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14-16 Marshall Avenue, 5-9 Holdsworth Avenue & 2-10 Berry Road, St Leonards

BCA Assessment Report

Report 2023/0259 R1.2

Prepared for Modern Construction & Development Pty Ltd

April 2023

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Revision History

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Author:	Josh Harvey
Verifier:	Gary Rafferty

Disclaimer:

This report is based on a desktop audit of preliminary documentation only.
Details contained in the report address issues of significance to broad BCA compliance relevant the submission of a Development Application.

This report is based on a review of the design documentation only. It represents a compliance report for "documentation to this point in time" and will be subject to amendment and expansion as project documentation develops.

Executive Summary

An assessment of the design of the proposed development of a residential development comprising of one-hundred and eight seven (187) sole-occupancy units and four (4) levels of basement carparking containing two hundred and forty-nine (249) carparking spaces 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 an Alternative Solution to satisfy the Performance Requirements of the BCA 2022.

Summary of BCA Parameters:

Building Use:	Residential sole-occupancy units, Carparking, Loading Dock & Storage
Class of Occupancy:	Class 2, 7a & 7b
Type of Construction Required:	Type A
Rise Storeys:	Fourteen (14)
Number of Storeys:	Sixteen (16)
Effective Height:	42.85m (Communal roof top level RL110.100 – Ground Level RL 67.250

1. Issues Requiring Resolution

1.1. Issues requiring amendments to plans, additional details or documentation.

The following issues either need to be resolved or require further details and/or documentation to be provided to ensure compliance prior to the Construction Certificate (CC).

Item	DTS Clause	Description	Requirement to Satisfy BCA
1.	**C3D8, C3D9 & Spec 5 - Separation of classifications in the same storey**	The Ground Floor contains a loading dock which is required to be fire separated from the remainder of the building to achieve FRL 240. In accordance with the DtS provisions of the BCA, this FRL shall extend to the structural elements including columns and floor slabs of Basement level 1 & 2.	Further details shall be provided at CC stage in relation to fire separation between adjoining building classifications.
2.	**C4D4 & C4D5 - Separation of external walls and associated openings in different fire compartments**	Within Carpark Level L02, openings to the carpark supply fan room are located within 5 m of the adjoining external wall of a Class 2 part. The grills located on the external wall are required to be provided with fire dampers in accordance with BCA Clause C4D5.	Details of the proposed method of protection are to be provided during design development stage.

1.2. Performance solutions required.

It is proposed to satisfy the following non-compliances via performance solutions:

Item	Non-Compliance	DTS Clause	Description	Performance Requirement
1.	**Fire resisting construction.**	**C2D2 & Specification 5**	It is proposed to have a waste chute discharge within a bin room, therefore, the bottom of the shaft will not be enclosed with fire rated construction as required by Specification 5.	C1P1
2.	**Fire resisting construction.**	**C2D2, D3D9, Specification 5**	Storage cages located on ground level will not be provided with an FRL in accordance with D3D9	C1P1
3.	**Protection of openings in external walls**	**C4D3 & C4D5**	Openings formed between columns on the southern elevation are technically considered openings in the external wall. As these openings are located within 3m of the fire source feature, they are required to be protected in accordance with BCA Clause C4D5.	C1P2
4.	**Doorways in fire walls**	**C4D6**	The roller shutter located within the fire wall separating the loading dock from the carpark will not achieve the required insulation rating.	C1P2 & C1P8
5.	**Number of exits required**	**D2D3**	As the building exceeds 25 m in effective height all parts of the building are required to be provided with a minimum of two (2) exits. It is proposed to address a single exit in lieu of two (2) exits to the following parts; • SP Fan Room • Fire Pump Room & Water tank.	D1P4
6.	**Exit travel distances**	**D2D5**	The following areas have been identified with distances exceeding 20m to a point of choice: 1. Basement Level 02 -The distance to a point of choice measures up to 30 m. 2. Basement Level 01 -The distance to a point of choice measures up to 30 m. 3. Ground Level -The distance to a point of choice measures up to 26 m. 4. Level 01- The distance to a point of choice measures up to 30 m. 5. Carpark L02 - The distance to a point of choice measures up to 30 m. 6. Residential Level 02 -03 – The distance to a single exit at ground level exceeds 20 m. 7. Level 03- Level 12 – Distance to an exit/point of choice up to 12m in lieu of 6m.	D1P4 & E2P2
7.	**Distance between alternative exits**	**D2D6**	The following areas have been identified with distances between alternative exits exceeding 60m: 1. Basement Level 01 -The distance between alternate exits exceeds 60 m. 2. Level 01- The distance between alternate exits exceeds 60 m. Furthermore, the alternative exits serving residential levels 03-12 are closer than 9m.	D1P2
8.	**Travel via fire-isolated exits**	**D2D12**	Fire stair 13A- 13C, 14A-14C and15A-15C discharge to roof as open space, however, the path of travel to road requires occupants discharging within 6m of openings	D1P5

Item	Non-Compliance	DTS Clause	Description	Performance Requirement
			located in external walls of the same building. Furthermore, fire isolated stair 13-A to 13- C discharge to a point within the confines of the building.	
9.	**Discharge from exits**	**D2D15 & D2D12**	Alternate exits serving as a required exit (all fire isolated stairs) do not discharge as far apart as practical. Furthermore, the path of travel to the road requires occupants to discharge across a pedestrian link located on a different allotment.	D1P4
10.	**Horizontal exits**	**D2D16**	The horizontal exit serving Carpark L02 does not swing in the direction of travel.	D1P4
11.	**Roof as open space**	**D3D13**	The Level 2 podium will act as roof as open space for exits discharging from the building, drainage openings will be located within 3m of the path of travel to the road, technically in accordance with BCA Clause D313 no openings are permitted within 3m of the path of travel.	D1P4
12.	**Fire hose reels**	**E1D3**	Omission of fire hose reels within garbage rooms.	E1D3
13.	**Provisions for special hazards**	**E1D1, E2D21& C3D13**	EV charging stations are proposed to be installed within the carparking area. The installation of EV charging stations will be addressed as an Excessive Hazard via BCA Clause ED13 & E2D21 provisions for special hazards.	E2P2
14.	**Buildings more than 25 m in effective height: Class 5, 6, 7b, 8 or 9b buildings**	**E2D6**	Omit the requirement for a zone pressurisation system between vertically separated fire compartments.	E2P2

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 (Development Certification and Fire Safety) Regulation 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. Whilst not precluding the issue of a Development Application, it is noted that many detailed design issues are not indicated on the drawings. These issues are designated “Compliance Readily Achievable” in the “Status” column of the assessment in Section 14 of the report and should be resolved prior to construction.

Key issues which require additional details have been listed under Section 1.1 in this report and will need to be clarified with SWP or the building certifier for the project prior to the issue of a Construction Certificate.

Table of Contents

GLOSSARY

Building Code of Australia - BCA, National Construction Code - NCC

Deemed-to-Satisfy - Dts

Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 - EPAR (DCFS)

Environmental Planning and Assessment Act 1979 No 203 - EPAA

Environmental Planning and Assessment Regulation 2021 - EPAR

2. Introduction

This report presents the findings of a preliminary assessment undertaken of the proposed construction of a residential development comprising of one-hundred and eight seven (187) sole-occupancy units and four (4) levels of basement carparking containing two hundred and forty-nine (249) carparking spaces against the Deemed-to-Satisfy (DtS) provisions of Building Code of Australia BCA 2022 to accompany the Development Application.

The subject site is located at 2-10 Berry Road, 5-9 Holdsworth Avenue and 14-16 Marshall Avenue, St Leonards.

The site is known as Areas 13, 14 and 15 within the St Leonards South Precinct and in the Lane Cove Local Government Area (LGA).

Pedestrian access is provided via Holdsworth Avenue and Berry Road whilst vehicular access is provided via Holdsworth Avenue.

The report has been prepared by Steve Watson and Partners for Modern Construction & Development Pty Ltd.

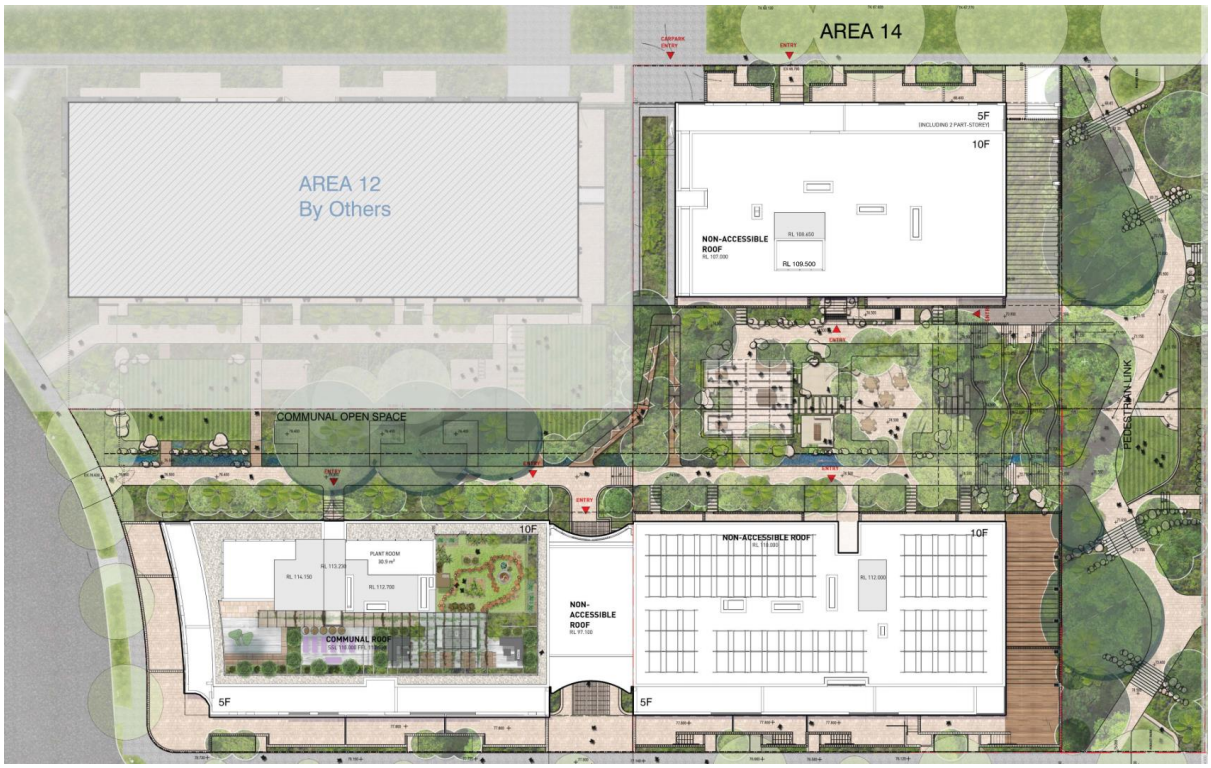


Figure 1 – Site Plan courtesy of PTW

3. Purpose

The purpose of this report is to evaluate the existing design proposal based on the Deemed-to-Satisfy Provisions of BCA 2022. This assessment pertains to the plans submitted for the Development Consent Application, which require a lower level of technical detail than what is necessary for a Construction Certificate. Therefore, this assessment focuses on a higher-level evaluation of the building's compliance with the BCA provisions. The primary objective of this report is to identify any significant modifications necessary for the building's design, installation of services, and compliance with sections C, D, E, F, G, and H (where applicable) of the BCA. However, it should be noted that this report does not address the specific design requirements for the building's structure (Section B) or the detailed design of services (Section E). In cases where compliance cannot be achieved, the report will suggest a performance-based assessment of the relevant criteria in a separate report on fire safety engineering, which will be prepared separately.

4. Audit Report and Certification Work

This report is provided with strict regard to the conflict-of-interest requirements in Part 3 the Building and Development Certifiers Act 2018 and Part 4 of the Building and Development Certifiers Regulation 2020, with particular reference to Clause 25(5) of the Regulation.

Hence, the contents of this report, and any associated correspondence, are provided in the context of a preliminary audit of plans and other design documents. The report is intended to identify BCA or regulatory issues required to be addressed in the design to achieve compliance. It may not be construed to constitute involvement in building design, the preparation of plans and specifications, the provision of advice on how to amend a plan or specification, or to breach any other restriction or limitation imposed under the conflict-of-interest provisions of the above or any other legislation.

5. Scope and Limitations

4.1. Scope

The scope of this assessment is limited to the the design documentation referenced in Appendix A of this report.

4.2. 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 issue a construction certificate under Part 6 of The Act. 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.
- This report does not include a detailed compliance review of the proposed wet area waterproofing, balcony external above ground membranes, external weatherproofing as compliance in relation to internal & external wet areas, balconies, planter boxes & roof waterproofing should be assessed & certified in accordance with AS3740-2010, AS4654.2-2012 by a suitably qualified waterproofing consultant. Compliance with regards to waterproofing of external walls & roof should be assessed & certified by a suitably qualified facade engineer at CC stage.
- This report does not include a detailed compliance review of the proposed fire seals protecting opening in fire resisting components of the building detailed on the following drawings as this should be assessed & certified in accordance with BCA 2022 C4D15 Specification 13, AS 1530.4 – 2014, AS 4072.1 – 2005, installed in accordance with the tested prototype by a suitably qualified fire stopping specialist at CC stage.
- This report does not include any compliance review of the proposed disabled access compliance detailed on the following drawings, as compliance in relation to this should be assessed by a suitably qualified access consultant at CC stage.
- The resultant report/s are not a Design Compliance Declaration as defined under the DABP Act and is not to be construed as such.

4.3. Certification Works

This report is provided as part of SWP's contracted scope for this project, which is "Certification Work", as defined in the Building and Development Certifiers Regulation 2020. Due to the strict requirements and limits in terms of conflicts of interest imposed under that regulation, SWP cannot undertake any services other than Certification Work services on this project. Hence, the contents of this report, and any associated correspondence, are provided in the context of a preliminary certification assessment of plans, and may not be construed to constitute involvement in building design, the preparation of plans and specifications, the provision of advice on how to amend a plan or specification to ensure that the aspect will comply with legislative or code requirements, or to breach any other restriction or limitation imposed under the conflict of interest provisions of that or any other legislation.

6. National Construction Code BCA 2022- Volume 1: Building Code of Australia Class 2 to Class 9 Buildings

The National Construction Code (NCC) is a uniform set of technical provisions for the design and construction of buildings, structures and plumbing/drainage systems which is separated into 3 volumes. Volume 1 of the NCC is the Building Code of Australia (BCA) for Class 2 to 9 buildings which is the document to which the assessment in this report has been undertaken against. The BCA is legislated under The Act and specifies the Performance Requirements for the design and construction of Class 2 to 9 buildings that must be satisfied to achieve compliance. The Performance Requirements can only be satisfied by a Performance Solution, Deemed-to-Satisfy (DTS) solution or a combination of both.

