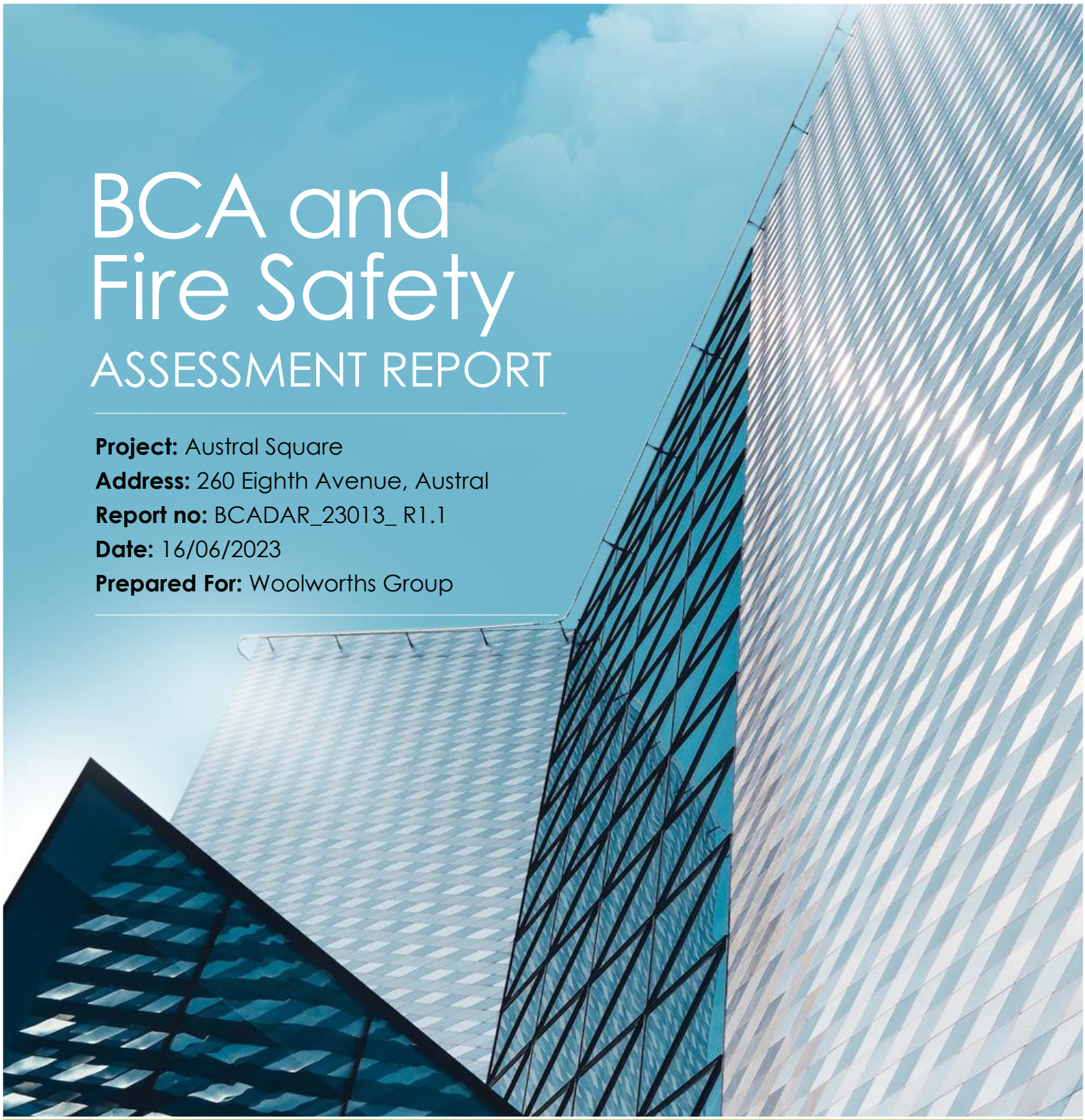

# BCA and Fire Safety

## ASSESSMENT REPORT

**Project:** Austral Square
**Address:** 260 Eighth Avenue, Austral
**Report no:** BCADAR_23013_ R1.1
**Date:** 16/06/2023
**Prepared For:** Woolworths Group

