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UNSW G25 Education Building

BCA & DDA Assessment Report

Reference 2024/1412 (SSDA)
R2.1

Prepared for University of NSW
21 February 2025

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SWP Quality System

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Revision History

Rev	Date	Revision Details	Author	Verifier
R1.0	28.11.24	Report for SSDA TOA Submission	Mathew Kanaan	Jarryd Beckman
R1.1	03.12.24	Minor update to Report for SSDA TOA Submission	Mathew Kanaan	Jarryd Beckman
R2.0	11.02.25	Draft - Updated Report based on revised SSDA Package	Mathew Kanaan	Jarryd Beckman
R2.1	21.02.25	Final Report based on revised SSDA Package	Mathew Kanaan	Jarryd Beckman

Disclaimer:
This report is based on a desktop audit of preliminary SSDA documentation only.
Details contained in the report address issues of significance to broad BCA compliance relevant to this stage of design resolution.
This report is based on a review of the DA design documentation only. It represents a compliance report for "documentation to this point in time" and will be subject to amendment and further detailed assessment at the Crown Certificatation stage.

1. Executive Summary

An assessment of the design of the proposed design of the UNSW G25 Education Building has been undertaken against the Deemed-to-Satisfy (DTS) provisions of the relevant sections of the Building Code of Australia and the applicable Building Regulations.

This report details the non-compliances identified that require either amendments to plans or a Performance Solution to satisfy the Performance Requirements of the BCA.

Summary of BCA Parameters:

Building Use:	Educational Establishment
Class of Occupancy	Class 5 & 9b
Type of Construction Required	Type A
Rise Storeys:	13
Number of Storeys:	13
Effective Height:	48.95m (Plant RL100.800m – Lower Ground RL51.850m)

The design is capable of complying with the requirements of the relevant sections of the Environmental Planning Assessment Act 1979, the Environmental Planning and Assessment Regulations 2021 and the Building Code of Australia 2022. Compliance is subject to resolution of the identified areas of non-compliance and compliance with the recommendations provided within the report.

Further detailed regulatory reviews will need to be progressively undertaken as designs advance and become more resolved to ensure compliance is achieved.

2. Introduction

This report presents the findings of a preliminary assessment undertaken of the proposed design of the UNSW G25 Education building against the Deemed-to-Satisfy (DtS) provisions of Building Code of Australia BCA 2022.

It has been prepared by Steve Watson and Partners for University of NSW.

3. Relevant SEARs

This BCA Assessment Report addresses the following relevant Secretary's Environmental Assessment.

SEARS	Location in Report
4. Built Form and Urban Design *Assess how the development complies with the relevant accessibility. requirements.*	Section 7 – BCA & DDA Assessment Appendix D4

4. Standard Introduction and Content

This BCA Assessment Report has been prepared by Steve Watson & Partners on behalf of the University of New South Wales (UNSW) for construction and operation of a teaching and learning facility (the **Proposa**l) to be known as the UNSW G25 Education Building, on land at 8 High Street, Kensington (the **Site)**.

This report has been prepared to provide an assessment of the design documentation against the current requirements of the BCA.

This report accompanies a State Significant Development Application (SSD) that seeks approval for the construction and operation of a teaching and learning facility at the G25 site, within the Upper Campus of UNSW.

Specifically, the SSDA seeks consent for the following:

- Site preparation works including demolition of the existing at-grade car park, tree removal, and excavation works.
- Construction of an eleven (11)* storey (plus roof plant) teaching and learning building with approximately 20,200m^2 of gross floor area. The building will comprise the following:
    - Basement including plant/services, Bike Storage, End of Trip facilities and staff amenities, ancillary service areas such as Mail and Print rooms.
    - Ground level Food and Beverage space and informal education spaces
    - Teaching and Learning spaces and workspaces for UNSW Faculties for other levels
    - (The internal fit-out will be subject to separate approval)
    - Rooftop level including landscaped outdoor terrace, multifunction space, mechanical plant and services
- Associated landscaping, replacement trees and public domain embellishment works in and around the proposed building
- Extension and augmentation of infrastructure and services as required
- New lift core in the adjacent building, H25 Botany Street Carpark and associated access improvements.

Please note that when assessed against the NCC the number of storeys contained in the proposed development is 13.

The Proposal will seek to deliver improvements including:

- Providing new, purpose built learning and teaching spaces to support the University activities and strategic goals such as the development of the Randwick Health and Education Precinct
- Delivering an enhanced ground plane connection
- Providing flexible and adaptable teaching and learning spaces
- Creating a healthy, green, and welcoming place for students, staff and visitors
- Creating an experience that is an open, permeable, and connected public realm

- Creating pedestrian priority and inclusive shared public space

For a detailed project description refer to the Environmental Impact Statement prepared by Ethos Urban.

