

28th August 2013

EPM Projects Pty Ltd

Suite 2, Level 5, 655 Pacific Highway,
 ST LEONARDS NSW 2065

Attn: Kathryn Cuno

Dear Kathryn,

**Re: Cardinal Freeman Village Ashfield
 Section 75W – Modification No 2
 Buildings 1, 2, 3 and 4 and RACF – BCA Overview Report**

Reference is made to our recent engagement to undertake an assessment of the proposed Buildings 1, 2, 3 and 4 and the RACF that form the basis of the S75W Modification No 2 submission to identify possible BCA Implications (if any) with the proposed buildings when the relevant provisions of the Building Code of Australia, 2010 are applied to the development.

We are now in receipt of the proposed updated plans for the buildings prepared by Allen Jack + Cottier Architects that include floor plans, elevations and sections as contained in the following Drawings:

Architectural Plans Prepared by Allen Jack + Cottier Project 12018		
Drawing Number	Revision	Title
DA1002	-	Stage 1 & 2 Site Plan
DA2101	J	Precinct NW B2
DA2102	G	Precinct NW B1
DA2103	H	Precinct NW Ground
DA2104	H	Precinct NW L1
DA2105	H	Precinct NW L2
DA2106	F	Precinct NW L3
DA2107	-	Precinct NW L4
DA2108	F	Precinct NW L5
DA2121	G	Precinct SW B1
DA2122	-	Precinct SW Ground
DA2123	G	Precinct SW L1
DA2124	G	Precinct SW L2
DA2125	G	Precinct SW L3
DA2126	G	Precinct SW L4
DA2127	F	Precinct SW L5
DA3102	G	Building 1 Elevations
DA3103	F	Building 2 & 3 Elevations
DA3104	F	Building 4 Elevations
DA3201	E	Site Sections
DA3202	E	Site Sections
DA3110	B	Chapel Elevations
DA5101	-	Typical Apartment Plans

Based on the above, a high level review of the Building Code of Australia 2010 (BCA2010), as it would apply to such proposed Development, has been completed and the following comments are provided for your information.

General Description

In accordance with the relevant provisions of the BCA the subject development known as Stage 1 and 2 may be described as follows:

Rise in Storeys (Clause C1.2)

The Stage 1 & 2 portion of the development comprises two separate buildings being Buildings 2 and 3 that sit over a common car park (thus considered to form the one single building) and Building 4. As such the buildings have a rise in storeys as follows:

- Building 1, 2 and 3 – Rise in Storeys of Seven (7) (this is due to the fact that the lowest level that is counted as a storey is that of B2 to Building 2 to the top floor being level 4 of Buildings 1 and 3).
- Building 4 – Rise in Storeys of six (6)
- RACF – Rise in Storeys of five (5)

Classification (Clause A3.2)

The proposed buildings have been classified as follows.

Class	Level	Description
7a	Basement B2 and B1	Car park to Buildings 1, 2, 3 and 4 and RACF
2	Part Basement 2, Part Basement 1 and Ground, level 1, 2, 3 and 4	Independent Living Units – Residential Buildings 1, 2 and 3
2	Part Ground, level 1, 2, 3 and 4	Independent Living Units – Residential Building 4
5	Part Basement Level	Administration Offices – Building 4
9b	Part Ground Level	Assembly Building Including pool / Gym and Activities Rooms – Building 4
6	Lower Ground Level	Café Portion to Main Chapel Undercroft
9c	Ground, Level 1, 2 and 3	Residential Aged Care Facility

N.B. There are ancillary areas located at basement and ground level including plant rooms, store areas and toilets. However as these areas represent less than 10% of the floor area they assume the same classification as the basement car park and ground floor administration areas in accordance with A3.3(a) of BCA2010.

Effective Height (Clause A1.1)

All Buildings including Buildings 1, 2, 3 and 4 and the RACF Building have an effective height of less than 25.0 metres however greater than 12.0m. Building 1, 2 and 3 Effective Height of 18.9m, Building 4 Effective Height of 13.3m, RACF Effective Height 13.8m.

Type of Construction Required (Table C1.1)

Type A Construction required for all buildings.

