

8th April 2008.

Mr Glenn Moran,
Becton Property Group,
Unit 5 Sydney Gate,
830-840 Bourke Street,
WATERLOO NSW 2017.
Email: gmoran@becton.com.au

Dear Glenn,

**Re: Dee Why Gardens, Dee Why
BCA ASSESSMENT REPORT AND UPGRADING STRATEGY**

Further to our engagement, please find enclosed our Building Code of Australia Assessment and Fire Safety Upgrading Report for your information and assistance.

Should you require any further information or explanation of the attached report, please do not hesitate to contact me.

Yours faithfully,



Allan Harriman
BCA Logic Pty Ltd



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FIRE SAFETY ENGINEERS**

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**Dee Why Gardens
Fisher Road North, Dee Why**

**BUILDING CODE OF AUSTRALIA
ASSESSMENT REPORT**

PREPARED FOR

Becton Living

BY

BCA LOGIC PTY LTD

REPORT NO: 101192-r1/ah

DATED: 8th April 2008

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PART 1 BASIS OF ASSESSMENT

1.1 Location and Description

The building development, the subject of this report, is located at Fisher Road North, Dee Why.

1.2 Purpose

The purpose of this report is to assess the design proposal against the Deemed-to-Satisfy provisions of the BCA, and to clearly outline those areas where compliance is not achieved.

Further it will identify areas of the existing building which should be upgraded in order to compliment the proposed alterations to the building.

1.3 Building Code of Australia

This report is based on the Deemed-to-Satisfy Provisions of parts C, D and E of the Building Code of Australia, 2007 Edition incorporating the N.S.W. variations where applicable.

1.4 Limitations

This report does not include nor imply any detailed assessment for design, compliance or upgrading for: -

- (a) the structural adequacy or design of the building;
- (b) the inherent derived fire-resistance ratings of any existing structural elements of the building (unless specifically referred to); and
- (c) the design basis and/or operating capabilities of any existing or proposed electrical, mechanical or hydraulic fire protection services.

This report does not include, or imply compliance with:

- (a) the Disability Discrimination Act;
- (b) Demolition Standards not referred to by the BCA;
- (c) Occupational Health and Safety Act;
- (d) Construction Safety Act;
- (e) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Sydney Water, Electricity Supply Authority, WorkCover, RTA, Council and the like; and
- (f) Conditions of Development Consent.

1.5 Design Documentation

This report has been based on the Design plans and Specifications listed in Annexure A of this Report.

1.6 Building Concerned

The site contains many stand alone buildings. This report is restricted to the Central Community Building and attached apartments, as this is the building which is subject to the works.

PART 2 BUILDING DESCRIPTION

For the purposes of the Building Code of Australia 2007 (BCA) the development may be described as follows.

2.1 Rise in Storeys (Clause C1.2)

The building has a rise in storeys of three (3).

2.2 Classification (Clause A3.2)

The building has been classified as follows.

Class	Level	Description
3	Ground and First	Residential units
3	Lower ground, ground and mezzanine	Facilities associated with the use of the residential units

2.3 Effective Height (Clause A1.1)

The building has an effective height of less than 25.0 metres.

2.4 Type of Construction Required (Table C1.1)

Type A Construction.

2.5 Floor Area and Volume Limitations (Table C2.2)

The building is not subject to floor area and volume limits as bounding construction is required in Class 3 premises.

PART 3 ESSENTIAL FIRE SAFETY MEASURES

The following fire safety measures are installed in the building.

Item No.	Proposed Essential Fire Safety Measure	Minimum Standard of Performance
1.	Emergency lighting	BCA Clauses E4.2 & E4.4, AS2293.1-2005
2.	Exit signs	BCA Clauses E4.5, E4.6 & E4.8, AS2293.1-2005
3.	Fire hydrant system	BCA Clause E1.3, AS2419.1-2005
4.	Fire seals protecting openings in fire resisting components of the building	BCA Clause C3.15, Manufacturer's Specification
5.	Fire hose reel system	BCA Clause E1.4, AS2441-2005
6.	Mechanical air handling systems	AS/NZS1668.1-1998
7.	Paths of travel, stairways, passageways or ramps	BCA Section D
8.	Portable fire extinguishers	BCA Clause E1.6, AS2444-2001
9.	Solid core doors	BCA Clause C3.11

PART 4 UPGRADING STRATEGY

4.1 General

The proposal is to carry out works to the three levels of the common area at the front of the building. No works, other than laundries within existing common baths, are proposed to the residential units. The extent of works include:

- New balustrade to 1000mm high.
- Refurbishment finishes to the mezzanine library area.
- Infill of void at ground floor level.
- Demolition of non fire isolated circulation stair between lower ground and ground floors.
- Internal alterations to ground and lower ground floors.

