



**BUILDING  
INNOVATIONS  
AUSTRALIA**

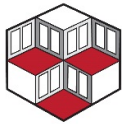
# **BCA, ACCESS & FIRE FIRE SAFETY APPRAISAL REPORT**

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**19-21 South Steyne,  
Manly NSW 2095**



<b>Prepared for:</b>	<b>Royal Far West C/- Lighthouse Project Group</b>
<b>Project No.:</b>	<b>PRO-03677-X9V3</b>
<b>Date:</b>	<b>19/07/2019</b>
<b>Status:</b>	<b>Site Inspection 1</b>
<b>Issue:</b>	<b>Report Issue V1.1</b>

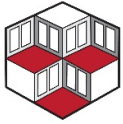


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## Document History

DATE	STATUS	ISSUE	PREPARED BY	REVIEWED BY
14/06/2019	Site Inspection 1	Draft Report V0.1	Kallan Baker	Mardiros Tatian
19/07/19	Site Inspection 1 (14/06/19)	Report Issue V1.0	Kallan Baker	Mardiros Tatian
19/07/19	Site Inspection 1 (14/06/19)	Report Issue V1.1	Kallan Baker	Mardiros Tatian



## **1.0. INTRODUCTION**

When constructing, altering, rebuilding or an extension of a building, properties in NSW must comply with the relevant clauses of the Building Code of Australia (BCA). The subject building is required to comply with the relevant BCA year applicable to the year of Construction Certificate application.

The BCA is given legal effect by building regulatory legislation in each State and Territory. This legislation consists of an Act of Parliament and subordinate legislation which empowers the regulation of certain aspects of buildings and structures and contains the administrative provisions necessary to give effect to the legislation.

The subject building is required to comply with the relevant BCA year applicable to the year of Construction Certificate application.

### **1.1. EP&A Regulation 2000 Clause 154 Considerations**

To attain an Occupation Certificate authorising a person to commence occupation or use of a new site, or partially completed new building, must not be issued unless the design and construction of the new building, or any part of the new building is completed, are not inconsistent with the development consent in force with respect to the new building.

### **1.2. Report Purpose**

The purpose of this report is response to engagement from the client for a site appraisal to identify any visible construction defects and provide general comments and recommendations for the proposed change of use of a Medical Centre to a commercial building for Development Application lodgement purposes. The report undertakes an indicative assessment with appraisal recommendations on the subject non-conformities that are present.

The indicative site appraisal and resulting assessment identifies issues based against the Deemed to Satisfy provisions of the Building Code of Australia 2019 (BCA) (to be confirmed by the PCA and Client), Volume 1 relating to Parts C, D1, D2 and E. This review will include items now considered non-compliant to Deemed-to-Satisfy Provisions of the BCA version currently in force for the above parts.

Please note that the appraisal does not constitute of a thorough assessment of the building and recommendations provided are for indicative purposes only. Therefore, other non-compliances may exist and have not been identified throughout the appraisal and consequently the subject report. The subject building appraisal was limited to visible items. Concealed spaces, shafts and the like have not been inspected or considered as part of this report. Systems were not tested and building fabric was not removed to determine the method of construction.

The onus is on the designers, building contractors and project managers to ensure that all parts of the building comply with the requirements of the BCA and referenced standard applicable at the time of construction.

The report constitutes of a preliminary assessment only and may require further appraisals and review of architectural plans in order to confirm the extent of the non-compliances within the building.



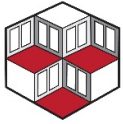
### **1.3. Limitations and Exclusions**

The limitations and exclusions of this report are as follows:

- This report is based on an appraisal of the accessible areas of the existing building on the 14<sup>th</sup> June 2019. Concealed spaces such as voids, shafts, and the like were not inspected. Systems were not tested and building fabric was not removed to determine the method of construction. Approximately 15% of all areas were appraised throughout the building based on the appraisal date (this does not include any void spaces or spaces required to be accessed via a ladder).
- Due to the stage of the building, it may not always be possible to upgrade an existing building to fully comply with the fire and life safety provisions of the current BCA. Instead, this report contains recommendations which, in the opinion of this office, are considered appropriate in order to achieve a reasonable level of fire & life safety compliance commensurate with community expectations having regard to the performance requirements of the BCA.

Notwithstanding the above, it should be noted that any future re-development of the subject building may require the full or partial upgrade of the existing buildings to comply with the BCA pursuant to clauses 93, 94 and 143 of the *Environmental Planning & Assessment Regulation 2000*.

- Whilst the BCA specifies a minimum standard of compliance with AS1428.1 and Part D3 of the BCA for access and facilities for people with disabilities, compliance with such requirements may not necessarily preclude the possibility of a future complaint made under the Disability Discrimination Act 1992 (DDA). The DDA is a complaint-based legislation and is presently not identified by the State Building Codes and Regulations. In this regard the client should be satisfied that their obligations under the DDA have been addressed.
- This Report does not address issues in relation to the following:
  - a) The structural adequacy of the building including the Fire Resistance Levels (FRL's) of any existing building elements (unless specifically referred to).
  - b) The design, maintenance or operation of any existing electrical, mechanical, hydraulic or fire protection services.
  - c) Environmental Planning and Assessment Act and Regulations (*other than Clause 94*).
  - d) Local Government Act and Regulations.
  - e) Occupational Health and Safety Act and Regulations.
  - f) WorkCover Authority requirements.
  - g) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Sydney Water, Electricity Supply Authority, RMS, Council and the like.
  - h) Disability Discrimination Act.
  - i) Construction Safety Act.
  - j) Swimming Pools Act.
  - k) Any previous conditions of Development Consent issued by the relevant Local Council.
- Building Innovations Australia Pty Ltd cannot guarantee acceptance of this report by the Local Council, NSW Fire Brigades or other approval authorities.
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- Please note: the subject items identified should be taken as indicative of items and non-compliances present throughout the building. The onus remains of the building, installers and relevant contractors to ensure all defects throughout the building comply with requirement of BCA 2019 and all relevant standards and installers specifications. Building Innovations Australia Pty Ltd does not take any responsibilities for any items missed or not rectified at the time of completion.
- Any external wall cladding system used throughout the development is to be of non-combustible construction which complies with the requirements of the BCA 2019 and any subsequent referenced standards. Although this report may highlight potential non-compliances regarding the external wall system at the time of appraisal, Building Innovations Australia Pty Ltd does not take any responsibility or liability for approving the compliance of any external wall cladding system implemented throughout the subject development. The onus remains on the Builder and PCA to confirm the compliance of the external wall cladding system used within the subject development.



