



To: Ridgemill Pty Ltd

Project: Retail Tenancy 5 – Overseas Passenger Terminal

Report: BCA & Access Assessment Report

Reference No: 107134-BCA-r5

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Table of Contents

1	BASIS OF ASSESSMENT	4
1.1	Location and Description.....	4
1.2	Purpose	4
1.3	Building Code of Australia.....	4
1.4	Limitations	4
1.5	Design Documentation	5
1.6	Organisational Responsibilities – Disability Discrimination Act 1992 (DDA)	5
2	BUILDING DESCRIPTION	6
2.1	Rise in Storeys (Clause C1.2).....	6
2.2	Classification (Clause A3.2).....	6
2.3	Effective Height (clause A1.1).....	6
2.4	Type of Construction Required (Table C1.1)	6
2.5	Floor Area and Volume Limitations (Table C2.2).....	6
2.6	Fire Compartments	6
2.7	Exits.....	6
2.8	Climate Zone (Clause A1.1).....	6
3	ESSENTIAL FIRE SAFETY MEASURES	7
4	FIRE RESISTANCE LEVELS.....	11
5	MATTERS FOR FURTHER CONSIDERATION.....	12
5.1	General.....	12
5.2	Dimensions and Tolerances.....	12
5.3	Fire rating of external columns – Table 3 of BCA Specification C1.1	12
5.4	Dimensions of exits and paths of travel to exits – BCA Clause D1.6	12
5.5	Fire hydrants – BCA Clause E1.3	12
5.6	Sanitary facilities – BCA Clause F2.3	12
	ANNEXURE A - DESIGN DOCUMENTATION	13
	ANNEXURE B - DETAILED BCA 2016 ASSESSMENT	14
	ANNEXURE C - BCA COMPLIANCE SPECIFICATION	33

1 BASIS OF ASSESSMENT

1.1 Location and Description

The building development the subject of this report, is located at Circular Quay and is known as the Overseas Passenger Terminal. The subject site is bounded by Sydney Harbour on the eastern side and a roadway to the west. The project seeks to use Tenancy 5 as an indoor and outdoor restaurant and bar (incorporating a micro-brewery) as detailed below:

- Fitout, alterations and additions of Levels 1 & 2 for use as a restaurant and bar
- Internal alterations within Tenancy 5 including amendments to the layout and internal stairs
- External amendments to the OPT building including:
 - replacement of existing glazing on the northern and eastern elevations, with new window and door openings
 - New ground floor terrace treatment and additional outdoor seating areas
 - New Level 1 balcony on the western elevation
 - New outdoor decks on Level 1 on the east and north elevations and within the tower drum providing additional outdoor seating
- Landscaping of outdoor areas
- New micro-brewery within a pod structure located outside the OPT building.

1.2 Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of BCA 2016, and to clearly outline those areas (if any) where compliance is not achieved, where areas may warrant redesign to achieve strict BCA compliance or where areas may be able to be assessed against the relevant performance criteria of BCA 2016. Such assessment against relevant performance criteria will need to be addressed by means of a separate Performance Based Fire Safety Engineered Assessment Report to be prepared under separate cover.

1.3 Building Code of Australia

This report is based on the Deemed-to-Satisfy Provisions of the National Construction Code Series Volume 1 – Building Code of Australia, 2016 Edition (BCA) incorporating the State variations where applicable. Please note that the version of the BCA applicable to new building works is the version applicable at the time of the lodgement of the Construction Certificate application to the Accredited Certifying Authority. The BCA is updated generally on a three-yearly cycle, starting from the 1st of May 2016.

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 existing or proposed building;
- (b) the inherent derived fire-resistance ratings of any existing or proposed 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 National Construction Code – Plumbing Code of Australia Volume 3
- (b) the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to), (Note: The provision of disabled access to the subject development has been assessed against the deemed to satisfy provision of Part D.3 and F2.4 of BCA2016 only);
- (c) Demolition Standards not referred to by the BCA;
- (d) Work Healthy and Safety Act 2011;

- (e) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Roads and Transport Authority, Local Council, ARTC, Department of Planning and the like;
- (f) The existing base building that is remaining unaltered with the proposed works; and
- (g) Conditions of Development Consent issued by the Local Consent Authority.

1.5 Design Documentation

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

1.6 Organisational Responsibilities – Disability Discrimination Act 1992 (DDA)

The building is subject to compliance with the Disability (Access to Premises – Buildings) Standards 2010. The Disability (Access to Premises - Buildings) Standards 2010 aim to provide certainty for the building industry in relation to meeting the DDA requirements for access in new and upgraded buildings.

When new building work takes place in an existing building and a building approval is required for that new work, the requirements for upgrading access are limited to the area of new work and the 'affected part'. The 'affected part' in existing buildings relates the path of travel from the principal public entrance to the new or modified part of the existing building.

In the case of the subject building, it is understood that the applicant for the approval of the building work will be a lessee of the building and as per section 4.3 of the Standards, upgrade of the affected part of the building is not required.

2 BUILDING DESCRIPTION

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

2.1 Rise in Storeys (Clause C1.2)

The existing building has a rise in storeys of four (4). The proposed works will not alter this rise in storeys.

2.2 Classification (Clause A3.2)

The overall base building has been classified as follows.

Class	Level	Description
6	Part ground, level 1 and 2	Retail tenancies (including restaurant use)
9b	Part ground, level 1 and 2	Assembly building (Overseas Passenger Terminal)

2.3 Effective Height (clause A1.1)

The building has an effective height of less than 25 metres and more than 12 metres.

2.4 Type of Construction Required (Table C1.1)

The base building is required to be of Type A Construction.

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

The building is not considered to be subject to maximum floor area and volume limits C2.2 of BCA2016. The building has been treated as a Large Isolated Building under C2.3a of BCA2016.

2.6 Fire Compartments

The following fire compartments have been assumed:

1. The entire building is considered to form a single fire compartment – however there is smoke separation from the Providoring hall to the rest of the building – subject of a previous Fire Engineering Assessment Report.

2.7 Exits

The following points in the building have been considered as the exits: assumed:

Level 1

- (a) the existing swing door near the base of new egress stair 1;
- (b) the new door discharging to the west side of the building from the service corridor;
- (c) the new swing door in the restaurant façade; and
- (d) the existing swing door from the corridor near the goods lift discharging to the eastern side of the building.

Level 2

- (a) new egress stair 1;
- (b) new egress stair 2;
- (c) the existing stairway at back of house connecting levels 1 & 2.

2.8 Climate Zone (Clause A1.1)

The building is located within Climate Zone 5

3 ESSENTIAL FIRE SAFETY MEASURES

The following fire safety measures are currently installed in the subject portion of the base building, some of which will need to be altered / amended with the proposed works.

Item	Proposed Essential Fire Safety Measure	Minimum Standard of Performance
1.	Automatic fire suppression system (sprinkler system) Valve Sets 1 & 2 only	BCA Clause E1.5, AS2118.1
2.	Emergency lighting	BCA Clauses E4.2 & E4.4, AS2293.1
3.	Exit signs	BCA Clauses E4.5, E4.6 & E4.8, AS2293.1
4.	Fire Blankets	AS2444
5.	Fire Dampers	AS1682.1
6.	Fire Doors	BCA Spec C3.4, AS1905.1
7.	Fire hose reel system	BCA Clause E1.4, AS2441 and Clause 27.2 of Ordinance 70
8.	Fire hydrant system (Landing Valves Only)	BCA Clause E1.3, AS2419.1 and Clause 27.3 of Ordinance 70
9.	Lifts Including emergency lighting, emergency communication and alarm, fire service	AS1735.2 Clause 23.25.2.9 AS1735.2 Clause 32.4.3 & 32.4.4 AS1735.2 Clause 29.6 (At time of installation)
10.	Mechanical air handling systems	AS1668.1 & 2
11.	Non-combustible backing to electrical cupboards in a path of travel	D2.7 (d) of the BCA
12.	Portable fire extinguishers	AS2444
13.	Warning and operational signs	BCA Clause D2.23 & E3.3
14.	Sprinkler Isolation Emergency Valves – Emergency Evacuation Plan	Fire Engineered Solution prepared by Ian Bennetts on “Fire Safety Assessment of the Sydney Cove Passenger Terminal”

The following fire safety schedule relates to a separate portion of the building that has undergone a recent refurbishment and upgrade.

