BLACKETT MAGUIRE+ GOLDSMITH

BCA COMPLIANCE STATEMENT

Belrose Manor Aged Care
181 Forest Way, Belrose

24 September 2018

Revision 3

Ref: 170045

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BCA STATEMENT OF COMPLIANCE

Belrose Manor Aged Care

This compliance statement is to verify that Blackett Maguire + Goldsmith Pty Ltd have undertaken an assessment of the DA design documentation for the proposed Residential Aged Care Facility at the subject site against the requirements of the Building Code of Australia 2016 Amd 1.

The objective of this compliance statement is to accompany submission of the DA to the consent authority to enable Council to be satisfied that subsequent compliance with the fire & life safety and health & amenity requirements of the BCA, will not give rise to design changes to the building which may necessitate the submission of an application under Section 4.55 of the Environmental Planning and Assessment Act, 1979. This review is not intended to identify all issues of compliance or non-compliance with the BCA with such other issues to be appropriately addressed at the Construction Certificate stage.

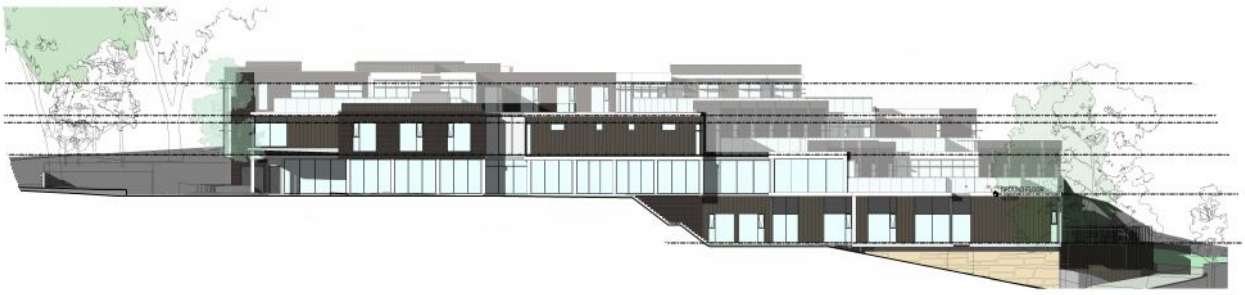
For the purpose of this submission the assessment of the DA design documentation has been undertaken against the deemed-to-satisfy (DTS) provisions of the BCA.

Proposal

The proposed development consists of the demolition existing structures on the allotment and construction of a new 138 bed Residential Aged Care Facility, consisting of the following:

- Lower Ground Floor – Resident sleeping areas; resident use areas including a kitchen, private dining, laundry, staff area & carparking, multipurpose function rooms, activity room, outdoor terrace and back of house storage areas.
- Ground Floor – Main entry lobby and drop off area; visitor carparking and ambulance bay; resident sleeping areas; internal courtyard; resident use areas including a lounge, dining and a hair and spa salon, cinema, café and gym.
- First Floor – Resident sleeping areas; kitchen; resident use areas including access to secured gardens, lounge and dining room.
- Second Floor – Resident sleeping areas; kitchen; large outdoor terrace; resident use areas including lounge and dining room.

  Note: All floors have access to roof terrace area.



Building Classification

The following table presents a summary of relevant building classification items of the proposed *Residential Aged Care* development:

▪ **BCA Classification:**	Class 9c (Aged Care Building); Class 7a carpark (part of Lower Ground Floor) Class 7b Storage (part of the Ground Floor)
▪ **Rise in Storeys:**	The building has a rise in storeys of four (4).
▪ **Effective Height:**	Less than 12m (RL 173.800 – RL 163.100 = 10.7m)
▪ **Type of Construction:**	Type A Construction
▪ **Climate Zone:**	Zone 5

SUMMARY OF KEY COMPLIANCE ISSUES

The following comprises a summary of the key compliance items that will need to be addressed prior to issue of the respective Construction Certificates:

MATTERS REQUIRING FURTHER INFORMATION/PLAN AMENDMENTS

	BCA CLAUSES	DESCRIPTION
1.	C2.5	Kitchens/serveries are to be less than 30m^2 in floor area or be smoke separated from the resident sleeping areas.
2.	C3.3	The external wall is to be fire rated and associated openings protected in accordance with C3.4 to address exposure between fire compartments.
3.	D1.7	Openings located within 6m of occupants discharging from the fire isolated stairs are to address Performance Requirement DP5
4.	D1.10	The unmade road or accessway located to the north of the development is confirmed as a designated a "public road".
5.	D2.21	Clarification to be provided whether a security roller door is proposed for the vehicular ramp, given this ramp is used for egress from the basement.

