NBRS ARCHITECTURE

BCA ASSESSMENT REPORT (DA)

Pacific Brook Christian School

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Document Control

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111917-BCA CC Stage-r05	10 June 2022	BCA Assessment Report CC Stage – Update reflecting CC Plan Package	Hayden David	Matthew McNamara
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	12 July 2024	Matthew McNamara Registered Certifier Grade A1, BDC 0263	Signed: DocuSigned by: Matthew McNamara 2F9E8E9F9FB4478...	

Jensen Hughes Australia

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Executive summary

This document provides an assessment of the architectural design drawings for the proposed multi-stage Primary and High School development of Pacific Brook Christian School at 72-74 Maitland Street, Muswellbrook (stage 1), against the Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) 2022 Volume One.

Part 3 of this report outlines the identified BCA compliance issues that require further information or consideration and/or assessment as Performance Solutions. Any Performance Solution will need to be detailed in a separate report and must clearly indicate methodologies for achieving compliance with the relevant BCA Performance Requirements.

Item	Description	BCA Provision
Performance Solutions required		
1.	A Performance Solution will be required to demonstrate that the construction of the new external walls (other than glazing, masonry, autoclaved aerated concrete, and metal wall cladding for which Deemed-to-Satisfy Provisions are provided) is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements.	Clause F3D5
Building Code of Australia compliance matters to be addressed		
1.	Nil	
Further information required		
2.	Window specification will be needed at the Construction Certificate Stage to verify compliance in accordance with the natural lighting requirements.	Clause F6D3
3.	The requirement for a fire hydrant system must be assessed for the whole building in the later stages of the development.	Clause E1D2

1.0 Basis of Assessment

1.1 LOCATION AND DESCRIPTION

The building development, the subject of this report, is the Pacific Brook Christian School at 72-74 Maitland Street, Muswellbrook.

The proposed development is for the establishment of a new K-12 school (Pacific Brook Christian School) on the subject site. The proposed development will comprise site preparation and remediation, tree removal, construction of new school buildings, covered outdoor learning area, covered walkways, car parking, landscaping and associated works. The school will accommodate 140 students and 16 staff.

The development is to be delivered in a staged approach. This report is prepared to support the DA submission for stage 1 including the demolition of existing buildings on the site and construction of one (1) administration area, five (5) general learning areas (GLAs), one (1) science room, one (1) staff and student amenities block, a covered outdoor learning area (COLA), and an open carpark.

