



BCA CAPABILITY REPORT

FOR PROPOSED S96 APPLICATION
AT 8 LADY PENRHYNDRIVE BEACON HILL

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1.0 EXECUTIVE SUMMARY

This report has been prepared to identify the extent of compliance achieved by the architectural documentation depicting the proposed housing for older people units against the relevant provisions of the Building Code of Australia (BCA) 2009.

This report has been prepared for submission with the Section 96 Application to Warringah Council for the approval of the new buildings at the subject property.

This report has been prepared on the basis of architectural documentation reflecting the proposed works to modify an approved retirement village.

The report intends to broadly identify aspects of compliance with the BCA to the extent that compliance can be achieved with the BCA by means of either deemed- to-satisfy or performance based approaches. The outcome of which is to support the proposed design such that alteration to accommodate compliance with the BCA will not be required and a future amendment to any consent would not be required.

2.0 PROPOSED DEVELOPMENT

2.1 Site Location

The subject development is located at Beacon Hill and is bounded by Lady Penrhyn Drive to the west and south and Willandra Road to the east of the site.

The site is within the Warringah Council area for the purposes of development approvals.

2.2 Proposed Development

The proposed modifications include the amended residential buildings A2, B1, C1, C2 and the building for common resident use incorporating gym facilities, meeting areas and a swimming pool.

2.3 Building Description

<i>Use/Classification</i>	<p>The building subject of this report has been assessed as being classified as follows</p> <ul style="list-style-type: none"> • Class 2 – residential accommodation • Class 9b- assembly building (common use building)
<i>Rise in Storeys</i>	<p>Rise of two (2) storeys (residential buildings)</p> <p>Rise of three (3) storeys (common use)</p>
<i>Effective Height</i>	<p>The buildings have an effective height of less than 25m</p>
<i>Type of Construction</i>	<p>Type B Construction required (residential), Type A construction (common use building).</p>

3.0 BCA ASSESSMENT

3.1 Fire Resistance and Stability

Item	Comment
Fire Resistance	<p>The proposed building structure is of masonry or concrete walls and reinforced concrete floor slabs. It is expected the form of construction can satisfy Specification C1.1 of the BCA.</p> <p>The structure should be able to achieve relevant Fire Resistance Levels sufficient to achieve compliance with BCA DTS provisions. It is noted that the general fire resistance levels will be 90 minutes for the residential buildings and 120 minutes for the common use building.</p>
Fire Separation	<p>In general the buildings are set back sufficiently so as not to require protection of openings in external walls.</p> <p>No buildings are proposed to be located within 3m of a boundary forming a fire source feature.</p> <p>Spandrel separation is required within the residential buildings, it is expected the design can accommodate suitable separation in this regard.</p>
Compartmentation	<p>Each sole occupancy unit (SOU) is to be fire separated from adjoining SOU's, other rooms and also the public corridors in accordance with Specification C1.1 of the BCA and generally achieve -/60/60 for non-load bearing construction and 90/90/90 for load bearing walls. Each access door to the SOU's is to be a self-closing -/60/30 fire rated door.</p> <p>The proposed design is capable of complying with fire separation provisions.</p>
Fire hazard properties	<p>The fire hazard properties of materials will comply with Specification C1.10 and C1.10a.</p>

3.2 Access & Egress

Item	Comment
Number of exits required	<p>The number of exits in the building complies with the provisions of BCA Clause D1.2.</p> <p>A minimum of one exit is required from each storey.</p>
Exit travel distance	<p>The proposed building designs comply with the maximum exit travel distances permitted under Part D1 of the BCA.</p>
Dimensions of exits	<p>The aggregate egress widths provided will serve a population of approximately 100 people per floor which is in excess of a population expected to be in the building.</p>

Exit construction	The form of construction of the internal stairs will achieve compliance with the BCA in respect of non-fire isolated construction and discharge. Exits are not required to be fire isolated in this regard.
Thresholds	The sill of a doorway opening to open space, an external stair landing or balcony is to have a maximum height of 190mm. Where required suitable threshold ramps will be provided to ensure compliant disabled access to the common use building under Part D3 of the BCA.
Egress Doors	All exit doorways swing in the direction of travel as required.
Latches	Latches to exit doors and doors in the path of travel to an exit will be lever type latches in accordance with BCA Clause D2.21.
Balustrades	Balustrades will comply with Clause D2.16 of the BCA to the first floor balconies and internal open stairs.
Disabled access	It is noted disabled access will be available via compliant ramps to the principal entrance and also to connect to other buildings in the vicinity and the adjacent car parking. In general access will be compliant in accordance with Part D3 of the BCA.

