GROUPDLA

Building Code of Australia 2022 Report

Report for BCA Compliance

PROJECT NAME: **Minarah College Campus - 268 & 278 Catherine Fields Road, Catherine Fields NSW 2557**
PROJECT NUMBER: **GDL220105**
DATE: **04/11/2025**

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REVISION HISTORY

Revision	Date	Details	Authorised	
			Name/Position	Signature
A	04/11/2025	Design Review	Prepared: Mike Gooley Associate	
			Reviewed: Brett Clabburn Director	

Table 1 – Revision History

1.0 EXECUTIVE SUMMARY

The report is for the assessment of the subject development known as Minarah College Campus to assess compliance with the National Construction Code, Volume 1, Class 2-9 Buildings, Building Code of Australia 2022 ("BCA").

Compliance with the BCA will be achieved by a combination of Deemed-to-Satisfy and Performance Solutions and will be assessed further as the design progresses towards the application for construction certificates for the progressive construction and establishment of the school campus.

The information submitted at this stage of the design is not considered to be detailed to the extent where the development of a comprehensive BCA report is achievable and therefore this report is preliminary only.

Based upon our review and assessment, the details included within the architectural drawings will not trigger a modification of consent based upon further details being included to demonstrate compliance with BCA 2022, Amendment 2 at the time of the application for construction certificates.

2.0 INTRODUCTION

The report is prepared based on a review of the documentation listed in Table 6 and the information provided by the client and is intended for their use only.

2.1 Reporting Team

The information contained within this report was prepared by Mike Gooley, Registered Certifier (BPB0143 and reviewed by Brett Clabburn, Registered Certifier (BPB0064) from Group DLA.

2.2 Current Legislation

The applicable legislation governing the BCA version for buildings is the Environmental Planning and Assessment Act 1979.

The provisions of this Act require that all new building works are carried out in accordance with the Building Code of Australia (BCA). The applicable version of the BCA to be adopted will be the BCA version in force when the Construction Certificate or Complying Development Certificate is applied for on the NSW e-Planning Portal.

The BCA is now updated every three (3) years, the next updated will be BCA 2025 which is anticipated to come into force on the 1st May 2026.

2.3 Fire Brigade

As per BCA 2022 Clause A2G2(4) all Performance Solutions are required to undertake a Performance Based Design Brief (PBDB) process, NSW Fire Brigades have advised (https://www.fire.nsw.gov.au/page.php?id=9154) that they will only provide their stakeholder input via a Fire Engineering Brief Questionnaire (FEBQ) process prepared and lodged by the engaged Fire Safety Engineer. This applies to all projects irrespective of the approval process, Crown, REF, CDC or Construction Certificate projects, if there are any Performance Solutions affecting fire safety all need to undertake this stakeholder engagement with NSW Fire Brigade which the Fire Safety Engineering will lodge.

Construction Certificates - the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulations 2021 (EP&A Reg 2021), Section 27 (previously Clause 144 of the Old Regulation), requires buildings the subject of Construction Certificate approval to have the Fire Engineering Report to be referred to Fire Brigade within seven (7) days of lodgement of the CC application on the NSW Government e-Planning Portal in certain cases.

Section 27 of the EP&A 2021 Regs defines which fire engineering reports need to be referred, and generally relates to Category 2 Fire Safety Provisions (defined in the Act) and/or for cladding performance solutions[1], and the floor area of a fire compartment in general terms exceeds 2000 m^2 or the floor area of the building exceeds 6000 m^2, the Section 27 referral to the FRNSW is to be assessed and lodged by the engaged Registered Certifier assessing the Construction Certificate**.**

[1]***Category 2 fire safety provision means the following provisions of the Building Code of Australia, namely, CP9, EP1.3, EP1.4, EP1.6, EP2.2 and EP3.2 in Volume One of that Code.***

Under recent changes to the legislation and Fire brigade advice, for Section 27 referrals of the Fire Engineering Report the fire brigade are required to respond within 10 days advising whether or not they will be proceeding with a review and providing the Initial Fire Safety Report. If so, they have not more than 28 days from the initial lodgement to provide their report or the Certifier can choose to invoke the provisions of Clause 144(6A)(c) and issue the Construction Certificate after 28 days of officially lodging the Clause 144 application; further consultation is required on this issue with the engaged Certifier as in almost all cases the Certifier will await comments and adopt any recommendations made by NSW Fire & Rescue which may have programme implications to be planned for.

2.4 Limitations

This report does not constitute or include, nor imply or audit any assessment of the following;

- This assessment is limited to the developed documentation at the date of this report and as referenced within the “Documentation Assessed” section of the Report.
- Preparation of performance provisions of the BCA are excluded.
- This report does not include assessment of the documentation against the provisions of the Disability Discrimination Act 1992 or (Access to Premises Buildings) Standards 2010.
- Any roof top plant or the like has been assessed (assumed) as open to the sky. Covered areas to roof tops may constitute an extra storey thus BCA requirement for the entire building may change.
- Travel distances have been assessed on an open plan basis with an allowance made for travel around pending fixed structures. No consideration has been given to any future fixed structures and accordingly, further assessment will be required in the event of floor plan or fixture amendments if and when these are provided formally.
- This report excludes any form of Certification Work as defined in the regulations, and is for BCA Compliance purposes only.
- Generally, the assessment does not include a detailed assessment of Australian Standards.
- 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, Liquor Licensing Act 1997 and the like; and
- Demolition Standards not referred to by the BCA;
- Work Healthy and Safety Act 2011 (Safety in Design);
- The National Construction Code – Plumbing Code of Australia Volume 3;
- BCA Report lists Clauses and Specifications are based on the Draft version of BCA 2022, should changes occur in the issued/adopted version then any changes are excluded and the actual clause in the BCA will supersede anything listed in the Report.
- The capacity of design of any Electrical, Fire, Hydraulic or Mechanical Services;
- Structural and services drawings have not been reviewed, nor any consideration given to the structural capacity (or inherent FRL’s) of the building.

2.5 Latest BCA 2022 Amendment 1 Changes – Synopsis of Major Changes

Main Change is the Numbering, Clauses and Specification have all changed, and been relocated

Section A – Governing Requirements

- A2.2 Performance Solution – The addition of clause A2.2(4), which details further requirements which must be met when addressing a performance solution in the BCA, being a Performance Based Design Brief and FEBQ process with NSW Fire Brigades as a stakeholder.
- A5.7 Labelling of aluminium composite panels – An aluminium composite panel must be labelled in accordance with SA TS 5344.

Section C – Fire Resistance

- Clause C2D10 & C2D14 - Non-Combustible Building elements & Ancillary elements - a lot of additional elements added to the list of exempted materials and elements , Concrete for example is now exempted. Interesting note added that considers a balustrade on a balcony to be an ancillary elements.
- Clause C3D6, D2D3 - Class 9b Childhood centre - required to be fire separated from the remainder of the building, when in a mixed-use building, and has egress, fire compartmentation, egress requirements.
- Clause C2D15 - Laminated Panels (such as ACP products)- cannot be solely fixed with adhesives, and all layers must be mechanically fixed, details within the clause.

Section D – Access and Egress

- Clause D2D23 – Egress from Primary Schools - Can only be on a Storey that provides direct egress to road or open space (Ground floor only), but does not apply if the building has a Rise in Storeys as defined by the BCA of 4 or less where the "whole" building is used only as a "Primary school".
- Clause D3D19 D3D20 - Balustrades and climability rules to Fire Stairs serving a Class 9b early childhood centre – this rules out the concession for the wider gaps for fire stair balustrades, and also the 4m climability is required to be complied with as well for Class 9b Early Childhood centres.
- D3D27 - Re Entry to Fire Stairs - required for fire stairs that serve a Class 9b Childhood Centre now, in addition to the other uses.

Section E – Services and Equipment

- Clause E1D11 - Sprinklers are required to the whole building if it has a Class 9b Early Childhood centre , not just to the childhood centre part.
- Clause E2D20 - Detection system - in addition to a Sprinkler system, Early Childhood Centres are also required to have Detection and Alarm system to the entire building (even other classes) if it has a Class 9b Early Childhood centre.