Item	Proposed Essential Fire Safety Measure	Minimum Standard of Performance
1.	Automatic fail safe devices	BCA2014 Clause D2.21
2.	Automatic fire detection and alarm system (smoke alarm system)	BCA2014 Clause E2.2a, Clause 4, 5 and 6 of Specification E2.2a and AS1670.1-2004 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 16 th April 2015 Report Number S.OPT-0101/R004

Item	Proposed Essential Fire Safety Measure	Minimum Standard of Performance
		and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B
3.	Automatic fire suppression system (Sprinklers)	BCA2014 Clause E1.5, AS2118.1-1999 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 16 th April 2015 Report Number S.OPT-0101/R004 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002Revision B
4.	Emergency lighting	BCA2014 Clause E4.2, E4.4 and AS 2293.1 – 2005
5.	Sound System and Intercommunication System for Emergency Purposes (aka EWIS)	BCA2014 Clause E4.9, and AS 1670.4 – 2004 and AS 4428.4 – 2004 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 16 th April 2015 Report Number S.OPT-0101/R004 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B
6.	Exit signs	BCA2014 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS 2293.1 – 2005
7.	Fire / Smoke Dampers	BCA2013 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
8.	Fire hydrant system	BCA2014 Clause E1.3 and AS 2419.1 – 2005
9.	Fire seals protecting openings in fire resisting components of the building (Including non rating of mechanical plenum boxes in level 2 floor slab)	BCA2014 Clause C3.15, AS1530.4-2005 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002Revision B
10.	Hose reel system	BCA2014 Clause E1.4 and AS 2441 – 2005
11.	Lightweight construction (fire rated)	BCA2014 Specifications C1.8 and A2.3 and AS 1530.4-2005. Addendum Letter prepared by Umow Lai Pty Ltd dated 19 th December 2014 for one-way fire rated lid to actuator cupboards.
12.	Mechanical air handling system	BCA2014 Clause F4.5, F4.11, AS/NZS1668.2-2012
13.	Paths of travel, stairways, passageways or ramps (Including extended distances between alternate exits to level 2)	BCA2014 Section D and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B and Addendum dated 18 th August 2014
14.	Portable fire extinguishers	BCA2014 Clause E1.6 and AS 2444 – 2001
15.	Warning and operational signs	BCA2014 Clauses D2.23, D3.6, E3.3

Item	Proposed Essential Fire Safety Measure	Minimum Standard of Performance
16.	Smoke control system to Level 1 / 2 Passenger Terminal Portion	BCA2014 Specification E2.2a, BCA Specification E2.2b, AS/NZS1668.1-1998 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B. Addendum Letter prepared by Umow Lai Pty Ltd dated 19 th December 2014 for cabling to glass louver actuators.
17.	Smoke control system to Level 3 Passenger Terminal Portion	BCA2014 Specification E2.2a Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 16 th April 2015 Report Number S.OPT-0101/R004 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B
18.	Smoke Separation of Providoring Hall Including Smoke Dampers to air handling ductwork	Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B and Addendum dated 18 th August 2014
19.	Existing Level 2 Steel Structure Remaining Unprotected	Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B
20.	Emergency evacuation plan	Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B
21.	Fire Doors to Louver Actuator Enclosures	AS1905.1-2005 & Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B
22.	Emergency evacuation plan and Management In Use Procedures	Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 16 th April 2015 Report Number S.OPT-0101/R004 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B
23.	Auto Opening of Egress Doors on Level 3 to provide smoke venting	BCA2014 Clause E2.2a, Clause 4 of Specification E2.2a and AS1670.1-2004 Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 16 th April 2015 Report Number S.OPT-0101/R004
24.	Warning and operational signs	BCA2014 Clauses D2.23, D3.6, E3.3
25.	Smoke control system to Level 1 / 2 Passenger Terminal Portion	BCA2014 Specification E2.2a, BCA Specification E2.2b, AS/NZS1668.1-1998 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B. Addendum Letter prepared by Umow Lai Pty Ltd dated 19 th December 2014 for cabling to glass louver actuators.

Item	Proposed Essential Fire Safety Measure	Minimum Standard of Performance
26.	Smoke control system to Level 3 Passenger Terminal Portion	BCA2014 Specification E2.2a Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 16 th April 2015 Report Number S.OPT-0101/R004 and Fire Engineered Alternate Solution Assessment Report prepared by Umow Lai Pty Ltd dated 20 th June 2014 Report Number S.OPT-0101/R002 Revision B

4 FIRE RESISTANCE LEVELS

The following fire resistance levels (FRL's) are required for the various structural elements of the building, with a fire source feature being the far boundary of a road adjoining the allotment, a side or rear boundary or an external wall of another building on the allotment except a Class 10 structure.

Type A Construction

Item	Class 9b	Class 6
Loadbearing External Walls More than 3m from a fire source feature	120/60/30	180/120/90
Non-Loadbearing External Walls More than 3m from a fire source feature.	-/-/-	-/-/-
External Columns - Loadbearing - Non-loadbearing	120/-/- -/-/-	180/-/- -/-/-
Internal walls bounding public corridors, public lobbies and the like: - Loadbearing - Non-loadbearing	120/-/- -/-/-	180/-/- -/-/-
Ventilating, pipe, garbage and like shafts: - Loadbearing - Non-loadbearing	120/90/90 -/90/90	180/120/120 -/120/120
Loadbearing internal walls, beams trusses and columns	120/-/-	180/-/-
Floors	120/120/120	180/180/180
Roofs ¹	NA	NA

¹ The roof need not comply with any FRL's due to the sprinkler protection of the entire building.

5 MATTERS FOR FURTHER CONSIDERATION

5.1 General

Assessment of the Architectural design documentation against the Deemed-to Satisfy Provisions of the Building Code of Australia, 2016 (BCA) has revealed the following areas where compliance with the BCA may require further consideration and/or may involve assessment as Performance Based (Fire Engineered) Alternative Solutions. Any Alternative Solutions will be required to clearly indicate methodologies for achieving compliance with the relevant Performance Requirements.

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.

5.2 Dimensions and Tolerances

The BCA contains the minimum standards for building construction and safety, and therefore generally stipulates minimum dimensions which must be met. BCA Logic's assessment of the plans and specifications has been undertaken to ensure the minimal dimensions have been met.

The designer and builder should ensure that the minimum dimensions are met onsite and consideration needs to be given to construction tolerances for wall set outs, applied finishes and skirtings to corridors and bathrooms for example, tiling bed thicknesses and the like which can adversely impact on critical matters such as access for people with disabilities, stair and corridor widths and balustrade heights.

5.3 Fire rating of external columns – Table 3 of BCA Specification C1.1

Under Table 3 of BCA Specification C1.1, external columns not incorporated in an external wall are required to achieve an FRL of not less than 180/–/–. The four new external columns proposed at Level 1 do not appear to be fire-rated. It is recommended that BCA compliance be achieved via a Performance Solution in lieu of fire rating the columns.

5.4 Dimensions of exits and paths of travel to exits – BCA Clause D1.6

The unobstructed width of each exit or path of travel to an exit, except for doorways must be not less than 1m. It is understood from correspondence received from the architect that the kitchen layouts in the current plans are indicative only and 1m paths of travel will be provided in the CC stage plans.

5.5 Fire hydrants – BCA Clause E1.3

The new brewery pod extension will be located within 10 m of the existing fire hydrant booster assembly – as such this issue will need to be the subject of a separate Fire Engineering Assessment and liaising with FRNSW to ascertain any additional measures they may require.

5.6 Sanitary facilities – BCA Clause F2.3

Separate sanitary facilities must be provided for males and females. In the current design the wash basins on Level 1 are shared between the males and the females. It is recommended that the design be amended to comply or BCA compliance achieved via a Performance Solution.

ANNEXURE A - DESIGN DOCUMENTATION

This report has been based on the following design documentation.

