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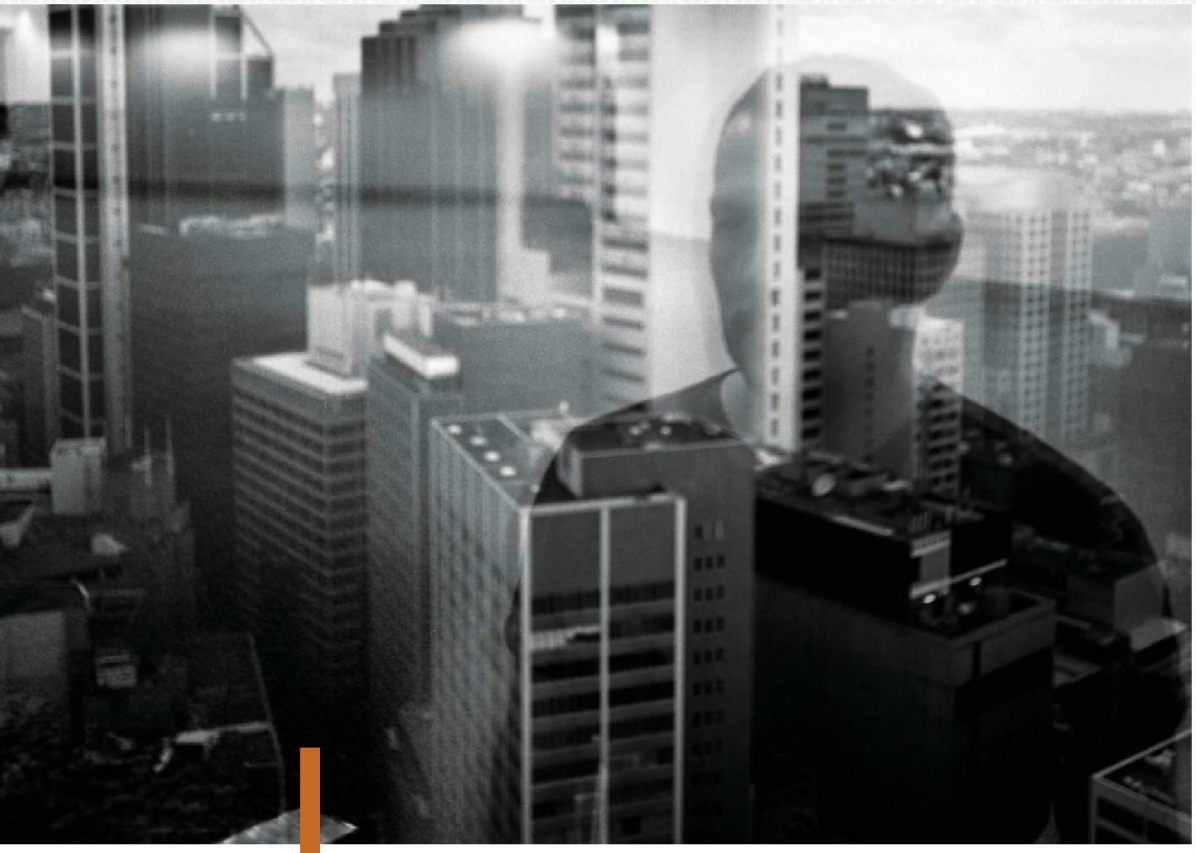

Building Code of Australia
Assessment Report

Residential Development
28-32 Evan St, Penrith, NSW

Client: STEMAA Pty Ltd
Report: RE173551 Issue 1
Date: 14 December 2017

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Report Revision History

Revision	Date Issued	Prepared by	Verified by
Draft 1	27/11/17	**Chris Michaels** *BPB 1974*	**Chris Michaels** *Director*
Issue 1	14/12/17	**Chris Michaels** *BPB 1974*	
			

This document is preliminary unless approved by a Director of City Plan Services

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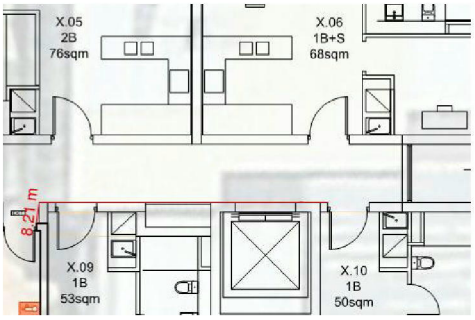
1. Executive Summary

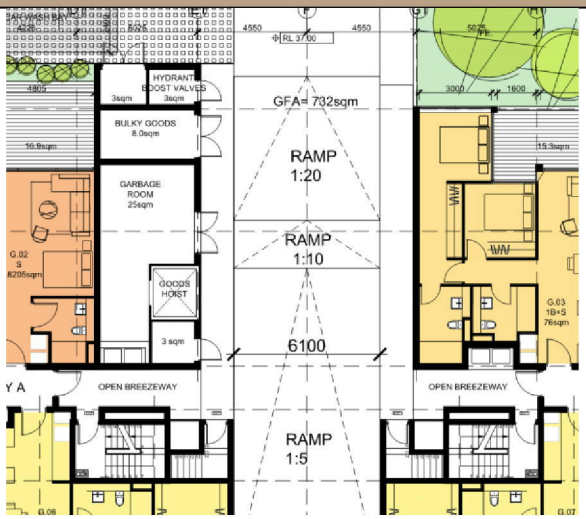
This report serves as an assessment for compliance with the Building Code of Australia for the construction of a new multi-unit residential apartment building with associated basement carjacking at 28-32 Evan Street, Penrith.

This report has been prepared, on behalf of STEMAA Pty Ltd, to establish compliance to the Building Code of Australia and relevant Acts and Regulations of the development application documentation for the proposed works.

