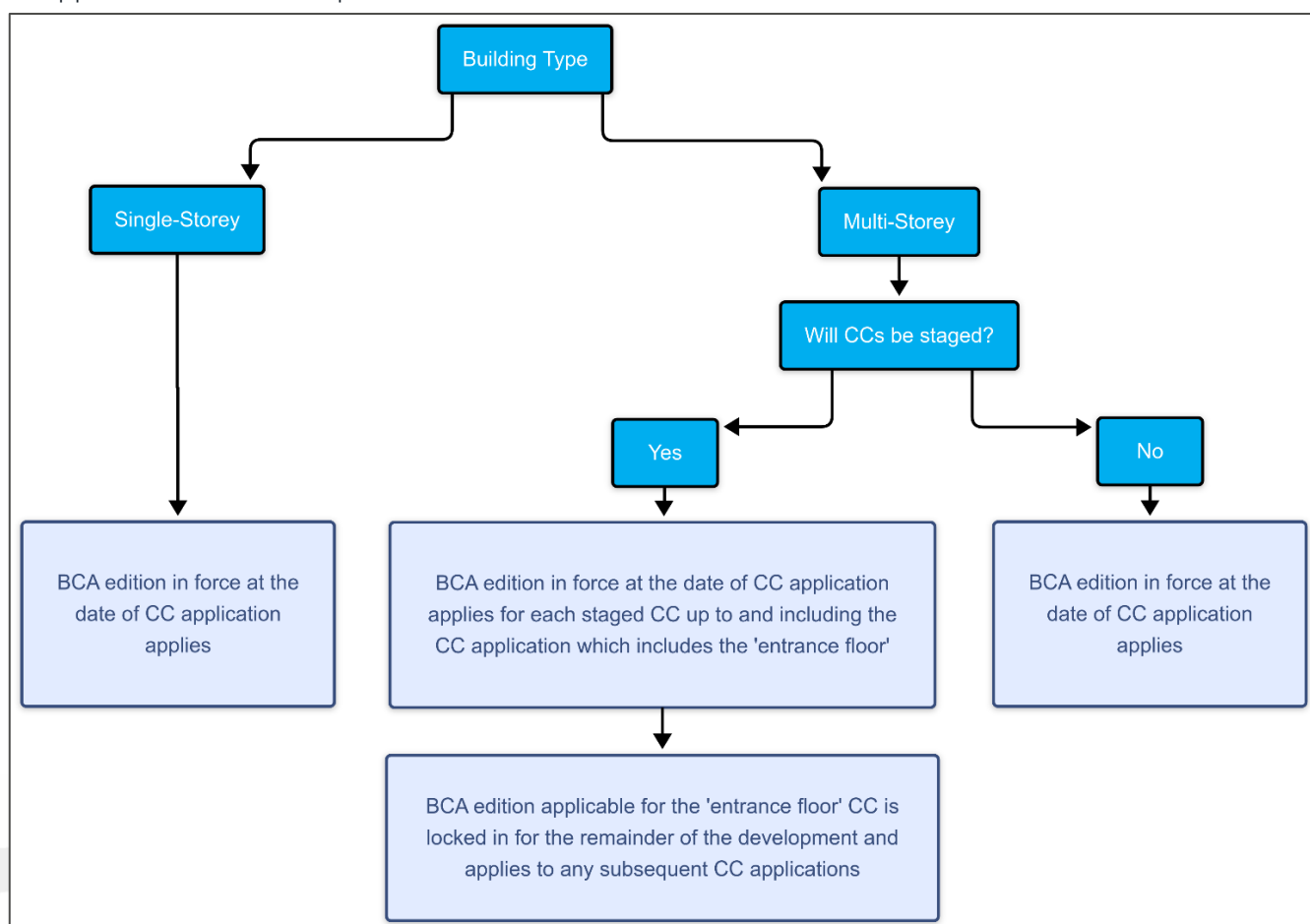


Figure 3: Flowchart illustrating the method of determining which BCA Edition applies for works requiring a Construction Certificate



BCA Adoption Cycle

The Building Code of Australia (BCA) is updated on a three-year cycle, incorporating changes based on regulatory requirements, industry research, stakeholder feedback, and government policy directions provided to the Australian Building Codes Board (ABCB). In addition to this scheduled cycle, out-of-cycle amendments may be introduced where necessary to address urgent or transitional matters that cannot wait for the next full edition.

BCA 2025 delayed

At the time of preparing this report, the Australian Building Codes Board (ABCB) has confirmed that the release of BCA 2025 has been delayed and no formal adoption date has been set. This has been confirmed via correspondence from the ABCB (refer to attached email), which advises that the delay is due to ongoing decision-making processes.

Thank you for your enquiry.

The release date of the BCA 2025 cannot be confirmed at this time due to a delay in the decision-making process.

Please keep an eye out on the ABCB website for updates.

Kind regards
NCC Team



Australian Building Codes Board

1300 134 631 | ncc@abcb.gov.au
GPO Box 2013 Canberra ACT 2601



Figure 4: Email from the ABCB dated 4/2/2025 advising that they cannot confirm a release date to the final version of BCA 2025

Out of cycle amendment - BCA 2022 Amendment 1

An out of cycle amendment known as BCA 2022 Amendment 1 was formally adopted in New South Wales on 1 May 2025. This amendment includes a number of WA-specific changes as well as minor updates such as the removal of transitional guidance notes that are no longer applicable and correction to BCA Clause D3D28(4)(b) relating to the text sequence for signage required for following self-closing doors:

- A Fire Door forming part of a Horizontal Exit; and
- A Smoke Door that swings in both directions

This changes is shown below:

BCA 2022 (Incorrect text sequence)		BCA 2022 Amendment 1 (<u>correct</u> text sequence)	
(b)	For a <i>self-closing</i> door— DO NOT OBSTRUCT DO NOT KEEP OPEN FIRE SAFETY DOOR	(b)	For a <i>self-closing</i> door— FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN

Due to the minor nature of the changes introduced in BCA 2022 Amendment 1, there is little to no impact on the design of projects in NSW.

Out of cycle amendment - BCA 2022 Amendment 2

An out of cycle amendment known as BCA 2022 Amendment 2 was formally adopted in New South Wales on 29 July 2025. This amendment aligns the BCA with the Disability (Access to Premises – Buildings) Standards 2010 (Premises Standards) by referencing the 2021 edition of AS 1428.1 – Design for access and mobility.

No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 1428 Part 1	2021	Design for access and mobility — General requirements for access — New building work	D3D11, D3D16, D3D22, D4D2, D4D3, D4D4, D4D7, D4D10, D4D11, D4D13, Spec 16, E3D10, F4D5, G4D5, Schedule 1	Schedule 1	Schedule 1	Schedule 1, E1D2

It is recommended that advice regarding the changes under the 2021 edition of AS1428.1 is sought from a qualified Access Consultant.

BCA Edition relied upon for assessment

This report has been prepared with reference to the Deemed-to-Satisfy provisions of BCA 2022 Amendment 2, as it is understood that a Construction Certificate application for works including the storey containing the principal pedestrian entrance will be lodged in the coming months, which will trigger the application of BCA 2022 Amendment 2. Accordingly, any reference to BCA or BCA 2022 within this report is a reference to BCA 2022 Amendment 2.

A schedule of the referenced Australian Standards and Technical Documents applicable under BCA 2022 Volume 1 has been provided in [Appendix E](#) for reference. With the exception of AS1428.1, the Australian Standards and Technical Documents remain applicable under BCA 2022 Amendment 2.

3.3 BCA ASSESSMENT METHODOLOGY

The BCA is a performance-based code which contains the 'Performance Requirements' for the construction of buildings. Being a performance-based document, the BCA provides options and flexibility, allowing practitioners to satisfy the Performance Requirements for building by:

- Developing a Performance Solution; or
- Complying with the Deemed-to-Satisfy provisions (known as a DtS Solution); or
- A combination of the above two options.

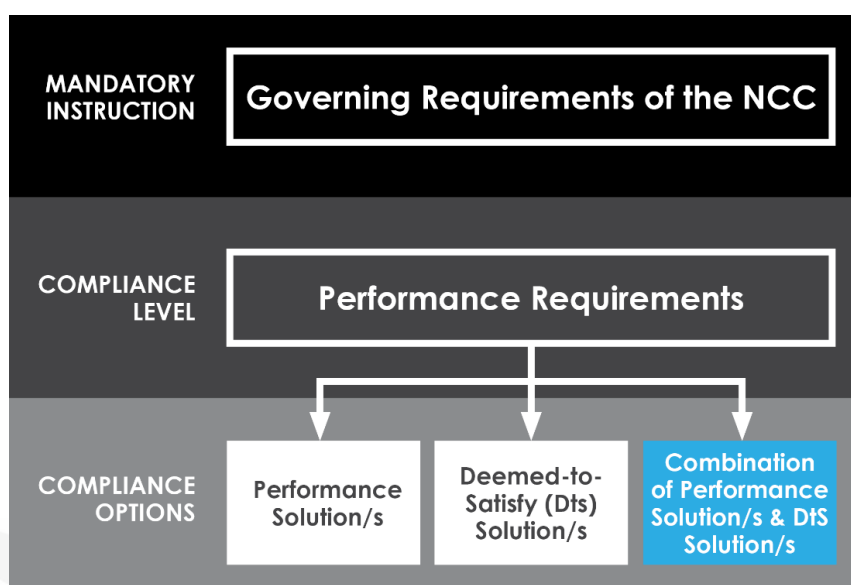


Figure 5: BCA Compliance Flowchart

Based on the assessment completed of the development, it is noted that compliance with the BCA will be achieved via a combination of Performances Solutions and DtS Solutions.



3.4 SUMMARY OF BUILDING CHARACTERISTICS

The building characteristics of the proposed development (as relevant to compliance with BCA 2022 A2) have been summarised below. These characteristics form the foundation from which the applicable BCA DTS provisions (design compliance parameters) have been established and the development has been assessed against.

Table 1: Building Characteristics

BCA Reference	Characteristic	Description
Part A6	Classifications	Basement Levels: Class 7a (Car parking & ancillary use spaces) Ground Floor: Class 2 (Residential Units & Entry Lobby) Class 2 (Waste Room) Class 10b (Swimming Pools) Class 10b (Fire Booster Enclosure & Mailboxes) Levels 1-5: Class 2 (Residential Units & Public Corridors)
B1D3	Importance Level	To be confirmed by the Structural Engineer
C2D2	Construction Type	Type A Construction
C2D3	Rise in Storeys	Seven (7)
C2D3	Storeys Contained	Eight (8)
Schedule 1	Effective Height	Greater than 12m but less than 25m (RL28.260 - RL8.860 = 19.4m)
Schedule 1	Climate Zone	The site is located within Climate Zone 5
Spec. S5C11	Fire Resistance Levels	To comply with Tables S5C11a, S5C11b, S5C11c, S5C11d, S5C11e, S5C11f and S5C11g as applicable.
Section E	Key Fire Services	Fire Hydrants, Fire Hose Reels, Automatic Fire Sprinkler System, Wall Wetting Sprinklers, Portable Fire Extinguishers, Automatic Smoke Detection System, Building Occupant Warning System, Alarm Signalling Equipment, Emergency Lighting, Exit Signage,

Note 1 The characteristics listed in the above table are based on Concise Certification's assessment and interpretation of the referenced drawings and is subject to clarification and/or change as new information or clarification of existing information becomes available.

Note 2 The Basement 2 storage areas have an aggregate floor area of less than 10% of the floor area of the storey. Accordingly, these areas have been classified as Class 7a rather than Class 7b in accordance with BCA Clause A6G1(2). Exact floor areas are to be confirmed by the architect prior to the Construction Certificate application.

Note 3 The plant rooms throughout the development attract the same classification as the part in which they are located, in accordance with BCA Clause A6G1(3). Accordingly, the Electrical/Comms Room within Basement 2 is classified as Class 7a.

Note 4 The lobbies from Ground to Level 5 are ancillary to the Class 2 Sole Occupancy Units (SOUs) and therefore attract the same Class 2 classification.

Note 5 The Ground Floor Waste Room has a floor area of less than 10% of the floor area of the storey. Accordingly, this part been classified as Class 2 rather than Class 7b in accordance with BCA Clause A6G1(2).

Note 6 Basement 1 is counted in the Rise in Storeys under Clause C2D3 of the BCA, as the external walls to the carpark entry ramp extend more than 1 m above the finished ground level at these parts.

Note 7 Floor area and volume limitations do not apply to the basement carpark, noting that it is proposed to be sprinkler protected in accordance with Specification 17, thereby receiving a concession under BCA Clause C3D2(1).

Note 8 Ground – Level 5 is classified as Class 2 and is therefore not subject to floor area and volume limitations, as fire compartmentation for these parts is already governed by BCA Clause C4D12 and Specification 5.

Note 9 Based on the calculated effective height, a stretcher-sized lift is required, as the lifts will serve an effective height of more than 12m.

3.5 DISTANCE TO FIRE SOURCE FEATURES

A Fire Source Feature is a defined term under the BCA and refers to any one or more of the following:

- The far boundary of a road, river, lake or the like adjoining the allotment.
- A side or rear boundary of the allotment.
- An external wall of another building on the allotment which is not a Class 10 building.