Section F – Health and Amenity

- Part F1 - Changes to Waterproofing, rainwater management and rising damp for all classes of building, weatherproofing etc.
- Part F2 -Changes to waterproofing of wet areas - All classes of building.
- F1D4 – Exposed Joint provisions added for weatherproofing, additional requirements apply.
- Clause F2D4 - Floor Wastes to Class 2, 3 or 4 Buildings - no requires a floor graded at a min of 1:50 and a maximum of 1:80 Grade to floor waste.
- Clause F3D2 - Roof Coverings - now allows Waterproof membranes as a roof covering to F1D5.
- Clause F3D5 – Weatherproofing of External Wall – some external wall types are now DTS for weatherproofing and do not require a performance solution, these are- Brick veneer, Masonry, Concrete, and metal cladding that complies with AS 1562.1 – any other type needs Perf Solution still required.
- Clause F4D4 - Toilets have been further updated to reflect the requirements of separate male and female ambulant facilities.
- Clause F4D5 - Ambulant Toilets - made it clear that cant be a unisex Ambulant facility, must be one for Male and One for Female (fixes an anomaly in the prior BCA versions which could have been read as allowing it.

- Part F8 - Condensation Management - is apparently changing but will not know till Later in 2022 what this will be and to which types of building it will apply to

Section G

- New Part G7 - Liveable Housing – Required for all Class 2 SOU's only in Class 2 Buildings - big change for apartments but not affecting other classes in Volume 1.
- Bushfire – G5D4 and Specification 43 - Bushfire Protection for Class 9 Buildings - affects Class 9b Health Care, Class 9b Childcare, and Primary and Secondary Schools, Class 9c Residential care building and Class 10a Building or Deck associated with one of these classes - Has a lot of impacts regarding setbacks to other buildings, Lot boundaries setbacks, pathways around the buildings, non-combustible walls and roof, Hydrant system (even if less than 500m2) or Static Water supply (details in Spec), Emergency Power supply, Large Isolated Building vehicular roads too for these types of buildings listed in BCA Clause G5D4.

Section I – Special Use Buildings

- Section I added which is the home of these provisions for the National BCA Provisions for Class 9b Buildings
- NSW Part I – Entertainment Venues in NSW has been changed from Part H.

Section J – Energy Efficiency

- Numerous changes to Section J are anticipated– Section J Consultant will need to provide update in regards to any impacts to the Design parameters. As the details of the changes have not been release yet, and will be forthcoming later in 2022.

Schedule 2 – Referenced Documents (Australian Standards) – the below is not exhaustive but the main standards that have changed, refer to Schedule 2 of NCC 2022 for full list of referenced documents.

- BCA 2022 has adopted numerous new versions of Australian Standards as follows:
  - AS1170.2-2021 -Structural Wind Actions - new version adopted
  - AS1288-2021 – Glazing Standard – new version adopted
  - AS 1562.1 -2018 – Metal roofing – new version adopted (AS 1562.3 Plastic roof also new version)
  - AS 1657-2018 – fixed platforms, walkways and ladders – new version adopted
  - AS 1684.2-2021 – Timber framing code – new version adopted
  - AS 1720.4 – 2019 Timber structures Fire resistance for structural adequacy – new version adopted
  - AS 2419.1-2021 – Hydrants – new version adopted
  - AS 2699 – 2020 – Built in components for masonry – new version adopted
  - AS 3500 – 2021 – Plumbing and Drainage – new version adopted
  - AS 3700 – 2018 - Masonry Structures – new version adopted
  - AS 3740-2021 – Waterproofing of domestic wet areas – new version adopted
  - AS 4100-2020 – Steel Structures – new version adopted
  - AS 4253-2021 – Ductwork for air handling systems – Flexible Duct – new version adopted
  - ABCB Livable Housing Design 2022 – New Section G7 (relates to Class 2 Buildings only)
  - FPAA101D-2021 – Sprinkler system – Drinking Water supply system
  - FPAA101H-2018 – Sprinkler system – Hydrant water supply system

3.0 BUILDING DESCRIPTION

3.1 Building Site

The development site is across separate allotments (Lot 12/DP833784 and Lot11/DP833784) which is bounded by Catherine Fields Road to the West and surrounded by other private allotments/buildings to the south, north and eastern sides.

3.2 Building Development

The building development subject of this report comprises a new school campus for Minarah College which will include school administration building, general purpose classrooms, school library, primary and secondary school buildings with Multi-purpose Halls together with on-grade carparks and playing fields.

Figure 1 – Proposed development

3.3 Staged Development

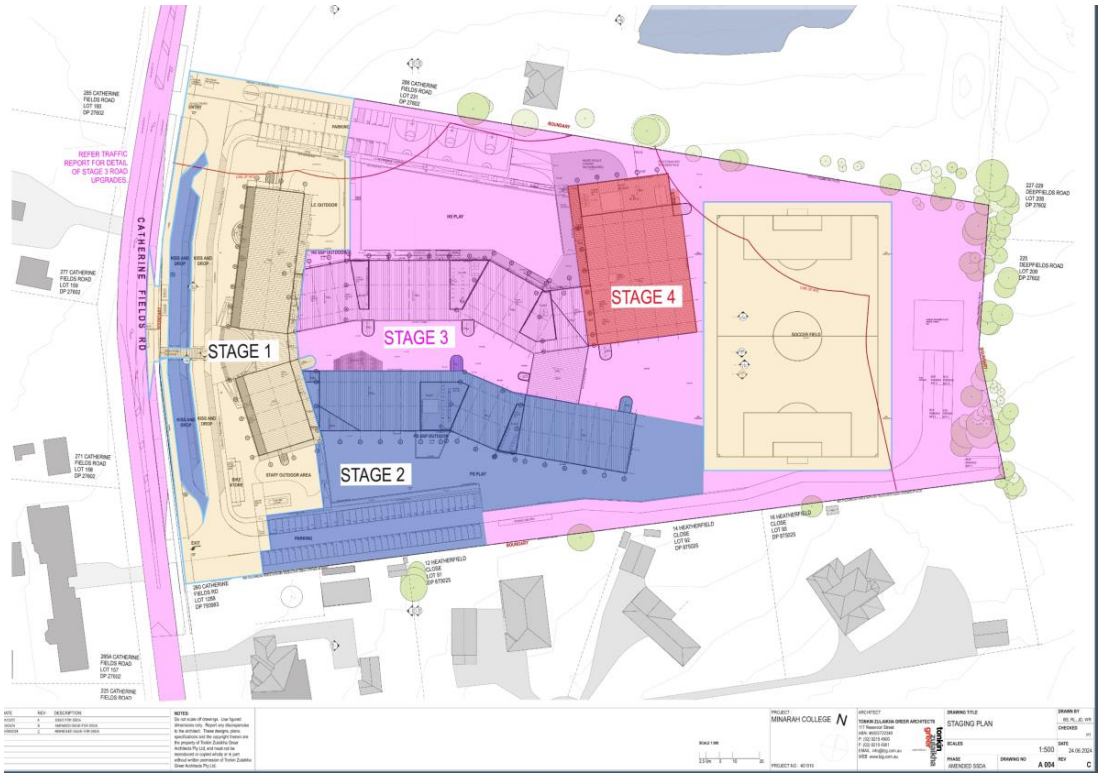


Figure 2 – Project Staging

The school campus will be constructed in four (4) stages. The following is a brief description of each stage:

Stage 1 (floor Area = 3,716m^2)	Stage 2 (floor Area = 4,100m^2):	Stage 3 (floor Area = 3,766m^2 + COLA):	Stage 4 (floor Area = 2,300m^2
➢ New administration offices, primary school classrooms, library and early childhood centre (ECC).	➢ 2 storey primary school campus connected via walkways to stage 1.	➢ 2 storey (High School) building with connected walkways.	2-storey Multi-purpose Hall for High School.
➢ 2-storey building with floor area approx. 3,712m^2.	➢ Primary school hall, classrooms. ➢ High school – classrooms.	505 students (primary school).	
➢ 290 students.	440 students (primary).	385 students (high school).	
➢ 17 staff	37 staff	60 children - ECC	
➢ 18 children - ECC	42 children – ECC	57 staff	
➢	160 students (high school)		

3.3 Building Description

BCA Class	Description/Use Proposed
Class 5	Administration offices
Class 9b	Classrooms and ancillary areas
Class 9b	Early Childhood Centre
Class 9b	School Library
Class 9b	Multi-purpose Halls

Table 4 – Building Class (or part)

Characteristic	Stage 1	Stage 2	Stage 3	Stage 4
BCA Classifications:	5 & 9b	9b	9b	9b
Type of Construction:	Type B	Type B	Type B	Type B
Floor Area of Whole Building:	3,716m^2	6,782m^2	9,795m^2	11,746 m^2
Volume of Whole Building:	TBC	TBC	TBC	TBC
Max Fire Compartment Size (Floor Area):	5,500m^2	5,500m^2	5,500m^2	5,500m^2
Max Fire Compartment Size (Volume):	33,000m^3	33,000m^3	33,000m^3	33,000m^3
Fire Compartments:	3,716m^2	4,108m^2	4,066m^2	2,300m^2
Rise in Storeys:	2	2	2	2
Levels Contained:	2	2	2	2
BCA Effective Height:	Less than 25m	Less than 25m	Less than 25m	Less than 25m
Climate Zone:	6	6	6	6
Importance Level (BCA Table B1D3a):	3	3	3	3

Table 5 – Building Characteristic

(*)	Each building will be connected via covered walkways on each level. The buildings have been assessed as united building (single building) unless each building is designed as independent with vertical firewall from lowest level to the underside of the roof covering to separate into separate buildings. The buildings are required to be separated into separate fire compartment so that respective floor area of fire compartment does not exceed 5,500sqm for Type B Construction.