MATTERS TO BE JUSTIFIED AS FIRE SAFETY ENGINEERED OR OTHER PERFORMANCE SOLUTIONS

	BCA CLAUSES	DESCRIPTION	PERFORMANCE REQUIREMENT
1.	C2.8	The wall separating the Class 7b storage areas is proposed to achieve an FRL of 120/120/120 in lieu of the DtS required FRL of 180/180/180.	CP1
2.	D1.4	The distance to a point of choice is up to 27m exceeding the maximum permitted 20m and the distance to an exit is up to 60m, exceeding the maximum permitted 40m.	DP4 & EP2.2
3.	D1.5	The distance between alternative exits is up to approximately 120m (at the second floor terrace) exceeding the maximum permitted 60m.	DP4
4.	D1.10	Occupants egressing via the southern path are required to pass beneath an awning before reaching open space.	DP5
Performance Solution - Not Fire Engineering			
1.	Part F1	A solution is required for the external walls to confirm the assembly prevents the penetration of water that could cause unhealthy or dangerous conditions, or loss of amenity for occupants; and undue dampness or deterioration of building elements.	FP1.4

Section C – Fire Resistance and Compartmentation:

Maximum size of fire compartment is:

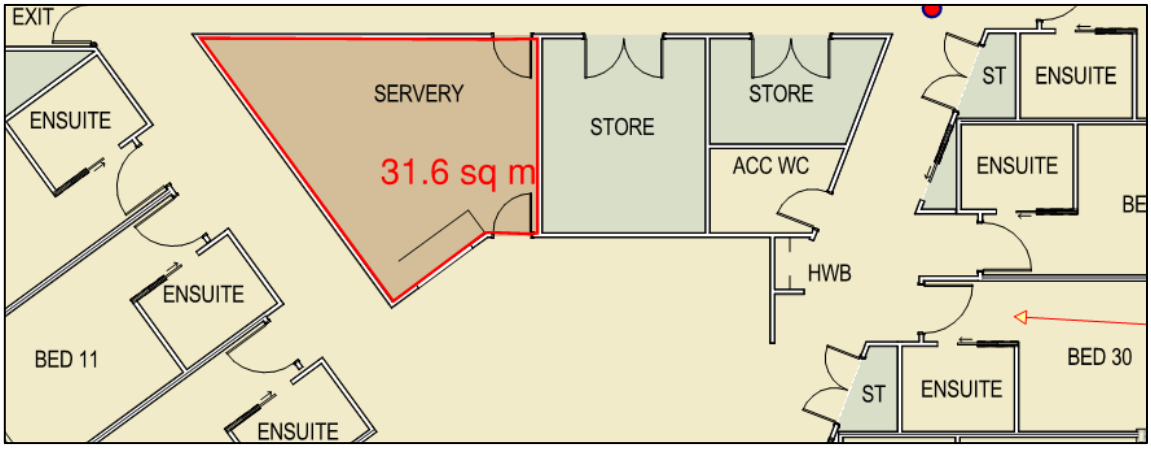
Classification		Type A Construction
9c	Max floor area	8,000m²
	Max volume	48,000m³
7a	Max floor area	N/A for sprinklered carpark
	Max volume	N/A for sprinklered carpark
7b	Max floor area	5,000m²
	Max volume	30,000m³

It is assumed that each floor will be a separate fire compartment

The proposal demonstrates that compliance with the Performance Requirements of Section C of the BCA is readily achievable subject to the following:

- Fire hazard properties for all floor, wall and ceiling linings are to comply with BCA Specification C1.10.
- Fire resistance levels are to address BCA Specification C1.1 (see Appendix 1) and in particular:
  - All loadbearing external walls, external columns and 'columns within an external wall' are to be fire rated to achieve an FRL of 120 minutes.
  - All loadbearing internal walls are to be constructed of masonry or concrete.
  - External walls are to be ***non-combustible*** construction.