#### **1.4. Terminology**

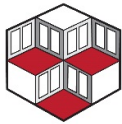
- *Building Code of Australia* - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.
- *Fire Resistance Level (FRL)* - means the grading periods in minutes tested in accordance with AS 1530.4-2005 for the following criteria -
  - (a) structural adequacy; and
  - (b) integrity; and
  - (c) insulation,

and expressed in that order.

- *Fire Source Feature (FSF)* - the far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.
- *Onsite Appraisal* – means an assessment by a suitably qualified person from Building Innovations Australia of the accessible areas of approx. 15% of all areas within the scope of works of the existing building, excluding assessment of concealed spaces or testing of systems or removal of building fabric to determine the method of construction.
- *Onsite Meeting* – means a formal discussion with a suitably qualified person from Building Innovations Australia and relevant stakeholders at the subject development for the primary purpose of addressing the topics raised by the parties attending.
- *Onsite Walkthrough* – means a collection of information such as photographs, measurements or the like by either a representative of Building Innovations Australia or a representative of a stakeholder.
- *Open space* - means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.
- *Performance Requirements of the BCA* - A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must achieve.

Compliance with the Performance Requirements can only be achieved by-

- (a) complying with the Deemed-to-Satisfy Provisions; or
  - (b) formulating an Alternative Solution which-
    - (i) complies with the Performance Requirements; or
    - (ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
  - (c) a combination of (a) and (b).
- *Sole occupancy unit (SOU)* - means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier.



## 2.0. BUILDING CHARACTERISTICS

*Note: As the proposed building works appear to be less than 50% of the total volume of the existing building, the scope of this report is limited to the subject new works, as well as any upgrades to be implemented to the existing building as deemed necessary by this office to improve the fire & life safety provisions particularly related to egress in the event of fire.*

STOREYS IN BUILDING	4
RISE IN STOREYS (RIS)	4
EFFECTIVE HEIGHT (EH)	Appears to be less than 25m
TYPE OF CONSTRUCTION	Type A

### 2.1. Proposed Storeys & Classification

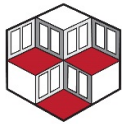
BUILDING LEVELS	CLASSIFICATION	USE	RIS
Ground Floor	Class 5 (TBC)	Commercial (TBC)	1
First Floor	Class 5 (TBC)	Commercial (TBC)	2
Second Floor	Class 5 (TBC)	Commercial (TBC)	3
Third Floor	Class 5 (TBC)	Commercial (TBC)	4

### 2.2. Floor Area and Volume Limitations (Table C2.2)

The building is subject to maximum floor area and volume limits under Type 'A' Construction of:

CLASS OF BUILDING PART	FLOOR AREA & VOLUME		OUTCOME
	MAX PERMITTED (TABLE C2.2)	MAX. PROPOSED	
▪ Class 5	8,000 m <sup>2</sup>	< 8,000 m <sup>2</sup>	Complies
	48,000 m <sup>3</sup>	< 48,000 m <sup>3</sup>	





### **3.0. BCA & Access Review**

#### **3.1. Building Non-Compliance Item Overview**

The below highlights the items considered non-compliances applying the building in which the client engagement has been undertaken.

This section is based on BCA 2019 DtS Provisions, identifying the items which require action in order to comply with the relevant clause of the BCA.

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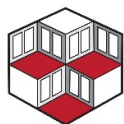




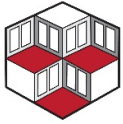
## **Non-Compliances Requiring No Action**

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### 3.2. Existing Structure Non-Compliance Item Detailed Review

The following section constitutes the main focus of this report, providing a detailed, item by item assessment of relevant BCA 2019 DtS provisions.

## SECTION C

### C1.1 – Type of construction required

**BCA Non-Compliance:** The building is to be erected in Type 'A' fire resisting construction in accordance with Specification C1.1 of the BCA.

**Recommendation:** Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.

### C1.2 – Calculation of rise in storeys

**BCA Non-Compliance:** N / A

**Recommendation:** N / A

### C1.3 – Buildings of multiple classification

**BCA Non-Compliance:** N / A

**Recommendation:** N / A

### C1.4 – Mixed types of construction

**BCA Non-Compliance:** N / A

**Recommendation:** N / A

### C1.5 – Two storey Class 2, 3 or 9c buildings

**BCA Non-Compliance:** N / A

**Recommendation:** N / A



#### **C1.6 – Class 4 parts of buildings**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

#### **C1.7 – Open spectator stands and indoor sports stadiums**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

#### **C1.8 – Lightweight construction**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **C1.9 – Non-combustible building elements**

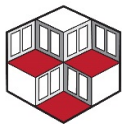
**BCA  
Non-Compliance:** In a building required to be of Type A construction, numerous building elements and their components must be non-combustible, concrete, masonry or fire protected timber.  
  
Proposed attachments are to comply with the requirements of C1.9 and C1.14 of the BCA as applicable.

**Recommendation:** Design certification will be required verifying compliance prior to the issue of a Construction Certificate.

#### **C1.10 – Fire hazard properties**

**BCA  
Non-Compliance:** The fire hazard properties of all floor materials, floor coverings, wall and ceiling lining materials must comply with Specification C1.10. The fire hazard properties of all other materials must comply with Specification C1.10.

**Recommendation:** Design certification will be required verifying compliance prior to the issue of a Construction Certificate.



**C1.11 – Performance of external walls in fire**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

**C1.12 – N / A**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

**C1.13 – Fire-protected timber: Concession**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

**C1.14 – Ancillary elements**

**BCA  
Non-Compliance:** 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 determined to meet certain fire properties and limitations on the extent of coverage.