Based on review of the referenced architectural drawings, the Fire Source Features applicable to the subject development and the corresponding exposure of the above-ground parts of the building to these features are summarised as follows:

Table 2: Distance to Fire Source Features

Fire Source Feature	Distance
▪ Allotment boundary shared with 1805 Pittwater Road	Greater than 3m
▪ Far boundary of Pittwater Road	Greater than 6m
▪ Allotment boundary shared with 1801 Pittwater Road	Approximately 3m
▪ Allotment boundary shared with 42 Park Street	Greater than 3m
▪ Allotment boundary shared with 44-48 Park Street	Greater than 3m

These distances are illustrated in the below figure:



Figure 6: Mark-up of the Ground Floor Plan illustrating the distance of the above ground building parts from Fire Source Features

Note 1 The carpark entry is understood to be located below the level of the finished ground level and therefore not exposed to the allotment boundary shared with 1805 Pittwater Road.

Note 2 The non-fire isolated stair adjacent to Unit G04 is understood to be located below the level of the finished ground level and therefore not exposed to the allotment boundary shared with 44-48 Park Street.

3.6 NOMINATED EXITS

Egress from the building is via the following exits:

Table 3: Nominated exits

Storey	Number of exits	Nominated Exit(s)
■ Basement 2	Two (2)	- Non-Fire Isolated Stair at the western end of the carpark - Fire Isolated Stairway opposite the lift core
■ Basement 1	Two (2)	- Non-Fire Isolated Stair at the western end of the carpark - Fire Isolated Stairway opposite the lift core
■ Ground Floor	Two (2)	- Swing Door at the southern end of the Lobby - Swing Door to the Waste Room
■ Level 1	One (1)	Fire Isolated Stairway opposite the lift core
■ Level 2	One (1)	Fire Isolated Stairway opposite the lift core
■ Level 3	One (1)	Fire Isolated Stairway opposite the lift core
■ Level 4	One (1)	Fire Isolated Stairway opposite the lift core
■ Level 5	One (1)	Fire Isolated Stairway opposite the lift core

Note 1 Egress to the roadway from the outdoor communal space at the Ground Floor Level is achieved via an external pathway that does not require occupants to pass back under or through the building. Accordingly, this area does not constitute an "occupiable outdoor area" for the purposes of the BCA.

Notwithstanding, to ensure that egress to the roadway (Pittwater Road) is readily available to occupants using the outdoor communal space, all gates located along the path of travel to the road (circled below) are to be:

- Fitted with "D" type lever handles that are operable on the egress side using a single downward action, and
- Where gates are locked on both sides during normal use, they are to be provided with automatic fail-safe devices that unlock upon activation of the sprinkler system or detection system.

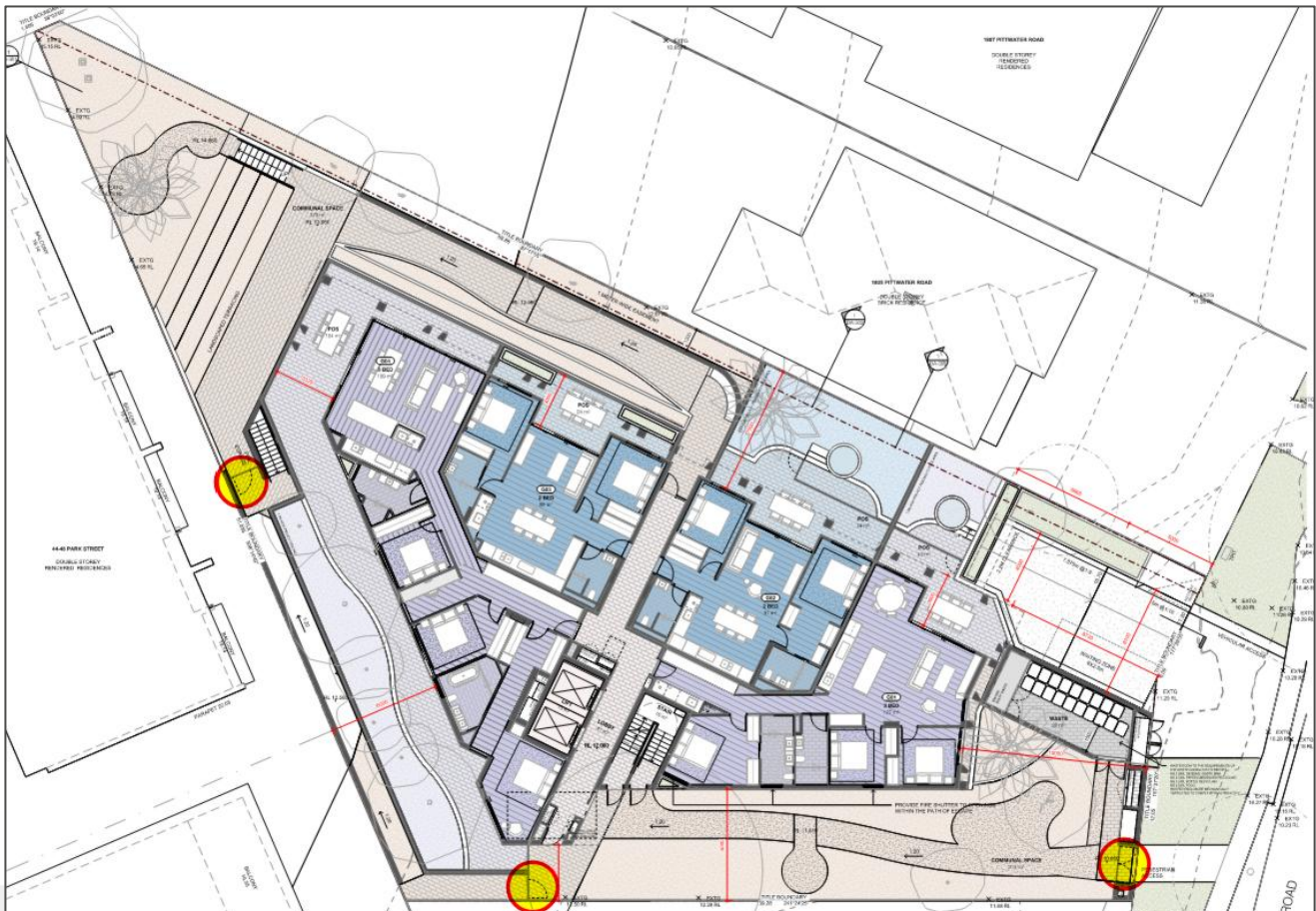


Figure 7: External Gates along path of travel to the roadway

The nominated exits listed in [Table 3](#) are identified in the below mark-ups:

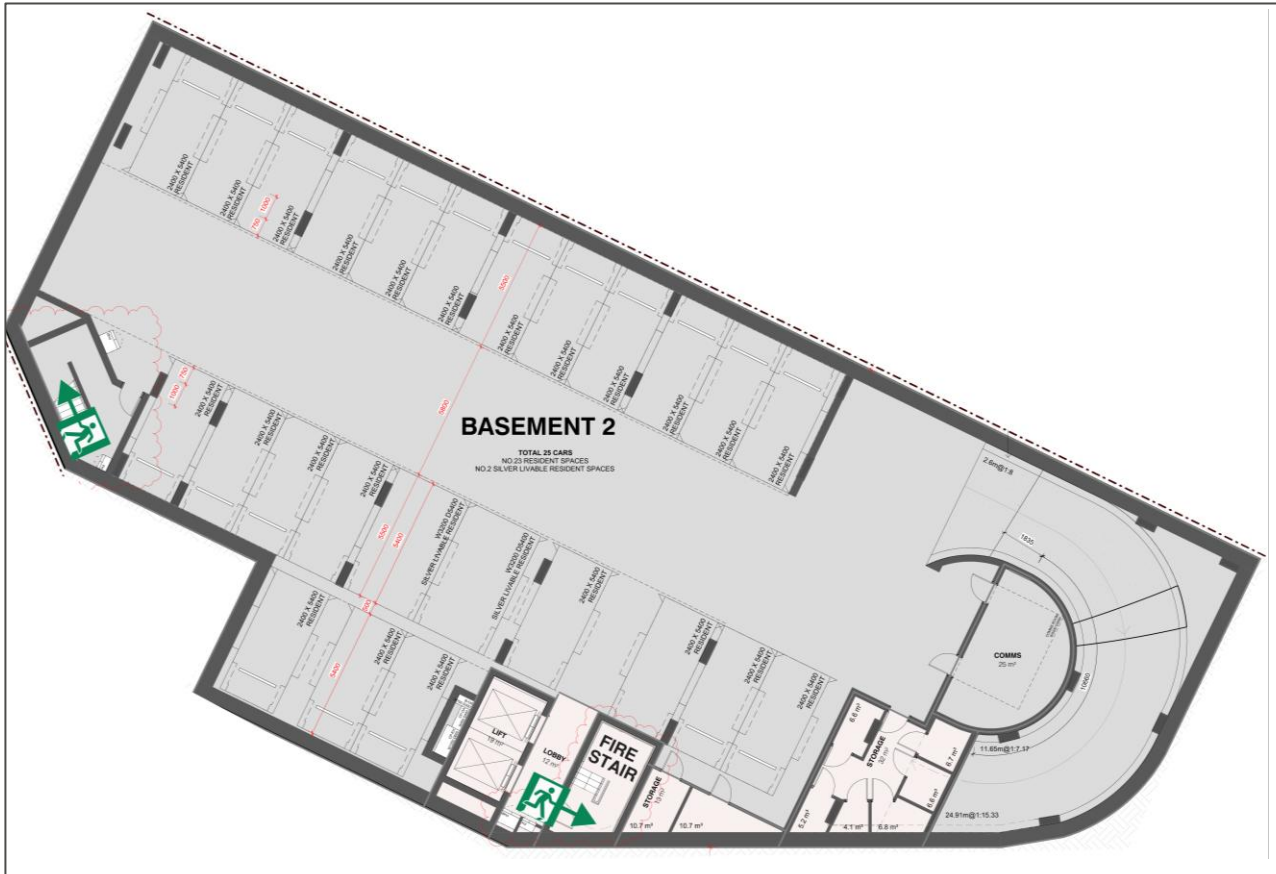


Figure 8: Basement 2 - Exit Locations



Figure 9: Basement 1 - Exit Locations



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4.0 PERFORMANCE SOLUTIONS

4.1 FIRE SAFETY RELATED PERFORMANCE SOLUTIONS

Based on assessment of the referenced architectural drawings against the DtS provisions of BCA 2022 Amendment 2 and discussion with the Project Team, Performance Solutions as listed the table below are understood to be proposed. Further advice regarding the feasibility / requirements to supports these Performance Solutions will need to be sought from the Project Fire Engineer, Innova Services Australia.

Table 4: Summary of Fire Safety related Performance Solutions

Item	BCA Reference	Summary of Performance Solution
1.	C2D2, S5C11	Fire separation of external cavities at the termination of internal fire rated walls To permit the use of a non-combustible rockwool to provide fire separation to the gap formed between the internal bounding walls to the SOUs and the external walls.
2.	C2D2, S5C11	Rationalisation of FRLs for wet area set downs in residential SOUs To permit the thickness of floor slabs within wet areas of residential units to be a minimum 180mm units, which under AS3600-2018 will achieve an FRL of 60/60/60 in lieu of the DtS required 90/90/90 FRL. Note: The floor slabs between the carpark and the residential units over are required to achieve an FRL of 120/120/120 minutes (as required) throughout.
3.	C2D14	Combustible Ancillary Elements (Planter Boxes) To permit planter boxes (deemed ancillary elements where they adjoin the external walls of the building) at Levels 1-4 which: - Typically contain combustible material such as plastic planting beds/trays, geotextile fabrics for filtration and flexible pipework for irrigation. - Requires a waterproofing membrane to be applied to the external wall behind the planter box which extends more than 250mm above finish ground level.
4.	C4D3 / C4D5	Opening located within 3m of allotment boundaries To permit the carpark entry which is less than 3m from the northern boundary (shared with 1805 Pittwater Road) to remain unprotected. Note: This Performance Solution will only be required where the carpark entry is not located below the level of the finished ground level and therefore is exposed to the boundary.
5.	D3D13	Openings at Ground Level (Roof as Open Space) To permit service penetrations (e.g. rainwater outlets, downpipes, and similar elements) through the external parts of the ground floor level, which are located over the basement and therefore constitute a roof as open space, to be situated within 3 m of the path of travel from egress discharge locations. Note: BCA Clause D3D13 prohibits any openings within 3 m of a path of travel across a roof forming part of the required exit system, irrespective of whether such openings are protected to achieve the required FRL, as is proposed in the subject building.
6.	E1D2	Booster Assembly location To permit the fire booster assembly to not be within sight of the principal entrance to the building required by Clause 7.1(c) of AS2419.1-2021
7.	E1D4, S17C2	Omission of sprinkler coverage to the combined Comms and Main Switch Room To omit sprinkler coverage from within the Comms and Main Switch Board (MSB) Rooms noting that despite the safety risks, these rooms are required to be sprinkler protected under the DtS provisions due to the fact that: - The equipment contained in both rooms is understood to be classified as Low Voltage (≤ 1000 C a.c. or ≤ 1500 V d.c.) under Clause 1.4.128 of AS 3000-2018; and - The concession to omit sprinkler coverage under Clause 3.1.3(a) of AS 2118.1-2017 only applies to High-voltage rooms which are normally unoccupied normally only used to contain transformers, electrical switch or control gear.
8.	C2D2, S5C11	Rationalisation of FRLs for wet area set downs in residential SOUs To permit the thickness of floor slabs within wet areas of residential units to be a minimum 180mm, which under AS3600-2018 will achieve an FRL of 60/60/60 in lieu of the DtS required 90/90/90 FRL. Note: Confirmation of whether this Performance Solution is required will need to be provided by the Structural Engineer and Architect during the post design development process.