The following non-compliance's with the deemed-to-satisfy provisions of the BCA, in relation to the proposed building work, have been identified and are intended to be addressed by performance justification.

Table: Summary of Non-Compliance Issues with Deemed-to-Satisfy Provisions of BCA

BCA Clause	Issue	Method to address issue
D1.4 Exit travel distances	The eastern and western units on Level 1 to Level 4 are up to Max 8.27 m to exit stair which is more than the 6 m permitted. 	Performance Solution
D1.7 Travel via fire isolated exits	The discharge of the tower fire stairs and eastern basement fire stairs within the open breezeway does not comply with this clause for the following reasons: (a) the converted area is not open for at least 1/3 of its perimeter; (b)the covered area does not have a ceiling Hight of at least 3 m; and (c) the distance from the fire stair discharge to open space is more than 6 m.	Performance solution

BCA Clause	Issue	Method to address issue
		

2. Introduction

2.1 General

This report serves as an assessment for compliance with the Building Code of Australia for the construction of a new multi-unit residential apartment building with associated basement carjacking at 28-32 Evan Street, Penrith.

2.2 Purpose of the Report

This report has been prepared, on behalf of STEMAA Pty Ltd, to establish compliance to the Building Code of Australia and relevant Acts and Regulations of the development application documentation for the proposed works.

2.3 Report Basis

This report is based on:

a) Architectural plans prepared by marchese partners, as identified in the attached Appendix 1.

b) The Building Code of Australia 2016, inclusive of NSW variations (See Note 1).

c) Environmental Planning and Assessment Act 1979.

d) Environmental Planning and Assessment Regulation 2000.

Note 1: Building Code of Australia (BCA) 2016 was adopted in NSW on 1 May 2016. The amendment of the BCA in force at the date of lodgement of a Construction Certificate is the version called up by Clause 98 of the Environmental Planning & Assessment Regulation 2000 for the purpose of the building design. Therefore comments may be subject to changes to comply with updated versions of the Building Code of Australia.

2.4 Exclusions & Limitations

This report does not consider the following except where specifically mentioned;

a) Structural design.

b) The Disability Discrimination Act 1992 (access for people with disabilities has been assessed in accordance with Part D3 of the BCA, however additional measures may be required to be provided subject to the Disability Discrimination Act 1992)

c) Disability (Access to Premises – Building) Standards 2010.

3. Building Code of Australia Assessment

3.1 Classification (A3.2)

The proposed building consists of;

Basement 1 to Basement 3	Class 7a car park
Ground Floor	Class 2 residential & Class 7a Carpark entry ramp
Level 1 to Level 5	Class 2 residential
Roof Plan	Class 2 residential

3.2 Effective Height (A1.1)

The proposed building will have an effective height of 19.2m (RL 55.6m - 36.4 required).

3.3 Rise in Storeys (C1.2)

The proposed building will consist of a rise in storeys of seven (7).

3.4 Type of Construction (C1.1)

Type A construction in accordance with Specification C1.1 of the BCA, is the applicable type of construction.

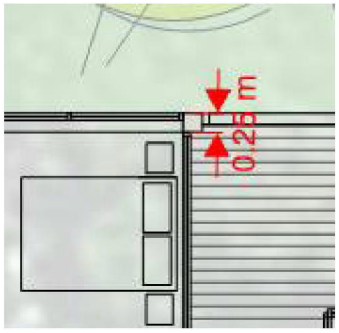
4. Building code of Australia Assessment

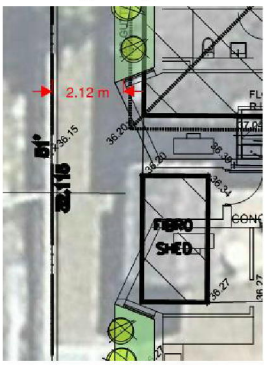
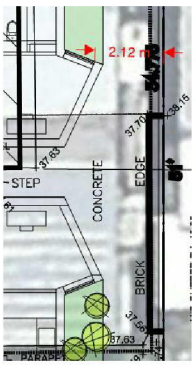
4.1 Structure (BCA Section B)

BCA Clause	Title	Assessment and Comment	Status
B1.1	Resistance to actions	The structural design is to be completed by a Structural Engineer to meet the requirements of this provision.	Capable of complying
B1.2	Determination of individual actions	The structural design is to be completed by a Structural Engineer to meet the requirements of this provision.	Capable of complying
B1.4	Determination of structural resistance of materials & forms of construction	The structural resistance of the following materials and forms of construction for the following elements are to be in accordance with the standards nominated in this clause; (a) Masonry (b) Concrete construction (c) Steel construction (d) Composite steel and concrete (e) Aluminium construction (f) Timber construction (g) Piling (h) Glazing assemblies (i) Termite risk management (j) Roof construction (k) Particleboard structural flooring (l) Garage doors (m) Lift shafts The structural design is to be completed by a Structural Engineer to meet the requirements of this provision.	Capable of complying
B1.5	Structural Software	Structural software used in computer aided design is to comply with the requirements of this provision.	Capable of complying
B1.6	Construction of buildings in flood hazard areas	A Class 2, 3, 4, 9a or 9c building is required to comply with the ABCB standards for Construction of Buildings in Flood Hazard Areas if the building is in a flood hazard area.	Capable of complying

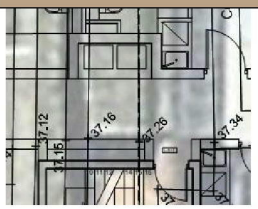
4.2 Fire Resistance (BCA Section C)

BCA Clause	Title	Assessment and Comment	Status
C1.1	Type of construction required	The type of fire resisting construction applicable is Type A construction. Type A construction is the highest of the fire resistant of the types of construction.	Note