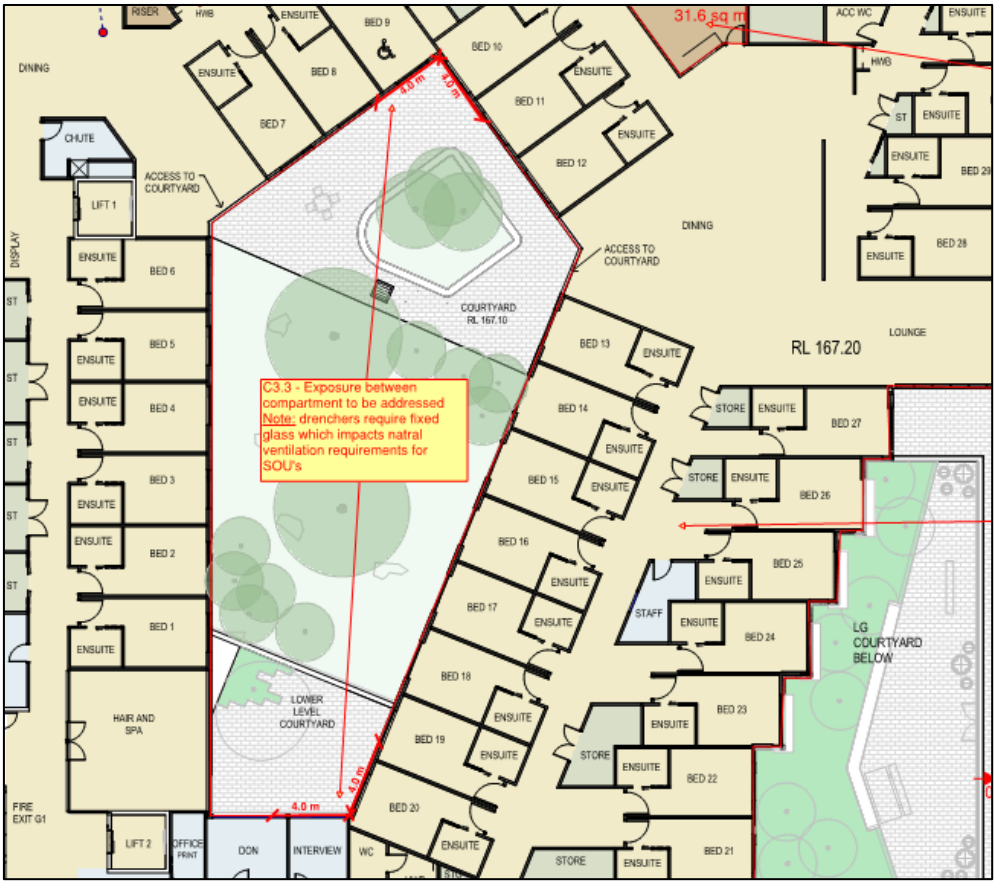
    Note: Any external cladding materials such as Aluminium Composite Panels will need to demonstrate that they are compliant with the BCA and the NSW Fair Trading Building Product Ban.
- The Class 9c building must comply with Clause C2.5 with respect to smoke compartmentation & separation. The smoke compartments are to be designed and detailed on the Construction Certificate application documentation ensuring that they address Performance Requirement CP3, i.e. being no more than 500m². In the unlikely event that these floor areas are exceeded there is potential for a Performance Solution to be formulated, subject to the extent of the departure being minimal.
- The smoke walls and smoke doors will be required to be constructed in accordance with BCA Specifications C2.5 & C3.4 respectively. Furthermore, the servery located to the North East of the Ground Floor marginally exceeds 30m^2 (31.5m^2) requiring it to be smoke separated from the resident sleeping areas. In this instance it may be worth considering a reduction in the size of the room, rather than pursuing solutions for door swing, reservoir heights, smoke seals, roller shutter design, etc. Image provided below.



- The portion of the First floor denoted as storage portion is considered a Class 7b part, given it occupies more than 10% floor area of the storey. This therefore is required to be fire separated from the remainder of the building. It is understood that the required FRL of the separating wall will be addressed via a **Performance Solution** to permit a reduction from 240/240/240 to an FRL of 120/120/120.
- Openings in the external walls of the building are not exposed to a Fire Source Feature (i.e. within 3m of a side or rear boundary, or within 6m of another building on the site). Therefore, all windows and all non-loadbearing walls need not be provided with any additional protection against fire spread.

  Note: Refer to Section D below regarding additional measures required to address discharging from a fire isolated exit.
- Where it is proposed to use a combustible material complying with the concessions under Clause C1.12(e), Test Reports will need to be provided demonstrating that the material complies with the requirements set out in the respective subclauses.

