



BLACKETT
MAGUIRE+
GOLDSMITH

BCA Compliance Statement

State Significant Development

Development Application
Hornsby Ku-ring-gai Hospital
Redevelopment Stage 1

Prepared for Health Infrastructure

Revision 2

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Project No.: 120223

Address

Suite 2.01,
22-36 Mountain St
Ultimo NSW 2007

Contact

Ph: 02 9211 7177
Fax: 02 9211 7774



HORNSBY KU-RING-GAI HOSPITAL REDEVELOPMENT STAGE 1

BCA STATEMENT OF COMPLIANCE

This compliance statement is to verify that Blackett Maguire + Goldsmith Pty Ltd have undertaken an assessment of the DA design documentation prepared by Woodhead dated 14.11.2012 for the proposed new residential building at the subject site against the requirements of the Building Code of Australia 2012/2013 (BCA).

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 96 of the Environmental Planning and Assessment Act, 1979. The 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

Blackett Maguire + Goldsmith Pty Ltd (BM+G) have been commissioned by Health Infrastructure to undertake a BCA assessment for the proposed Hornsby Ku-Ring-Gai Hospital redevelopment – Stage 1. The Proposal involves a five level building in the south eastern corner of the site adjacent to the existing Hornsby Obstetric, Pediatric and Emergency (HOPE) building. The preferred option includes a new clinical services building which will occupy 4,130m² of the campus, with the current inclusions in the new main clinical services building outlined below.

Stage 1 New Clinical Services Building

- + Level 1 (ground) Cleaning / decontamination; back of house loading/utilities; records store and associated staff areas; “unallocated” undercroft space for future fit-out for related services; plant space. Such undercroft areas will not be occupied or trafficable for the Stage 1 scope of works and occupation.
- + Level 2: Peri-operative services including 8 theatres, consulting rooms, office space.
- + Level 3: Two x 28 bed surgical inpatient units.
- + Level 4: One x 28 bed surgical inpatient unit and plant occupying the northern part of the building only.
- + Level 5: Plant space occupying the northern part of the building only.

The building is to be connected directly to the existing HOPE building.

In addition, the HKHR Stage 1 project will provide for refurbished space to relocate a number of existing services, and includes a detailed refurbishment, minor works and decanting strategy, which provides for increased support services capacity and adequate temporary parking solutions until the next stage of the redevelopment.

The Decanting works propose to utilise a number of existing health care buildings as temporary accommodation for Laundry (Building 20); re-use building 14 for general outpatient use and administration; relocation of the temporary demountable building to be attached to the HOPE building for accommodation of records.

In this instance we have focused this compliance statement on the Stage 1 new health care building only.



Building Classification

The following table presents a summary of relevant building classification items of the proposed hospital building development:

▪ BCA Classification:	Class 9a (Health-care Building) – Level 1 non-patient care, Levels 2-4 patient care.
▪ Rise in Storeys:	The building has a rise in storeys of five (5).
▪ Effective Height:	17.1m - not in excess of 25m and >12m.
▪ Type of Construction:	Type A Construction
▪ Climate Zone:	Zone 5
▪ Maximum Floor Area/ Volume:	See below.

Section C – Fire Resistance and Compartmentation:

Maximum size of fire compartment is:

Classification		Type A
9a	Max floor area	5,000m ² and 2,000m ² for Patient care areas (levels 2-4)
	Max volume	30,000m ³

The proposal demonstrates that compliance with the DTS provisions 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 C1.10a, and other materials (such as sarking or insulation) to comply with BCA Specification C1.10 (including the proposed shade structures to the roof).
- All loadbearing walls will need to be masonry or concrete.
- Smoke and fire separation in accordance with BCA Clause C2.5 is to be achieved throughout, including attention given to the correct swing of smoke and fire doors.
- Exposure between openings of external walls in different “buildings” is to address Performance Requirement CP1 and CP2. This will also take into account natural ventilation requirements where applicable.
- The building is proposed to be provided with sprinklers throughout and therefore separation of external walls between floors by way of spandrels is not required.