Architectural Plans Prepared by Collins and Turner Architects, dated 24.04.17			
Drawing Number	Revision	Date	Title
257_ADA_010 F	F	07.04.17	Level 01 Demolition
257_ADA_011 G	G	07.04.17	Level 02 Demolition
257_OPT_012_H	H	24.04.17	Level 1 Floor Plan
257_ADA_013 H	H	24.04.17	Level 2 Floor Plan

ANNEXURE B - DETAILED BCA 2016 ASSESSMENT

Outlined below is a detailed assessment of the design under the Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) including the State variations where applicable.

The assessment below is of the proposed new works only and should not be considered as an assessment of the entire existing base building that is remaining unaltered with the proposed works.

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 table.

N/A	Not Applicable. The Deemed-to-Satisfy clause is not applicable to the proposed design.
Complies	The relevant provisions of the Deemed-to-Satisfy clause have been satisfied by the proposed design.
CRA	'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.
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.
Noted	BCA Clause simply provides a statement not requiring specific design comment or confirmation.
Base Building	No change to existing level of compliance to base building – assumed acceptable.

DEEMED TO SATISFY CLAUSE ASSESSMENT

Clause	Comment	Status
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SECTION B: STRUCTURE**PART B1 – STRUCTURAL PROVISIONS**

B1.0: Deemed-to-Satisfy Provisions	Informational	Noted
B1.1: Resistance to actions	Structural Engineer to certify compliance with this clause.	CRA – Refer Annexure C
B1.2: Determination of individual actions	Structural Engineer to certify compliance with this clause.	CRA – Refer Annexure C
B1.4: Determination of structural resistance of materials and forms of construction	Structural Engineer, Architect and Manufacturers to certify.	CRA – Refer Annexure C
B1.5 Structural software	Structural Engineer to certify compliance with this clause.	CRA – Refer Annexure C

SECTION C: FIRE RESISTANCE**PART C1 – STRUCTURAL PROVISIONS**

C1.1: Type of construction required	The buildings are to be of Type A Construction.	CRA – Refer Annexure C
C1.2: Calculation of rise in storeys	The building has a rise in storeys of four (4). The proposed works do not alter the rise in storeys.	Noted
C1.3: Buildings of multiple classification	Informational	Noted
C1.4: Mixed Types of construction	Not applicable	NA
C1.8: Lightweight construction	Lightweight construction used in a fire-rated application is to comply with Specification C1.8.	CRA – Refer Annexure C
C1.10: Fire hazard properties	Fire hazard properties must comply with C1.10 of the BCA and Specification C1.10 for floor, wall and ceiling linings, air-handling ductwork, lift cars, insulation, sarking-type materials and attachments, or be considered non-combustible.	CRA – Refer Annexure C
C1.12: Non-combustible materials	Informational – details the materials that may be used wherever a non-combustible material is required.	Noted

PART C2 – COMPARTMENT AND SEPARATION

C2.2: General floor area and volume limitations	The base building is considered to be a large isolated building under C2.3 of BCA2016 thus not restricted by the provisions of this Clause.	Noted
C2.3: Large isolated buildings	The existing building has been treated as a large isolated building that is fully sprinkler protected and provided with perimeter vehicle access.	Base Building
C2.4: Requirements for open spaces and vehicular access	No change to existing perimeter vehicle access with proposed building works.	Base Building
C2.6: Vertical separation of openings in external walls	Clause not applicable as development is fully sprinkler protected.	NA
C2.7: Separation by fire walls	There are no proposed fire walls	NA
C2.8: Separation of classifications in the same storey	Not applicable – the proposed works involve Class 6 parts only.	NA

SECTION C: FIRE RESISTANCE		
C2.9: Separation of classifications in different storeys	Not applicable – the proposed works involve Class 6 parts only.	NA
C2.10: Separation of lift shafts	No change proposed to existing lifts	Base Building
C2.11: Stairways and lifts in one shaft	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	Complies
C2.12: Separation of equipment	Not applicable to proposed works.	NA
C2.13: Electricity supply system	Not applicable to proposed works.	NA
PART C3 – PROTECTION OF OPENINGS		
C3.1: Application of Part	Informational	Noted
C3.2: Protection of openings in external walls	The building is located greater than 3.0m to any fire source features thus requires no protection of openings as per this clause.	NA
C3.3: Separation of external walls and associated openings in different fire compartments	The entire building forms one fire compartment thus requires no further separation under this clause.	NA
C3.4: Acceptable methods of protection	No protection required by this clause with the proposed works.	NA
C3.10: Openings in fire-isolated lift shafts	Not applicable to proposed works – lifts are existing	NA
C3.12: Openings in floors and ceilings for services	Where services pass through a floor which is required to achieve an FRL or a ceiling required to have a resistance to the incipient spread of fire, the service must be enclosed within a fire resisting shaft or fire protected in accordance with Clause C3.15.	CRA – Refer Annexure C
C3.13: Openings in shafts	Openings in shafts must be protected by: a) if it is in a sanitary compartment – a door or panel which together with its frame, is non-combustible or has an FRL of not less than –/30/30; or b) a self-closing –/60/30 fire door or hopper; or c) an access panel having an FRL of not less than –/60/30; or if the shaft is a garbage shaft – a door or hopper of non-combustible construction.	CRA – Refer Annexure C
C3.15: Openings for service installations	Where services pass through an element which is required to achieve a FRL (other than an external wall or roof), the service must be fire protected in accordance with BCA Clause C3.15.	CRA – Refer Annexure C
C3.16: Construction joints	Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4 to achieve the required FRL.	CRA – Refer Annexure C
C3.17: Columns protected with lightweight construction to achieve an FRL	A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.	CRA – Refer Annexure C
SPECIFICATION C.1.1 – FIRE-RESISTING CONSTRUCTION		
2.0: General Requirements	Informational	Noted

SECTION C: FIRE RESISTANCE		
2.1: Exposure to fire-source features	Informational	Noted
2.2: Fire protection for a support of another part	Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must have an FRL not less than that required by other provisions of this Specification; and if located within the same fire compartment as the part it supports have an FRL in respect of structural adequacy the greater of that required for the supporting part itself and for the part it supports.	CRA – Refer Annexure C
2.4: Attachments not to impair fire-resistance	Any attachments to the external façade must be non-combustible.	CRA – Refer Annexure C
2.5: General concessions	There are no concession under this clause applicable to the proposed works	NA
2.7: Enclosure of shafts	Any proposed fire-isolated shafts are required to be enclosed at the top and bottom of the shaft with fire rated construction having an FRL required for the walls of a non-load-bearing shaft in the same building, as per specification C1.1. This fire rating is required in two directions. The above does not apply to shafts extending beyond the roof covering, other than fire isolated stair and lift shafts and the bottom of non-combustible shafts laid directly on the ground.	CRA – Refer Annexure C
3.0: Type A fire-resisting construction	Noted	-
3.1: Fire-resistance of building elements	- The FRL's of all elements are to be in accordance with the FRL's detailed in the Table contained within Part 4.0 of this report. - External walls must be non-combustible; and - Load bearing internal walls must be of concrete or masonry. - Any non-loadbearing shaft walls must be of non-combustible construction. Under Table 3 of BCA Specification C1.1, external columns not incorporated in an external wall are required to achieve an FRL of not less than 180/–/–. The four new external columns proposed at Level 1 do not appear to be fire-rated.	Performance Solution Refer to Part 5 of Report
3.5: Roof: Concession	A roof need not comply with Table 3 if its covering is non-combustible.	CRA – Refer Annexure C
SPECIFICATION C1.10 – FIRE HAZARD PROPERTIES		
3. Floor linings and floor coverings	A floor lining or floor covering must have a critical radiant flux not less than that listed in Table 2.	CRA – Refer Annexure C
4. Wall and ceiling linings	- A wall or ceiling lining system must comply with the group number specified in Table 3. - A group number of a wall or ceiling lining and the smoke growth rate index or average specific extinction area must be determined in accordance with AS 5637.1.	CRA – Refer Annexure C
5. Air-handling ductwork	Rigid and flexible ductwork in a Class 2 to 9 building must comply with the <i>fire hazard properties</i> set out in AS 4254 Parts 1 and 2.	CRA – Refer Annexure C