5. Site Analysis

5.1. Site Context

The site is situated within the UNSW Kensington upper campus, within the Randwick Local Government Area (LGA). The site address is 8 High Street, Kensington, which applies to the whole of the UNSW Kensington campus.

The UNSW campus forms part of the wider Randwick Health and Education Precinct, which has been strategically identified to provide a world-class coalition of education, research, innovation and healthcare organisations and to attract growth, investment and employment opportunities. This Precinct has been identified in the *Greater Sydney Region Plan – A Metropolis of Three Cities* and the *Eastern City District Plan*, for its strategic importance as a specialised centre providing for health and education research, innovation, teaching and learning.

The UNSW campus is located approximately 6km southeast of the Sydney CBD, immediately adjacent to the east is the Randwick Hospitals Complex which also forms part of the Randwick Health and Education Precinct. The UNSW site is within 600m of the Randwick Shopping Centre to the east and adjacent to Royal Randwick Racecourse to the north (refer Error! Not a valid bookmark self-reference. below).

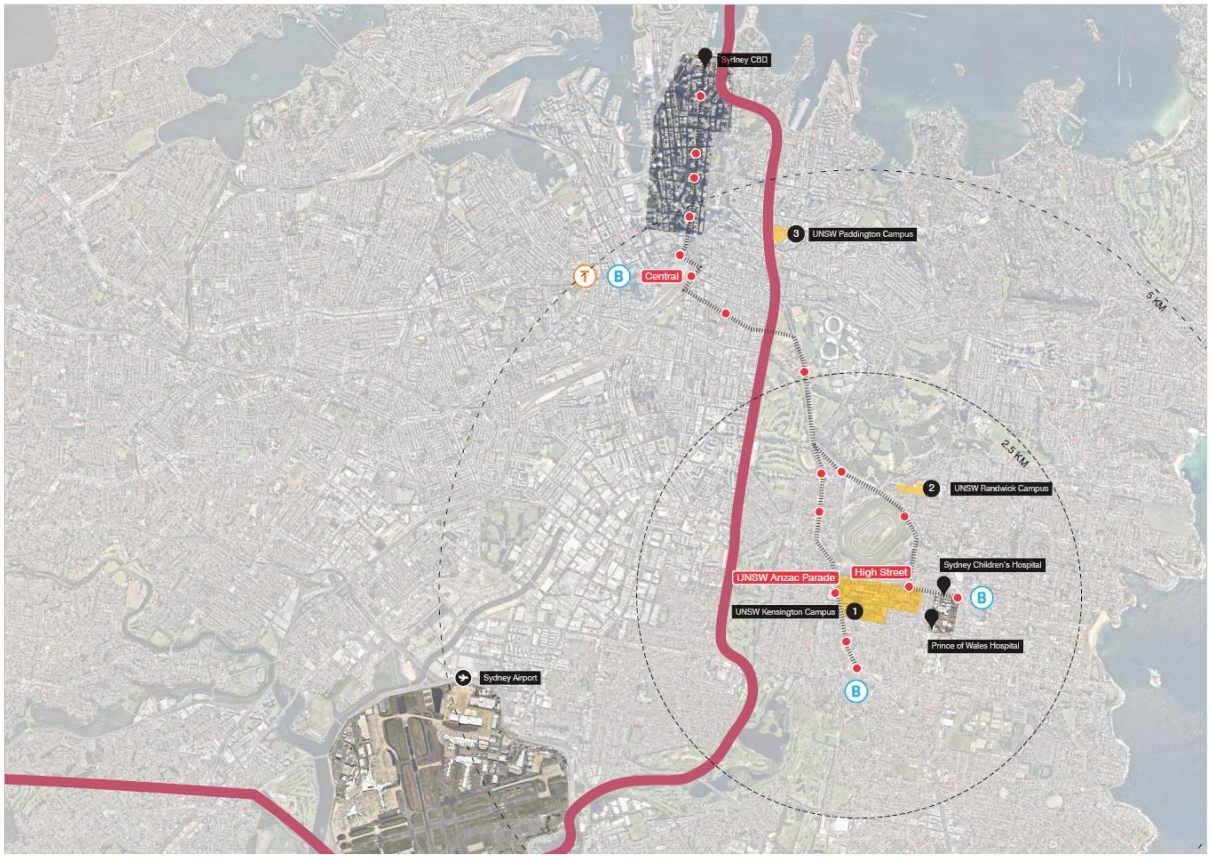

Figure 1 Site Context

Source: Ethos Urban, Google Maps

5.2. Site Description

The subject site known as the G25 site, is an existing on-grade carpark comprising of hardstand pavement with line-marked spaces, trees and landscaped areas. The site also includes the eastern portion of Library Walk and the loading dock area of the AGSM (Australian Graduate School of Management) Building (G27), with no other existing development on the site.