3.4 Documentation Assessed

This report is based on the following documentation prepared by Tonkin Zulaika Greer Architects (SSDA dated 20 March 2025).

Description	Drawing No.	Revision	Date
Cover Page & Drawing List	A000	C	20/03/2025
Site Analysis Plan	A001	B	20/03/2025
Demolition Plan	A002	B	20/03/2025
Site Plan	A003	D	20/03/2025
Staging Plan	A004	C	20/03/2025
Site Plan Ground	A005	D	20/03/2025
Ground Floor General Arrangement Plan	A101	D	20/03/2025
Level 1 General Arrangement Plan	A102	C	20/03/2025
Roof Plan	A103	D	20/03/2025
Stage 1 Ground Floor Plan	A111	D	20/03/2025
Stage 1 First Floor Plan	A112	C	20/03/2025
Stage 1 - Roof – Post Construction Plan	A1113	A	20/03/2025
Stage 2 – Ground Floor Plan	A114	D	20/03/2025
Stage 2 First Floor Plan	A115	C	20/03/2025
Stage 2 Roof Plan	A116	D	20/03/2025
Stage 3 Ground Floor Plan	A117	D	20/03/2025
Stage 3 First Floor Plan	A118	C	20/03/2025
Stage 3 Roof Plan	A119	A	20/03/2025
Stage 4 Ground Floor Plan	A120	D	20/03/2025
Stage 4 First Floor Plan	A121	C	20/03/2025
Stage 4 Roof Plan	A122	A	20/03/2025
Detail Plans	A123	A	20/03/2025

Elevations (Complete 4 Stages) – South and West	A201	D	20/03/2025
Elevations (Complete 4 Stages) – North and East	A202	D	20/03/2025
Stage 1 Elevations	A211	C	20/03/2025
Stage 2 Elevations	A212	C	20/03/2025
Stage 3 Elevations	A213	C	20/03/2025
Sections	A301 to A303	C	20/03/2025
Typical Wall Sections	A304	B	20/03/2025

Table 2 – Documentation Assessed

3.5 Assumptions

Assumptions made in the preparation of the report are identified below;

Assumptions made in the preparation of the report are identified below;

1. Importance Level: Guide to the BCA indicates importance level 3 apply to buildings and facilities with a primary school, a secondary school or day care facilities with a capacity greater than 250.
2. The external balconies and walkways are open circulation areas with sterile finishes. Consequently, the use of these areas does not contribute to the fire load for the purposes of assessment under Part C3 of the BCA.
3. The site comprises two (2) separate allotments with the buildings across both allotments. It is understood that the allotments will be consolidated into a single allotment. The report has assessed the buildings being located on a single allotment rather than 2 separate allotments.
1. FRL requirements as the building's is within 3m from the boundary; Protection of Openings within 3m from the boundary; Egress routes require occupants to cross lot boundaries; Shared Services across lot boundaries.
2. Disabled Access, Section J energy Efficiency are excluded from this report, and details relating to these elements are located in others reports/documentation.

4.0 BCA COMPLIANCE DISCUSSION & DESIGN CONSIDERATIONS

The following assessment will provide an overview of the compliance with the BCA and identify BCA items that require particular attention throughout the design documentation stages and prior to the issue of construction certificates.

Section A – Governing requirements

1. Each building will be connected via covered walkways on each level. The buildings have been assessed as united building (single building) unless each building is designed as independent with vertical firewall from lowest level to the underside of the roof covering to separate into separate buildings.

2. The buildings are required to be separated into separate fire compartment so that respective floor area of fire compartment does not exceed 5,500sqm for Type B Construction.

Section B – Structure

3. Structural Engineer to review and provide compliant design in accordance with Part B, Part C and Clauses D3D4 of BCA 2022, and all listed / referenced Australian Standards.

4. Structural Engineer is to outline and provide to the Consultant Team (Façade designer, Architect and Services Consultants) the calculated expected Earthquake actions and expected forces expected on non-structural components to be designed for, from Section 8 of AS 1170.4-2007 as referenced in BCA 2022.

5. Services Consultants to provide confirmation of compliance of non-structural elements in accordance with Sections 8 of AS1170.4-2007 Note: This may require input from Structural engineer as per Item 2 above.

6. Architect to provide confirmation of compliance of non-structural elements in accordance with Sections 8 of AS1170.4-2007 Note: This may require input from Structural engineer as per Item 2 above.

Section C – Fire Resistance

7. Structural Engineer and Architect to review and provide compliant design with respect to required FRL's for a Type B, construction for class 5, and 9b structure, including all loadbearing structures which provide direct vertical or lateral support to those elements with a required FRL.

8. Lift Shaft – should the lift shaft/s be designed to be non-loadbearing; the Structural engineer is to provide the required Earthquake information to the consultant designing the lift shafts to meet the requirements of Section 8 of AS 1170.4-2007 as referenced in BCA 2022.

9. Architect / Façade Consultant is to provide a Detailed statement outlining each part/element contained in the makeup of the external wall system and any other elements required to be non-combustible in accordance with C2D10 (external walls) & C2D14 (Ancillary Elements). Current fire test reports required to be provided in accordance with AS1530.1 for each element required to be non-combustible in accordance with C2D10 & C2D14.

10. Firewall between buildings:

    The school buildings must be separated by a firewall so each building can be treated as a separate building for the purposes of compliance with Section C, D and E of the BCA or assessed as a united building and must comply with the BCA as a single building.

11. General Floor area and Volume limitations (BCA Clause C3D3):

(1) The size of any *fire compartment* or *atrium* in a Class 5, 6, 7, 8 or 9 building must not exceed the relevant maximum *floor area* nor the relevant maximum *volume* set out in Table C3D3 and C3D6 except as permitted in C3D4.

(2) A part of a building which contains only heating, ventilating, or lift equipment, water tanks, or similar service units is not counted in the *floor area* or *volume* of a *fire compartment* or *atrium* if it is situated at the top of the building.

(3) In a building containing an *atrium*, the part of the *atrium* well bounded by the perimeter of the openings in the floors and extending from the level of the first floor above the *atrium* floor to the roof covering is not counted in the *volume* of the *atrium* for the purposes of this clause.

Table C3D3: maximum size of fire compartments or atria:

Classification	Type A construction	Type B construction	Type C construction
5, 9b or 9c	Max *floor area* - 8 000 m^2	Max *floor area* - 5 500 m^2	Max *floor area* - 3 000 m^2
	Max volume - 48 000 m^3	Max volume - 33 000 m^3	Max volume – 18 000 m^3
6, 7, 8 or 9a (except for patient care areas)	Max *floor area* - 5 000 m^2	Max *floor area* - 3 500 m^2	Max *floor area* - 2 000 m^2
	Max volume - 30 000 m^3	Max volume - 21 000 m^3	Max volume - 12 000 m^3

The progressive construction of each stage (stage 1 to 4) will increase the floor area to 11,746 m^2 for the school campus which will exceed the maximum fire compartment size for Type B Construction. A fire wall will be required to fire-separate each stage with any windows located within the walls to be suitable protected by wall-wetting drenchers (Refer to Appendix A).

Each stage will be connected via the open walkways & Outdoor Learning areas within each storey to form a United building. The open balconies/walkways are defined by BCA2022 as the floor area for purposes of fire compartmentation.