SECTION C: FIRE RESISTANCE		
6. Lift cars	Materials used as— a) floor linings and floor coverings must have a <i>critical radiant flux</i> not less than 2.2; and b) wall and ceiling linings must be a Group 1 material or a Group 2 material in accordance with AS 5637.1.	CRA – Refer Annexure C
7. Other materials	Materials and assemblies not included in Clauses 3, 4, 5 or 6 must not exceed the indices set out in Table 4.	CRA – Refer Annexure C

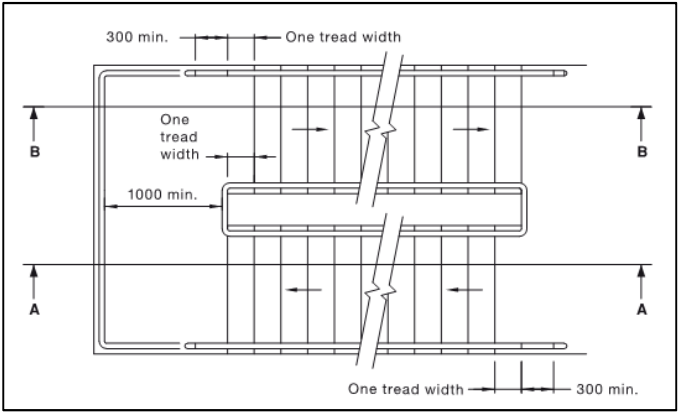
SECTION D: ACCESS AND EGRESS		
PART D1 – PROVISION FOR ESCAPE		
D1.2: Number of exits required	At least one exit is required from each storey	Complies
D1.3: When fire-isolated stairways and ramps are required	The proposed stairways are not required to be fire-isolated.	Noted
D1.4: Exit travel distances	No point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m.	Complies
D1.5: Distance between alternative exits	Exits that are required as alternative means of egress must be— (a) distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and (b) not less than 9 m apart; and (c) not more than 60 m apart; and (d) located so that alternative paths of travel do not converge such that they become less than 6 m apart. Note: the distance between exits must be measured through the point at which travel to two exits is available.	Complies
D1.6: Dimensions of exits and paths of travel to exits	- The unobstructed height throughout exits and paths of travel to exits must not be less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; and - The unobstructed width of each exit or path of travel to an exit, except for doorways must be not less than 1m; - The unobstructed width of doorways must be not less than 750 mm, unless providing access for people with disabilities in which case the unobstructed width must be not less than 850 mm. - If the storey accommodates more than 200 persons, the aggregate unobstructed egress width (except for doorways), must be not less than— (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 (ii) in any other case, 2m plus 500 mm for every 75 persons (or part) in excess of 200. - The unobstructed width of a doorway must be not less than the unobstructed width of the exit, minus 250 mm.	CRA – Refer Annexure C

SECTION D: ACCESS AND EGRESS		
	5m egress width is provided from both the Level 1 tenancy and the Level 2 tenancy. This width will accommodate a maximum population of 650 people within the Level 1 tenancy (not including outdoor area) and 560 people within the Level 2 tenancy. It is understood from correspondence received from the architect that the kitchen layouts in the current plans are indicative only and 1m paths of travel will be provided in the CC stage plans.	
D1.9: Travel by non-fire-isolated stairways or ramps	- A non-fire-isolated stairway serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided. - In a Class 6 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80m. - In a Class 6 building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than – (i) 20 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or (ii) 40 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions.	Complies
D1.10: Discharge from exits	- Exits must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit. - If a required exit leads to open space, the path of travel to the road must have an unobstructed width of not less than 1m.	Complies
D1.13: Number of persons accommodated	The proposed population numbers, as provided by the Collins and Turner Architects are as follows: Level 1: 12 staff & 723 patrons Level 2: 12 staff & 548 patrons Total: 1,271 patrons & 24 staff Note: the maximum population numbers are restricted by the egress width available in accordance with BCA Clause D1.6.	Noted
D1.14: Measurement of distances	Informational	Noted
D1.15: Method of Measurement	Informational	Noted
D1.16: Plant rooms, lift motor rooms and electricity network substations: concession	Not applicable	NA

SECTION D: ACCESS AND EGRESS		
D1.17: Access to lift pits	Not applicable – no new lift proposed	NA
PART D2 – CONSTRUCTION OF EXITS		
D2.3: Non-fire-isolated stairways and ramps	Non-fire isolated stairways must be constructed according to D2.2, or only of- (a) reinforced or prestressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that— (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m³ at a moisture content of 12%; and (iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue”.	CRA – Refer Annexure C
D2.7: Installations in exits and paths of travel	- Gas or other fuel services must not be installed in a required exit. - Any electricity meters, distribution boards or ducts, or telecommunications distribution boards or equipment installed in corridors/hallways/lobbies or the like must be enclosed with non-combustible construction or a fire protective covering with doorways suitably sealed against smoke spread.	CRA – Refer Annexure C
D2.8: Enclosure of space under stairs and ramps	The space below a required non fire-isolated stairway must not be enclosed to form a cupboard or other enclosed space unless the enclosing walls and ceilings have an FRL of not less than 60/60/60 and the doorway is fitted with a self-closing –/60/30 fire door. The enclosure beneath new egress Stair 2 must be enclosed in 60 minute fire rated construction in accordance with the above.	CRA – Refer Annexure C
D2.9: Width of stairways and ramps	Informational– A <i>required</i> stairway or ramp that exceeds 2 m in width is counted as having a width of only 2 m unless it is divided by a handrail or barrier continuous between landings and each division has a width of not more than 2 m.	Noted
D2.10: Pedestrian ramps	Not applicable – no new ramps are proposed	NA
D2.13: Goings and risers	New egress stairs 1 & 2 must comply with the following: - goings must be between 250 mm and 355 mm; - risers must be between 115 mm high and 190 mm high; - the slope relationship (2 x riser dimension + going dimension) must be within the range of 550-700; - the goings and risers must be constant (uniform) throughout each flight and the dimensions of goings (G) and risers (R) are considered constant if the variation between– (A) adjacent risers, or between adjacent goings, is no greater than 5 mm; and (B) the largest and smallest riser within a flight, or the largest and smallest going within a flight, does not exceed 10 mm.	CRA – Refer Annexure C

SECTION D: ACCESS AND EGRESS																			
	- Risers must not contain any openings that would permit a 125 mm sphere to pass through. - each tread must have a non-slip finish or an adequate non-skid strip near the edge of the nosings; - Treads must have a surface or nosing strip with a slip-resistant classification not less than that listed in Table D2.14 when tested in accordance with AS 4586-2013 <i>Slip resistance classification of new</i>																		
D2.14: Landings	Landings must be not less than 750 mm long and have either a surface with a slip-resistance classification complying with Table D2.14 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586. <table border="1"> <thead> <tr> <th rowspan="2">Application</th><th colspan="2">Surface Condition</th></tr> <tr> <th>Dry</th><th>Wet</th></tr> </thead> <tbody> <tr> <td>Ramp steeper than 1:14</td><td>P4 or R11</td><td>P5 or R12</td></tr> <tr> <td>Ramp steeper than 1:20 but not steeper than 1:14</td><td>P3 or R10</td><td>P4 or R11</td></tr> <tr> <td>Tread or landing surface</td><td>P3 or R10</td><td>P4 or R11</td></tr> <tr> <td>Nosing or landing edge strip</td><td>P3</td><td>P4</td></tr> </tbody> </table>	Application	Surface Condition		Dry	Wet	Ramp steeper than 1:14	P4 or R11	P5 or R12	Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11	Tread or landing surface	P3 or R10	P4 or R11	Nosing or landing edge strip	P3	P4	CRA – Refer Annexure C
Application	Surface Condition																		
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Nosing or landing edge strip	P3	P4																	
D2.15: 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 the doorway is in a building required to be accessible by Part D3, and in which case the doorway opens to a road or open space and is provided with a threshold ramp or step ramp in accordance with AS 1428.1.	CRA – Refer Annexure C																	
D2.16: Barriers to prevent falls	Balustrades must be provided to stairs and balconies, driveway ramps etc where there is a fall of more than 1m. Balustrades must comply with the following: <u>Balustrade minimum heights</u> 865 mm above stair nosings; 865 mm above landings to a stair where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length; and 1 m in all other locations. <u>Balustrade openings</u> - A 125 mm sphere must not be able to pass through any opening and for stairways, the 125 mm is measured above the nosing line of the stair treads. <u>Climbability – other than fire-isolated stairs</u> For floors more than 4m above the surface beneath, the balustrade must not incorporate any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that could facilitate climbing.	CRA – Refer Annexure C																	