It is bounded to the north by the Samuels Building (F25) and Mathews Building (F23), to the west by the Solar Industrial Research Facility (SIRF) Building (G23), to the south by the multi-storey Botany Street Carpark Station (H25), and to the east by the Australian Graduate School of Management (AGSM) Building (G27) and the Gate 11 entrance to UNSW from Botany Street.

The broader UNSW Kensington Campus consists of five separate allotments. This site is situated within a single allotment legally described as Lot 5 DP 1264171. The UNSW Kensington campus is bounded by Anzac Parade (to the west), High Street (to the north), Botany Street (to the east), and Barker Street (to the south). It also includes developments to the west of Anzac Parade and north of Day Avenue, such as NIDA, the University Regiment, and the New College Post-Graduate Village. The campus currently has approximately 60,000 student enrolments.

Figure 2 provides an aerial image of the site and its location relative to the UNSW upper campus boundaries. boundaries.

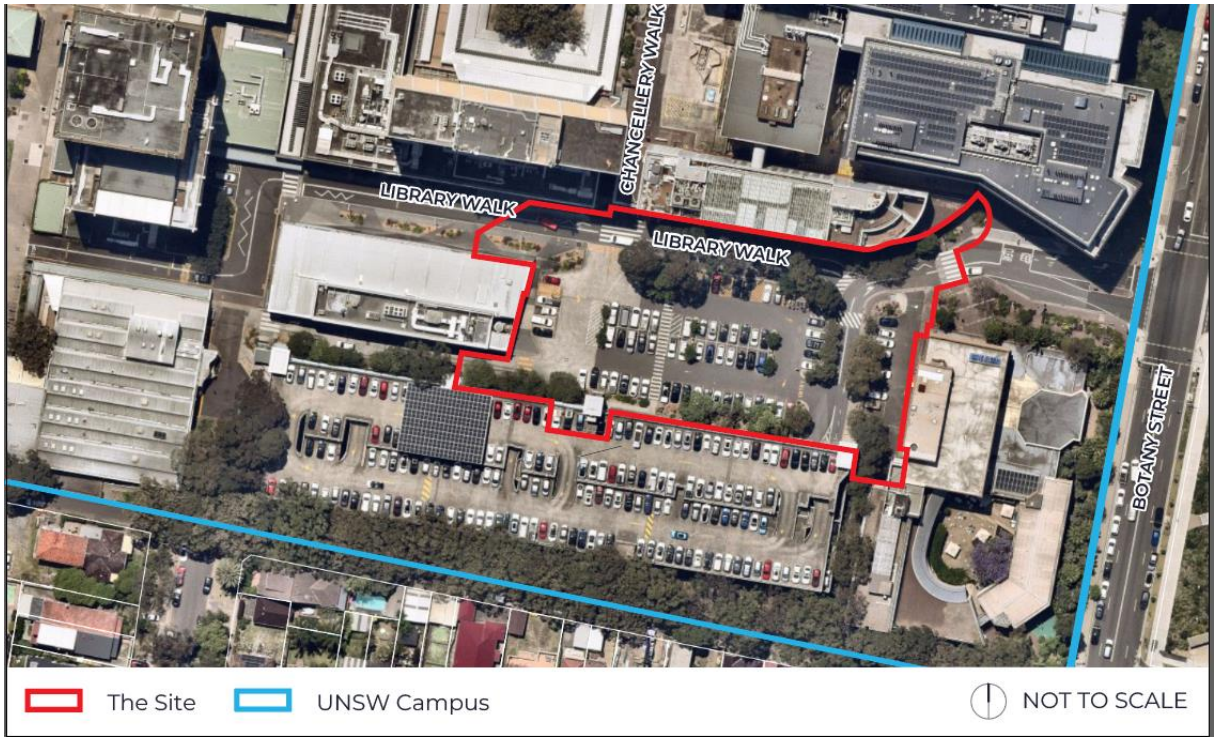

Figure 2 Site Aerial (approximate site area outlined in red)

Source: Nearmap, Ethos Urban

5.3. Surrounding Development

The following development surrounds the site:

- North: To the north and directly adjacent to the site across from the Library Walk are the Samuels (F25) Building and Mathews (F23) Building, which comprise up to 16-storeys. Further north within

the campus are additional education, administration and library buildings. The wider context includes the UNSW High Street Light Rail stop, as well as low to medium density residential development north of High Street.

