

30 September 2019

Turnbull Planning International Pty Limited
Attention – Claire Waddington
2301/4 Daydream Street
WARRIEWOOD NSW 2102

Dear Claire,

By Email

Re: 39 Cabbage Tree Road, BAYVIEW NSW 2104; BCA Desktop Assessment

Further to the email dated 29 September 2019 from Blue Sky Building Designs.

Purpose of Report

The purpose of this report is to provide a desktop plan study to identify the requirements of the Building Code of Australia for the proposed new commercial use of the existing building against the 'Deemed-to-Satisfy' provisions of the BCA, to identify areas of non-compliance and providing upgrading strategies.

Location of Premises

The premises are located on the southern side of Cabbage Tree Road and adjacent to the Bayview Golf Club, BAYVIEW NSW 2104.



Location plan – 39 Cabbage Tree Road, Bayview NSW 2104 – Courtesy of Google Maps

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Building Description

This BCA commentary relates to the proposed new commercial building located at 39 Cabbage Tree Road, BAYVIEW NSW 2104. It is proposed to construct a new three (3) storey indoor recreational complex with associated carparking and amenities.

BCA Version

Our reference document is the Building Code of Australia 2019 (BCA) Volume 1 including the NSW variations as applicable.

Plan Version

We are in receipt of a copy of architectural plans prepared by Blue Sky Building Designs, dated 27.09.2019, Project Number 2019031, Drawings Numbered A101 – A115, Revision 3 including – Site Plan, Ground Floor Plan, Level 1, Level 2, Elevations and Elevations.

Compliance Issues with the Building Code of Australia

For the purposes of our assessment and the BCA, we would describe the building as being a three (3) storey Class 9b building with two (2) levels of amenities etc. and one (1) level of carparking – Class 7a, having a rise in storeys of three (3) and being required to satisfy the requirements of Type A construction.

The comments below are a summary of the issues detailed in the attached table, being -

1. Fire Resistance and Compartmentation

In BCA terms, the type of fire-resistant construction required for a building is determined because of both the number of storey's a building exhibits and compliance with the area and volume table in clause C2.2.

In this instance, the proposed building is to be a three (3) storey provided with a concrete structure for loadbearing parts, lightweight non-loadbearing external walls and non-combustible roof. The proposal will largely comply with the requirements of Type A construction, subject to details being supplied and assessed.

For compartmentation, the application of Table C2.2 is applicable to both the Class 9b and 7a – see table below.

Table C2.2 MAXIMUM SIZE OF FIRE COMPARTMENTS

Classification		Type of construction of building		
		Type A	Type B	Type C
5, 9b or 9c <i>aged care building</i>	max <i>floor area</i> —	8 000 m ²	5 500 m ²	3 000 m ²
	max volume—	48 000 m ³	33 000 m ³	18 000 m ³
6, 7, 8 or 9a (except for <i>patient care areas</i>)	max <i>floor area</i> —	5 000 m ²	3 500 m ²	2 000 m ²
	max volume—	30 000 m ³	21 000 m ³	12 000 m ³
Note: See C2.5 for maximum size of compartments in <i>patient care areas</i> in Class 9a <i>health care buildings</i> .				

Extract from BCA – Table C2.2

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2. Part D – Access and Egress

(i) Part D1 – Provision for Escape

In terms of egress, the proposed building must be provided with at least one (1) exit. In this instance, it is proposed to provide the 1st floor level of the building with access to two (2) alternative exits with the Ground and 2nd floor levels with access to only one (1) exit.

A single fire isolated internal stairway will serve all floors of the building. The stair will discharge at ground floor level directly to open space onto a pathway, at grade, leading into the roadway.

The 1st floor level of the building is provided with 2 alternative exits, being the fire isolated stair and an external stair. The external stair is proposed to be attached externally of the building and will discharge directly to the ground. Direct access to the street is shown on the plan.

The 2nd floor level of the building is provided with access to the fire isolated stairway only. Travel distance to the fire-isolated stair does not exceed the maximum 20m to a single exit.

For population levels within the building, we have been advised that the total population of the building will not exceed Fifty (50) persons, with a maximum of thirty (30) persons to occur within the building at any only time.

In accordance with the provisions of BCA Clause D1.13 – Number of persons accommodated; a population count has been estimated for the 2nd floor level of the building at a total capacity of approximately Forty-one (41) persons – see BCA Clause D1.13 (a) and Table D1.13. This figure is less than Fifty (50) persons referred in BCA Clause D1.2 (d) (vi) where a storey or mezzanine that accommodates 50 or more person, is required to be served by 2 exits.

In terms of Egress and travel distance, within the building to the nominated exits, are considered to be BCA compliant.

(ii) Part D2 – Construction of Exits

In terms of compliance with Part D2, the plans are not detailed sufficiently to make comment about those matters and in any case, the construction phase of the project will enable compliance with these matters.

(iii) Part D3 – Access for People with Disabilities

In terms of Part D3 – Access for People with Disabilities, we note, the plans are sufficiently detailed to see that street access will be provided into the allotment, as well as, to each level of the building being served by an internal passenger lift. The construction phase of the project will enable compliance with these matters.