A performance solution will be required from a fire engineer which will assess the open balconies of not contributing to the fire load as justification for not continuing the firewall across the walkways to the perimeter.

Section D – Access & Egress

12. Number of Exits Required:

The BCA prescribes that not less than 2 require exits must be provided from each storey in a Class 9b – Primary/secondary School together with early childhood centre buildings. Compliance can be readily achieved with the DtS provisions of the BCA.

13. Travel Distance to Exits and between Alternative Exits:

- Travel distances on the floor must be more than 20m to an exit or a point in which travel in different directions to 2 exits is available, in which case, the maximum distance to 1 exit cannot exceed 40m; and

- Travel distances between alternative exits must be at least 9.0m apart and not exceed a distance of 60m in all other classes, uniformly distributed with access to 2 exits if required and not converge so they become less than 6m apart.

Refer to appendix A which indicates egress assessment with markup travel distances. Consideration being given to the documentation of performance solutions from a fire engineer to address extended travel distances.

14. Widths of exits and path of travel to exits (BCA Clause D2D8):

D2D8	**Width of exits and paths of travel to exits**
	If the *storey*, *mezzanine* or *open spectator stand* accommodates more than 200 persons, the aggregate unobstructed width of each *required exit* or path of travel to an *exit*, except for doorways, must be not less than— (a) **2 m plus 500 mm for every 60 persons (or part) in excess of 200 persons if egress involves a change in floor level by a stairway or ramp with a gradient steeper than 1 in 12; or** (b) in any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200. In an *open spectator stand* which accommodates more than 2000 persons, the aggregate unobstructed width of each *required exit* or path of travel to an *exit*, except for doorways, must be not less than 17 m plus a width (in metres) equal to the number in excess of 2000 divided by 600 In a *required exit* or path of travel to an *exit*, **the unobstructed width of a doorway** must be not less than— (i) where the doorway referred to in (i) is fitted with two leaves and one leaf is secured in the closed position in accordance with D3D26(3)(e), the other leaf must permit an unobstructed opening not less than 800 mm wide; or **(ii)** the unobstructed width of each *exit* provided to comply with D2D8(1), (2), (3) or (4), **minus 250 mm;**

Building	Level	Population	Aggregate Exit Widths Required	Design (Exit Widths Available)	Compliance Comments (Y/N)
Stage 1 - Primary School	Level 1	325	4.0m	4.50m	Yes
Stage 2 – Primary School	Level 1	200	2.0m	4.50m	Yes
Stage 2 – Primary Hall	Ground	400	4.0m	2 double set of doors required (front and back)	Further details required
Stage 2 – Early Childhood Centre	Ground	40	2.0m	Provide additional exit door to connect with playground.	Further details required
Stage 3 – High School	Level 1	350	12.0m	Egress via walkway to connect with primary school.	Yes
Stage 4 – High School Hall	Ground & Level 1	1,100	9.0m	7.0m width provided. Additional doorways required to achieve at least 9.0m.	Further details required

- The unobstructed width of a required exit must not diminish in the direction of travel to a road or open space.
- Additional exit doorways being specified to achieve compliance with these provisions of the BCA.

15. Discharge from Exits (BCA Clause D2D15):

- The path of travel to the public road after egress from the stairway must be via the same allotment of land. The path of travel to the public roadway must be directly open to the sky as per the definition for “open space”.
- Path of travel to the road via covered access underneath building above which is not open to the sky. A performance solution being documented from the fire engineer. Also consider - egress via locked school gates. Fitted with fail-safe device to unlock or managed evacuation where gates are unlocked by staff.

16. Egress from Primary School (BCA Clause D2D23):

Egress from Primary Schools - Can only be on a Storey that provides direct egress to road or open space (Ground floor only) but does not apply if the building has a Rise in Storeys as defined by the BCA of 4 or less where the "whole" building is used only as a "Primary school".

The primary school building will contain an early childhood centre on the ground floor level. The definition of primary school does not include 'early childhood centre'. The location of the early childhood centre within the primary school building creates a technical non-compliance with BCA Clause D2D23.

The explanatory information for the implementation of these provisions recognises the difficulty with evacuation of primary schools and recommends where compliance cannot be achieved with the DTS provisions of the BCA then consideration being given for a performance solution by a fire engineer to demonstrate that the primary school can be safely evacuated.

A performance solution to address the following:

- The early childhood centre is not defined as a Primary school under BCA Clause D2D23 (2). Therefore - does not meet the egress requirements as the PS is not the only use in the building.
- The Building contains PS & HS areas as defined under BCA Clause D2D23. Therefore - does not meet the egress requirements as the PS is not the only use in the building.
- PS & HS are connected via the open stairway at Level 1 - compliance is not achieved with BCA Clause D2D23.

17. Early Childhood Centre (ECC):

NCC 2022 contains key requirements that would apply to the provision of an early childhood centre (ECC) within a school building. An Early Childhood Centre is defined by Schedule 1 of NCC 2022 as:

'Any premises or part thereof providing or intending to provide a centre-based education and care service within the meaning of the Education and Care Services National Law Act 2010 (Vic), the Education and Care Services National Regulations and centre-based services that are licensed or approved under State and Territory children's services law, but excludes education and care primarily provided to school aged children in outside school hours settings.

Early Childhood Centres under Class 9b contains a number of NCC provisions specific to its use. These are summaries below.

BCA Clause	Requirements	Advice
A6G1	It is no longer permitted to use the '10% rule' where the minor use of a building is Class 9b ECC. I.e. regardless of the floor area of the ECC use, you must apply the Class 9b ECC classification.	Any building containing an ECC.
C3D6	Unless the early childhood centre is the only use in the building, it must be separated from the remainder of the building by walls and/or floors with an FRL not less than that required for a firewall (generally 2-hour fire separation). Each storey within Class 9b ECC must contain not less than 2 ***fire compartments***.	Exemption can be under C3D6 as the required exit has direct egress to open space.
D2D3	Requirement to provide two ***exits*** from an ECC where forming part of a storey.	Any building containing an ECC.

BCA Clause	Requirements	Advice
D2D4	Requirement for every required ***exit*** stairway or ramp serving an ECC to be constructed as a fire-isolated stairway or ramp.	N/A – exit discharge directly to open space.
D2D16(6)	Requirement to provide a clear area within each ***fire compartment*** (as required by C3D6 above and D2D16(8) below) to accommodate all occupants of the ECC. Note: The clear space is measured at 0.5m2 per person.	N/A – exemption applied as exit discharge to open space.
D2D16(8)	Requirement for each ***fire compartment*** required by C3D6 to be served by not less than 2 ***horizontal exits*** (doors within the fire wall), each located not less than 9m from: At least one other ***horizontal exit***, and An **exit** other than a ***horizontal exit*** (i.e. a required **exit** stair, or a door opening directly to outside on ground level, etc.)	Buildings where C3D6 is triggered. These provisions will not apply.
D3D19	Inability to use the concession within this clause which permits balustrades in fire-isolated stairs to have openings larger than 125mm.	Noted
D3D22	Requirement to provide a secondary handrail to stairways and ramps, positioned at a height between 450mm – 750mm.	Any stair or ramp serving a building that contains an ECC.
D3D27	Requirement for doors of a fire-isolated **exit** to not be locked from the inside.	N/A to this project.
E1D11	Requirement to provide a fire sprinkler system throughout the entire building.	Where the ECC is not located within a storey that provides direct egress to a road or ***open space***. The architectural plans indicates CCC located at ground floor level with exits discharging to open space. Exemption can be applied. Building is not required to be sprinkler protected by these provisions.
E2D20	Requirement to provide a fire detection and alarm system throughout the entire building.	Any building containing an ECC.

Section E –Services & Equipment

18. Fire Services and Mechanical Consultants to provide compliant design in accordance with Part E, for the purposes of the building design at this stage the following fire services are anticipated/expected:

    Hydrant system to BCA Clause E1D2 and AS 2419.1-2021.

    (a) A fire hydrant booster assembly is required to be within sight of the pedestrian entrance to the building and adjacent to the property boundary and the vehicle access for the fire brigade. The location of the Fire Hydrant Booster is adjacent to vehicle driveway and in sight of principal entry to buildings.19. Fire Hose Reels to BCA Clause E1D3 and AS 2441 – 2005;

19. Fire Hose Reels is not required to serve a class 9b – classrooms only. FHR being located to serve the Library, early childhood centre and Multi-purpose halls. A performance solution will be required for the following departures:

    (b) Location of FHR within the library is greater than 4.0m from the required exit stairway;

    (c) Omission of FHR's from ancillary use areas (e.g. plant rooms, store rooms).