BCA Clause	Title	Assessment and Comment	Status
C1.2	Calculation in rise in storeys	The rise in storeys is the sum of the greatest number of storeys at any part of the external wall of the building. The building contains a rise in stories of seven (7).	Note
C1.8	Lightweight construction	Any proposed lightweight construction shall be designed and installed to comply with the provisions of Specification C1.8 and satisfy the relevant tests.	Capable of complying
C1.10	Fire hazard properties	Proposed building elements, floor materials, floor coverings, wall and ceiling lining materials are to be selected to comply with the required fire hazard properties of Specification C1.10 & C1.10a. Evidence of compliance (test certificates) shall be obtained from the supplier or manufacturer.	Capable of complying
C2.2	General floor area and volume limitations	N/A	N/A
C2.6	Vertical separation of openings in external walls	Vertical separation is required to be provided in accordance with this clause. Attention is required to the setback of windows 450 mm from the edge of the balconies.  	Capable of complying – Minor design change required
C2.7	Separation by fire walls	A fire wall is required to separate the carpark ramp from the Ground Floor.	Capable of complying
C2.8	Separation of classifications in the same storey	Refer to C2.7 above.	Capable of complying
C2.9	Separation of classifications in different stories	The floors between parts of different classifications must have an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower storey.	Capable of complying
C2.10	Separation of lift shafts	The lift shafts are required to be separated from the rest of the building with walls having an FRL of not less than that required by Table 3 of Specification C1.1.	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
C2.11	Stairways and lifts in one shaft	The stairs and lift shafts are located in different shafts.	Complies
C2.12	Separation of equipment	The following rooms are required to be fire separated from the remainder of the building by 120/120/120 FRL construction: ▪ Lift motor rooms and lift control panels. ▪ Hydrant pumps.	Capable of complying
C2.13	Electricity supply system	Any main switchboard located in the building which sustains emergency equipment operating in emergency mode, is required to be fire separated from the remainder of the building by 2 hr fire resisting construction. All switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear. Electrical conductors and switchboards are required to comply with this clause.	Capable of complying
C2.14	Public corridors in Class 2 & 3 buildings	The building does not contain public corridors more than 40 m in length.	Complies
C3.2	Protection of openings in external walls	The end study and bathroom windows (GF to L4) are less than 3 m from the side boundaries and are required to be protected in accordance with C3.4. Particular attention is required on how ventilation is to be provided to the study rooms if protection is by wall wetting sprinklers to fixed closed glazing.  	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
C3.3	Separation of external walls and associated openings in different fire compartments	Fire walls are to be positioned, as required by C2.7 above, such that external openings will not be exposed to each other	Capable of complying
C3.4	Acceptable method of protection	Windows referred to in C3.2 above require protection in accordance with this clause. If protection is by external wall wetting sprinklers to fixed closed windows, the subject room will require mechanical supply ventilation in accordance with AS1668.	Capable of complying
C3.5	Doorways in fire walls	Doorways in fire walls identified in C2.7 are to be protected by fire doors in accordance with this clause.	Capable of complying
C3.6	Sliding fire doors	Sliding fire doors are not proposed.	Note
C3.7	Protection of doorways in horizontal exits	Horizontal exits are not proposed.	Note
C3.8	Openings in fire isolated exits	The fire-isolated exits are required to be protected by -/60/30 self-closing fire doors.	Capable of complying
C3.9	Service penetrations in fire isolated exits	Services are not to penetrate through fire isolated exits unless permitted by this clause. Construction documentation should demonstrate compliance.	Capable of complying
C3.10	Fire isolated lift shafts	The lift doors are required to be -/60/- fire doors and comply with this provision. A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35 000 mm^2 in area.	Capable of complying
NSW C3.11	Bounding construction	Doors from sole occupancy units opening into enclosed public corridors are required to be protected by -/60/30 self-closing fire doors. A doorway from any other room not within a SOU, must be protected by -/60/30 self-closing fire doors if it opens to a public corridor, public lobby or the like within the residential portion of the building. The garbage cupboards within each public corridor are required to be fire separated as required for rooms.	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
			
C3.12	Openings in floors and ceilings for services.	Fire separation between floors is required to be maintained where services penetrate though floors unless the services are located in fire rated shafts.	Capable of complying
C3.15	Openings for service installations	Services that penetrate a building element must be protected utilising one of the options listed under this clause.	Capable of complying
C3.15	Openings for service installations	Services that penetrate a building element that is required to have an FRL must be protected utilising one of the options listed under this clause. Where polybutyelene (plastic) pipes are proposed for domestic water supply, or UPVC pipes and fire collars for mechanical sub-ducts, they must be supported by the appropriate test data from a registered laboratory demonstrating compliance with C3.15 (a).	Capable of complying
C3.16	Construction joints	Construction joints in building elements required to be fire resistant are required to be protected in accordance with this clause.	Capable of complying
C3.17	Columns protected with lightweight construction to achieve an FRL	A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.	Capable of complying

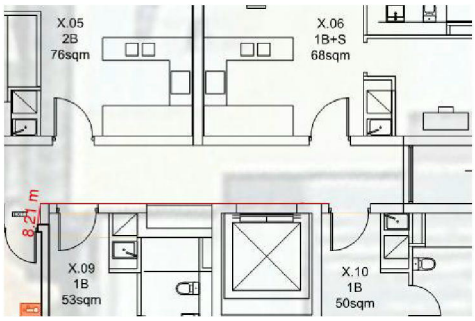
4.3 Fire-Resisting Construction (Specification C1.1)