  Note: As of 12 March 2018 C1.12 has been repealed in lieu of C1.9 and C1.14.
- 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 granted a concession under C1.14.
- The creation of horizontal exits via fire walls (see Section D below) results in circumstances where openings in adjacent walls are exposed and in need of protection (See Appendix 2). Fire Walls are to comply with Clause C2.7 and the openings in the walls are to comply with Clause C3.4, C3.5 and C3.7.



- The fire isolated exit stairs requires a fire rated lid, the fire rating needs to be achieved in both directions.
- Mechanical and other services risers are to be designed so as to ensure compliance with BCA Clause C3.15, and also the relevant Australian Standards where necessary. Note: AS1668.1 permits mechanical ventilating risers to be 'open' at the base where the shaft penetrates the roof top. Other services risers are not permitted to do the same.

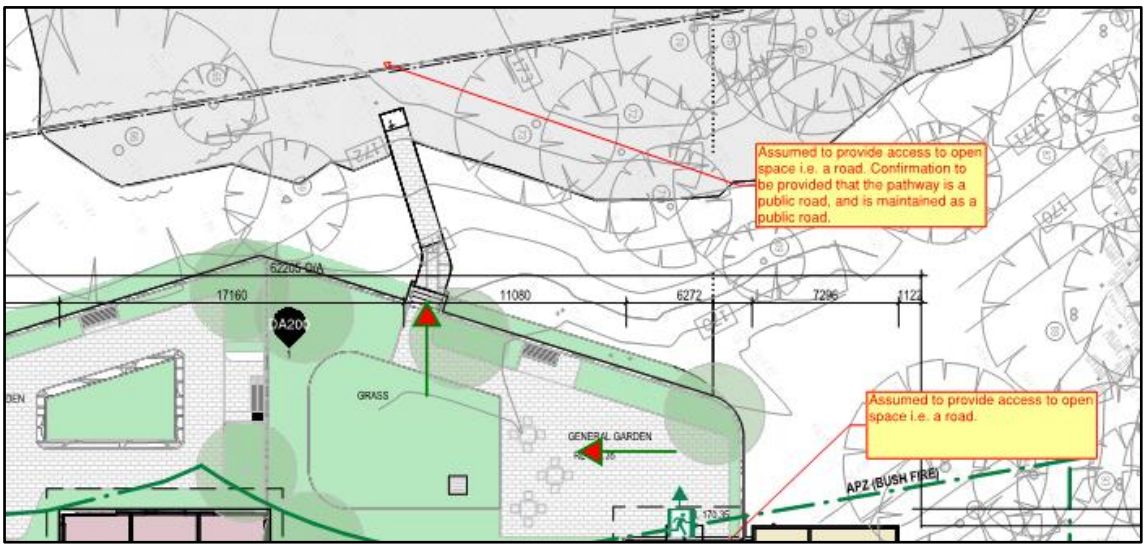
Section D – Access and Egress:

The proposal demonstrates that compliance with the Performance Requirements of Section D of the BCA is readily achievable subject to the following:

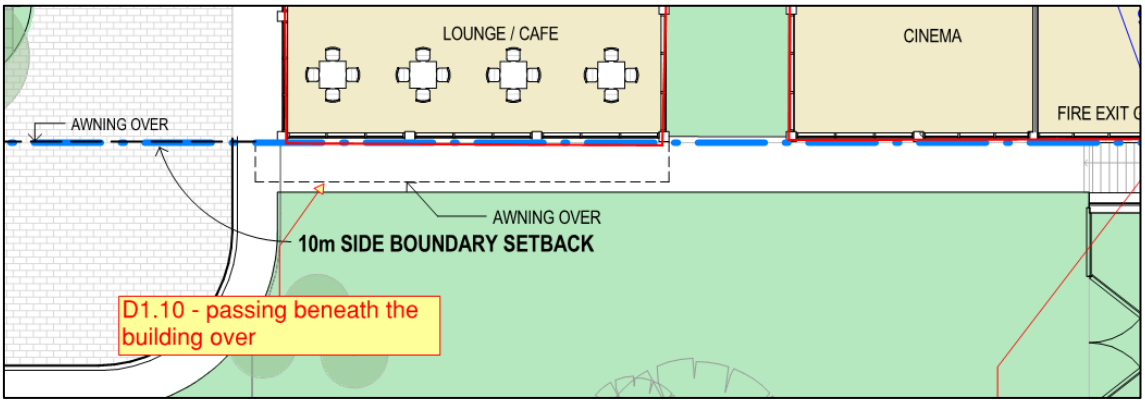
- The number of exits for the building complies with the DTS provisions of the BCA i.e. a minimum of 2 per floor in the class 9c parts.
- Egress distances to exits have been assessed and will be able to comply with the Performance Requirements of the BCA. Accordingly we note the following:
    - The maximum distance to a point where travel to two alternative exits is available is generally achieved with the exception of the following:
        - Second Floor – up to 27m from the southern external terrace.
    - The distance to an exit within the building is generally less than the 40m permitted with the exception of the following:
        - Lower Ground Floor: up to 60m from the Maintenance Workshop;
        - Ground Floor: 46m from the roof terrace
    - The distance between alternative exits generally complies with the DTS provision of the BCA with the exception of the following:
        - Lower Ground Floor - 70m between alternative exits in the carpark;
        - First Floor - 75m between alternative exits measured through the external terrace space.
        - Second Floor - 120m from the Top Storey terrace space (necessitating access via the external "outer" terrace).