**Recommendation:** Design certification will be required verifying compliance prior to the issue of a Construction Certificate.

**C2.1 – Application of Part**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

**C2.2 – General floor area and volume limitations**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A



#### **C2.3 – Large isolated buildings**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

#### **C2.4 – Requirements for open spaces and vehicular access**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

#### **C2.5 – Class 9a and 9c buildings**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

#### **C2.6 – Vertical separation of openings in external walls**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **C2.7 – Separation by fire walls**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

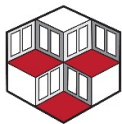
**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **C2.8 – Separation of classifications in the same storey**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.





### C2.9 – Separation of classifications in different storeys

<b>BCA Non-Compliance:</b>	The floor slab separating the different storeys require an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower storey.
<b>Recommendation:</b>	Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.

### C2.10 – Separation of lift shafts

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### C2.11 – Stairways and lifts in one shaft

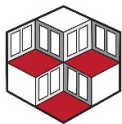
<b>BCA Non-Compliance:</b>	1. A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft. The stairway & lift appear to be in the same shaft.
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<b>Recommendation:</b>	1. Compliance can be achieved via a fire engineering performance solution prior to the issue of the Construction Certificate.
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### C2.12 – Separation of equipment

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.



### C2.13 – Electricity supply system

**BCA  
Non-Compliance:**

1. A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must be separated from another part of the building having an FRL of not less than 120/120/120 with self-closing fire doors of an FRL of not less than -/120/30.



**Recommendation:**

1. Compliance can be achieved by ensuring the construction achieves an FRL of not less than 120/120/120 and installation of self-closing devices to the fire doors as required by Clause C2.13 of the NCC. Please ensure the fire doors maintain an FRL not less than that required by the main switchboard enclosure.  
  
The product installer and the builder are to provide certification as required by Part A2 of the NCC to the PCA prior to the issue of the Occupation Certificate.

### C2.14 – Public corridors in Class 2 and 3 buildings

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

### C3.1 – Application of Part

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A



### **C3.2 – Protection of openings in external walls**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.3 – Separation of external walls and associated openings in different fire compartments**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.4 – Acceptable method of protection**

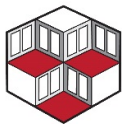
<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.5 – Doorways in fire walls**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.6 – Sliding fire doors**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.



### **C3.7 – Protection of doorways in horizontal exits**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.8 – Openings in fire-isolated exits**

<b>BCA Non-Compliance:</b>	–/60/30 self-closing fire doors are required to doorways providing access to fire isolated passageways.
<b>Recommendation:</b>	Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.

### **C3.9 – Service penetrations in fire-isolated exits**

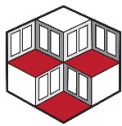
<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.10 – Openings in fire-isolated lift shafts**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.11 – Bounding construction: Class 2, 3, 4 and 9 buildings**

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A



### **C3.12 – Openings in floors and ceilings for services**

<b>BCA Non-Compliance:</b>	Services passing through floors are to be placed within fire resisting shafts or in accordance with Clause C3.15.
<b>Recommendation:</b>	Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.

### **C3.13 – Openings in shafts**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### **C3.14 – N / A**

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A

### **C3.15 – Openings for service installation**

<b>BCA Non-Compliance:</b>	Where services (e.g. hydraulic, mechanical, plumbing, electrical) penetrate a building element that is required to achieve an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire then that installation must be protected / sealed (e.g. fire collars, fire dampers etc) by material that is identical to tested prototypes and in accordance with AS4072.1 and AS1530.4, and having achieved the required FRL or resistance to the incipient spread of fire or other specified method.
<b>Recommendation:</b>	Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.

### **C3.16 – Construction joints**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

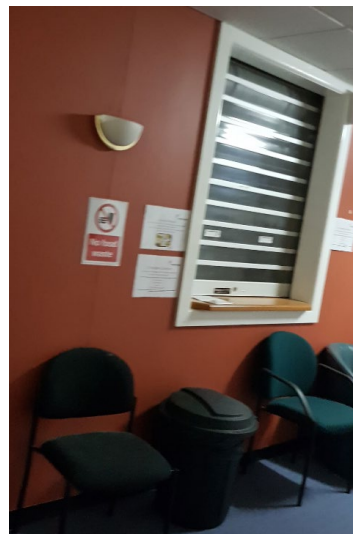


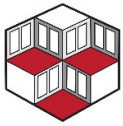
### C3.17 – Columns protected with lightweight construction to achieve an FRL

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

### Specification C1.1 – Requirements for Type A Construction

<b>BCA Non-Compliance:</b>	<p>1. Clause C1.1 requires the building to be constructed as Type A construction in accordance with Part 2, Part 3 and Table 3 of Specification C1.1 of the BCA.</p> <p>Construction of several building elements do not appear to achieve a minimum FRL of not less than 120/120/120 for the proposed Class 5 commercial portions of the building.</p>
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### **Specification C1.1 – Requirements for Type A Construction**

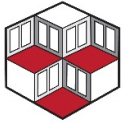
The buildings are to be separated in accordance with Specification C1.1 of the NCC.



2. Numerous parts of the building contain light wells within the central core of the building space which are not adequately fire separated in accordance with Clause 2.7 of Specification C1.1 of the BCA.







#### Specification C1.1 – Requirements for Type A Construction



**Recommendation:**

1. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
2. Compliance can be achieved via undertaking a fire engineering performance solution prior to the issue of the Construction Certificate.

#### Specification C3.4 – Fire doors, smoke doors, fire windows and shutters

**BCA**

**Non-Compliance:**

During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:**

No action recommended based on the visual and non-invasive inspection.



## SECTION D

### D1.1 – Application of Part

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

### D1.2 – Number of exits required

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

### D1.3 – When fire-isolated stairways and ramps are required

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

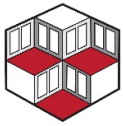
**Recommendation:** No action recommended based on the visual and non-invasive inspection.