- South: South of the site is the UNSW Botany Street Carpark Station (H25) (5 storeys), which is accessed internally within the UNSW campus. This location includes a pedestrian link from Oval Lane. The wider context includes low-medium density residential development south of Oval Lane.
- East: The site directly abuts the ASGM Building (G27) to the east (5 storeys), which fronts Botany Street. To the east and also fronting Botany Street is the Randwick Hospitals Complex including the Prince of Wales Hospital, the Sydney Children's Hospital, and the Royal Hospital for Women, as well as low-medium density residential development to the south-east.
- West: The site directly adjoins the Solar Industrial Research Facility (SIRF) (G23) to the west, which also sits within the confines of Library Walk and Valentine Close. The western context of the subject site is primarily characterised by the wider UNSW campus (lower campus) as well as the Anzac Parade Light Rail stop.

6. Scope and Limitations

6.1 Scope

The scope of this assessment is limited to the the design documentation referenced in Section 8.1 of this report.

6.2 Limitations

The following limitations apply to the assessment:

- The report considers matters of a significant nature only and should not be considered exhaustive.
- The plans are assessed to the extent necessary to review capability of complying with the Performance Requirements of the BCA. This means the design has been assessed to be capable of complying with the BCA without necessarily having all the detailed design completed at this stage.
- Details in regard to access for people with disabilities have been assessed to the extent of the deemed-to-satisfy provisions of the BCA/Premises Standard only. A detailed assessment against AS 1428 series, AS/NZS 2890.6 - 2009 and AS 4299 - 1995 is outside the scope of this report.
- Generally, the assessment does not incorporate a detailed assessment of the requirements of the Australian Standards.
- Structural and services documentation have not been reviewed.
- Appraisals are limited to the provisions of the BCA and the Premises Standards. Other legislative requirements have not been considered. It does not address additional or specific requirements stipulated under other areas such as Safety in Design, Construction Safety, Disability Discrimination, Planning and Environment, Occupational Health and Safety, Health, Dangerous Goods, etc, which may impact on the design and use of the building. It is recommended that appropriate advice from suitably qualified consultants should be obtained for further information on these areas
- The BCA report and associated compliance advice is not intended or permitted to be relied on by any other party with respect to their obligations to ensure compliance including but not limited to the making of a compliance declaration under the NSW Design and Building Professionals Act.

6. Summary of BCA Parameters

Building Use:	Educational Establishment
Class of Occupancy:	Class 5 & 9b
Type of Construction required:	Type A
Rise in Storeys:	13
Effective Height:	48.95m (Plant RL100.800m – Lower Ground RL51.850m)

7. BCA & DDA Assessment

The following is a summary of an assessment of the proposed design against the relevant Deemed-to-Satisfy provision of the BCA. The BCA & DDA Assessment report and associated compliance advice is not intended or permitted to be relied on by any other party with respect to their obligations to ensure compliance including but not limited to the making of a compliance declaration under the NSW Design and Building Professionals Act.

Section A: Governing Requirements

- The proposed development will consist of the construction of a new Class 5 & 9b building at UNSW's Kensington Campus. The proposed development has indicated that the works are capable of complying with the performance requirements of the NCC Volume 1 by way of a combination of Deemed-to-satisfy and Performance based design characteristics.

Section B: Structure

- The structural engineering design of the ne building will be required to comply with the structural provisions of Part B1 of the BCA.

Section C: Fire Resistance

- The building is required to achieve Type A construction due to the rise in storeys and classification.
- Non-combustible building elements will be required throughout the building's external walls, flooring and floor framing of lift pits, internal non-load bearing fire resisting walls and shafts.
- The detailed design is to ensure appropriate separation of classifications where the higher FRL classifications are not applied throughout all building elements as per Specification 5.
- The detailed design is also required to ensure appropriate protection of openings is considered, this may be addressed per the requirements of C4D3 or by way of a of a fire engineered performance-based design. The impact of the proposed works on the H25 Botany Street Carpark are also required to be considered when finalising the detailed design requirements of this development.
- The proposed floor coverings and any proposed wall and ceiling lining materials must comply with the fire hazard properties nominated in Specification 7 of the BCA.