SECTION D: ACCESS AND EGRESS		
	The plans indicate a glass panel will be installed behind the metal balustrade railing to create a non-climbable zone.	
D2.17: Handrails	Handrails to stairways must: - be located along at least one side of the flight (a flight being 2 or more risers); and - located along each side if the total width of the stairway is 2m or more; and - be fixed at a height of not less than 865 mm above the nosings of the stair treads; and - be continuous between stair flight landings and have no obstruction that will break a hand-hold. - be constructed to comply with clause 12 of AS 1428.1. - Handrails must also accord with D3.3.	CRA – Refer Annexure C
D2.18: Fixed platforms, walkways stairways and ladders	Plant areas may be accessed via walkways, stairs and ladders compliant with AS 1657-2013.	CRA – Refer Annexure C
D2.19: Doorways and doors	Not applicable – no power-operated doors are proposed	NA
D2.20: Swinging doors	The swinging exit doors must swing in the direction of egress.	CRA – Refer Annexure C
D2.21: Operation of latch	All doors in a required exit or forming part of a required exit AND doors in a path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by– (i) a single hand downward action or pushing action on a single device which is located between 900mm and 1.1 m from the floor and if serving an area required to be accessible by Part D3 – 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 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 35mm and not more than 45mm; or (ii) a single hand pushing action on a single device which is located between 900mm and 1.2m from the floor. The above requirements do not apply to a door that– (i) serves a sanitary compartment; or (ii) a sole-occupancy unit in a Class 5, 6 or 7 building with a floor area not more than 200m²; or (iii) a door that is fitted with a fail-safe device which automatically unlocks the door upon the activation of an AS 1670.1 detection system installed throughout the building.	CRA – Refer Annexure C
PART D3 - ACCESS FOR PEOPLE WITH A DISABILITY		

SECTION D: ACCESS AND EGRESS		
D3.1: General building access requirements	Access complying with AS 1428.1-2009 must be provided from the principal pedestrian entrances to and within all areas normally used by the occupants.	CRA – Refer Annexure C
D3.2: Access to buildings	- Compliant access must be provided through the main pedestrian entrance and not less than 50% of all pedestrian entrances; and - A pedestrian entrance which is not accessible must not be located more than 50m from an accessible pedestrian entrance. - Where a doorway on an accessway has multiple leaves, (except an automatic opening door) one of those leaves must have a clear opening width of not less than 850 mm.	Complies
D3.3: Parts of buildings to be accessible	- Walkways and ramps must comply with clause 10 of AS 1428.1-2009. - The new stairways must comply with Clause 11 of AS 1428.1-2009. - Accessways must have turning spaces (1540 mm x 2070 mm) within 2 m of the end of the accessway. <u>Clause 12 of AS 1428.1-2009</u> A required exit serving an area required to be accessible must be fitted with handrails in accordance with Clause 12 of AS1428.1. The handrail shall follow the angle of the nosings and be consistent height through the stair flight and any landings with no vertical sections at the landing. Compliance can be achieved via offset risers at the bottom of the flight in accordance with Figure 28 in AS1428.1-2009 or with larger landings to accommodate required handrail extensions.  <i>Figure 28 in AS1428.1-2009</i>	CRA – Refer Annexure C
D3.4: Exemptions	Informational – The following areas are not required to be accessible: - an area where access would be inappropriate because of the particular purpose for which the area is used. - an area that would pose a health or safety risk for people with a disability.	Noted

SECTION D: ACCESS AND EGRESS		
	- any path of travel providing access only to an exempted area. The following areas in the building are considered to not be accessible due to the specific uses of the room or space: - all back of house areas including the commercial kitchen. - the corridor to egress stair 2.	
D3.6: Signage	- Braille and tactile signage complying with Specification D3.6 and incorporating the international symbol of access, or deafness as appropriate, must identify each: - sanitary facility; and - any space with a hearing augmentation system; and - identify each door required by E4.5 to be provided with an exit sign and state "Exit" and "Level" and either: (aa) the floor level number; or (bb) a floor level descriptor; or (cc) a combination of (aa) and (bb) - Signage including the international symbol for deafness in accordance with AS 1428.1 must be provided within a room containing a hearing augmentation system identifying – - the type of hearing augmentation; and - the area covered within the room; and - if receivers are being used and where the receivers can be obtained. - Signage to accessible sanitary facilities must identify if the facility is suitable for left or right handed use; and - Signage to identify an ambulant accessible facility in accordance with AS 1428.1 must be located on the door of the facility. - Where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest accessible pedestrian entrance;	CRA – Refer Annexure C
D3.7: Hearing augmentation	A hearing augmentation system must be provided where an inbuilt amplification system, other than one used only for emergency warning, is installed. A hearing augmentation system must comply with the requirements of BCA Clause D3.7.	CRA – Refer Annexure C
D3.8: Tactile indicators	Tactile ground surface indicators must be provided to the top and bottom of the new stairway and in the absence of a suitable barrier, any overhead obstruction less than 2 m above floor level (eg below stair flights) Tactile ground surface indicators required by (a) must comply with sections 1 and 2 of AS/NZS 1428.4.1.	CRA – Refer Annexure C
D3.12: Glazing on an Accessway	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights	CRA – Refer Annexure C

SECTION D: ACCESS AND EGRESS		
	and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1.	

SECTION E: SERVICES AND EQUIPMENT		
PART E1 – FIRE FIGHTING EQUIPMENT		
E1.3: Fire hydrants	The new works must have coverage from the buildings existing fire hydrant system. The new brewery pod extension will be located within 10 m of the existing fire hydrant booster assembly – as such this issue will need to be the subject of a separate Fire Engineering Assessment and liaising with FRNSW to ascertain any additional measures they may require.	CRA – Refer Annexure C
E1.4: Fire hose reels	A fire hose reel system complying with BCA clause E1.4 and AS 2441-2005 must be provided to the new works. All points on a floor shall be within reach of a 4 m hose stream issuing from a nozzle at the end of the hose laid on floor. The hose length shall not exceed 36 m.	CRA – Refer Annexure C
E1.5: Sprinklers	The new works must have coverage from the buildings existing fire sprinkler system.	CRA – Refer Annexure C
E1.6: Portable fire extinguishers	Portable fire extinguishers must be provided in accordance with clause E1.6 & Table E1.6 of the BCA and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444-2001.	CRA – Refer Annexure C
E1.8: Fire control centres	No changes are proposed to the existing fire control centre.	NA
E1.9: Fire precautions during construction	During construction, not less than one portable fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required / temporary exit.	Noted
E1.10: Provision for special hazards	Suitable additional provisions must be made if special problems of firefighting could arise because of the nature or quantity of stored materials or the location of the building in relation to a water supply.	CRA – Refer Annexure C
PART E2 – SMOKE HAZARD MANAGEMENT		
E2.2: General requirements (including Tables E2.2a and E2.2b)	Due to sprinkler protection provided such sprinkler protection is considered to meet the smoke hazard management provisions of this clause	CRA – Refer Annexure C
E2.3: Provisions for special hazards	Not applicable	NA
PART E3 – LIFT INSTALLATIONS		
E3.1: Lift installations	Not applicable – the passenger lift is existing	NA
E3.2: Stretcher facility in lifts	Not applicable – the passenger lift is existing	NA
E3.3: Warning against use of lifts in fire	Warning signs indicating “DO NOT USE LIFTS IF THERE IS A FIRE” shall be displayed near every call button for a passenger lift or group of lifts throughout a building as per E3.3.	CRA – Refer Annexure C
E3.4: Emergency lifts	Not applicable	NA
E3.5: Landings	Access and egress to and from lift-well landings must comply with the Deemed-to-Satisfy Provisions of Section D.	
E3.6: Passenger lifts	Not applicable – the passenger lift is existing	NA