Section E2 – Smoke Hazard Management

20. <u>Smoke Detection and Alarm System:</u>

    - The BCA prescribes a smoke detection and alarm system must serve a class 5 and 9b building with a rise in storey greater than 3. Smoke Detection and Alarm system to AS 1670.1-2018 and BCA E2D9 must be installed throughout the building. The Fire Indicator Panel (F.I.P) being suitable located within the entry foyer of the building. Fire Services Engineer to confirm if a separate FIP required to multiple buildings and whether this creates a departure from the DtS provisions.

    - Smoke detection system that is provided to satisfy the requirements for automatic shutdown of air-handling system in accordance with NSW E2D16 and S20C6 of the BCA;

    - NSWE2D19 smoke exhaust required where the fire compartment exceed 2000sqm (classrooms are exempt so this applies to library only). Consideration being given to a performance solution from a fire engineer to omit smoke exhaust system to the library based upon internal floor area less than 2,000sqm and open balcony area will be sterile area without furniture and combustibles.

21. <u>Mechanical Ventilation System – Auto Shut Down:</u>

    - Mechanical Ventilation System - Auto Shut Down of any air-handling system as per BCA Clause E2D16 (other than non-ducted individual room units with a capacity not more than 1000 L/s and miscellaneous exhaust air systems installed in accordance with Section 5 and 6 of AS 1668.1) which does not form part of the smoke hazard management system, on the activation of smoke detectors installed in accordance with S20C6.

22. <u>Smoke-and-Heat Vents/Smoke Exhaust System to Multi-purpose Hall:</u>

    - Stage 4 - Multi-purpose Hall (High School) has a stage area greater than 150sqm. The stage area is required to be served by automatic smoke exhaust system complying with specification 21 (including Figure S21C2) , in a single storey building or top storey of two storey building. Consideration may be given to the omission of smoke exhaust system which can be assessed further as part of a fire engineering – performance solution.

23. Emergency Warning and Intercom System:

- Buildings with a rise in storey of more than 3 and Multi-purpose Hall greater than 1,000sqm must be provided with Emergency warning and intercom systems in accordance with Clause E4D9 and AS 1670.4.
- Exit Signs and Emergency Lighting to BCA Part E4 and AS 2293.1-2005.
- Portable Extinguishers to BCA Clause E1D14 and AS 2444-2001.

Note: the requirements are likely to change as the design progresses, and Fire Engineering assessment is undertaken, and as such is a preliminary list at this stage for information of the design team only.

Section F – Health and Amenity

24. Weatherproofing of External Walls

As the materials that can be used as external walls under the DTS provisions are limited, and the proposed design is expected to contain other external wall material/cladding a Performance Solution to BCA Clause F3P1 is to be provided as part of the Construction Certificate Application to the Certifier.

25. Damp and Weatherproofing

There are new requirements that a roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane in accordance with AS 4654.1 and AS 4651.2.

This is a new requirement coming into effect as of 1 May 2022 and careful design consideration will need to be applied in the areas of the balconies and the like in this development. This may be applicable for the proposed trafficable rooftop area of the design.

There may be conflict with the accessible provisions of Part D4 of the BCA which will need to be comment on further by the access consultant, as this Standard may require hobs at the thresholds to the rooftop, see Figure 9 below. There is relief available as the Standard does allow for a gutter system at the threshold of the door sill, which is to be fitted with an AS1428.1-2009 approved grate, in lieu of a hob (Ref: AS 4654.2). However, such detail should only be determined in accordance with the hydraulic engineer and the access consultant. Note that the accessible Standard contains restrictions on heights differences between abutting surfaces, such as the flooring and door sill, and a review of Section 7 of AS 1428.1-2009 (note the designer will need to review the 2021 version of this standard as this will be applicable at the time of the Construction Certificate) should be considered as part of the threshold designs.

Figure 9 below also illustrates the membrane termination heights which are given in Table A1 of Appendix of the Waterproofing Standard. Note that the heights are related to the determined wind class from AS 4055-2012 and should only be determined by the appropriate project engineer, i.e., structural, hydraulic or façade engineer.

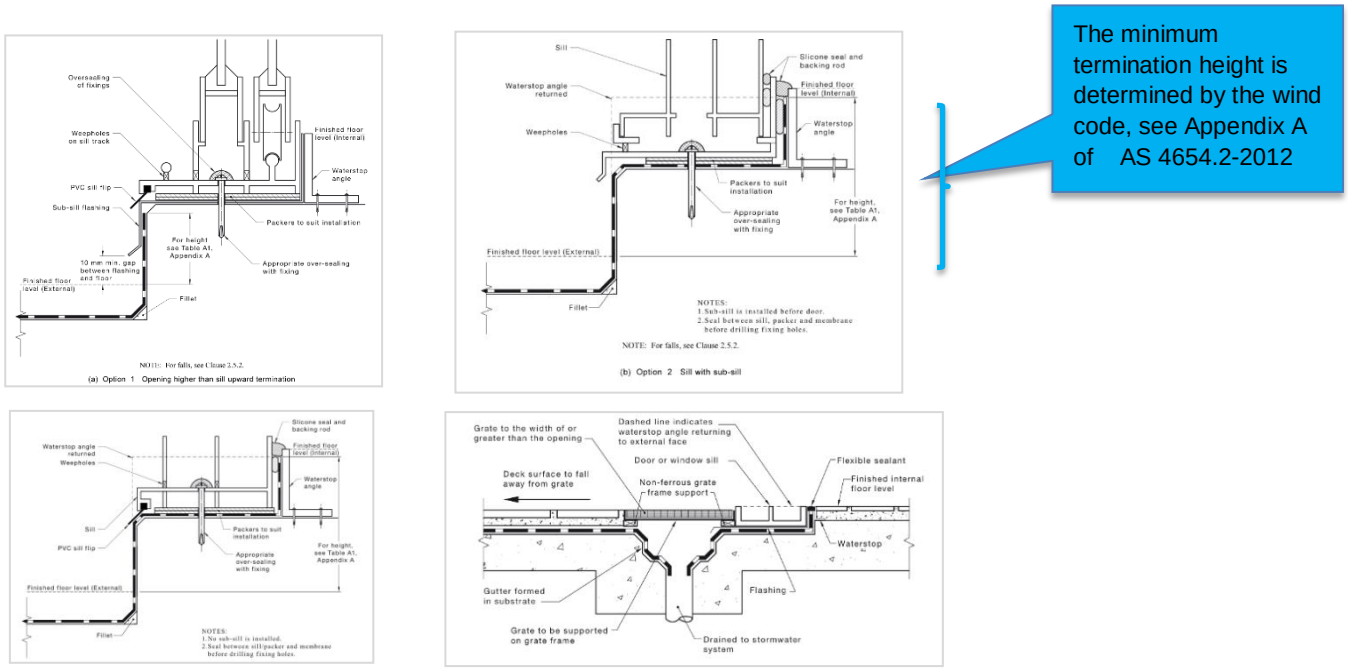


Figure 9 - Various waterproofing options at threshold and outlets.

Doors and windows onto external waterproof areas are required to comply with either of the 4 options above. Consideration must be given to access for people with disabilities which requires 5mm tolerance in difference with floor levels at door thresholds. Therefore – Clause 2.8.3 from AS 4654.2 requires grates to be provided as per figure 2.9 in front of doorways along the balconies within each storey.

The architectural and Hydraulic details will be further developed to achieve compliance with these provisions of the BCA at the construction certificate application stage.