4.2 OTHER PERFORMANCE SOLUTIONS

Based on assessment of the referenced architectural drawings against the DtS provisions of the BCA, Performance Solutions as listed the table below are proposed / required

Table 5: Summary of other Performance Solutions (Safe movement, health & amenity, accessibility etc.)

Item	BCA DtS Ref.	Summary of Performance Solution
1.	F1D5	Pedestal Pavers To permit the external waterproofing system to include pedestal pavers, which are designed and installed on the principle that water will shed at the SSL rather than the FFL, which does not strictly comply with the requirements of AS 4564-2012. Confirmation is required as to whether pedestal pavers are proposed to be used. Where proposed this will need to be addressed as a Performance Solution by the Waterproofing Consultant.
2.	F3D5	Façade Weatherproofing - materials proposed other than those permitted under F3D5 A performance solution is to be required to demonstrate that the proposed external walls will prevent the penetration of water that could cause unhealthy or dangerous conditions, or loss of amenity for occupants; and undue dampness or deterioration of building elements. Note: Where the design of external walls only comprises one or a combination of the below materials, a Performance Solution won't be required. ■ Masonry (including masonry veneer): AS 3700-2018; ■ Autoclaved Aerated Concrete (AAC): AS 5146.3-2018; ■ Metal wall cladding: AS 1562.1-2018

Note 1: The Performance Solutions listed in above have been identified based on Concise Certification's review of the referenced documents within the limitations of the scope our engagement as BCA Consultant for the project. Accordingly, advice is to be provided by other consultants and design practitioners regarding any other additional Performance Solutions which may be required / proposed.

5.0 PROVISION FOR SPECIAL HAZARDS

Pursuant to Clauses E1D17 and E2D21 of the BCA regarding Provision for Special Hazards, consideration has been given to the presence of Photovoltaic (PV) System (Solar Panels) on the roof level and Electric Vehicle (EV) charging stations within the carparking area of the subject building

5.1 PHOTOVOLTAIC SYSTEM (SOLAR PANELS)

The proposed configuration is understood to be consistent with other similar residential developments and as (as is the case with all electrical installations) will pose some degree of fire risk. To mitigate the risk posed by the proposed PV System the following is recommended:

- The project Fire Engineer undertake an assessment of the proposed PV System to identify risks posed by the system and demonstrate how the identified risks are required to be addressed.
- The proposed PV System is installed in accordance with the relevant requirements of:
 - AS/NZS 3000:2018 Amdt 3:2023 – Electrical installations; and
 - AS/NZS 5033:2021 – Installation and safety requirements for photovoltaic (PV) arrays inclusive of the changes regarding D.C. Rooftop Isolator Requirements as outlined in [Figure 12](#) below:

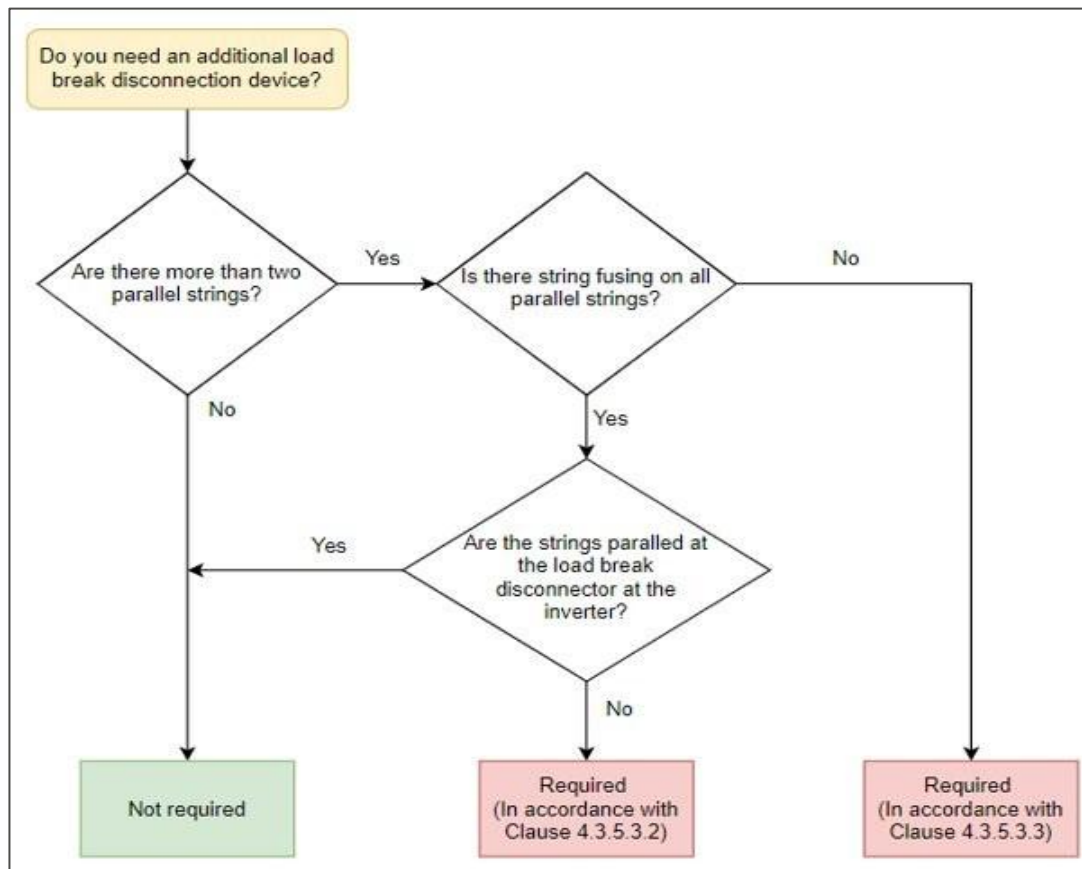


Figure 12: Figure 4.2 of AS/NZS 5033:2021 - Rooftop Isolators Decision Flowchart

- An A4 notice on fade resistant material shall be displayed at the FIP notifying attending fire fighters as to the existence of the Photovoltaic Solar Panel Array on the roof of the building. The notice shall include:
 - the location of the panels
 - the location of all associated isolation switches, AC and DC isolators for the shut-off of generated electricity.
 - If the PV automatically isolates on fire trip, a statement advising of the same
 - A statement in 8mm font stating (or similar):
 - Photovoltaic (PV) Panels Present
 - PV panels are mechanically fixed to the roof as shown below
- A block plan showing the location of all associated isolation switches, AC and DC isolators for the shut-off of generated electricity shall be displayed at the FIP.

Note: Where there is any discrepancy between the above recommendations and the project Fire Engineer's recommendations / requirements, the project Fire Engineer's recommendations / requirements are to take precedence.

5.2 ELECTRIC VEHICLE / ELECTRIC BIKE CHARGING STATIONS

Under Clauses E1D17 and E2D21 of the BCA, consideration of the special hazards associated with the proposed Electric Vehicle (EV) and Electric Bike (E-Bike) charging stations within the carpark of the building is required. Accordingly, the following is recommended:

- The design incorporates the recommendations contained in the ABCB's Electric Vehicles in buildings guidance document below. Among other things, this will require the location of EV chargers to be documented to ensure that they will be:
 - Located away from required exits and combustible material such as that contained in storage rooms/cages and garbage rooms; and
 - Protected from vehicle impact either by being installed in locations that won't be subject to vehicle impact, or by being provided with protection from vehicle impact e.g. bollards, vehicle crash barriers or the like.



Electric vehicles in buildings

To support safer EV charging, the ABCB recommends:

 Master isolation Provide a master isolation switch with signage at fire indicator panel/Fire Detection Indicator Control Equipment (FDICIE) or building entrance.	 RCM Tick compliance Use chargers that have the Regulatory Compliance Mark (RCM).	 Emergency services information pack (ESIP) ESIPs developed for each site and provided for first responders.
 Break glass fire alarm Provide additional break glass unit (BGU).	 Placarding site Provide placarding/signage to identify each EV charge points.	 Collision protection Provide vehicle impact bollards or stops.
 Block plans Block plans should be updated for existing sites and implemented for new builds to clearly show the location of charging hubs and master isolation.	 AS/NZS 3000 App P compliance Mode 3 and 4 chargers should only be installed by a qualified person and in accordance with AS/NZS 3000 Appendix P.	 Proximity to evacuation routes and flammable risks Carefully assess proximity to avoid blocking evacuation routes or placing chargers too close to other flammable risks.
 Regular maintenance Ensure the owner of the charging unit understands and meets their maintenance obligations.	 Complex buildings Complex buildings and higher-risk environments should seek comprehensive, specialist fire safety assessment and advice.	 Directional signage Directional signage to be provided – to the charging units and to the emergency exits.
 Smart charging Where possible, prioritise the use of 'Smart charging' to enable remote monitoring and access to disconnect power supply to a connected EV. This gives emergency responders another potential method of shutdown from unit to EV.	 Placarding at site entrance Sites with 5 or more Mode 3 or 4 chargers to install ground level or other appropriate level placards to indicate which entrance is most closely located to EV charging hub.	 Pre-incident plans (PIP) Where 5 or more chargers are installed, then building owners should invite local fire crews to attend a site familiarisation visit in order to develop a pre-incident plan (PIP).

Figure 13: ABCB Advisory Notice: Electric Vehicles in buildings

- The project Fire Engineer undertake an assessment of the proposed EV Chargers & associated infrastructure to:
 - identify hazards and associated risks in relation to EV parking and associated EV charging infrastructure
 - demonstrate how the identified special hazards and risks are required to be addressed.

Note: In accordance with the advice provided by Fire & Rescue NSW (FRNSW) in their [Electric vehicles \(EV\) and EV charging equipment Position Statement](#) dated 29/04/2024, the assessment by the Fire Engineer will need to consider and address all aspects of the position on [Electric Vehicles \(EV\) and EV charging equipment in the built environment](#) as published by the Australasian Fire & Emergency Service Authorities Council (AFAC).



6.0 MATTERS REQUIRING FURTHER INFORMATION / ASSESSMENT DURING DETAILED DESIGN

Table 6 provides a summary of matters which will need to be addressed as part of the detailed design and Construction Certificate stages to ensure the development complies with the BCA.

Table 6: Summary of matters requiring further information at the post DA stage

Item	BCA DfS Ref.	Summary
1.	Part B1	Structural design to be verified by Structural Engineer Works are to comply with the structural provisions of the BCA 2022 Amdt 2 and referenced standards including the AS 1170 series. The Importance Level provisions of BCA (Section B) are to be acknowledged by the Structural Engineer and addressed to the degree necessary.
2.	C2D2	Fire resistance levels As Type A Construction applies to the building, the following key items of Specification 5 will apply to the building noted as follows: - All internal walls that are required to have a fire rating must extend to the underside of the slab or roof above. - Any loadbearing internal walls must be constructed of concrete or masonry. - FRLs to walls apply in both directions i.e. FRL must be achieved from both sides of a wall. - Any cavities at the slab edge between storeys is required to be sealed to maintain the FRL of the floor or otherwise be addressed as a Fire Engineered Performance Solution - All internal nonloadbearing walls that are required to be fire resisting and lift, ventilating, pipe, garbage or similar shaft that is not for the discharge of hot products of combustion is required to be constructed of non-combustible construction. - The floors between each storey are required to have achieve an FRL of not less than - Basement 1 and Ground Levels: 120/120/120 FRL - Levels 1-7: 90/90/90 FRL - All external structures and plant equipment enclosures are to be constructed of non-combustible construction. Details of the required fire resistance levels and fire compartmentation between storeys and classifications is to be documented at the Construction Certificate stage
3.	C2D10	External Walls & Fire Rated Non-Loadbearing Internal Walls to be non-combustible External walls and any fire rated non-loadbearing internal walls serving the buildings are to be of non-combustible construction or be permitted under BCA Clause C2D10(4)-(6) Details including copies of AS 1530.1-1994, AS 1530.2-1992 and AS 1530.3-1999 Test Reports, along with Technical Data Sheets are to be provided at the CC Application stage to demonstrate compliance.
4.	C2D14	Ancillary elements to external walls to be non-combustible Any ancillary elements (as defined below) which are proposed to be located within or fixed to the outside face of external walls to the buildings are to be of non-combustible construction unless exempted under BCA Clause C2D14 or permitted under BCA Clause C2D10(4)-(6) Details including copies of AS 1530.1-1994, AS 1530.2-1992 and AS 1530.3-1999 Test Reports, along with Technical Data Sheets are to be provided at the CC Application stage to demonstrate compliance.
5.	C2D11	Fire Hazard Properties – Test Reports required for internal wall, floor & ceiling linings + ductwork A schedule of internal linings (floors, walls, and ceiling) along with Test Reports are required for review to ensure that the materials comply with the applicable fire hazard properties for their proposed uses. Fire hazard properties required to be achieved are as follows: <u>Wall & Ceiling Linings</u> Copies of AS 5637.1.2015 Assessment Reports will be required to verify that the proposed internal wall and ceilings achieve a Group Rating/Number as follows: - Apartment Walls & Ceilings – 1, 2 or 3 - Lift Car Walls & Ceilings – Group 1 or 2 - Public Corridor Walls & Ceilings - Group 1, 2 or 3 - Fire Isolated Exits Walls & Ceilings – Group 1 - All other areas – Group 1, 2 or 3