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3. Services and Equipment

In terms of services and equipment, we note that the total floor area of building is approximately, 605m². The BCA requires a building with a floor area greater than 500m² to be provided with access to a hydrant system, fire hose reels, and portable fire extinguishers, emergency lighting and illuminated exit and directional signage.

In terms of Fire Hydrants, the use of street hydrants is permissible provided the coverage and water pressure level requirements of AS 2419.1 are satisfied, then internal hydrants of the property may not be required.

In terms of Fire Hose Reels, where no internal (of the property) fire hydrants are provided and a fire compartment exceeds 500m² in area, fire hose reels are required to be provided to the building and within 4mts of an exit.

In terms of smoke control, the install of a smoke detection and alarm will address the issue of smoke control, provided an Occupant Warning System compliant with AS 1670.1 is also provided.

In terms of passenger lifts, details are required to determine compliance with Part E3 of the BCA.

In terms of emergency lighting and illuminated exit and directional signage, details are required to determine compliance with Part E4 of the BCA.

4. Health and Amenity

In terms of Health and Amenity, we note that the plans are not detailed sufficiently to make a comment, other than to note, that compliance with this section of the BCA needs to be achieved. It is noted that the building will need to be provided with a system of mechanical ventilation and electric lighting.

In terms of sanitary facilities, we note from the plans the following, being –

(a) Patrons

	W/C	H/basins	Urinals	Shower
Male	3	2	2	2
Female	4	3		2

(b) Staff – Unsex facilities maybe provided for up to 10 employees

(c) Accessible – provided separately at levels 1 and 2

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5. Energy Efficiency

In terms of Energy Efficiency, we note the plans are not detailed sufficiently to make a comment, other than to note, that compliance with this section of the BCA needs to be achieved.

Summary

In our view, the proposed building is readily able to satisfy the performance requirements of the BCA subject to items mentioned in this report.

Thank you once again for this opportunity to be of assistance and for any additional information, please contact the undersigned.

Yours faithfully,

All State Building Surveying Pty Ltd



Sean O'Brien, Managing Director

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Attachments

1. BCA Check List Report
2. Proposed Fire Safety Measure Table

PROJECT – Class 9b & 7a;
ADDRESS – 39 Cabbage Tree Road, Bayview

BCA CHECKLIST 2019

Part A – General

CLASSIFICATION	A1.3	Use		Class 9b & 7a
				Gym and Carpark

Part C – Fire Resistance

	Clause	Compliant?	Comment	Work required
RISE IN STOREYS	C1.2	Noted	3	
TYPE OF CONSTRUCTION	C1.1	Complies	Type B	
FRLs REQUIRED	Spec C1.1	120/120/120		
EXTERNAL WALLS	Spec C1.1	120/120/120	FI	Construction
COMPARTMENTATION	C2.2	Complies		
FIRE WALLS AFFECTED	C2.7	120/120/120	N/A	
OPENINGS IN EXTERNAL WALLS	C3.2	Noted		
PROTECTION OF OPENINGS	C3.4	Noted	Complies	
OPENINGS IN FIRE WALLS	C3.5	Fire Rated	N/A	
BOUNDING CONSTRUCTION	C3.11	N/A		

Part D1 – PROVISION FOR ESCAPE

NO OF EXITS NEEDED	D1.2	Complies	1 Needed	2 provided
FIRE ISOLATED	D1.3	Complies		3 levels joined
TRAVEL DISTANCES	D1.4	Complies		
DISTANCE BETWEEN EXITS	D1.5	Complies		
EXIT DIMENSIONS	D1.6	Complies		
FIRE ISOLATED STAIRS	D1.7	Complies		
EXTERNAL STAIRS	D1.8	Complies		
NON-FIRE ISOLATED STAIRS	D1.9	N/A		
DISCHARGE FROM EXITS	D1.10	Complies		
HORIZONTAL EXITS	D1.11	N/A		
NON-REQUIRED STAIRS	D1.12	Noted		
PERSONS ACCOMMODATED	D1.13	Noted	50	See comment
DISTANCE MEASUREMENT	D1.15	Noted		

Part D2 - CONSTRUCTION OF EXITS

FIRE ISOLATED STAIRS	D2.2	FI		Materials
NON-FIRE ISOLATED STAIRS	D2.3	FI		Materials
SEPARATION OF STAIRS	D2.4	N/A		
SMOKE LOBBIES	D2.6	N/A		
INSTALLATIONS IN EXITS	D2.7	FI		Design
ENCLOSURE under stairs	D2.8	Noted		
WIDTH OF STAIR	D2.9	Complies		
RAMP GRADE max 1:8	D2.10	Noted		
FIRE ISOLATED PASSAGEWAYS	D2.11	N/A		
ROOF as OPEN SPACE	D2.12	N/A		
TREADS & RISERS	D2.13	FI		Design
LANDINGS	D2.14	FI		Design
THRESHOLDS	D2.15	FI		Design

CONSTRUCTION OF EXITS (cont.)