7. Performance Solutions

The BCA is written in a performance format which allows performance-based buildings. This has allowed for innovation and variation from the prescriptive deemed-to-satisfy requirements of the BCA, whilst maintaining the principle levels of health, safety and amenity of building occupants.

Performance solutions are generally adopted when a nominated deemed-to-satisfy provision appears inappropriate for the design, or when a proposed design varies from the prescriptive requirements of the BCA. Subsequently, a performance solution supported by Fire Engineering analysis can determine whether a proposed design that varies from prescriptive requirements, will satisfactorily meet the performance provisions of the BCA. Ultimately, it is with the discretion of the relevant building surveyor whether to accept a deviation from the prescriptive code requirements.

Utilising the performance provisions may result in more economical and somewhat safer building, however alternative solutions may require additional on-going maintenance. It is in this instance that all parties, such as the building owner, insurance companies, proposed tenants, etc., are aware of this decision making process and are kept informed of any additional requirements needed to maintain the level of safety.

8. Statutory Framework

The following table summarises the key statutory issues relating to fire safety and the BCA in relation to the certification of new building works.

Issue	Legislative reference	Comment
New Work	EPAR (DCFS) S19	All new works must comply
Residential Flat	EPAR (DCFS) S15 & S43	Statement from a qualified designer verifying compliance

Issue	Legislative reference	Comment
Development		with SEPP65 for residential developments
BASIX	EPAR (DCFS) S10	BASIX certificate required for residential projects

7.1. New Work

Section 19 of the EPAR (DCFS) requires that all new work comply with the current requirements of the BCA.

This means that all works proposed in the plans are required to comply but that existing features of an existing building need not comply with the BCA unless required to under other clauses of the legislation.

7.2. Residential flat development

Section 15 of the EPAR (DCFS) requires a qualified designer to provide a statement that verifies that the plans and specifications achieve or improve the design quality of the development having regard to the design quality principles set out in Part 2 of the *State Environmental Planning Policy No. 65 - Design Quality of Residential Flat Development* (SEPP 65) prior to the issue of a Construction Certificate. Section 43 of the EPAR (DCFS) requires a qualified designer to provide a statement that verifies that the residential flat development achieves the design quality of the development as shown in the plans and specifications having regard to the design quality principles set out in Part 2 of SEPP 65 prior to issuing an Occupation Certificate.

7.3. Fulfilment of BASIX Commitments

Section 10 of the EPAR (DCFS) requires the certifying authority to monitor fulfilment of any commitments listed on the BASIX certificate, where the BASIX certificate requires the certifying authority to monitor those commitments. A final occupation certificate must not be issued until the certifying authority is satisfied that each of the commitments has been fulfilled.

9. Methodology

8.1. Process adopted

The following method of assessment has been used in the preparation of this report:

2) Determine the basic assessment data for the building.

3) Assess the design of the building against the current Deemed-to-Satisfy requirements of Sections B, C, D, E, F, G, H and J of the BCA. Establish the status of each clause into the following categories:
    1. Clause is administrative information only **(Noted)**;
    2. Clause is or is not relevant to the proposed work **(Applicable or N/A)**
    3. The proposed work complies with the requirements of the clause **(Complies)**;
    4. Compliance with the requirements of the clause is unable to be determined from the documentation provided **(Compliance Readily Achievable)**. A recommendation in the "Comments" column will indicate what is required to achieve compliance. The design and construction teams are responsible to ensure compliance is achieved;

5. Compliance with the requirements of the clause is unable to be determined from the documentation provided. Additional details or relevant information required to verify compliance (**Additional Details Required**);

6. Proposed work does not comply with the requirements of the clause **(Does Not Comply)**. An indication will be given in the Comments field as to the nature of the issue and whether an alternative solution has been proposed to address the issue;

7. Proposed work is to be addressed on a performance basis via an Alternative Solution satisfying the relevant Performance Requirements. (**Performance Solution**);

4) Nominate the status of the design against each BCA requirement;

5) Provide comments against each BCA requirement as appropriate.

10. Assessment Data Summary

The following basic assessment data has been drawn from the provisions of the BCA 2022.

8.2. Interpretations

A number of issues within the BCA are recognised to be interpretive in nature. Where these issues are encountered, interpretations are made that are consistent with Standard Industry Practise and/or Steve Watson & Partners policy formulated in regard of each issue.

1. The basement carpark is not required to be provided with dedicated sanitary facilities to comply with Part F2 of the BCA as it is ancillary to the residential uses of the building.

11. Relevant Authorities

Where an alternative solution is proposed to meet the performance requirements contained in any one or more of the Category 2 fire safety provisions referral to Fire and Rescue NSW under Section 26 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 is required in either of the following types of buildings:

(a) a class 9a building that is proposed to have a total floor area of 2,000 square metres or more, or

(b) a building (other than a class 9a building) that is proposed to have:

(i) a fire compartment with a total floor area of more than 2,000 square metres, or

(ii) a total floor area of more than 6,000 square metres,

12. Statutory Fire Safety Measures

All fire/essential safety measures installed within the building are required to be certified upon completion of the project and prior to occupation of the building by the owner of the building, by issuing a Final Fire Safety Certificate under the Act.

The owner is also required under the Act to certify each of the Fire Safety Measures annually by issuing a Fire Safety Statement.

With performance solutions, additional or more frequent maintenance may result.

13. Conclusion

The design is capable of complying with the requirements of the relevant sections of the of the Act and EPAR (DCFS) 2021, EPAR 2021 and the BCA 2022 subject to resolution of the identified areas of non-compliance and compliance with the recommendations provided within the during design development stage without significant alterations to the proposal.

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

14. BCA 2022 - Clause by Clause Assessment

<table>
<tr><th>Clause</th><th>Description</th><th>Comment</th><th>Status</th></tr>
<tr><td colspan="4">BCA Version</td></tr>
<tr><td>BCA 2022</td><td>BCA version
The BCA is generally updated every 3 years with amendments influencing health, safety and amenity features required within the building. Legislation typically allows future BCA changes to be ignored provided substantial progress on the design of the development has previously occurred.</td><td>This report assumes that the applicable BCA version is BCA 2022. In addition, requirements of the Premises Standards (PS) are covered as relevant.
NCC 2022 uses a new structure and clause referencing system. This system is called Section-Part-Type-Clause (SPTC).
An example of the (SPTC) referencing system is expanded upon below:
<table>
<tr><th>Ref</th><th>Description</th></tr>
<tr><td>Section</td><td>Refers to the applicable section of the NCC.

e.g., Section D - Access and egress

Section lettering will mostly stay as per previous editions of the National Construction Code.</td></tr>
<tr><td>Part</td><td>Part identifies the part of the applicable section.

e.g., Part D2 - Provisions for escape.</td></tr>
<tr><td>Type</td><td>Type refers to the type of Clause:

O - Objective
F - Functional Statement
P - Performance Requirement
V - Verification Method
D - Deemed-to-Satisfy
C - Specification
G - Governing Requirements</td></tr>
<tr><td>Clause</td><td>Clause refers to the number within the Type group.</td></tr>
</table></td><td>Noted</td></tr>
<tr><td colspan="4">Section A: General Provisions</td></tr>
<tr><td>A5G3</td><td>Suitability of materials
Every part of a building must be constructed in an appropriate manner to achieve the requirements of the BCA, using materials that are fit for the purpose for which they are intended.</td><td>The builder is responsible to adopt and install appropriate proprietary accredited/tested building products and is to ensure that those products/assemblies are fit for the purpose they are intended and are installed in accordance with the manufacturer’s specifications/ requirements for that system.</td><td>Noted</td></tr>
<tr><td>Part A6</td><td>Classification and usage
Usage on each level of the building is as follows:</td><td><table>
<tr><th>LEVEL</th><th>USE</th><th>CLASS</th></tr>
<tr><td>Basement 2</td><td>Carparking & Storage</td><td>Class 7a & 7b</td></tr>
<tr><td>Basement 1</td><td>Residential sole-occupancy units, Carparking Storage</td><td>Class 7a & 7b</td></tr>
</table></td><td>Noted</td></tr>
</table>

Clause	Description	Comment	Status
		Ground — Carparking, Storage, loading dock and residential sole occupancy units. — Class 2, 7a & 7b Level 1 – 13 — Residential Sole-occupancy units & Common areas — Class 2	
Part A7	**United buildings** Buildings are deemed united when two or more buildings adjoining each other are connected and used as one building.	As each residential tower is located above a single carpark the buildings are considered a "united building" for the purpose of this assessment.	Noted
Section B: Structure			
B1D2	**Resistance to actions** The resistance of the building must be greater than the most critical action effect resulting from different combinations of actions	Certification from a qualified structural engineer will need to be provided at CC stage.	Compliance Readily Achievable
B1D3	**Determination of individual actions** The magnitude of individual actions must be determined in accordance with Clause B1D3 of the BCA. The building has an importance level 3 in accordance with Table B1D3a.	Certification from a qualified structural engineer will need to be provided at CC stage.	Compliance Readily Achievable
B1D4	**Determination of structural resistance of materials and forms of construction** The structural resistance of materials and forms of construction must be determined in accordance with the relevant Australian Standards in accordance with Clause B1D4 of the BCA.	Certification from a qualified structural engineer will need to be provided at CC stage	Compliance Readily Achievable
B1D5	**Structural software** Structural software used in computer aided design of a building or structure that uses design criteria based on DTS provisions of the BCA must comply with the ABCB Protocol for Structural Software.	Certification from a qualified structural engineer will need to be provided at CC stage	Compliance Readily Achievable
B1D6	**Construction of buildings in flood hazard areas** A Class 2, 3, 4, 9a or 9c building located in a flood hazard area must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.	Hydraulic engineer to confirm whether the building is located within a floor hazard area and compliance with this clause.	Compliance Readily Achievable

Clause	Description	Comment	Status
Section C: Fire Resistance			
Part C2 - Fire Resistance and Stability			
C2D2	**Type of construction required** **Type A Construction** BCA Type A fire resisting construction is required. Refer to Appendix Specification 5 for the required FRLs for each building element. Refer to Appendix Specification 5 for the required FRLs for each building element.	The building in its entirety shall be constructed in Type A construction. Details of the proposed construction and how it will achieve the required FRL is to be provided. Certification from a structural engineer will be required for FRL's of all structural elements.	Compliance Readily Achievable
Specification 5	**Fire resisting construction** *Support of another part* Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must have an FRL not less than that required for the part if supports and be non-combustible. *Attachments* The method of attaching or installing a finish, lining, ancillary element or service to a building element must not reduce the fire resistance of that element. *Enclosure of shafts* Shafts required to have an FRL must be enclosed at the top and bottom by construction have an FRL not less than that required for the walls of the shaft. Shafts, other than one enclosing a fire isolated stairway or ramp, do not require an FRL at the top if the shaft extends beyond the roof covering.	Details of the proposed method of fire separation at the junction of floors and the external wall and the junction of fire rated internal walls and the external wall are required to be submitted for assessment at CC stage. The Ground Floor contains a loading dock which is required to be fire separated from the remainder of the building to achieve FRL 240. In accordance with the DtS provisions of the BCA, this FRL shall extend to the structural elements including columns and floor slabs of Basement level 1 & 2. Residential levels shall be fire separated from one another to achieve FRL 90/90/90 Large-scale sections illustrating how lightweight fire rated construction encloses the top of shafts or how the shafts extend beyond the roof covering per this clause are needed for review. Winter gardens are considered Part of the sole-occupancy unit, where walls separate winter gardens and another sole-occupancy unit bounding construction shall be continued to the construction edge. Concessions may be applied to the building where by; • The roof need not be provided with an FRL	Compliance Readily Achievable

Clause	Description	Comment	Status
		It is proposed to have a waste chute discharge within a bin room, therefore, the bottom of the shaft will not be enclosed with fire rated construction as required by Specification 5. A Fire Engineer shall be engaged at CC stage to assess the feasibility of a Performance Solution to vary the DtS requirements of the BCA. Furthermore, storage areas on ground floor are technically required to be fire separated from the reminder of the storey to achieve an FRL 240, If storage in basement areas is greater than 10% of the total floor area of the storey then an FRL 240/240/240 will be required. The client has advised a Fire Engineer is to be engaged at CC Stage to address variations to the DtS requirements of the BCA	Performance Solution
C2D3	**Calculation of rise in storeys** **Effective Height / Calculation of rise in storeys**. Rise in storeys is a defined BCA term addressing the number of main building levels excluding basements. Effective height is defined under the BCA as vertical distance between the floor of the lowest storey included in the calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units). These parameters influence the BCA provisions applicable to the building.	The following parameters apply: **Rise Storeys:** Fourteen (14) **Number of Storeys:** Sixteen (16) **Effective Height:** 42.85m	Noted
C2D4	**Buildings of multiple classification**	The building is required to be constructed of Type A fire resisting construction as the classification of the top storey is a Class 2	Noted
C2D5	**Mixed types of construction**	N/A – The building in its entirety will be constructed in Type A Construction.	N/A
C2D6	**Two storey Class 2, 3 or 9c buildings**	N/A – The building in its entirety will be constructed in Type A Construction.	N/A
C2D7	**Class 4 parts of buildings**	N/A	N/A
C2D8	**Open spectator stands and indoor sports stadiums**	N/A	N/A
C2D9	**Lightweight construction** Lightweight construction used in a wall system must comply with Specification 6 - Structural tests for lightweight construction. Lightweight construction used as a fire-resisting covering of a steel column or the like, and where the covering is not in continuous contact with the column must have the voids filled to a height of not less than 1.2m above the floor and where	Fire rated wall types must match a tested protype. Product codes should be noted on the wall type schedule and corresponding test reports provided for review at CC stage.	Compliance Readily Achievable

Clause	Description	Comment	Status
	the column is liable to be damaged must be protected by steel or other suitable material.		
C2D10	**Non-combustible building elements** In a building required to be of Type A construction, the following building elements and their components must be non-combustible: i. External walls and common walls, including all components incorporated within them including façade covering, framing and insulation; ii. The flooring and floor framing of lift pits; iii. Non-loadbearing internal walls where they are required to be fire-resisting; iv. Non-loadbearing shaft being a lift, ventilating, garbage or similar shaft. The following materials may be used where non-combustible materials are required:- • Plasterboard. • Perforated gypsum. • Fibrous-plaster sheeting to AS 2185. • Fibre-reinforced cement sheeting. • Pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the spread-of-flame index of the product is not greater than 0. • Sarking-type materials that do not exceed 1mm thickness and have a flammability index not greater than 5. • Bonded laminated materials where each lamina, including any core, is not combustible and each adhesive layer does not exceed 1mm thickness and the total thickness of the adhesive layers does not exceed 2mm and the spread of flame index and smoke development index of the bonded laminated material as a whole do not exceed 0 and 3 respectively and when located externally, are fixed in accordance with C2D15. • Any product as determined by testing to AS 1530.1 • An appropriately BCA accredited product or system	The Architect and Structural Engineer are to make provisions for this requirement in the design. A detailed review of the external cladding must be undertaken to ensure that there are no combustible materials and non-complaint claddings have not been nominated that could increase the risk of fire spread via the external façade. An architectural specification detailing the components of the external walls and their fire properties are needed for review including corresponding test reports verifying compliance with this clause at CC stage. Ensure all façade materials have a current Certificate of Conformity or a current Certificate of Accreditation, or the like to determine their acceptance by the Fire Safety Engineer and Fire Brigade. Please refer to Appendix C2D10 at the end of this report for further details.	Compliance Readily Achievable
C2D11	**Fire hazard properties** *(NSW variation for Entertainment Venues)* Floor materials, floor coverings and wall and ceiling lining materials need to comply with prescribed fire hazard properties. Refer to Appendix C2D11 & compliance with AS5637.1-2015.	Compliance assumed and will require verification test data for all timber and other combustible linings and materials, including: • Carpets • Vinyl's (walling and flooring) • Timber flooring and wall linings • Veneered wall panelling • Spray-on insulation material	Compliance Readily Achievable