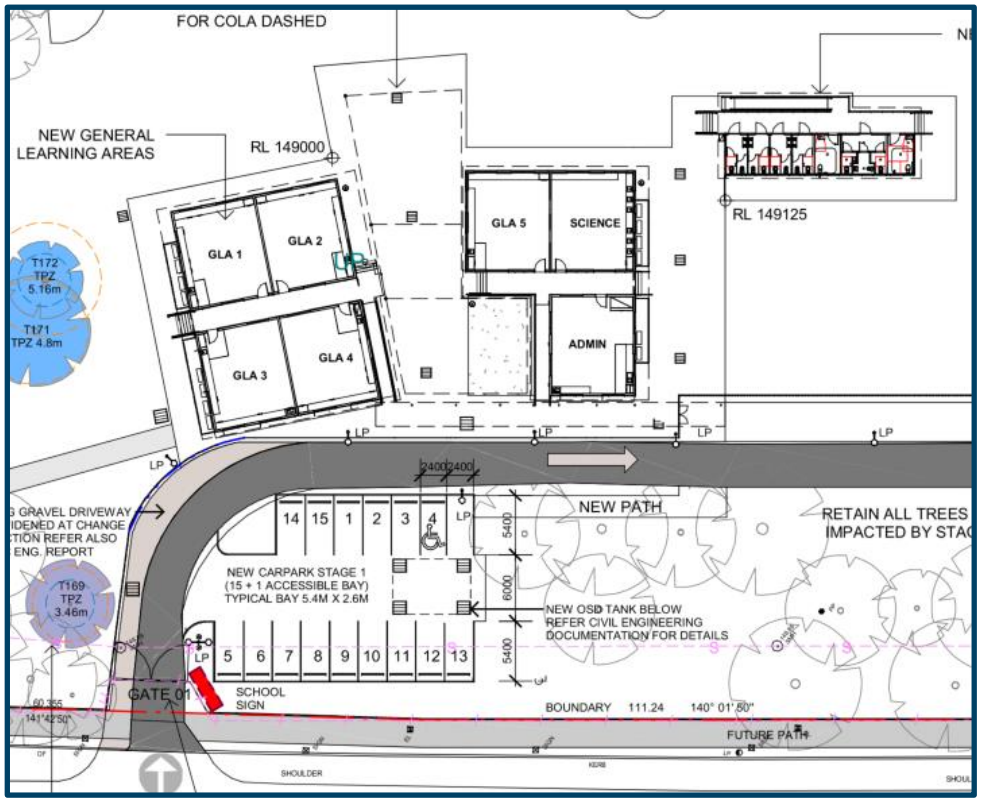

Figure 1 - Site plan (Courtesy of NBRS)

1.2 PURPOSE

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of the BCA, and to clearly outline those areas (if any) where compliance is not achieved, where areas may warrant redesign to achieve strict BCA compliance or where areas may be able to be assessed against the relevant performance criteria of the BCA. Such assessment against relevant performance criteria will need to be addressed by means of a separate Fire Engineering Report (FER) for fire safety matters, and Performance Solution Report for non-fire-safety matters; such reports are to be prepared under separate cover.

1.3 BUILDING CODE OF AUSTRALIA

This report is based on the Deemed-to-Satisfy Provisions of the National Construction Code (**NCC**) Series Volume One – Building Code of Australia, 2022 Edition (**BCA**), incorporating the State variations where applicable.

Please note that the version of the BCA applicable to new building works is the version applicable at the time of the lodgement of the Construction Certificate application to the Accredited Certifying Authority, or for Crown projects the date of the invitation for tenders to carry out the Crown building work, or in the absence of tenders the date on which the Crown building work commences.

A reference to the BCA in this report is a reference to **BCA2022**, being volume 1 of the NCC.

1.4 LIMITATIONS

This report does not include nor imply any detailed assessment for design, compliance or upgrading for:

1. The structural adequacy or design of the building;
2. The inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and
3. The design basis and/or operating capabilities of any proposed electrical, mechanical or hydraulic services.

This report does not include, or imply compliance with:

1. The National Construction Code – Plumbing Code of Australia Volume 3
2. The Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to)

   Note: The provision of access for people with a disability for the subject development has not been assessed against the Deemed-to-Satisfy Provisions of Part D4 and Clauses E3D7, E3D8, F4D5, F4D6, F4D7 and F4D12 of BCA2022 (covered in a separate access report).
3. Demolition Standards not referred to by the BCA;
4. Work Health and Safety Act 2011;
5. Requirements of Australian Standards unless specifically referred to;
6. Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning and the like; and

1.5 DESIGN DOCUMENTATION

This report has been based on the Design plans and Specifications listed in Annexure A of this Report.

2.0 Building Description

For the purposes of the Building Code of Australia (BCA), the development may be described as follows.

2.1 RISE IN STOREYS (CLAUSE C2D3)

The building has a rise in storeys of one (1).

2.2 CLASSIFICATION (CLAUSE A6G1)

The building has been classified as follows.

Table 1: Building Classification

Class	Level	Description
Class 9b & 10a	Ground Floor	Classrooms, Staff & Student Amenities Block

2.3 EFFECTIVE HEIGHT (CLAUSE A1G4)

The *effective height* is not applicable as the building contains one (1) storey only.

2.4 TYPE OF CONSTRUCTION REQUIRED (TABLE C2D2)

The building is required to be of Type C Construction.