Table 6: Summary of matters requiring further information at the post DA stage

Item	BCA DfS Ref.	Summary
		<u>Floor Linings</u> Copies of AS ISO 9239.1-2003 Test Reports are required to verify that the proposed All floor lining assemblies (including those in lift cars) achieve a critical radiant flux of not less than 2.2kw/m². <u>Air handling ductwork</u> Rigid & flexible ductwork must comply with the fire hazard properties set out in AS 4254. Copies of AS 1530.3-1999 and UL 181 Test Reports will be required at the Construction Certificate stage to demonstrate internal ductwork achieves: ▪ A maximum Smoke Developed Index of 4 of Spread of Flame Index of 0 when tested to AS/NZS 1530.3-1999 ▪ A pass result when subjected to a UL 181 burning test (note the UL181 Test must be less than 10 years old)
6.	C3D13	Fire separation of equipment where it is proposed to be located within buildings Confirmation is required whether the any of the following equipment is proposed within the buildings ▪ Lift motors and lift control panels; ▪ Emergency generators used to sustain emergency equipment operating in the emergency mode; ▪ Central smoke control plant; ▪ Boilers; ▪ A battery or batteries installed in the building that have a voltage exceeding 12 volts and a capacity exceeding 200kWh. Where any of the above equipment is proposed within the buildings, the room housing the equipment will need to be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 (or that required by BCA Spec 5, whichever is greater) and doorways being self-closing -/120/30 FRL fire doors. Details demonstrating compliance are to be provided at the Construction Certificate stage
7.	C4D11(1)(a)	Confirmation of fire rated lift landing door type The following is required form the Vertical Transport (Lift) Consultant: ▪ Evidence in the form an AS 1530.4-2014 Report which verifies the proposed lift landing doors achieve the required -/60- FRL; ▪ Verification that the proposed lift landing doors and the method of sealing between the doors and the shaft will be identical to the tested lift landing doors detailed in the AS1530.4-2014 Report ▪ Confirmation whether the lift indicator panel will exceed 35000mm² in size. Where it exceeds this size, the backing construction to the panel is required to achieve an FRL of not less than -/60/60 and details of the proposed system to achieve this will be required. Note: Where the Fire Report for the lift landing doors is based on assessment of lift landing doors which have been subject to a BS 476-22 fire test (European fire test), this will need to be addressed as a Fire Engineered Performance Solution, noting that Clause 2.2.1 of AS 1735.11-1986 only permits fire assessments of lift landing where that assessment is based on a minor variation and the data being assessed is from an AS 1530.4 standard fire test.
8.	S12C2	Details of proposed Fire Doors As Fire Doors are required within the development. Compliance with S12C2 is required. Accordingly, Test/Assessment Report/s from a NATA Accredited Testing Laboratory for the proposed fire doors are to be provided with the CC application which verifies the proposed fire doors: ▪ Are consistent with the fire doorsets referenced in the report in terms of the supporting (wall construction), critical dimensions and proposed door hardware; ▪ Achieve the required FRLs in the proposed wall types ▪ Comply with the requirements of AS 1905.1-2015; and ▪ Do not contain any Fire Bolts

Table 6: Summary of matters requiring further information at the post DA stage

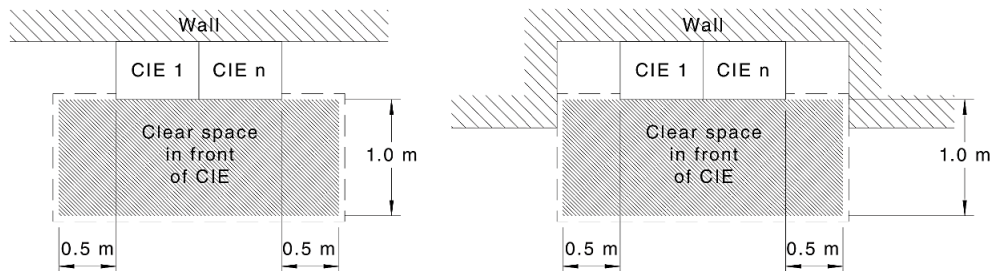
Item	BCA DfS Ref.	Summary
9.	D2D7 – D2D9	Dimensions of exits and paths of travel to exits Exits and paths of travel to exits are to achieve a minimum 2m height and 1m width Doorways throughout the development are to achieve a minimum unobstructed width of 750mm (Note: 850mm will be required for accessible doorways)
10.	D2D8	Roof access hatch / ladder location The roof access hatch and associated ladder is required to be located so that it does not obstruct the 1m clear egress width at the level below. Details demonstrating compliance will be required during the post DA design development stage,
11.	D2D12	Path of travel from fire isolated stair discharge point External walls located within 6m of the path of travel from the fire isolated stairs are to be fire rated (60/60/60 FRL) and any openings in these walls are to be protected in accordance with BCA Clause C4D5 unless permitted to remain unprotected under a Fire Engineered Performance Solution. Figure 14: Mark-up of external walls & openings within 6m of the path of travel to the road from fire stairs In this instance, it is understood that the openings will be protected as follows: - Bedroom Windows to Unit G01: Automatic-closing –/60/– FRL fire shutters - Waste Room Door: Self-closing or automatic-closing –/60/30 FRL fire door - Glazed Sliding Entry Door: Internal wall-wetting sprinklers
12.	D3D14	Stair dimensions & consistency The following will apply in relation to the construction of all stairways: - Stairways are to have a maximum of 18 risers per flight - Stair dimensions are to be within the following ranges: - Risers (R): 115-190mm - Goings (G): 250-355mm - Slope Relationship (2R+G): 550-700 - The Goings (G) and Risers (R) must be constant (uniform) throughout each flight with variations limited to: - No more than 5mm between adjacent risers, or between adjacent goings (treads); - No more than 10mm between the largest and smallest riser within a flight, or the largest and smallest going within a flight



Table 6: Summary of matters requiring further information at the post DA stage

Item	BCA DfS Ref.	Summary
13.	Table D3D15	Slip resistance ratings for floor/ground surfaces The slip ratings of the proposed floor surfaces for each of the building parts (both internally and externally) are to be documented at the Construction Certificate stage to ensure that the floor finishes proposed achieve the minimum required slip ratings.
14.	D3D16	RLs and landings at door thresholds RLs are to be detailed between rooms and adjoining internal/external surfaces to ensure that there are no steps at the door threshold. Where there is a change in level, prior to any step or ramp, a landing is required which has a min. length of no less than the width of the active door leaf for the full width of the door opening. Details demonstrating compliance are to be provided at the Construction Certificate stage
15.	D3D17- D3D20	Balustrade design Balustrades are required where the fall to the level below is more than 1m in height. Balustrades are to be designed to achieve a minimum height of 1m above the floor of the landing, walkway or the like; and 865mm above the floor of a stairway or a ramp and prevent a 125mm diameter sphere from passing through. Additionally, where the balustrade is protecting a building part where there is a fall of 4m or more, the balustrade will need to be designed to be non-climbable. Note: Concise Certification considers climbable elements to include any horizontal or near horizontal protruding elements, or openings/recesses greater than 10mm which are sloped less than 60° to the horizontal which form part of / are attached to the barrier or are located within 1m of the inside face of the barrier. Openable windows within the bedrooms where sills are less than 1.7m above FFL and where the floor below is 2m or more are to be protected by a screen or a locking device which restricts the opening to less than 125 mm and is capable of resisting an outward horizontal action of 250N. Details demonstrating compliance are to be provided at the Construction Certificate stage
16.	E1D4 S17C6(1)	Location of and access to Sprinkler Control Valves The location of the sprinkler control valves associated with the proposed AS 2118.1-2017 sprinkler system need to be documented, ensuring they are accessed directly from road or open space as required by S17C6(1). In this regard, it is recommended they are located in a separate secure enclosure next to the booster assemblies. Details demonstrating compliance are to be provided at the Construction Certificate stage.
17.	E1D14	Portable Fire Extinguishers Portable fire extinguishers are required to be located with the development as follows: ▪ Sole Occupancy Units (SOUs) – 2.5kg ABE extinguisher located within 10 of each SOU door ▪ Main Switch Room – 5.0kg CO2 extinguisher located outside of the enclosure / room and in a position which is visible from the door of the enclosure located 2-20m from the board. ▪ All other building parts - To be confirmed by the fire services designer based on their assessment and identification of the hazards Details demonstrating compliance are to be provided at the Construction Certificate stage.
18.	Spec 20	Fire Panel Design / Clearance Further details of the Fire (Brigade) Indicator Panel design is required. Assuming that the panel is proposed to be located within a cupboard, the position / clearance around the panel will need to comply with the requirements of Clause 3.9.3 of AS 1670.1-2018 as shown below

Table 6: Summary of matters requiring further information at the post DA stage

Item	BCA DfS Ref.	Summary
		A minimum clearance of 1 m in front and 0.5 m to each side shall be maintained from CIE cabinets that require operation by emergency service personnel, as shown in Figure 3.9.3. Where the door opens to at least 135° the 0.5 m hinge side clearance may be reduced accordingly.  a) One or more CIE surface-mounted—clear space (plan view) b) One or more CIE recessed or in a cupboard—clear space (plan view) <i>Figure 15: AS1670.1-2018, Fig. 3.9.3 - Required clearances around the Fire Panel</i>
19.	F5D2	Minimum heights of rooms and other spaces to be achieved Floor to ceiling heights are to be documented on RCPs in accordance with the following minimum requirements: ▪ The minimum heights of rooms and other parts Class 2 building parts are to be: ▪ Habitable Rooms excluding kitchens - 2.4m. ▪ Kitchens, laundries, corridors, passageways, or the like - 2.1m. ▪ The minimum heights of rooms and other parts in Class 7a parts are to be: ▪ Generally – 2.1m ▪ Vehicular ramps, aisles and carspaces – 2.2m (Requirement under Clause 5.3 of AS 2890.1-2004) ▪ Vehicle Path to accessible/adaptable space – 2.2m (Requirement under Clause 2.4 of AS 2890.6-2009) ▪ Above accessible spaces – 2.5m (Requirement under Clause 2.4 of AS 2890.6-2009) ▪ The minimum heights of rooms and other parts generally are to be: ▪ Bathrooms, sanitary compartments, tea preparations rooms, pantries, storerooms or the like – 2.1m, ▪ Above a stairway, ramp, landing or the like – 2m. Details demonstrating compliance are to be provided at the Construction Certificate stage
20.	F6D2	Natural light Natural light is required to all habitable rooms (including studies and the like) in the Class 2 units. Natural light is to be provided to the above rooms by windows (excluding roof lights) that have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area for each room. Confirmation will be required from the architect at the Construction Certificate stage that the design complies with the above.



7.0 REQUIRED FIRE RESISTANCE LEVELS (FRLs)

Except where varied by the requirements of the FER, the FRLs detailed under BCA Tables S5C11a, S5C11b, S5C11c, S5C11d, S5C11e, S5C11f and S5C11g of Specification 5 (for buildings of Type A Construction) will apply to the development. Noting that the proposed development will contain Class 2 (residential) and Class 7a (carpark) a summary of the applicable FRLs under for these classifications has been summarised below:

Table 7: Summary of required FRLs

Building Element	Class 2 FRL	Class 7a FRL
Loadbearing External Walls (incl. columns & other elements incorporated)		
▪ Less than 1.5m to a fire source feature	90/90/90	120/120/120
▪ 1.5 – less than 3m from a fire source feature;	90/60/60	120/90/90
▪ 3m or more from a fire source feature	90/60/30	120/60/30
Non-loadbearing External Walls		
▪ Less than 1.5m to a fire source feature	–/90/90	–/120/120
▪ 1.5m to less than 3m to a fire source feature	–/60/60	–/90/90
▪ 3m or more to a fire source feature	–/–/–	–/–/–
External Columns not incorporated in an external wall		
▪ Loadbearing External Columns	90/–/–	120/–/–
▪ Non-loadbearing External Columns	–/–/–	–/–/–
Common Walls & Fire Walls		
▪ Loadbearing	90/90/90	120/120/120
▪ Non-loadbearing	–/90/90	–/120/120
Internal Walls to fire isolated lift and stair shafts		
▪ Loadbearing	90/90/90	120/120/120
▪ Non-loadbearing	–/90/90	–/120/120
Internal Walls between/bounding SOUs & public corridors		
▪ Loadbearing	90/90/90	120/–/–
▪ Non-loadbearing	–/60/60	–/–/–
Internal shaft walls for mech, hydraulic & other similar risers. excl. discharge of hot products of combustion		
▪ Loadbearing	90/90/90	120/90/90
▪ Non-loadbearing	–/60/60	–/90/90
Other Internal Beams, Trusses, Columns & Walls		
▪ Loadbearing	90/–/–	120/–/–
▪ Non-loadbearing	–/–/–	–/–/–
Floors	90/90/90	120/120/120
Roofs	90/60/30	120/60/30



8.0 FIRE SAFETY SCHEDULE

Based on assessment of the referenced architectural drawings, the following essential fire safety measures are expected to be required for the proposed building. Each of the fire safety measures is to satisfy the standard of performance listed in the schedule. Note: These measures and the respective standards of performance are likely to vary subject to advice/recommendations from the project design team, the Fire Safety Engineer and Fire and Fire & Rescue NSW as the design develops and stakeholder consultation occurs during the development of Performance Solutions.

