

Date: 24 November 2022
Our Ref: P220144 (3)

Palm Beach Golf Club
2 Palm Beach Rd,
Palm Beach NSW 2108
Att Mr Robert Quinn

Dear Robert,

RE: 2 BEACH RD, PALM BEACH

BCA COMPLIANCE ASSESSMENT

Please find enclosed our BCA Compliance Report prepared in respect of the proposed design contained within the architectural documentation provided.

In reviewing the content of this Report, particular attention is drawn to the content of Parts 2, 3 and 4, as: –

- Part 3 Provides a Key point summary
- Part 4 summarizes the compliance status of the proposed design in terms of each prescriptive provision of the BCA.

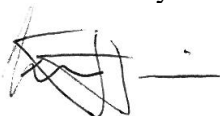
The inclusion of this summary enables an immediate understanding of the compliance status of the proposed design to be obtained.

- Part 5 contains a detailed analysis of the proposed design, and provides informative commentary & recommendation in respect of each instance of prescriptive non-compliance and area of preliminary only (design) detail, as applicable.

This commentary enables the project team to readily identify and understand the nature and extent of information required within the Construction Certificate application to demonstrate the attainment of BCA compliance.

Should you require any further information, please do not hesitate to contact me on the number provided.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Kieran Tobin', with a horizontal line extending to the right.

Kieran Tobin
Director

BCA COMPLIANCE ASSESSMENT

PREPARED FOR

Palm Beach Golf Club

**REGARDING
2 BEACH RD, PALM BEACH**

Prepared By



REPORT REGISTER

The following report register documents the development and issue of this report and project as undertaken by this office, in accordance with the *Quality Assurance* policy of BCA Vision Pty Ltd.

Our Reference	Issue No.	Remarks	Issue Date
P220144	3	Design Compliance Report	24 November 2022
Author		Kieran Tobin Senior NCC Consultant Registered Building Surveyor - Fair Trading no 0409 Grad Dip Building Surveying UWS	

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1.0 INTRODUCTION

1.1 GENERAL

This “BCA Compliance Assessment” report has been prepared at the request of Palm Beach Golf Club, and relates to the premises located at 2 Beach Rd, Palm Beach- .

The project proposal is for alterations and additions within an existing Golf Club. The works proposed are internal alterations to the ground floor Green Keepers Office including a small extension into the car park area.

The building is a two storey Masonry Class 9b Building, containing ancillary classifications:-

- Class 5 – Administrative areas,
- Class 6 Restaurant
- Class 10 Shade structure

1.2 REPORT BASIS

The content of this report reflects –

- (a) The principles and provisions of BCA 2019 (amendment 1), Parts B, C, D, E & F2;
- (b) A Site Inspection of the building on Monday the 5th of September 2022
- (c) Architectural documentation provided by Hot House Architects

Plan Reference	Plan Description	Dated
DA 100	Cover Page	15/09/22
DA 101	Site Plan	15/09/22
DA110	Ground Plan	15/09/22
DA 200	Elevation	15/09/22
DA 300	Section	15/09/22

1.3 EXCLUSIONS

It is conveyed that this report should not construed to infer that an assessment for compliance with the following has been undertaken –

- (a) Structural and services design documentation;
- (b) General building services;
- (c) The individual requirements of service providers (i.e. Telstra, Water Supply, Energy Australia);
- (d) The individual requirements of the Workcover Authority;
- (e) Disability Discrimination Act (DDA);
- (f) Assessment of any structural elements or geotechnical matters relating to the building, including any;
- (g) Consideration of any fire services operations (including hydraulic, electrical or other systems);
- (h) Assessment of plumbing and drainage installations, including stormwater;
- (i) Assessment of mechanical plant operations, electrical systems or security systems;
- (j) Heritage significance;

- (k) Consideration of energy or water authority requirements;
- (l) Consideration of Council's local planning policies;
- (m) Environmental or planning issues;
- (n) Requirements of statutory authorities;
- (o) Sections G, H, J or I of the BCA are not considered;
- (p) A site inspection of the existing building has only partially been undertaken by BCA Vision (Due to Covid restrictions), the internal portions were not accessed and assumptions have been made in regard to the condition, layout and construction of the internal portions of the existing building.
- (q) This report has been prepared for the exclusive use of the client referred to on the cover sheet of this report. We do not warrant or accept liability for the reliance upon or use of this report by any other party.
- (r) The report considers matters of a significant nature only and should not be considered exhaustive.
- (s) The report does not consider structural adequacy of the building.

1.4 REPORT PURPOSE

The purpose of this report is to identify the extent to which the change of use within the existing building may comply with the relevant prescriptive provisions of BCA 2019 (amendment 1), Parts B, C, D, E & F2

Assessment of the proposed design considers each prescriptive BCA provision, and identifies such as either: –

- (a) Being complied with; or
- (b) Not being complied with; or
- (c) Requiring the provision further detail with the future Building Permit or other application or
- (d) Not being relevant to the particular building works proposal.

The status of the design, in terms of these four (4) categories, is summarised within Part 3 of this report.

Where prescriptive non-compliance is identified, suitable recommendations to remedy the non-compliance shall be detailed in Part 4.

In instances where preliminary only detail exists, summary of the information required from the project team for inclusion within future applications (i.e. Construction Certificate) shall also be outlined in Part 4.

1.5 FIRE SAFETY UPGRADES TO EXISTING BUILDINGS (EP & A REGS)

Subject to the following maximum fire compartment floor area and volume limits for Construction: –

62 FIRE SAFETY AND OTHER CONSIDERATIONS

<i>Sub clause</i>	Requirement	Comment/Advice
1	Consideration of fire safety (1) This section applies to the determination of a development application for a change of building use for an existing building if	Consideration of fire safety

the applicant does not seek the rebuilding or alteration of the building.