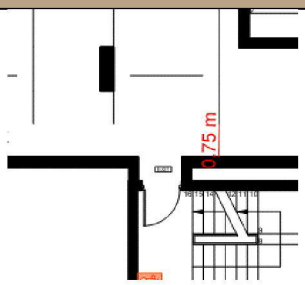
BCA Clause	Title	Assessment and Comment	Status
2.1	Exposure to fire source features	The requirements of this provision apply to the subject building.	Note
2.2	Fire protection for support of another part	When determining FRL's applicable to a particular building element, the requirements of this clause are required to be complied with.	Capable of complying
2.3	Lintels	Lintels are to be protected as required by the requirements of this clause.	Capable of complying

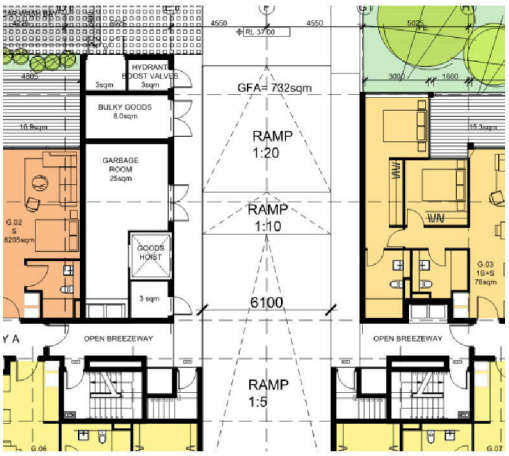
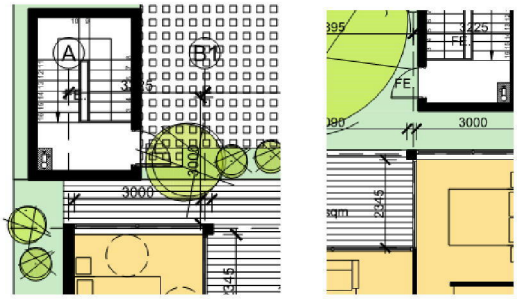
2.4	Attachment not to impair fire resistance	Any attachments to the façade or any type of combustible material must comply with this requirement and not be installed directly above or near an exit, must not constitute a risk of fire spread via the façade and must comply with C1.10 above.	Capable of complying
2.5	General concessions	Roof top plant rooms need not have an FRL if they are non-combustible and they only contain equipment specified in this clause.	Note
2.6	Mezzanine floors: concession	The building does not contain mezzanines that are subject to this provision.	Note
2.7	Enclosure of shafts	The shafts are to be enclosed at the top and bottom in accordance with the requirements of this clause.	Capable of complying
3.1	Fire resistance of building elements	The building is required to be designed to comply with the required fire resistance levels applicable to Type A construction. The following fire resistance requirements generally apply: ▪ Carpark – 2 hrs ▪ Residential - 1½ hrs Particular attention is required to the fire resistance of walls less than 3 m from the side boundaries on Ground Level to Level 4.	Capable of complying
3.5	Roof: Concession	The roof is not required to achieve an FRL as the building: (a) has a sprinkler system complying with Specification E1.5 installed throughout; or (b) has a rise in storeys of 3 or less; or (c) is of Class 2 or 3; or (d) has an effective height of not more than 25 m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.	Capable of complying
3.6	Roof lights	No roof lights have been identified.	Note

4.4 Access & Egress (BCA Section D)

BCA Clause	Title	Assessment and Comment	Status
D1.2	Number of exits required	The building is generally required to be provided with two exits in basement carpark and one exit to above ground parts.	Complies
D1.3	When fire isolated exits are required	The egress stairs are required to be fire isolated stairs.	Capable of complying
D1.4	Exit travel distances	**Class 2 part -** The entrance doorway of any sole-occupancy unit must be not be more than 6m from an exit or from a point from which travel in different	Performance Solution

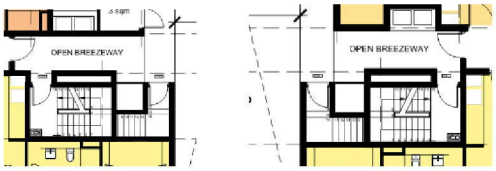
BCA Clause	Title	Assessment and Comment	Status
		directions is available or 20m from a single exit serving the storey at the level of egress to a road or open space. No point on the floor of a room which is not in a sole-occupancy unit must be more than 20m from an exit or from a point at which travel in different directions to 2 exits is available. The Eastern and western units on Level 1 to Level 4 are up to Max 8.27 m to exit stair which is more than the 6 m permitted. Performance justification is proposed.  **Class 5, 6 and 7a parts -** No point on a floor must be more than 20 m 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. The basement carpark design complies.	
D1.5	Distance between alternative exits	Exits that are required to serve as alternative means of egress must not be more than 45m apart in a residential building and not more than 60m in all other parts. The distance between alternative exits comply. Exits required as alternative means of egress must be located not less than 9m apart and located so that the alternative paths of travel do not converge such that they become less than 6m apart. The exits comply with the requirements above.	Complies
NSW D1.6	Dimensions of exits and paths of travel to exits	A required exit or path of travel to an exit are required to be a minimum unobstructed height of not less than 2m and minimum width of 1m. Ensure that there is 1 m clear in front of basement exit stairs.	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
			
D1.7	Travel via fire isolated exits	A doorway from a room must not open directly into a stairway, passageway or ramp that is *required* to be fire-isolated unless it is from - (a) a public corridor, public lobby or the like; or (b) a sole-occupancy unit occupying all of a storey; or (c) a sanitary compartment, airlock or the like. Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway to a road or open space or to a covered area in accordance with this clause. The discharge of the tower fire stairs and eastern basement fire stairs within the open breezeway does not comply with this clause for the following reasons: (a) the converted area is not open for at least 1/3 of its perimeter; (b)the covered area does not have a ceiling Hight of at least 3 m; and (c) the distance from the fire stair discharge to open space is more than 6 m.  Where a path of travel from the point of discharge of a fire-isolated *exit* necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of	Complies Performance justification Capable of complying