### D1.4 – Exit travel distances

**BCA  
Non-Compliance:** 1. The subject travel distances from the rooftop area appears to be greater than 20m to a single exit which does not comply with Clause D1.4 of the NCC.



**Recommendation:** 1. A Fire Engineering Performance Solution can be undertaken prior to the issuance of the Construction Certificate.



#### **D1.5 – Distance between alternative exits**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

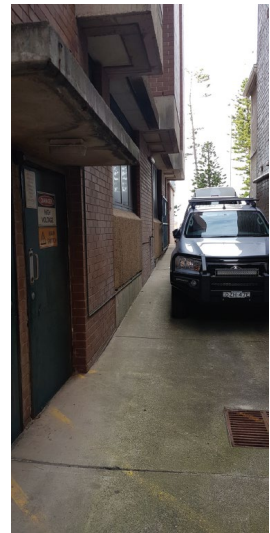
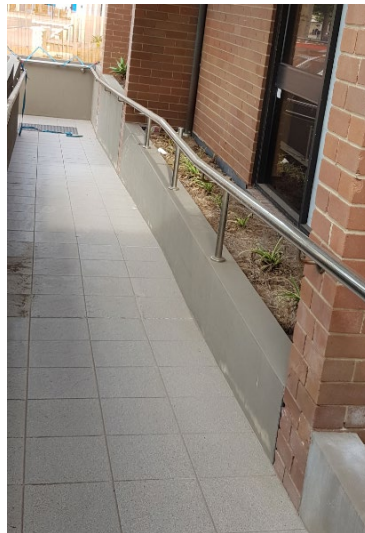
#### **D1.6 – Dimensions of exits**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D1.7 – Travel via fire-isolated exits**

**BCA Non-Compliance:** 1. The subject external wall opening appears to be within 6m from a path of travel discharging from a Fire-Isolated Stairway and is not protected in accordance with Clause C3.4 of the NCC.





#### **D1.7 – Travel via fire-isolated exits**

2. The top of the Fire Isolated Stairway appears to contain a roof light in lieu of fire-rated construction enclosing the top of the shaft.



**Recommendation:**

1. A Fire Engineering Performance Solution can be undertaken prior to the issuance of the Construction Certificate.
2. A Fire Engineering Performance Solution can be undertaken prior to the issuance of the Construction Certificate.

#### **D1.8 – External stairways or ramps in lieu of fire-isolated exits**

**BCA  
Non-Compliance:**

During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:**

No action recommended based on the visual and non-invasive inspection.

#### **D1.9 – Travel by non-fire-isolated stairways or ramps**

**BCA  
Non-Compliance:**

During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:**

No action recommended based on the visual and non-invasive inspection.



#### **D1.10 – Discharge from exits**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D1.11 – Horizontal exits**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D1.12 – Non-required stairways, ramps or escalators**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D1.13 – Number of persons accommodated**

**BCA Non-Compliance:** N / A

**Recommendation:** N / A

#### **D1.14 – Measurement of distances**

**BCA Non-Compliance:** N / A

**Recommendation:** N / A

#### **D1.15 – Method of measurement**

**BCA Non-Compliance:** N / A

**Recommendation:** N / A



#### **D1.16 – Plant rooms, lift machine rooms and electricity network substations: Concession**

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A

#### **D1.17 – Access to lift pits**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **D2.1 – Application of Part**

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A

#### **D2.2 – Fire-isolated stairways and ramps**

<b>BCA Non-Compliance:</b>	Stairway or ramps within the fire isolated shaft must be constructed on non-combustible materials and if there is a structural failure within the building, it would not cause structural damage to, or impair the fire resistance of the shaft.
<b>Recommendation:</b>	Engineering details are to be submitted with the Construction Certificate Documentation.

#### **D2.3 – Non-fire-isolated stairways and ramps**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **D2.4 – Separation of rising and descending stair flights**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.



#### D2.5 – Open access ramps and balconies

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### D2.6 – Smoke lobbies

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### D2.7 – Installations in exits and paths of travel

**BCA Non-Compliance:** Electrical boards and the like are to be located within and enclosed by non-combustible construction or have a fire-protective covering with the doorway suitably sealed against smoke spreading from the enclosure.

**Recommendation:** Design verification is to be provided prior to the issue of the Construction Certificate.

#### D2.8 – Enclosure of space under stairs and ramps

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### D2.9 – Width of required stairways and ramps

**BCA Non-Compliance:** N / A

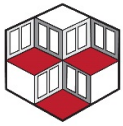
**Recommendation:** N / A

#### D2.10 – Pedestrian ramps

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.





#### **D2.11 – Fire-isolated passageways**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D2.12 – Roof as open space**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D2.13 – Goings and risers**

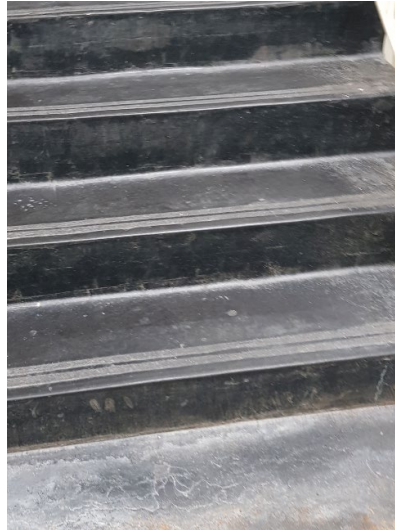
**BCA Non-Compliance:** 1. The non-Fire-Isolated Stairway (NFIS) serving the main entry appears to encroach on the allotment boundary once required handrails, TGSIs, and the like are installed.





#### **D2.13 – Goings and risers**

2. Numerous required stairways throughout the building appear to be provided with inconsistent risers throughout the stair flights which does not comply with Clause D2.13 of the NCC.



#### **Recommendation:**

1. Compliance can be achieved by a redesign or alternatively via a BCA performance solution conducted prior to issue of the Construction Certificate.
2. A BCA Performance Solution can be undertaken prior to the issuance of an Occupational Certificate.