Floor Area and Volume Limitations (Table C2.2)

The proposed buildings required to be of Type A Construction are subject to maximum floor area and volume limits as follows:-

- Class 7a - The car park areas have greater than 40 vehicles, thus will be required to be sprinkler protected under E1.5 of BCA2010. Thus the compartmentation restrictions of C2.2 of BCA2010 are not applicable with the car park fire compartment being fully sprinkler protected to all buildings.
- Class 2 - There are no floor area or volume limitations applicable to class 2 building portions. The compartmentation and separation provisions of these classes are regulated by table 3 of Specification C1.1 of BCA2010 and C3.11 of BCA2010.
- Class 5 and 9b - Maximum Floor Area – 8,000m²
Maximum Volume - 48,000m³
- Class 9c - Maximum Floor Area of Smoke Compartment - 500m²
Maximum Fire Compartment - 8,000m³
Maximum Volume - 48,000m³

Fire Compartments

The following fire compartments have been assumed for the RACF, and Buildings 1, 2 and 3:

1. Basement car park level forms its own fire compartment.
2. Each floor level forms a separate fire compartment.
3. The ground floor ILU's to Building 3 form a separate fire compartment to the adjoining car park area.

The following fire compartments have been assumed for Building 4:

1. Basement car park level forms its own fire compartment.
2. Basement level administration and entry lobby forms a separate fire compartment to the adjoining car park area,
3. Each floor level forms a separate fire compartment.
4. At ground level the ILU's form a separate fire compartment to the adjoining Class 9b activities and common area.

Climate Zone (Clause A1.1)

The site is located within Climate Zone 5.

Limitations

This report does not include nor imply any detailed assessment for design, compliance or upgrading for:

- the structural adequacy or design of the existing 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 or hydraulic fire protection services (unless specifically referred to).

This report does not include, or imply compliance with:

- (a) The relevant provisions of the Disability Discrimination Act and the Disability (Access to Premises – Building) Standards 2010 (Separate Access Consultant engaged to provide Access Report;
- (b) The relevant provisions of Sections B, D3, F2.4, H, I and J of BCA2010 (unless specifically referred to);
- (c) Demolition Standards not referred to by the BCA;

- (d) Occupational Health and Safety Act;
- (e) Construction Safety Act;
- (f) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Water Supply Authority, Electricity Supply Authority, Work Cover, Ashfield Council, Department of Planning, Railcorp and the like;
- (g) Previous conditions of Development Consent issued by the local Consent Authority (Ashfield Council or Department of Planning) unless specifically referred to;
- (h) This report does not assess the safety of the particular aspects of the building but merely the minimum standards called up by the provisions of BCA2010 where appropriate.

Performance Based Design / Alternate Solutions

There are specific areas throughout the development where strict Deemed-to-Satisfy BCA Compliance will not be achieved by the proposed design and site constraints. These matters will need to be addressed in a detailed Fire Safety Engineering Report to be prepared for this development under separate cover:

Item	Description of Alternate Solution	DTS Provision	Performance Requirement to be met
1.	Extended Travel distances in the residential portions of Building 2 and 4 greater than 6.0m to a point of choice or an exit being up to 9.0m. This issue affects units Building 2 – 1.06, 1.07, 2.06, 2.07, 3.04, 3.05, Building 4 – 1.02, 1.06, 1.09, 2.02, 2.06, 2.09, 3.02, 3.06 and 3.09.	D1.4 of BCA2010	DP4
2.	Drencher protected fire shutter to Building 4 basement car park fire separating wall.	C3.5 of BCA2010	CP2
3.	Egress from Fire Stair in Building 2 across adjoining future boundary via formal easement to be created.	D1.10 of BCA2010	DP4 / EP2.2
4.	The Fire Hydrant Booster Assembly to be located at the main entrance to the site from Victoria Street, will not be in sight of the main entrances to buildings 2, 3 and 4.	E1.3 of BCA2010 and AS2419.1-2005	EP1.3
5.	Discharge of Stair 3.1 from Building 3 to open space involves passing openings that are not proposed to be protected – with alternate egress options to reach a public roadway.	D1.7 of BCA2010	DP5
6.	Horizontal discharge of bathroom exhaust within 6.0m of openings of adjoining units, however greater than 1.0m clear	F4.5 of BCA2010 and AS1668.2-1991	FP4.5

At the time of the Construction Certificate Application submission for the main building works, the Final Fire Safety Engineering Assessment Report to be prepared will be required to be formally referred to the NSW Fire Brigade under S144 of the Environmental Planning & Assessment Regulation 2000 who are required to formally comment and concur with the findings of the report as the performance clause DP4 / EP2.2 and EP1.3 are matters called up under S144 of the Regulations.