BCA Clause	Title	Assessment and Comment	Status
		travel, that part of the wall must have an FRL of not less than 60/60/60 and any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. The development contains walls, windows and door openings within 6 m of the external path of travel. Deemed -to satisfy protection is proposed.   	
D1.8	External Stairs or ramps in lieu of Fire-isolated exits	External stairs are not provided in lieu of fire isolated exits.	Note
D1.9	Travel via non-fire-isolated stairways or ramps	Non fire isolated stairs are not proposed.	Note
D1.10	Discharge from exits	The discharge point of the fire isolated exits is required to be connected to the road by a minimum 1 m wide path and where there is a change of level, the path must contain a complying stair or ramp. The BCA also specifies that exits must not be blocked at a point of discharge and where necessary suitable barriers must be provided to	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
		prevent vehicles from blocking the exit or access to it. Suitable bollards would be required adjacent to the doorways of fire-stairs within the basement carpark, where directly adjacent or exposed to the carpark.	
D1.11	Horizontal exits	Horizontal exits are not proposed.	Note
D1.12	Non-required stairways, ramps or escalators	Non-required stairways, ramps or travelators are not proposed.	Note
D1.13	Number of persons accommodated	Populations have been assessed in accordance with Table D1.13.	Note
D1.16	Plant rooms and lift rooms: concession	A ladder may be used in lieu of a stairway to provide egress from some plantrooms subject to this clause.	Note
D1.17	Access to lift pits	Access to lift pits must be in accordance with this clause.	Capable of complying
D2.2	Fire-isolated stairways and ramps	A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed of non-combustible materials and so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of the shaft.	Capable of complying
D2.3	Non-fire isolated stairs and ramps	Not proposed.	Note
D2.4	Separation of rising and descending stair flights	If a stairway serving as an exit is required to be fire-isolated there must be no direct connection between - (a) a flight rising from a storey below the lowest level of access to a road or open space; and (b) a flight descending from a storey above that level	Capable of complying
D2.7	Installation in exits and paths of travel	Access to service shafts and services other than to fire-fighting or detection equipment as permitted in the Deemed-to-Satisfy Provisions of Section E, must not be provided from a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp. Gas or other fuel services must not be installed in a required exit. Electrical or telecommunications cupboards opening onto a corridor or the like must be of non-combustible construction and smoke sealed from	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
		the corridor (including metal lining to inside face of door and smoke seals to door). Only electrical wiring associated with services specified in this clause, are permitted to be installed in a fire isolated exit.	
D2.8	Enclosure of space under stairs and ramps	The space below the required fire-isolated stairways must not be enclosed to form a cupboard or similar enclosed space.	Capable of complying
D2.9	Width of stairways	The required width of a stairway must be measured clear of all obstructions such as handrails, projecting parts of balustrades or other barriers and the like and extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosings of the treads or the floor of the landing.	Note
D2.10	Pedestrian ramps	A ramp must— (i) where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS 1428.1; or (ii) in any other case, have a gradient not steeper than 1:8. The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586.	Capable of complying
D2.11	Fire-isolated passageways	The enclosing construction of the fire-isolated passageways on the ground floor must have an FRL when tested for a fire outside the passageway in another part of the building of not less than that required for the stairway shaft.	Capable of complying
D2.12	Roof as open space	The external slab above basement 1 is to have an FRL of 120/120/120.	Capable of complying
NSW D2.13	Goings & risers	Goings and risers are to be designed to comply with this clause, including opening sizes, going and riser dimensions and non-slip finish or non-skid nosings.	Capable of complying
D2.14	Landings	Landings are to be designed in accordance with this clause.	Capable of complying
NSW D2.15	Thresholds	Thresholds are to comply with this clause.	Capable of complying
NSW D2.16	Barriers to prevent falls	Balustrades and other barriers are to be designed to comply with this clause.	Capable of complying
D2.17	Handrails	Handrails to stairs and ramps are to be design in accordance with this clause.	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
NSW	Doorways and doors	A doorway serving as a required exit or forming part of a required exit must be designed in accordance with this clause.	Capable of complying
D2.20	Swinging doors	Proposed swinging doors are required to be designed in accordance with this clause in relation to direction of swing; encroachment on stairways, ramps and passageways; and hold open devices. The fire stair discharge doors are to swing in the direction of egress – Minor redesign required. 	Capable of complying – Minor Design change required
NSW D2.21	Operation of latch	All the doors in the required exits, doors forming part of the required exits, and doors within paths of travel must be readily openable in accordance with this clause.	Capable of complying
D2.22	Re-entry from fire-isolated exits	N/A	N/A
D2.23	Signs on doors	A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to the following; ▪ A required fire door providing direct access to a fire-isolated exit, ▪ A required smoke door, ▪ A smoke door that swings in both directions; ▪ door leading from a fire isolated exit to a road or open space, Signage is required to be in capital letters not less than 20 mm high in a colour contrasting with the background and state— (a) for an automatic door held open by an automatic hold-open device - **FIRE SAFETY DOOR- DO NOT OBSTRUCT** or (b) for a self-closing door - **FIRE SAFETY DOOR** **DO NOT OBSTRUCT** **DO NOT KEEP OPEN** or (c) for a door discharging from a fire-isolated exit— **FIRE SAFETY DOOR- DO NOT OBSTRUCT.**	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
D2.24	Protection of openable windows	A window opening must be provided with protection in accordance with this clause	Capable of complying
D3.1	General building access requirements	In accordance with Table D3.1, access is to be available in the following areas; **Class 2 Apartments** To and within all common areas and to the entrance doorway of each apartment.	Refer to access consultants report
D3.2	Access to buildings	Access to and within buildings is required to be in accordance with this clause.	Refer to access consultant's report
D3.3	Parts of building to be accessible	Access to and within buildings is required to be in accordance with this clause.	Refer to access consultant's report
D3.4	Exemptions	Note	Note
D3.6	Signage	Braille and tactile signage complying with Specification D3.6 and incorporating the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 must be provided in accordance with this clause. Each doorway with an Exit Sign (eg fire stair doors) must be provided with braille and tactile signage incorporating wording of, **"Exit"**, and **"Level"**, and either, The floor level number or floor level descriptor.	Capable of complying
D3.8	Tactile indicators	Tactile ground surface indicators are required to be provided as required by this clause. Tactile ground surface indicators are required to comply with sections 1 and 2 of AS/NZS 1428.4.1.	Capable of complying
D3.11	Ramps	A series of connected ramps must not have a combined vertical rise of more than 3.6m.	Complies
D3.12	Glazing on an accessway	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1-2009. Full height glazed panels and doors throughout the building will require compliant solid contrasting strips.	Capable of complying