SECTION E: SERVICES AND EQUIPMENT			
E3.7:	Fire service controls	Not applicable – the passenger lift is existing	NA
E3.9:	Fire service recall switch	Not applicable – the passenger lift is existing	NA
E3.10:	Lift car service drive control switch	Not applicable – the passenger lift is existing	NA
PART E4 – VISIBILITY IN AN EMERGENCY, EXIT SIGNS AND WARNING SYSTEMS			
E4.2:	Emergency lighting requirements	An emergency lighting system must be installed throughout the areas of new works in accordance with Clause E4.2 of the BCA and AS 2293.1-2005.	CRA – Refer Annexure C
E4.3:	Measurement of distance	Informational	Noted
E4.4:	Design and operation of emergency lighting	The emergency lighting system must comply with AS 2293.1-2005.	CRA – Refer Annexure C
E4.5:	Exit signs	Exits signs are to be provided above or adjacent to a door providing egress as well as directional signage throughout the entire development where necessary.	CRA – Refer Annexure C
E4.6:	Direction signs	Where an exit is not readily apparent, directional signage is to be installed indicating the direction of egress.	CRA – Refer Annexure C
E4.8:	Design and operation of exit signs	Exit signs must comply with AS 2293.1-2005 and be clearly visible at all times when the building is occupied.	CRA – Refer Annexure C
E4.9:	Sound systems and intercom systems for emergency purposes	A sound system and intercom system for emergency purposes complying where applicable with AS 1670.4 must be installed within the building portion.	CRA – Refer Annexure C

SECTION F: HEALTH AND AMENITY			
PART F1 – DAMP AND WEATHERPROOFING			
F1.1:	Stormwater drainage	Stormwater drainage to comply with AS3500.3-2003.	CRA – Refer Annexure C
F1.4:	External above ground membranes	Waterproofing membranes for external above ground use to comply with AS4654 Parts 1 and 2-2012.	CRA – Refer Annexure C
F1.5:	Roof coverings	Roof coverings are to comply with BCA Clause F1.5.	CRA – Refer Annexure C
F1.6:	Sarking	Sarking-type materials used for weatherproofing must comply with AS/NZS 4200 Part 1 and 2-1994.	CRA – Refer Annexure C
F1.7:	Water proofing of wet areas in buildings	Wet areas must be constructed in accordance with AS 3740-2010 and F1.7 of the BCA.	CRA – Refer Annexure C
F1.9:	Damp-proofing	Moisture is to be prevented from reaching the walls above a damp-proof course, and the underside of the suspended floors.	CRA – Refer Annexure C
F1.10:	Damp-proofing of floors on the ground	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 2870-2011 (N/A to areas that do not require weatherproofing – refer specific clause exemptions).	CRA – Refer Annexure C
F1.13:	Glazed Assemblies	Glazed assemblies are to comply with AS2047 and AS1288.	CRA – Refer Annexure C
PART F2 – SANITARY AND OTHER FACILITIES			
F2.2:	Calculation of number of occupants and facilities	Informational Sanitary facilities must be provided on the basis of equal numbers of males and females. In calculating the number of sanitary facilities to be provided under F2.1 and F2.3, a unisex facility required for people with a disability may be counted once for each sex.	Noted

SECTION F: HEALTH AND AMENITY		
F2.3: Facilities in Class 3 to 9 buildings (including Table F2.3)	Separate sanitary facilities must be provided for males and females. In the current design the wash basins on Level 1 are shared between the males and the females. It is recommended that the design be amended to comply or BCA compliance achieved via a Performance Solution. Sanitary facility numbers must comply with Clause F2.3 and Table F2.3. The following sanitary facilities are provided: • 2 accessible unisex compartments • 12 female closet pans • 4 male closet pans • 11 urinals (7 m trough @ 0.6m per urinal) It is understood Levels 1 & 2 will accommodate 24 staff. Under Table F2.3, 15-30 staff require the following facilities: 12 males: 1 closet pan, 1 urinal & 1 wash basin 12 females: 1 closet pan & 1 wash basin The remaining sanitary facilities comprising • 2 accessible unisex compartments • 11 female closet pans • 3 male closet pans • 10 urinals can accommodate a maximum patron population of 1800 patrons, however the maximum population is limited by egress width provided as per Clause D1.6 above.	Performance Solution Refer to part 5 of Report
F2.4: Accessible sanitary facilities (including Table F2.4)	At each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females. At least one accessible unisex sanitary compartment must be provided on each storey. The construction and fitout of the two accessible unisex compartments and the four ambulant toilets must comply with AS 1428.1-2009. Note: ambulant toilets are required to be 900 to 920 mm in width.	CRA – Refer Annexure C
F2.5: Construction of sanitary compartments	The door to a fully enclosed sanitary compartment must open outwards or slide or be readily removable from the outside of the sanitary compartment unless there is a clear space of at least 1.2m between the closet pan within the sanitary compartment and the doorway.	CRA – Refer Annexure C
F2.6: Interpretation: urinals and washbasins	Informational– (a) A urinal may be— (i) an individual stall or wall-hung urinal; or (ii) each 600 mm length of a continuous urinal trough; or (iii) a closet pan used in place of a urinal. (b) A washbasin may be— (i) an individual basin; or	Noted

SECTION F: HEALTH AND AMENITY		
	(ii) a part of a hand washing trough served by a single water tap.	
PART F3 – ROOM SIZES		
F3.1: Height of rooms and other spaces	Room heights must be as follows: - in a part that accommodates not more than 100 persons — 2.4 m; and - in a part that accommodates more than 100 persons — 2.7 m; and - in a corridor— (A) that serves an assembly building or part that accommodates not more than 100 persons — 2.4 m; or (B) that serves an assembly building or part that accommodates more than 100 persons — 2.7 m; and - within sanitary compartments and store rooms – 2.1 m; and - within the kitchen - 2.4 m; and - above stairways – 2 m measured above the nosing line of the stairway treads and landing.	CRA – Refer Annexure C
PART F4 – LIGHT AND VENTILATION		
F4.1: Provision of natural light	Not applicable	NA
F4.2: Methods and extent of natural lighting	Not applicable	NA
F4.3: Natural light borrowed from adjoining room	Not applicable	NA
F4.4: Artificial Lighting	Lighting to the all areas is to comply with AS 1680.0.	CRA – Refer Annexure C
F4.5: Ventilation of rooms	All rooms to be provided with Clause F4.6 compliant natural ventilation OR a mechanical ventilation or air-conditioning system complying with AS 1668.2-2012.	CRA – Refer Annexure C
F4.6: Natural ventilation	(a) Natural ventilation provided in accordance with F4.5(a) must consist of permanent openings, windows, doors or other devices which can be opened— (i) with an aggregate opening or openable size not less than 5% of the floor area of the room required to be ventilated; and (ii) open to— (A) a suitably sized court, or space open to the sky; or (B) an open verandah, carport, or the like; or (C) an adjoining room in accordance with F4.7.	CRA – Refer Annexure C
F4.7: Ventilation borrowed from adjoining room	Not applicable	NA
F4.8: Restriction on position of water closets and urinals	A room containing a closet pan or urinal must not open directly into a kitchen, pantry or a workplace normally occupied by more than one person.	Noted
F4.9: Airlocks	If a room containing a closet pan or urinal is prohibited from opening directly to another room: access must be by an airlock, hallway or other room with a floor area of not less than 1.1m² and fitted with self-closing doors at all access doorways; or	CRA – Refer Annexure C

SECTION F: HEALTH AND AMENITY		
	the room containing the closet pan or urinal must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.	
F4.12: Kitchen local exhaust ventilation	Any commercial kitchen must be provided with a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2 where: - any cooking apparatus has: - a total maximum electrical power input exceeding 8 kW; or - a total gas power input exceeding 29 MJ/h; or - the total maximum power input to more than one apparatus exceeds: 0.5 kW electrical power; or 1.8 MJ gas, Per m² of floor area of the room or enclosure.	CRA – Refer Annexure C
PART F5 – SOUND TRANSMISSION AND INSULATION		
Part F5 is not applicable		