Clause	Description	Comment	Status
		• Other combustible finishes • Carpark soffit insulation fire test reports, based on 'room fire testing' will be required to meet fire brigade consent conditions if applicable. A schedule of internal finishes and corresponding fire hazard test data for all combustible internal linings are needed for review at CC stage.	
C2D12	**Performance of external walls in fire** Concrete external walls that could collapse as complete panels are to be designed in accordance with Specification 8 to minimise the likelihood of external walls collapsing outwards in the event of a fire and separating from supporting members.	N/A – The Building has a rise in storeys of more than two (2).	N/A
C2D13	**Fire-protected timber: Concession** *Fire-protected timber* may be permitted under this clause wherever an element is *required* to be *non-combustible*.	N/A	N/A
C2D14	**Ancillary elements** An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is non-combustible or is otherwise permitted under this clause.	At this stage details of ancillary items that may be attached to the external wall have not been provided. In particular details should be provided for the following; • Awning, sunshade, canopy, blind or shading hood • signage fixed to the external wall. Further assessment is required at CC stage.	Compliance Readily Achievable
C2D15	**Fixing of bonded laminated cladding panels** In a building required to be of Type A construction, externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame.	Sufficient details have not been provided at this stage externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame in accordance with C2D15. Further details are to be provided at CC stage for assessment.	Compliance Readily Achievable
Part C3 - Compartmentation and Separation			
C3D2	**Application of Part**	Clauses C3D3, C3D4 and C3D5 do not apply to a sprinkler protected carpark, an open deck carpark or an open spectator stand.	Noted

Clause	Description	Comment	Status
C3D3	**General floor area and volume limitations** **(Type A construction)** The floor area and volume limitations are: Class 7: 5,000m² and 30,000m³ **Note:** • The BCA does not require Class 2 and 3 parts of the building to be considered • The basement carpark levels are not required to be considered as they're provided with a sprinkler system throughout	The floor area and volume of the largest fire compartment in the building does not exceed the maximum limitations outlined by Table C3D3. The floor areas and volumes of fire compartments in the building are listed in Appendix C3D3 of this report.	Complies
C3D4	**Large isolated buildings**	N/A – The building is not considered a large-isolated building to which this clause applies	N/A
C3D5	**Requirements for open space and vehicular access**	N/A – The building is not considered a large-isolated building to which this clause applies	N/A
C3D6	**Class 9 buildings**	N/A- The building does not contain Class 9 parts.	N/A
C3D7	**Vertical separation of openings in external walls** Spandrel separation is required in a building of Type A construction that is not sprinkler protected, which must be not less than 900mm in height, extend not less than 600mm above the upper surface of the intervening floor and be of non-combustible material having an FRL of not less than 60/60/60.	The building will be provided with a sprinkler system in accordance with BCA Clause E1D6, therefore the requirements of BCA Clause C3D7 are not applicable.	Noted
C3D8	**Separation by fire walls** A fire wall must extend to the underside of a floor having an FRL required for a fire wall or the roof covering.	It is proposed to separate fire compartments and building classifications via a Fire Wall. Please refer to BCA Clause C3D9 for further details	Noted
C3D9	**Separation of classifications in the same storey** As the building has parts of different classifications located alongside one another in the same storey, each building element must have the higher FRL prescribed in Specification 5 of the BCA or the parts must be separated by a fire wall.	The Ground Floor and first floor contains Class 7b parts (loading dock), the loading dock is required to be fire separated from the remainder of the building via FRL 240/240/240. Sufficient details have not been provided at this stage to demonstrate compliance. However, compliance is readily achievable. Updated architectural drawings including the nominated FRL are to be provided at CC stage for further assessment.	Compliance Readily Achievable

Clause	Description	Comment	Status
		Technically, the storage areas located on Ground Floor are required to be fire separated from the remainder of the storey (due to three (3) building classifications being located on said storey). The client has advised that a Fire Engineer will be engaged at CC to provide a Performance Solution to vary the requirements for fire separation.	Performance Solution
C3D10	**Separation of classifications in different storeys** As different classifications are situated one above the other in adjoining storeys they must be separated in accordance with the DTS provisions of the BCA.	The Ground Floor and first floor contains Class 7b parts (loading dock), the loading dock is required to be fire separated from the remainder of the building via FRL 240/240/240 unless varied via Fire Engineering Performance Solution	Compliance Readily Achievable
C3D11	**Separation of lift shafts** Openings for lift landing doors and services must be protected in accordance with the DTS provisions of Part C4 of the BCA.	It is assumed that the building can readily comply. Detailed architectural drawings including fire compartment/FRL drawings are to be submitted for further assessment.	Compliance Readily Achievable
C3D12	**Stairways and lifts in one shaft**	The current configuration is such that the stairway and lift shafts are contained in separate shafts therefore complying with the requirements of this clause.	Complies
C3D13	**Separation of equipment** 2hr fire separation is required for: • Lift motor rooms. • Emergency generators sustaining emergency equipment operating in emergency mode. • Central mechanical smoke control plant. • Boilers. • A battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more.	EV charging stations are proposed to be installed within the carparking area. At this stage it is assumed the EV charging stations will contain a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more. Additionally the installation of EV charging stations will be addressed as an Excessive Hazard via BCA Clause ED13 & E2D21 provisions for special hazards. A separate hazard assessment is to be undertaken by a Fire Engineer.	Performance Solution
C3D14	**Electricity supply system**	N/A – The substation will be located external to the building.	N/A
C3D15	**Public corridors in Class 2 & 3 buildings**	N/A – public corridors do not exceed metres in length.	N/A
Part C4 - Protection of Openings			
C4D2	**Application of Part**	Noted	Noted
C4D3	**Protection of openings in external walls** Openings in the external walls of the building are to be protected in accordance with C4D5, being fire rated windows, external sprinklers or the like, if they are: • Less than 3m to side or rear boundary,	Openings formed between columns on the southern elevation are technically considered openings in the external wall. As these openings are located within 3m of the fire source feature, they are required to be protected in accordance with BCA Clause C4D5.	Performance Solution

Clause	Description	Comment	Status
	• Less than 6m from the far boundary of a road or lane, • Less than 6m from another building on the same allotment. Openings that require protection should not occupy more than $^1/_3$ of the external wall of the storey in which it is located.	A Fire Engineer is to be engaged at CC stage to address variations to the DtS requirements.	
C4D4	**Separation of external walls and associated openings in different fire compartments** External walls within the distances specified in Table C4D4 of the BCA are to be protected by construction with an FRL not less than 60/60/60 and the associated openings protected in accordance with Clause C4D5 of the BCA. **Angle between walls** / **Min. Distance** 0° (walls opposite) — 6 m more than 0° to 45° — 5 m more than 45° to 90° — 4 m more than 90° to 135° — 3 m more than 135° to less than 180° — 2 m 180° or more — Nil	Within Carpark Level L02, openings to the carpark supply room fan are located within 5 m of the adjoining external wall of a Class 2 part. The grills located on the external wall are required to be provided with fire dampers in accordance with BCA Clause C4D5. Sufficient details have not been provided for assessment however, compliance is readily achievable subject to detailed design development.	Compliance Readily Achievable
C4D5	**Acceptable method of protection** Window openings are to be protected by internal or external wall wetting sprinklers and must automatically close or be permanently fixed in the closed position, -/60/- fire windows that are automatic closing or permanently fixed closed or -/60/60 automatic closing fire shutters. Doorways are to be protected by internal or external wall wetting sprinklers used with doors that are self-closing or automatic closing, or -/60/30 self-closing or automatic closing fire doors. Other openings, excluding voids, are to be protected with internal or external wall wetting sprinklers or construction having an FRL not less than -/60/-.	Noted - Please refer to discussion within Clause C4D3 & C4D4 of this report.	Noted
C4D6	**Doorways in fire walls** Doorways in firewalls are to be protected by a fire door or fire shutter that has an FRL of not less than that required for the firewall except that the insulation rating must be at least 30.	Sufficient details have not been provided at this stage for assessment, however, compliance is readily achievable subject to a door schedule being submitted at CC stage for assessment. Where the Class 7b parts have been separated from the remainder of a building via Fire Wall, any door openings located in the fire wall shall achieve FRL - 240/30 except where varied via Fire Engineering Performance Solution.	Compliance Readily Achievable
		Additionally, the roller shutter located in the fire wall separating the loading dock from the carpark will not achieve the required insulation rating. A Fire Engineer is to be engaged at CC to address the omission of an insulation rating to the fire rated roller shutter.	Performance Solution
C4D7	**Sliding fire doors**	N/A – Sliding fire doors are not proposed in the development.	Noted

Clause	Description	Comment	Status
C4D8	**Protection of doorways in horizontal exits** Doorways in horizontal exits are to be protected by a fire door, which has an FRL of not less than that required for the firewall except that the insulation rating must be at least 30.	The door separating Ground Floor Carpark from Ground Floor & Carpark L02 from the residential parts is proposed to facilitate egress and therefore considered a horizontal exit. The doors are required to achieve an FRL -240/30. Sufficient details have not been provided at this stage for assessment, however, compliance is readily achievable subject to a door schedule being submitted at CC stage for assessment.	Compliance Readily Achievable
C4D9	**Openings in fire-isolated exits** -/60/30 self-closing fire doors are required to doorways providing access to fire isolated stairways. A window or other opening in the external wall of the fire isolated exit is to be protected in accordance with Clause C4D5 if it is within 6m of, and exposed to, a window or other opening in the wall of the same building.	Sufficient details have not been provided at this stage for assessment, however, compliance is readily achievable subject to a door schedule being submitted at CC stage for assessment.	Compliance Readily Achievable
C4D10	**Service penetrations in fire-isolated exits** Service penetrations other than electrical wiring for essential service installations, pressurisation ducts with an FRL of -/120/60, or water pipes for fire services are not permissible.	Service drawings have not been provided at this stage. It is assumed compliance can readily be achieved. Service contractors are to ensure that no services other than those associated with fire services are contained within the fire isolated stairs.	Compliance Readily Achievable
C4D11	**Openings in fire-isolated lift shafts** Openings in lift shafts are to be protected by -/60/- fire doors complying with AS1735.11. Lift indicator panels are to be backed by construction having an FRL of not less than -/60/60 if they exceed 35,000mm^2 (175 X 200 mm).	Certification from the lift supplier or a lift specification noting compliance is needed for review.	Compliance Readily Achievable
C4D12	**Bounding construction: Class 2 and 3 buildings and Class 4 parts** *(NSW variation for Entertainment Venues)* Doorways opening to public corridors are to be protected with self-closing -/60/30 fire doors.	Sufficient details have not been provided at this stage for assessment, however, compliance is readily achievable subject to a door schedule being submitted at CC stage for assessment. Doors providing access from residential sole-occupancy units or rooms not contained within a residential sole occupancy unit are to be provide with -/60/30 self-closing fire doors in accordance with BCA Clause D4D12	Compliance Readily Achievable
C4D13	**Openings in floors and ceilings for services** Services passing through floors are to be placed within fire resisting shafts or in accordance with Clause C4D15.	A schedule of penetrations prepared by a properly qualified BCA consultant nominating the types of openings requiring protection and the method of protection including test reports for each fire-stopping product is needed for review at CC stage.	Compliance Readily Achievable

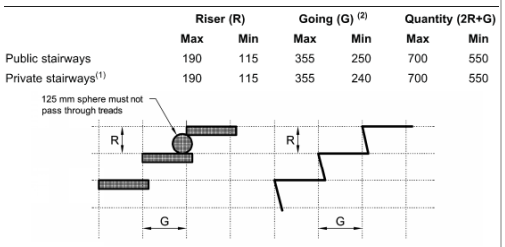
Clause	Description	Comment	Status
C4D14	**Openings in shafts** In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage, or other service shaft must be protected by: • If it is a sanitary compartment - a door or panel which together with its frame, is non-combustible or has an FRL of not less than -/30/30, or • A self-closing -/60/30 fire door or hopper, or • An access panel with an FRL of not less than -/60/30, or • If the shaft is a garbage shaft - a door or hopper of non-combustible construction.	A door schedule detailing protection to openings in shafts has not been provided at this stage. It is assumed the building can readily comply. Detailed architectural drawings, including door schedules and BCA specification are required to be submitted for further assessment.	Compliance Readily Achievable
C4D15	**Openings for service installations** Services penetrations through a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, must comply with a tested system or Specification 13. Methods and materials used are to be identical to tested prototypes and in accordance with AS4072.1 and AS1530.4, and must achieve the required FRL or resistance to the incipient spread of fire or other specified method. Ventilation and air-conditioning systems are to be installed in accordance with AS/NZS 1668.1.	A schedule of penetrations prepared by a properly qualified BCA consultant nominating the types of openings requiring protection and the method of protection including test reports for each fire-stopping product is needed for review at CC stage.	Compliance Readily Achievable
C4D16	**Construction Joints** Construction joints in elements required to have a fire resistance with respect to integrity and insulation must be protected.	Construction joints are to be fire protected in a manner identical to a prototype tested in accordance with AS4072.1 and AS1530.4 to achieve the required FRL or must otherwise comply with the requirements of this clause.	Compliance Readily Achievable
C4D17	**Columns protected with lightweight construction to achieve an FRL**	Columns must be protected in accordance with the identical tested prototype. Product codes should be noted on architectural plans and corresponding test reports provided for review.	Compliance Readily Achievable
Section D: Access and Egress			
Part D2 - Provision for Escape			
D2D2	**Application of Part** This part does not apply to the internal parts of a sole-occupancy in a Class 2 or 3 building or Class 4 part of a building.	Noted	Noted