4.5 Services & Equipment (BCA Section E)

BCA Clause	Title	Assessment and Comment	Status
E1.3	Fire hydrants	A fire hydrant system must be provided in accordance with this clause to serve the whole building and must also be installed in accordance with AS2419.1. Where internal hydrants are provided, they must only serve the storey in which they are located. The hydrant pump room must open into the fie stair via an airlock – Minor redesign required. The hydrant booster is to be redesigned to face the street – Minor redesign required Protection around the booster is required to comply with AS2419.1 as follows: If within, or affixed to, the external wall of the building, the booster shall be— (i) within sight of the main entrance to the building; and (ii) separated from the building by a construction with a fire resistance rating of not less than FRL 90/90/90 for a distance of not less than 2 m each side of and 3 m above the upper hose connections in the booster assembly.	Capable of compiling – Minor redesign required
E1.4	Fire hose reels	A hose reel system must be provided as required by this clause to serve the carpark. The hose reel system must be installed in accordance with this clause and AS2441	Capable of complying
E1.5	Sprinklers	A sprinkler system must be installed throughout the carpark and must comply with Specification E1.5. The location of the sprinkler valve room is required to be identified. The room must open direct to the outside of the building.	Capable of complying
E1.6	Portable fire extinguishers	Portable fire extinguishers are to comply with this provision and sections 1, 2, 3 and 4 of AS2444.	Capable of complying
E1.8	Fire control centres	N/A	N/A
E1.9	Fire precautions during construction	In a building under construction - (a) not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit; and (b) after the building has reached an effective height of 12 m -	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
		i. the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storey's; and ii. any required booster connections must be installed.	
E2.2	General requirements	The following smoke hazard management measures are required: ▪ Sprinkler system in carpark ▪ The class 2 (residential) building is required to be provided with a smoke detection and alarm system in accordance with Spec E2.2a. ▪ Operation of carpark mechanical ventilation system. ▪ Pressurisation of basement fire stairs.	Capable of complying
E3.2	Stretcher facility in lifts	A stretcher facility must be provided in accordance with the requirements of this clause and must be above to accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level.	Capable of complying
E3.3	Warning against use of lifts in fire	Warning signs must be displayed near every call button for a passenger lift or group of lifts except a small lift such as a dumb-waiter or the like that is for the transport of goods only. Signage is to be in accordance with this clause and must comply with the details and dimensions of Figure E3.3.	Capable of complying
E3.4	Emergency lifts	N/A	N/A
E3.5	Landings	Access and egress to and from liftwell landings must comply with the DTS provision of Section D.	Capable of complying
E3.6	Passenger lifts	Every passenger lift must comply with the requirements of this provision.	Capable of complying
E3.7	Fire service controls	Fire service controls are required to every lift serving any storey above an effective height of 12m.	Capable of complying
E3.9	Fire service recall operation switch	Each group of lifts must be provided with one fire service recall control switch where fire service controls are required by E3.7.	Capable of complying
E3.10	Lift car fire service drive control switch	Lift car fire service drive control switch required by E3.7 must be activated from within the car and the	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
		switch must comply with the requirements of this clause.	
E4.2	Emergency lighting requirements	Emergency lighting must be provided in accordance with this clause. Emergency lighting is required to comply with AS2293.1-2005.	Capable of complying
E4.5	Exit signs	An exit signage must be provided in accordance with this clause. Exit signage is required to comply with AS2293.1-2005 and be clearly visible at all times.	Capable of complying
NSW E4.6	Direction signs	If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.	Capable of complying