Section D: Access and Egress

- The number of exits required to be provided under D2D3 will be complaint as not less than 2 exits have been provided from each storey.
- All egress stairways are proposed to be fire isolated where they pass through 3 or more consecutive storeys.
- Non-fire isolated stair being used as an exit will need to comply with requirements of D3D4.
- Based on the plans provided DTS compliant travel distances will not be accomplished throughout the building. It is anticipated that egress travel distances will be extended on a performance basis subject to further fire engineering during the detailed design.

- Any new electrical meters, distribution boards (telecommunications or electrical) in the path of travel must be contained within a non-combustible enclosure with the doorways fitted with smoke seals in accordance with Clause D3D8 of the BCA.
- The construction of the new stairways including goings, risers and slip resistance classification is to comply with Clause D3D14 of the BCA. Landings at the top and bottom of the stairway is to comply with Clause D3D15 of the BCA.
- Handrails are to be provided to the new stairs in accordance with Clause D3D22, D4D4 and Clause 11 and 12 of AS1428.1 – 2009.
- Access for people with disabilities is to be provided throughout the development in accordance with the provisions of Part D4 of the BCA and AS1428.1 – 2009. Plans indicate compliance with the performance requirements of the BCA is readily achievable however details are to be provided as part of the later stages of design.
- The discharge of some of the fire isolated stairways on the ground floor are not in accordance with D2D12 as they open into covered areas not achieving the minimum required openness criteria of this clause. The proposed design will need to be addressed by way of a performance based solution.
- As part of the ground floor discharge points are above the lower-ground storey below, parts of the ground floor south of the services and fire stairs are to be treated as "Roof as open Space. These areas will need to be addressed on a performance basis to resolve technical compliance shortfalls such as requiring occupants to travel within 3m of various openings.

Section E: Services and Equipment

The following building services / equipment will be required to serve the building:

- A Fire Hydrant System complying with E1D2 of the BCA and AS2419.1-2021.
- A Fire Hose Reel System complying with E1D3 of the BCA and AS2441-2005.
- A Sprinkler System complying with E1D4-E1D13 (as required) & Specification 17 of the BCA and AS2118.1-2017.
- Portable fire extinguishers complying with Clause E1D14 of the BCA and AS 2444 – 2001.
- A Fire Control Centre complying with Clause E1D15 of the BCA.
- A Smoke Hazard Management System and mechanical air handling system complying with Part E2 & Specification 20 & 21 of the BCA.
- A Smoke Detection and Alarm System complying with Part E2 & Specification 20 of the BCA.
- Passenger lifts & Emergency lifts complying with Part E3 & Specification 24 of the BCA.
- Emergency lighting in accordance with Clauses E4D2 of the BCA and AS 2293.1 – 2018.
- Exit Signage in accordance with Clauses E4D5 of the BCA and AS 2293.1 – 2018.
- Emergency Warning and Intercom Systems complying with E4D6 of the BCA and AS1670.4

Section F: Health and Amenity

- Surface water management, rising damp and external waterproofing is capable of complying provided the detailed designs incorporate the requirements of Part F1 of the BCA.
- A performance based design solution will be required to address any parts of the façade intended to be fitted with openable louvres which open onto general occupiable areas.
- Wet areas and overflow protection is to be incorporated into the detailed design as per Part F2 & Specification 26 of the BCA and AS3740-2021.
- Roof and wall cladding is capable of complying with Part F3 of the BCA.
- In accordance with Part F4 of the BCA a suitable number of Sanitary facilities will be provided within the building to cater to the proposed maximum capacity of UNSW Staff and Students.
    - Detailed design will involve the suitable allocation of separate amenities for staff and students.
    - The development proposes the use of all-gender/ unisex shared facilities which will need to be addressed on a performance-basis as this is not permitted within the BCA (outside of a Unisex DDA Sanitary compartment).

- Accessible unisex sanitary compartments are required in accordance with Clause F4D5 of the BCA and AS 1428.1 – 2009. A male and female sanitary compartment suitable for a person with an ambulant disability is required in accordance with AS 1428.1 – 2009.