    These areas will be the subject of a **Performance Solution** that will be formulated by a Fire Safety Engineer.
- The architectural documentation shows that the corridors within the building can readily achieve compliance with the DtS provisions of the BCA.

  Note: the minimum corridor widths of 1500mm generally and 1800mm at resident room door entries are to be provided throughout.
- The discharge from the fire isolated exits and the external stairs in lieu of fire isolated exits is to be addressed to the degree necessary to satisfy Performance Requirement DP5. Compliance in this regard can be achieved by protecting openings within 6m of discharging occupants in accordance with C3.4 or reconfiguration of the points which occupants discharge such that occupants are not exposed to openings or by way of a **Performance Solution**.
- Discharge of occupants in a northerly direction from First Floor indicates the use of an unmade road or accessway. Confirmation is required that this accessway is a designated public road.



- Occupants discharging the building are to have unencumbered access to open space i.e. open to the sky. In this instance an awning is positioned above the eastern path constituting a departure from the DtS provisions of the BCA. Compliance with the performance requirement DP5 is readily achievable and can be demonstrated with a Fire Engineered Performance Solution.



- Travel via non-fire isolated exits is to ensure occupants need not travel more than a total of 80m (ie. use of the vehicular ramp).
- Horizontal exits are located in a number of locations throughout Ground Floor and First Floor.
- Handrails are to be provided to the public corridors to the degree necessary to satisfy Performance Requirement DP2.

  *Note: Should any **Performance Solution** be sought for deletion of handrails in lieu of the provisions of management plans and specific type of mobility aids the designed length of corridors will be fundamental to the ability for this to be justified.*
- Handrails are required to all stairs and ramps in the building:
  - To a single side of the stair for all fire isolated exits;
  - To both sides of stairs and ramps that are not within a fire isolated exit. Note: ramps are to be designed so as to ensure sufficient room for handrails to extend into the perpendicular accessway/walkway.
- Gradients and handrails are to be provided to the external pathways to the degree necessary to satisfy Performance Requirement DP2. This will apply to all steps and pathways that are relied upon for egress from any of the exits. Additional information for Ground Floor Plan eastern exits is required.
- External paths are to have an unobstructed width of 1m and any security gates located on the paths are to be provided with automatic fail safe devices.
- Electrical distribution boards at each floor and communication boards will need to be provided in enclosures that are non-combustible and also smoke sealed (where they are located in paths of travel).
- All doors in a required exit, and doors in a path of travel to an exit are to be readily openable by a single handed action on a single device without recourse to a key.

  Note: If a roller shutter door at the vehicular ramp is to be provided with a hinged door.
- Balustrades to balconies and barriers to windows will need to satisfy Performance Requirement DP3, particularly where located in excess of 4m from the surface level beneath. Accordingly, the window sills are not to be less than 865mm above the FFL or more than 1m above the FFL.
- Re-entry to the building from the fire isolated exits will need to be provided to address Performance Requirement DP5 i.e. so as not to inadvertently result in occupants being locked within the fire stairs.
- Access for persons with a disability will be provided to the building to address BCA Part D3. In this instance we consider that compliance with the Performance Requirements of the BCA is readily achievable, the development will require *7 of the 143 rooms* to be AS1428.1 accessible rooms in accordance with BCA Table D3.1.