At this stage a Fire Engineering Brief Questionnaire (FEBQ) has been formally lodged with NSW Fire & Rescue on 22nd July 2013 – awaiting formal comment.

The relevant requirements to justify such alternate solutions will include the following:

1. In addition to the stand alone DTS AS3786 smoke detectors within all residential levels a thermal detector connected to the Building Occupant Warning System in accordance with Clause 6 of Specification E2.2a of the BCA is to be located within the entry lobby area of each unit within 1.5m of the unit entry door as well as smoke detectors within the common corridors to all levels of Building 2.

2. As well as these thermal detectors in lieu of the tone alarm signal from the building occupant warning system the alarm tone is to be replaced by a voice recorded message for evacuation throughout the entire development contained within the main Fire Indicator Panel serving the development
3. Pyropanel LSD-60-C/MS life safety doors or equivalent fire doors achieving and FRL of -/60/30 with cold and medium smoke seals are to be fitted to the doors on all four sides provided to all SOU doors that open onto the common corridors on all levels to Building 2.
4. A Building Occupant Warning System to be provided throughout the building portion in accordance with Clause 6 of Specification E2.2a of BCA2010 however in lieu of the tone alarm signal from the building occupant warning system the alarm tone is to be replaced by a voice recorded message for evacuation throughout the entire development contained within the main Fire Indicator Panel serving the development.
5. The Main Fire Indicator Panel serving the development is to be connected to a monitoring service in accordance with Clause 7 of Specification E2.2a of BCA2010.
6. Wall wetting Drenchers are to be provided either side of the automatically closing -/120/- fire shutter within the Building 4 basement fire separating wall in accordance with C3.5 of BCA2010. The activation of the fire shutter must be via a smoke detector in accordance with AS1670.1-2004 located 1.5m either side of the doorway – the shutter activation should also be connected to the base building smoke detection and alarm system.
7. Each car park fire compartment to Building 4 is to be provided with its own independent mechanical car park supply and exhaust air system in accordance with AS1668.2-1991.
8. A formal easement is to be created in the future site subdivision to permit egress from the Fire Stairs within Building 2 across the adjoining future allotment boundary some 6.0m clear of the external walls of Building 2.
9. Clear signage and block plans adjacent to the Fire Hydrant Booster Assembly will be required clearly identifying which buildings the booster assembly in Victoria Street serves on the site.
10. Horizontal discharge of bathroom exhaust form all SOU's must be greater than 1.0m to adjoining openings of adjoining SOU's in accordance with AS1668.2-2012.

BCA Assessment / Overview

A high level BCA overview has been undertaken to determine compliance with relevant Deemed to Satisfy and Performance Requirements of the BCA2010 is achievable. Comments have been added under the relevant headings of the BCA2010. Further detailed assessment will need to be undertaken with the ongoing design documentation process.

It is considered that all BCA Compliance matters have the ability to be addressed with the ongoing design development of the proposed works.

Schedule of Required Fire Safety Measures

The following fire safety measures are required to be installed in or to serve the Building 4. Note that this is a preliminary schedule for guidance at this stage only to be further refined during the Construction Certificate documentation phase. Additional Fire Safety Measures may be required as a result of the Fire Engineering assessment that will be required to justify the extended travel distances referred to above

Item	Proposed Essential Fire Safety Measures to Building 4	Minimum Standard of Performance
1.	Access panels, doors and hoppers to fire resisting shafts	BCA2010 Clause C3.13
2.	Automatic fail safe devices	Manufacturer's Specification
3.	Automatic closing fire shutter (-/120/- FRL) to basement car park fire wall drencher protected on both sides	BCA2010 Clause C3.5, AS1905.2-2005 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd
4.	Automatic fire detection and alarm system to basement level offices, ground floor activities areas and pool / Gym portion and common corridor areas to class 2 portions	BCA2010 Clause 3(c)(ii), 4 and 6 of Specification E2.2a and AS1670.1-2004, AS3786-1993
5.	Emergency lighting	BCA2010 Clauses E4.2 & E4.4, AS/NZS2293.1-

Item	Proposed Essential Fire Safety Measures to Building 4	Minimum Standard of Performance
		2005
6.	Stretcher and Accessible lifts	BCA2010 Clause E3.2, E3.6 and AS1735.12
7.	Exit signs	BCA2010 Clauses E4.5, E4.6 & E4.8, AS/NZS2293.1-2005

