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PROPOSED ABODE HOTEL FOR AMALGAMATED HOLIDNGS LIMITED

CRICKETERS ARMS ROAD, BLACKTOWN

PRE DA BCA REVIEW FOR DA SUBMISSION

Report prepared for:	Amalgamated Holdings Limited C/- Project Tourism International Group Level 10, 263 Clarence Street Sydney NSW 2000 Attention: Peter Israel
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DOCUMENT ACCEPTANCE

	Name	Signed	Date
Reviewed By	Rod Shepherd		17/06/2011

1.0 Introduction and Documentation

Introduction

This report contains a design philosophy review concerning the capability of the design to meet Building Code of Australia requirements. The review has found that the fundamental design is capable of meeting the requirements of BCA2011 with the inclusion of some alternative fire engineered solutions.

At the request of AHL, this report contains details of compliance with respect to the Building Code of Australia 2011 for the proposed construction of three storey hotel. The proposed hotel will include ground floor which will consist of meeting rooms, gymnasium, a bar, open kitchen and multiple sitting areas. The first and second floor will consist of multiple rooms for accommodation purposes.

We have reviewed the submitted architectural documentation (provided to date) for compliance with the deemed-to-satisfy provisions of the Building Code of Australia. Where compliance with the deemed to satisfy provisions is not possible a schedule of alternate solutions will be provided.

We have made every attempt to cover the main issues under Parts C, D, E and F of the Building Code of Australia. Areas of the design are still being refined so that resolution will be possible prior to the issue of the Construction Certificate for the works.

Methodology is principally review of the available documentation for the building at this point in time prepared by PTI Architecture.

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Documentation available and assessed

The design scheme assessed comprises of the following design drawings:

Drawings
01 (B), 02 (C), 03 (C), 04 (B), 05 (B), 06 (B), 07 (B), 08 (B), 09 (B), 10 (B), 11 (B)

2.0 Use and Class of Buildings

The development consists of a three storey hotel. The proposed building will include ground floor which will consist of meeting rooms, gymnasium, a bar, open kitchen and multiple sitting areas. The first and second floor will consist of multiple rooms for accommodation purposes.

Class and use of the various levels of the building are as follows :-

Abode Hotel				
Location	**Use**	**Classification**	**Rise in storeys**	**Type of Construction**
Lower Ground Floor	Loading Dock and Plant Rooms associated with the operation of the Hotel	Ancillary to Class 3	3	Type A
Ground floor	Meeting rooms, gymnasium, a bar, open kitchen and multiple sitting areas, staff facilities	Class 5 ancillary to Class 9b	3	Type A
Level 1	Accommodation	Class 3	3	Type A
Level 2	Accommodation	Class 3	3	Type A

The building will be documented so that it will comply with the requirements of Type A construction for the entire hotel. The effective height of the building does not exceed 12m or <25m.

3.0 Construction and fire resistance ratings

The fundament concept of fire rating for the building will be as per the following table:

Abode Hotel		
Building component	Class 3	9b
External walls (load-bearing) (3m or more)	90/60/30	120/60/30
Fire walls	90/90/90	120/120/120
Shaft walls (lift and stairs)	90/90/90	120/120/120
Service shafts	90/90/90	120/90/90
Between sole occupancy units (load-bearing)	90/90/90	120/-/-
Between sole occupancy units (non-load bearing)	-/60/60	-/-/-
Load-bearing columns, internal walls, internal beams and trusses	90/90/90	120/-/-
Floors	90/90/90	120/120/120
Roofs	90/60/30	120/60/30

Different occupancy classes are to be fire separated via a firewall or alternatively both adjoining components may adopt the higher FRL requirements. This may apply to the ground floor level.
Load-bearing internal walls are to be constructed of concrete or masonry.

The roof covering is to be non-combustible construction where the building is provided with sprinkler protection.

The following services are to be separated from the remainder of the building via a 120/120/120 FRL:-

- Switchroom
- Lift motor rooms
- Boilers
- Essential services generator systems

Any electrical substation located on the ground floor level must be separated from any other part of the building by construction having an FRL of not less than -/180/180 and have self closing fire doors with a fire rating of -/180/30 (this will be an Energy Australia requirement rather than a BCA requirement.