Section E – Essential Fire Safety Measures

The proposal demonstrates that compliance with the DTS provisions of Section E of the BCA is readily achievable subject to the following:

- Fire hydrants are to be provided to the site in accordance with BCA Clause E1.3 and AS2419.1-2005.

  Note 1: Additional internal hydrants other than those located within the fire isolated exits will be required to address coverage – for reasons of extended distances to exits. In this regard it is to be noted that the Fire Doors within the corridors on Ground and First Floor are designated exits for the purposes of location.

  Note 2: Any external fire hydrants will need to be located within 50m of a fire fighting appliance hardstand area, however not closer than 10m unless protected by a wall complying with AS2419.1-2005.

- A sprinkler system in accordance with Clause E1.5 of the BCA is proposed to be provided throughout the building, being a mandatory requirement for class 9c buildings.

- The Class 9c building has a rise in storeys exceeding two (2), and therefore the Performance Requirements of the BCA are to be addressed with respect to automatic air pressurisation for fire isolated exits.

  *Note: There are 2 fire isolated exits in this regard, however none of the fire isolated exits pass or serve more than 2 storeys resulting in a plausible argument for a **Fire Engineered Performance Solution** to address this.*

- At least one of the passenger lifts in the building is to:
  - Comply with the requirements of Table E3.6; and
  - Accommodate a stretcher facility in accordance with BCA Clause E3.8, i.e. a raised stretcher with a patient lying on it horizontally, by providing a clear space of not less than 600mm x 2000mm long x 1400mm high above the floor.

Section F – Health and Amenity

The proposal demonstrates that compliance with the DTS provisions of Section F of the BCA is readily achievable subject to the following:

- A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause
  - Unhealthy or dangerous conditions, or loss of amenity for occupants; and
  - Undue dampness or deterioration of building elements.

  Note 1: There are no Deemed-to-Satisfy provisions for this Performance Requirement in respect to External Walls.

  Note 2: Refer to Clause F1.5 for roof coverings.

- Sufficient sanitary facilities have been provided to the residents and staff to the degree necessary address BCA Table F2.3.

- It is not proposed to design accessible ensuites into the minimum percentage of Accessible Rooms (6 off). *In this instance it is understood that a Performance Solution will be formulated to justify the departure from BCA Table F2.4.*

- In the Class 9c portion of the building, the following is required:
  - A suitable bath, *fixed or mobile*;
  - Kitchen or adequate facility for the preparation and cooking or reheating of food (including a kitchen sink and washbasin);
  - Laundry facilities for cleansing and drying of linen and clothing, or adequate facilities for holding and dispatch or treatment of soiled linen;
  - One clinical handwash basin for each 16 residents.

- Facilities are to be constructed so as to satisfy Performance Requirement FP2.5 to ensure it has sufficient means to permit an unconscious patient to be removed from the compartment.

- On every storey there is to be
    - One slop hopper / device for the safe handling and disposal of liquid and solid wastes with a flushing apparatus, tap and grating; and
    - An appliance for the disinfection of pans or an adequate means to dispose of receptacles.
- All corridors and passageways will have a ceiling height of not less than 2400mm.
- Sound insulation between sole occupancy units, and insulation between sole occupancy units and kitchens, bathroom, sanitary compartment, laundry, plant room or utilizes room must address the requirement of Part F5.

G2.3 – Open Fire Places

The open fire place located on the Second Floor Terrace is to have a hearth stone concrete, masonry or simular non-combustible material. The construction of the fire place is to comply with the requirements of this clause where relevant.

NSW G5.2 - Protection (Bushfire Prone Areas)

It is understood that the proposed development is located within a bushfire prone area. In this regard, the proposed development will satisfy the Performance Requirements of this part by complying with the following:

(a) AS 3959 except for Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ).Buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or

(b) the requirements of (a) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 79BA of the Environmental Planning and Assessment Act 1979; or

(c) the requirements of (a) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.

Section J – Energy Efficiency

We note that the requirements of BCA Section J will apply to the building of which the applicant will engage the services of an energy efficiency consultant to demonstrate:

- Building Fabric – the external fabric to be designed and constructed to reduce heat flow;
- Glazing – thermal performances, solar orientation, shading;
- Building sealing – doors, windows, roof lights, e.g. to avoid leakage;
- Air conditioning and ventilation – operation, e.g. time switches; exhaust
- Artificial lighting and power – type and operation of lighting and power systems;
- Hot water systems – avoiding heat loss;
- Access for maintenance – access to time switches, shading devices, etc.