3.3 Services and Equipment

Item	Comment
Hydrant System	The building is required to be protected with a hydrant system in accordance with the provisions of Clause E1.3 of the BCA and AS 2419.1-2005, it is expected compliant coverage can be achieved utilising external hydrants to the site.
Hose Reel System	The common use building requires a hose reel system in accordance with the provisions of Clause E1.4 of the BCA and AS 2441, it is expected compliant coverage can be obtained. The residential buildings will not require FHR coverage but will require portable fire extinguishers.
Portable Fire Extinguisher	Not required for residential building A2, B1, C1, C2.
Mechanical ventilation systems	The common use building may require mechanical ventilation if natural ventilation is insufficient. If a central air handling system is provided to the club building with a capacity greater than 1000L/sec it is to incorporate an automatic shutdown facility in the design and operation.
Smoke Hazard Management	The building is to be provided with an automatic smoke detection and alarm system complying with Specification E2.2a of the BCA and AS 1670.1 & AS 3786 to the residential buildings.

Exit Signs and Emergency Lighting	Emergency lighting is to be provided to the public corridors, public areas and within the non-fire isolated exits. Directional exit signs and exit signs will be configured to assist those unfamiliar with the building to exits in accordance with Part E4 and AS 2293.1
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3.4 Health and Amenity

Item	Comment
Sanitary & Other Facilities	<p>Facilities for residents are provided to each room, the common use building will have separate sanitary facilities.</p> <p>A minimum of one unisex disabled accessible facility is required and may be counted once for each sex to the common use building. The numbers of facilities proposed will exceed the minimum required including staff.</p>
Ventilation	<p>The building is required to be provided with ventilation in accordance with the provisions of Clause F4.5 of the BCA.</p> <p>Ventilation may be provided by natural means or a mechanical system complying with AS 1668.2.</p>
Lighting	<p>Artificial lighting is required to be provided throughout the building in accordance with the provisions of Clause F4.4 of the BCA and AS 1680.1.</p> <p>Natural lighting is required to sleeping areas/bedrooms of the SOU's and it is expect a minimum of 10% of the floor area will be provided in glazed areas as indicated to plans.</p>
Sound Insulation	The building is capable of achieving the required sound insulation of floors and walls and service shafts between SOU's to comply with part F5 of the BCA.

4.0 CONCLUSION

It is the opinion of this office that, on satisfaction of the above comments and recommendations, the Housing for Older People modification at Beacon Hill will achieve compliance with the requirements of the Building Code of Australia 2009 and relevant adopted standards as they relate to its use.

5.0 FIRE SAFETY AND OTHER MEASURES

In terms of the proposed use of the building the following fire safety measures are required:

Fire Safety Measure	Standard of performance
Automatic fire detection and alarm system	BCA Spec E2.2a, AS 1670.1-2004, AS 3786
Emergency lighting	BCA Clause E4.2 & E4.4, AS 2293.1-2005
Exit signs	BCA Clause E4.5 & E4.8, AS 2293.1-2005
Fire dampers	AS 1668.1-1999
Fire doors	BCA Spec C3.4, AS 1905.1-2005
Fire hydrant systems	BCA Clause E1.3, AS 2419.1-2005
Lightweight construction	BCA Clause C1.8, Specification C1.8
Fire seals (protecting openings in fire resisting components of the building)	BCA Clause C3.15
Fire hose reel system	BCA Clause E1.4, AS 2441-2005
Mechanical ventilation systems (automatic shut down and smoke exhaust)	BCA Spec E2.2b, AS/NZS 1668.1
Portable fire extinguishers	BCA Clause E1.6, AS 2444-2001
Smoke detectors and heat detectors	AS 1670.1-2004, AS 3786-1993