2.5 FLOOR AREA AND VOLUME LIMITATIONS (TABLE C3D3)

The building is subject to maximum floor area and volume limits of: -

Class 9b	Maximum Floor Area	3,000 m^2
	Maximum Volume	18,000 m^3
Class 10a	The Class 10a portions of the building are not subject to floor area and volume limitations of Table C3D3.	

2.6 FIRE COMPARTMENTS

The buildings have been assessed as three separate fire compartments being:

a. A single storey demountable building containing four (4) general learning areas (GLA's); and

b. A single storey demountable block containing a GLA, an Admin room and a science room; and

c. A shared amenities block containing separate student and staff sanitary amenities.

2.7 EXITS

Each building is identified as having two alternative exits located at the ends of corridor between the rooms and at the edge of the COLA between Block A and B where open space is reached.

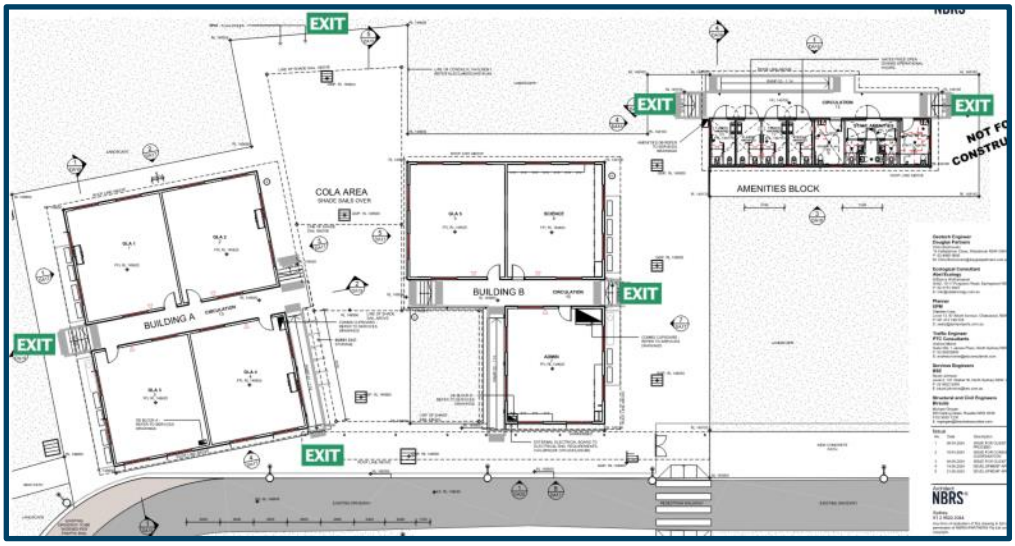

Figure 2 - Exits

2.8 CLIMATE ZONE

The building is located within Climate Zone 6.

2.9 LOCATION OF FIRE-SOURCE FEATURES

The fire source features for the subject development are:

Building A – 4x GLA's

North:	The rear boundary of the allotment	-	~36m
South:	The far roadside boundary of Maitland Street	-	>28m
East:	Another building on the same allotment	-	~9m
West:	Another building on the same allotment	-	~37m

Building B – 1x GLA's, Admin and Science room

North:	The rear boundary of the allotment	-	~38m
South:	The far roadside of the Maitland Street	-	>32m
East:	The side boundary of the allotment	-	~88m
West:	Another building on the same allotment	-	~8m

Amenities Block

North:	The rear boundary of the allotment	-	~36m
South:	The far roadside boundary of Maitland Street	-	>52m
East:	The side boundary of the allotment	-	~66m
West:	A separate building on the same allotment	-	~8m

In accordance with Clause S5C2 of Specification 5, a part of a building element is exposed to a *fire-source feature* if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that–

d. has an FRL of not less than 30/–/–; and

e. is neither transparent nor translucent.

3.0 BCA Assessment

3.1 INTRODUCTION

The assessment undertaken is in relation to the plans prepared for the development consent application. The technical details required for a development consent are far less than that required for a construction certificate and as such, this assessment is designed to address a higher-level assessment of the building against the provisions of the BCA.