Conclusion

In view of the above assessment we can confirm that subject to the above measures being undertaken that compliance with the Performance Requirements of the BCA is readily achievable. In addition, it is considered that such matters can adequately be addressed in the preparation of the tender documentation design documentation without giving rise to any inconsistencies with the development consent.

We trust that the above submission is of assistance to the Consent Authority and we are confident that any design modifications required to the building in order to satisfy the fire and life safety and health and amenity requirements of the BCA will not necessitate the need for submission of an application under Section 4.55 of the Environmental Planning & Assessment Act 1979.

Should you wish to discuss please do not hesitate to contact me on 9211 7777.

Yours sincerely,

Brian Maguire
Director –
Blackett Maguire + Goldsmith

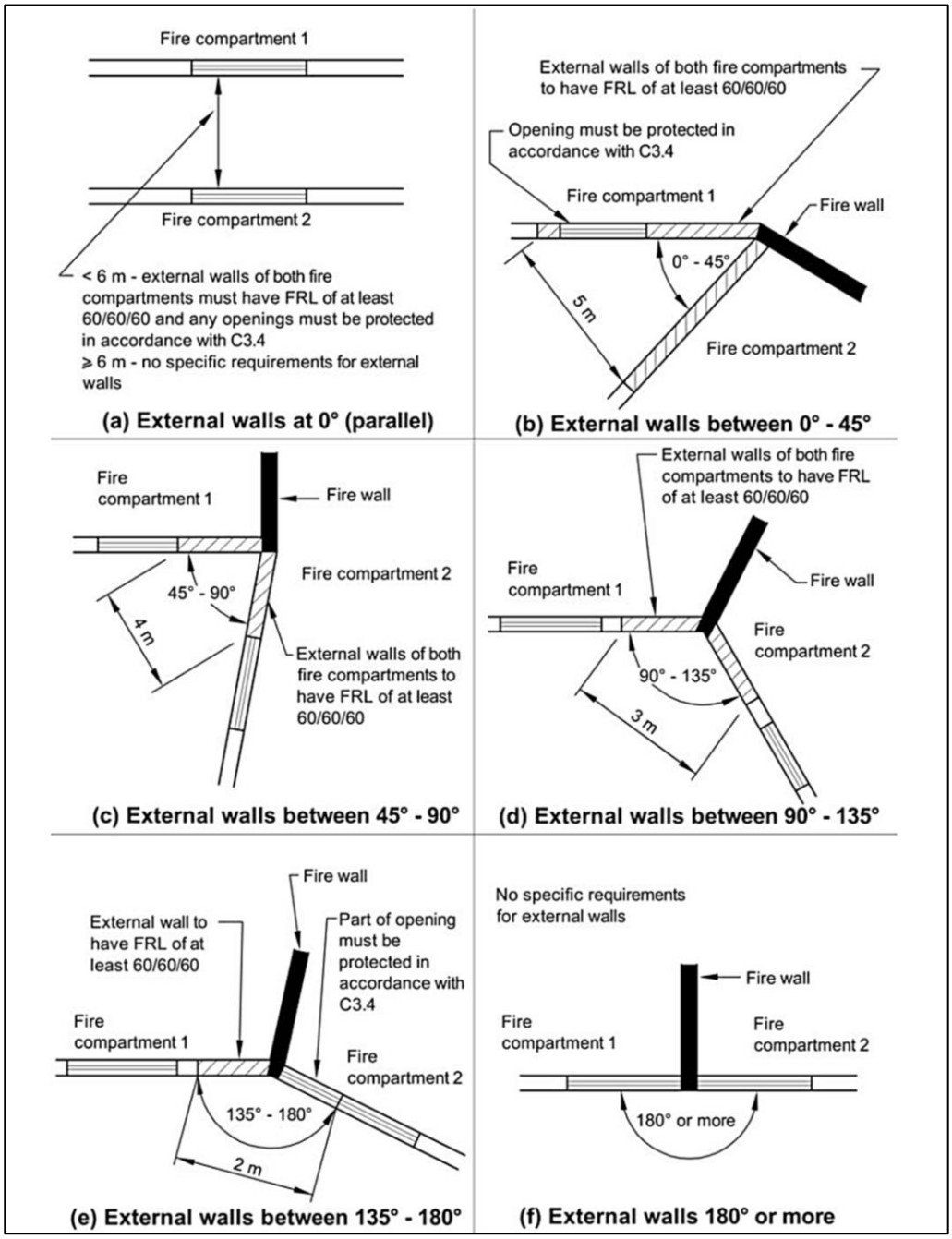
Appendix 1

TABLE 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

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 therein) or other external building element, where the distance from any *fire-source feature* to which it is exposed is—				
For *loadbearing* 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- *loadbearing* 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	–/–/–	**–/–/–**	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an *external wall*, where the distance from any *fire-source feature* to which it is exposed is—				
less than 3 m	90/–/–	**120/–/–**	180/–/–	240/–/–
3 m or more	–/–/–	**–/–/–**	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	**120/120/120**	180/180/180	240/240/240
INTERNAL WALLS—				
Fire-resisting lift and stair *shafts*—				
Loadbearing	90/ 90/ 90	**120/120/120**	180/120/120	240/120/120
Non- *loadbearing*	–/ 90/ 90	**–/120/120**	–/120/120	–/120/120
Bounding *public corridors*, public lobbies and the like—				
Loadbearing	90/ 90/ 90	**120/–/–**	180/–/–	240/–/–
Non- *loadbearing*	–/ 60/ 60	**–/–/–**	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—				
Loadbearing	90/ 90/ 90	**120/–/–**	180/–/–	240/–/–
Non- *loadbearing*	–/ 60/ 60	**–/–/–**	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion—				
Loadbearing	90/ 90/ 90	**120/ 90/ 90**	180/120/120	240/120/120
Non- *loadbearing*	–/ 90/ 90	**–/ 90/ 90**	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES				
and COLUMNS—	90/–/–	**120/–/–**	180/–/–	240/–/–
