MBC MODERN BUILDING CERTIFIERS

Building Code of Australia 2019

BCA DESIGN COMPLIANCE REPORT

Lennox Village
1 Pyramid Street, Emu Plains

Prepared for: Challenger Investment Partners | Issue date: 16 December 20

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Authorisation

Revision	Comment / Reason for Issue	Issue Date	Prepared by	Reviewed by
1	DA Submission – Updated drawings	17 December 2020	[redacted]	
			Seb Howe	Joel Lewis

Revision History

Revision	Comment / Reason for Issue	Issue Date	Prepared By
1	DA Submission	10 December 2020	Seb Howe
2	DA Submission	17 December 2020	Seb Howe

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1 Executive Summary

As Accredited Certifiers, we have reviewed architectural design documents prepared by i2C (refer appendix A) for compliance with the National Construction Code - Building Code of Australia Volume One 2019 (Amendment 1).

Assessed By

[redacted]

Seb Howe
Associate Director
Modern Building Certifiers

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2 Introduction

Modern Building Certifiers (MBC) have been engaged by Challenger to conduct a desktop review of architectural details (as listed in Appendix A) for DA submission, against the applicable provisions of the National Construction Code - Building Code of Australia Volume One 2019 (Amendment 1)

2.1 Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of the BCA, and to outline those areas, if any, where: -

- compliance is not achieved,
- areas may warrant redesign to achieve compliance,
- areas may be able to be assessed against the relevant performance provisions of the BCA.

2.2 Methodology

The methodology applied in undertaking this assessment has included: -

- A desktop review of architectural plans, as listed in Appendix A
- Detailed assessment of Sections C, D, E and F (as applicable / relevant) of the BCA

2.3 Limitations

This report does not include or imply any detailed assessment for design, compliance or upgrading for:

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

This report does not include, or imply compliance with:

- the National Construction Code – Plumbing Code of Australia Volume 3
- the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to)
- The deemed to satisfy provisions of Part D3 and F2.4 of BCA 2019 Amendment 1
- Demolition Standards not referred to by the BCA;
- Work Healthy and Safety Act 2011;
- An out of cycle change to the Building Code of Australia.
- Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Roads and Transport Authority, Local Council, ARTC, Department of Planning and the like; and

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- Conditions of Development Consent issued by the Local Consent Authority.

2.4 Current Legislation

The applicable legislation governing the design of buildings in NSW is the Environmental Planning and Assessment Act 1979.

Applicable Building Code of Australia (BCA)

The proposed development will be subject to compliance with the relevant requirements of the BCA as in force at the time that the application for the Construction Certificate is made.

In this regard this report is based upon the Deemed-to-Satisfy provisions of BCA 2019-Amd 1 which will be adopted on 1 July 2020.

Should the application for Construction Certificate be made after 1st May 2022, this report will be required to be updated to reflect any changes made and now required by the BCA.

Should an *out of cycle* change occur to the Building Code of Australia, then this report is required to be updated to reflect any applicable changes made and now required by the BCA.

2.5 Aluminium Composite Panels (ACP)

Type A & B Construction

All elements of external walls, common walls, loadbearing and non-loadbearing internal walls and shaft walls that are required to be fire resisting are to be constructed of non-combustible materials as tested to AS 1530.1-1994. There are limited exceptions to this.

Moreover, as of 15 August 2018, the NSW government issued a ban to prohibit the use of Aluminium Composite Panels (ACP) with a polyethylene core of >30% (by mass) in any external cladding, external wall, external insulation, facade or rendered finish when installed on:

- Class 2, 3 and 9 buildings with a rise in storeys of three or more and
- Class 5, 6, 7 and 8 buildings with a rise in storeys of four or more (Type A); and
- Class 2, 3 and 9 buildings with a rise in storeys of two or more and Class 5, 6, 7 and 8 buildings with a rise in storeys of three or more (Type B),

Subject to the following exceptions:

1. the building product is not deemed combustible by successfully passing a test in accordance with AS 1530.1-1994; or
2. the building product and proposed external wall assembly has successfully passed a test for both EW and BB classifications in accordance with AS 5113 and the proponent of the use of the building product tested to AS 5113 documents by statutory declaration that the building product will be installed in a manner identical to the tested prototype wall assembly or facade, and

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3. the AS 1530.1 or AS 5113 test results are produced by an Accredited Testing Laboratory, and describe the methods and conditions of the test and the form of construction of the tested building product or prototype wall assembly or facade, and are dated on or after 1 July 2017.

If ACP is noted in the below table, it is advised for the construction of all of the walls above to be assessed by a suitably qualified person to ensure no combustible material is apparent.