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Environmental Planning and Assessment
Regulation 2021 [NSW]
Part 4 Determination of development
applications
Published LW 17 December 2021 (2021 No
759)

(2) The consent authority must—
(a) consider whether the fire protection and structural capacity of the building will be appropriate to the building's proposed use, and
(b) not grant consent to the change of building use unless the consent authority is satisfied that the building complies, or will, when the development is completed, comply, with the Category 1 fire safety provisions that are applicable to the building's proposed use.
(3) Subsection (2)(b) does not apply to the extent to which an exemption from a provision of the *Building Code of Australia* or a fire safety standard is in force under the *Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021*.

64 CONSENT AUTHORITY MAY REQUIRE BUILDINGS TO BE UPGRADED

<i>Sub clause</i>	Requirement	Comment/Advice
1	<p>This section applies to the determination of a development application that involves the rebuilding or alteration of an existing building if—</p> <p>(a) the proposed building work and previous building work together represent more than half of the total volume of the building, or</p> <p>(b) the measures contained in the building are inadequate—</p> <p>(i) to protect persons using the building, if there is a fire, or</p> <p>(ii) to facilitate the safe egress of persons using the building from the building, if there is a fire, or</p> <p>(iii) to restrict the spread of fire from the building to other buildings nearby.</p>	<p>Refurbishment works are proposed which will constitute less than 50% of the building floor area</p>

- 2 The consent authority must consider whether it is appropriate to require the existing building to be brought into total or partial conformity with the *Building Code of Australia*. For Reference
- 3 In this section—
previous building work means building work completed or authorised within the previous 3 years.
total volume of a building means the volume of the building before the previous building work commenced and measured over the building's roof and external walls.

Category 1 fire safety provision		
<i>Means the following provisions of the Building Code of Australia</i>		
Performance Ref	Performance Requirement	Compliance Comments
EP1.3	A fire hydrant system must be provided to the degree necessary to facilitate the needs of the <i>fire brigade</i> appropriate to <ol style="list-style-type: none"> a) Fire-fighting operations; and b) The floor area of the building; and c) The fire hazard 	The building is greater than 500m ² in floor area and relies on a street Hydrant
EP1.4	An <i>automatic</i> fire suppression system must be installed to the degree necessary to control the development and spread of fire appropriate to <ol style="list-style-type: none"> a) The size of the Fire Compartment; and b) The function or use of the building; and c) The Fire Hazard; and d) The Height of the Building 	The building does not require a suppression system
EP1.6	Suitable facilities must be provided to the degree necessary in a building to co-ordinate <i>fire brigade</i> intervention during an emergency appropriate to <ol style="list-style-type: none"> a) The function or use of the building and b) The Floor area of the building; and c) The height of the building. 	A Fire Control room is not required within the subject building
EP2.1	In a building providing sleeping accommodation, occupants must be provided with <i>automatic</i> warning on the detection of smoke so they may evacuate in the event of a fire to a <i>safe place</i> .	The building does Not provide sleeping accommodation
EP2.2	In the event of a fire in a building the conditions in any evacuation route must be maintained for the period of time occupants take to evacuate the part of the building so that <ol style="list-style-type: none"> i) the temperature will not endanger human life; and ii) the level of visibility will enable the evacuation route to be determined and iii) the level of toxicity will not endanger human life. 	For Reference
EP3.2	The period of time occupants take to evacuate referred to in <u>(a)</u> must be	For Reference

	appropriate to	
	i) the number, mobility and other characteristics of the occupants; and	
	ii) the function or use of the building; and	
	iii) the travel distance and other characteristics of the building; and	
	iv) the <i>fire load</i> ; and	
	v) the potential <i>fire intensity</i> ; and	
	vi) the <i>fire hazard</i> ; and	
	vii) any active <i>fire safety systems</i> installed in the building; and	
	viii) <i>fire brigade</i> intervention.	

1.6 ACCESS TO PREMISES STANDARD

1.1 Name of Standards

These Standards are the Disability (Access to Premises — Buildings) Standards 2010.

1.2 Commencement

These Standards commenced on 1 May 2011.

1.3 Objects

The objects of these Standards are:

(a) to ensure that dignified, equitable, cost-effective and reasonably achievable access to buildings, and facilities and services within buildings, is provided for people with a disability; and

(b) to give certainty to building certifiers, building developers and building managers that, if access to buildings is provided in accordance with these Standards, the provision of that access, to the extent covered by these Standards, will not be unlawful under the Act.

Excerpt from Disability (Access to Premises Buildings) Standards 2010

Clause (4) A part of a building is a *new part* of the building if it is an extension to the building or a modified part of the building about which:

(a) an application for approval for the building work is submitted, on or after 1 May 2011, to the competent authority in the State or Territory where the building is located; or

(b) all of the following apply:

(i) the building work is carried out for or on behalf of the Crown;

(ii) the building work commences on or after 1 May 2011;

(iii) no application for approval for the building work is submitted, before 1 May 2011, to the competent authority in the State or Territory where the building is located.

(5) An affected part is:

(a) the principal pedestrian entrance of an existing building that contains a new part; and

(b) any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.

Subsection 2.1(5) - Affected part

The Premises Standards introduce a new concept referred to as the 'affected part' of an existing building. The introduction of this defined area reflects the desire to improve general accessibility of existing buildings over time where full upgrades of a building are not taking place.