BALUSTRADES	D2.16	FI		Design
HANDRAILS	D2.17	FI		Design
FIXED PLATFORMS	D2.18	N/A		
DOORWAYS & DOORS	D2.19	Noted		
DOOR SWINGS	D2.20	Noted		
RE-ENTRY FROM EXITS	D2.22	N/A		
SIGNS	D2.23	FI		
PROTECTION OPENABLE WINDOWS	D2.24	N/A		
CONCESSION TIMBER STAIRS	D2.25	N/A		

Part D3 - ACCESS FOR DISABLED

ACCESS REQUIREMENTS	D3.1	Noted		
ACCESS TO BUILDINGS	D3.2	Complies		
PARTS OF BUILDING ACCESSIBLE	D3.3	Complies		
CONCESSIONS	D3.4	Noted		
CAR PARKING	D3.5	Complies		
IDENTIFICATION OF FACILITIES	D3.6	FI		Design
HEARING HELP SYSTEM	D3.7	FI		Design
TACTILE INDICATORS	D3.8	FI		Design
WHEELCHAIR SEATING 9B	D3.9	N/A		
SWIMMING POOL	D3.10	N/A		
RAMPS	D3.11	N/A		
GLAZING IN ACCESSWAYS	D3.12	FI		Design

Part E1 - FIRE FIGHTING EQUIPMENT

HYDRANTS	E1.3	Internal	TBC	TFA approx. 605m ²
HOSE REELS	E1.4	Required	TBC	
SPRINKLERS	E1.5	Required	TBC	See D1.3 & Spec E1.5
PORTABLE EXTINGUISHERS	E1.6	Required	TBC	

Part E2 - SMOKE HAZARD MANAGEMENT

PROVISION FOR SMOKE HAZARDS	E2.2	Required	TBC	SD&A
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Part E3 - LIFT INSTALLATIONS

LIFT INSTALLATIONS	E3.1	Required	TBC	Specification E3.1
STRETCHER FACILITY	E3.2	N/A		
FIRE USE WARNING	E3.3	Required	TBC	Signage
EMERGENCY LIFTS	E3.4	N/A		
LANDINGS	E3.5	Required	TBC	Section D
DISABILITIES FACILITIES	E3.6	Required	TBC	Dimensions
FIRE SERVICE CONTROLS	E3.7	N/A		
RESIDENTIAL CARE	E3.8	N/A		
FIRE SERVICE RECALL	E3.9	N/A		
FIRE SERVICE DRIVE	E3.10	N/A		

Part E4 - EMERGENCY LIGHTING, EXITS SIGNS & WARNING SYSTEMS

EMERGENCY LIGHTING NEEDS	E4.2	Required	TBC	Through building
DISTANCE	E4.3	Noted		
DESIGN & OPERATION	E4.4	Noted		
EXIT SIGNS	E4.5	Required	TBC	Over Exits
DIRECTION SIGNS	E4.6	Required	TBC	Through building
CLASS 2 & 3 BUILDINGS	E4.7	N/A		
DESIGN & OPERATION	E4.4	Noted		
COMMUNICATION SYSTEMS	E4.9	N/A		

Part F2 - HEALTH & AMENITY

NO. OF FIXTURES	F2.2	Noted		
FACILITIES IN CLASS 3-9	F2.3	Complies		
DISABILITIES FACILITIES	F2.4	Complies		
TOILET CONSTRUCTION	F2.5	FI		Design
MICROBIAL CONTROLS	F2.7	Noted		
WASTE MANAGEMENT	F2.8	Noted		

Part F3 - ROOM SIZES

SIZES OF ROOMS	F3.0	Noted		
HEIGHTS	F3.1	Complies		

Part F4 - LIGHT & VENTILATION

PROVISION OF NATURAL LIGHT	F4.1	Noted		
EXTENT OF NATURAL LIGHT	F4.2	N/A		
ARTIFICIAL LIGHTING	F4.4	Required	TBC	Through building
VENTILATION	F4.5	Required	TBC	Through building
NATURAL VENTILATION	F4.6	Noted		
WATER CLOSET POSITIONS	F4.8	Noted		
AIRLOCKS	F4.9	Noted		
CAR PARKS	F4.11	N/A		
KITCHEN ETC EXHAUSTS	F4.12	N/A		

39 Cabbage Tree Road, Bayview
Fire Safety Measures Table

Proposed Fire Safety Measure

No.	Element	Design Standard	Maintenance Standard
01.	Exit Door	BCA Part D1	BCA Part D1
02.	Latches	BCA Part D2	BCA Part D2
03.	Path of Travel	BCA Part D1	BCA Part D1
04.	Hydrants	BCA Part E1 AS 2419.1	AS 1851
05.	Fire Hose Reels	BCA Part E1 AS 2441	AS 1851
06.	Portable Fire Extinguishers	BCA Part E1, AS 2444	AS 1851
07.	Emergency Lighting	BCA Part E4, AS 2293.1	AS 2293.2
08.	Exit Signs	BCA Part E4, AS 2293.1	AS 2293.2
09.	Illuminated Directions Signs	BCA Part E4, AS 2293.1	AS 2293.2
10.	Smoke Detection & Alarm	BCA Part E2, AS 1670.1	AS 1670.1