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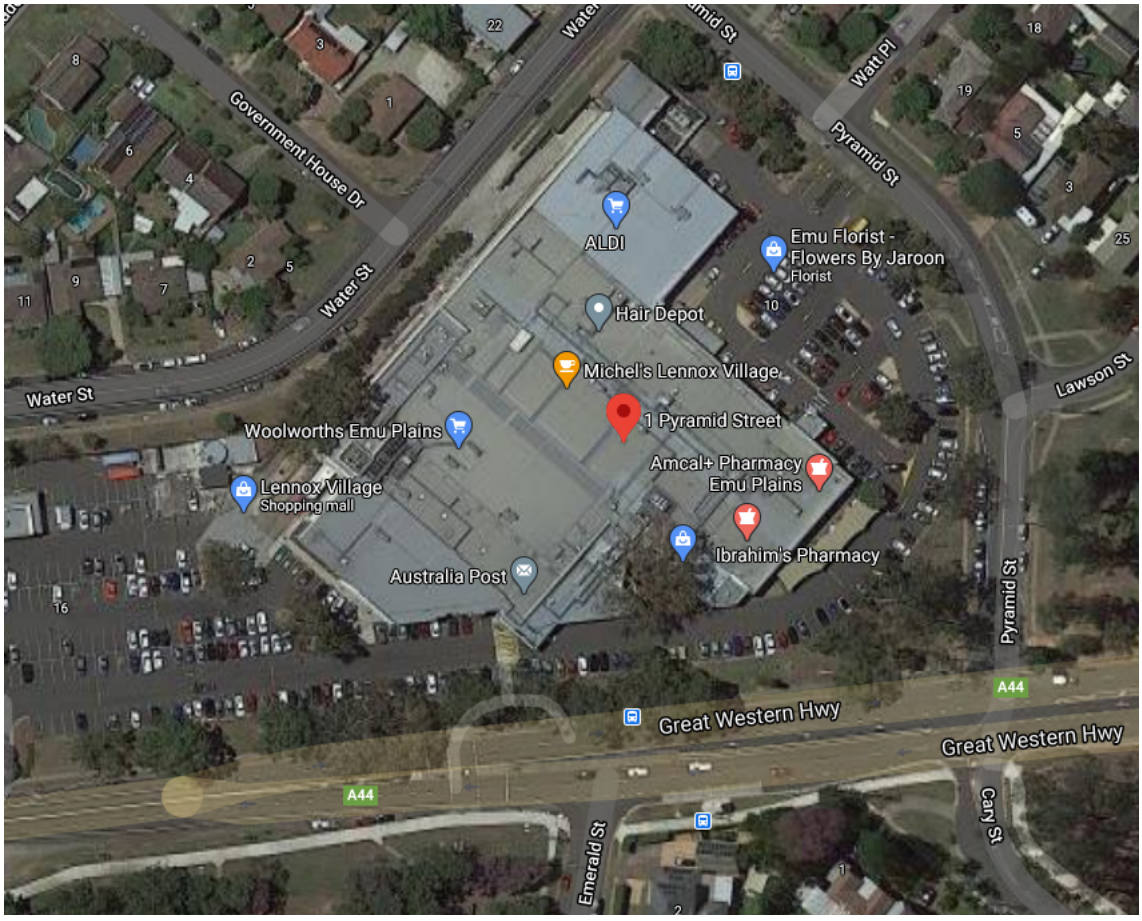
3 Development Description & Assessment Information

3.1 Proposed Development

The proposed development comprises of courtyard refurbishment works located at Lennox Village Shopping Centre. Please note, the following report excludes the proposed internal Supermarket works.

3.2 Location and Description

The site is located on the 1 Pyramid Street, Emu Plains.



3.3 BCA Classification (Clause A6.0)

The proposed development is in relation to the following classifications: -

- Class 6: being a retail building or part

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3.4 Rise in Storeys (Clause C1.2)

The proposed development has been assessed to have a *rise in storeys* of *one (1).*

3.5 Effective Height

The proposed development has been assessed to have an *effective height* of less than 25m.

The BCA now defines effective height as: -

"Effective height means the vertical distance between the floor of the lowest storey included in a determination of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units)."

3.6 Type of Construction Required (Clause C1.1 / Table C1.1)

The proposed development is required to be Type C construction (It is assumed the building has been assessed as a Large Isolated Building – TBC). Specification C1.1 outlines the fire resistance required by certain building elements. This has also been provided is Appendix B.

3.7 Floor Area and Volume Limitations (Clause C2.2 / Table C2.2)

The development is limited to the following floor area and volume compartment limitations:-

Class		Type A	Type B	Type C
5, 9b or 9c	Max floor area -	8,000m2	5,500m2	3,000m2
	Max volume -	48,000m3	33,000m3	18,000m3
6, 7, 8 or 9a	Max floor area -	5,000m2	3,500m2	2,000m2
	Max volume -	30,000m3	21,000m3	12,000m3

3.8 Building Data Summary

Part of Development	Use	Class	Floor Area (approx.) m^2	Population (using D1.13)
Shopping mall	Retail	6	TBC	TBC

Notes:

- The above populations have been based on the floor areas and calculations in accordance with Table D1.1.3 of the BCA.