Table 8: Fire Safety Schedule (Preliminary)

Item	Measure	Standard of Performance
1.	Access panels, doors & hoppers to fire resisting shafts	BCA 2022 A2 – C4D14 and AS1530.4 - 2014
2.	Automatic fail-safe devices (Scheduled devices release upon trip of smoke detection, fire detection and sprinkler activation)	BCA 2022 A2 – D3D24(2), D3D26 and the requirements of the Fire Engineering Report (once issued)
3.	Automatic fire detection and alarm system	BCA 2022 A2 – S20C5, AS1670.1-2018
4.	Automatic fire sprinkler system	BCA 2022 – E1D4, Specification 17, Specification 18, AS2118.1-2017
5.	Building Occupant Warning System	BCA 2022 – S20C7 and AS1670.1-2018
6.	Emergency Lighting	BCA 2022 A2 – E4D2, E4D4 and AS/NZS2293.1-2018
7.	Exit Signs	BCA 2022 A2 – E4D5, E4D6, E4D8 and AS/NZS 2293.1-2018
8.	Fire Alarm Monitoring System (Alarm Signalling Equipment)	BCA 2022 A2 – S20C8 and AS1670.3-2018
9.	Fire Dampers	BCA 2022 A2 – C4D15, AS/NZS1668.1-2015 and AS1682.2-2015
10.	Fire Hydrants	BCA 2022 – E1D2, AS 2419.1-2021 and the requirements of the Fire Engineering Report (once issued)
11.	Fire Doors	BCA 2022 A2 – C4D5(1)(a)(ii), C4D9, C4D12, D2D12(3)(a)(ii), S12C2 and AS1905.1-2015
12.	Fire Hose Reels [Basement 1 & 2 only]	BCA 2022 A2 – E1D3 and AS2441-2005
13.	Fire Rated Lift Landing Doors	BCA 2022 A2 – C4D11(1) and AS1735.11-1986
14.	Fire seals protecting service penetrations in fire resisting components of the building -	BCA 2022 A2 – C4D15, AS1530.4-2014 and AS4072.1-2005
15.	Fire seals protecting openings in fire resisting components of the building - Joints, gaps and miscellaneous penetrations	BCA 2022 A2 – C4D16, AS1530.4-2014, and AS4072.1-2005
16.	Fire Shutters (automatic closing) [Unit G01 Windows within 6m of path of travel from Fire Stairs]	BCA 2022 A2 – C4D5(1)(b)(iii), D2D12(3)(a)(ii) and S12C5
17.	Lightweight Construction (fire rated)	BCA 2022 A2 – C2D9, Spec. 6 and AS1530.4-2014
18.	Mechanical Air Handling System (Carpark Mechanical Ventilation System)	BCA 2022 A2 – E2D13 and AS/NZS1668.1-2015 (cl. 5.5)
19.	Paths of Travel, Stairways, Passageways and Ramps	BCA 2022 A2 – Part D, Section 108 & 109 of the EP&A (DCFS) Reg 2021 and the requirements of the Fire Engineering Report (once issued)
20.	Portable Fire Extinguishers	BCA 2022 A2 – E1D14 and AS2444-2001
21.	Smoke and Heat Alarms (within Sole Occupancy Units)	BCA 2022 A2 – E2D8, S20C5, AS3786-2014 and Manufacturer's Specification
22.	Wall wetting sprinklers (internal) [Automatic-closing glazed entry doors]	C4D5(1)(a)(ii), D2D12(3)(a)(ii) and AS2118.2-2021
23.	Warning and Operational Signs	BCA 2022 A2 – D3D28, D4D7, E3D4 and the requirements of the Fire Engineering Report (once issued)



9.0 CONCLUSION

This report has been prepared to verify that Concise Certification Pty Ltd have assessed the referenced architectural documentation for the proposed residential development located at 1803 & 1803A Pittwater Road, Mona Vale NSW against the Deemed-to-Satisfy provisions of the National Construction Code (Volume 1) Building Code of Australia 2022 Amendment 2.

In view of the above assessment, we can confirm that subject to the above measures being addressed by the project design team, the proposed development can readily achieve compliance with the BCA pursuant to Section 1(1)(c) of the Environmental Planning and Assessment (Development Certification & Fire Safety) Regulation 2021.

If you have any questions or require further information, please do not hesitate to contact Concise Certification by phone: [1300 057 046](tel:1300057046) or via email: admin@concise.com.au



10.0 APPENDICES

APPENDIX A – REQUIRED FIRE HAZARD PROPERTIES OF ELEMENTS WITHIN THE DEVELOPMENT

Linings, materials, and assemblies must comply with the appropriate requirement described in BCA Table S7C2 – BCA Table S7C7.

Table S7C2: Fire hazard property requirements

Lining, material or assembly	Requirement
Floor linings and floor coverings	S7C3
Wall linings and ceiling linings	S7C4
Air-handling ductwork	S7C5
Lift cars	S7C6
In fire control rooms subject to Specification 6 and fire isolated exits	S7C7
In Class 9b buildings used as a theatre, public hall or the like — fixed seating in the audience area or auditorium; and a proscenium curtain required by Specification 32	S7C7
Escalators, moving walkways and non-required non-fire- isolated stairways or pedestrian ramps subject to Specification 14	S7C7
Sarking-type material	S7C7
Attachments to internal floors, walls and ceilings	S7C7
Other materials including insulation	S7C7

Table S7C3: Critical radiant flux (CHF in kW/m²) of floor linings and floor coverings

Classification	Building not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17	Building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17	Fire-isolated exits and fire control rooms
Class 2, 3, 5, 6, 7, 8 or 9b, excluding Class 3 accommodation for the aged & Class 9b below	2.2 kW/m ²	1.2 kW/m ²	2.2 kW/m ²
Class 3 accommodation for the aged	4.5 kW/m ²	2.2 kW/m ²	4.5 kW/m ²
Class 9a patient care areas	4.5 kW/m ²	2.2 kW/m ²	4.5 kW/m ²
Class 9a areas other than patient care areas	2.2 kW/m ²	1.2 kW/m ²	4.5 kW/m ²
Class 9b auditorium or audience seating area used mainly for indoor swimming or ice skating	1.2 kW/m ²	1.2 kW/m ²	2.2 kW/m ²
Class 9b auditorium or audience seating area used mainly for other sports or multi-purpose functions	2.2 kW/m ²	1.2 kW/m ²	2.2 kW/m ²
Class 9c resident use area	N/A	2.2 kW/m ²	4.5 kW/m ²
Class 9c areas other than resident use areas	N/A	1.2 kW/m ²	4.5 kW/m ²

**Table S7C4: Wall and ceiling lining materials (material group rating permitted)**

Classification	Fire-isolated exits & fire control rooms		Public corridors		Specific areas		Other areas	
	Walls	Ceilings	Walls	Ceilings	Walls	Ceilings	Walls	Ceilings
Class 2 or 3, excluding accommodation for the aged, people with disabilities and children, <u>unsprinklered</u>	1	1	1	1	1, 2	1, 2	1, 2, 3	1, 2, 3
Class 2 or 3, excluding accommodation for the aged, people with disabilities and children, <u>sprinklered</u>	1	1	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3
Class 3 or 9a, accommodation for the aged, people with a disability, children & health-care buildings, <u>unsprinklered</u>	1	1	1	1	1, 2	1, 2	1, 2, 3	1, 2, 3
Class 3 or 9a, accommodation for the aged, people with a disability, children & health-care buildings, <u>sprinklered</u>	1, 2	1, 2	1, 2	1, 2	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3
Class 5, 6, 7, 8 or 9b schools, <u>unsprinklered</u>	1	1	1, 2	1, 2	1, 2, 3	1, 2	1, 2, 3	1, 2, 3
Class 5, 6, 7, 8 or 9b schools, <u>sprinklered</u>	1	1	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3
Class 9b other than schools, <u>unsprinklered</u>	1	1	1	1	1, 2	1, 2	1, 2, 3	1, 2, 3
Class 9b other than schools, <u>sprinklered</u>	1	1	1, 2	1, 2	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3
Class 9c, sprinklered	1	1	1, 2	1, 2	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3

Table S7C4 Notes

- (1) "Sprinklered" means a building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Spec. 17.
- (2) "Specific areas" means within—
- (i) for Class 2 and 3 buildings, a sole-occupancy unit; and
 - (ii) for Class 5 buildings, open plan offices with a minimum floor dimension/floor to ceiling height ratio > 5; and
 - (iii) for Class 6 buildings, shops or other building with a minimum floor dimension/floor to ceiling height ratio > 5; and
 - (iv) for Class 9a health-care buildings, patient care areas; and
 - (v) for Class 9b theatres and halls, etc, an auditorium; and
 - (vi) for Class 9b schools, a classroom; and
 - (vii) for Class 9c buildings, resident use area.

NSW Table S7C7: Other materials

Material or assembly location	Flammability Index	Spread-of-Flame Index	Smoke-Developed Index
Fire control rooms subject to Spec. 19 and fire- isolated exits, other than a sarking-type material used in a ceiling or used as an attachment or part of an attachment to a building element. Note 1	N/A	0	2
Class 9b buildings used as an entertainment venue, a material used to cover closed back upholstered seats in any part available to the public—where smoking is permitted; or flame is exposed in connection with the preparation of meals Note 4	N/A	6	5
Class 9b buildings used as an entertainment venue, material used as a curtain, blind or similar decor in any part available to the public Notes 4 and 5	6	N/A	N/A
Class 9b buildings used as an entertainment venue, material used to form a cinematograph screen Notes 4, 5 & 6	12	0	7
Class 9b buildings used as a public hall or the like: Any part of fixed seating in audience areas or auditoriums	N/A	0	5
Class 9b buildings used as a public hall or the like: A proscenium curtain required by Spec. 32	N/A	0	3
Escalators, moving walkways or non-required non fire-isolated stairway or pedestrian ramps subject to Spec. 14	N/A	0	5
Sarking-type materials: In a fire control room subject to Spec. 19 or a fire-isolated exit or fire control room used in the form of an exposed wall or ceiling.	0	N/A	N/A
Sarking-type materials: In other locations. Note 2	5	N/A	N/A
Other materials or locations and insulation materials other than sarking-type material. Notes 2 and 3	N/A	9	8 (if Spread-of-Flame Index is > 5)

NSW Table S7C7 Notes

- (1) In a fire control room or fire-isolated stairway, a material used as an attachment or part of an attachment to a building element must, if combustible, be attached directly to a non-combustible substrate and not exceed 1 mm finished thickness.
- (2) A material, other than one located within a fire-isolated exit or fire control room, may be covered on all faces by concrete or masonry not less than 50 mm thick, as an alternative to meeting the specified indices.
- (3) In the case of a composite member or assembly, the member or assembly must be constructed so that when assembled as proposed in a building—
 - (a) any material which does not comply with this Table is protected on all sides and edges from exposure to the air; and
 - (b) the member or assembly retains the protection in position so that it prevents ignition of the material and continues to screen it from access to free air for a period of not less than 10 minutes.
 - (c) the member or assembly, when tested in accordance with Specification 3, has a Spread-of-Flame Index and Smoke-Developed Index not exceeding those prescribed in this Table; and
- (4) Any fire-retardant coating used in an entertainment venue to make a material subject to (a), (b) or (c) comply with a required Flammability Index, Spread-of-Flame Index or Smoke-Developed Index must be certified by—



APPENDIX B – REFERENCED DESIGN DOCUMENTATION

The following architectural drawings prepared by McCue Architects has been reviewed in the preparation of this report:

Drawing Number	Drawing Name
DA-000	COVER AND REGISTER
DA-011	SITE PLAN – DEMOLITION
DA-012	SITE PLAN - PROPOSED
DA-101	GENERAL ARRANGEMENT PLAN – BASEMENT LEVEL 2
DA-102	GENERAL ARRANGEMENT PLAN - BASEMENT LEVEL 1
DA-103	GENERAL ARRANGEMENT PLAN – GROUND
DA-104	GENERAL ARRANGEMENT PLAN - LEVEL 1
DA-105	GENERAL ARRANGEMENT PLAN - LEVEL 2
DA-106	GENERAL ARRANGEMENT PLAN - LEVEL 3
DA-107	GENERAL ARRANGEMENT PLAN - LEVEL 4
DA-108	GENERAL ARRANGEMENT PLAN - LEVEL 5
DA-109	GENERAL ARRANGEMENT PLAN - ROOF
DA-201	EAST ELEVATION - PITTWATER ROAD
DA-202	NORTH ELEVATION
DA-203	WEST ELEVATION
DA-204	SOUTH EAST ELEVATION
DA-301	BUILDING SECTION
DA-302	BUILDING SECTION
DA-303	BUILDING SECTION





APPENDIX C – REPORT LIMITATIONS & EXCLUSIONS

The limitations and exclusions of this report are as follows:

- This report is based on a review of the referenced documentation in the report above and has been prepared to accompany the Development Application. Accordingly, this document does not constitute a detailed Clause-by-Clause Report, instead it summarises BCA issues which are considered to be significant as relevant to this stage of design resolution.
- Assessment of the below listed matters, noting that separate consultants have or will be engaged to assess these elements at the appropriate stage of the development:
 - Waterproofing to bathrooms and other wet areas, walls, roof/s, podiums, planter boxes or basements.
 - Structural or civil design
 - The design basis and/or operating capabilities of any proposed services including electrical, mechanical, or hydraulic, lift and fire services (sprinklers, hydrants, detection etc.).
 - Accessibility provisions under Part D4 and Clause F4D4-F4D7 of the BCA is excluded from our services, and this is to be undertaken by the project Access Consultant;
 - Bushfire provisions required under Part G / Specification 43 of National Construction Code Volume 1 – Building Code of Australia.
 - Thermal and energy efficiency provisions required under or Section J of the National Construction Code Volume 1 – Building Code of Australia
 - Plumbing and drainage provisions required under the National Construction Code – Plumbing Code of Australia Volume 3
 - The Work Health and Safety Act 2011.
 - The requirements of other Regulatory Authorities or Service Providers
- This Report does not address issues in relation to the design, maintenance, or operation electrical, mechanical, hydraulic or fire protection services, Utility Services Provider Requirements (Water, Gas, Telecommunications and Electricity supply authorities), Local Government Act and Regulations, Occupational Health and Safety Act and Regulations or the like.
- This assessment does not incorporate the detailed requirements of the BCA referenced Australian Standards. It is the responsibility of design consultants and installation contractors to ensure compliance for all new works.
- The commentary within this report does not relieve the Design Practitioners, Principal Building Practitioners, Accredited Practitioners (Fire Safety) and/or any associated Building Suppliers and Subcontractors from their statutory obligations under the Work Health Safety Act, Safety in Design Principles, or EP&A Regs/Act.
- The BCA does not directly specify slip-resistance classification(s) for accessible paths of travel; however, we highlight the need under AS 1428.1-2009 for all accessible paths of travel to have a slip-resistant surface.
- Concise Certification Pty Ltd cannot guarantee acceptance of this report by the Local Council, NSW Fire & Rescue or other approval authorities.