The requirement for upgrading of the 'affected part' of buildings recognises that there is little value in improving access in new parts of existing buildings if people with disability cannot get to those new parts.

Subsection 2.1(5) defines the term 'affected part' of a building.

Affected part means the path of travel between (and including) the principal pedestrian entrance of an existing building to the 'new part' or modified part of the building. This path of travel must provide a continuous accessible path of travel (see 'Accessway' as defined in A1.1 of the Access Code) from the principal pedestrian entrance to the new part or modified part of the building.

Note on extent of 'affected part'

The definition of 'affected part' of a building is limited to the area between (and including) the principal pedestrian entrance and the new work, but does not extend from the entrance to the allotment boundary or any required carparking spaces. It also does not extend to any toilet facilities or other rooms adjacent to the pathway between the principal pedestrian entrance and the area of the new work.

2.0 MATTERS IDENTIFIED / RECOMMENDATIONS

2.1 COMPLIANCE PATHWAYS WITHIN THE BCA

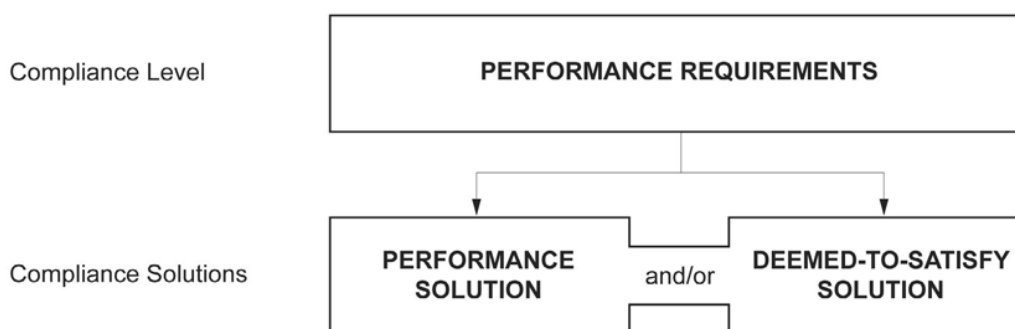
Compliance with the NCC is achieved by complying with—
 (1) the Governing Requirements of the NCC; and
 (2) the *Performance Requirements*.

A2.1 Compliance with the Performance Requirements

Performance Requirements are satisfied by one of the following, as shown in Figure 1:

- (1) A *Performance Solution*.
- (2) A *Deemed-to-Satisfy Solution*.
- (3) A combination of (1) and (2).

Figure 1: NCC compliance option structure



2.2 KEY COMPLIANCE CONSIDERATIONS

The following table provides a list of key compliance issues within the proposed design.

Compliance Commentary and Recommendations		
	BCA Clause	Comment
1	C1.1 Spec C1.1	The Existing building Structure is constructed of masonry and is generally compliant for Type B Construction. The new external wall is within 18m of the southern boundary fire source feature but is proposed as cavity masonry construction and in this regard will achieve the required Fire Resistance Levels.
2	D1.4 D1.10 D2.20 D2.21 Part E4	Building Egress Egress travel distance to the north side Lobby external doors exceeds 20m and in this regard an additional Exit must be available from the subject area. Options in this regard are as follows:-

		<p>a) Via the Existing Storage area to the west of the building and ultimately to the opening at the (building front) north side</p> <p>In either case the final (External) Exit door providing egress to open space must:-</p> <p>Open outward in the direction of egress, in accordance with clause D2.20;</p> <p>Be provided with a Lever type handle which is not provided with a lock to the inside and allows a single handed downward action in accordance with clause D2.21.</p> <p>Be identified as the clear point of egress through the provision of Directional and Exit signage which is compliant with part E4 and AS/NZS 22393.1.</p> <p>If Exit Point option (a) is nominated the area directly outside of the door cannot be used for car parking and must be provide with a bollard to prevent obstruction by a motor vehicle in accordance with Clause D1.10</p>
3	Part D3	<p>Building Access</p> <p>The subject area of the building proposed for modification is used exclusively by green keeping staff.</p> <p>In our opinion the subject area gains a concession under Clause D3.4 (a) of the BCA as Green keeping staff require a high mobility to negotiate all parts of the Golf Course and to undertake their day to day duties.</p>

3.0 BUILDING DESCRIPTION

3.1 GENERAL

In the context of the Building Code of Australia (BCA), the subject development is described within items 2.2 – 2.6 below.

3.1 RISE IN STOREYS (CLAUSE C1.2)

The building is proposed to have a rise in storeys of 2 (two)

2.3 BUILDING CLASSIFICATION (CLAUSE A3.2)

The entire building incorporates the following classifications:-

CLASS	DESCRIPTION
Class 6	A Restaurant
Class 9b	an <i>assembly building</i> , including a trade workshop, laboratory or the like in a primary or secondary <i>school</i> , but excluding any other parts of the building that are of another Class

2.4 EFFECTIVE HEIGHT (CLAUSE A1.1)

The building has an effective height Not exceeding 12m.

2.5 TYPE OF CONSTRUCTION (TABLE C1.1)

Specification C1.1 - Type B Construction

External walls, common walls flooring and floor framing of lift pits must be non-combustible.

Any internal wall having an FRL must extend to –

- (i) the underside of the floor above; or
- (ii) the underside of a complying roof; or
- (iii) if the roof is not required to comply, the underside of the non-combustible roof covering and must not be crossed by combustible building elements (except 75 x 50 mm roof battens); or
- (iv) a ceiling immediately below the roof having a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.

A loadbearing internal wall and fire wall (including part of a loadbearing shaft) must be of concrete or masonry.