HONTAS HATZI & CO
Building Code & Accessibility Consultants

## Document Control & Status

| Report & Revision No. | Date | Status | Authorisation | |
|---|---|---|---|---|
| BCADAR_23013_R1.0 | 12/05/23 | Draft | Author: | |
| BCADAR_23013_R1.1 | 16/06/23 | Final | | |
| | | | **Nick Hontas**<br>**Director**<br>Building Surveyor - Unrestricted BDC 0832<br>ACAA Membership No. 795 | Signed:  |
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# Contents

## 1. Introduction

Hontas Hatzi & Co. (HHC) have been engaged by Woolworths Group to conduct a preliminary assessment of the proposed architectural design documentation against the relevant Deemed to Satisfy (DtS) provisions of the Building Code of Australia (BCA) 2022.

## 2. Purpose

The purpose of this report is to assess the referenced design documentation against the relevant Deemed to Satisfy (DtS) provisions of the Building Code of Australia (BCA) 2022 and identify those areas (if any) where:

- Compliance is not achieved; or
- Design amendments are required to achieve compliance; or
- Compliance is proposed to be achieved by way of a Performance Solution.

The report is proposed to form part of the documentation supporting the Development Application to the relevant Consent Authority.

## 3. Scope

The scope of this report is limited to the assessment of the referenced design documentation listed in **Section 5**.

## 4. Report Limitations

This report is limited to a preliminary assessment of the Deemed to Satisfy (DtS) provisions of the Building Code of Australia (BCA) 2022 and referenced architectural design documentation in **Section 5** of this report.

The design documentation has been assessed to the extent necessary to support the Development Application. This means the design has been assessed as capable of complying with the BCA without necessarily having all the detailed design completed at this stage.

The content of this report is restricted for the exclusive use of the Client. Whilst all care has been taken in the preparation of this report, HHC accepts no responsibility or liability with respect to reliance upon this report by any third party. The recommendations relating to compliance throughout this report reflect the professional opinion and interpretation of HHC.

The report does not include or imply any detailed assessment or compliance with:

- Provisions of the BCA not directly referenced.
- Detailed requirements of Australian Standards which are not a directly referenced.
- Structural adequacy and/or design of the building.
- Design and/or operating capabilities of any electrical, fire protection, hydraulic or mechanical services.
- The National Construction Code – Plumbing Code of Australia (Volume 3).
- Any Performance Solution(s) unless specifically referenced.
- The Disability Discrimination Act 1992.
- Any other Acts, Regulations, Planning Instruments and Guidelines unless specifically referenced.
- Requirements of other Regulatory Authorities including, but not limited to, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning and the like.
- Work Health and Safety Act.
- Construction Safety Act.
- Review or testing of any materials or products (unless referenced in this report).
- This document does not, in any way, constitute or form part of a 'Design Declaration' under the *Design and Building Practitioners Act 2020* or the *Design and Building Practitioners Regulation 2021*. This document must not be referenced or referred to in any declarations made under that legislation.

## 5. Project Information

The following project and building characteristics are noted as part of this assessment:

| Project and Building Characteristics | |
|---|---|
| **Description of proposed works** | Construction of a new mixed use retail and commercial development |
| **Building Classification and Use** | • Class 5 – Commercial<br>• Class 6 – Retail<br>• Class 7a – Carpark |
| **Rise in Storeys** | 3 |
| **Type of Construction** | Type B |
| **Effective Height** | Approx. 8.9m (LG RL74.50m – L1 RL83.40m) |
| **Structural Importance Level** | 2 *(TBC by structural engineer)* |
| **Climate Zone** | 6 |
| **Maximum Floor Area and Volume Limitations** | N/A – large isolated building |
| **Fire Compartments** | |
| **Location of Exits** | Refer to Appendix C |

This design assessment is based on the following documentation:

- Architectural design documentation prepared by **Clarke Hopkins Clarke:**

| Drawing No. | Title | Date | Revision |
|---|---|---|---|
| DA2.4 | Site Plan – Overall Works | 16/06/23 | A |
| DA2.5 | Site Plan – Part 1 | 16/06/23 | A |
| DA2.6 | Site Plan – Part 2 | 16/06/23 | A |
| DA3.1 | Lower Ground Floor Plan | 16/06/23 | A |

| | | | |
|---|---|---|---|
| DA3.2 | Upper Ground Floor Plan | 16/06/23 | A |
| DA3.3 | Level 1 Floor Plan | 16/06/23 | A |
| DA3.4 | Roof Plan | 16/06/23 | A |
| DA4.1 | Building Elevation – Sheet 1 | 16/06/23 | A |
| DA4.2 | Building Elevation – Sheet 2 | 16/06/23 | A |
| DA5.1 | Building Sections – Sheet 1 | 16/06/23 | A |

# 6. Regulatory Framework

This section of the report summarises the key regulatory issues that apply to fire safety.