APPENDIX D – REPORT TERMINOLOGY, ABBREVIATIONS & SYMBOLS

Due to the technical nature of the National Construction Code and the Australian Standards referenced by it, this report contains a large number of terms which are often abbreviated or include numerical/mathematical symbols. To ensure that these terms, abbreviations and symbols are understood by all readers of this report, the below tables have been provided to assist.

Table 9: Report Terminology Glossary

Term	Definition
Accessible	Having features to enable use by people with a disability.
Accessway	A continuous accessible path of travel (as defined in AS1428.1) to, into or within a building.
Affected Part	The principal pedestrian entrance of an existing building that contains a new part and any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.
Alternative Solution	The previous term for a Performance Solution prior to terminology changes in BCA 2016. Refer to Performance Solution
Average specific extinction area	The average specific extinction area for smoke as determined by AS 5637.1:2015.
Automatic	Designed to operate when activated by a heat, smoke, or fire sensing device.
Automatic Fire (Sprinkler) Suppression System	A system designed to automatically control the growth and spread of fire that may include sprinklers, valves, pipework, pumps, boosters and water supplies.
Boiler	A vessel or an arrangement of vessels and interconnecting parts, wherein steam or other vapour is generated, or water or other liquid is heated at a pressure above that of the atmosphere, by the application of fire, the products of combustion, electrical power, or similar high temperature means, and- - includes superheaters, reheaters, economisers, boiler piping, supports, mountings, valves, gauges, fittings, controls, the boiler settings and directly associated equipment; but - excludes a fully flooded or pressurised system where water or other liquid is heated to a temperature lower than the normal atmospheric boiling temperature of the liquid.
Building Code of Australia	Refer to the National Construction Code
Category 1 Fire Safety Provision	The following Performance Requirements of the Building Code of Australia: - EP1.3, EP1.4, EP1.6, EP2.1, EP2.2 and EP3.2 in Volume 1, - P2.3.2 in Volume 2.
Certifier	An individual Registered by NSW Fair Trading under the Building and Development Certifiers Act 2018. A certifier has the following functions in relation to building work- - issuing construction certificates for building work, - carrying out inspections of building work (but only if the certifier is the principal certifier or the inspection is carried out with the approval of the principal certifier), - issuing occupation certificates (but only if the certifier is the principal certifier), - issuing compliance certificates (but only if the certifier is the principal certifier when the certificate is an authorised alternative to an occupation certificate).
Circulation Space	A clear unobstructed area to enable persons using mobility aids to manoeuvre.
Climatic Zone	An area defined in Table 2 (of BCA 2019 A1 Schedule 3) for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.



Table 9: Report Terminology Glossary

Term	Definition
Combustible	When applied to a material, means combustible as determined by AS 1530.1-1994. When applied to construction or part of a building, means constructed wholly or in part of combustible materials.
Combined system	An integrated system of fire sprinklers and fire hydrants using combined piping reticulation and water supplies designed to simultaneously supply sufficient water to meet the flow and pressure requirements of both sprinkler and hydrant systems. This type of system is required to comply with BCA E1.5 and Spec. E1.5 and AS 2118.6-2012
Complying Development Certificate	A Building Approval issued by the Certifying Authority pursuant to Part 4A / Part 6 of the EP&A Act 1979.
Conditioned Space	For the purposes of Volume One, means a space within a building, including a ceiling or under-floor supply air plenum or return air plenum, where the environment is likely, by the intended use of the space, to have its temperature controlled by air-conditioning.
Construction Certificate	A certificate to the effect that building work completed in accordance with specified plans and specifications or standards will comply with the requirements of the regulations
Critical Fire Safety Measure	In relation to a building, means a fire safety measure that: - requires periodic assessment and certification at intervals of less than 12 months, because of its nature, the environment, or the circumstances, and - is identified as a critical fire safety measure in a fire safety schedule.
Critical radiant flux (CRF)	The critical heat flux at extinguishment (CHF in kW/m ²) as determined when a material is tested in accordance with AS ISO 9239.1:2003.
Deemed-to-Satisfy Provision	The prescriptive provisions of the BCA which are deemed to satisfy the performance requirements.
Deemed-to-Satisfy Solution	A method of satisfying the Deemed-to-Satisfy Provisions.
Effective Height	The vertical distance between the floor of the lowest storey included in the calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).
Entertainment Venue	A building used as a cinema, theatre or concert hall or an indoor sports stadium.
Envelope	For the purposes of Section J in Volume One, means the parts of a building's fabric that separate a conditioned space or habitable room from- - the exterior of the building; or - a non-conditioned space including- - the floor of a rooftop plant room, lift-machine room, or the like; and - the floor above a carpark or warehouse; and - the common wall with a carpark, warehouse, or the like.
Exit	Any, or any combination of the below if they provide egress to road/open space. - An internal or external stairway. - A ramp. - A fire-isolated passageway. - A doorway opening to a road or open space A horizontal exit or a fire-isolated passageway leading to a horizontal exit.
External Combustible Cladding	In relation to a building, means the following cladding applied to an external wall or area of the building: a cladding or cladding system comprising metal composite panels, including aluminium, zinc, and copper,

**Table 9: Report Terminology Glossary**

Term	Definition
	an insulated cladding system, including a system comprising polystyrene, polyurethane or polyisocyanurate.
Fabric	The basic building structural elements and components of a building including the roof, ceilings, walls, and floors.
Fire Brigade	The statutory authority constituted under an Act of Parliament having as one of its functions, the protection of life and property from fire and other emergencies. NSW, this is Fire & Rescue NSW
Fire & Rescue NSW	The State Government agency responsible for the provision of fire, rescue, and hazmat services in New South
Fire Compartment	The total space of the building; or when referred to in: <u>The Performance Requirements</u> – Any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or <u>The Deemed-to-Satisfy Provisions</u> – Any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to-Satisfy Provisions of the relevant part.
Fire Engineering Brief	A summary document of proposed assessment methods and goals for a Performance Solution relating to a fire safety matter.
Fire Engineering Report (FER)	A detailed report containing assessment methods, calculations and outcomes of Performance Solution(s) relating to a fire safety matter.
Fire Hazard	The danger in terms of potential harm and degree of exposure arising from the start and spread of fire and the smoke and gases that are thereby generated.
Fire hazard properties	The properties of a material or assembly that indicate how they behave under specific fire test conditions. - Average specific extinction area, critical radiant flux, and Flammability Index, determined as defined in BCA 2022, Schedule 1. - Smoke-Developed Index, smoke development rate and Spread-of-Flame Index, determined in accordance with BCA 2022, Specification 3. - Group number and smoke growth rate index (SMOGRARC), determined in accordance with BCA 2022, Specification 3
Fire-isolated passageway	A corridor, hallway, or the like, of fire-resisting construction, which provides egress to or from a fire-isolated stairway or fire-isolated ramp or to a road or open space.
Fire-isolated stairway	A stairway within a fire-resisting shaft and includes the floor and roof or top enclosing structure.
Fire Main	The piping, valves, and fittings providing water supply from water sources to any sprinkler stop valve and any fire hydrant valve complying with AS 2419.2.
Fire-protective covering	Any one of the following materials: 13 mm fire-protective grade plasterboard; or 12 mm cellulose cement flat sheeting complying with AS/NZS 2908.2 or ISO 8336; or 12 mm fibrous plaster reinforced with 13 mm x 13 mm x 0.7 mm galvanised steel wire mesh located not more than 6 mm from the exposed face; or - other material not less fire-protective than 13 mm fire-protective grade plasterboard, fixed in accordance with the normal trade practice for a fire-protective covering.

**Table 9: Report Terminology Glossary**

Term	Definition
Fire & Rescue NSW	The NSW State Government agency responsible for the provision of fire, rescue and hazmat services.
Fire-Resistance Level	The grading periods in minutes determined by either test or calculation using one of the methods prescribed in BCA 2022, Specification 1 & 2 <u>Note:</u> A dash means that there is no requirement for that criterion. For example, 90/-/- means there is no requirement for an FRL for integrity and insulation, and -/-/- means there is no requirement for an FRL.
Fire Safety Schedule	A schedule which specifies the current and proposed fire safety measures that must be implemented for a building, including statutory fire safety measures and other fire measures. A fire safety schedule must: - Deal with the whole of the building and not only the part of the building to which the development consent, construction certificate or fire safety order relates. - Specify and distinguish between the statutory fire safety measures that are currently implemented for the building and proposed or required to be implemented for the building, specify each critical fire safety measure, and specify the minimum standard of performance for each fire safety measure in the schedule.
Fire Source Feature	The far boundary of a road 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.
Flammability Index	The index number as determined when a material is tested in accordance with AS 1530.2:1992.
Floor Area	Has the same meaning as the National Construction Code 2016 Volume 1 Building Code of Australia Class 2 to 9 Buildings. For the purpose of Volume One, means: - In relation to a building – the total area of all storeys; and - In relation to a storey – the area of all floors of that storey measured over the enclosing walls, and includes: - The area of a mezzanine within the storey, measured within the finished surfaces of any external walls; and - The area occupied by any internal wall or partitions, any cupboard, or other built-in furniture, fixture, or fitting; and - If there is no enclosing wall, an area which has a use that- - contributes to the fire load; or - impacts on the safety, health, or amenity of the occupants in relation to the provisions of the BCA; and - In relation to a room – the area of the room measured within the finished surfaces of the walls, and includes the area occupied by any cupboard or other built-in furniture, fixture, or fitting; and - In relation to a fire compartment – the total area of all floors within the fire compartment measured within the finished surfaces of the bounding construction, and if there is no bounding construction, includes an area which has a use which contributes to the fire load; and - In relation to an atrium – the total area of all floors within the atrium measured within the finished surfaces of the bounding construction and if no bounding construction, within the external walls.
Horizontal Exit	A required doorway between 2 parts of a building separated from each other by a fire wall. Refer to BCA Clause D1.11
Hydraulic Fire Safety System	In NSW, means any of the following that is installed in accordance with a requirement of the EP&A Act or another Act or law, including an order, a condition of an approval or another authorisation- a fire hydrant system,



Table 9: Report Terminology Glossary

Term	Definition
	- a fire hose reel system, - fire sprinkler system, including a wall-wetting sprinkler or drencher system, - an automatic fire suppression system of a hydraulic nature.
Insulation	In relation to Fire Resistance Levels, means the ability to maintain a temperature on the surface not exposed to the furnace below the limits specified in AS 1530.4.
Integrity	In relation to Fire Resistance Levels, means the ability to resist the passage of flames and hot gases specified in AS 1530.4-2014
Loadbearing	Intended to resist vertical forces additional to those due to its own weight.
National Construction Code	Sets out the requirements for the design and construction of a building in Australia, including plumbing and drainage. It sets the minimum required level for the safety, health, amenity, accessibility, and sustainability of certain buildings. The NCC is divided into 3 volumes based on the type of work or building: <u>NCC Volume One</u> contains the technical requirements for the design and construction of multi-residential, commercial, industrial, and public assembly buildings and some associated structures (given effect through the Environmental Planning and Assessment Act 1979) <u>NCC Volume Two</u> contains the technical requirements for the design and construction of smaller scale buildings including houses, small sheds, carports, and some associated structures. For a residential project, this is the volume you will most likely need (given effect through the Environmental Planning and Assessment Act 1979). <u>NCC Volume Three</u> contains the technical requirements for the design, construction and installation of plumbing and drainage systems. It also applies where to sites where services are installed independent of buildings (given effect through the Plumbing and Drainage Act 2011).
Non-combustible	Means: - When applied to a material, not deemed combustible as determined by AS 1530.1-1994 - When applied to construction or part of a building, constructed wholly of materials that are not deemed combustible.
Horizontal Exit	A required doorway between 2 parts of a building separated from each other by a fire wall.
Open space	A space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.
Performance-Based Design Brief (PBDB)	The process and the associated report that defines the scope of work for the performance-based analysis, the technical basis for analysis, and the criteria for acceptance of any relevant Performance Solution as agreed by stakeholders.
Performance Requirement	A requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet. Compliance with the Performance Requirements can only be achieved by- - complying with the Deemed-to-Satisfy Provisions; or - formulating a Performance Solution which- - complies with the Performance Requirements; or - is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or - a combination of the above two options
Performance Solution	A method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.
Principal Certifier	A registered certifier engaged to oversees the development's construction