4.6 Health & Amenity (BCA Section F)

BCA Clause	Title	Assessment and Comment	Status
F1.0	Deem to satisfy provisions	Performance requirement FP1.4, for the prevention of the penetration of water through external walls, is required to be complied with.	Capable of complying
F1.1	Stormwater drainage	Stormwater drainage is required to be designed to comply with AS/NZS3500.3-2015.	Capable of complying
F1.4	External above ground membranes	Waterproofing membranes for external above ground use must comply with AS4654.1-2012 & AS4654.2-2012.	Capable of complying
F1.5	Roof coverings	Lightweight metal roof sheeting is to comply with AS1562.1.	Capable of complying
F1.6	Sarking	Sarking-type materials used for weatherproofing of roofs and walls are required to comply with AS/NZS 4200 Parts 1 and 2.	Capable of complying
F1.7	Waterproofing of wet areas in buildings	Waterproofing of wet areas are required to comply with this clause.	Capable of complying
F1.9	Damp-proofing	Damp proof course is required to be provided to walls to comply with this clause.	Capable of complying
F1.10	Damp-proofing of floor on ground	Damp-proofing is required to be provided in accordance with the requirements of this provision.	Capable of complying
F1.11	Provision of floor wastes	The floor of each bathroom and laundry are to be provided with a floor waste.	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
F1.12	Sub-floor ventilation	Subfloors are not proposed.	Note
F1.13	Glazed assemblies	Glazed assemblies to comply with AS 2047 as applicable.	Capable of complying
F2.1	Facilities in residential buildings	The residential portion of the building is to be provided with appropriate facilities in accordance with Table F2.1. Generally provision of the following facilities within each unit will comply. ▪ A bath or shower; and ▪ A closet pan & wash basin. ▪ Kitchen ▪ Wash tub and space for washing machine and drier Sanitary facilities are provided as required. A common closet pan and wash basin is required to be provided at or near the ground level – Design change required.	Capable of complying – design change required
F2.5	Construction of sanitary compartments	The construction of sanitary compartments is required to comply with this requirement. Doorways located less than 1.2m from the closet pan are required to swing outwards, slide or be capable of being removed from the outside (lift off hinges).	Capable of complying
F3.1	Height of rooms and other spaces	The minimum ceiling height requirements are to comply with the requirements of this provision.	Capable of complying
F4.1-4.3	Provision of natural light	Natural lighting must be provided in all habitable rooms of the residential units.	Capable of complying
F4.4	Artificial lighting	Artificial lighting is to be provided in accordance with AS/NZS1680.0 and in accordance with this clause.	Capable of complying
F4.5-4.7	Ventilation of rooms	Ventilation is to be provided by natural or mechanical means in accordance with this provision and Clause F4.6.	Capable of complying
F4.8 & F4.9	Restriction on the position of water closets and urinals	Sanitary compartments must not open directly into a kitchen or pantry unless the sanitary compartment is provided with mechanical ventilation.	Capable of complying
F4.11	Car park exhaust	Each storey of the carpark must have a system of ventilation complying with AS1668.2 or an adequate system of permanent natural ventilation.	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
F5.1	Application of part	The sound insulation requirements of F5.2, F5.3, F5.4, F5.5, F5.6 & F5.7 only apply to the Class 2 component of the building.	Note
F5.2	Determination of airborne sound insulation ratings	A form of construction required to have an airborne sound insulation rating must - (a) have the required 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/NZS 1276.1 or ISO 717.1 using results from laboratory measurements; or (b) an acceptable form of construction under Spec F5.2.	Capable of complying
F5.3	Determination of impact sound insulation ratings	A floor in a building required to have an impact sound insulation rating must - (a) have the required value for weighted normalised impact sound pressure level ($L_{n,w}$) determined in accordance with AS/ISO 717.2 using results from laboratory measurements; or (b) comply with Specification F5.2. A wall in a building required to have an impact sound insulation rating in the Class 2 or 3 part must be of discontinuous construction and Class 9c be masonry or be two or more separate leaves without rigid mechanical connections. For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and (a) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (b) for other than masonry, there is no mechanical linkage between leaves except at the periphery.	Capable of complying
F5.4	Sound insulation rating of floor	1. A floor in a Class 2 or 3 building must have an $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w}$ (impact) not more than 62 if it separates— i. sole-occupancy units; or ii. a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification.	Capable of complying
F5.5	Sound insulation of walls	The walls in the Class 2 part of the building must; (a) have an $R_w + C_{tr}$ (airborne) not less than 50 if it separates SOU's; and (b) have an $R_w + C_{tr}$ (airborne) not less than 50 if it separates a SOU from a plant room, public corridor, public lobby or the like; and	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
		(c) have complying discontinuous construction if it separates a bathroom, sanitary compartment, laundry or kitchen in one SOU from a habitable room (other than a kitchen) in another, or a SOU from a plantroom. A door may be incorporated in a wall that separates a SOU from a stairway, public corridor, public lobby or the like, provided the door assembly has an R_w not less than 30. The doors opening to the external balconies are not required to have sound insulation rating. 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.	
F5.6	Sound insulation rating of services	Services that serves or pass through more than one SOU must achieve the required ratings specified by this clause.	Capable of complying
F5.7	Sound isolation of pumps	A flexible coupling must be installed at the point of connection between service pipes in a building and any circulating or other pump.	Capable of complying

4.7 Ancillary Provisions (BCA Section G)

BCA Clause	Title	Assessment and Comment	Status
NSW G1.101	Provision for the cleaning of windows	The method of provision for the cleaning of windows is required to be in accordance with this clause (windows 3 or more storeys above the ground).	Capable of complying

4.8 Energy Efficiency – (BCA Section J – Class 2 & 4 buildings)

The provisions of this Section J(A) are designed to complement the requirements of BASIX which are implemented via a Development Consent or Complying Development as applicable. BASIX is a web-based planning tool design to assess the potential performance of certain residential buildings against a range of sustainability indices.