Non-loadbearing fire-resisting internal walls, fire and non-fire rated lift, ventilating, pipe, garbage, or similar shaft not for the discharge of hot products of combustion, must be of non-combustible construction.

External column FRL's apply to any internal columns that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature.

2.4 Attachments not to impair fire-resistance

- (a) A combustible material may be used as a finish or lining to a wall or roof, or in a sign, sunscreen or blind, awning, or other attachment to a building element which has the required FRL if—
 - (i) the material is exempted under C1.10 or complies with the fire hazard properties prescribed in Specification C1.10; and
 - (ii) it is not located near or directly above a required exit so as to make the exit unusable in a fire; and
 - (iii) it does not otherwise constitute an undue risk of fire spread via the facade of the building.
- (b) The attachment of a facing or finish, or the installation of ducting or any other service, to a part of a building required to have an FRL must not impair the required FRL of that part

Table 4 TYPE B CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building—FRL: (in minutes)	
	<u>Structural adequacy/ Integrity/ Insulation</u>	
	5, 7a or 9	
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any <u>fire-source feature</u> to which it is exposed is—		
For <u>loadbearing</u> parts—		
less than 1.5 m		120/120/120
1.5 to less than 3 m		120/ 90/ 60
3 to less than 9 m		120/ 30/ 30
9 to less than 18 m		120/ 30/-
18 m or more		-/-/-
For non- <u>loadbearing</u> parts—		
less than 1.5 m		-/120/120
1.5 to less than 3 m		-/ 90/ 60
3 m or more		-/-/-
EXTERNAL COLUMN not incorporated in an <u>external wall</u> , where the distance from any <u>fire-source feature</u> to which it is exposed is—		
For <u>loadbearing</u> columns—		
less than 18 m		120/-/-
18 m or more		-/-/-
For non- <u>loadbearing</u> columns—		
		-/-/-
COMMON WALLS and FIRE WALLS—		120/120/120
INTERNAL WALLS—		
<u>Fire-resisting</u> lift and stair <u>shafts</u> —		
<u>Loadbearing</u>		120/120/120
<u>Fire-resisting</u> stair <u>shafts</u> —		
Non- <u>loadbearing</u>		-/120/120
Bounding <u>public corridors</u> , public lobbies and the like—		
<u>Loadbearing</u>		120/-/-
Non- <u>loadbearing</u>		-/-/-
Between or bounding <u>sole-occupancy units</u> —		
<u>Loadbearing</u>		120/-/-
Non- <u>loadbearing</u>		-/-/-
OTHER LOADBEARING INTERNAL WALLS and COLUMNS—		
		120/-/-
ROOFS		-/-/-

External wall FRLs as applied to the subject site		
Boundary	Approximate Distance	FRL Required
South	9-18m	120/ 30/ 30
Note:- Setback requirements are regardless of orientation		
External wall FRLs Columns		120/-/-

3.5 GENERAL FLOOR AREA LIMITATIONS (TABLE C2.2)

Subject to the following maximum fire compartment floor area and volume limits for Construction: –

Table C2.2 – Maximum size of Fire Compartments				
Building Class		Type A	Type B	Type C
5, 9b, 9c	Max Floor area	8000 m ²	5,500 m²	3000 m ²
	Max Volume	48,000 m ³	33,000 m³	18,000 m ³

3.6 PART B1 - STRUCTURAL PROVISIONS

Structural Engineers Details prepared by an Appropriately qualified Structural Engineer will be required within the Construction Certificate Documentation.

Confirmation will be required that the design achieves compliance with the following standards (where relevant):-

- AS 1170.0 – 2002 – General Principles
- AS 1170.1 – 2002 – Certification of Barriers to Prevent Falls (Dead and Live Loads)
- AS 1170.2 – 2011 – Wind Loads
- AS 1170.4 – 2007 – Earthquake Actions
- AS 3700 – 2018 – Masonry Structures
- AS 3600 – 2018 – Concrete Structures
- AS 4100 – 1998 – Steel Structures
- AS 4600 – 2018 – Cold Formed Steel Structures
- AS 2519- 2009 – Piling Design and Installation
- AS 1720.1 – 2010 – Design of Timber Structures
- AS/NZS 1664.1 and 1664.2 – 1997 – Aluminium Construction
- AS 2047 – 2014 – Windows and External Glazed Doors in Buildings
- AS 1288 – 2006 – Glass In Buildings Selection and Installation

4.0 BCA ASSESSMENT – SUMMARY

4.1 GENERAL

The tables contained within items 3.2 – 3.5 below summarise the compliance status of the proposed architectural design in terms of each prescriptive provision of the Building Code of Australia.

For those instances of either “prescriptive non-compliance” or “preliminary only detail”, a detailed analysis and commentary is provided within Part 4.