Assessment of the architectural design documentation against the Deemed-to-Satisfy Provisions of the Building Code of Australia, 2007 (BCA) has revealed the following areas where compliance with the BCA may not be readily achievable.

Annexure B to this report provides a detailed assessment of the proposal against all relevant Deemed-to-Satisfy Provisions of the BCA.

Note: It is important that Annexure B is read in conjunction with the items below, as some matters may not have had sufficient information provided to allow a detailed assessment to be undertaken.

4.2 Smoke Detection and Alarm System

A smoke detection and alarm system is not installed within the subject building. It is recommended as part of the subject works that smoke detectors and alarms be installed in the common areas with provision for the future connection of detectors and alarms in the individual units and common corridors.

4.3 Balustrades

It is proposed to upgrade the balustrades to the common areas to balconies and stairs in order to achieve a minimum height of 1.0m.

4.4 Timber Floor

It is proposed to provide a timber infill to the void area at ground floor level. In order to comply with the provisions of the BCA, the underside of the floor is required to have a FRL of 90/90/90 which can be achieved by installing fire grade plasterboard to manufacturers details.

4.5 Bounding Construction

The doors separating the common areas from the residential units are currently solid core doors and the plans indicate their replacement with glass doors. In order to satisfy the DTS provisions of the BCA, these doors are required to have a FRL of -/60/30, with any new sections of wall (around the proposed kitchen) to have a FRL of -/60/60 for non load bearing walls.

It is recommended that the doors and walls comply with the above requirements. The doors may be held open on electromagnetic hold open devices if unrestricted circulation is required.

4.6 Braille and Tactile Indicators

Braille and Tactile indicators are required to be provided to identify the lifts and toilets within the common areas.

4.7 Tactile Indicators

Tactile are requires to be provided at the top and bottom of each staircase and ramp in accordance with Clause D3.8 of the BCA.

4.8 New Works

All new works are required to be carried out in accordance with the requirements of the BCA, details of which are required to be submitted with the Construction Certificate to the approving authority.

Signed,

A handwritten signature in black ink, appearing to read 'A Harriman', is written over a faint dotted line.

Allan Harriman
Fire Safety Engineer

ANNEXURE A

Design Documentation

This report has been based on the following design documentation.

Architectural Plans Prepared by Design Phase Australia, dated September 07		
Drawing Number	Revision	
23639	WD-03	
23639	WD-01	
23639	WD-02	
23639	WD-04	

ANNEXURE B

DETAILED ASSESSMENT OF THE DEEMED-TO-SATISFY PROVISIONS OF BCA2007

BUILDING ASSESSMENT

Outlined below is a detailed assessment of the Deemed-to-Satisfy Provisions of the Building Code of Australia 2007 (BCA) including the N.S.W. variations where applicable.

All Deemed-to-Satisfy clauses that are applicable to the subject building have been referred to below, including a comment adjacent to each clause of the proposal's ability to satisfy each respective clause.

The abbreviations outlined below have been used in the following tables.

N/A	-	Not Applicable. The Deemed-to-Satisfy clause does not apply to the subject building.
Complies	-	The relevant provisions of the Deemed-to-Satisfy clause have been satisfied by the proposed design.
CRA	-	<p>'COMPLIANCE READILY ACHIEVABLE'. It is considered that there was not enough information included in the documentation to accurately determine strict compliance with the individual clause requirements. However, subject to noting the requirements of each clause, compliance can be readily achieved.</p> <p>This information may be included in other documentation, which was not forwarded to this office for assessment, such as door schedules, electrical, mechanical and hydraulic design documentation or architectural specifications.</p>
FI	-	Further Information is necessary to determine the compliance potential of the building design.
AS	-	Alternative Solution with respect to this Deemed-to-Satisfy Provision is necessary to satisfy the relevant Performance Requirements.
DNC	-	Does Not Comply