Spandrel separation under C2.6 does not apply to sprinkler protected buildings.

Fire compartment areas and volumes

High-rise and low-rise residential buildings

The Class 3 units have no compartment size limitations under BCA.
The Class 9b portion does not exceed the limitations under C2.2 (8000m² or 48000m³).

Protection of Openings

Providing the building is set back 3m from side or rear allotment boundaries (other than a public roadway being 6m wide or more) and 6m from another building on the allotment (other than class 10) the subject building will be capable of compliance. This assessment can be finalized prior to issue of a construction certificate and appropriate measures taken to achieve compliance.

4.0 Access and Egress

Principles

The buildings' egress system has been assessed and designed to ensure compliance with the following principles:

General

- Every floor of the building is provided with at least one exit.
- The distance between alternate exits is not to be less than 9 metres apart.
- Alternative paths of travel shall not converge within 6m.
- Discharge conditions from fire isolated stairs will comply. The discharge into the rear courtyard will need to be managed to a road or open space and details can be verified prior to issue of a Construction Certificate.
- Construction of stairs, landings, thresholds, balustrades and handrails will need to meet the requirements of the BCA.
- All paths of travel are to be a minimum of 1000mm in clear width and 2000mm in clear height with the exception of doorways which may be reduced to 1980mm.
- Widths of exits and corridors must be sufficient to provide safe passage for occupant egress.

9b Part

- The distance of travel on the ground floor is to be no more than 20m from an exit or from a point in which travel in 2 different directions to an exit is available. Where there are minor areas of non compliance this would be addressed by a fire safety engineer.
- The distance between alternate exits is to be not more than 60 metres.

Class 3 Part

- The distance of travel from a SOU entry door or from a point to which travel in 2 different directions to exits is available will not exceed 6m. Where this is exceeded this may be addressed by fire engineered solution.
- The distance between alternate exits is to be not less than 9 metres.
- The distance between alternate exits is to be not more than 45 metres. A horizontal exit may be provided or fire safety engineering where this occurs on levels level 1 and 2.
- Smoke doors are to be provided to prevent corridors exceeding 40 in length.
- The design incorporates a non required non fire isolated stair which is not provided for under D1.12 and should be considered by the Fire Safety Engineer as an alternate solution.

At this stage the proposed buildings will be compliant (with the exceptions as noted above); however should any variations from the above arise during design development phase then justification will be provided by a fire engineer prior to the issue of a construction certificate.

DISABLED ACCESS

The Building Code of Australia 2011, DDA will apply to the building. As the design becomes more detailed, expert advice is needed in this regard. The following is noted.

BCA Part D3 Accessibility

D3.1 General requirements – accessible paths of travel are required to –

- Accessibility to and within all areas normally used by the occupants – classes 5 and 9b
- Residential floors – as accessible lifts are provided –
- to each floor and to the entry of each sole occupancy unit (some redistribution required);
- to each common area used by the occupants;
- not more than 2 accessible SOU's can be grouped together;
- provide the minimum required number of accessible units as per Table D3.1
  120 Sou's requires 5 + 1 = 6 accessible dwellings - provides
- Lifts to meet accessibility requirements
- Accessibility rooms to be representative of the room types provided;

D3.2 Access to and between buildings

- at main points of entry from the allotment boundaries;
- from another accessible building connected by a pedestrian link;
- from required accessible parking;
- at not less than 50% of pedestrian entrances;
- a non accessible entrance to be within 50m of an accessible entrance;
- door widths not less than 850mm.

D3.3 Parts of buildings to be accessible

- all handrails, stairs and stair nosings to meet AS1428.1-2009;
- Passenger lifts to meet BCA E3.6;
- Passing bays and turning spaces to meet AS1428.1-2009;
- Carpet pile heights to meet AS1428.1-2009.

D3.5 Accessible Car parking

To meet the required ratio for each use to which the spaces are allocated –

- Class 3 - To be confirmed as design is refined.