Clause	Description	Comment	Status
D2D3	**Number of exits required** *(NSW variation for Entertainment Venues)* At least two exits need to serve each storey of : • Buildings over 25m in effective height. • Each basement level. Access to an exit must be provided without passing through another SOU.	As the building exceeds 25 m in effective height all parts of the building are required to be provided with a minimum of two (2) exits. Generally, all parts of the building satisfy this requirement. However, it is proposed to address a single exit in lieu of two (2) exits to the following parts; • SP Fan Room • Fire Pump Room & Water tank.	Performance Solution
D2D4	**When fire-isolated stairways and ramps are required** Class 2 and 3 buildings (a) Subject to (b), every stairway or ramp serving as a required exit must be fire-isolated unless it connects, passes through or passes by not more than 3 consecutive storeys in a Class 2 building. One extra storey of any classification may be included if the building has a sprinkler system (other than a FPAA101D system) complying with Specification 17 installed throughout Every stair in a Class 5 to 9 building must be fire isolated unless it does not connect or pass through more than 3 consecutive floors in a sprinkler protected building, or 2 storeys in a non-sprinkler protected building.	The current layout and configuration of the stairs where they are required to be fire isolated are such that the architectural drawings demonstrate compliance with the provisions of this clause. Further details are required to be provided with regards to the FRL of the shaft at CC stage.	Compliance Readily Achievable
D2D5	**Exit travel distances** The BCA limits maximum travel distances to a point of choice and to an exit. No point 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. (Note Specification 18 concession for sprinkler protected Class 2 and 3 buildings not more than 25m in effective height)	The nominated exits in the building are listed in appendix D2D5 of the report. The following areas have been identified with distances exceeding 20m to a point of choice: 1. Basement Level 02 -The distance to a point of choice measures up to 30 m 2. Basement Level 01 -The distance to a point of choice measures up to 30 m 3. Ground Level -The distance to a point of choice measures up to 26 m. 4. Level 01- The distance to a point of choice measures up to 30 m. 5. Carpark L02 - The distance to a point of choice measures up to 30 m. 6. Residential Level 02 -03 – The distance to a single exit at ground level exceeds 20 m. 7. Level 03- Level 12 – Distance to an exit/point of choice up to 12m in lieu of 6m. A Fire Engineer is to be engaged at CC stage	Performance Solution

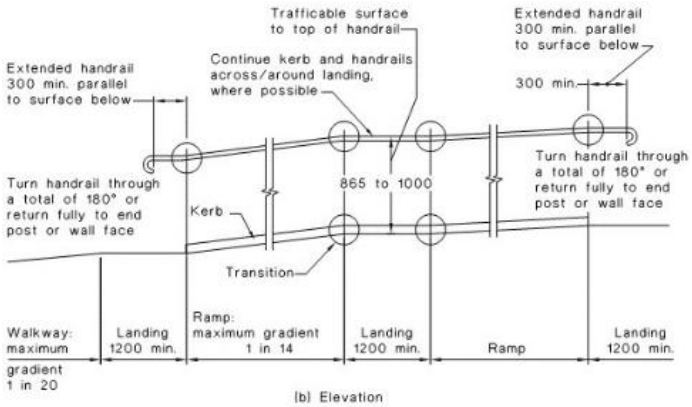
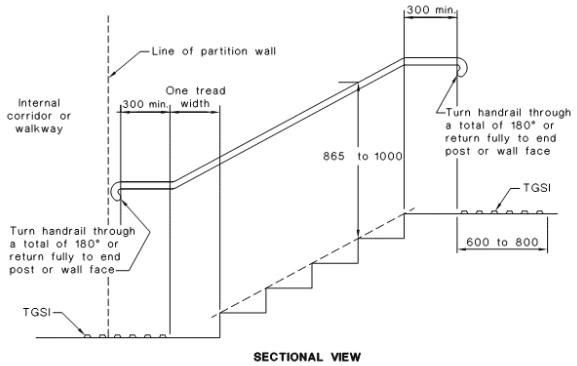
Clause	Description	Comment	Status
		to address variations to the DtS requirements via Performance Solution.	
D2D6	**Distance between alternative exits** Alternative exits must be at least 9m apart and no more than: • Class 2 or 3 buildings and Class 9a patient care areas - 45m apart. • All other cases - 60m apart. Alternative paths of travel must not converge such that they become less than 6m apart.	The following areas have been identified with distances between alternative exits exceeding 60m: 1. Basement Level 01 -The distance between alternate exits exceeds 60 m 2. Level 01- The distance between alternate exits exceeds 60 m Furthermore, the alternative exits serving residential levels 03-12 are closer than 9m. A Fire Engineer is to be engaged at CC stage to address variations to the DtS requirements via Performance Solution.	Performance Solution
D2D7	**Height of exits, paths of travel to exits and doorways** Except for doorways, paths of travel must have a clear height of at least 2m.	Sufficient details have been provided for assessment. However, it is assumed compliance is readily achievable subject to detailed design development. Architectural drawings are to be submitted for further assessment detailing the paths of travel must have a clear height of at least 2m.	Compliance Readily Achievable
D2D8	**Width of exits and paths of travel to exits** *(NSW variation for Access and egress)*	The architectural drawings demonstrate that the widths of exits and paths of travel to an exit comply with the requirements of BCA Clause D2D8.	Complies
D2D9	**Width of doorways in exits or paths of travel to exits** *(NSW variation for Access and egress)*	The architectural drawings demonstrate that all doors have a minimum clear opening of 750mm.	Complies
D2D10	**Exit width not to diminish in direction of travel**	N/A	N/A
D2D11	**Determination and measurement of exits and paths of travel to exits**	Noted	Noted
D2D12	**Travel via fire-isolated exits**	Fire stair 13A- 13C, 14A-14C and15A-15C discharge to roof as open space, however, the path of travel to road requires occupants discharging within 6m of openings located in external walls of the same building. Furthermore, fire isolated stair 13-A to 13- C discharge to a point within the confines of the building. The client has advised that a Fire Engineer will be engaged at CC stage to provide a Performance Solution to address variations to the DtS requirements of the BCA. **Please refer to BCA Clause D3D13 for further comments.**	Performance Solution
D2D13	**External stairways or ramps in lieu of fire-isolated exits**	N/A – External stairs are not proposed in lieu of fire isolated stairs	N/A
D2D14	**Travel by non-fire-isolated stairways or ramps**	N/A – Non-fire isolated stairs do not serve as a required exit and therefore the requirements of this Clause do not apply.	N/A

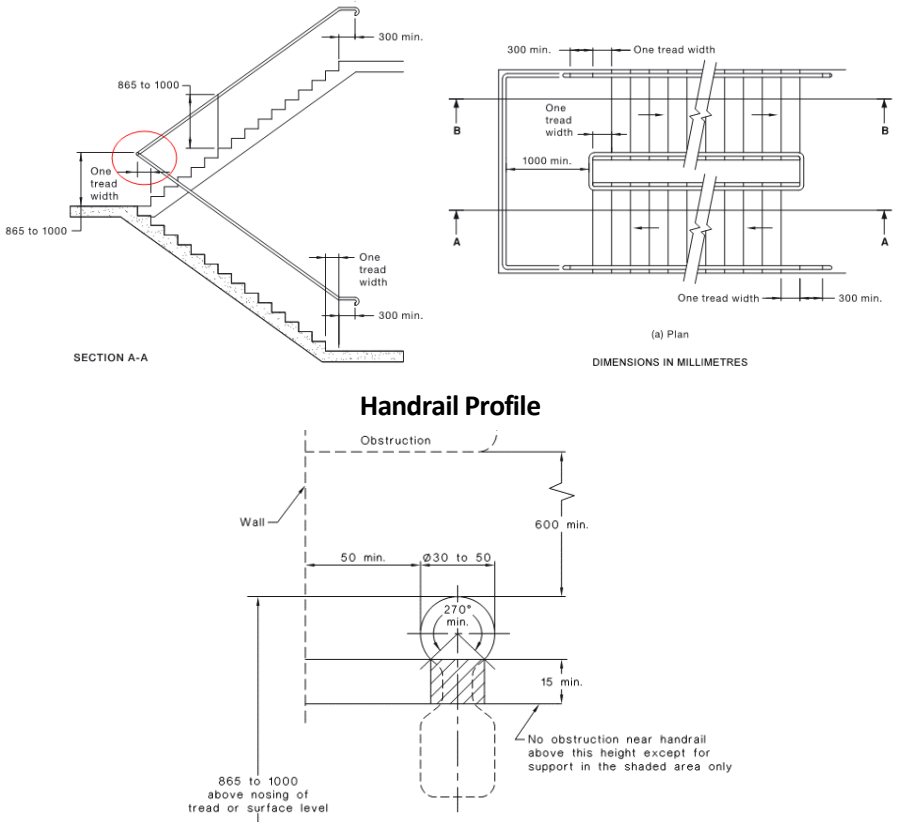
Clause	Description	Comment	Status
D2D15	**Discharge from exits** An exit must not be blocked nor be capable of being blocked at its point of discharge.	Alternate exits serving as a required exit (all fire isolated stairs) do not discharge as far apart as practical. A Fire Engineer shall be engaged at CC Stage to address variation to the DtS requirements of the BCA. Furthermore, the path of travel to the road requires occupants to discharge across a pedestrian link located on a different allotment. A Fire Engineer shall address the path of travel to road via a Performance Solution and it is likely the owners will need to obtain an easement for access to permit travel through the pedestrian link.	Performance Solution
D2D16	**Horizontal exits** Horizontal exits must have a clear area on the side of the fire wall, to which the occupants are evacuating, to accommodate the total number of persons serviced by the horizontal exit of not less than 0.5m^2 per person in any other case.	The horizontal exit serving Carpark L02 does not swing in the direction of travel, the client has advised that a Fire Engineer will be engaged at CC to address the door swinging against the direction of travel.	Performance Solution
D2D17	**Non-required stairways, ramps or escalators**	N/A	N/A
D2D18	**Number of persons accommodated**	It is assumed that there will be no more than 5 persons per SOU.	Noted
D2D19	**Measurement of distances**	Noted	Noted
D2D20	**Method of measurement**	Noted	Noted
D2D21	**Plant rooms, lift machine rooms and electricity network substations: Concession**	N/A - Level access is provided to all plant areas.	N/A
D2D22	**Access to lift pits** Access requirements apply to lift pits over 3m in depth.	Lift consultant to confirm.	Compliance Readily Achievable
D2D23	**Egress from primary schools**	N/A – Class 9b parts not contained within the building.	N/A
Part D3 - Construction of Exits			
D3D2	**Application of Part**	Noted	Noted
D3D3	**Fire-isolated stairways and ramps** Fire resisting shafts must be constructed of non-combustible materials and so that if there is local failure it will not cause structural damage or impair the fire resistance of the shaft.	The Structural Engineer is required to provide design certification at CC stage with regards to the structural design.	N/A
D3D4	**Non-fire-isolated stairways and ramps**	N/A	N/A
D3D5	**Separation of rising and descending stair flights**	There is no direct connection between the stairs rising from the basement level and the stairs descending from the residential levels.	Complies
D3D6	**Open access ramps and balconies**	N/A	N/A
D3D7	**Smoke lobbies**	N/A	N/A

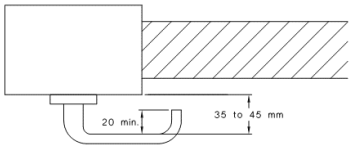
Clause	Description	Comment	Status
D3D8	**Installations in exits and paths of travel** Electrical meters and motors, distribution boards and telecommunication boards must not be accessed from fire isolated exits and, if located in corridors leading to exits, should occur in non-combustible or fire protective smoke sealed enclosures. No openings to ducts conveying hot products of combustion permitted in required exits. Gas or fuel services not permitted in required exits. Electric or services equipment in paths of travel to exits must be within a non-combustible and smoke sealed enclosure.	The architectural drawings indicate the location of the electrical comms and DB's within public corridors & lobbies. A door schedule is required to be provided at CC stage identifying non-combustible construction or a fire protective covering with doorways suitably sealed against smoke spread.	Compliance Readily Achievable
D3D9	**Enclosure of space beneath stairs and ramps**	N/A – There are no non fire isolated stairs serving as required exits with an enclosure beneath the stair.	N/A
D3D10	**Width of required stairways and ramps** A stairway or ramp more than 2m in width is only counted as having a width of 2m unless it is divided by a continuous handrail or balustrade between landings and each division is less than 2m wide.	Noted	Noted
D3D11	**Pedestrian ramps** Ramps serving as required exit must have a gradient not less steep than 1:8. If the ramp is required for disabled access under Part D4 it must comply with AS1428.1. The surface of the ramp must have a non-slip finish.	Compliance has been demonstrated. No ramps exceed 1:8 where they serve as a required exit of path of travel to a required exit. Details with regards to the proposed finishes of the ramps are to be provided at CC stage.	Compliance Readily Achievable
D3D12	**Fire-isolated passageways** Fire isolated passageways are to have an FRL equivalent to the fire resisting stair shaft as specified in Specification 5 when tested from the outside	Sufficient details have not been provided at this stage for assessment, however compliance is readily achievable. Architectural drawings shall nominate the required FRL for fire isolated passageways at CC stage.	Compliance Readily Achievable
D3D13	**Roof as open space** The roof is required to have an FRL of not less than 120/120/120 and not incorporate any roof lights or other openings within 3m of the path of travel.	The Level 2 podium will serve as roof as open space for exits discharging from the building, drainage openings will be located within 3m of the path of travel to the road, technically in accordance with BCA Clause D313 no openings are permitted within 3m of the path of travel. **Please refer to BCA Clause D3D13 for further comments.**	Performance Solution
D3D14	**Going and risers** *(NSW variation for Entertainment Venues)* To provide safe passage, stairways must comply with the following: • minimum 2 risers / maximum 18 in each flight • risers 115mm min 190 mm max - going 250mm min 355mm max - 2R+G 550mm min 700mm max. • Adjacent risers, or between adjacent goings a	Sufficient details have not been provided at this stage, however compliance is readily achievable. Large scale stair details are needed for review and should demonstrate compliance with the requirements of this clause at CC stage.	Compliance Readily Achievable

Clause	Description	Comment	Status
	variation no greater than 5mm is permitted and the largest and smallest riser within the flight or the largest and smallest going within a flight is not to exceed a variation of 10mm. • Under the requirements of AS1428.1-2009 open riser are not permitted. • All treads to be fitted with non-slip finish or non-skid strips. • Treads are required to have a surface or nosing strip with a slip-resistance classification not less than listed in Table D3D15 when tested in accordance with AS 4586  		
D3D15	**Landings** Ramps Surfaces, stair tread surfaces or nosing strips, and stair landing surfaces, or landing nosing strips to a flight below, must achieve slip-resistance classifications to AS4586-2013 as follows: **Application** / **Dry Surface Conditions** / **Wet Surface Condition** 1:14 or steeper ramps — P4 or R11 — P5 or R12 Ramps of 1:14 to 1:20 — P3 or R10 — P4 or R11 Tread or Landing Surface — P3 or R10 — P4 or R10 Nosing Strip or Landing Strip — P3 — P4	A finishes schedule specifying ramp and stairway finishes and corresponding slip resistance certification/test reports are needed for review.	Compliance Readily Achievable
D3D16	**Thresholds** *(NSW variation for Entertainment Venues)* Steps should not occur at doorways without a threshold landing except as follows: • In patient care areas in a Class 9a, the door sill is not more than 25mm above the finished floor level to which the door way opens, • In a Class 9c building, a ramp is provide with a maximum gradient of 1:8 for a maximum height of 25mm over the threshold • In a building required to be accessible and the doorway opens to a road or open space and is provided with a threshold ramp or step ramp in accordance with AS1428.1, • Or in any other case a single 190mm step is permitted at doors leading to the exterior.	Note that where access for people with disabilities is required it is not permitted to have a step at the threshold of a doorway.	Noted
D3D17	**Barriers to prevent falls** A continuous barrier must be provided along the	Specific details regarding the construction of barriers have not been provided at this	Compliance Readily