4.2 SECTION C – FIRE RESISTANCE

BCA reference	Complies	Does not comply	Detail Required	Not relevant
Spec. C1.1 – fire resisting construction	✓			
C1.3 – buildings of multiple classification				✓
C1.4 – mixed types of construction				✓
C1.5 – two storey Class 2 or 3 buildings				✓
C1.6 – Class 4 parts of a building				✓
C1.7 – open spectator stands & indoor sports stadiums				✓
C1.8 – lightweight construction				✓
C1.9 – non-combustible materials				✓
C1.10 – fire hazard properties			✓	
C1.11 – performance of external walls				✓
C1.14 – Attachments to Buildings				✓
C2.2 – general floor area & volume limits	✓			
C2.3 – large isolated buildings				✓
C2.4 – requirements for open spaces & vehicular access				✓
C2.5 – Class 9a and 9c buildings				✓
C2.6 – vertical separation of openings in external walls				✓
C2.7 – separation of firewalls				✓
C2.8 – separation of classifications in same storey				✓
C2.9 – separation of classifications in different storeys				✓
C2.10 – separation of lift shafts				✓
C2.11 – stairways and lifts in one shaft				✓
C2.12 – separation of equipment				✓
C2.13 – electricity supply system				✓
C2.14 – public corridors in Class 2 and 3 buildings				✓
C3.1 – application of part				✓
C3.2 – openings in external walls	✓			
C3.3 – separation of external walls & associated openings				✓
C3.4 – acceptable methods of protection				✓
C3.5 – doorways in firewalls				✓
C3.6 – sliding fire doors				✓
C3.7 – doorways in horizontal exits				✓
C3.8 – openings in fire-isolated exits				✓
C3.9 – service penetrations in fire-isolated exits				✓
C3.10 – openings in fire-isolated lift shafts				✓
C3.11 – bounding construction: Class 2, 3, 4 buildings				✓
C3.12 – openings in floors & ceilings for services				✓
C3.13 – openings in shafts				✓
C3.15 – openings for service installations				✓
C3.16 – construction joints				✓
C3.17 – columns protected with f/r lightweight construction				✓

4.3 SECTION D – ACCESS AND EGRESS

BCA reference	Complies	Does not comply	Detail Required	Not relevant
D1.2 – number of exits required	✓			
D1.3 – when fire-isolated exits are required				✓
D1.4 – exit travel distances			✓	
D1.5 – distance between alternative exits			✓	
D1.6 – dimensions of exits and paths of travel to exits			✓	
D1.7 – travel via fire-isolated exits				✓
D1.8 – external stairways or ramps in lieu of fire-isolated exits				✓
D1.9 – travel via non-fire isolated stairways or ramps				✓
D1.10 – discharge from exits			✓	
D1.11 – horizontal exits				✓
D1.12 – non-required stairways or ramps				✓
D1.16 – plant rooms and lift motor rooms: concession				✓
D1.17 – access to lift pits				✓
D2.2 – fire-isolated stairways and ramps				✓
D2.3 – non-fire isolated stairways and ramps				✓
D2.4 – separation of rising and descending stair flights				✓
D2.5 – open access ramps and balconies				✓
D2.6 – smoke lobbies				✓
D2.7 – installations in exits and paths of travel				✓
D2.8 – enclosure of space under stairs and ramps				✓
D2.9 – width of stairways				✓
D2.10 – pedestrian ramps				✓
D2.11 – fire-isolated passageways				✓
D2.12 – roof as open space				✓
D2.13 – goings and risers				✓
D2.14 – landings				✓
D2.15 – thresholds			✓	
D2.16 – balustrades				✓
D2.17 – handrails				✓
D2.18 – fixed platforms, walkways, stairways and ladders				✓
D2.19 – doorways and doors				✓
D2.20 – swinging doors			✓	
D2.21 – operation of latch			✓	
D2.22 – re-entry from fire-isolated exits				✓
D2.23 – signs on doors				✓
D2.24 – Protection of Openable windows				✓
D3.1 – General Building Access requirements				✓
D3.2 – Access to Buildings				✓
D3.3 – parts of buildings to be accessible				✓
D3.4 – concessions	✓			
D3.5 – car parking				✓
D3.6 – signage				✓
D3.7 – hearing augmentation services and features				✓
D3.8 – tactile indicators				✓
D3.9 – Wheelchair Seating				✓
D3.10 – Swimming Pools				✓
D3.11 - Ramps				✓
D3.12 – Glazing on Access ways				✓

4.4 SECTION E – SERVICES AND EQUIPMENT

BCA reference	Complies	Does not comply	Detail Required	Not relevant
E1.3 – fire hydrants	✓*			
E1.4 – fire hose reels	✓			
E1.5 – sprinklers				✓
E1.6 – portable fire extinguishers			✓	
E1.8 – fire control centres				✓
E1.9 – fire precautions during construction				✓
E1.10 – provision for special hazards				✓
E2.2a – general provisions				
E2.2b – specific provisions				✓
E2.3 – provision for special hazards				✓
E3.2 – stretcher facility in lifts				✓
E3.3 – warning against use of lifts in fire				✓
E3.4 – emergency lifts				✓
E3.5 – landings				✓
E3.6 – facilities for people with disabilities				✓
E3.7 – fire service controls				✓
E3.8 – aged care buildings				✓
E3.9 – Fire Service Recall Switch				✓
E3.10 – Lift Car Fire Service Drive Control Switch				✓
E4.2 – emergency lighting			✓	
E4.4 – design and operation of emergency lighting			✓	
E4.5 – exit signs			✓	
E4.6 – direction signs			✓	
E4.7 – Class 2 and 3 buildings and Class 4 parts: exemptions				✓
E4.8 – design and operation of exit signs			✓	
E4.9 – Sound Systems & Intercom Systems for Emergencies				✓
✓* - the site is provided coverage by a Street Hydrant – Flow and Pressure from the Hydrant has not been qualified by BCA Vision				