Table 9: Report Terminology Glossary

Term	Definition
	phase and complete mandatory building inspections, known as critical stage inspections, to make sure that building standards are met.
Public corridor	An enclosed corridor, hallway or the like which: - serves as a means of egress from 2 or more sole-occupancy units to a required exit from the storey concerned; or - is required to be provided as a means of egress from any part of a storey to a required exit.
Resistance to the Incipient Spread of Fire	In relation to a ceiling membrane, means the ability of the membrane to insulate the space between the ceiling and roof, or ceiling and floor above, so as to limit the temperature rise of materials in this space to a level which will not permit the rapid and general spread of fire throughout the space
Rise In Storeys	The greatest number of storeys calculated in accordance with BCA C2D3
Riser	The height between consecutive treads and between each landing and continuous tread
Roof light	For the purpose of Section J and Part F4 in BCA 2022, Volume One a rooflight is a skylight, window or the like installed in a roof: - to permit natural light to enter the room below; and - at an angle between 0 and 70 degrees measured from the horizontal plane.
Sarking-type material	A material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.
Self-closing	For the purpose of: <u>Volume One</u>, applied to a door, means equipped with a device which returns the door to the fully closed position immediately after each opening; or <u>Volume Two</u>, applied to a door or window, means equipped with a device which returns the door or window to the fully closed and latched position immediately after each manual opening.
Shaft	The walls and other parts of a building bounding: - A well, other than an atrium well; or - A vertical chute, duct, or similar passage, but not a chimney or flue.
Shower area	The area affected by water from a shower, including a shower over a bath and for a shower area that is- - Enclosed – the area enclosed by walls or screens including hinged or sliding doors that contain the spread of water to within that space; or - Unenclosed – the area where, under normal use, water from the shower rose is not contained within the shower area.
Shower screen	The panels, doors or windows enclosing or partially enclosing a shower area.
Slip Resistant	A property of a surface having a frictional force-opposing movement of an object across a surface. Slip resistance ratings required under Volume 1 of BCA 2022 are specified in Table D3D15 for stairs and ramps. Slip ratings in other parts of buildings are not specified in the BCA (as they are controlled by separate risk and safety legislation). However, guidance on minimum slip ratings is provided in Handbooks HB 197-2013 & HB 198-2014.
Smoke Developed Index	The index number for smoke as determined by AS/NZS 1530.3-1999
Smoke Development Rate	The development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1-2003
Smoke Growth Rate Index	The index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a



Table 9: Report Terminology Glossary

Term	Definition
	wall or ceiling.
Smoke-and-heat vent	A vent or vents, located in or near the roof for smoke and hot gases to escape if there is a fire in the building.
Sole-Occupancy Unit	A room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier
Spread-of-Flame Index	The index number for spread of flame as determined by AS/NZS 1530.3.
Sprinkler Control Assembly	A group of sprinkler installation water supply valves comprising isolating (main stop) valve, alarm (non-return) valve and associated drain and test valves, pressure gauges and pressure or flow switch.
Sprinkler Stop Valve	The main sprinkler installation water supply isolating (stop) valve forming part of a sprinkler control assembly.
Stair Going (Tread)	The horizontal dimension from the front to the back of a tread less any overhang from the next tread or landing above
Stair Riser	The height between consecutive treads and between each landing and continuous tread
Storey	A space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but not: ▪ a space that contains only: ▪ a lift shaft, stairway, or meter room; or ▪ a bathroom, shower room, laundry, water closet, or other sanitary compartment; or ▪ accommodation intended for not more than 3 vehicles; or ▪ a combination of the above; or ▪ a mezzanine
Structural adequacy	In relation to an FRL, means the ability to maintain stability and adequate loadbearing capacity as determined by AS 1530.4-2014
Type of Construction	A measure of a building's ability to resist a fire. There are three types of construction: ▪ Type A Construction ▪ Type B Construction ▪ Type C Construction Type A construction is the most fire-resistant and includes buildings that have a higher risk such as high rise, high occupant buildings or buildings with vulnerable occupants. Type C Construction includes buildings that have a lower risk and is therefore the least fire resistant. The minimum type of fire-resisting construction applicable to a building is that specified in BCA 2022 - Table C2D2 and Specification 5, except as varied by: ▪ C2D4(2) for Class 4 part on the top storey of a building ▪ C2D6 for certain Class 2, 3 or 9c buildings with a Rise In Storeys of 2 or less; and ▪ C2D8 for an open spectator stand and indoor sports stadium, if it contains not more than 1 tier of seating, is of non-combustible construction, and has only changing rooms, sanitary facilities, or the like below the tiered seating.
Wet Area	An area within a building supplied with water from a water supply system, which includes bathrooms, showers, laundries and sanitary compartments and excludes kitchens, bar areas, kitchenettes or domestic food and beverage preparation areas.



Table 10: Symbols used within the Report

Abbreviation	Term
ABCB	Australian Building Codes Board
AS	Australian Standard
ASE	Alarm Signaling Equipment
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BOWS	Building Occupant Warning System
CDC	Complying Development Certificate
CHF	Critical Heat Flux
CRF	Critical Radiant Flux
CRI	Colour Rendering Index
DA	Development Application
DBEP	Designated Building Entry Point
DSEP	Designated Site Entry Point
EH	Effective Height
EPAA	Environmental Planning & Assessment Act
EPAR	Environmental Planning & Assessment Regulation
EWIS	Emergency Warning & Intercommunication System
FBP	Fire Brigade Panel
FD	Fire Damper
FDICE	Fire Detection Control and Indicating Equipment
FEB	Fire Engineering Brief
FEBQ	Fire Engineering Brief Questionnaire
FER	Fire Engineering Report
FFCP	Fire Fan Control Panel
FH	Fire Hydrant
FHR	Fire Hose Reel
FIP	Fire Indicator Panel (now referred to as a Fire Brigade Panel or FBP)
FRL	Fire Resistance Level
FRNSW	Fire & Rescue NSW
FSD	Fire & Smoke Damper
F&B	Food & Beverage
HV	High Voltage
LC	Luminance Contrast
LRV	Light Reflectance Value
LV	Low Voltage
MCP	Manual Call Point
MSB	Main Switch Board
MSSB	Mechanical Services Switch Board
NABERS	National Australian Built Environment Rating System
NATA	National Association of Testing Authorities



Table 10: Symbols used within the Report

Abbreviation	Term
NatHERS	Nationwide House Energy Rating Scheme
NCC	National Construction Code
PBDB	Performance-based design brief
PFE	Portable Fire Extinguisher
PVA	Perimeter Vehicular Access
PVC	Polyvinyl chloride
RIS	Rise In Storeys
SDI	Smoke Developed Index
SDR	Smoke Development Rate
SMOGRARC	The index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.
SOU	Sole Occupancy Unit
VAD	Visual Alarm Device
VWD	Visual Warning Device
WIP	Warden Intercommunication Phone





APPENDIX E – SCHEDULE OF REFERENCED DOCUMENTS WITHIN BCA 2022 - VOLUME 1

This below table provides a schedule of the referenced Australian Standards, Technical Document and Legislation applicable to the development and the corresponding provisions of BCA 2022 Volume 1 under which they are referenced.

Table 11: Schedule of Referenced Documents under BCA 2022 (Vol.1)

Number	Year	Title of Referenced Document / Australian Standard	Reference in BCA 2022 (Vol. 1)
AS 1428.1	2021	Design for access and mobility - General requirements for access - New building work (incorporating Amdts 1 & 2)	D3D11, D3D16, D3D22, D4D2-D4D4, D4D7, D4D10-11, D4D13, E3D10, F4D5, G4D5, Spec 16
AS 1428.1	2001	Design for access and mobility General requirements for access - New building work	I2D7, I2D8, I2D10, I2D15
AS 1428.1 (Supplement 1)	1993	Design for access and mobility - General requirements for access - Buildings - Commentary	I2D2
AS 1428.2	1992	Design for access and mobility - Enhanced and additional requirements - Buildings and facilities	I2D2-I2D5, I2D7, I2D10-I2D14
AS 1428.4	1992	Design for access and mobility - Tactile ground surface indicators for the orientation of people with vision impairment	I2D11
AS/NZS 1428.4.1	2009	Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators (incorporating Amdts 1 & 2)	D4D9
AS 1530.1	1994	Methods for fire tests on building materials, components and structures - Combustibility test for materials	Schedule 1
AS 1530.2	1993	Methods for fire tests on building materials, components and structures - Test for flammability of materials (incorporating Amdt 1)	Schedule 1
AS/NZS 1530.3	1999	Methods for fire tests on building materials, components and structures - Simultaneous determination of ignitability, flame propagation, heat release and smoke release	Schedule 1, Spec 3
AS 1530.4	2014	Methods for fire tests on building materials, components & structures - Fire resistance tests for elements of construction	C4D15, C4D16, Schedule 1, Spec 3, Spec 9 & 10, Spec 13 & 14,
AS 1530.8.1	2018	Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bushfire attack - Radiant heat and small flaming sources	Spec 43
AS/NZS 1546.1	2008	On-site domestic wastewater treatment units - Septic tanks	N/A
AS/NZS 1546.2	2008	On-site domestic wastewater treatment units - Waterless composting toilets	N/A
AS 1562.1	2018	Design and installation of sheet roof and wall cladding - Metal (See Note 2)	B1D4, F3D2, F3D5
AS1562.3	2006	Design and installation of sheet roof and wall cladding - Plastic	B1D4, F3D2
AS 1657	2018	Fixed platforms, walkways, stairways and ladders - Design, construction and installation	D2D21, D2D22, D3D23, I1D6, I3D5
AS/NZS 1664.1	1997	Aluminium structures - Limit state design (incorporating Amdt 1)	B1D4



Table 11: Schedule of Referenced Documents under BCA 2022 (Vol.1)

Number	Year	Title of Referenced Document / Australian Standard	Reference in BCA 2022 (Vol. 1)
AS/NZS 1664.2	1997	Aluminium structures - Allowable stress design (incorporating Amdt 1)	B1D4
AS 1668.1	2015	The use of ventilation and air conditioning in buildings - Fire and smoke control in buildings (incorporating Amdt 1)	C3D13, C4D15, Spec 11, D2D12, E2D3, E2D4, E2D6-E2D9, E2D11- E2D13, E2D16, E2D17, E2D19, F6D12, Specs 19, 21 & 31
AS 1668.2	2012	The use of ventilation and air conditioning in buildings - Mechanical ventilation in buildings (incorporating Amdts 1 & 2)	E2D12, F6V1, F6D6, F6D11, F6D12, F8D4, J6D4
AS 1668.4	2012	The use of ventilation and air conditioning in buildings - Natural ventilation of buildings	F6D11
AS 1670.1	2018	Fire detection, warning, control and intercom systems - System design, installation and commissioning - Fire (incorporating Amdt 1) (See Note 3)	C4D6, C4D7, C4D8, C4D9, C4D12, D3D26, E2D3, E2D10, G4D7, Specs 12, 20, 23 & 31
AS 1670.3	2018	Fire detection, warning, control and intercom systems - System design, installation and commissioning - Fire alarm monitoring (incorporating Amdt 1) (See Note 3)	Specs 20 & 23
AS 1670.4	2018	Fire detection, warning, control and intercom systems - System design, installation and commissioning - Emergency warning & intercom systems (incorporating Amdt 1) (See Note 3)	E3V2, E4D9, Spec 31
AS/NZS 1680.0	2009	Interior lighting - Safe movement	F6D5
AS 1684.2	2021	Residential timber-framed construction - Non-cyclonic areas	B1D4, B1D5, F1D8
AS 1684.3	2021	Residential timber-framed construction - Cyclonic areas	B1D4, B1D5, F1D8
AS 1684.4	2010	Residential timber-framed construction - Simplified - Non-cyclonic areas (incorporating Amdt 1)	B1D4, B1D5, F1D8
AS 1720.1	2010	Timber structures - Design methods (incorporating Amdts 1, 2 and 3)	B1V1, B1D4
AS/NZS 1720.4	2019	Timber structures - Fire resistance of timber elements	Spec 1
AS 1720.5	2015	Timber structures - Nailplated timber roof trusses (incorporating Amdt 1)	B1D4
AS 1735.11	1986	Lifts, escalators and moving walks - Fire rated landing doors	C4D11
AS 1735.12	1999	Lifts, escalators and moving walks - Facilities for persons with disabilities (incorporating Amdt 1)	E3D8, I2D6
AS 1860.2	2006	Particleboard flooring - Installation (incorporating Amdt 1)	B1D4
AS 1905.1	2015	Components for the protection of openings in fire-resistant walls - Fire-resistant doorsets (incorporating Amdt 1)	C4D7, Spec 12
AS 1905.2	2005	Components for the protection of openings in fire-resistant walls Fire-resistant roller shutters	Spec 12
AS 1926.1	2012	Swimming pool safety - Safety barriers for swimming pools	G1D2, G1D4