4.8.1 Building Fabric (NSW Part J(A)1)

BCA Clause	Title	Assessment and Comment	Status
NSW J(A)1.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to thermal insulation in a Class 2 building or Class 4 part of a building where a development consent specifies that insulation is to be provided. The DTS provisions for thermal breaks apply to all Class 2 buildings and Class 4 parts.	Note
NSW J(A)1.2	Compliance with BCA	The sole occupancy units of a Class 2 building and a Class 4 part of the building must comply with the national BCA provisions of J02(b) to (e). Refer to J1.2, J1.3, J1.5 & J1.6 below.	Note
J1.2	Thermal construction — general	Thermal insulation is required to be installed in accordance with AS/NZS 4859.1 and the general requirements of this clause. Reflective & bulk insulation is to be installed in accordance with this clause.	Capable of complying
J1.3(c)	Roof and ceiling construction – compensating for a loss of ceiling insulation	Ceiling insulation is to comply with this clause.	Capable of complying
J1.3 (d)	Roof and ceiling construction – thermal breaks	A thermal break is required to be provided between external cladding and framing in accordance with J1.3(d).	Capable of complying
J1.5(c)	Walls - thermal breaks	A thermal break is required to be provided between external cladding and framing in accordance with J1.5(c)	Capable of complying
J1.6 (c) & (d)	Floors – floor edge insulation	Floor edge insulation is to comply with this clause	Capable of complying

4.8.2 Building Sealing (NSW Part J(A)2)

4.8.3 Air-Conditioning & Ventilating System (NSW Part J(A)3)

BCA Clause	Title	Assessment and Comment	Status
NSW J(A)3.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to a Class 2 building and a Class 4 part of a building.	Note
NSW J(A)3.2	Compliance with BCA provisions	Class 2 buildings and Class 4 parts of buildings must comply with the following national BCA provisions; (d) J5.2 (a) to (d) & (f) to (g) Air-conditioning systems	Capable of complying

BCA Clause	Title	Assessment and Comment	Status
		(e) J5.3 Mechanical ventilation systems (f) J5.4 Miscellaneous exhaust systems	
J5.2	Air conditioning systems	The air conditioning system would be required to be designed in accordance with the requirements of this provision (a) to (d) & (f) to (g).	Capable of complying
J5.3	Mechanical ventilation systems	The mechanical design would be required to be designed in accordance with the requirements of this provision.	Capable of complying
J5.4	Miscellaneous exhaust systems	The mechanical design would be required to be designed in accordance with the requirements of this provision.	Capable of complying

4.8.4 Heated Water Supply (NSW Part J(A)4)

BCA Clause	Title	Assessment and Comment	Status
NSW J(A)4.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to a Class 2 building and a Class 4 part of a building.	Note
NSW J(A)4.2	Compliance with the BCA provisions	Class 2 buildings and Class 4 parts of buildings must comply with the national BCA provisions of J7.2	Note
J7.2	Heated water supply	A heated water supply system for food preparation & sanitary purposes must be designed & installed in accordance with Part B2 of NCC Volume 3 – Plumbing Code of Australia	Capable of complying

4.8.5 Facilities for Energy Monitoring (NSW Part J(A)5)

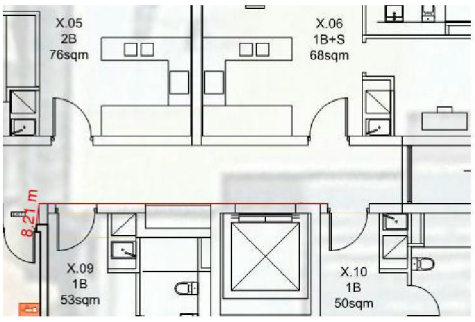
BCA Clause	Title	Assessment and Comment	Status
NSW J(A)5.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to a Class 2 building except within a sole occupancy unit.	Note
NSW J(A)5.3	Access for maintenance	Class 2 buildings must comply with the national provision of J8.3.	Note
J8.3	Facilities for energy monitoring	The building or sole-occupancy unit with a floor area of more than 500m^2 must have the facility to record the consumption of gas and electricity. A building with a floor area of more than 2,500 m^2 must have the facility to record individually the	Capable of complying

		energy consumption of services identified in this clause.	

5. Summary of Non-Compliance Issues

The following non-compliance's with the deemed-to-satisfy provisions of the BCA, in relation to the proposed building work, have been identified and are intended to be addressed by Performance Justification.

Table: Summary of Non-Compliance Issues with Deemed-to-Satisfy Provisions of BCA

BCA Clause	Issue	Method to address issue
D1.4 Exit travel distances	The eastern and western units on Level 1 to Level 4 are up to Max 8.27 m to exit stair which is more than the 6 m permitted. 	Performance Solution
D1.7 Travel via fire isolated exits	The discharge of the tower fire stairs and eastern basement fire stairs within the open breezeway does not comply with this clause for the following reasons: (a) the converted area is not open for at least 1/3 of its perimeter; (b)the covered area does not have a ceiling Hight of at least 3 m; and (c) the distance from the fire stair discharge to open space is more than 6 m. 	Performance solution

6. Conclusion

The design as proposed is capable of complying with the Building Code of Australia, and will be subject to construction documentation that will provide appropriate details to demonstrate compliance. This report has identified areas of non-compliance with the deemed-to-satisfy provisions and indicates the design intent to demonstrate compliance with the Performance Requirements of the BCA.

Appendix 1

Assessed plans prepared by marchese partners

Plan Title	Drawing No	Revision	Date
Cover Sheet	DA0.00	P1	15.12.17
Site Plan	DA1.03	P1	15.12.17
Survey Plan	DA1.04	P1	15.12.17
Ground Floor Plan	DA2.01	P1	15.12.17
Level 1 to 4 Floor Plan	DA2.02	P1	15.12.17
Level 5 Floor Plan	DA2.03	P1	15.12.17
Roof Plan	DA2.04	P1	15.12.17
Basement 1 Floor Plan	DA2.05	P1	15.12.17
Basement 2 Floor Plan	DA2.06	P1	15.12.17
Basement 3 Floor Plan	DA2.07	P1	15.12.17
West Elevation	DA3.01	P1	
North Elevation	DA3.02	P1	
East Elevation	DA3.03	P1	
South Elevation	DA3.04	P1	
Section AA	DA4.01	P1	
Section BB	DA4.02	P1	
Section CC	DA4.03	P1	
Finishes Schedule	DA7.01	P1	