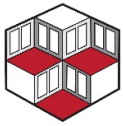
#### **D2.14 – Landings**

##### **BCA Non-Compliance:**

During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

##### **Recommendation:**

No action recommended based on the visual and non-invasive inspection.



### D2.15 – Thresholds

**BCA  
Non-Compliance:**

1. The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf.

The subject doorway(s) appear to retain a step or ramp within the threshold of the doorway.



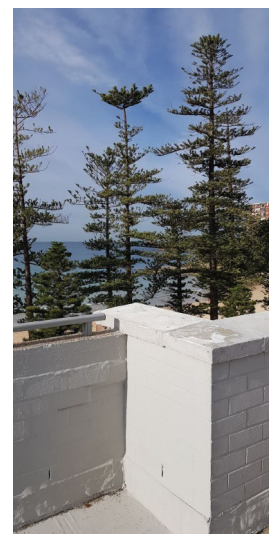
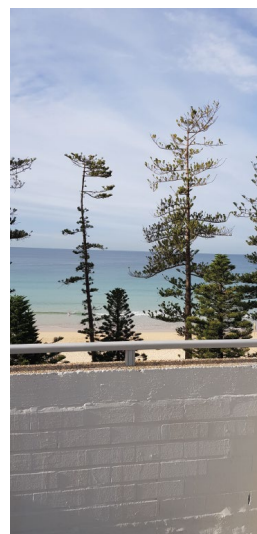
**Recommendation:**

1. Compliance can be achieved by a redesign or alternatively via a BCA performance solution conducted prior to issue of the Construction Certificate.

### D2.16 – Balustrades

**BCA  
Non-Compliance:**

1. The subject balustrades do not appear to comply with the requirements of Clause D2.16 of the NCC.



**Recommendation:**

1. A continuous balustrade shall be constructed for all trafficable surfaces 1m above the surface beneath in accordance with Clause D2.16 of the NCC and



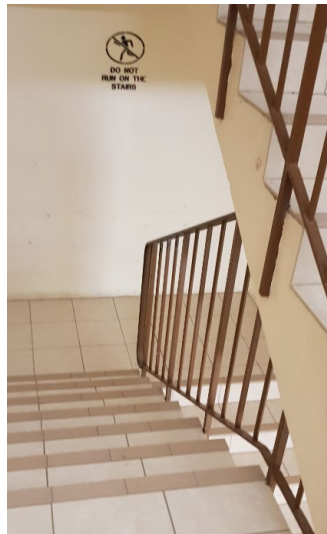
#### **D2.16 – Balustrades**

Table D2.16a of the NCC. Please ensure voids in balustrades are provided in accordance with Clause D2.16 of the NCC and Table D2.16a of the NCC.

#### **D2.17 – Handrails**

**BCA  
Non-Compliance:**

1. Several handrails within the required stairways throughout the building appear to not be fully continuous between stair flight landings throughout the whole stair flights in accordance with Clause D2.17 of the NCC.



**Recommendation:**

1. Compliance can be achieved by a redesign or alternatively via a BCA performance solution conducted prior to issue of the Construction Certificate.

#### **D2.18 – Fixed platforms, walkways, stairways and ladders**

**BCA  
Non-Compliance:**

During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:**

No action recommended based on the visual and non-invasive inspection.



### **D2.19 – Doorways and doors**

#### **BCA**

#### **Non-Compliance:**

1. A power operated door in a path of travel to an required exit must be able to be manually opened under a force of no more than 110N if there is a malfunction or failure of the power source.



#### **Recommendation:**

1. Compliance can be achieved by a redesign or alternatively via a BCA performance solution conducted prior to issue of the Construction Certificate.

### **D2.20 – Swinging doors**

#### **BCA**

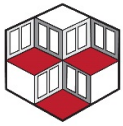
#### **Non-Compliance:**

During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

#### **Recommendation:**

No action recommended based on the visual and non-invasive inspection.