The main purpose of this report is to identify any major design changes required to the building, services required to be installed, and the fundamentals of design required by sections C, D, E, F, G and H (where applicable) of the BCA. This report does not address the design requirements for the structure of the building (Section B), or for the detailed design of services (Section E) and is subject to the limitations outlined under Section 1.4 of this report.

The summary below is to be read in conjunction with the BCA specification contained in Annexure E of the report.

3.2 FIRE RESISTANCE AND STABILITY – PART C2 & SPECIFICATION 5

Given the proposed setback of each building from one and other, the allotment boundaries and other fire source features, no fire resistance level (FRL) is required for the external walls of each building.

Furthermore, while Stage 1 presents no Class 2-9 buildings being located within 6m of one another, as forthcoming future Staged construction works occur, this may have future implication on the risk of fire spread between existing and new building works. As such, any future buildings will need to consider the relevant fire separation and setbacks required by BCA Specification 5.

The required fire resistance levels for the building elements are outlined in Annexure C of this report for information.

As the buildings are Type C Construction, the non-combustibility requirement of BCA C2D10 does not apply to the external wall of the buildings subject of this report.

Fire Hazard Properties

Internal linings and materials are required to meet the specified fire hazard properties of BCA Clause C2D11 and Specification 7.

The proposed building is capable of complying with the requirements of the BCA with respect to fire resistance.

3.3 COMPARTMENTATION AND SEPARATION – PART C3

The Class 9b buildings have been assessed and the floor area and volume of these compartments is less than that permitted by BCA Clause C3D3. As such compliance with the provisions of the BCA for compartmentation is readily achieved.

Compliance with Part C3 of the BCA can be readily achieved by the proposal.

3.4 PROTECTION OF OPENINGS – PART C4

The external walls are located more than three (3) metres from any boundary and they are not required to be fire-rated. As such there is no requirement to protect any openings within the external walls.

3.5 OCCUPANT ACCESS AND EGRESS – SECTION D

3.5.1 Egress from the building

Considering there might be more than 50 occupants in Buildings 1 and 2, two exits are required as per BCA D2D3. There are two exits provided for the above buildings, therefore the building complies with the requirements.

The exit travel distances and distance between alternative exits are within the requirements of BCA D2D5 and D2D6.

3.5.2 Construction of exits

Where the ancillary walkways, stairs, and ramps are to be installed between classrooms, care should be taken to ensure that an appropriate balustrade system is installed where the trafficable surface of these areas is greater than 1m above the ground surface below. Where a balustrade is required, it should have no openings >125mm and a finished height above the floor level of 1m in accordance with BCA D3D17.

3.5.3 Access for people with a disability

BCA Part D4 has not been assessed within this report and a separate Access Assessment Report has been provided by Jensen Hughes.

3.6 SERVICES AND EQUIPMENT- PARTS E1, E2, E3 AND E4

The building is required to be provided with the services and equipment set out in Annexure B of this report. The annexure also outlines the standard of performance to be achieved by the services and equipment.

3.6.1 Part E1 – Fire Fighting Equipment

Fire hydrant system (E1D2)

The master plan for the development of Pacific Brook Christian School will see buildings with floor area in excess of 500m^2 and thus requiring some buildings to demonstrate compliant hydrant coverage in accordance with AS2419.1-2021, where an attending fire brigade station is located within 50km by road to the development.

Given the number of buildings to be constructed, and the area in which each building will be located apart, the site will require coverage by several on-site external hydrant valves which will require the assistance of a booster assembly, of which is to be located at the road entry point of the school campus. However, given each buildings floor area of Stage 1 is less than 500m^2, the delivery of Stage 1 does not yet warrant the installation of fire hydrants.

Fire hose reel (E1D3)

The report notes that fire hose reel coverage is not required for classrooms and their associated corridors of a Class 9b primary/high school as per BCA E1D3(1)(d).

Portable Fire Extinguishers (E1D14)

The development is required to have portable fire extinguishers installed throughout in accordance with AS2444-2001. Compliance is readily achievable.

