Davis Langdon
An AECOM Company

Davis Langdon
Level 23 420 George St
SYDNEY NSW 2000
www.davislangdon.com
www.aecom.com

+61 2 9956 8822 tel
+61 2 9956 8848 fax

19 December 2011

David Jones
Aurecon
P O Box 538
Neutral Bay NSW 2089

Dear David

Subject: Additions & Alterations to Existing Hospitall
Port Macquarie Base Hospital, Wrights Road, Port Macquarie
BCA Assessment Report

Reference is made to the Architectural Drawings by Hassell Architects (Job No. 003145) Drawing Numbers 0120 Rev 01, 0121 Rev 01, 0122 Rev 01 all dated 30 November 2011.

The proposed three (3) storey addition is to be on the western end of the existing building. A single level plant room is located on the roof (Level 4). The proposal has been assessed in accordance with the Building Code of Australia 2011 (BCA).

Taking into account the proposed layout of the building, (and as depicted in these plans), and the proposed alterations it has been assessed against the Building Code of Australia 2011 and the following is noted.

Building Description-

Rise-in-storeys:	3	
Classification:	Ground Floor (Level 1) –	9a (Public Hospital)
	First Floor (Level 2) –	9a (Public Hospital)
	Second Floor (Level 3) -	9a (Public Hospital)
Type of Construction:	A	
Effective Height:	Less than 25m.	
Fire Compartment Floor Area and Volume Limitations:	Class 9a (non patient care)	Maximum Floor Area 5,000m^2 Maximum Volume 30,000m^3
Patient Care Compartmentation:	Patient Care Areas	Maximum Floor Area 2,000m^2
	Ward Areas	Maximum Floor Area 1,000m^2 (separated by walls FRL 60/60/60) Maximum Floor Area 500m^2 (separated by smoke proof walls)
	Treatment Areas	Maximum Floor Area 1,000m^2 (separated by smoke proof walls)

Ancillary Areas	Additional requirements for Kitchens, Hypebaric Facilities, Records Storage and Laundries (separated by walls FRL 60/60/60)

Fire Resistance (BCA Section C)-

Taking into account the construction, position relative to property boundaries, together with the overall floor areas/volumes, the provision under Type A Construction standards, for fire rated building elements, compliance with the Deemed -to-Satisfy Provisions of BCA Section C is possible, with Fire Resistance and Stability (Part C1), Compartmentation and Separation (Part C2) and Protection of Openings (Part C3) being able to be addressed in the current design.

The load-bearing elements generally are required to achieve an Fire Resistance Level (FRL) of 120/120/120 other than concessions for the internal wall / column structure in the storey immediately below the roof does not need an FRL. Any elements that support the storey above must achieve an FRL of 120/ - / -. Fire Hazard Properties of floor materials, floor coverings, wall and ceiling lining materials will be required to comply with Specification C1.10 of the BCA.

There are a number of patient care compartments that are intended to exceed the limits detailed in Clause C2.5 of the BCA based on maintaining functionality of areas. The Fire Engineer has proposed an alternate solution based on patient numbers and the services provided in the building.

As the existing hospital is two storeys it would have been constructed to meet Type B Construction and should be separated from the new portion by a fire wall. Separation of the types of construction is not to be done by a fire wall as required under Clause C2.7 (b) of the BCA. This to be addressed by the Umow Lai Fire Engineer as detailed in their strategy report dated 12 December 2011. This is to include the presence of lift doors in this wall.

Access & Egress (BCA Section D)

Compliance with the Deemed -to-Satisfy Provisions of BCA Section D is possible, with Provision for Escape (Part D1) and Construction of Exits (Part D2) and Access for People with Disabilities (Part D3) being readily achievable.

Each level of the building is provided with access to two exits but travel distances, distances between alternate exits will be fully developed as part of the alternate solution by the Fire Engineer using the performance provisions of the BCA. In patient care areas the 12m to an exit / point of choice and 45m between alternate exits is proposed to be exceeded.

There are currently openings within 6.0m of the external stairs and these may be the subject of a further alternate solution by the fire engineer.

The path of discharge from the exits to the road is to be via paths and ramps. This detail is to be further developed.

There have been significant changes to access standards since the construction of the original hospital. The access consultant is addressing the car parking, entrances, stairs, glazing, door widths and circulation space generally, accessible sanitary facilities, signage and lift sizes as part of their commission.

Fire Fighting Services & Smoke Hazard Management (BCA Section E)

The following fire fighting services are required to serve this facility under Clauses E1.3, E1.4, E1.5 and E1.6 of the BCA:

- Fire hydrants (located externally)
- Fire hose reels
- Sprinklers
- Portable fire extinguishers

Location of the booster, landing valves, sprinkler valve room and fire control centre will be required to be developed with the services consultants, fire engineer and Fire and Rescue NSW.

The fire hose reels are to be located within 4.0m of exits as required under Clause E1.4 of the BCA and a clear space of 1.0m is to be provided in front of these fittings.

A system of smoke hazard management is required to be provided under Table E2.2a of the BCA for the building. This will involve sprinklers, smoke detectors, manual call points, emergency warning, alarm monitoring and a shutdown of the mechanical systems.

The building is to be provided with emergency lighting, illuminated exit signs and directional exit signs. The building is also to be provided with a Sound System and Intercom System for Emergency Purposes (SSISEP has replaced EWIS).

Full details of this system will be required to be developed with consultation with the Fire Services and Mechanical Engineer.

Health & Amenity (BCA Section F)

The existing building should comply with such issues as damp/weatherproofing (BCA Part F1), sanitary and other facilities (BCA Part F2), Light and Ventilation (BCA Part F4) and such are considered being readily achievable.

The sanitary facilities provided for staff and patients will need to comply with Table F2.3 of the BCA. Details of baths for the ward areas will need to be discussed as it is unlikely that these will be provided as required under this table of the BCA. Numbers of staff to be catered for has not been provided and this will require further assessment particularly in the ground floor (existing facilities are likely to be provided elsewhere in the building.

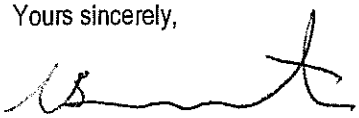
Energy Efficiency (BCA Section J)

The site is located in Climate Zone 5 and will be required to comply in respect of Building Fabric, Glazing, Building Sealing, Air-conditioning, Artificial Lighting and Power, and Access for Maintenance. It is understood that compliance with the deemed-to-satisfy energy efficiency provisions will not be fully achieved. For those matters for which compliance will not be achieved through the deemed-to-satisfy provisions, alternate engineered solutions using appropriate verification methods will be required to be used to demonstrate the solution achieves compliance.

In summary, the documentation has been assessed against the applicable provisions of the Building Code of Australia 2011, and it is considered that such documentation depicts a Class 9a Hospital Building that can readily comply with that Code. Compliance with the deemed to satisfy and performance provisions will be required to be documented prior to construction.

Should you require any further information or explanation please do not hesitate to contact me.

Yours sincerely,



Robert Briant
Associate
Accredited Certifier BPB 0048