3.1. SECTION F – HEALTH AND AMENITY

BCA reference	Complies	Does not comply	Detail required	Not relevant
F1.1 – storm water drainage				✓
F1.5 – roof coverings				✓
F1.6 – sarking				✓
F1.7 – water proofing of wet areas			✓	
F1.9 – damp proofing			✓	
F1.10 – damp proofing of floors on ground			✓	
F1.11 – floor wastes			✓	
F1.12 – sub-floor ventilation				✓
F1.13 – glazed assemblies			✓	
F2.1 – facilities in residential buildings				✓
F2.3 – facilities in Class 3 to 9 buildings	✓			
F2.4 – facilities for people with disabilities				✓
F2.5 – construction of sanitary compartments	✓			
F2.8 – waste management				✓
F3.1 – height of rooms	✓			
F4.1 – provision of natural light				✓
F4.2 – methods and extent of natural lighting				✓
F4.3 – natural lighting borrowed from adjoining room				✓
F4.4 – artificial lighting			✓	
F4.5 – ventilation of rooms			✓	
F4.6 – natural ventilation				✓
F4.7 – ventilation borrowed from an adjoining room				✓
F4.8 – restriction on position of water closets and urinals	✓			
F4.9 – airlocks	✓			
F4.11 – car parks				✓
F4.12 – kitchen local exhaust ventilation				✓
F5.2 –Determination – airborne sound insulation				✓
F5.3 Determination – impact sound insulation				✓
F5.4 – sound insulation of floors				✓
F5.5 – sound insulation rating of walls				✓
F5.6 – sound insulation rating of services				✓
F5.7 – sound insulation of pumps				✓
F6.2 - Pliable building membrane				✓
F6.3 - Flow rate and discharge of exhaust systems				✓
F6.4 - Ventilation of roof spaces				✓

5.0 BCA ASSESSMENT – DETAILED ANALYSIS

5.1 GENERAL

With reference to the “BCA Assessment Summary” contained within Part 3 above, the following detailed analysis and commentary is provided.

This commentary is formulated to enable the design documentation to be further progressed, for the purpose of evidencing the attainment of compliance with the relevant provisions of the BCA.

In our opinion compliance with the Building Code of Australia 2019 amendment 1, Volume 1, can be achieved subject to the implementation of the following details into the Construction documentation.

4.1 SECTION C – FIRE RESISTANCE

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. C1.10	Fire Hazard Properties (a) The <i>fire hazard properties</i> of the following linings, materials and assemblies in a Class 2 to 9 building must comply with Specification C1.10	Confirmation of the Fire Hazard properties will be required with the Construction Certificate Documentation. Floor linings and floor coverings A floor lining or floor covering must have— (a) a <i>critical radiant flux</i> not less than a grouping of 2.2; and (b) in a building not protected by a sprinkler system complying with Specification E1.5, a maximum <i>smoke development rate</i> of 750 percent-minutes; and

		<p>(c) a group number complying with Clause 6(a)(ii), for any portion of the floor covering that is continued more than 150 mm up a wall.</p> <p>Wall and ceiling linings – requires groupings as follows Fire Isolated Exit = Grouping of 1 Public Corridors = a grouping of 1,2 Other areas = a grouping of 1,2,3</p> <p>(a) For the purposes of this Clause, the <i>group number</i> of a material is determined by either—</p> <ul style="list-style-type: none">(i) physical testing in accordance with AS ISO 9705; or(ii) prediction in accordance with Clause 3 of Specification A2.4 using data obtained by testing the material at 50 kW/m² irradiance in the horizontal orientation with edge frame in accordance with AS/NZS 3837. <p>(b) The <i>group number</i> of a material is as follows when tested or predicted in accordance with sub-clause (a):</p> <ul style="list-style-type: none">(i) A Group 1 material is one that does not reach <i>flashover</i> when exposed to 100 kW for 600 seconds followed by exposure to 300 kW for 600 seconds.(ii) A Group 2 material is one that reaches <i>flashover</i> following exposure to 300 kW within 600 seconds after not reaching <i>flashover</i> when exposed
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		<p>to 100 kW for 600 seconds.</p> <p>(iii) A Group 3 material is one that reaches <i>flashover</i> in more than 120 seconds but within 600 seconds when exposed to 100 kW.</p> <p>(iv) A Group 4 material is one that reaches <i>flashover</i> within 120 seconds when exposed to 100 kW.</p> <p>(c) A material used as a finish, surface, lining or attachment to a wall or ceiling must be a Group 1, Group 2 or Group 3 material used in accordance with Table 3 and for buildings not fitted with a sprinkler system complying with Specification E1.5, have—</p> <p>(i) a <i>smoke growth rate index</i> not more than 100; or</p> <p>(ii) an <i>average specific extinction area</i> less than 250 m²/kg.</p> <p>Lift cars</p> <p>(a) Materials used as—</p> <p>(i) floor linings and floor coverings must have a <i>critical radiant flux</i> not less than 2.2; and</p> <p>(ii) wall and ceiling linings must be a Group 1 material or a Group 2 material in accordance with Clause 4(b).</p> <p>(a) Materials, other than those referenced in (a), used in the construction of a</p>
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		lift car in a Class 2 to 9 building must comply with the <i>fire hazard properties</i> required by AS 1735.2.
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4.4 SECTION D – ACCESS AND EGRESS