8.	Fire dampers	BCA2010 Clause / Specification C3.15 and AS/NZS1668.1-1998, AS1682.1 and 2
9.	Fire doors	BCA2010 Spec C3.4, AS/NZS1905.1-2005
10.	Fire hydrant system	BCA2010 Clause E1.3, AS2419.1-2005 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.
11.	Fire seals protecting openings in fire resisting components of the building	BCA2010 Clause C3.15, Manufacturer's Specification
12.	Fire hose reel system to basement car park and offices, Pool / Gym portion and Residential levels / areas only	BCA2010 Clause E1.4, AS2441-2005
13.	Lightweight fire rated construction	Manufacturer's Specification and Specification C1.8 of BCA2010
14.	Mechanical air handling systems Including auto shut down of air handling systems	BCA2010 Table E2.2a, AS/NZS1668.1-1998 and AS1668.2-1991
15.	Paths of travel, stairways, passageways or ramps	BCA2010 Section D and as per Alternate Solution Assessment Report to be prepared
16.	Portable fire extinguishers	BCA2010 Clause E1.6, AS2444-2001
17.	Smoke doors	BCA2010 Spec C3.4 and C2.5
18.	Smoke alarms within ILU Sole Occupancy Units	BCA2010 Clause E2.2a and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd
19.	Warning and operational signs	BCA2010 Clause D2.23, E3.3, EP&A Reg. 2000 Clause 183
20.	Thermal detector connected to the corridor detection and alarm system located within the entry lobby area to all units to all levels	BCA2010 Clause 3 of Specification E2.2a, AS1670.1-2004 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd
21.	Fire doors and Pyropanel LSD-60-C/MS life safety doors or equivalent fire doors achieving and FRL of - /60/30 with cold and medium smoke seals (200°C) fitted to the doors on all four sides provided to all doors that open onto the common corridors on the residential levels.	BCA2010 Spec C3.4, AS/NZS1905.1-2005 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd
22.	The Main Fire Indicator Panel to be connected to a monitoring service	BCA2010 Clause 7 of Specification E2.2a and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd
23.	Voice Recorded Message to Occupant Warning System	BCA2010 Clause 6 of Specification E2.2a, AS1670.1-2004 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.

The following fire safety measures are required to be installed in or to serve the Buildings 1, 2 and 3. Note that this is a preliminary schedule for guidance at this stage only to be further refined during the Construction Certificate documentation phase. Additional Fire Safety Measures may be required as a result of the Fire Engineering assessment that will be required to justify the extended travel distances referred to above.

Item	Proposed Essential Fire Safety Measures to Building 1, 2 and 3	Minimum Standard of Performance
1.	Automatic fire detection and alarm system to common areas and smoke alarms within units	BCA2010 Clause 3 (c) (ii) and 6 of Specification E2.2a and AS1670.1-2004, AS3786-1993
2.	Emergency lighting	BCA2010 Clauses E4.2 & E4.4, AS/NZS2293.1-2005
3.	Exit signs	BCA2010 Clauses E4.5, E4.6 & E4.8, AS/ZS2293.1-2005
4.	Stretcher and Accessible lifts	BCA2010 Clause E3.2, E3.6 and AS1735.12
5.	Fire doors to Main switch room (if it sustains equipment required to operate in the emergency mode) and FIS's	BCA2010 Spec C3.4, AS/NZS1905.1-2005
6.	Fire hydrant system	BCA2010 Clause E1.3, AS2419.1-2005 and 2005 Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.
7.	Fire hose reel system	BCA2010 Clause E1.4, AS2441-