D3.6 Signage - Braille and tactile signage to all accessible features (except within a SOU);

D3.7 Hearing Augmentation - Required where inbuilt amplification systems are installed (other than for emergency purposes)

- In class 9b areas;
- In an auditorium, conference room, meeting room or room for judiciary purposes;
- Ticket office, tellers booth, reception area, where the public is screened from the service provider.
- Meet the requirements for a hearing augmentation system under this clause.

D3.8 Tactile Indicators

- Tactile Indicators are to be specified to meet the recent changes under BCA 2011, AS1428.4.1. The requirements now apply to all stairs excluding fire isolated stairs. In the case of these buildings, the fire isolated stairs will be used for circulation and therefore they will also require tactile indicators.
- Glazing on accessways is now required to meet AS1428.1-2009 for decals.

Should any variations from the above arise it will require that justification be provided by an access consultant prior to the issue of a construction certificate.

5.0 Fire Services and Equipment

The following is a status of the services required and to be provided to the buildings.

Fire services

Fire Hydrants	Fire hydrants are to be provided throughout to AS 2419.1-2005. Hydrant booster location within 10 metres of a building is to be protected by a 90 minute fire rated wall extending 2 metres either side of booster and 3 metres above the level of the valve outlet. Where this is not achieved an exemption under clause 188 of the EP&A Regulation is required by NSWFB. The location of the boosters needs to be approved by the NSW Fire Brigade. Location of the fire hydrants to the building will need to be assessed but should be located within the fire isolated stairs of the building.
Fire Hose-Reels	Fire hose-reels should be arranged to provide for full coverage to the building in accordance with AS 2441-2005. Fire hose-reels are to be located within 4 metres of an exit or a fire hydrant.
Sprinklers	A sprinkler system complying with AS 2118.1-1999 or AS2118.4-1995 is not required as the building has an effective height of less than 25m.

Variations from the above will require that justification will be provided by a fire engineer.

Smoke hazard management

Buildings not more than 25m in effective height	Requirements
A class 2 and 3 building or part of a building and Class 4 part of a building must be provided with an automatic smoke detection and alarm system complying with Specification E2.2a.	A Smoke detection system in accordance with Clause 4 of Spec E2.2a which also activates a building occupant warning system in accordance with Clause 6 and AS 1670.1.

Lift systems

Lifts must comply with Part D and E requirements under BCA:

- All lifts must be accessible for people with disabilities and provided with the following:
- Fitted with car control buttons and handrails complying with AS 1735.12.
- Internal car floor dimensions not less than 1400mm x 1100mm.
- Clear opening of the doorway to be not less than required by AS1735.12.
- Fitted with door opening sensory devices.

Emergency Lighting, Exit Signs and Warning Systems

Exit and emergency lighting	Requirements
A system of emergency lights and exit signage will be installed in the building to E4.2, E4.4 – E4.8 and AS 2293.1-2005.	Electrical services consultant to provide electrical drawings for review for the construction certificate.

6.0 Health and amenity issues

The following criteria detail the required sanitary facilities to be provided.

Sanitary facilities

Class 3 units
For each building or group of buildings provide;
- A bath or shower,
- A closet pan and washbasin,

For each 10 residents for whom private facilities are not provided

Provision is to be made for employee WC at or near ground level to satisfy the requirements of F2.1 of the BCA. This facility is to have a least one WC and one washbasin.

Swing and operation of doors to the WC's
Doors to fully enclosed sanitary compartments to open outwards, or slide or have 1.2 metres clear space between door hinge and closet pan or be readily removable from the outside of the sanitary compartment.

Room Sizes
The ceiling minimum height of 2.4m will be provided to areas except kitchens, corridors, sanitary facilities and storage areas. Compliance is readily achievable. Plant rooms need to be checked and the correct heights allowed in the design. Public halls and assembly buildings or parts that accommodate more than 100 persons will have 2.7m ceiling heights.