Clause	Description	Comment	Status
	side of— (a) a roof to which general access is provided; and (b) a stairway or ramp; and (c) a floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and (d) any delineated path of access to a building, if the trafficable surface is 1 m or more above the surface beneath.	stage, however, the elevations and sections appear to show balustrades in locations and heights as required. Updated architectural drawings and BCA specification to be provided for further assessment at CC stage.	Achievable
D3D18	**Height of barriers** Barriers must generally not be less than 865mm for stairways and ramps and 1m in all other cases. A 700mm balustrade is permitted in front of fixed seating in an auditorium.	Specific details regarding the construction of barriers have not been provided at this stage, however, the elevations and sections appear to show balustrades in locations and heights as required. Updated architectural drawings and BCA specification to be provided for further assessment at CC stage.	Compliance Readily Achievable
D3D19	**Openings in barriers** Openings in a required barrier must not allow a 125mm sphere to pass through, except for concessions applying to fire-isolated stairs or other emergency use areas excluding Class 9b early childhood centres. Where a barrier is fixes to the face of a landing, balcony or the like, the opening between the barrier and the face must not permit a 40mm sphere to pass through.	Specific details regarding the construction of barriers have not been provided at this stage, however, the elevations and sections appear to show balustrades in locations and heights as required. Updated architectural drawings and BCA specification to be provided for further assessment at CC stage.	Compliance Readily Achievable
D3D20	**Barrier climbability** Where the level of the surface below is 4m or more, a balustrade or other barrier must not facilitate climbing of horizontal elements between 150mm and 760mm above the floor.	Specific details regarding the construction of barriers have not been provided at this stage, however, the elevations and sections appear to show balustrades in locations and heights as required. Updated architectural drawings and BCA specification to be provided for further assessment at CC stage.	Compliance Readily Achievable
D3D21	**Wire barriers**	Specific details regarding the construction of barriers have not been provided at this stage, however, the elevations and sections appear to show balustrades in locations and heights as required. Updated architectural drawings and BCA specification to be provided for further assessment at CC stage.	Compliance Readily Achievable
D3D22	**Handrails** Handrails to exits including parts of fire isolated exit serving an area required to be accessible to people with disabilities must comply with Clause 12 of AS1428.1, viz: • Handrails not to obstruct circulation space • 30-50mm diameter	Sufficient details have not been provided at this stage. Handrail compliance should be confirmed by the access consultant. Handrails are to be provided in compliance with Clause D4D4, which includes the following- **Non-Fire Isolated Stairways and Ramps**	Compliance Readily Achievable

Clause	Description	Comment	Status
	• 865-1000mm above nosing line of stairs • 865-1000mm above ramps and landings • Consistent height throughout • 50mm grip clearance and no obstructions to handhold • Continuous at internal (return) landings • Provided with handrail extensions and 180 degree curled ends	All stairs and ramps not used as an emergency exit are to have handrails installed on both sides that comply with Clause 10 & 11 of AS1428.1-2009 **Fire Isolated Stairways and Ramps** In Fire Isolated Stairways & Ramps a handrail is required to be installed to at least one side of stair flights and located not less than 865mm above the nosing's of stair treads and the floor surfaces of landings **Consistent Handrail Heights for all stairways** The height of the top of the handrail, measured at a height of between 865mm - 1000mm vertically from the stair nosing shall be consistent throughout the ramp (or stairs) and any landings. All stairs including fire stairs are required to be designed to comply with Clause 12 of AS1428.1 - 2009	
	Ramps  (b) Elevation DIMENSIONS IN MILLIMETRES FIGURE 14 RAMP HANDRAILS **Stairways**  SECTIONAL VIEW DIMENSIONS IN MILLIMETRES FIGURE 26(B) STAIRWAY LOCATION AND HANDRAIL EXTENSIONS AT END OF STAIRWAY OTHER THAN AT LINE OF BOUNDARY		

Clause	Description	Comment	Status
			
D3D23	**Fixed platforms, walkways, stairways and ladders** Platforms, walkways, stairs, ladders and the like that give access to and around plant and equipment, machine rooms, attic spaces and other low use areas of the building are permitted provided that construction details are to AS1657.	Certification to AS1657 is to be provided	Compliance Readily Achievable
D3D24	**Doorways and doors** *(NSW variation for Entertainment Venues)* Must not be revolving door, roller shutter or tilt door. Can be fitted with a sliding door if it leads directly to open space and can be opened manually under a force of not more than 110N and be fitted with a fail-safe device if the door is power operated.	Sliding doors have been proposed to access and egress from the residential lobby of the building. The sliding doors are a doorway in the path of travel to road or open space. The doors are required to; • be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source and • open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. An architectural door schedule and BCA specification is required to be submitted for further assessment at CC stage.	Compliance Readily Achievable
D3D25	**Swinging doors** Defined exit doors that serve a part of a building with a floor area over 200m^2 must swing outward in the direction of exit travel.	All doors serving as required exits swing in the direction of travel. **Refer to BCA Clause D2D16 for further comments.**	Complies

Clause	Description	Comment	Status
	Exit doors must not encroach more than 500mm into the required width of the stair or 100mm when fully open and must swing in the direction of travel.		
D3D26	**Operation of latch** Exit doors should be provided with "free handle" egress via a downward or pushing action and, if serving an area accessible to people with disabilities, must have non-slip "D" pull handles with 35-45mm hand clearances.  (a) Isometric view  (b) Plan view Where the latch operation device is not located on the door leaf itself- • manual controls to power-operated doors must be at least 25 mm wide, proud of the surrounding surface and located not less than 500 mm from an internal corner; and • for a hinged door, between 1 m and 2 m from the door leaf in any position; • and for a sliding door, within 2 m of the doorway and clear of a surface mounted door in the open position. • braille and tactile signage complying with Clause 3 and 6 of Specification D3.6 must identify the latch operation device.	No details of door hardware have been provided at this stage. A door schedule and BCA specification is to be submitted at CC stage which demonstrate compliance with D3D6 and AS1428.1-2009 at CC stage.	Compliance Readily Achievable
D3D27	**Re-Entry from Fire-Isolated Exits** Fire isolated stair doors must facilitate re-entry from within the stair back onto the floor on every 4th level at all times and on all levels in the event of a fire alarm, where the exit stair serves a storey above 25m in effective height. Doors of fire-isolated exits must not be locked from the inside of a fire-isolated exit.	As the building has an effective height which exceeds 25m re-entry is required to be provided from all fire isolated stairs.	Compliance Readily Achievable

Clause	Description	Comment	Status
		Option 1 • All doors are fitted with a fail-safe device that automatically unlocks the door upon activation of a fire alarm; **AND** • On at least every fourth storey, the doors are not able to be locked at all and are sign posted stating re-entry is available at that level. Option 2 • All doors are fitted with a fail-safe device that automatically unlocks the door upon activation of a fire alarm; **AND** • An intercommunication or audible/visual alarm system is provided within the stair to assist persons who may accidentally be locked within the stair. Sufficient details have not been provided at for assessment, however compliance is readily achievable subject to a door schedule and BCA specification is to be submitted at CC stage which demonstrate compliance with D3D27 and AS1428.1-2009.	
D3D28	**Signs on doors** Signage in capital letters not less than 20mm high to be provided on doors as follows i. An automatic door held open by an automatic hold-open device: **FIRE SAFETY DOOR - DO NOT OBSTRUCT** ii. for a self-closing door **FIRE SAFETY DOOR** **DO NOT OBSTRUCT** **DO NOT KEEP OPEN** iii. for a door discharging from a fire-isolated exit **FIRE SAFETY DOOR - DO NOT OBSTRUCT**	Under Section 108 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 a notice is to be displayed in a conspicuous location adjacent to a doorway providing access to but not within a fire isolated stairway, passageway or ramp. The words "**OFFENCES RELATING TO FIRE EXITS**" are to be provided in letters at least 8mm high and the remaining words are to be at least 2.5mm high. The notice is to state the following: **OFFENCES RELATING TO FIRE EXITS** It is an offence under the Environmental Planning and Assessment Act 1979 (a) to place anything in or near this fire exit that may obstruct persons moving to or from this exit, or (b) to interfere with or obstruct the operation of any fire doors, or (c) to remove, damage or otherwise interfere with this notice.	Compliance Readily Achievable
D3D29	**Protection of openable windows** Windows serving a residential bedroom or serving an early childhood centre must be protected where the floor is 2m or more above the external surface below. Where the window sill is below 1.7m above the floor level, the openable portion of the window	Window hardware details have not been provided at this stage. A window schedule and BCA specification are to be submitted for further assessment demonstrating compliance with D3D29 at CC stage.	Compliance Readily Achievable

Clause	Description	Comment	Status
	must be protected with • a device to restrict the window opening or • a screen with secure fittings A device or screen required must: • not permit a 125mm sphere to pass through the window opening or screen; and • resist an outward horizontal action of 250N against the window restrained by a device or screen protecting the opening and have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden. Where the fall distance from the floor to the surface below is 4m or more or where a release device occurs to a required screen, an additional barrier at 865mm above floor level is required and must be non-climbable with gaps no greater than 125mm between elements.		
D3D30	**Timber stairways: Concession**	N/A – At this stage timber stairways have not been proposed.	N/A
NSW D3D31	**Doors in the path of travel in an Entertainment Venue**	N/A- The building is not an entertainment venue.	N/A
Part D4 - Access for People with Disabilities			
D4D2	**General building access requirements**	Access requirements of Part D4 are to be assessed by a third-party Access Consultant.	Noted
Section E: Services and Equipment			
Part E1 - Fire Fighting Equipment			
E1D2	**Fire hydrants** The building requires a fire hydrant system in accordance with AS 2419.1 - 2005. Where a sprinkler system is installed in the building in accordance with AS 2118.1, AS 2118.4, AS 2118.6, FPAA101H or FPAA101D the fire hydrant booster protection requirements of clauses 7.3(c)(ii) and 7.3(d)(iii) of AS 2419.1 do not apply. The fire brigade booster assembly is required to be installed in accordance with AS2419.1 - 2005 except that it may be located between 3.5m and 10m of the building where the assembly is protected by an adjacent fire-rated freestanding wall that— • achieves an FRL of not less than 90/90/90; and • extends not less than 1 m each side of the outermost fire hydrant booster risers within the assembly and is not less than 3 m wide; and • extends to a height of not less than 2 m above finished ground level.	Full compliance with AS2419.1 will be required unless varied via fire brigade approval. The hydraulic engineer must ensure that compliant coverage is provided to all areas of the building from the internal hydrants and must provide design certification to accompany the drawings certifying the design complies with Clause E1D2 of the BCA and AS2419.1 – 2005 at CC stage (noting any non-compliances, which are to be addressed as an Alternative Solution). *Note 1: If full coverage is not provided from hydrants located within the stairs alone. Intermittent hydrant outlets can be installed to achieve a compliant coverage. The hydrants are to be located not more than 25m from another hydrant to allow for progressive attack.* *Note 2: As the building has an effective height of greater than 25m the system is required to be installed in the configuration of a ring main*	Compliance Readily Achievable

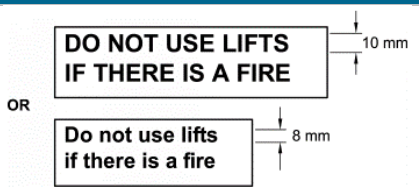
Clause	Description	Comment	Status
E1D3	**Fire hose reels** Fire hose reel coverage to AS2441-2005 is required throughout with hose reels located adjacent to stairs and exits. Where coverage is not achieved with hose reels located Additional hose reels are permitted to be located along the paths of travel to achieve coverage where Hoses are not permitted to pass through fire or smoke doors to achieve hose reel cover. Note: Fire hose reels not required to: - • Class 2, 3, 4, 5 and 9c buildings; • Class 8 electricity network substations; • Classrooms and associated corridors in primary and secondary schools	The hydraulic engineer must ensure that compliant coverage is provided to all areas of the building and must provide design certification to accompany the drawings certifying the design complies with Clause E1D3 of the BCA and AS2441 – 2005 at CC stage.	Compliance Readily Achievable
		It is likely that the garbage rooms will be fire separated from the reminder of the building. Technically fire hose reels are not permitted to pass through fire doors, the client has advised that a Fire Engineer will be engaged at CC stage to address omission of fire hose reel coverage.	Performance Solution
E1D4	**Sprinklers** *(NSW variation for Residential Aged Care)* Fire sprinkler protection to AS2118.1-2017 or AS2118.6-2012 as relevant is a mandatory requirement for the project if:- • The building effective height exceeds 25m. (If any part of the development exceeds 25m effective height, all parts of the complex require sprinklers.) • Class 2 building and any other class of building containing a Class 2 or 3 part (Note: residential care buildings are excluded), throughout the whole building including any part of another class, if any part of the building has a rise in storey of 4 or more and an effective height of not more than 25m.	The building will be provided with a sprinkler system in accordance with AS2118.1. The hydraulic engineer must ensure that must provide design certification to accompany the drawings certifying the design complies with Clause E1D4 of the BCA and AS2118.1-2017 (noting any non-compliances, which are to be addressed as an Alternative Solution) at CC stage.	Compliance Readily Achievable
E1D5	**Where sprinklers are required: all classifications**	The building will be provided with a sprinkler system in accordance with AS2118.1-2017. The hydraulic engineer must ensure that must provide design certification to accompany the drawings certifying the design complies with Clause E1D4 of the BCA and AS2118.1-2017 (noting any non-compliances, which are to be addressed as an Alternative Solution) at CC stage.	Compliance Readily Achievable
E1D6	**Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings**	The building will be provided with a sprinkler system in accordance with AS2118.1-2017. The hydraulic engineer must ensure that must provide design certification to accompany the drawings certifying the design complies with Clause E1D4 of the BCA and AS2118.1-2017 (noting any non-compliances, which are to be addressed as an Alternative Solution) at CC stage.	Compliance Readily Achievable