Building address	Address line 1	
	Address line 2	UNSW G25 DEVELOPMENT
Building classification	Class 9b - schools	

			Required sanitary facilities				
Gender	Design occupancy	User group	Closet pans	Urinals	Washbasins	Showers	Baths
Male	154	employees	8	6	6	NA	NA
Female	154	employees	11	NA	6	NA	NA
Male	1934	students	22	21	28	NA	NA
Female	1934	students	42	NA	28	NA	NA

- Height of rooms and other spaces will be required as follows;
  - Generally, a minimum ceiling height of 2.4m is required throughout class 5 spaces
  - In a Class 9b building in a school classroom or other assembly building with more than 100 persons — 2.7m;
  - A theatre, public hall or other assembly building with more than 100 persons — 2.7 m
  - In a corridor that serves an assembly building with not more than 100 persons — 2.4 m
    - In a corridor that serves an assembly building with more than 100 persons — 2.7 m;
- Artificial lighting is required to all rooms that are frequently occupied, all accessible spaces, all corridors and circulation spaces and path of egress in accordance with AS/NZS 1680.0 – 2009.
- Ventilation will be required to all rooms occupied by a person for any purpose by means of natural ventilation complying with Clause F6D6 of the BCA or mechanical ventilation/air-conditioning complying with AS 1668.2 –2012

Section G: Ancillary Provisions

- Provisions for window cleaning will be required in accordance with G1D4 of the BCA.
- The proposed design details an atrium which passes through the entire building. It is assumed that this atrium will be addressed by way of performance based design that will deviate significantly from the provisions of the BCA. The atrium design will require input from the buildings services engineers, fire engineers and architects to ensure that a coordinated understanding of the performance solution is implemented.
- Occupiable Outdoor Areas are required to comply with the provisions of Part G6 of the BCA.

Section I: Special Use Buildings

- Class 9b Assembly buildings will need to comply with I1D4 & I1D7 of the BCA.

Section J: Energy Efficiency

- Energy Efficiency for buildings requires buildings to reduce greenhouse gas emissions by efficiently using energy. A building's services must have features that facilitate the efficient use of energy. The discipline of Energy Efficiency with the BCA has become a specialised field where compliance with BCA Section J is to be certified with the issue of a Certificate of Compliance - Design from the relevant Services Engineer/Consultant.
- The development is capable of complying with Section J of the BCA provided the detailed designs incorporate the requirements of Part J1-J9 of the BCA.

8. Performance Solutions required

Item	Non-Compliance	DTS Clause	Description
1.	Type of Construction Required, Fire Separating Construction not achieving the minimum required FRLs, Compartment Sizes & Separation by Fire Walls	C2D2, C3D3, C3D8, Spec.5	Fire compartments and separation of compartments are proposed to be achieved by way of performance-based design. The proposed compartmentation strategy will be developed as part of the detailed design ensuring a consideration for all voids, non-fire isolated stairways, sky-lights and double height stories.
2.	Exit travel distances	D2D5	Based on the plans provided DTS compliant travel distances will not be accomplished throughout the building. It is anticipated that egress travel distances will be extended on a performance basis subject to further fire engineering during the detailed design.
3.	Distance between alternative exits	D2D6	The general arrangement plans will need to be developed further in order to provide an accurate egress travel distance assessment (for the purposes of informing a fire engineered performance solution report).
4.	Travel via fire-isolated exits	D2D12	Discharge of fire isolated exits are not in locations which achieve the minimum level of openness for their perimeter.
5.	Roof as Open Space	D3D13	The discharge of exits onto the southern portion of the site requires occupants to travel externally over the story below (Lower Ground). This part of the building will be treated as Roof as Open Space. Any openings within 3m of the path of travel will need to be addressed by way of performance-based design.
6.	Sprinklers	E1D4	Where the proposed sprinkler system deviates from the prescribed requirements of AS2118.1-2017, or AS2118.6-2012 and Specification 17 a performance solution will be required.
7.	Facilities in Class 3 to 9 buildings	F4D4	The design team have proposed to incorporate “All Gender” sanitary compartments in addition to traditional male and female sanitary facilities. Where this is being proposed the “All Gener” facilities will need to be considered on a performance basis as the BCA stipulates that (outside of a unisex DDA Sanitary compartment) separate facilities are required to be provided for each sex. Separate to this, in an Educational Establishment Staff and Students are not permitted to share the same facilities. There has been no indication on the plans as to which facilities will be dedicated for staff / students. It may be sought to utilize a performance based design to address the use of “All Gender” sanitary compartments for use by both Staff and Students.
8.	Atrium Construction	Part G3	The atrium proposed will not achieve compliance with this Part. It is to be addressed on a performance basis.