26. <u>Occupant Numbers and Assessment of Sanitary Facilities:</u>

<u>Stage 1 – Primary School</u>:

Based on population the below minimum number of sanitary facilities will be required:

Sanitary Facilities required based upon Design Occupancy

Primary School - Student

	Population	Pans	Urinals	Washbasins
Male	145	3	3	4
Female	145	6	N/A	4
	Unisex Accessible		1 per Bank	

Primary School - Staff

	Population	Pans	Urinals	Washbasins
Male	9	1		1
Female	9	1	N/A	1
	Unisex Accessible		1 per Bank	

Stage 2 – Primary & High School:

Primary School - Student

	Population	Pans	Urinals	Washbasins
Male	220	5	4	5
Female	220	8	N/A	5
	Unisex Accessible		1 per Bank	

High School - Student

	Population	Pans	Urinals	Washbasins
Male	80	3	2	3
Female	80	5	N/A	3
	Unisex Accessible		1 per Bank	

Primary School - Staff

	Population	Pans	Urinals	Washbasins
Male	18	1	1	1
Female	18	2	N/A	1
	Unisex Accessible		1 per Bank	

Stage 3 & 4 – Primary & High School:

Primary School - Student

	Population	Pans	Urinals	Washbasins
Male	253	5	4	6
Female	253	9	N/A	6
	Unisex Accessible		1 per Bank	

High School - Student

	Population	Pans	Urinals	Washbasins
Male	193	4	3	5
Female	193	7	N/A	5
	Unisex Accessible		1 per Bank	

Primary School - Staff

	Population	Pans	Urinals	Washbasins
Male	30	2	2	1
Female	30	3	N/A	1
	Unisex Accessible		1 per Bank	

Notes:

1. Each urinal for males can be substituted with a water closet;
2. An accessible unisex facility required for people with a disability may be counted once for each sex. This concession means that for each wash basin and closet pan counted above, you may deduct for each accessible unisex facility provided;
3. Ambulant facilities must be provided with the block of sanitary facilities in accordance with BCA and AS 2419.1-2009.

A review of the staging plans indicate adequate sanitary facilities will be provided to serve the nominated school populations. Compliance will be readily achieved with these provisions.

27. Early Childhood Centre:

A Class 9b early childhood centre must be provided with—

(a) a kitchen or food preparation area with a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities, with—

(i) the facilities protected by a door or gate with child proof latches to prevent unsupervised access to the facilities by children younger than 5 years old; and

(ii) the ability to facilitate supervision of children from the facilities if the early childhood centre accommodates children younger than 2 years old; and

(b) one bath, shower or shower-bath; and

(c) if the centre accommodates children younger than 3 years old—

(i) a laundry facility comprising a washtub and space in the same room for a washing machine; and

(ii) a bench type baby bath, which is within 1 m of the nappy change bench; and

(iii) a nappy changing bench which—

(A) is within 1 m of separate adult hand washing facilities and bench type baby bath; and

(B) must be not less than 0.9 m^2 in area and at a height of not less than 850 mm, but not more than 900 mm above the finished floor level; and

(C) must have a space not less than 800 mm high, 500 mm wide and 800 mm deep for the storage of steps; and

(D) is positioned to permit a staff member changing a nappy to have visibility of the play area at all times.

Table F4D4g: Sanitary facilities in Class 9b buildings – early childhood centres

User group	Closet pans		Washbasins	
	Design occupancy	Number	Design occupancy	Number
Children	1 - 30	2	1 - 30	2
	>30	Add 1 per 15	>30	Add 1 per 15

Table Notes:

- Urinals are not required for a Class 9b early childhood centre.
- Facilities for use by children must be –
  - Junior pans; and
  - Washbasins with a rim height not exceeding 600mm; and
  - Accessible from both indoor and outdoor areas.

Architectural drawings being suitable detailed to provide sufficient provisions for sanitary facilities within the early childhood centre as the design progresses towards the construction certificate application stage.

28. Provision of Natural Light to Classrooms (BCA Clause F6D2):

    Natural light must be provided in a Class 9b building – to all general purpose classrooms in primary and secondary schools and all playrooms or the like for the use of children in an early childhood centre. Method and extent of natural lights must be provided by windows that comply with the following:
    - Have an aggregate light transmitting area measured exclusive of framing members, glazed bars or other obstructions of not less than 10% of the floor area of the room; and
    - Are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like.

Review of architectural drawings indicates compliance will be readily achieved with these provisions of the BCA.

Section G5 – Construction in Bushfire Prone Areas

29. The Deemed-to-Satisfy provisions apply in a designated bushfire prone area to a building located in an area subject to a Bushfire Attack Level (BAL) not exceeding BAL – 12.5, determined with AS 3959 that is a Class 9b – primary or secondary school.

    The Bushfire Assessment Report (Refer: 211505D, dated 21 March 2025) prepared by Building Code & Bushfire Hazard Solutions Pty Limited indicates the site is depicted on Camden Council's Bushfire Prone Land Map (BPLM) as containing designated Category 1 and 2 Vegetation and their associated buffer zones. The site is therefore considered 'bushfire prone'.

    The proposed works were found to be located > 42 metres from the bushfire hazard to the north and northeast and > 100 metres to the east, achieving and in most instances exceeding the minimum required APZs.

    It is our opinion, based upon the new buildings being located outside the mapped area then Part G5 will not be applicable for the development. Whilst this is our opinion, this must be reviewed/confirmed by the project appointed Certifier.

Section J – Energy Efficiency

ESD Consultant to review project and provide compliance statement/report for Section J. **Note** this is expected to include a review of the detailed design sections and detail of external walls for thermal break and make-up of the façade elements in the review, and not a high-level report outlining the required values only, this is due to the detailed assessment nature for Section J of external walls and roofs in BCA 2022.

5.0 PERFORMANCE SOLUTIONS

The Following are Performance Solutions expected as a result of our assessment of the architectural listed documentation:

Fire Engineering Performance Solutions

The Following measures will be required to be justified via Performance Solutions for the proposed building/works as follows

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
1	Fire Compartments: Each stage will be connected via the open walkways & Outdoor Learning areas within each storey. The open balconies/walkways are defined by BCA2022 as the floor area for purposes of fire compartmentation. The combined floor area of each level of building will exceed 5,500sqm.	A performance solution will be required from a fire engineer which will assess the open balconies of not contributing to the fire load as justification for not continuing the firewall across the walkways to the perimeter.	C3D3 & C3D8	C1P2
2	Travel Distance exceed the DtS provisions: The travel distances within the building will not comply with the DtS provisions of the BCA. Refer to Appendix A for assessment of travel distances within each storey..	Fire Engineer to confirm the travel distances can be address without any further modification of the design.	D2D5, D2D6	D1P4, E2P2
3	Egress Paths to the Public Roadway The path of travel to the public road after egress from the stairway must be via the same allotment of land and be directly open to the sky as per the definition for “open space”.	A performance solution being documented to consider egress via locked school gates. Fitted with fail-safe device to unlock or managed evacuation where gates are unlocked by staff.	D2D15	D1P4
4	Egress from Primary School: (a). The early childhood centre is not defined as a Primary school under BCA Clause D2D23 (2). Therefore - does not meet the egress requirements as the PS is not the only use in the building. (b). The Building contains combined PS & HS areas as defined under BCA Clause D2D23. Therefore - does not meet the	A performance solution will be required to address egress strategy for the primary school building.	D2D23.	D1P4

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
	egress requirements as the PS is not the only use in the building. PS & HS are connected via the open stairway at each level - compliance is not achieved with BCA Clause D2D23.			
5	Door Swings – Ground Floor Level: Doors to learning spaces on Ground floor swing inwards and not in the direction of egress.	Performance solution to address swing of doorways.	D3D25	D1P4
6.	Location of Fire Hose Reels: (a). Location of FHR within the library is greater than 4.0m from the required exit stairway; (b). Omission of FHR's from ancillary use areas (e.g. plant rooms, storerooms etc).	A performance solution to address the location of FHR's within the building.	E1D3	E1P1
7.	Smoke Exhaust System – Multi-purpose Hall for HS: Multi-purpose Hall has a stage area greater than 150sqm. The stage area is required to be served by automatic smoke exhaust system.	Consideration may be given to the omission of smoke exhaust system which can be assessed further as part of a fire engineering – performance solution.	NSW 14D59	E2P2
8.	Smoke Hazard Management – Library (PS & HS): NSWE2D19 requires a smoke exhaust to serve a fire compartment exceed 2,000sqm (classrooms are exempt so this applies to library only).	Consideration being given to a performance solution from a fire engineer to omit smoke exhaust system to the library based upon internal floor area less than 2,000sqm and open balcony area will be sterile area without furniture and combustibles.	NSWE2D19	E2P2

Table 2 – DtS Non-compliances Summary

Note: The above summary is not an exhaustive list of all non-compliances with the DtS provisions of the BCA. The BCA report will be developed further during each stage to ensure all building works are capable of compliance with the BCA.