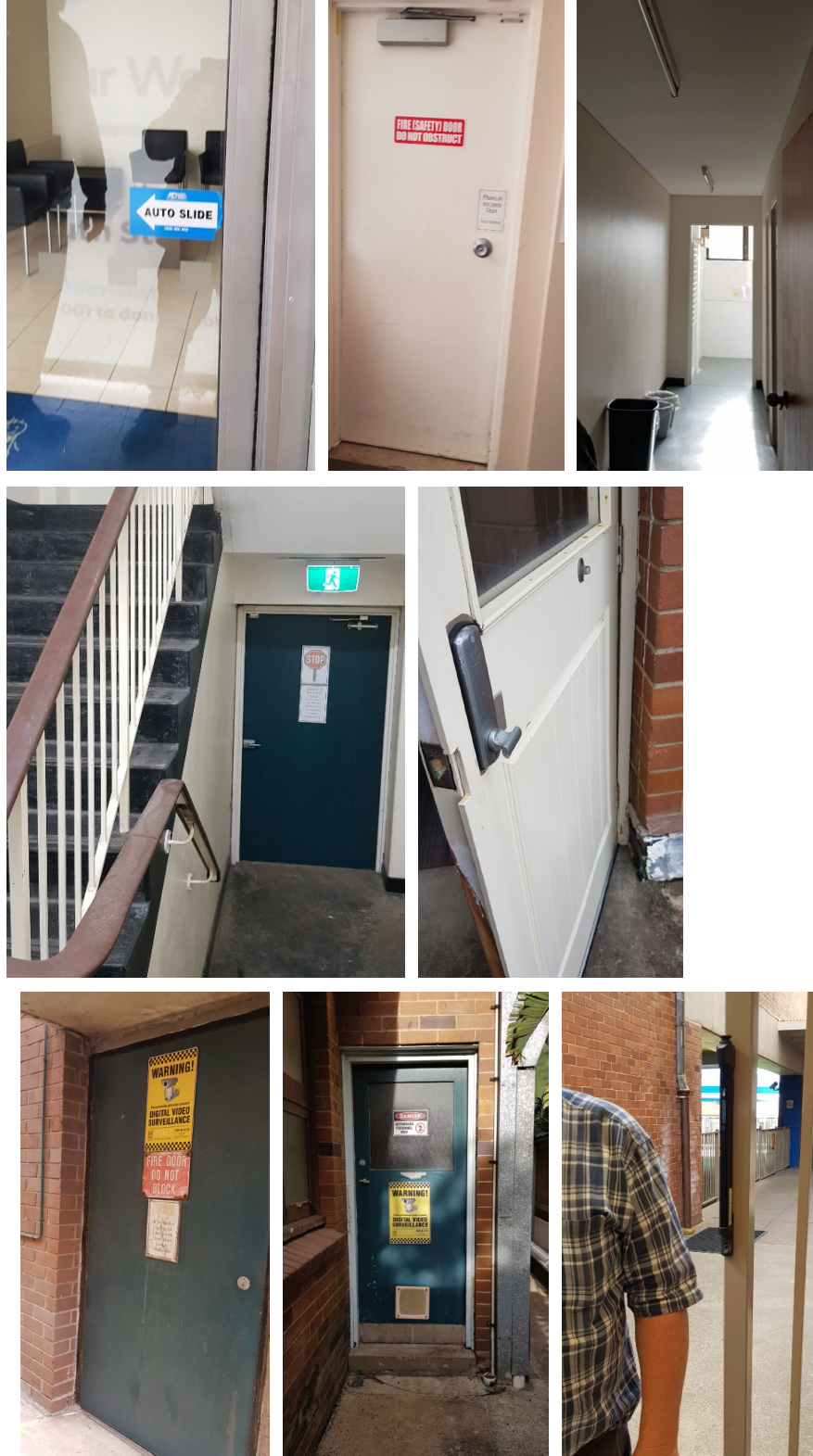


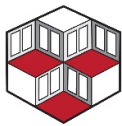


## D2.21 – Operation of latch

### BCA Non-Compliance:

1. It appears that several latches within the building do not operate in accordance with Clause D2.21 of the NCC.





#### **D2.21 – Operation of latch**

**Recommendation:** 1. Compliance can be achieved via redesign of the existing design prior to the issue of the Construction Certificate.

#### **D2.22 – Re-entry from fire-isolated exits**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

#### **D2.23 – Signs on doors**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D2.24 – Protection of openable windows**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

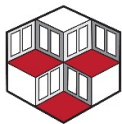
**Recommendation:** No action recommended based on the visual and non-invasive inspection.

#### **D2.25 – Timber stairways: Concession**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A





### D3.1 – General building access requirements

<b>BCA Non-Compliance:</b>	<p>The following are recommendations to achieve compliance with Clause D3.1 of the NCC and AS 1428.1-2009.</p> <ol style="list-style-type: none"><li>1. Several doorways in common areas leading to areas required to be accessible retain a clear width of less than 850mm as required by D3.1 of the NCC and AS1428.1-2009.</li></ol>
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<b>Recommendation:</b>	<ol style="list-style-type: none"><li>1. Compliance can be achieved by a redesign or alternatively via a BCA performance solution conducted prior to issue of the Construction Certificate.</li></ol>
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### D3.2 – Access to Buildings

<b>BCA Non-Compliance:</b>	<p>The following are recommendations to achieve compliance with Clause D3.1 of the NCC and AS 1428.1-2009.</p> <ol style="list-style-type: none"><li>1. The Principal Pedestrian Entry appears not to be provided with means of a continuous accessible path of travel from street frontage to common areas in the building required to be accessible as required by D3.2 of the NCC and AS1428.1-2009.</li></ol>
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<b>Recommendation:</b>	<ol style="list-style-type: none"><li>1. Compliance can be achieved by a redesign or alternatively via a BCA performance solution conducted prior to issue of the Construction Certificate.</li></ol>
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### D3.3 – Parts of the building to be accessible

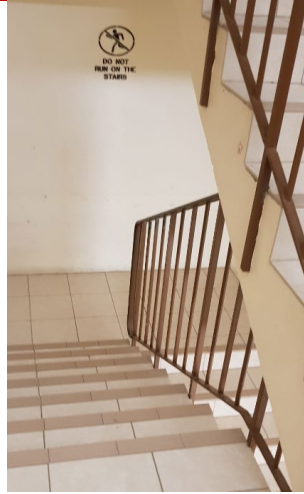
<b>BCA Non-Compliance:</b>	<p>The following are recommendations to achieve compliance with Clause D3.3 of the NCC and AS 1428.1-2009.</p> <ol style="list-style-type: none"><li>1. The non-Fire-Isolated Stairway (NFIS) serving the main entry appears to not be constructed with double handrails, tactiles, and luminance contrasting strips as required under Clause D3.3 of the NCC and AS 1428.1-2009.</li></ol>
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Handrails in required stairways throughout the building do not appear to comply with the requirements of AS 1428.1-2009.

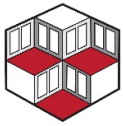




### **D3.3 – Parts of the building to be accessible**



- Recommendation:**
1. Compliance can be achieved via the installation of double handrails, tactiles, and luminance contrasting strips in accordance with AS 1428.1-2009.



## SECTION E

### E1.1 – N / A

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

### E1.2 – N / A

**BCA  
Non-Compliance:** N / A

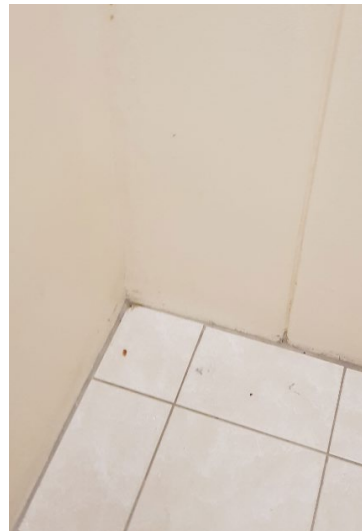
**Recommendation:** N / A

### E1.3 – Fire hydrants

**BCA  
Non-Compliance:** 1. Fire Hydrant Coverage is required throughout the whole building in accordance with AS 2419.1.