3.6.2 Part E2 – Smoke Hazard Management

Currently, no provisions are required for smoke detection throughout each building of Stage 1.

3.6.3 Part E3 – Lift Installations

No lifts are proposed or required to be installed within the building.

3.6.4 Part E4 – Visibility in emergency, exit signs and warning systems.

The entry/exit doors of each classroom that provide direct access to the external walkways and required exit stairs serving each building, are to be identified with exit signage complying with AS 2293.1. In addition, the total floor area of each building within Stage 1 is identified as having <300m^2 in floor area, and as such, does not require the installation of emergency lighting.

The DA plans do not provide any details for the emergency lighting and exit signs. As such further information will be required at the Construction Certificate Stage, however compliance is readily achievable.

3.7 FACILITIES IN CLASS 3 TO 9 BUILDINGS – PART F4

According to the development brief, a total number of 140 students and 15 staff will be accommodated in Stage 1 buildings. Separate male/female facilities are provided as per the below drawing:

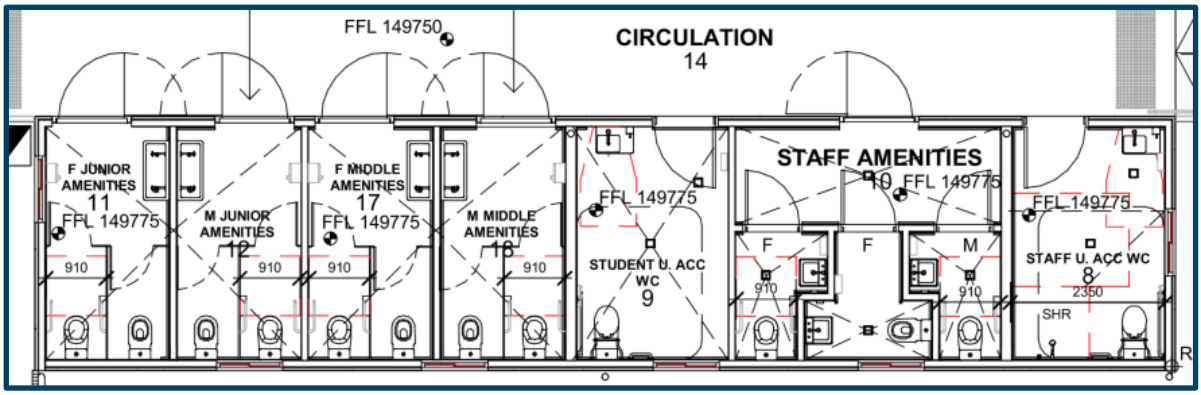

Figure 3 – Provided Sanitary Compartments

The number of provided facilities (below) have been assessed in accordance with Clauses F4D3 and D2D4 and they satisfy the requirements of the BCA considering that the accessible bathroom can be counted at least once for males and once for females:

Staff	Closet Pans	Urinals	Washbasins
Male	1	0	1
Female	2	N/A	2
Accessible	1	N/A	1
Students	**Closet Pans**	**Urinals**	**Washbasins**
Male	4	0	4
Female	4	N/A	4
Accessible	1	N/A	1

3.8 ROOM HEIGHTS – PART F5

The section drawings indicate that the ceiling heights for the classrooms and Admin room can achieve the minimum height of 2400 mm. The height of the ceiling in sanitary compartments is more than 2.1m

The ceiling heights have been assessed in accordance with BCA Part F5 which has indicated that compliance is readily achievable within the buildings.

3.9 LIGHT AND VENTILATION – PART F6

3.9.1 Method and extent of natural light (F6D3)

Natural light is required in all general-purpose classrooms/playrooms in a primary/secondary school. The plans have been assessed which reveals all classrooms are served by windows or glazed doors. The area of the doors and windows (exclusive of any framing members, glazing bars or other obstructions) is likely to be sufficient in size to provide the required 10% natural light to all classrooms, however, window specification will be needed at the Construction Certificate Stage to verify compliance in accordance with the natural lighting requirements.