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. D1.6	<p>Dimensions of exits and paths of travel to exits In a <i>required exit</i> or path of travel to an <i>exit</i>—</p> <p>(a) the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; and</p> <p>(b) the unobstructed width of each <i>exit</i> or path of travel to an <i>exit</i>, except for doorways, must be not less than</p> <p>(i) 1 m; or</p> <p>(ii) 1.8 m in a passageway, corridor or ramp normally used for the transportation of patients in beds within a <i>treatment area</i> or <i>ward area</i>; and</p> <p>(iii) in a <i>public corridor</i> in a Class 9c <i>aged care building</i>, notwithstanding (c) and (d)—</p> <p>(A) 1.5 m; and</p> <p>(B) 1.8 m for the full width of the doorway, providing access into a <i>sole-occupancy unit</i> or communal bathroom; and</p> <p>(c) if the <i>storey, mezzanine</i> or <i>open spectator stand</i> accommodates more than 100 persons but not more than 200 persons, the aggregate unobstructed width, except for doorways, must be not less than—</p> <p>(i) 1 m plus 250 mm for each 25 persons (or part) in excess of 100; or</p> <p>(ii) 1.8 m in a passageway, corridor or ramp normally used for the transportation of patients in beds within a <i>treatment area</i> or <i>ward area</i>; and</p> <p>(d) if the <i>storey, mezzanine</i> or <i>open spectator stand</i> accommodates more than 200 persons, the aggregate unobstructed width, except for doorways, must be increased to—</p> <p>(i) 2 m plus 500 mm for every 60 persons (or part) in excess of 200 persons if egress involves a change in floor level by a stairway or ramp with a gradient steeper than 1 in 12; or</p> <p>(ii) in any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200; and</p> <p>(e) in an <i>open spectator stand</i> which accommodates more than 2000 persons, the aggregate unobstructed width, except for doorways, must be increased to 17 m plus a width (in metres)</p>	<p>For Reference.</p>

equal to the number in excess of 2000 divided by 600; and

(f) the unobstructed width of a doorway must be not less than—

(i) in *patient care areas* through which patients would normally be transported in beds, if the doorway provides access to, or from, a corridor of width—

(A) less than 2.2 m — 1200 mm; or

(B) 2.2 m or greater — 1070 mm,

and where the doorway is fitted with two leaves and one leaf is secured in the closed position in accordance with D2.21(b)(v), the other leaf must permit an unobstructed opening not less than 800 mm wide; or

(ii) in *patient care areas* in a *horizontal exit* — 1250 mm; or

(iii) the unobstructed width of each *exit* provided to comply with (b), (c), (d) or (e), minus 250 mm; or

Vic D1.6(f)(iv)

(iv) in a Class 9c building—

(A) 1070 mm where it opens from a *public corridor* to a *sole-occupancy unit*; or

(B) 870 mm in other *resident use areas*; or

(C) 800 mm in *non-resident use areas*, and where the doorway is fitted with two leaves and one leaf is secured in the closed position in accordance with D2.21(b)(v), the other leaf must permit an unobstructed opening not less than 870 mm wide in *resident use areas* and 800 mm wide in *non-resident use areas*; or

(v) in any other case except where it opens to a *sanitary compartment* or bathroom — 750 mm wide; and

(g) the unobstructed width of a *required exit* must not diminish in the direction of travel to a road or *open space*, except where the width is increased in accordance with (b)(ii) or (f)(i); and

(h) the *required* width of a stairway or ramp must—

(i) be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and

(ii) extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosing's of the treads or the floor surface of the ramp or

	<p>landing; and</p> <p>(i) to determine the aggregate unobstructed width, the number of persons accommodated must be calculated according to D1.13.</p>	
Cl. D1.10	<p>Discharge from exits</p> <p>(a) An <i>exit</i> must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the <i>exit</i>, or access to it.</p> <p>(b) If a <i>required exit</i> leads to an <i>open space</i>, the path of travel to the road must have an unobstructed width throughout of not less than 1m</p>	<p>Verification will be required within the Construction Documentation</p>
Cl. D2.15	<p>Thresholds The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless—</p> <p>(a) in patient care areas in a Class 9a health-care building, the door sill is not more than 25 mm above the finished floor level to which the doorway opens; or</p> <p>(b) in a Class 9c building, a ramp is provided with a maximum gradient of 1:8 for a maximum height of 25 mm over the threshold; or</p> <p>(c) in a building required to be accessible by Part D3, the doorway—</p> <p>(i) opens to a road or open space; and</p> <p>(ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or</p> <p>d) in a Class 9b building used as an entertainment venue, the door sill of a doorway opening to a road, open space, external stair landing or external balcony is not more than 50 mm above the finished floor level to which the doorway opens; or</p> <p>(e) in other cases—</p> <p>(i) the doorway opens to a road or open space, external stair landing or external balcony; and</p> <p>(ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.</p>	<p>Verification will be required within the Construction Documentation.</p>
Cl. D2.20	<p>Swinging doors</p> <p>A swinging door in a <i>required exit</i> or forming part of a <i>required exit</i>—</p>	<p>Verification will be required within the Construction Documentation</p>

	<p>(a) must not encroach—</p> <p>(i) at any part of its swing by more than 500 mm on the <i>required</i> width (including any landings) of a <i>required</i>—</p> <p>(A) stairway; or</p> <p>(B) ramp; or</p> <p>(C) passageway,</p> <p>if it is likely to impede the path of travel of the people already using the <i>exit</i>; and</p> <p>(ii) when fully open, by more than 100 mm on the <i>required</i> width of the <i>required exit</i>, and the measurement of encroachment in each case is to include door handles or other furniture or attachments to the door; and</p> <p>(b) must swing in the direction of egress unless—</p> <p>(i) it serves a building or part with a <i>floor area</i> not more than 200 m², it is the only <i>required exit</i> from the building or part and it is fitted with a device for holding it in the open position; or</p> <p>(ii) it serves a <i>sanitary compartment</i> or airlock (in which case it may swing in either direction); and</p> <p>(c) must not otherwise impede the path or direction of egress.</p>	
Cl. D2.21	<p>Operation of latch</p> <p>(a) A door in a <i>required exit</i>, forming part of a <i>required exit</i> or in the path of travel to a <i>required exit</i> must be readily openable without a key from the side that faces a person seeking egress, by—</p> <p>(i) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and if serving an area <i>required</i> to be <i>accessible</i> by Part D3—</p> <p>(A) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and</p> <p>(B) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45 mm; or</p> <p>(ii) a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor.</p>	Verification will be required with the Construction Documentation