DEEMED TO SATISFY CLAUSE ASSESSMENT SUMMARY

SECTION C: FIRE RESISTANCE		
PART C1 – FIRE RESISTANCE AND STABILITY		
C1.0: Deemed-to-Satisfy Provisions	Noted	-
C1.1: Type of Construction Required	Type A – New floor to void required to have FRL	DNC
C1.2: Calculation of Rise in Storeys	Three	DNC
C1.3: Buildings of Multiple Classification	N/A	
C1.4: Mixed Types of Construction	N/A	
C1.5: Two Storey Class 2, 3 or 9c Buildings	NA	
C1.6: Class 4 Parts of Buildings	N/A	
C1.7: Open Spectator Stands and Indoor Sports Stadiums	N/A	
C1.8: Lightweight Construction	N/A	
C1.10: Fire Hazard Properties	No details provided	CRA
C1.11: Performance of External Walls in Fire	N/A	
C1.12: Non-combustible Materials		
PART C2 - COMPARTMENTATION AND SEPARATION		
C2.0: Deemed-to-Satisfy Provisions	Noted	-
C2.1: Application of Part	Noted	-
C2.2: General Floor Area and Volume Limitations	Not applicable to class 3	Note
C2.3: Large Isolated Buildings	N/A	
C2.4: Requirements for Open Spaces and Vehicular Access	N/A	
C2.5: Class 9a and 9c Buildings	N/A	
C2.6: Vertical Separation of Openings in External Walls	Spandrels are provided	Complies
C2.7: Separation by Fire Walls	N/A	
C2.8: Separation of Classifications in the Same Storey	N/A	
C2.9: Separation of Classifications in Different Storeys	N/A	
C2.10: Separation of Lift Shafts	N/A	
C2.11: Stairways and Lifts in One Shaft	N/A	
C2.12: Separation of Equipment	No details provided	CRA
C2.13: Electricity Supply System	No details provided	CRA
C2.14: Public Corridors in Class 2 and 3 Buildings	Separation proposed between common area and units	Complies
PART C3 – PROTECTION OF OPENINGS		
C3.0: Deemed-to-Satisfy Provisions	Noted	-
C3.1: Application of Part	Noted	-
C3.2: Protection of Openings in External Walls	More than 6m to other buildings	Complies
C3.3: Separation of External Walls and Associated Openings in Different Fire Compartments	N/A	
C3.4: Acceptable Methods of Protection	N/A	
C3.5: Doorways in Fire Walls	N/A	
C3.6: Sliding Fire Doors	N/A	
C3.7: Protection of Doorways in Horizontal Exits	N/A	
C3.8: Openings in Fire-isolated Exits	N/A	
C3.9: Service Penetrations in Fire-isolated Exits	N/A	
C3.10: Openings in Fire-isolated Lift Shafts	N/A	
C3.11: Bounding Construction: Class 2, 3 and 4 Buildings	Separation of walls and doors required between common areas and units	CRA
C3.12: Openings in Floors and Ceilings for Services	No details	CRA

SECTION C: FIRE RESISTANCE		
C3.13: Openings in Shafts	No details	CRA
C3.15: Openings for Service Installations	No details	CRA
C3.16: Construction Joints	No details	CRA
C3.17: Columns Protected with Lightweight Construction to Achieve an FRL	N/A	