Light and ventilation

Class 3 units
Each apartment will have habitable rooms provided with natural light and ventilation. Where borrowed ventilation is required, the windows or doors that provide the ventilating area will comply with F4.7 of BCA. Bathrooms and laundries will have mechanical ventilation systems complying with Part F4.5 of the Building Code of Australia.

Community facilities / retail and other areas
Natural ventilation in accordance with F4.6 or mechanical ventilation to AS1668.2 will be provided to the buildings.

Sound transmission and insulation
Sound insulation ratings will only apply to the Class 3 parts of the building.
- Sound insulation of floors require an Rw+Ctr (airborne) not less than 50 and an Lnw+Ci not less than 62 (impact) and apply to:
- Floors separating sou's; and
- Floors separating sou's and plant rooms, lift shaft, public corridors, stairways, or the like.
- Sound insulation of walls require an Rw+Ctr or not less than 50 if separating sou's

- Sound insulation of walls require an Rw of not less than 50 separating an sou from a plant room, lift shaft, public corridor, stairway, or the like.
- Sound insulation of walls require a 20mm cavity between the 2 separate leaves with no mechanical linkage, apart from at the periphery (excepting resilient ties) for:
- Sou's separating a plant room or lift shaft; and
- Wall separating a bathroom, sanitary compartment, laundry, or kitchen in one sou from a habitable room in an adjoining unit.
- A doorway separating a sou from a public corridor, stairway, public lobby, or the like must have an Rw of not less than 30.
- Where a wall requires a sound insulation rating, the connecting floor, or roof above must be constructed to the underside of the above roof or floor, or provide the equivalent sound insulation rating as per the wall.
- If a duct, soil, waste or water supply pipe passes through more than 1 sou, the service must have an Rw of not less than 40 if adjacent to a habitable room, or an Rw of not less than 25 if adjacent to a non-habitable room. A storm water pipe requires the same ratings, however, it only needs to pass through 1 sou to require a sound insulation rating.

An acoustic consultants will assist designers to meet BCA2010 requirements in design and during construction through inspections.

7.0 Energy Efficiency

The building design will be assesses prior to issue of a construction certificate in accordance with the requirements of Part J of the BCA in terms of Energy Efficiency. It is our understanding that a separate report will prepared by an appropriate specialist to satisfy the requirements of Part J of the BCA.

The recommendations contained within any energy efficiency consultants report will need to be incorporated by the architect and services consultants prior to the issue of a construction certificate.

Access for maintenance
The following criteria must be observed in the special design of the plant areas apart from the issues that may be raised by the Energy Efficiency consultants.

NSW SECTION J ENERGY EFFICIENCY

NSW J8.2 Access for maintenance
Access for maintenance must be provided to—
(a) all services and their components, including—
(i) time switches and motion detectors; and
(ii) room temperature thermostats; and
(iii) plant thermostats such as on boilers or refrigeration units; and
(iv) outside air dampers; and
(v) reflectors, lenses and diffusers of light fittings; and
(vi) heat transfer equipment; and
(b) adjustable or motorised shading devices.

8.0 Alternate solutions / fire engineering

The building design may require some alternate solutions depending upon building related options to be finalized prior to issue of a construction certificate. At present this is anticipated to include:
- Extended travel distances to a point of choice on the ground floor.
- Extended distance between exits located on the first and second floor areas.
- Non required non fire isolated stair connecting three stories not permitted as per D1.12.

9.0 Approvals from the New South Wales Fire Brigade

The following issues may need approval from the New South Wales Fire Brigade and in some cases concurrence will be sought through an application for departures from the deemed to satisfy provisions. These matter are to be resolved prior to the issue of a construction certificate:-

- Location of the fire hydrant booster
- Fire Engineered alternate solutions as will be prepared by others as noted above. This may vary once a further assessment of the drawings is completed, but will not affect DA submission.

10.0 Conclusion

We have assessed the architectural building design to date and have reviewed the scheme with respect to the Building Code of Australia. The design is at a point where the inherent BCA philosophies have been checked and development consent can be sought. The finer details with respect to BCA 2011 compliance can be finalised prior to the issue of a Construction Certificate. We see no reason to refuse a development consent for concern that the building cannot comply with the BCA2011.