Cl. D3.4	Exemptions The following areas are not <i>required to be accessible</i> : (a)An area where access would be inappropriate because of the particular purpose for which the area is used. (b)An area that would pose a health or safety risk for people with a disability. (c)Any path of travel providing access only to an area exempted by (a) or (b).	For Reference
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4.5 SECTION E – SERVICES AND EQUIPMENT

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. E1.6	Portable fire extinguishers (a) Portable fire extinguishers must be— (i) provided as listed in Table E1.6	Verification will be required with the Construction Documentation
Cl. E4.2	AS 2293.1 compliant emergency lighting must be provided throughout the building.	Verification will be required with the Construction Documentation
Cl. E4.4	Refer Clause E4.2 above for emergency lighting requirements	Verification will be required with the Construction Documentation
Cl. E4.5 Cl. E4.8	AS 2293.1 compliant Exit Signage is required above each Exit (door or stair)	Verification will be required with the Construction Documentation
Cl. E4.6 Cl. E4.8	AS 2293.1 compliant Directional signage must be provided where Exit signage is not directly visible	Verification will be required with the Construction Documentation

4.6 SECTION F – HEALTH AND AMENITY

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. F1.7	Wet areas must be water proofed in accordance with AS 3740	Verification will be required with the Construction Documentation
Cl. F1.9	<p>Damp-proofing</p> <p>(a) Except for a building covered by (c), moisture from the ground must be prevented from reaching—</p> <ul style="list-style-type: none"> (i) the lowest floor timbers and the walls above the lowest floor joists; and (ii) the walls above the damp-proof course; and (iii) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. <p>(b) Where a damp-proof course is provided, it must consist of—</p> <ul style="list-style-type: none"> (i) a material that complies with AS/NZS 2904; or (ii) impervious termite shields in accordance with AS 3660.1. <p>(c) The following buildings need not comply with (a):</p> <ul style="list-style-type: none"> (i) A Class 7 or 8 building where in the particular case there is no necessity for compliance. (ii) A garage, tool shed, <i>sanitary compartment</i>, or the like, forming part of a building used for other purposes. (iii) An <i>open spectator stand</i> or <i>open-deck car park</i>. 	Verification will be required with the Construction Documentation
Cl. F1.10	<p>Damp-proofing of floors on the ground</p> <p>If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870, except damp-proofing need not be provided if—</p> <ul style="list-style-type: none"> (a) weatherproofing is not <i>required</i>; or (b) the floor is the base of a stair, lift or similar <i>shaft</i> which is adequately drained by gravitation or mechanical means. 	Verification will be required with the Construction Documentation

Cl. F1.11	The floor of each bathroom and laundry must be graded to permit drainage to a floor waste.	Verification will be required with the Construction Documentation
Cl. F1.13	<p>Glazed assemblies</p> <p>(a) Subject to (b) and (c), the following glazed assemblies in an <i>external wall</i>, must comply with AS 2047 requirements for resistance to water penetration:</p> <ul style="list-style-type: none">(i) Windows.(ii) Sliding doors with a frame.(iii) Adjustable louvres.(iv) Shopfronts.(v) Window walls with one piece framing. <p>(b) The following buildings need not comply with (a):</p> <ul style="list-style-type: none">(i) A Class 7 or 8 building where in the particular case there is no necessity for compliance.(ii) A garage, tool shed, <i>sanitary compartment</i>, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, <i>sanitary compartment</i> or the like contributes to the weatherproofing of the other part of the building.(iii) An <i>open spectator stand</i> or <i>open-deck car park</i>. <p>(c) The following glazed assemblies need not comply with (a):</p> <ul style="list-style-type: none">(i) All glazed assemblies not in an <i>external wall</i>.(ii) Hinged doors, including French doors and bi-fold doors.(iii) Revolving doors.(iv) Fixed louvres.(v) Skylights, roof lights and windows in other than the vertical plane.(vi) Sliding doors without a frame.(vii) Shopfront doors.(viii) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047.(ix) Second-hand windows, re-used windows, recycled windows and replacement windows.(x) Heritage windows.	Verification will be required with the Construction Documentation

Cl. F4.4	<p>Artificial lighting</p> <p>(a)Artificial lighting must be provided—</p> <p>(i)in <i>required</i> stairways, passageways, and ramps; and</p> <p>(ii)if natural light of a standard equivalent to that <i>required</i> by F4.2 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency, in—</p> <p>(A)Class 4 parts of a building — to <i>sanitary compartments</i>, bathrooms, shower rooms, airlocks and laundries; and</p> <p>(B)Class 2 buildings — to <i>sanitary compartments</i>, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; and</p> <p>(C)Class 3, 5, 6, 7, 8 and 9 buildings — to all rooms that are frequently occupied, all spaces <i>required</i> to be <i>accessible</i>, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress.</p> <p>(b)The artificial lighting system must comply with AS/NZS 1680.0.</p>	Verification will be required with the Construction Documentation
Cl. F4.5	<p>Ventilation of rooms</p> <p>A <i>habitable room</i>, office, shop, factory, workroom, <i>sanitary compartment</i>, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have—</p> <p>(a)natural ventilation complying with F4.6; or</p> <p>(b)a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1.</p>	Verification will be required with the Construction Documentation

Author



Kieran Tobin,
Registered Building Surveyor - Fair Trading no 0409
Grad Dip Building Surveying UWS