Disabled Access Performance Solutions

Disabled Access consultant is to advise if any Performance Solutions are proposed for any Disabled Access matters for the building – see separate Access consultant's report for details.

Section J Energy Efficiency

It is expected that a Verification Method approach is proposed for the building based off the design, if that ios the case then the Provision of the Section J report will be required to meet the requirements of the relevant Verification Clause of Section J and be provided as part of the Construction Certificate Application to the Certifier.

See Section J Consultants report for requirements relating to the design of the building and services requirements, which may differ from the BCA clauses contained in this report.

Weatherproofing of External Walls

As the materials that can be used as external walls under the DTS provisions (BCA Clause F3D5) are limited, and the proposed design is expected to contain other external wall material/cladding a Performance Solution to BCA Clause F3P1 is to be provided as part of the Construction Certificate/Crown Certificate/Complying Development Certificate Application to the Certifier.

Note: Design team is to establish which consultant will be preparing this Report, and the required PBDB for it as well, this is not as simple as a Design Statement but involves the preparation of a Performance Solution Report.

Important Note to Design Team / Consultants

Should the Architect or any Design Consultants believe that additional items need to be the subject of a Performance Solution or the Deemed to Satisfy provisions of the BCA or referenced Australian Standard is not able to be achieved for the design.

Then please advise Group DLA, Project Manager and Design Team as soon as possible to ensure that the team is informed to ensure captured, and solutions evaluated by the relevant consultant as soon as possible and before the design progresses to completion. Please do not assume elements will be included, if they are not listed in the above section of the Report then they are not and either the design will need to change to ensure compliance, or an additional Performance Solution will need to be discussed and assessed by the relevant consultant preparing the Performance Solution.

6.0 ESSENTIAL FIRE SAFETY MEASURES (EFSM)

Below is an indicative list of essential fire safety services that may be required to serve the building within the school campus based upon the review of architectural documentation as reference within this report.

Fire Safety Measure	Standard of Performance	BCA 2022 Clause/Specification(s)
Access panels, doors & hoppers to fire resisting shafts	AS 1530.4 – 2014	C4D14
Automatic fail-safe devices	--	C4D4, D3D24, D3D26, D3D27, Specification 12
Automatic fire detection & alarm systems	AS 1670.1 – 2018	Part E2, Specification 20, G3D8
Emergency lighting	AS 2293.1 – 2018	E4D2, E4D4, E4D8
Emergency Warning and Intercom Systems (Multi-purpose Hall)	AS 1670.4 – 2018	E4D9
Exit signs	AS 2293.1 – 2018	E4D5, E4D6, NSWWE4D6, E4D8, Spec 25
Fire alarm monitoring system	AS 1670.3 – 2018	Spec 20, Spec 23,Spec 31, S31C6,
Fire dampers	AS 1668.1 – 2015 AS 1682.1 & 2-2015	C4D15
Fire doors	AS 1905.1 – 2015	C4D7, Spec 12
Fire Doors – Lift Landing Doors	AS 1735.11-1986	C4D11
Fire hose reel systems	AS 2441 – 2005	E1D3
Fire hydrant systems	AS 2419.1 – 2021	E1D2, Spec 18
Fire seals (protecting openings in fire resisting components of the building)	AS 4072.1 – 2005 AS 1530.4 – 2014	C4D15, C4D16, Spec 13
Lightweight construction	--	C2D9, Spec 6
Mechanical air handling systems • Auto shutdown	AS 1668.1 – 2015 AS 1668.2 –2012	E2D4, E2D3, E2D4, Spec 19, Spec 21, Spec 31
Portable fire extinguishers	AS 2444 – 2001	E1D14
Fire Blankets	AS 2444-2001	E1D14
Smoke Exhaust System (HS - Hall)	AS 2665-2001	Spec 21
Warning and operational signs	--	C4D7, E3D4, D3D28 & Spec 17
A Fire Engineering Report will be developed during the next design stage. The finalised report being incorporated into the fire safety schedule as part of the application for a construction certificate.		

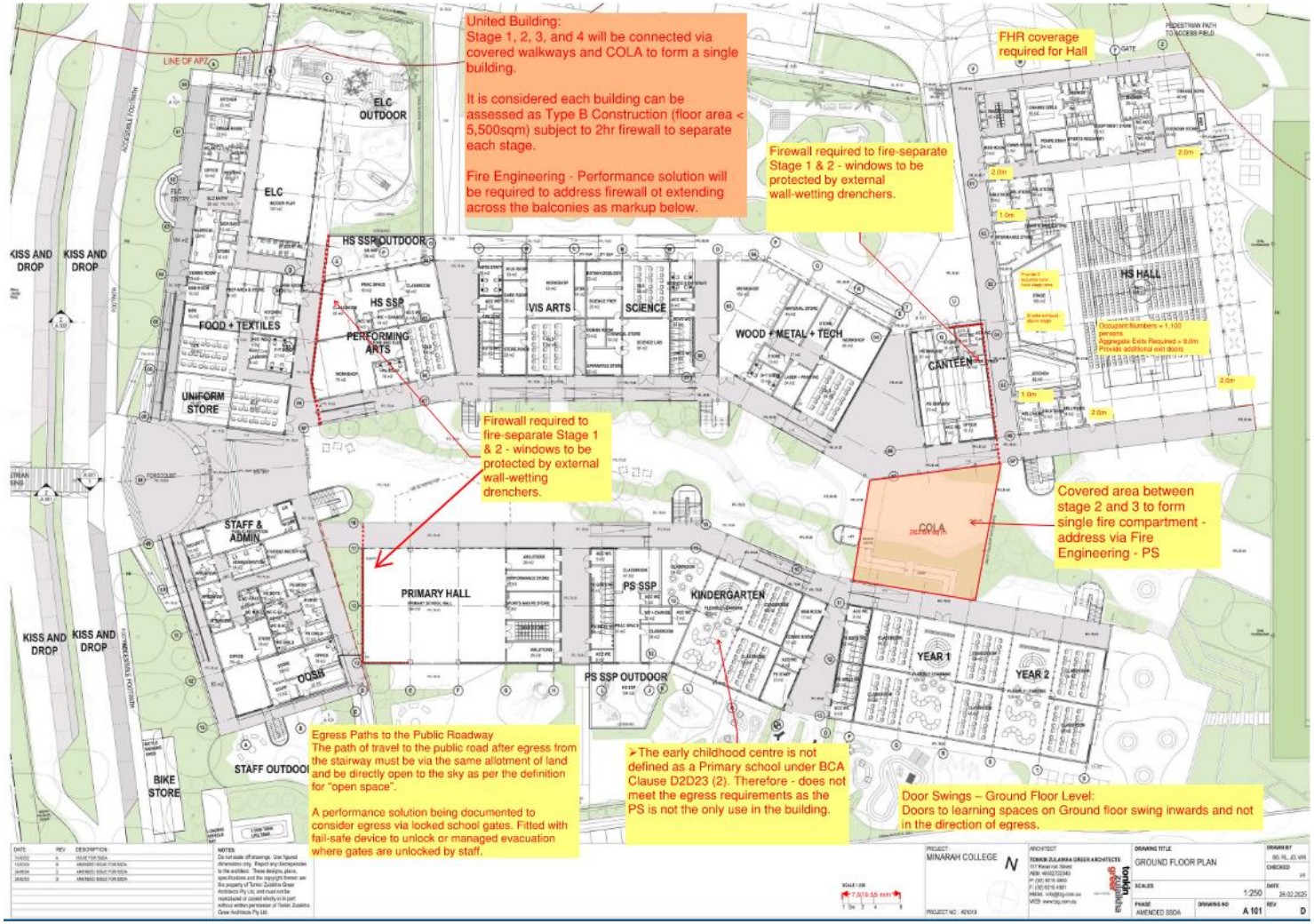
Table 7 – Essential Fire Safety Measures (EFSM)

Appendix A:

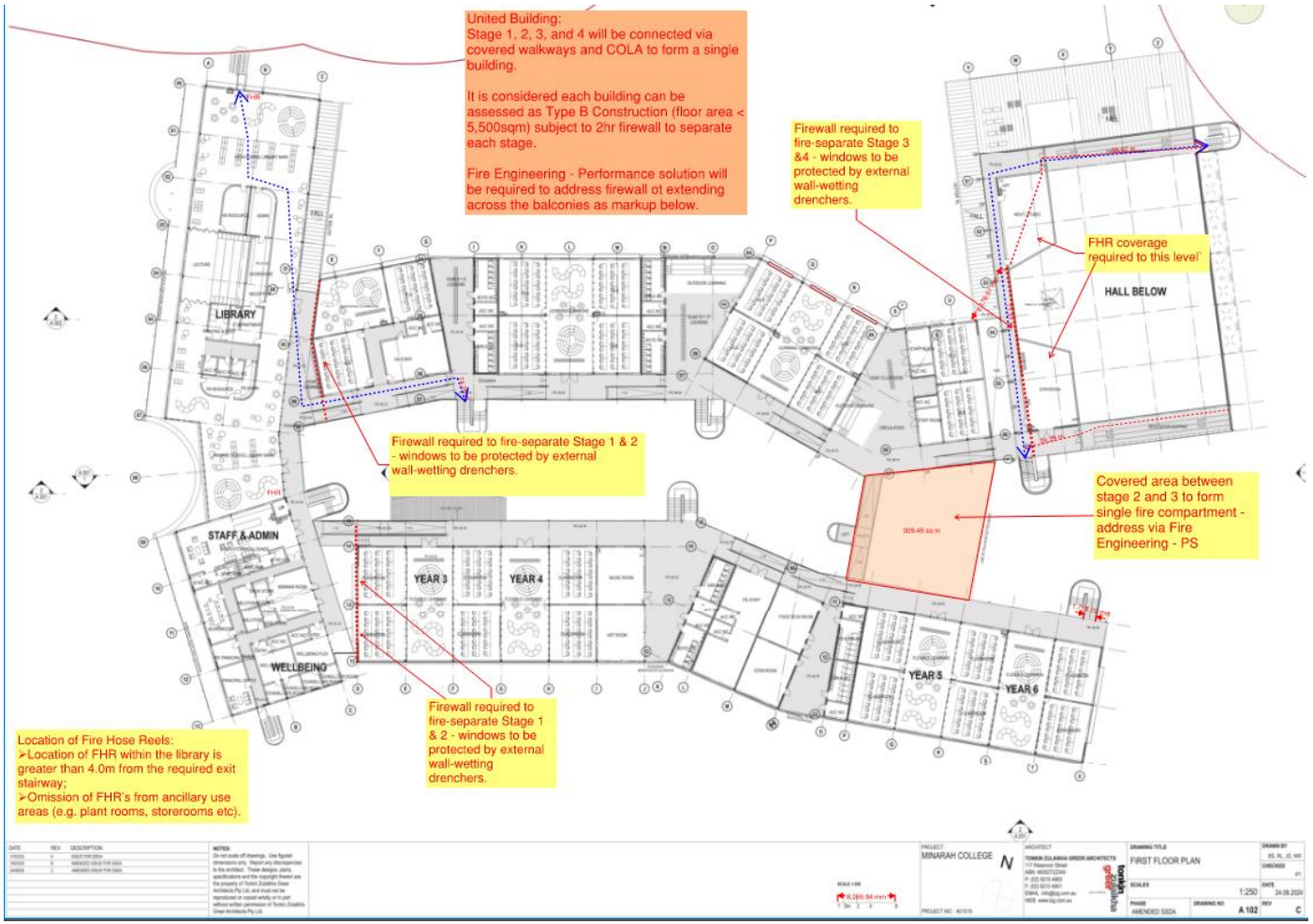
Ancillary Information

- Fire Compartments
- Exits location
- Stair Precis Table
- Travel Distances

Fire Compartmentation:



Fire Compartmentation:



Stair / Ramp Precis

Stairs	Access requirement	Handrails	Balustrade	Slip Resistance	Treads, Risers, Widths, Other	TGSI	Common Issues
Interconnecting Communication Stairs	**YES**	**YES:** Fully accessible handrails required to both sides as follows: • 180 degrees handrail turndown or return to wall, • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. • Located between 865 mm and 1 m above nosing line. And must be at consistent height through the stairs and landings. • Continuous rail, no handhold breaks. • Clear area for 270o to the top of the handrail. **Ref:** BCA D2.17, D3.3(a)(ii) & Cl 11 & 12 of AS 1428.1-2009.	**YES:** No Less than 865 mm above stair nosing line, no less tanh 1 m above landings. No openings greater than 125 mm. No climbable members between 150 and 760 mm where the floor level is 4 m or more above the surface beneath. **Ref:** BCA D2.16(g)(h)(ii)	**YES:** P3 (dry) and P4 (wet) rated slip resistance and highlighted nosing's to no less than 30% luminance contrast to the background. Nosing widths to be between 50 & 75 mm. Strip may be set back 15 mm from the front edge of the nosing but where it is not set back the luminance contrast must not extend down the riser by more than 10 mm. The lip between the tread and strip must not exceed 3 mm, or 5 mm where the edges are chamfered. **Ref:** BCA D2.13, D2.14, D3.3(a)(iii) & Cl 11, 7.2, 7.3 of AS 1428.1-2009.	**Tread:** 250 to 355 mm. (Public) **Tread:** 240 to 355 mm. (Private) **Riser:** 115 to 190 mm. **Quantity:** Must be between 550 to 700 when applying (2 x Riser + Tread.) **Open Riser:** Not permitted, must be opaque. **Riser Splay Back:** Be vertical or max 25 mm. **Stair Width:** Minimum unobstructed width of 1000 mm, measured clear of handrails. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Stair Height:** No less than 2 m. **Ref:** BCA D2.13, D1.6	**YES:** Required to the top and bottom of landings. No requirement for the mid landing. And around base of stair stringer or stair when it can be considered as an overhead obstruction within 2 m from floor level. **Ref:** BCA D3.8, AS/NZS 1428.4.1-2009	• Lip of the nosing strip excessive in height. • No site allowance for balustrade tolerances. • If separate handrail and balustrade is not used, this usually causes a conflict with the requirement to have the same heights throughout the landings and stairs.
Accessible Ramp (1:14 max. gradient)	**YES**	**YES:** Fully accessible handrails required to both sides as follows: • 180 degrees handrail turndown or return to wall, • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. • Located between 865 mm and 1 m above the surface. And must be at consistent height through the ramp and mid-landings. • Continuous rail, no handhold breaks. • Continuous kerbing on both sides in compliance with AS1428.1 Figures (18 & 19). • Handrails not to protrude into over the traverse path. • Clear area for 270 degrees to the top of the handrail. **Ref:** BCA D2.17, D3.3(a)(i) & Cl 1.3 & 12 of AS 1428.1-2009.	**YES:** No Less than 865 mm above stair nosing line, no less tanh 1 m above landings. No openings greater than 125 mm. No climbable members between 150 and 760 mm where the floor level is 4 m or more above the surface beneath. **Ref:** BCA D2.16(g)(h)(ii)	**YES:** P3 (dry) and P4 (wet) rated slip resistance and highlighted nosing's to no less than 30% luminance contrast to the background. Nosing widths to be between 50 & 75 mm. Strip may be set back 15 mm from the front edge of the nosing but where it is not set back the luminance contrast must not extend down the riser by more than 10 mm. The lip between the tread and strip must not exceed 3 mm, or 5 mm where the edges are chamfered. **Ref:** BCA D2.13, D2.14, D3.3(a)(iii) & Cl 11, 7.2, 7.3 of AS 1428.1-2009.	**Ramp Width:** Minimum unobstructed width of 1000 mm, measured clear of handrails. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Ref:** BCA D2.13, D1.6	**YES:** Required to the top and bottom of landings. No requirement for the mid landing. **Ref:** BCA D3.8, AS/NZS 1428.4.1-2009	• Handrails extension protruding over traverse path or side boundary. Note: TGSI are not required for residential aged care and nursing homes buildings.

Travel Distances

Location	DTS Travel Distance Requirement	Current condition	Performance Requirement	Resolution
Ground Floor	• 20m max. to a point of choice. • 40m max. to an exit (where min of Two. provided). • 60m max between alternative exits • 9m min apart	**25/45/78**	D1P4, E2P2	Review from a Fire Engineer to address any departures from the DtS provisions at the construction certificate stage.
Level 1	• 20m max. to a point of choice. • 40m max. to an exit (where min of Two. provided). • 60m max between alternative exits • 9m min apart	**25/45/78**	DP4, EP2.2	Review from a Fire Engineer to address any departures from the DtS provisions at the construction certificate stage.

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