Clause	Description	Comment	Status
E1D7	**Where sprinklers are required: Class 3 building used as a residential care building**	N/A	N/A
E1D8	**Where sprinklers are required: Class 6 building**	N/A	N/A
E1D9	**Where sprinklers are required: Class 7a building, other than an open-deck carpark**	The building will be provided with a sprinkler system in accordance with AS2118.1-2017. The hydraulic engineer must ensure that must provide design certification to accompany the drawings certifying the design complies with Clause E1D4 of the BCA and AS2118.1-2017 (noting any non-compliances, which are to be addressed as an Alternative Solution) at CC stage.	Compliance Readily Achievable
E1D10	**Where sprinklers are required: Class 9a health-care building used as a residential care building, Class 9c buildings**	N/A	N/A
E1D11	**Where sprinklers are required: Class 9b buildings**	N/A	N/A
E1D12	**Where sprinklers are required: additional requirements**	N/A	N/A
E1D13	**Where sprinklers are required: occupancies of excessive hazard**	N/A	N/A
E1D14	**Portable fire extinguishers** Portable Fire Extinguishers are required be installed to sections (3) and (4) in Clause E1D14 and AS 2444 requirements, at: • Throughout Class 5 buildings • emergency services switchboards • kitchens • flammable liquid stores • at nurses' stations • special risk areas • where fire hose reels are not installed • Class 2, 3 or 4 residential areas are to be protected by 2.5kg ABE type fire extinguishers located in common areas on the storey served and located not more than 10m from each sole occupancy unit entry door.	Sufficient details have not been provided at this stage for assessment. The architectural drawings are to be updated to denote the location of portable fire extinguishers in accordance with this clause at CC stage.	Compliance Readily Achievable
E1D15	**Fire control centre** A fire control centre for Fire Indicator, Fire Fans Control and Emergency Intercom panels is required for buildings of over 25m in effective height.	As the building exceeds 25m in effective height but less than 50 m a fire control centre is required to be provided. Compliance is readily achievable subject to design development at CC stage.	Compliance Readily Achievable
E1D16	**Fire precautions during construction** Fire services are required during construction, including fire hydrants and hose reels which must be active and operational after the building reaches a construction stage effective height of 12m. When the building reaches 12m effective height:	Further discussion required with builder to determine that this is included in their program. BCA compliance with respect to fire services during construction can be problematic as hydrants with required pressures and flows	Noted

Clause	Description	Comment	Status
	• All required hydrants and hose reels must be operational on every storey covered by a roof or floor slab over, except for the two uppermost storeys. • Any required booster connections must be installed.	and booster connections often cannot be achieved at the required time. A temporary fire protection system, possibly with temporary boosters and no fire pumps, may need to be agreed with the fire brigade. This needs to be put in place early in the construction programme and may require liaison with the builder and his fire services contractor.	
E1D17	**Provisions for special hazards**	EV charging stations are proposed to be installed within the carparking area. The installation of EV charging stations will be addressed as an Excessive Hazard via BCA Clause ED13 & E2D21 provisions for special hazards.	Performance Solution
Part E2 - Smoke Hazard Management			
E2D2	**Applicable of requirements**	Part is not applicable to • open deck car parks • open spectator stands • a Class 8 electricity network substation with a floor area not more than 200m^2 • storerooms, etc. less than 30m^2 • sanitary compartments • plant rooms or the like	Applicable
E2D3	**General requirements**	An air-handling system which does not form part of a smoke hazard management system in accordance with E2D4 to E2D20 and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must, subject to (2), be designed and installed— (a) to operate as a smoke control system in accordance with AS 1668.1; or (b) such that it— (i) incorporates smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and (ii) is arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1. Compliance is readily achievable subject to detailed design development at CC stage.	Compliance Readily Achievable
E2D4	**Fire-isolated exits**	As the building serves a storey above an effective height of more than 25 m the fire isolated stairs are required to be provided with an automatic air pressurisation system	Compliance Readily Achievable

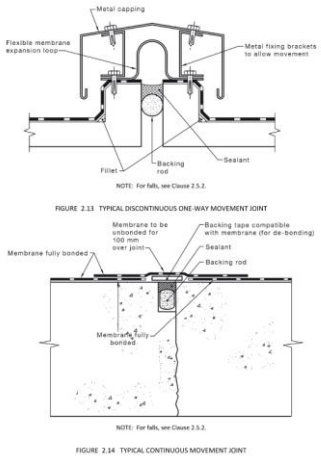
Clause	Description	Comment	Status
		for fire-isolated exits in accordance with AS 1668.1. Smoke detectors required to activate air pressurisation systems for fire-isolated exits and zone pressurisation systems must— (a) be installed in accordance with AS 1670.1; and (b) have additional smoke detectors installed adjacent to each bank of lift landing doors set back horizontally from the door openings by a distance of not more than 3 m. The mechanical engineer shall prepare design certification in accordance with AS1668 & BCA Clause E2D4 to accompany the service drawings.	
E2D5	**Buildings more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building**	An automatic smoke detection and alarm system complying with Specification 20 is required to be provided throughout the building. A smoke detection system will be installed in accordance with Specification 20 Clause S20C4. **Class 2** The class 2 portion of the development is required to be provided with the following; • Smoke detection and alarm system in accordance with Specification 20 Clause S20C4. and n S20C3 within Sole-Occupancy Units. • Emergency warning and intercom systems complying AS 1670.1 – 2018 and BCA Clause E4D9	Compliance Readily Achievable
E2D6	**Buildings more than 25 m in effective height: Class 5, 6, 7b, 8 or 9b buildings**	As the building exceeds 25 m in effective height and has vertically separated compartments (Class 7a & 7b from Class 2) the building is required to be provided with a zone pressurisation system. However, the client has advised that a Fire Engineer will be engaged at CC stage to vary the DtS requirements of the BCA.	Performance Solution
E2D7	**Buildings more than 25 m in effective height: Class 9a buildings**	N/A	N/A
E2D8	**Buildings not more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building**	N/A	N/A
E2D9	**Buildings not more than 25 m in effective height: Class 5, 6, 7b, 8 and 9b buildings**	N/A	N/A
E2D10	**Buildings not more than 25 m in effective height: large isolated buildings subject to C3D4**	N/A	N/A

Clause	Description	Comment	Status
	(NSW variation for Entertainment Venues)		
E2D11	**Buildings not more than 25 m in effective height: Class 9a and 9c buildings**	N/A	N/A
E2D12	**Class 7a buildings**	The Class 7a building parts of the building including a basement, are to be provided with a mechanical ventilation system in accordance with AS 1668.2, and comply with clause 5.5 of AS 1668.1. Mechanical engineers to provide design certification to accompany services drawings at CC stage.	Compliance Readily Achievable
E2D13	**Basements (other than Class 7a buildings)**	N/A	N/A
E2D14	**Class 6 buildings - in fire compartments more than 2000 m²: Class 6 building (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)**	N/A	N/A
E2D15	**Class 6 buildings - in fire compartments more than 2000 m²: Class 6 building (containing an enclosed common walkway or mall)**	N/A	N/A
NSW E2D16	**Class 9b – assembly buildings: all**	N/A	N/A
NSW E2D17	**Class 9b – assembly buildings: night clubs, discotheques and the like**	N/A	N/A
NSW E2D18	**Class 9b – assembly buildings: exhibition halls, museums and art galleries**	N/A	N/A
NSW E2D19	**Class 9b – assembly buildings: other assembly buildings (not listed in NSW E2D16 to E2D18)**	N/A	N/A
NSW E2D20	**Class 9b assembly buildings: other assembly buildings (not listed in E2D16 to E2D19)**	N/A	N/A
E2D21	**Provisions of special hazards** A smoke detection system complying with Specification 20 is required throughout any building containing a Class 9b early childhood centre that is not wholly within a storey that provides direct egress to a road or open space.	EV charging stations are proposed to be installed within the carparking area. The installation of EV charging stations will be addressed as an Excessive Hazard via BCA Clause ED13 & E2D21 provisions for special hazards.	Performance Solution
Part E3 - Lift Installations			
E3D2	**Lift installations** Electric and electrohydraulic lifts must comply with the design requirements of BCA Specification 24.	Certification of lift design to be provided at CC stage.	Compliance Readily Achievable
E3D3	**Stretcher facility in lifts** Buildings greater than 12m in effective height require a lift sized to accommodate a stretcher of 2m x 0.6m x 1.4m high. The lift must serve every level to which lift access is provided.	The spatial requirements of the lift demonstrate compliance with the requirements of E3D3 at CC stage	Complies
E3D4	**Warning against use of lift in fire** Warning signage is required at lift doors advising that lifts should not be used in the event of a fire.	Signage to be installed stating.	Compliance Readily Achievable

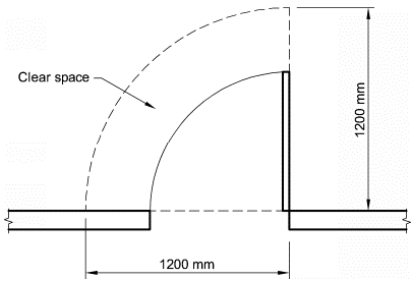
Clause	Description	Comment	Status
			
E3D5	**Emergency lifts** Emergency lifts of prescribed size, operation and fire isolation are required in buildings where: • the building has an effective height over 25m, or • a patient care area occurs in a health care building at a level that does not have direct access to a road or open space. Where more than two passenger lifts serve a storey, two emergency lifts must be provided, and these must be in separate shafts if multiple lift shafts occur. The following requirements apply to an emergency lift: • Must serve all storeys served by a passenger lift. • Must be contained in a fire rated shaft.	The lifts within each block of residential sole-occupancy units have not been fire separated therefore each lift within the building is required to be designed as an emergency lift. Compliance is readily achievable subject to detailed design development.	Compliance Readily Achievable
E3D6	**Landings** Access and egress to and from lift-well landings must comply with the Deemed-to-Satisfy Provisions of Section D**.**	The architectural drawings detail compliant landings in accordance with BCA Clause E3D6.	Complies
E3D7	**Passenger lift types and their limitations** Every passenger lift must be one of the types identified in Sections (1) of Clause E3D7 of the BCA and not reply on a constant pressure device for its operation if the lift car is fully enclosed.	No specific details provided at this stage regarding accessible features incorporated within the lift. Lift floor dimension of not less than 1400 mm wide x 1600 mm deep have been detailed within the architectural drawings. Detailed architectural drawings and specification to be provided for assessment at CC stage.	Compliance Readily Achievable
E3D8	**Accessible features required for passenger lifts** Every passenger lift must have accessible features where applicable as identified in Clause E3D8 of the BCA.	BCA Clause E3D8 is to be assessed by a third party Access Consultant	Noted
E3D9	**Fire service control** Where lifts serve a storey above 12m in effective height: • A fire service control switch is required for each lift or lift group. • A lift car fire service drive control is required for each lift.	Certification of lift design to be provided	Compliance Readily Achievable
E3D10	**Residential care buildings**	N/A	N/A
E3D11	**Fire service recall control switch** The fire service control switch must be located at the landing nominated by the appropriate authority and, when activated, must return all lifts to the nominated floor. If a lift car drive control has been activated, it shall override the landing fire service	Certification of lift design to be provided	Compliance Readily Achievable

Clause	Description	Comment	Status
	control switch.		
E3D12	**Lift car fire service drive control switch** The lift car service drive control must be activated from within the lift car. The switch is to be located between 600mm and 1500mm above the lift car floor and be labelled '**FIRE SERVICE**" in indelible white lettering on red background. The "**OFF**" and "**ON**" positions are to be identified.	Certification of lift design to be provided	Compliance Readily Achievable
Part E4 - Emergency Lighting, Exit and Warning Systems			
E4D2	**Emergency lighting requirements** Emergency lighting is to be provided throughout the building.	Emergency lighting is to be provided in: • every fire-isolated stairway, fire-isolated ramp or fire-isolated passageway. • Every passageway, hallway, corridor or the like, that is part of the path of travel to an exit. • In every room having a floor area more than 100m^2 that does not open to a corridor or space that has emergency lighting or to a road or open space. • In any room having a floor area more than 300m^2. • In every required non-fire isolated stairway Electrical engineer to provide design certification in accordance with BCA Clause E4D2 and AS2293.1-2018 to accompany the service drawings at CC stage.	Compliance Readily Achievable
E4D3	**Measurement of distances**	Noted	Noted
E4D4	**Design and operation of emergency lighting** Emergency lighting must comply with to AS2293.1	Emergency lighting details have been provided at this stage. However, it is assumed the building can readily comply. Electrical engineer to provide design certification in accordance with BCA Clause E4D2 and AS2293.1-2018 to accompany the service drawings at CC stage.	Compliance Readily Achievable
E4D5	**Exit signs** Exit signs are to be provided in accordance with Clause E4D5 of the BCA.	Exit signs must be clearly visible to person approaching the exit and must be installed on, above or adjacent to; 1. A door providing direct egress from a storey to a stairway, passageway or ramp serving as a required exit. 2. A door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space. 3. A horizontal exit 4. A door serving as or forming part of a required exit in a storey required to be provided with emergency lighting. Electrical engineer to provide design certification in accordance with BCA Clause E4D5 and AS2293.1-2018 to accompany the service drawings at CC stage.	Compliance Readily Achievable

Clause	Description	Comment	Status
E4D6	**Direction signs** *(NSW variation for Entertainment Venues)* Where an exit is not readily apparent then exit signs with directional arrows must be installed in appropriate positions in corridors, hallways, lobbies and the like indicating the direction to a required exit	Directional signage details have not been provided at this stage however compliance is readily achievable. Electrical engineer to provide design certification in accordance with BCA Clause E4D6 and AS2293.1-2018 to accompany the service drawings at CC stage.	Compliance Readily Achievable
E4D7	**Class 2 and 3 buildings and Class 4 parts: Exemptions**	Noted	Noted
E4D8	**Design and operation of exit signs** 1. Exit signs are to operate in accordance with AS 2293.1. 2. Photo luminescent exit sign are to comply with Specification 25.	Electrical engineer to provide design certification in accordance with BCA Clause E4D6 and AS2293.1-2018 to accompany the service drawings at CC stage.	Compliance Readily Achievable
E4D9	**Emergency warning and intercom systems** An emergency warning and intercom system complying with AS 1670.4 must be installed throughout the building.	Details demonstrating compliance and design certification will be required from services consultants at CC stage.	Compliance Readily Achievable
Section F: Health and Amenity			
Part F1 - External waterproofing, rainwater management and rising damp			
F1D1	**Deemed-to-Satisfy Provisions** Performance requirements F1P1 to F1P4 are satisfied by complying with Clause F1D2 to F1D10.	A test report on the proposed wall system is to be provided. The test report must include the following information: (i) Name and address of the person supervising the test. (ii) Test report number. (iii) Date of the test. (iv) Cladding manufacturer's name and address. (v) Construction details of the test specimen, including a description, and drawings and details of the components, showing modifications, if any. (vi) Test sequence with the pressures used in all tests. (vii) For each of the static and cyclic pressure tests, full details of all leakages, including position, extent and timing. It is recommended that a Façade Engineer review the build-up of external wall details at CC stage.	Compliance Readily Achievable
F1D3	**Stormwater drainage** Stormwater drainage must comply with AS/NZS 3500.3.	Hydraulic drawings and design certification to be provided at CC stage.	Compliance Readily Achievable
F1D4	**Exposed joints** Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must be protected in accordance with Section 2.9 of AS 4654.2; and not be located beneath or run through a planter box, water feature	Structural engineer/architect to confirm compliance at CC stage.	Compliance Readily Achievable