SECTION G: ANCILLARY PROVISIONS		
PART G1 – MINOR STRUCTURES AND COMPONENTS		
G1.2: Refrigerated chambers, strong-rooms and vaults	(a) The cool rooms must have the following: (i) a door which is capable of being opened by hand from inside without a key; and (ii) internal lighting controlled only by a switch which is located adjacent to the entrance doorway inside the chamber, strongroom or vault; and (iii) an indicator lamp positioned outside the chamber, strongroom or vault which is illuminated when the interior lights required by (a)(ii) are switched on; and (iv) an alarm that is— (A) located outside but controllable only from within the chamber, strongroom or vault; and (B) able to achieve a sound pressure level outside the chamber, strongroom or vault of 90 dB(A) when measured 3 m from the sounding device. (b) A door required by (a)(i) in a refrigerated or cooling chamber must have a doorway with a clear width of not less than 600 mm and a clear height not less than 1.5 m.	CRA – Refer Annexure C
PART G2 – BOILERS, PRESSURE VESSELS, HEATING APPLIANCES, FIREPLACES, CHIMNEYS AND FLUES		
G2.2: Installation of Appliances	Any proposed boilers and pressure vessels must comply with BCA Specification G2.2.	CRA – Refer Annexure C

SECTION J: ENERGY EFFICIENCY		
PART J1 – BUILDING FABRIC		
J1.1: Application of Part	The provisions of Part J1 apply to new building elements forming part of the <i>envelope</i> of the building.	CRA – Refer Annexure C

SECTION J: ENERGY EFFICIENCY			
J1.2:	Thermal construction general	Where required insulation is to comply with AS4859.1 and be installed in accordance with this clause.	CRA – Refer Annexure C
J1.3:	Roof and ceiling construction	a) Roof and ceiling construction must achieve the Total R-Value specified in BCA Table J1.3a for the direction of heat flow. b) For compliance with Table J1.3a, roof and ceiling construction is deemed to have the thermal properties listed in Specification J1.3. c) Where, for operational or safety reasons associated with exhaust fans, flues or recessed down lights, the area of required ceiling insulation is reduced, the loss of insulation must be compensated for by increasing the R-Value of the insulation in the remainder of the ceiling in accordance with Table J1.3b. d) A roof that: (i) is required to achieve a minimum Total R-Value; and (ii) has metal sheet roofing fixed to metal purlins, metal rafters or metal battens; and (iii) does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens (see Specification J1.3 Figure 2(c) and (f)), must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.	CRA – Refer Annexure C
J1.5:	Walls	a) Each part of an external wall that is part of the <i>envelope</i> must satisfy one of the options in Table J1.5a except for: (i) opaque non-glazed openings in external walls such as doors, vents, penetrations, shutters and the like; and (ii) glazing. b) Any wall other than an external wall that is part of the <i>envelope</i> must achieve the Total R-Value in Table J1.5b. c) A wall that: (i) is required to achieve a minimum Total R-Value; and (ii) has lightweight external cladding such as weatherboards, fibre cement or metal sheeting fixed to a metal frame; and (iii) does not have a wall lining or has a wall lining fixed directly to the same metal frame, must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the external cladding and the metal frame. d) For compliance with Table J1.5a and Table J1.5b, wall construction is deemed to have the thermal properties listed in Specification J1.5.	CRA – Refer Annexure C

SECTION J: ENERGY EFFICIENCY		
J1.6: Floors	a) A floor that is part of the <i>envelope</i> of a building, including a floor above or below a carpark or plant room: (i) must achieve the Total R-Value specified in Table J1.6; and (ii) with an in-slab heating or cooling system, must be insulated around the vertical edge of its perimeter with insulation having an R-Value of not less than 1.0. b) The minimum Total R-Value required in (a) may be reduced by R0.5 provided R0.75 is added to the Total R-Value required for the roof and ceiling construction. c) Floor construction is deemed to have the thermal properties listed in Specification J1.6.	CRA – Refer Annexure C
PART J2 – GLAZING		
J2.1: Application of Part	This part applies to all new glazing located in the <i>envelope</i> of the building.	Noted
J2.4: Glazing	Glazing to comply with this clause, it is noted that this assessment does not include an assessment with the glazing calculator.	CRA – Refer Annexure C
J2.5: Shading	Shading where required by Clause J2.4, must comply with BCA Clause J2.5.	CRA – Refer Annexure C
PART J3 – BUILDING SEALING		
J3.1: Application of Part	The requirements of this Part apply to elements forming the <i>envelope</i> of the building other than: • where the only means of air-conditioning is by using an evaporative cooler; • a permanent building opening necessary for the safe operation of a gas appliance; • a building or part where mechanical ventilation required by part f4 provides sufficient pressurization to prevent infiltration; • parts of buildings that cannot be fully enclosed.	Noted
J3.2: Chimneys and flues	The chimney or flue of an open solid-fuel burning appliance must be provided with a damper or flap that can be closed to seal the chimney or flue.	CRA – Refer Annexure C
J3.4: External windows and doors	• A seal to restrict air infiltration must be fitted to each edge of a door, openable window or the like forming part of: – the <i>envelope</i> of a conditioned space; or – the external fabric of a habitable room or public area. • The above does not apply to: – a window complying with AS 2047; or – a fire door or smoke door; or – a roller shutter door, roller shutter grille or other security device. • For the bottom edge of external swing doors, the seal must be a draft protection device and may otherwise be a foam or rubber compression strip, fibrous seal or the like.	CRA – Refer Annexure C

SECTION J: ENERGY EFFICIENCY		
	- An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, revolving door or the like, other than– (i) where the conditioned space has a floor area of not more than 50m²; or (ii) where a café, restaurant, open front shop or the like has– A. a 3m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and B. at all other entrances to the café, restaurant, open front shop or the like, self-closing doors.	
J3.5: Exhaust fans	The exhaust fans to the sanitary facilities and any other miscellaneous exhaust fans to other conditioned spaces, are to be pre-fitted with a sealing device, such as a self-closing damper of the like.	CRA – Refer Annexure C
J3.6: Construction of roofs, walls and floors	The roof, walls, floors and any other openings, such as window or doors, are to be constructed to minimise air leakage by being enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions or are sealed by caulking, skirting, architraves, cornices or the like.	CRA – Refer Annexure C
J3.7: Evaporative Coolers	Where provided an evaporative cooler is to be fitted with a self-closing damper in accordance with this clause.	CRA – Refer Annexure C
PART J5 – AIR CONDITIONING AND VENTILATION SYSTEMS		
J5.2: Air-conditioning systems	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C
J5.3: Mechanical ventilation systems	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C
J5.4: Miscellaneous exhaust systems	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C
PART J6 – ARTIFICIAL LIGHTING AND POWER		
J6.2: Artificial lighting	Artificial lighting must comply with J6.2(b) and J6.2(c), relevant to maximum permitted illumination power loads. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C
J6.3: Interior artificial lighting and power control	Lighting switches and control devices must comply with BCA Clause J6.3. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C
J6.4: Interior decorative and display lighting	Lighting falling under this clause is to be separately switched from other lighting, be under a manual switch and controlled with a time switch. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C
J6.5: Artificial lighting around the perimeter of a building	Artificial lighting around the perimeter of a building must be controlled by sensors or time switches in accordance with the specific requirements of this clause. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C
J6.6: Boiling water and chilled water storage units	The power supply to a fixed boiling water or chilled water storage unit must be controlled by a time switch in accordance with BCA Specification J6. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C
PART J7 – HEATED WATER SUPPLY		

SECTION J: ENERGY EFFICIENCY			
J7.2:	Heated water supply system	The hot water supply systems must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.	CRA – Refer Annexure C
PART J8 – FACILITIES FOR ENERGY MONITORING			
J8.1	Application of Part	Informational	Noted
J8.3	Facilities for energy monitoring	• A building with a floor area of more than 500m² must have an energy monitoring facility to record the consumption of gas and electricity. • A building with a floor area of more than 2,500m² must have the facility to record, individually the energy consumption of: – air-conditioning plant including, where appropriate, heating plant, cooling plant and air handling fans; and – artificial lighting; and – appliance power; and – central hot water supply; and – internal transport devices including lifts, escalators and travelators where there is more than one serving the building; and – other ancillary plant.	CRA – Refer Annexure C

ANNEXURE C - BCA COMPLIANCE SPECIFICATION

The following BCA matters are to be addressed by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Construction Certificate Stage. This schedule should be forwarded to all consultants to obtain verification that these items have and will be included in the design documentation / specifications:

Architectural Design Certification:

1. The FRL's of any new structural elements for the proposed works have been designed in accordance with Table 3 of Specification C1.1 of BCA2016 for a building of Type A Construction.
2. Materials, floor and wall linings/coverings, surface finished and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C1.10 and Specification C1.10 of BCA2016.
3. Services penetrating elements required to possess a FRL including the floor slabs, walls, shafts, etc. will be protected in accordance with Clause C3.12, C3.13 and C3.15 and Specification C3.15 of BCA2016.

4. Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation will be protected in accordance with BCA Clause C3.16.
5. Columns protected by light weight construction will achieve an FRL not less than the FRL for the element it is penetrating, in accordance with Clause C3.17 of BCA2016.
6. All attachments to the external façade of the building will be of a non-combustible material, or a combustible material in accordance with Clause 2.4 of Specification C1.1 of BCA2016.
7. The top and bottom of the riser shafts will achieve an FRL not less than the FRL required for the walls of the shaft in accordance with Clause 2.7 of Specification C1.1 of BCA2016.
8. The dimensions of exits and paths of travel to exits will be provided in accordance with Clause D1.6 of BCA2016.
9. The non-fire isolated stairs will be constructed in accordance with Clause D2.3 of BCA2016.
10. The construction of EDB's and telecommunications distribution boards will be in accordance with Clause D2.7 of BCA2016 with the enclosure bounded by non-combustible construction or fire protective covering and smoke seals provided around the perimeter of the non-combustible doors and any openings sealed with non-combustible mastic to prevent smoke spreading from the enclosure.
11. The enclosing walls and ceiling under the non-fire-isolated stairway will achieve an FRL of 60/60/60, and have a self-closing -/60/30 fire door, in accordance with Clause D2.8 of BCA2016.
12. Stair geometry to the new stairways will be in accordance with Clause D2.13 of BCA2016. Stair treads are to have a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS4586.
13. Landings and door thresholds throughout the development will be provided in accordance with Clause D2.14 and D2.15 of BCA2016. Landings to have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS4586 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS4586 where the edge ledge to a flight below.
14. The handrails and balustrades to all stairs and throughout the building will be in accordance with Clause D2.16, and D2.17 of BCA2016.
15. The fixed platform, walkway, stairway and ladder and any associated going and riser, landing handrail, balustrade, located within the machinery room, boiler house, lift-machine room, plant-room, or non-habitable attic/storeroom within the sole occupancy unit will comply with AS1657-2013 or Part D2 of BCA2016.
16. The doorways and doors will be in accordance with Clause D2.19 and D2.20 of BCA2016.
17. The door latching mechanisms to the proposed required exit doors will be in accordance with Clause D2.21 of BCA2016.
18. The new works will be accessible in accordance with Clause D3.1 and table D3.1, D3.2, D3.3 of BCA2016, and with AS1428.1-2009, with particular note to door circulation spaces, accessway widths, turning spaces and floor coverings, in accordance with Part D3 of BCA2016.
19. Braille and tactile signage will in accordance with Clause D3.6, and Specification D3.6 of BCA2016.
20. Tactile ground surface indicators will be provided in accordance with Clause D3.8 of BCA2016 and AS1428.4.1-2009.
21. On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, will be clearly marked in accordance with AS1428.1-2009 and Clause D3.12 of BCA2016.
22. Fire precautions whilst the building is under construction fire precautions will be in accordance with Clause E1.9 of BCA2016.
23. Additional provisions will be made in accordance with Clause E1.10 of BCA2016, due to the special hazards associated with the building works or the location of the building works.
24. External above ground waterproofing membranes will comply with Clause F1.4 of BCA2016 and AS 4654 Parts 1 & 2.

25. The new roof covering will be in accordance with Clause F1.5 of BCA2016.
26. Any sarking proposed will be installed in accordance with Clause F1.6 of BCA2016.
27. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F1.7 of BCA2016 and AS3740.
28. Damp proofing of the proposed structure will be carried out in accordance with Clause F1.9 and F1.10 of BCA2016.
29. All new glazing to be installed throughout the development will be in accordance with Clause F1.13 of BCA2016 and AS1288 / AS2047.
30. Accessible sanitary facilities will be provided in the building in accordance with Clause F2.4, Table F2.4 (a) of BCA2016 and AS1428.1-2009.
31. The construction of the sanitary facilities will be in accordance with Clause F2.5 of BCA2016.
32. Ceiling heights to the new areas will be in accordance with Clause F3.1 of BCA2016.
33. The sanitary compartments will be either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F4.9 of BCA2016.
34. The freezer and cool rooms will be in accordance with Clause G1.2.
35. Any new Building Fabric and Thermal Construction will be in accordance with Part J1 of BCA2016.
36. Glazing will be in accordance with Part J2 of BCA2016.
37. Building sealing will be in accordance with Part J3 of BCA2016.
38. Facilities for Energy Monitoring will be provided in accordance with Clause J8.3 of BCA2016.

Electrical Services Design Certification:

39. Emergency lighting will be installed throughout the development in accordance with Clause E4.2, E4.4 of BCA2016 and AS2293.1.
40. Exit signage will be installed in accordance with Clause E4.5, E4.7, and E4.8 of BCA2016 and AS2293.1.
41. A sound systems and intercom systems for emergency purposes (SSISEP) will be provided to the building portion in accordance with Clause E4.9 of BCA2016.
42. Artificial lighting will be installed throughout the development in accordance Clause F4.4 of BCA2016 and AS/NZS 1680.0.
43. Lighting power and controls will be installed in accordance with Part J6 of BCA2016.

Hydraulic Services Design Certification:

44. Storm water drainage will be provided in accordance with Clause F1.1 of BCA2016 and ASNZS3500.3
45. Fire hydrants will be installed in accordance with Clause E1.3 of BCA2016 and AS2419.1 as required.
46. Fire hose reels will be installed in accordance with Clause E1.4 of BCA2016 and AS2441.
47. A sprinkler system will be installed in accordance with Clause E1.5 of BCA2016, Specification E1.5 and AS2118,1-1999.
48. Portable fire extinguishers will be installed in accordance with Clause E1.6 of BCA2016 and AS2444.
49. The heated water supply systems will be designed and installed to NCC Volume 3 – Plumbing code and Clause J7.2 of BCA2016.

Mechanical Services Design Certification:

50. Where not naturally ventilated the building will be mechanically ventilated in accordance with Clause F4.5 of BCA2016 and AS1668.2.
51. The commercial kitchen will be provided with a kitchen exhaust hood in accordance with Clause F4.12 of BCA2016, and AS/NZS 1668.1 and AS1668.2.
52. The air-conditioning and ventilations systems will be designed and installed in accordance with Part J5 of BCA2016.

Structural Engineers Design Certification:

53. The material and forms of construction for the proposed works will be in accordance with Clause B1.2, B1.4 and B1.6 of BCA2016 as follows:
 - Dead and Live Loads – AS1170.1
 - Wind Loads – AS1170.2
 - Earthquake actions – AS1170.4
 - Masonry – AS3700
 - Concrete Construction – AS3600
 - Steel Construction AS4100
 - Aluminium Construction – AS/NZS1664.1 or 2
 - Timber Construction – AS 1720.1
 - ABCB Standard for Construction of Buildings in Flood Hazard Areas.
54. The FRL's of the structural elements for the proposed works have been designed in accordance with Table 3 for a building of Type A Construction.
55. Lightweight construction used to achieve required fire resistance levels will comply with Specification C1.8 of BCA2016.
56. The construction joints to the structure will be in accordance with Clause C3.16 of BCA2016 to maintain the FRL integrity of the element concerned.