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- The floor areas have been adjusted to account for ancillary areas such as sanitary facilities, corridors, shelving and / or racking layouts in storage areas by a factor of 0.8
- The Carpark areas have been considered ancillary to the use for the purposes of population numbers

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4 BCA Assessment

4.1 Structural Provisions

Any new structural works are to comply with the applicable requirements listed within the suite AS/NZS 1170.

Any glazing, including external glazed assemblies, shall comply with AS1288-2006 – Glass in Buildings – Selection and Installation, Amendments 1 and 2.

Any external glazed assemblies shall also comply with AS2047-2014 – Windows and external glazed doors in buildings.

Prior to the issue of the relevant Construction Certificate structural certification is required to be provided confirming the structural design complies with the requirements of Section B of the BCA.

4.2 Fire Hazard Properties

The Fire Hazard Properties of floor linings and floor coverings, wall and ceiling linings, and other material as noted within Clause C1.10, must comply with the provisions of Specification C1.10.

4.3 Egress

The egress provisions from the proposed building are provided by external perimeter doorways.

The current 'Deemed-To-Satisfy' provisions of the Building Code of Australia specify the following exit travel distance provisions.

'No point on a floor must be more than 20m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40m.' Also exit shall not be more than 60 apart.'

Travel distance fr4om the courtyard area complies.

4.4 Access for Persons with a Disability

Access for people with disabilities shall be provided to and within the building in accordance with the requirements of Clause D3.2, D3.3 and D3.4 of the BCA 2019-Amd 1. Parts of the building required to be accessible shall comply with the requirements of AS1428.1-2009.

At least one door to the courtyard area must be 850mm to accommodate wheelchair users. The double doors are noted as being 720mm each.

Please provide the slip resistance of the timber decking to the courtyard. As this is an accessible path of travel the

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Confirm the slip resistance of the timber decking. The timber decking must achieve a slip resistance of R10 or better.

4.5 Fire Services and Equipment

The following fire services will need to be provided to the courtyard:

- Fire hydrants in accordance with clause E1.3 of the BCA and AS 2419.1-2005,
- Fire hose reels in accordance with clause E1.4 of the BCA and AS 2441-2005,
- Portable Fire Extinguishers in accordance with Clause E1.6 of the BCA and AS 2444-2001,
- Emergency lighting, exit signage and directional exit signage is required throughout the building in accordance with Part E of the BCA and AS/NZS 2293.1-2005

4.5.1.1 Fire Hydrants

Fire Hydrant system to comply with BCA Clause E1.3 and AS 2419.1-2005. Design certification to be provided from a Hydraulic Consultant.

4.5.1.2 Fire Hose Reels

The Fire Hose Reel System is capable of achieving compliance with BCA Clause E1.4 and AS2441.

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5 Appendix A – Architectural Plans Reviewed

The following documentation, prepared by I2C architects was used in the assessment and preparation of this report: -

Drawing No.	Title	Date	Drawn By	Revision
DA01	Site Context Plan	16.12.20	I2C architects	A
DA02	Final Site Analysis	16.12.20	I2C architects	A
DA03	Existing/ Demolition Plan – Courtyard	16.12.20	I2C architects	A
DA04	Proposed Ground Floor Plan - Courtyard	16.12.20	I2C architects	A
DA05	Proposed Roof Plan – Courtyard	16.12.20	I2C architects	A
DA06	Proposed Elevations & Section	16.12.20	I2C architects	A

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6 Appendix B – Table 5 of Specification C1.1

Below is an abridged version of Table 5 of Specification C1.1. These are the Deemed to Satisfy requirements and do not take into consideration any reduction in FRL's sought via a performance-based solution or any concessions afforded by Part 5 of Specification C1.1

Building element	**Class of building—FRL: (in minutes)**			
	Structural adequacy*/*Integrity*/*Insulation			
	2, 3 or 4 part	**5, 7a or 9**	**6**	**7b or 8**
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any *fire-source feature* to which it is exposed is—				
Less than 1.5 m	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
1.5 to less than 3 m	–/–/–	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an *external wall*, where the distance from any *fire-source feature* to which it is exposed is—				
Less than 1.5 m	90/–/–	90/–/–	90/–/–	90/–/–
1.5 to less than 3 m	–/–/–	60/–/–	60/–/–	60/–/–
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
INTERNAL WALLS—				
Bounding *public corridors*, public lobbies and the like—	60/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—	60/ 60/ 60	–/–/–	–/–/–	–/–/–
Bounding a stair if *required* to be rated—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
ROOFS	–/–/–	–/–/–	–/–/–	–/–/–

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