The current fire hydrant provisions do not appear to comply with Clause E1.3 of the BCA.

Several landings of the required stairways do not appear to be provided with hydrant coverage as required.



**Recommendation:** 1. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.

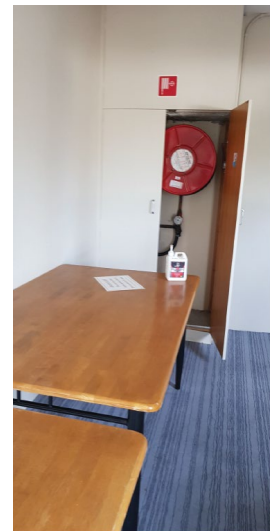
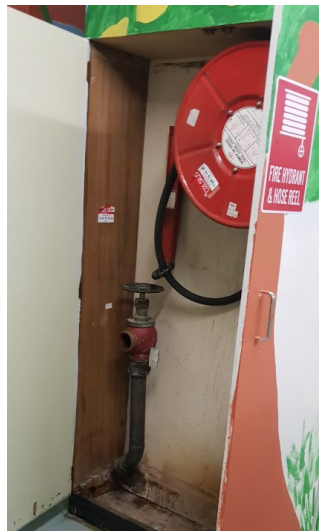


#### **E1.4 – Fire hose reels**

**BCA  
Non-Compliance:**

1. Fire hose reels throughout the building are required to be provided in accordance with Clause E1.4 of the NCC and AS 2441.

Fire hose reel systems throughout the building did not appear to comply with the requirements of AS 2441. For example, several fire hose reels appear to be provided at greater than 4m to an exit.



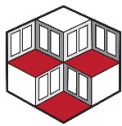
**Recommendation:**

1. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.

#### **E1.5 – Sprinklers**

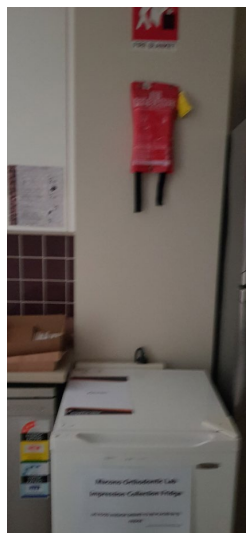
**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A



### E1.6 – Portable fire extinguishers

- BCA Non-Compliance:**
1. Portable fire extinguishers to be provided throughout the building as required by Clause E1.6 of the BCA.



- Recommendation:**
1. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.

### E1.7 – N / A

- BCA Non-Compliance:**
- N / A

- Recommendation:**
- N / A

### E1.8 – Fire control centres

- BCA Non-Compliance:**
- N / A

- Recommendation:**
- N / A

### E1.9 – Fire precautions during construction

- BCA Non-Compliance:**
- N / A

- Recommendation:**
- N / A



#### E1.10 – Provision for special hazards

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A

#### E2.1 – Application of Part

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A

#### E2.2 – General requirements

**BCA  
Non-Compliance:**

1. The building is required to be provided with a fire detection and alarm system as required by Clause E2.2, Table E2.2a and Specification E2.2a of the NCC and AS 1670.1-2015.

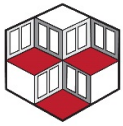
The detector spacing within the building appears to exceed the maximum distance and requires review prior to the issue of the Construction Certificate.

Detectors appear to be required within the sanitary facilities throughout the building.

The fire detection system is required to be provided within the required stairways throughout the building and does not appear to be provided.

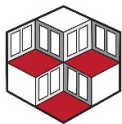






## E2.2 – General requirements





## **E2.2 – General requirements**



**Recommendation:** 1. Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.

## **E2.3 – Provision for special hazards**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.

## **E3.1 – Lift installations**

**BCA Non-Compliance:** N / A

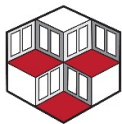
**Recommendation:** N / A

## **E3.2 – Stretcher facility in lifts**

**BCA Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.





#### **E3.3 – Warning against use of lifts in fire**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **E3.4 – Emergency lifts**

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A

#### **E3.5 – Landings**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **E3.6 – Passenger lifts**

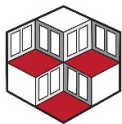
<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **E3.7 – Fire service controls**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **E3.8 – Aged care buildings**

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A



#### **E3.9 – Fire service recall control switch**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **E3.10 – Lift car fire service drive control switch**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **E4.1 – N / A**

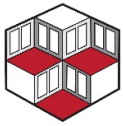
<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A

#### **E4.2 – Emergency lighting requirements**

<b>BCA Non-Compliance:</b>	During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.
<b>Recommendation:</b>	No action recommended based on the visual and non-invasive inspection.

#### **E4.3 – Measurement of distance**

<b>BCA Non-Compliance:</b>	N / A
<b>Recommendation:</b>	N / A



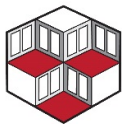
#### **E4.4 – Design and operation of emergency lighting**

**BCA  
Non-Compliance:**

1. Emergency lighting shall be provided throughout the building in accordance with the requirements of Clause E4.4 of the BCA and AS 2293.1.

Emergency lighting appears to not be provided within the proposed commercial areas or restrooms throughout the building.





#### **E4.4 – Design and operation of emergency lighting**



**Recommendation:**

1. Details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.

#### **E4.5 – Exit signs**

**BCA  
Non-Compliance:**

1. Exit signage throughout the building does not appear to be provided in accordance with Clauses E4.5 and E4.6 of the NCC.

**Recommendation:**

1. Signage shall be provided throughout the building in accordance with Clauses E4.5 and E4.6 of the NCC.

Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.

#### **E4.6 – Direction signs**

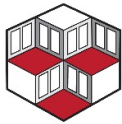
**BCA  
Non-Compliance:**

1. Exit signage throughout the building does not appear to be provided in accordance with Clauses E4.5 and E4.6 of the NCC.

**Recommendation:**

1. Signage shall be provided throughout the building in accordance with Clauses E4.5 and E4.6 of the NCC.

Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.