8.	Fire seals protecting openings in fire resisting components of the building	BCA2010 Clause C3.15, Manufacturer's Specification
9.	Lightweight fire rated construction (Fire rated ceilings and walls)	Manufacturer's Specification and Specification C1.8 of BCA2010
10.	Paths of travel, stairways, passageways or ramps	BCA2010 Section D
11.	Portable fire extinguishers	BCA2010 Clause E1.6, AS2444-2001
12.	Smoke alarms within ILU Sole Occupancy Units	BCA2010 Clause E2.2a and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.
13.	Fire Doors to SOU's	BCA2010 Clause C3.11(g) and AS1905.1-2005
14.	Warning and operational signs	BCA2010 Clause D2.23, E3.3, EP&A Reg. 2000 Clause 183
15.	Thermal detector connected to the corridor detection and alarm system located within the entry lobby area to all units to all levels of Building 2	BCA2010 Clause 3 of Specification E2.2a, AS1670.1-2004 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.
16.	Fire doors and Pyropanel LSD-60-C/MS life safety doors or equivalent fire doors achieving and FRL of - /60/30 with cold and medium smoke seals (200°C) fitted to the doors on all four sides provided to all doors that open onto the common corridors on the residential levels of Building 2.	BCA2010 Spec C3.4, AS/NZS1905.1-2005 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.
17.	The Main Fire Indicator Panel to be connected to a monitoring service	BCA2010 Clause 7 of Specification E2.2a and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.
18.	Voice Recorded Message to Occupant Warning System	BCA2010 Clause 6 of Specification E2.2a, AS1670.1-2004 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.
19.	Egress pathway from Fire Stair to Public Roadway via future easement over adjacent site (property boundaries to be created in the future)	BCA2010 Clause D1.10 and Alternate Solution Assessment Report to be prepared by BCA Logic Pty Ltd.

The following fire safety measures are required to be installed in or to serve the RACF Building. Note that this is a preliminary schedule for guidance at this stage only to be further refined during the Construction Certificate documentation phase. Additional Fire Safety Measures may be required as a result of the Fire Engineering assessment that will be required to justify the extended travel distances referred to above.

Item	Proposed Essential Fire Safety Measures to RACF Building	Minimum Standard of Performance
1.	Access panels, doors and hoppers to fire resisting shafts	BCA2010 Clause C3.13
2.	Automatic fail safe devices	Manufacturer's Specification
3.	Automatic fire detection and alarm system	BCA2010 Clause E2.2a, AS1670.1-2004
4.	Automatic fire suppression system (sprinkler system) throughout entire RACF building portion including throughout the basement car park portion	BCA2010 Clause E1.5, AS2118.1-1999
5.	Emergency lighting	BCA2010 Clauses E4.2 & E4.4, AS/NZS2293.1-2005
6.	Stretcher and Accessible lifts	BCA2010 Clause E3.2, E3.6 and AS1735.12
7.	Exit signs	BCA2010 Clauses E4.5, E4.6 & E4.8, AS/NZS2293.1-2005
8.	Fire dampers	BCA2010 Clause / Specification C3.15 and AS/NZS1668.1-1998, AS1682.1 and 2
9.	Fire doors	BCA2010 Spec C3.4, AS/NZS1905.1-2005
10.	Fire hydrant system	BCA2010 Clause E1.3, AS2419.1-2005
11.	Fire seals protecting openings in fire resisting components of the building	BCA2010 Clause C3.15, Manufacturer's Specification
12.	Fire hose reel system to basement car park only	BCA2010 Clause E1.4, AS2441-2005
13.	Lightweight fire rated construction	Manufacturer's Specification and Specification C1.8 of BCA2009
14.	Mechanical air handling systems Including auto shut down of air handling systems	BCA2010 Table E2.2a, AS/NZS1668.1-1998 and AS1668.2-1991
15.	Paths of travel, stairways, passageways or ramps	BCA2010 Section D
16.	Portable fire extinguishers	BCA2010 Clause E1.6, AS2444-2001

17.	Smoke control system (Assumed to be Sprinkler system with fast response heads to RACF Portion)	BCA2010 Table E2.2a, AS2118.1-1999
18.	Stair pressurisation system to FIS's to RACF Portion	BCA2010 Table E2.2a, AS1668.1-1998
19.	Smoke doors	BCA2010 Spec C3.4 and C2.5
20.	Warning and operational signs	BCA2010 Clause D2.23, E3.3, EP&A Reg. 2000 Clause 183

BCA Compliance Statement

It is considered that architectural design documentation as referred to in this review taking into consideration the current design of Buildings 1, 2, 3 and 4 and the RACF Building has been assessed against the applicable provisions of the Building Code of Australia 2010, (BCA2010) and it is considered that such documentation complies or is capable of complying (subject to ongoing design development to the Development Application and Construction Certificate Stage) with that Code.

If you require any further information regarding the above, please don't hesitate to contact me.

Yours faithfully,



Stuart Boyce
DIRECTOR
BCA LOGIC PTY LTD