Clause	Description	Comment	Status
	or similar part of the building.  		
F1D3	**Provision of drainage and grading to external areas** A roof, balcony, podium or similar requires stormwater drainage and concrete structural substrates graded to a 1:80 fall, excluding planter boxes.	Hydraulic and structural drawings and design certification to be provided for review.	Compliance Readily Achievable
F1D4	**Substrate materials** Trafficable roofs, balconies, podiums or similar parts of a Class 2, 3 building or Class 4 part must have a structural substrate consisting or concrete, FC sheet, or aerated concrete.	Architect/waterproofing consultant to confirm that the finished surface of any structural substrate will not affect the performance of the membrane at CC stage.	Compliance Readily Achievable
F1D5	**Self draining finishes** Trafficable roofs, balconies, podiums or similar parts of a Class 2, 3 building or Class 4 part must be self draining.	Hydraulic engineer to confirm compliance.	Compliance Readily Achievable
F1D5	**External waterproofing membranes** Trafficable roofs, balconies, podiums or similar parts of a building require a waterproofing membrane complying with AS4654.1 and AS4654.2, which must be installed directly on the structural substrate.	No details provided at this stage. It is recommended that a suitably qualified waterproofing consultant is engaged to review all external waterproofing details specifically the green roofed area which is susceptible to failure of the waterproofing membrane. This matter to be addressed via detailed architectural drawings & BCA specification at CC stage.	Compliance Readily Achievable
F1D6	**Damp-proofing** Moisture from the ground must be prevented from reaching the lowest floor timber and the walls above the lowest floor joists, the walls above the dam proof course and the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. Damp proof course must consist of a material that complies with AS/NZS 2904 or an impervious termite shield in accordance with AS 3660.1.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at CC stage.	Compliance Readily Achievable
F1D7	**Damp-proofing of floors on the ground** A vapour barrier in accordance with AS2870 is to be provided beneath the basement floor slab.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification	Compliance Readily Achievable

Clause	Description	Comment	Status
F1D8	**Subfloor ventilation** The lower ground sub floor space is to be cleared of all building debris and vegetation and be cross ventilated in accordance with Table F1D10 evenly distributed openings provided in the external walls Additionally, the sub floor space is to contain no dead air spaces and be graded to prevent water ponding under the building.	N/A	Compliance Readily Achievable
Part F2 - Wet areas and overflow protection			
F2D1	**Deemed-to-Satisfy Provisions** Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F2P1 and F2P2 are satisfied by complying with F2D2 to F2D4. Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.	No details provided at this stage. It is recommended that a suitably qualified waterproofing consultant is engaged to review all external waterproofing details. This matter to be addressed via detailed architectural drawings & BCA specification at CC stage.	Compliance Readily Achievable
F2D2	**Wet area construction** Water proofing of wet areas within a building to comply with AS 3740. Showers in Class 2 and 3 buildings or a Class 4 part must have a concrete or FC sheet structural substrate for floors and concrete, masonry, or FC sheeted walls. Concrete structural substrates for shower floors must be graded to a 1:80 fall, and the membrane directly applied to the structural substrate. The waterproofing requirements for multi-residential buildings also apply to commercial buildings.	No details provided at this stage. It is recommended that a suitably qualified waterproofing consultant is engaged to review all external waterproofing details. This matter to be addressed via detailed architectural drawings & BCA specification at CC stage.	Compliance Readily Achievable
F2D3	**Rooms containing urinals** Additional requirements apply including falls to floor wastes and impervious materials surrounding urinals.	N/A	Compliance Readily Achievable
F2D4	**Floor wastes** The floor of each bathroom and laundry in each sole occupancy of the Class 2 and 3 building portions must have a floor waste and floors graded to the floor waste at 1:50.	No details provided at this stage. It is recommended that a suitably qualified waterproofing consultant is engaged to review all external waterproofing details. This matter to be addressed via detailed architectural drawings & BCA specification at CC stage.	Compliance Readily Achievable
Part F3 - Roof and wall cladding			
F3D1	**Deemed-to-Satisfy Provisions** Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement F3P1 is satisfied by complying with F3D2 to F3D5. Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.	Noted	Noted
F3D2	**Roof coverings** Roof coverings are to comply with BCA Clause F3D2	No details provided at this stage. This matter to be addressed via detailed	Compliance Readily

Clause	Description	Comment	Status
		architectural drawings & BCA specification at CC stage	Achievable
F3D3	**Sarking** Sarking type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at CC stage.	Compliance Readily Achievable
F3D4	**Glazed assemblies** Windows, sliding doors with a frame, adjustable louvres, shopfronts and window walls with one piece framing in an external wall must comply with AS 2047 requirements for resistance to water penetration.	No details provided at this stage. This matter to be addressed via detailed architectural drawings & BCA specification at CC stage.	Compliance Readily Achievable
F3D5	**Wall cladding** External wall cladding must comply with one or a combination of the following: • Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700 • Autoclaved aerated concrete: AS 5146.3. • Metal wall cladding: AS 1562.1.	External wall claddings which are not captured under Clause F3D5 will require a performance solution to be documented by an appropriately qualified practitioner in accordance with *Clause A2G2 - Performance Solution* at CC stage.	Compliance Readily Achievable
Part F4 - Sanitary and other facilities			
F4D2	**Facilities in residential buildings** Each SOU must be provided with sanitary facilities; a kitchen sink; facility for the preparation and cooking of food; a bath or shower; a closet pan; wash basin; laundry wash tub and space for a washing machine and dryer.	Assessment of the architectural drawings demonstrate compliance with D4D2 and the facilities required for Class 2 sole-occupancy units.	Complies
F4D3	**Calculation of number of occupants and fixtures**	Refer to Clause D218 of this report.	Noted
F4D4	**Facilities in Class 3 to 9 buildings** Toilet facilities are required in appropriate numbers based on the number of persons accommodated.	N/A	N/A
F4D5	**Accessible sanitary facilities**	N/A	N/A
F4D6	**Accessible unisex sanitary compartments**	N/A	N/A
F4D7	**Accessible unisex showers**	N/A	N/A
F4D8	**Construction of sanitary compartments** Where clear space between closet pan and doorway is less than 1.2m, doors must open outwards, slide or be readily removable from outside.	All hinged doors that swing inward to sanitary facilities and do not comply with achieving a 1200mm clearance to pan are required to be installed with lift-off hinges 	Compliance Readily Achievable
F4D9	**Interpretation: Urinals and washbasins**	N/A	N/A
F4D10	*(NSW variation - This clause has deliberately been left blank.)*	N/A	N/A

Clause	Description	Comment	Status
F4D11	**Waste management**	N/A	N/A
F4D12	**Accessible adult change facilities**	N/A	N/A
Part F5 - Room heights			
F5D2	**Height of rooms and other spaces** Generally, a minimum ceiling height of 2.4m is required throughout.	The sections generally demonstrate compliance with the provisions of F5D2, a minimum of 2.4m nominated within internal areas. However, detailed drawings of particular areas including internal areas have not been provided at this stage. Please note that storage cages have been provided within basement level, where storage cages exceed 1000mm in depth they may be considered a room. It is recommended that the ceiling height within the storage cage is no less than 2100mm, where the floor to ceiling height is less than the prescriptive requirements of the BCA, a Performance Solution is required to be provided.	Compliance Readily Achievable
Part F6 - Light and ventilation			
F6D2	**Provision of natural light** Natural lighting aggregating 10% of room floor area is required as follows: • To all habitable rooms in residential buildings. • In bedrooms and dormitories of hotels, motels and the like.	Assessment of the architectural drawings demonstrates compliance with F4.1.	Complies
F6D3	**Methods and extent of natural lighting**	Based on an preliminary assessment of the architectural drawings including the elevations window dimensions will allow for 10% opening to that of the floor area of each room.	Complies
F6D4	**Natural light borrowed from adjoining room**	N/A – Borrowed light is not required.	N/A
F6D5	**Artificial lighting** The artificial lighting system must comply with AS/NZS 1680.	Design details and certification from an electrical engineer is required at CC stage.	Compliance Readily Achievable
F6D6	**Ventilation of rooms** *(NSW variation for Public Health Regulation)* Ventilation shall be provided throughout the building in by means of natural ventilation complying with Clause F6D7 or mechanical ventilation complying with the requirements of AS1668.2 as required by Clause F6D6 of the BCA.	Design details and certification from a mechanical engineer is required at CC stage.	Compliance Readily Achievable
F6D7	**Natural ventilation** Natural ventilation provided in accordance with F6D6(a) must consist of openings, windows, doors or other devices which can be opened— (a) with a ventilating area not less than 5% of the floor area of the room required to be ventilated; and (b) open to— (i) a suitably sized court, or space open to the sky; or	The architectural drawings submitted demonstrate suitable openings to provide natural ventilation in accordance with F4.6. No details of mechanical ventilation to rooms provided at this stage. Mechanical consultant to provide drawings and design certification for further assessment at CC stage.	Compliance Readily Achievable

Clause	Description	Comment	Status
	(ii) an open verandah, carport, or the like; or (iii) an adjoining room in accordance with F6D8		
F6D8	**Ventilation borrowed from adjoining room**	N/A – Borrowed ventilation is not required	N/A
F6D9	**Restriction on location of sanitary compartments** Sanitary compartments must not open directly into a kitchen or pantry	The architectural drawings submitted demonstrate suitable openings to provide natural ventilation in accordance with F4.6. No details of mechanical ventilation to rooms provided at this stage. Mechanical consultant to provide drawings and design certification for further assessment. The location of sanitary compartments denoted on the architectural drawings demonstrate compliance with BCA Clause F6D9 at CC stage.	Compliance Readily Achievable
F6D10	**Airlocks**	N/A	N/A
F6D11	**Carparks** Basement carparks must be provided with a system of mechanical ventilation complying with AS 1668.2	Sufficient details have not been provided at this stage. The mechanical consultant is to provided service drawings and design certification at CC stage.	Compliance Readily Achievable
F6D12	**Kitchen local exhaust ventilation**	N/A	N/A
Part F7 - Sound transmission and insulation			
F7D2	**Application of Part** Applicable to Class 2, 3 and 9c buildings	A detailed assessment will need to be undertaken by a qualified acoustic consultant at the CC stage to verify compliance.	Compliance Readily Achievable
F7D3	**Determination of airborne sound insulation ratings** Construction required to have an airborne sound insulation rating must have the value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term ($R_w + C_{tr}$) determined in accordance with AS/NZS1276.1 or ISO717.1 using result from laboratory measurements or comply with Specification 28 of the BCA.	Details in relation to acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided. A detailed assessment will need to be undertaken by a qualified acoustic consultant at the CC stage to verify compliance.	Compliance Readily Achievable
F7D4	**Determination of impact sound insulation ratings** A floor required to have an impact sound insulation rating must have the required value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w}+C_I$) determined in accordance with AS/ISO 717.2 using results from laboratory measurements or comply with Specification 28 of the BCA. Walls that are required to have an impact sound insulation rating must be of discontinuous construction.	Details in relation to acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided. A detailed assessment will need to be undertaken by a qualified acoustic consultant at the CC stage to verify compliance.	Compliance Readily Achievable
F7D5	**Sound insulation rating of floors** Floors separating sole occupancy units or separating sole occupancy units from a plant room, lift shaft, public corridor, public lobby or the like or parts of different classifications must have an $R_w + C_{tr}$ of not less than 50 and an $L_{n,w} + C_I$ of not more than 62.	Details in relation to acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided. A detailed assessment will need to be undertaken by a qualified acoustic	Compliance Readily Achievable

Clause	Description	Comment	Status
		consultant at the CC stage to verify compliance.	
F7D6	**Sound insulation rating of walls** Walls must have an R + C_t of not less than 50 if it separates sole occupancy units and an R_w of 50 if it separates a sole occupancy unit from a plant room, lift shaft, public corridor, public lobby or the like or parts of different classifications. Compliance with F7D4(2) is required if the wall separates a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (excluding a kitchen) in another adjoining unit or a sole occupancy unit from a plant room or lift shaft. Doors incorporated the walls that separate sole-occupancy units from a stairway, public corridor, public lobby or the like, provided the door assembly has an R_w not less than 30. Where a wall required to have sound insulation has a floor above, the wall must continue to the underside of the floor above or a ceiling that provides the sound insulation required for the wall. Where a wall required to have sound insulation has a roof above, the wall must continue to the underside of the roof above or a ceiling that provides the sound insulation required for the wall.	Details in relation to acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided. A detailed assessment will need to be undertaken by a qualified acoustic consultant at the CC stage to verify compliance.	Compliance Readily Achievable
F7D7	**Sound insulation rating of internal services** Services passing through more than one sole-occupancy unit must be separated from the rooms by construction with an $R_w + C_{tr}$ (airborne) not less than: a) 40 if the adjacent room is a habitable room (other than a kitchen); or b) 25 if the adjacent room is a kitchen or non-habitable room. Note if a stormwater pipe passes through a sole - occupancy unit it must be separated in accordance with (a) and (b).	Details in relation to acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided. A detailed assessment will need to be undertaken by a qualified acoustic consultant at the CC stage to verify compliance.	Compliance Readily Achievable
F7D8	**Sound isolation pumps** A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.	Details in relation to acoustic treatment have not been provided at this stage. Appropriate plans and specification are to be provided. A detailed assessment will need to be undertaken by a qualified acoustic consultant at the CC stage to verify compliance.	Compliance Readily Achievable
Part F8 - Condensation management			
F8D2	**Application of part** This part applies to a sole-occupancy unit of a Class 2 building or Class 4 part of a building.	Noted	Compliance Readily Achievable
F8D3	**External wall construction** Where a pliable building membrane is installed in an external wall it must: • comply with AS/NZS 4200.1; and	Sufficient details have not been provided at this stage. Pliable sarking membrane is required to be installed on the exterior side of the	Compliance Readily Achievable

Clause	Description	Comment	Status
	• be installed in accordance with AS 4200.2; and • be a vapour permeable membrane for climate zones 6, 7 and 8; and • be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building. • For single skin masonry and single skin concrete, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity.	primary insulation layer of wall assemblies that form the external envelope of a building. Except for single skin masonry and single skin concrete, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity. Suitable architectural drawings and BCA specification are to be provided for further assessment. It is recommended that a facade engineer is engaged to review all external wall details at CC stage.	
F8D4	**Exhaust systems** An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of— • 25 L/s for a bathroom or sanitary compartment; and • 40 L/s for a kitchen or laundry. Exhaust from a kitchen must be discharged directly or via a shaft or duct to outdoor air. Exhaust from a bathroom, sanitary compartment, or laundry must be discharged— • directly or via a shaft or duct to outdoor air; or • to a roof space that is ventilated in accordance with F6.4.	No mechanical details have been provided at this stage. Mechanical engineer to provide drawings and design certification for further assessment at CC stage.	Compliance Readily Achievable
F8D5	**Ventilation of roof spaces** Where an exhaust system covered by F6.3 discharges directly or via a shaft or duct into a roof space, the roof space must be ventilated to outdoor air through evenly distributed openings. Openings required above must have a total unobstructed area of 1/300 of the respective ceiling area if the roof pitch is greater than 22°, or 1/150 of the respective ceiling area if the roof pitch is less than or equal to 22°. 30% of the total unobstructed area required above must be located not more than 900 mm below the ridge or highest point of the roof space, measured vertically, with the remaining required area provided by eave vents.	No mechanical details have been provided at this stage. Mechanical engineer to provide drawings and design certification for further assessment at CC stage.	Compliance Readily Achievable
Section G: Ancillary Provisions			
Part G1- Minor Structures and components			
G1D2	**Swimming pools** *(NSW variation for swimming pools)*	N/A	N/A
G1D3	**Refrigerated chambers, strong rooms and vaults**	N/A	N/A