#### **E4.7 – Class 2 and 3 buildings and Class 4 parts: Exemptions**

**BCA  
Non-Compliance:** N / A

**Recommendation:** N / A

#### **E4.8 – Design and operation of exit signs**

**BCA  
Non-Compliance:** 1. Exit signs appear to not operate in accordance with AS 2293.1 and/or Specification E4.8 and be clearly visible at all times while the building is occupied.

**Recommendation:** 1. Exit signs are required to operate in accordance with AS 2293.1 and/or Specification E4.8 and be clearly visible at all times while the building is occupied.  
  
Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.

#### **E4.9 – Emergency warning and intercom systems**

**BCA  
Non-Compliance:** During the visual and non-invasive inspection of the building, no evidence appeared to suggest that the development does not comply with the requirements of this Clause.

**Recommendation:** No action recommended based on the visual and non-invasive inspection.



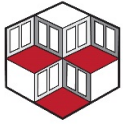
### **3.3. Certification of Essential Fire Safety Measures**

Pursuant to Section 169 of the Environmental Planning and Assessment Regulations 2000, it will be necessary for the owner of the building, on completion of work to furnish a Final Fire Safety Certificate with regard to each essential fire safety measure identified in the proposed Fire Safety Schedule listed above.

The final fire safety certificate must state that each essential fire safety measure specified in the fire safety schedule for the building to which the certificate relates:

- (a) has been assessed by a properly qualified person, and
- (b) was found, when it was assessed, to be capable of performing to at least the standard required by the current fire safety schedule for the building for which the certificate is issued.

Every year, the owner(s) will need to sign and submit an Annual Fire Safety Statement to the Local Council and the NSW Fire Brigades, which confirms that all essential fire safety measures have been tested and maintained and perform to the original design and installation standard. A copy of the Annual Fire Safety Statement must also be displayed in prominent areas of the buildings (i.e. the main entrance foyers).



#### **4.0. CONCLUSION**

This report provides a review of the existing structure(s) against the Deemed-to-Satisfy provisions of the Building Code of Australia 2019 (BCA) relating to Parts C, D1, D2 and E, as requested by the client. Of the items marked as requiring action (if any), it is assumed that addressing these items, either by BCA/Fire Engineering Alternative Solution or remediation works to achieve DtS provision compliance should sufficiently address the egress, fire protection and resistance to the spread of fire considerations required to be assessed by the PCA in development consent.

This report also reviews the proposed works and any existing works which could be expected to achieve full BCA compliance against the Deemed-to-Satisfy provisions of the Building Code of Australia 2019 (BCA) to highlight relevant considerations for development consent.

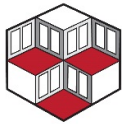
Though great care and consideration been taken, we cannot guarantee the consenting authority will accept the recommendations of this report, or that this report comprises a full and exhaustive list of all potentially relevant items that impact egress, fire protection and resistance to the spread of fire considerations within the newly constructed structure(s).

**PREPARED BY:**

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*Building Professionals Board, NSW- A1 Accredited Certifier BPB 2572*



## APPENDIX A – FIRE RESISTANCE LEVELS

**Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS**

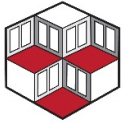
Building element	Class of building — FRL: (in minutes) <i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
<b>EXTERNAL WALL</b> (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> parts—				
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
For non- <i>loadbearing</i> parts—				
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	–/–/–	–/–/–	–/–/–	–/–/–
<b>EXTERNAL COLUMN</b> not incorporated in an <i>external wall</i> —				
For <i>loadbearing</i> columns—	90/–/–	120/–/–	180/–/–	240/–/–
For non- <i>loadbearing</i> columns—	–/–/–	–/–/–	–/–/–	–/–/–
<b>COMMON WALLS and FIRE WALLS—</b>	90/ 90/ 90	120/120/120	180/180/180	240/240/240
<b>INTERNAL WALLS—</b>				
<i>Fire-resisting</i> lift and stair <i>shafts</i> —				
<i>Loadbearing</i>	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non- <i>loadbearing</i>	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding <i>public corridors</i> , public lobbies and the like—				
<i>Loadbearing</i>	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non- <i>loadbearing</i>	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding <i>sole-occupancy units</i> —				
<i>Loadbearing</i>	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non- <i>loadbearing</i>	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like <i>shafts</i> not used for the discharge of hot products of combustion—				
<i>Loadbearing</i>	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non- <i>loadbearing</i>	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120
<b>OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and COLUMNS—</b>				
	90/–/–	120/–/–	180/–/–	240/–/–
<b>FLOORS</b>	90/ 90/ 90	120/120/120	180/180/180	240/240/240
<b>ROOFS</b>	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60

**Note:** Under Spec C1.1, there are many individual additional requirements and concessions which need to be assessed and read in conjunction with this Specification. Your engineer is to confirm compliance with all required Fire Rated Elements.

**General Requirements:**

- Exposure to Fire-source features
- Fire Protection for a supporting of another part
- Lintels
- Attachments not to impair fire-resistance
- General concessions





**Fire-resistance of building elements:**

*In a building required to be of Type A construction*

- (a) each building element listed in Table 3 and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned; and*
- (b) external walls, common walls and the flooring and floor framing of lift pits must be non-combustible; and*
- (c) any internal wall required to have an FRL with respect to integrity and insulation must extend to;*
  - (i) the underside of the floor next above; or*
  - (ii) the underside of a roof complying with Table 3; or*
  - (iii) if under Clause 3.5 the roof is not required to comply with Table 3, the underside of the non-combustible roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or*
  - (iv) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes; and*
- (d) a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be of concrete or masonry; and*
- (e) a non-loadbearing*
  - (i) internal wall required to be fire-resisting; and*
  - (ii) lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, must be of non-combustible construction; and*
- (f) the FRLs specified in Table 3 for an external column apply also to those parts of an internal column that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature.*

## **APPENDIX B – REFERENCED DOCUMENTATION**

No architectural plans were used in the assessment of this report – the assessment was based on an onsite appraisal as detailed in Section 1.3 of this report.