8.1. Referenced Drawings

The following documentation issued by Architectus was used in the preparation of this report:

SHEET LIST		Current Revision	Current Revision Date
Sheet Number	**Sheet Name**		
DA0000	COVER SHEET	A.01	20.02.25
DA0010	CONTEXT AND LOCALITY PLAN	A.01	20.02.25
DA0015	SITE ANALYSIS	A.01	20.02.25
DA0020	SITE PLAN - PROPOSED	A.01	20.02.25
DA0050	SITE SURVEY	A.01	20.02.25
DA0202	AREA PLANS - GFA	A.01	20.02.25
DA0500	DEMOLITION PLAN	A.01	20.02.25
DA1000	GENERAL ARRANGEMENT PLAN - LOWER GROUND	A.01	20.02.25
DA1001	GENERAL ARRANGEMENT PLAN - GROUND	A.01	20.02.25
DA1002	GENERAL ARRANGEMENT PLAN - LEVEL 1	A.01	20.02.25
DA1003	GENERAL ARRANGEMENT PLAN - LEVEL 2	A.01	20.02.25
DA1004	GENERAL ARRANGEMENT PLAN - LEVEL 3	A.01	20.02.25
DA1005	GENERAL ARRANGEMENT PLAN - LEVEL 4	A.01	20.02.25
DA1006	GENERAL ARRANGEMENT PLAN - LEVEL 5	A.01	20.02.25
DA1007	GENERAL ARRANGEMENT PLAN - LEVEL 6	A.01	20.02.25
DA1008	GENERAL ARRANGEMENT PLAN - LEVEL 7	A.01	20.02.25
DA1009	GENERAL ARRANGEMENT PLAN - LEVEL 8	A.01	20.02.25
DA1010	GENERAL ARRANGEMENT PLAN - LEVEL 9	A.01	20.02.25
DA1011	GENERAL ARRANGEMENT PLAN - LEVEL 10	A.01	20.02.25
DA1012	GENERAL ARRANGEMENT PLAN - PLANT	A.01	20.02.25
DA1013	GENERAL ARRANGEMENT PLAN - ROOF	A.01	20.02.25
DA2001	ELEVATION - NORTH	A.01	20.02.25
DA2002	ELEVATION - EAST	A.01	20.02.25
DA2003	ELEVATION - SOUTH	A.01	20.02.25
DA2004	ELEVATION - WEST	A.01	20.02.25
DA2101	SECTION- EAST WEST 1	A.01	20.02.25
DA2102	SECTIONS- NORTH SOUTH 1+ 2	A.01	20.02.25
DA9201	SHADOW STUDIES	A.01	20.02.25
DA9320	EXTERNAL SIGNAGE	A.01	20.02.25
Total Sheets: 29			

Appendix C2D2 - Fire Rating Requirements

Type A Construction

Table 1 S5C11a: Type A construction: FRL of loadbearing 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	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/60/60	120/90/90	180/180/120	240/240/180
3 m or more	90/60/30	120/60/30	180/120/90	240/180/90

Table 2 S5C11b: Type A construction: FRL of non-loadbearing 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	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/60/60	–/90/90	–/180/120	–/240/180
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Table 3 S5C11c: Type A construction: FRL of external columns not incorporated in an external wall

Column 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	90/–/–	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/–/–	–/–/–	–/–/–	–/–/–

Table 4 S5C11d: Type A 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	120/120/120	180/180/180	240/240/240

Table 5 S5C11e: Type A construction: FRL of loadbearing 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
Fire-resisting lift and stair shafts	90/90/90	120/120/120	180/120/120	240/120/120
Bounding public corridors, public lobbies and the like	90/90/90	120/–/–	180/–/–	240/–/–
Between or bounding sole-occupancy units	90/90/90	120/–/–	180/–/–	240/–/–
Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion	90/90/90	120/90/90	180/120/120	240/120/120

Table 6 S5C11f: Type A construction: FRL of non-loadbearing 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
Fire-resisting lift and stair shafts	–/90/90	–/120/120	–120/120	–/120/120
Bounding public corridors, public lobbies and the like	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units	–/60/60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion	–/90/90	–/90/90	–/120/120	–/120/120

Table 7 S5C11g: Type A construction: FRL of other building elements not covered by Tables

S5C11a to S5C11f

Building element	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Other loadbearing internal walls, internal beams, trusses and columns	90/–/–	120/–/–	180/–/–	240/–/–
Floors	90/90/90	120/120/120	180/180/180	240/240/240
Roofs	90/60/30	120/60/30	180/60/30	240/90/60

Appendix C2D11 - Early Fire Hazard Properties for Materials

Floor materials, floor coverings and wall and ceiling lining materials are required to comply with BCA prescribed fire hazard properties and AS5637.1-2015