3.9.2 Ventilation of rooms (F6D7)

Ventilation is required in all classrooms. Clause F6D6 allows for either natural ventilation as per Clause F6D7 or a mechanical ventilation or air-conditioning system complying with AS1668.2 and AS/NZS3666.1.

The plans have been assessed which reveals all habitable spaces are served by windows or glazed doors. The area of the doors and windows (exclusive of any framing members, glazing bars or other obstructions) is likely to be sufficient in size to provide the required 5% ventilation to all habitable rooms. However, a window specification will be needed with design development to verify compliance if natural ventilation is relied upon.

3.10 ENERGY EFFICIENCY - SECTION J

To be separately assessed by the Energy Consultant.

Annexures

Annexure A - Design Documentation

This report has been based on the following design documentation.

Table 2: Architectural Plans

Architectural Plans Prepared by NBRS			
Drawing Number	**Revision**	**Date Title**	**Title**
19055-NBRS-DR-A-DA14	5	21/06/2024	Stage 1 Site plan
19055-NBRS-DR-A-DA16	5	21/06/2024	Stage 1 Floor Plans
19055-NBRS-DR-A-DA17	3	14/06/2024	Stage 1 – Elevations – Sheet 1
19055-NBRS-DR-A-DA18	3	14/06/2024	Stage 1 – Elevations – Sheet 2

Annexure B - Essential Services

The following fire safety measures are required to be installed in the building. The following table may be required to be updated as the design develops and options for compliance are confirmed, including any omissions or additions as a result of the fire engineering processes.

Table 3: Essential Fire Safety Measures

Item	Essential Fire and Other Safety Measures	Standard of Performance
General		
1.	Portable fire extinguishers	**BCA2022 E1D14** AS 2444–2001
General Egress		
2.	Operation of Door latches	**BCA2022 D3D26** (Operation of Latch) AS 1670.1 (Amdt 1)
3.	Swing of Exit Doors	**BCA2022 D3D24** (Swinging Doors)
4.	Warning & operational signs	**BCA2022 D4D7** (Braille Exit Signs) Note: E4D5 (Exit Signs)
Electrical Services		
5.	Exit signs	**BCA2022 E4D55** (Exit Signs) **BCA2022 E4D6** (Direction Signs) **BCA2022 E4D8** (Design and Operation - Exits) AS/NZS 2293.1:2018

Annexure C - Fire Resistance Levels

The following fire resistance levels (FRL's) are required for the various building elements, with a fire source feature being the far boundary of a road adjoining the allotment, a side or rear boundary or an external wall of another building on the allotment except a Class 10 structure.

Type C Construction

Table 4: Type C Construction

Table S5C24a: Type C construction: FRL of parts of external walls

Distance from a fire-source feature	FRL (in minutes): Structural adequacy / Integrity / Insulation			
	Class 2, 3 or 4 Part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	90/90/90	90/90/90	90/90/90	90/90/90
1.5 to less than 3 m	-/-/-	60/60/60	60/60/60	60/60/60
3 m or more	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C24b: Type C construction: FRL of external columns not incorporated into an external wall.

Distance from a fire-source feature	FRL (in minutes): Structural adequacy / Integrity / Insulation			
	Class 2, 3 or 4 Part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	90/-/-	90/-/-	90/-/-	90/-/-
1.5 to less than 3 m	-/-/-	60/-/-	60/-/-	60/-/-
3 m or more	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C24c: Type C construction: FRL of common walls and fire walls

Wall Type	FRL (in minutes): Structural adequacy / Integrity / Insulation			
	Class 2, 3 or 4 Part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or non-loadbearing	90/90/90	90/90/90	90/90/90	90/90/90

Table S5C24d: Type C construction: FRL of internal walls

Location	FRL (in minutes): Structural adequacy / Integrity / Insulation			
	Class 2, 3 or 4 Part	Class 5, 7a or 9	Class 6	Class 7b or 8
Bounding public corridors, public lobbies and the like	60/60/60	-/-/-	-/-/-	-/-/-
Between or bounding sole-occupancy units	60/60/60	-/-/-	-/-/-	-/-/-
Bounding a stair if required to be rated	60/60/60	60/60/60	60/60/60	60/60/60