Section D – Access and Egress:

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

- Egress distances to exits have been assessed and will be able to comply with the Performance Requirements of the BCA, with particular regard given to the plant room and the ground floor areas. We note that a fire wall is to be provided within the ground floor to ensure distances to exits can be achieved for future occupancy. Fire walls are an integral part of the upper floors providing Horizontal Exits at regular intervals.



- Minimum exit width from the floor has been assessed at it will comply with the Performance Requirements of the BCA, with particular regard given to the width of doors.
- The main entry open stair will be subject to a Performance Solution from an accredited Fire Safety Engineer.
- The discharge from the fire isolated exits is to be addressed to the degree necessary to address Performance Requirement DP5 (particularly the fire isolated exit stair at the main entry).
- Gradients and handrails are to be provided to the pathways to the degree necessary to satisfy Performance Requirement DP2.
- Horizontal exits will be provided to the degree necessary to satisfy Performance Requirement DP6.
- Re-entry to the fire isolated exits will need to be provided to address Performance Requirement DP5.
- 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.
- 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).
- 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.

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:

- A sprinkler system in accordance with Clause E1.5 of the BCA is proposed to be provided throughout the building.
- The proposed fire isolated exits will need to be provided with automatic air pressurisation to the degree necessary to satisfy Performance Requirement EP2.2.
- The building is required to be provided with an emergency lift. Compliance is readily achievable in this regard.
- At least one of the passenger lifts in the building is to accommodate a stretcher facility, 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.

The following fire safety measures are required for the main building:

Essential Fire and Other Safety Measures	Standard of Performance
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 - 2005
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 - 2004.
Automatic Fire Suppression Systems	BCA Clause E2.2a, BCA Spec. E1.5 & AS 2118.1-1999
Building Occupant Warning System activated by the Sprinkler System	BCA Spec E1.5 Clause 8 and/ or Clause 3.22 of AS 1670.1 - 2004
Emergency Lifts	BCA Clause E3.4 & AS 1735.2 - 2001
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 - 2005



Essential Fire and Other Safety Measures	Standard of Performance
Sound System and Intercom System for Emergency Purposes (<i>EWIS</i>)	BCA Clause E4.9 & AS 1670.4 – 2004 & AS 4428.4 – 2004
Emergency Evacuation Plan	AS 3745 – 2002
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8 and AS 2293.1 – 2005
Fire Control Centres and Rooms (if > 18,000m ²)	BCA Spec E1.8
Fire Blankets	AS 3504 – 006 & AS 2444 – 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 1998 & AS 1682.1 & 2 – 1990
Fire Doors	BCA Clause C2.12, C2.13, C3.2, C3.4, C3.5, C3.7, C3.8, and AS 1905.1 – 2005
Fire Hose Reels	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 – 2005 & 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 – 1998 & AS 1668.2 – 1991
Paths of Travel	EP & A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Pressurising Systems (all fire isolated exits)	BCA Clause E2.2 & AS/NZS 1668.1 – 1998
Required Exit Doors (power operated)	BCA Clause D2.19(d)
Smoke Dampers	AS/NZS 1668.1 – 1998
Smoke Doors	BCA Spec. C3.4 & C2.5
Stand-by Power Systems	BCA Clause E1.3, E3.4, E4.2 & E4.5 and AS 3000 – 2000
Wall wetting sprinklers (potential for protection of window openings in external walls)	BCA Clause C3.4 & AS 2118.2 – 1995
Warning & Operational Signs	Section 183 of the EP & A Regulations 2000, AS 1905.1 – 2005, BCA Clause C3.6, D2.23, E3.3

Notes:

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

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:

- 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.
- All corridors and passageways will have a ceiling height not less than 2400mm, and any operating theatre or delivery room is to be a minimum of 3m.
- Provision of window cleaning from either wholly within the building or measures in accordance with the OH & S Act 2000.



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, eg to avoid leakage;
- Air conditioning and ventilation – operation, eg. 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 96 of the Environmental Planning & Assessment Act 1979.

Yours sincerely,

Brian J. Maguire (JP)

Accredited Certifier (BPB Accreditation No.0241)

Director – Blackett Maguire + Goldsmith