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Number	Year	Title of Referenced Document / Australian Standard	Reference in BCA 2022 (Vol. 1)
AS 1926.2	2007	Location of safety barriers for swimming pools (incorporating Amdts 1 & 2)	G1D2
AS 1926.3	2010	Swimming pool safety - Water recirculation systems (incorporating Amdt 1)	G1D2
AS 2047	2014	Windows and external glazed doors in buildings (incorporating Amdts 1 & 2) (See Note 4)	B1D4, F3V1, F3D4, J5D5
AS 2049	2002	Roof tiles (incorporating Amdt 1)	F3D2
AS 2050	2018	Installation of roof tiles	B1D4, F3D2
AS 2118.1	2017	Automatic fire sprinkler systems - General systems (incorporating Amdts 1 & 2)	C1V3, Spec 17 & 18
AS 2118.4	2012	Automatic fire sprinkler systems - Sprinkler protection for accommodation buildings not exceeding four storeys in height	Spec 17 & 18
AS 2118.5	2008 (R 2020)	Automatic fire sprinkler systems - Home fire sprinkler systems	N/A
AS 2118.6	2012	Automatic fire sprinkler systems - Combined sprinkler & hydrant systems in multistorey buildings	Spec 17
AS 2159	2009	Piling - Design and installation (incorporating Amdt 1)	B1D4
AS/NZS 2293.1	2018	Emergency lighting and exit signs for buildings - System design, installation and operation (incorporating Amdt 1)	E4D4, E4D8, Spec 25, I3D15
AS/NZS 2327	2017	Composite structures - Composite steel- concrete construction in buildings (incorporating Amdt 1)	B1D4, Spec 1
AS 2419.1	2021	Fire hydrant installations - System design, installation and commissioning	C3D13, E1D2, Spec 18, I3D9
AS 2441	2005	Installation of fire hose reels (incorporating Amdt 1)	E1D3
AS 2444	2001	Portable fire extinguishers and fire blankets - Selection and location	E1D14, I3D11
AS 2665	2001	Smoke/heat venting systems - Design, installation and commissioning	Spec 22, Spec 31
AS 2699.1	2020	Built-in components for masonry construction - Wall ties (See Note 9)	C2D10
AS 2699.3	2020	Built-in components for masonry construction - Lintels and shelf angles (durability requirements) (See Note 9)	C2D10
AS 2870	2011	Residential slabs and footings	F1D7
AS/NZS 2890.6	2009	Parking facilities - Off street parking for people with disabilities	D4D6
AS/NZS 2904	1995	Damp-proof courses and flashings (incorporating Amdts 1 & 2)	F1D6
AS/NZS 2908.1	2000	Cellulose-cement products - Corrugated sheets	B1D4
AS/NZS 2908.2	2000	Cellulose-cement products - Flat sheets	Schedule 1



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Number	Year	Title of Referenced Document / Australian Standard	Reference in BCA 2022 (Vol. 1)
AS/NZS 2918	2018	Domestic solid fuel burning appliances - Installation (See Note 8)	G2D2
AS/NZS 3013	2005	Electrical installations - Classification of the fire and mechanical performance of wiring system elements	C3D14
AS/NZS 3500.0	2021	Plumbing and drainage - Glossary of terms	A1G4
AS 3600	2018	Concrete structures (incorporating Amdts 1 & 2)	B1V1, B1D4, Spec 1
AS 3660.1	2014	Termite management - New building work (incorporating Amdt 1)	B1D4, F1D6
AS 3700	2018	Masonry structures	B1D4, F3D5, Specs 1 & 2
AS 3740	2021	Waterproofing of domestic wet areas	F2D2
AS 3786	2014	Smoke alarms using scattered light, transmitted light or ionization (incorporating Amdt 1 & 2) (See Note 5)	Spec 20
AS/NZS 3823.1.2	2012	Performance of electrical appliances - Air conditioners and heat pumps - Ducted air conditioners and air-to-air heat pumps - Testing and rating for performance	Spec 33, J6D12
AS 3959	2018	Construction of buildings in bushfire-prone areas (incorporating Amdts 1 & 2)	C2D14, F8D5, G5D2, G5D3, Spec 43
AS/NZS 4020	2018	Testing of products for use in contact with drinking water (See Note 6)	A5G4
AS 4055	2021	Wind loads for housing	Schedule 1
AS 4072.1	2005	Components for the protection of openings in fire-resistant separating elements - Service penetrations and control joints (incorporating Amdt 1)	C4D15, C4D16
AS 4100	2020	Steel structures	B1D4, Spec 1
AS 4200.1	2017	Pliable building membranes and underlays - Materials (incorporating Amdt 1)	F3D3, F8D3, Spec 36, Schedule 1
AS 4200.2	2017	Pliable building membranes and underlays - Installation requirements (incorporating Amdts 1 & 2)	F3D3, F8D3
AS/NZS 4234	2021	Heated water systems - Calculation of energy consumption	Spec 45
AS 4254.1	2021	Ductwork for air-handling systems in buildings - Flexible duct	Spec 7, J6D7
AS 4254.2	2012	Ductwork for air-handling systems in buildings - Rigid duct	Spec 7, J6D5, J6D7
AS/NZS 4284	2008	Testing of building facades	F3V1
AS/NZS 4505	2012	Garage doors and other large access doors (incorporating Amdt 1)	B1D4
AS 4586	2013	Slip resistance classification of new surface materials (incorporating Amdt 1) (See Note 7)	D3D11, D3D14, D3D15
AS 4597	1999	Installation of roof slates and shingles (Non- interlocking type)	B1D4, F3D2
AS/NZS 4600	2018	Cold-formed steel structures	B1D4, Spec 1

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Number	Year	Title of Referenced Document / Australian Standard	Reference in BCA 2022 (Vol. 1)
AS 4654.1	2012	Waterproofing membranes for external above-ground use - Materials	F1D5
AS 4654.2	2012	Waterproofing membranes for external above-ground use - Design and installation	C2D14, F1D4, F1D5
AS/NZS 4859.1	2018	Thermal insulation materials for buildings - General criteria and technical provisions	J4D3, J6D6, J6D9
AS/NZS 4859.2	2018	Thermal insulation materials for buildings - Design	J3D8, J4D3, Specs 36 &37
AS 5113	2016	Classification of external walls based on reaction-to-fire performance (incorporating Amdt 1)	C1V3
AS 5146.1	2015	Reinforced autoclaved aerated concrete - Structures (incorporating Amdt 1)	B1D4
AS 5146.3	2018	Reinforced autoclaved aerated concrete - Construction	F3D5
AS 5216	2021	Design of post-installed and cast-in fastenings in concrete	B1D4
AS/NZS 5601.1	2013	Gas installations - General installations	J1V4
AS 5637.1	2015	Determination of fire hazard properties - Wall and ceiling linings	Spec 7, Schedule 1
AS ISO 9239.1	2003	Reaction to fire tests for floorings - Determination of the burning behaviour using a radiant heat source	Schedule 1
AS/NZS ISO 9972	2015	Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurization method	J1V4
AIRAH-DA07	2021	Criteria for moisture control design analysis in buildings	F8V1
AIRAH-DA09	1998	Air conditioning load estimation	Spec 35
AIRAH-DA28	2011	Building management and control systems	Spec 34
ANSI/ASHRAE Standard 55	2013	Thermal environmental conditions for human occupancy	Schedule 1
ANSI/ASHRAE Standard 140	2007	Standard method of test for the evaluation of building energy analysis computer programs	J1V1, J1V2, J1V3, J1V5
ASTM E2073-10	2010	Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings	Spec 25
ASTM E72-15	2015	Standard Test Methods of Conducting Strength Tests of Panels for Building Construction	Spec 6
ASTM E695-03	2003	Standard Test Method of Measuring Relative Resistance of Wall, Floor and Roof Construction to Impact Loading	Spec 6
ASTM E96	2016	Standard Test Methods for Water Vapor Transmission of Materials	Schedule 1
AHRI 460	2005	Performance rating of remote mechanical- draft air-cooled refrigerant condensers	J6D13
AHRI 551/591	2015	Performance rating of water-chilling and heat pump water-heating packages using the vapor compression cycle	Spec 33, J6D11

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Number	Year	Title of Referenced Document / Australian Standard	Reference in BCA 2022 (Vol. 1)
ABCB	2022	Fire Safety Verification Method	C1V4
ABCB	2011	Protocol for Structural Software, Version 2011.2	B1D5
ABCB	2012	Standard for Construction of Buildings in Flood Hazard Areas, Version 2012.3	B1D6
ABCB	2022	Standard for NatHERS Heating and Cooling Load Limits, Version 2022.1	J3D3
ABCB	2022	Standard for Whole-of-Home Efficiency Factors	J3D14
CIBSE Guide A	2015	Environmental design	Spec 34, Spec 35, J4D3, J4D7
N/A	2002	Disability Standards for Accessible Public Transport	F4D12, I2D1
FPAA101H	2018	Automatic Fire Sprinkler System Design and Installation - Hydrant Water Supply (incorporating Amdt 1)	C1V3, C2D6, C2D13, C3D2, C3D7, C3D8, E2D8, E2D9, E2D13-E2D17, E2D19, E2D20, G3D1, G3D6, I1D2 Specs 5, 7, 17, 18, 20 & 31
ISO 140.6	1998E	Acoustics - Measurement of sound insulation in buildings and of building elements -	Spec 29
ISO 540	2008	Hard coal and coke - Determination of ash fusibility	Spec 13
ISO 8336	1993E	Fibre-cement flat sheets	Schedule 1
ISO 25745.2	2015	Energy performance of lifts, escalators and moving walks: Energy calculation and classification for lifts (elevators)	J7D8
NASH Std. Part 1	2005	Residential and Low Rise Steel Framing - Design Criteria (incorporating Amdts A, B and C)	B1D4
NASH Std. Part 2	2014	Residential and Low Rise Steel Framing - Design Solutions (incorporating Amdt A)	B1D4, B1D5, F1D8
NSF/ANSI/CAN372	2020	Drinking Water System Components - Lead Content	A5G4

Table Notes

- (1) For AS/NZS ISO 717.1:
- (a) Test reports based on AS 1276—1979 and issued prior to AS/NZS 1276.1—1999 being referenced in the NCC remain valid.
 - (b) The STC values in reports based on AS 1276—1979 must be considered to be equivalent to Rw values.
 - (c) Test reports based on AS/NZS 1276.1 prepared after the NCC reference date for AS/NZS 1276.1—1999 must be based on that version.
 - (d) Test reports based on ISO 717-1—1996 and issued prior to AS/NZS ISO 717.1—2004 being referenced in the NCC remain valid.
 - (e) Reports based on AS/NZS ISO 717.1 relating to tests carried out after the NCC reference date for AS/NZS ISO 717.1—2004 must relate to the amended Standard.
- (2) For AS 1562.1, tests carried out based on AS 1562.1—1992 and issued prior to AS 1562.1—2018 being referenced in the NCC remain valid. Reports relating to tests carried out

Table Notes

after the NCC reference date for AS 1562.1 must relate to the revised Standard.

- (3) For AS 1670.1, AS 1670.3 and AS 1670.4, notwithstanding A4G1(5), until the adoption of NCC 2025 the editions of the documents listed in Table 1.8 of AS 1670.1, AS 1670.3 and AS 1670.4 may be used to meet the requirements of AS 1670.1, AS 1670.3 and AS 1670.4 as applicable.
- (4) For AS 2047:
 - (a) Tests carried out under earlier editions of AS 2047 remain valid.
 - (b) Reports based on AS 2047 relating to tests carried out after the NCC reference date for AS 2047—2014 Amendment 2 must relate to the amended Standard.
- (5) For AS 3786:
 - (a) Tests carried out under AS 3786—2014 Amendment 1 remain valid.
 - (b) Reports based on AS 3786 relating to tests carried out after the NCC reference date for AS 3786—2014 Amendment 2 must relate to the amended Standard.
- (6) Test reports based on the 2005 edition of AS/NZS 4020 will continue to be accepted until 1 May 2024. Test reports prepared after the NCC reference date for the 2018 edition of AS/NZS 4020 must be based on the 2018 edition.
- (7) For AS 4586:
 - (a) Test reports based on the 2004 edition of AS/NZS 4586 and issued prior to the 2013 edition of AS 4586 being referenced in the NCC remain valid.
 - (b) Test reports prepared after the NCC reference date of the 2013 edition of AS 4586 must be based on that version.
 - (c) For the purposes of assessing compliance, the slip-resistance classifications of V, W and X in reports based on the 2004 edition of AS/NZS 4586 may be considered to be equivalent to slip-resistance classifications of P5, P4 and P3 respectively in the 2013 edition of AS 4586.
 - (d) Test reports based on Appendix D of AS 4586—2013 and issued prior to the NCC reference date for AS 4586—2013 (incorporating Amendment 1) remain valid.
 - (e) Test reports based on Appendix D of AS 4586—2013 and prepared after the NCC reference date for AS 4586—2013 (incorporating Amendment 1) must be based on that version.
- (8) Tests carried out based on AS/NZS 2918—2001 and issued prior to AS/NZS 2918—2018 being referenced in the NCC remain valid. Reports relating to tests carried out after the NCC reference date for AS/NZS 2918 must relate to the revised Standard.
- (9) For AS 2699 Parts 1 and 3:
 - (a) For AS 2699.1, the 2000 edition has been retained for a transitional period ending on 30 April 2025.
 - (b) For AS 2699.3, the 2002 edition has been retained for a transitional period ending on 30 April 2025.
- (10) For AS 1397, the 2011 edition has been retained for a transitional period ending on 31 August 2023.
- (11) For AS/NZS 3500.3, the 2018 edition has been retained for a transitional period ending on 31 August 2023.
- (12) The referenced documents in the table above are based on those referenced in Schedule 2 (Table 1) of NCC 2022 as of 1 May 2023. It does not include any variations or additional documents which are referenced under the State variations contained in Schedule 4-11 of NCC 2022 Volume One



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