Floor Linings and Floor Coverings	
General Non Sprinklered Areas	Minimum 2.2 (or 4.5 for Class 3 areas and 9a patient care areas) kw/m^2 critical radiant heat flux and, a maximum smoke development rate of 750 percent minutes.
General Sprinklered Areas	Minimum 1.2(or 2.2 for Class 3, 9a patient care, and 9c residential use areas) kw/m^2 critical radiant heat flux
Fire Isolated Exits and Fire Control Rooms	Minimum 2.2/(or 4.5 for Class 3, 9a and 9c areas) kw/m^2 critical radiant heat flux
Lift Cars	Minimum 2.2 kw/m^2 critical radiant heat flux

Wall Linings and Ceiling Linings	
Generally	Variously Group 1,2, or 3 materials (more restrictive Group number for non-sprinklered areas, public corridors, health care corridors and other prescribed locations) when tested to AS/ISO 9705 or clause 3 of BCA Spec A2.4 and AS/NZ 3837
Fire Isolated Exits	Group 1 material when tested as above
Lift Cars	Group 1 or 2 materials when tested as above

In addition, in non-sprinklered areas, wall and ceiling linings must have a smoke growth rate index not more than 100 or an average specific extinction area less than 250m^2/g.

Other than above, construction materials generally need to achieve as1530.3 early fire hazard indices requirements as follows:	
Generally	Spread of flame Index not > 9 Smoke developed index not > 8
Sarking	Flammability Index not > 5
Fire Isolated Exits and Fire Control Rooms	Spread of Flame Index 0 Smoke Developed Index not > 2 Sarking Flammability 0
Non Fire Isolated Stairs & Escalators and Auditorium Fixed Seating	Spread of Flame Index 0 Smoke Developed Index not > 5
Lifts	To AS 1735.2
Air Ducts	To AS4254

Appendix D4 - Significant Accessibility Requirements

Access for wheelchair users and people with disabilities generally must be to AS1428.1-2009.
Principle requirements are:

- Continuous accessible paths of travel throughout
- Minimum 1m wide travel paths with maximum 3-5mm joints, lips, level changes etc.
- No deep pile carpets or grates with large slots.
- Walls or 75-150mm kerbs at travel path sides or if level change occurs to cause a wheelchair hazard.
- 1.8m wide x 2m long wheelchair passing spaces at 20m intervals in passageways where a direct line of sight is not available.
- Turning spaces at 20m intervals and within 2m of dead end access ways. 1.5m x 1.5m 90 deg turning spaces (with splayed internal corner) and 1.54m x 2.07m long 180 deg turning spaces are required including at dead ends in passageways.
- Step ramps, kerb ramps and threshold ramps as prescribed.
- 1:14 maximum ramps with 9m between landings.
- 1.9m x 1 in 10 (maximum 190mm rise) step ramps
- 1.52m x 1 in 8 (maximum 190mm rise) kerb ramps.
- 30-50mm handrails with 300mm extensions and curls and 50mm clearances on both sides of steps, ramps.
- 850mm clear width doors with 340 - 900mm latch side clearances and 1220-1670mm approach clearances depending on arrangements.
- Stairs and ramps set back from building lines and corridors to allow space for handrail extensions and TGSIs.
- Decals to glazing.
- 900-1100mm door hardware height.
- Lever handle hardware with low opening forces.
- Landings at doorways, direction changes and at intervals on ramps and inclined walkways.
- Walkways with colour contrast borders.
- Flat even surfaces.
- Colour contrasted hand rails and door frames.
- “D” pull handles to doors.
- Continuous protected paths from disabled persons’ car spaces to lifts, access points, etc.
- Ambulant disabled persons’ toilets with grab rails and outward swinging doors or longer cubicles.
- Prescribed types of water entry arrangements for swimming pools depending on pool size.
- Non fire enclosed stairs with opaque risers.
- Fire stairs and non-fire enclosed stairs with colour contrasting nosing strips.
- All switches and controls 900-1100mm above floor level.

The following general requirements apply to accessible toilets:

- Unisex facility.
- ~1.9 x 2.7m or 2.3 x 2.4m minimum room dimensions depending on arrangements. (~2.2m x 1.6m if AS1428.1-2001 concession applies).
- 30-40mm grab rails with 50-60mm clearances.
- Doors with appropriate clearances and circulation spaces and able to be operated externally in emergencies
- Washbasins with clearances as required.
- Shielded hot water pipes.
- Mirror, shelf, dispensers and coat hooks.
- Mirrored layout for alternative facilities

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