SECTION D: ACCESS AND EGRESS		
PART D1 – PROVISION FOR ESCAPE		
D1.0: Deemed-to-Satisfy Provisions	Noted	-
D1.1: Application of Part	Noted	-
D1.2: Number of Exits Required	2 exits from each storey provided	Complies
D1.3: When Fire-Isolated Exits are Required	Not applicable as a max 2 levels connected due to infill of void	Complies
D1.4: Exit Travel Distances	20/40m complies to common areas	Complies
D1.5: Distance Between Alternative Exits	Less than 60m	Complies
D1.6: Dimensions of Exits and Paths of Travel to Exits	As required	Complies
D1.7: Travel via Fire-Isolated Exits	N/A	
D1.8: External Stairways or Ramps in Lieu of Fire-Isolated Exits	N/A	
D1.9: Travel by Non Fire-Isolated Stairways or Ramps	As required	Complies
D1.10: Discharge from Exits	As required	Complies
D1.11: Horizontal Exits	N/A	
D1.12: Non-Required Stairways, Ramps or Escalators	N/A	
D1.13: Number of Persons Accommodated	Egress suitable for 200 people per storey	Complies
D1.14: Measurement of Distances	Note	
D1.15: Method of Measurement	Note	
D1.16: Plant Rooms and Lift Motor Rooms: Concession	N/A	
D1.17: Access to Lift Pits		
PART D2 – CONSTRUCTION OF EXITS		
D2.0: Deemed-to-Satisfy Provisions	Noted	-
D2.1: Application of Part	Noted	-
D2.2: Fire-Isolated Stairways and Ramps	N/A	
D2.3: Non-Fire-Isolated Stairways and Ramps	Concrete	Complies
D2.4: Separation of Rising and Descending Stair Flights	N/A	
D2.5: Open Access Ramps and Balconies	N/A	
D2.6: Smoke Lobbies	N/A	
D2.7: Installations in Exits and Paths of Travel	No electrical cupboards noted	Complies
D2.8: Enclosure of Space Under Stairs and Ramps	No enclosures	Complies
D2.9: Width of Stairways	Min 1m	Complies
D2.10: Pedestrian Ramps	N/A	
D2.11: Fire-Isolated Passageways	N/A	
D2.12: Roof as Open Space	N/A	
D2.13: Goings and Risers	As required	Complies
D2.14: Landings	As required	Complies
D2.15: Thresholds	As required	Complies
D2.16: Balustrades or Other Barriers	Upgrade to 1.0m	CRA
D2.17: Handrails	Upgrade with balustrades	CRA
D2.18: Fixed Platforms, Walkways Stairways and Ladders	N/A	
D2.19: Doorways and Doors	As required	Complies
D2.20: Swinging Doors	As required	Complies
D2.21: Operation of Latch	As required	Complies
D2.22: Re-entry from Fire-Isolated	N/A	

SECTION D: ACCESS AND EGRESS		
Exits		
D2.23: Signs on Doors	N/A	
NSW D2.101: Doors in Path of Travel in a Place of Public Entertainment		
PART D3 - ACCESS FOR PEOPLE WITH DISABILITIES		
D3.0: Deemed-to-Satisfy Provisions	Noted	-
D3.1: Application of Part	Noted	-
D3.2: General Building Access Requirements	Access provided to building and all levels via lift	Complies
D3.3: Parts of Buildings to be Accessible	All levels accessible	Complies
D3.4: Concessions	N/A	
D3.5: Car Parking	As required	Complies
D3.6: Identification of Accessible Facilities, Services and Features	Braille & Tactile signage not provided	DNC
D3.7: Hearing Augmentation	Not required	-
D3.8: Tactile Indicators	Not provided	DNC

SECTION E: SERVICES AND EQUIPMENT		
PART E1 – FIRE FIGHTING EQUIPMENT		
E1.0: Deemed-to-Satisfy Provisions	Noted	-
E1.3: Fire Hydrants	External hydrants provided	Complies
E1.4: Fire Hose Reels	As required	Complies
E1.5: Sprinklers	N/A	
E1.6: Portable Fire Extinguishers	As required	Complies
E1.8: Fire Control Centres	N/A	
E1.9: Fire Precautions During Construction	N/A	
E1.10: Provision for Special Hazards		
PART E2 – SMOKE HAZARD MANAGEMENT		
E2.0: Deemed-to-Satisfy Provisions	Noted	-
E2.1: Application of Part	Noted	-
E2.2: General Requirements (including Tables E2.2a and E2.2b)	No smoke detection and alarm system provided	DNC
E2.3: Provisions for Special Hazards	N/A	
PART E3 - LIFT INSTALLATIONS		
E3.0: Deemed-to-Satisfy Provisions	Noted	-
E3.2: Stretcher Facility in Lifts	As required	Complies
E3.3: Warning Against Use of Lifts in Fire	As required	Complies
E3.4: Emergency Lifts	N/A	
E3.5: Landings	N/A	
E3.6: Facilities for People with Disabilities	As required	Complies
E3.7: Fire Service Controls	N/A	Complies
E3.8: Aged Care Buildings	N/A	
PART E4 – EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS		
E4.0: Deemed-to-Satisfy Provisions	Noted	-
E4.2: Emergency Lighting Requirements	Provided to corridors	Complies
E4.3: Measurement of Distance	Noted	
E4.4: Design and Operation of Emergency Lighting	Noted	
E4.5: Exit Signs	Provided as required	Complies
E4.6: Direction Signs	Provided as required	Complies
E4.7: Class 2 and 3 Buildings and Class 4 Parts: Exemptions	N/A	
E4.8: Design and Operation of Exit Signs	Noted	
E4.9: Emergency Warning and Intercommunication Systems	N/A	