Clause	Description	Comment	Status
G1D4	**Outdoor play spaces**	N/A	N/A
NSW G1D5	**Provision for cleaning windows** A safe manner of cleaning windows is to be provided as windows are located 3 or more storeys above ground level.	The windows must either be able to be cleaned wholly from within the building, or a method complying with the Construction Safety Act 1912 and Regulations is required.	Compliance Readily Achievable
Part G2 - Boilers, pressure vessels, heating appliances, fire places, chimneys and flues			N/A
Part G3 - Atrium Construction			N/A
Part G4 - Construction in Alpine Areas			N/A
Part G5 - Construction in Bushfire Prone Areas			N/A
Part G6 - Occupiable outdoor areas			
G6D1	**Application of Part** Applies to occupiable outdoor areas in addition to other deemed-to-satisfy provisions of the BCA. Part G6 takes precedent where there is a difference to the deemed-to-satisfy provisions of Sections C, D, E, F & G. Except for clause G6D2, Part G6 does not apply to occupiable outdoor areas of individual resident rooms or outdoor occupiable areas less than $10m^2$.	Noted Refer to discussions within Sections C, D, E, F and G with regards to compliance.	Noted
G6D2	**Fire hazard properties** A lining, material or assembly in an occupiable outdoor area must comply with C2D11 as for an internal element. The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C2D11: (i) Average specific extinction area. (ii) Smoke-Developed Index. (iii) Smoke development rate. (iv) Smoke growth rate index ($SMOGRA_{RC}$)	The common area roof top is considered an Occupiable outdoor area. Proposed materials used in outdoor occupiable areas are subject to C2D11 requirements as this clause.	Compliance Readily Achievable
G6D3	**Fire separation**	N/A	N/A
G6D4	**Provision for escape** For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area.	Egress requirements under Part D2 apply to occupiable outdoor areas.	Compliance Readily Achievable
G6D5	**Construction of exits** For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area.	Construction of exits requirements under Part D3 apply to occupiable outdoor areas.	Compliance Readily Achievable
G6D6	**Fire fighting equipment** Except for Clause S17C7(2)(a), for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area.	Fire fighting equipment required under Part E1 to be designed to include occupiable outdoor areas.	Compliance Readily Achievable
G6D7	**Lift installations** For the purposes of the Deemed-to-Satisfy	Lift designs required under Part E3 to be designed to include occupiable outdoor	Compliance Readily

Clause	Description	Comment	Status
	Provisions of Part E3, a reference to a storey includes an occupiable outdoor area.	areas.	Achievable
G6D8	**Visibility in an emergency, exit signs and warning systems** For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area.	Emergency lighting, exits signs and emergency warning and intercom systems to be designed to include occupiable outdoor areas.	Compliance Readily Achievable
G6D9	**Light and ventilation**	N/A	N/A
G6D10	**Fire orders**	N/A	N/A
Part G7 - Livable housing design			
G7D2	**Livable housing design** Each Class 2 sole-occupancy unit in a Class 2 building must comply with the ABCB Standard for Livable Housing Design, except for Part 1.	N/A	N/A
Section I: Special use buildings			
Part I1 - Class 9b buildings			N/A
Part I2 - Public Transport Buildings			N/A
Part I3 - Farm buildings and farm sheds			N/A
NSW Part I4 - Entertainment venues other than temporary structures and drive-in theatres			N/A
NSW Part I5 Temporary structures			N/A
NSW Part I6 Drive-in theatres			N/A
NSW 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. **A third party ESD consultant is required to assess the requirements of Section J via separate assessment at CC stage.**			

15. Appendix A - Referenced Documentation

The following documentation was used in the preparation of this report: Architectural Drawings prepared by PTW

DRAWING LIST

SITE AND SETOUT

DA-A110010	COVER SHEET & DRAWING LIST	B
DA-A110020	DEVELOPMENT INFORMATION	D
DA-A120010	SITE ANALYSIS	B
DA-A120020	DEMOLITION PLAN	B
DA-A130010	SITE PLAN	B

SECTIONS

DA-D110010	SECTION BLDG 14-15	C
DA-D120010	SECTION BLDG 13-15	B

GENERAL ARRANGEMENT PLANS

DA-B1B0910	BASEMENT 02 PLAN	G
DA-B1B1010	BASEMENT 01 PLAN	G
DA-B1GRD10	GROUND FLOOR PLAN	H
DA-B1L0110	LEVEL 01 PLAN	H
DA-B1L0210	LEVEL 02 PLAN	H
DA-B1L0310	LEVEL 03 PLAN	G
DA-B1L0410	LEVEL 04 PLAN	F
DA-B1L0510	LEVEL 05 PLAN	F
DA-B1L0610	LEVEL 06 PLAN	F
DA-B1L0710	LEVEL 07 PLAN	F
DA-B1L0810	LEVEL 08 PLAN	F
DA-B1L0910	LEVEL 09 PLAN	F
DA-B1L1010	LEVEL 10 PLAN	F
DA-B1L1110	LEVEL 11 PLAN	F
DA-B1L1210	LEVEL 12 PLAN	F
DA-B1L1310	LEVEL 13 PLAN	G
DA-B1L1410	ROOF PLAN	B

ELEVATIONS

DA-C010010	EAST ELEVATION	B
DA-C020010	SOUTH ELEVATION	B
DA-C030010	WEST ELEVATION	B
DA-C040010	NORTH ELEVATION	B
DA-C050010	GREEN SPINE WEST ELEVATION	B
DA-C060010	GREEN SPINE EAST ELEVATION	B

16. Appendix B - Statutory Fire Safety Measures

Measure	Standard of Performance
Access Panels, Doors And Hoppers To Fire Resisting Shafts	BCA 2022 Clause C4D14 and tested prototypes (AS 1530.4 - 2014)
Automatic Fail Safe Devices	Scheduled devices release upon trip of smoke detection, fire detection and sprinkler activation in accordance with BCA 2022 Clause D3D26.
Automatic Fire Detection And Alarm System *(Smoke Detection System)*	BCA 2022 S20C4 and AS 1670.1 - 2018
Automatic Fire Detection And Alarm System *(Smoke Alarm System)*	BCA 2022 S20C3 and AS 3786 - 2014
Automatic Fire Detection And Alarm System *(Smoke Detection System To Operate Zone Smoke Control Or Stair Pressurisation System)*	BCA 2022 S20C6 and AS 1670.1 - 2018
Automatic Fire Suppression Systems *(Sprinklers)*	BCA 2022 Specification 17 and AS 2118.1 - 2017
Automatic Fire Suppression Systems *(Combined Sprinkler And Hydrant System)*	BCA 2022 Specification 17 and AS 2118.6 - 2012
Emergency Lifts	BCA 2022 Clause E3D5
Emergency Lighting	BCA 2022 Clause E4D2, E4D4 and AS/NZS 2293.1 - 2018
Emergency Warning And Intercommunication System	BCA 2022 Clause E4D9, Specification 31 and AS 1670.4 - 2018
Exit Signs	BCA 2022 Clause E4D5, NSW E4D6, E4D7, E4D8 and AS/NZS 2293.1 - 2018
Fire Alarm Monitoring System	BCA 2022 S20C8 and AS 1670.3 - 2018
Fire Control Centre	BCA 2022 Specification 19
Fire Dampers	BCA 2022 Clause C4D15 and AS 1668.1 - 2015 (AS 1682.1 - 2015 and AS 1682.2 - 2015)
Fire Doors	BCA 2022 Specification 12 and AS/NZS 1905.1 - 2015
Fire Engineering Performance Solution	Fire Engineering Performance Solution.... Prepared by... Revision... Date..
Fire Hydrants Systems	BCA 2022 Clause E1D2 and AS 2419.1 - 2021
Fire Seals Protecting Opening In Fire Resisting Components Of The Building	BCA 2022 Clause C4D15, Specification 13, AS 1530.4 - 2014, AS 4072.1 – 2005.
Hose Reel System	BCA 2022 Clause E1D3 and AS 2441 - 2005
Lightweight Construction	BCA 2022 Specification 6, Clause A2G3 and AS 1530.4 - 2014
Mechanical Air Handling System *(Automatic Air Pressurisation System)*	BCA 2022 Clause E2D4, E2D8, E2D9 and AS 1668.1 - 2015
Mechanical Air Handling System *(Carpark Mechanical Ventilation System)*	BCA 2022 Clause E2D12, Clause 5.5 of AS/NZ 1668.1 - 2015 and fans with metal blades suitable for operation at normal temperature may be used and the electrical power and control cabling need not be fire rated
Portable Fire Extinguishers	BCA 2022 Clause E1D14 and AS 2444 - 2001
Smoke Detectors And Heat Detectors *(Detectors For The Automatic Closing Operation Of Horizontal Exits)*	BCA 2022 Clause C4D8 and AS 1670.1 - 2018
Warning And Operational Signs	BCA 2022 Clauses, D2D22, D3D28, D4D7 E3D4, E3D11, E3D12,

Note the fire safety schedule will need to be amended subject to the inclusion of a fire engineered performance solution.

17. Appendix C2D10 - Non-combustible building elements

(1) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible:

(a) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation.

(b) The flooring and floor framing of lift pits.

(c) Non-loadbearing internal walls where they are required to be fire-resisting.

(2) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in—

(a) a building required to be of Type A construction; and

(b) a building required to be of Type B construction, subject to C3D11, in—

(i) a Class 2, 3 or 9 building; and

(ii) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys.

(3) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification 5.

(4) The requirements of (1) and (2) do not apply to the following:

(a) Gaskets.

(b) Caulking.

(c) Sealants.

(d) Termite management systems.

(e) Glass, including laminated glass, and associated adhesives, including tapes.

(f) Thermal breaks associated with—

(i) glazing systems; or

(ii) external wall systems, where the thermal breaks—

(A) are no larger than necessary to achieve thermal objectives; and

(B) do not extend beyond one storey; and

(C) do not extend beyond one fire compartment.

(g) Damp-proof courses.

(h) Compressible fillers and backing materials, including those associated with articulation joints, closing gaps not wider than 50 mm.

(i) Isolated—

(i) construction packers and shims; or

(ii) blocking for fixing fixtures; or

(iii) fixings, including fixing accessories; or

(iv) acoustic mounts.

(j) Waterproofing materials applied to the external face, used below ground level and up to 250 mm above ground

level.

(k) Joint trims and joint reinforcing tape and mesh of a width not greater than 50 mm.

(l) Weather sealing materials, applied to gaps not wider than 50 mm, used within and between concrete elements.

(m) Wall ties and other masonry components complying with AS 2699 Part 1 and Part 3 as appropriate, and associated with masonry wall construction.

(n) Reinforcing bars and associated minor elements that are wholly or predominately encased in concrete or grout.

(o) A paint, lacquer or a similar finish or coating.

(p) Adhesives, including tapes, associated with stiffeners for cladding systems.

(q) Fire-protective materials and components required for the protection of penetrations.

(5) The following materials, when entirely composed of itself, are non-combustible and may be used wherever a non-combustible material is required:

(a) Concrete.

(b) Steel, including metallic coated steel.

(c) Masonry, including mortar.

(d) Aluminium, including aluminium alloy.

(e) Autoclaved aerated concrete, including mortar.

(f) Iron.

(g) Terracotta.

(h) Porcelain.

(i) Ceramic.

(j) Natural stone.

(k) Copper.

(l) Zinc.

(m) Lead.

(n) Bronze.

(o) Brass.

18. Appendix C2D2 - Fire Rating Requirements

Table 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 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 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 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 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 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 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

19. 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

20. Appendix C3D3 - Floor Areas and Volumes

Nominated Fire Compartments

The BCA does not require Class 2 buildings to be considered..

Compartment	Approx. Area (m^2)	Approx. Volume (m^3)	Comment
Basement Level 2,1 and Ground floor	9000 m^2 approx.	Architect to confirm	Sprinkler protected carpark – Max compartment size is not applicable
Loading dock ground floor	600 m^2 approx.	Architect to confirm	Sprinkler protected carpark – Max compartment size is not applicable
Ground Floor	2700 m^2 approx.	Architect to confirm	Complies
Level 1	2200 m^2 approx.	Architect to confirm	Complies

21. Appendix D2D5 - Exits

The exits from the building are set out below:

Exit No	Location	Type	No of storeys connected / passed by
1.	Basement 2	Fire isolated stairs (FS13 C FS14 C FS15C)	> 3 storeys
2.	Basement 1	Fire isolated stairs (FS13 C FS14 C FS15C)	> 3 storeys
3.	Ground Floor	Fire isolated stairs (FS13 C FS14 C FS15C) Main Entry/Exit Horizontal exit	> 3 storeys
4.	Level 1	Fire isolated stairs (FS13 C FS14 C FS15C) Doorway discharging to southern pedestrian link.	> 3 storeys
5.	Level 2	Fire stair (13b) Horizontal exit from carpark L02 Main Entry from residential parts discharging to roof as open space.	> 3 storeys
6.	Level 3 – Level 12	Fire stair (13a 13b,14a, 14b 15a & 15b) Main entry/exit from residential buildings	> 3 storeys
7.	Communal Rooftop	Fire stair (13a & 13b)	> 3 storeys

22. Appendix D3D29 - Protection of Openable Windows

Building Use	Openable Windows		
	<2m above surface beneath	>2m above surface beneath	>4m above surface beneath
Bedrooms	No restrictions	Window located below 1.7m above bedroom floor:- • Must be protected by device to restrict window opening **OR** screen with secure fittings; AND • No opening greater than 125mm; AND • Device and screen must resist outward horizontal action of 250N; AND • Have child resistant release if device or screen is able to be removed, unlocked or overridden; AND • If device or screen is able to be removed, unlocked or overridden minimum 865mm barrier required to protect window. Note: No 865mm barrier required if device or screen is permanent and cannot be removed, unlocked or overridden Window located min. 1.7m above bedroom floor • No restrictions	Comments as per >2m above surface beneath
Other rooms (i.e. lounge, dining room etc)	No restrictions	No restrictions	Barrier required • Min. 865mm above floor • No openings exceeding 125mm • No climbable elements between 150-760mm above floor
All other buildings	No restrictions	No restrictions	Barrier required • Min. 865mm above floor • No openings exceeding 125mm • No climbable elements between 150-760mm above floor