FLOORS	90/ 90/ 90	**120/120/120**	180/180/180	240/240/240
ROOFS	90/ 60/ 30	**120/ 60/ 30**	180/ 60/ 30	240/ 90/ 60

APPENDIX 2

EXPOSURE OF OPENINGS BETWEEN DIFFERENT FIRE COMPARTMENTS



APPENDIX 3

Fire Safety Measures

The following fire safety measures are required for the building:

Essential Fire and Other Safety Measures	Standard of Performance
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 - 2014
Alarm Signaling Equipment	AS1670.3 – 2004
Automatic Fail Safe Devices	BCA Clause D2.21
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a & AS 1670.1 - 2015.
Automatic Fire Suppression Systems	BCA Spec. E1.5 & S2118.1-1999 or AS 2118.4-2012 (subject to the limitations in the standard)
Building Occupant Warning System	BCA Spec E1.5 Clause 8 and/ or Clause 3.22 of AS 1670.1 – 2015
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 - 2005
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8; AS 2293.1 – 2005
Fire Blankets	AS 3504 – 2006 & AS 2444 - 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 - 2015 & AS 1682.1 & 2 – 1990
Fire Doors	BCA Clause C2.12, C2.13, C3.8 and AS 1905.1 – 2015
Fire Hose Reels (Class 7a)	BCA Clause E1.4 & AS 2441 – 2005
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 - 2005
Fire Seals	BCA Clause C3.15 & AS 1530.4 – 2014 & AS 4072.1 – 2005
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 – 1999
Mechanical Air Handling Systems (automatic shutdown)	BCA Clause E2.2, AS/NZS 1668.1 - 2015 & AS 1668.2 – 2012
Paths of Travel	Clause 186 of the EP & A Regulation 2000
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Pressurisation of fire isolated exits (potential for deletion)	BCA Clause E2.2a and AS1668.1-2015
Required Exit Doors (power operated)	BCA Clause D2.19(d)
Smoke Dampers	AS/NZS 1668.1 - 2015
Smoke Doors	BCA Spec. C3.4 & C2.5
Warning & Operational Signs	Section 183 of the EP & A Regulations 2000, AS 1905.1 - 2015, BCA Clause C3.6, D2.23, E3.3

Note: The measures included and the standards of performances nominated above may vary as a result of any proposed fire engineered alternative solutions.

Architectural drawings

Morrison Design Partnership Architects
Revision B dated 31 August 2018

Drawing Number	Rev	Date	Drawing Number	Rev	Date
DA030	B	31 August 2018	DA050	B	31 August 2018
DA101	B	31 August 2018	DA102	B	31 August 2018
DA103	B	31 August 2018	DA104	B	31 August 2018
DA105	B	31 August 2018	DA200	B	31 August 2018
DA201	B	31 August 2018	DA300	B	31 August 2018
DA500	B	31 August 2018			