Table S5C24e: Type C construction: FRL of roof

Location	FRL (in minutes): Structural adequacy / Integrity / Insulation			
	Class 2, 3 or 4 Part	Class 5, 7a or 9	Class 6	Class 7b or 8
Roofs	-/-/-	-/-/-	-/-/-	-/-/-

Annexure D Definitions

Average specific extinction area

Average specific extinction area means the average specific extinction area for smoke as determined by AS 5637.1:2015.

Critical radiant flux

Critical radiant flux (CRF) means the critical heat flux at extinguishment (CHF in kW/m^2) as determined by AS ISO 9239.1:2003.

Designated bushfire prone area

Designated bushfire prone area means land which has been designated under a power of legislation as being subject, or likely to be subject, to bushfires.

Effective height

Effective height means the vertical distance between the floor of the lowest storey included in a determination 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).

Envelope

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—

1. the exterior of the building; or
2. a non-conditioned space including—
    a. the floor of a rooftop plant room, lift-machine room or the like; and
    b. the floor above a carpark or warehouse; and
    c. the common wall with a carpark, warehouse or the like.

Exit

Exit means –

1. Any, or any combination of the following if they provide egress to a road or open space—
    a. An internal or external stairway.
    b. A ramp.
    c. A fire-isolated passageway.
    d. A doorway opening to a road or open space.
    e. A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Fire compartment

Fire compartment means –

1. the total space of a building; or

2. when referred to in—

    a. the Performance Requirements — 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

    b. the Deemed-to-Satisfy Provisions — 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-resistance level (FRL)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

1. structural adequacy; and
2. integrity; and
3. insulation,

and expressed in that order.

Note: 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-source feature

1. the far boundary of a road, river, lake or the like adjoining the allotment; or
2. a side or rear boundary of the allotment; or
3. an external wall of another building on the allotment which is not a Class 10 building.

Fire wall

Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

Flammability index

Flammability Index means the index number as determined by AS 1530.2:1993.

Group number

Group number means the number of one of 4 groups of materials 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.

Horizontal exit

Horizontal exit means a required doorway between 2 parts of a building separated from each other by a fire wall.

Loadbearing

Intended to resist vertical forces additional to those due to its own weight.

Non-combustible

Non-combustible means—

1. applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and
2. applied to construction or part of a building — constructed wholly of materials that are not deemed combustible.

Occupiable outdoor area

Occupiable outdoor area means a space on a roof, balcony or similar part of a building–

1. that is open to the sky; and
2. to which access is provided, other than access only for maintenance; and
3. that is not open space or directly connected with open space.

Open space

Open space means 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 Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Performance Solution

Performance Solution means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Sarking-type material

Sarking-type material means 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.

Smoke developed index.

Smoke developed index means the index number for smoke as determined by AS/NZS 1530.3.

Smoke development rate

Smoke development rate means the development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1.

Smoke growth rate index

Smoke growth rate index (SMOGRA RC) means 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.

Sole-occupancy unit

Sole-occupancy unit means 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 and includes—

1. a dwelling; or
2. a room or suite of rooms in a Class 3 building which includes sleeping facilities; or
3. a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or
4. a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

Annexure E - BCA Compliance Specification

The following BCA matters are to be addressed by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Construction Certificate Stage. This schedule should be forwarded to all consultants to obtain verification that these items have and will be included in the design documentation / specifications:

Architectural Design Certification

1. The FRL's of building elements for the proposed works have been designed in accordance with S5C24 of Specification 5 of BCA2022 for a building of Type C Construction.
2. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C2D11 and Specification 7 of BCA2022.
3. The number of exits provided to the building will be in accordance with Clause D2D3 of BCA2022.
4. Travel distances to exits will be in accordance with Clause D2D5 of BCA2022.
5. The alternative exits will be distributed uniformly around the storey and will not be less than 9m apart, and not more that 60m apart, in accordance with Clause D2D6 of BCA2022.
6. The dimensions of exits and paths of travel to exits will be provided in accordance with Clause D2D7 to D2D11 of BCA2022.
7. Stair geometry to the new stairways will be in accordance with Clause D3D14 of BCA2022. Stair treads are to have a surface with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
8. Landings and door thresholds throughout the development will be provided in accordance with Clause D3D15 and D3D16 of BCA2022. Landings to have either a surface with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013 where the edge ledge to a flight below.
9. The handrails and balustrades to all stairs and throughout the building will be in accordance with Clause D3D17 to D3D21, and D3D22 of BCA2022. The handrail must be fixed at a height between 665mm and 750mm in the primary school.
10. The doorways and doors will be in accordance with Clause D3D24 and D3D25 of BCA2022.
11. Door latching mechanisms will be in accordance with Clause D3D26 of BCA2022.
12. External above ground waterproofing membranes will comply with Clause F1D5 of BCA2022 and AS 4654 Parts 1 & 2:2012.
13. The new roof covering will be in accordance with Clause F3D2 of BCA2022.
14. Any sarking proposed will be installed in accordance with Clause F3D3 of BCA2022.
15. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F2D2 and F2D3 of BCA2022 and AS 3740:2010.
16. Damp proofing of the proposed structure will be carried out in accordance with Clause F1D6 and F1D7 of BCA2022.
17. All new glazing to be installed throughout the development will be in accordance with Clause F3D4 of BCA2022 and AS 1288:2006 / AS 2047:2014.

18. Sanitary facilities will be provided in the building in accordance with Clause F4D2, Table F4D2, Clause F4D4 and Table F4D4 of BCA2022.
19. Ceiling heights will be in accordance with Clause F5D2 of BCA2022.
20. Natural light will be provided in accordance with Clause F6D2, F6D3, and F6D4 of BCA2022.
21. Natural or mechanical ventilation will be provided in accordance with Clause F6D6, F6D7 and F6D8 of BCA2022.
22. The sanitary compartments will be either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F6D10 of BCA2022.
23. Pliable building membranes installed in external walls will comply with Clause F8D3 of BCA2022 and where a pliable building membrane is not installed in an external wall, the primary water control layer will be separated from water sensitive materials by a drained cavity.
24. Essential fire or other safety measures must be maintained and certified on an ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2021.

Electrical Services Design Certification:

25. Exit signage will be installed in accordance with Clause E4D5, E4D7, and E4D8 of BCA2022 and AS/NZS 2293.1:2018.
26. Artificial lighting will be installed throughout the development in accordance Clause F6D5 of BCA2022 and AS/NZS 1680.0:2009.

Hydraulic Services Design Certification:

27. Storm water drainage will be provided in accordance with Clause F1D3 of BCA2022 and AS/NZS 3500.3:2018
28. Portable fire extinguishers will be installed in accordance with Clause E1D14 of BCA2022 and AS 2444:2001.

Mechanical Services Design Certification:

29. Where not naturally ventilated the building will be mechanically ventilated in accordance with Clause F6D6 of BCA2022 and AS 1668.2:2012.
30. Rigid and flexible ductwork will comply with the fire hazard properties set out in AS 4254 Parts 1 and 2.

Structural Engineers Design Certification:

31. The material and forms of construction for the proposed works will be in accordance with Clause B1D3, B1D4 and B1D6 of BCA2022 as follows:

    a. Dead and Live Loads – AS/NZS 1170.1:2002
    b. Wind Loads – AS/NZS 1170.2:2011
    c. Earthquake actions – AS 1170.4:2007
    d. Masonry – AS 3700:2018
    e. Concrete Construction – AS 3600:2018
    f. Steel Construction AS 4100:1998
    g. Aluminium Construction – AS/NZS 1664.1 or 2:1997
    h. ABCB Standard for Construction of Buildings in Flood Hazard Areas.