## 6.1. New Building Work

Pursuant to Section 19 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021, all new building work must comply with the relevant requirements of the BCA as in force on the relevant date. Notwithstanding, existing features of an existing building need not comply with the BCA unless an upgrade is required by other clauses of legislation.

*The **relevant date** is—*

1. *the day on which the application for the construction certificate was made, or*
2. *if the building is a multi-storey building and a construction certificate has been issued under the same development consent for building work involving the entrance floor—the day on which the application for that construction certificate was made.*

## 6.2. The 'Premises Standard' 2010

The Disability (Access to Premises - Buildings) Standards 2010 ("Premises Standard") was implemented and enforceable since 1st of May 2011. The Standard identifies mandatory triggers for upgrades to a building where works are undertaken by the Building Owner or Sole Lessee (or their representative).

The aim of the Premises Standard is to progressively upgrade existing buildings and allow for the removal of access barriers within the built environment. This provides greater certainty for Building Owners and construction professionals when detailing the extent of upgrades to existing building when new works occur.

The Premises Standard applies to a "new building", "a new part of an existing building" and "the affected part of an existing building" where applications for building work are submitted by the Building Owner or Sole Lessee (or their representative).

The upgrade triggers focus on the Principal Pedestrian Entry (PPE) and the "affected part" which is defined as follows and is illustrated in **Figure 1** (below):

- The principal pedestrian entrance of an existing building that contains a new part; and
- Any part of an existing building that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.


**Figure 1 – Illustration of "affected part" upgrade**

The Premises Standard generally aligns with the National Construction Code/Building Code of Australia (NCC/BCA) and contains various exemptions and concessions that are available in certain instances.

### 6.3. Referral to Fire and Rescue NSW

Sections 26 to 29 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 outline the requirements when a Certifier must forward the relevant plans and specifications to the Fire Commissioner for review and comment.

The requirements apply at Construction Certificate application stage where a Performance Solution is proposed for *relevant building work* as follows:

- A building, other than a Class 9a building, that is proposed to have a fire compartment with a floor area of more than 2,000m$^2$.
- A building, other than a class 9a building, that is proposed to have a floor area of more than 6,000m$^2$.
- A Class 5, 6, 7 or 8 building of 3 storeys or more storeys, or the Class 5 part of a Class 5, 6, 7 or 8 building of 3 or more storeys relating to external combustible cladding.

# 7. BCA Assessment

A preliminary assessment of the proposed architectural design documentation has been undertaken for the purposes of, and to the extent necessary, to accompany the Development Application to the relevant Consent Authority.

It is acknowledged the design does not contain all the details necessary for a Construction Certificate, however it is developed to a standard that is considered suitable to accompany the Development Application.

Further detailed reviews will need to be progressively undertaken by Hontas Hatzi & Co as the design develops to ensure it is capable of being approved under a Construction Certificate and contains all relevant details regarding performance-based solutions or other documentation necessary to satisfy the relevant legislative requirements.

The following key BCA provisions apply to the subject scope of works. These compliance matters will need to be considered as part of the design development process:

## Section B: Structure

***Part B1: Structural Provisions***

All new building works are to comply with the relevant structural provisions of BCA Part B1 and AS/NZS 1170 standards.

The Importance Level is to be determined by a Professional Engineer (Structural Engineer) registered on the National Engineering Register and incorporated into the design as required.

Seismic bracing of non-structural building elements and components may be required to comply with Section 8 of AS 1170.4. Where this is required, certification provided by a specialist seismic consultant, or by the architect and services design engineers will be required.

Compliance with these requirements will need to be addressed by the encumbered Professional Engineer (Structural Engineer) and Project Architect during the subsequent design development phase and prior to the issue of a Construction Certificate.

## Section C Fire Resistance

***Part C1 and C2: Fire Resistance and Stability***

The fire resistance requirements are determined based on the rise in storeys, classification of the building and/or maximum floor area and volume limitations of Table C3D3.

Based on the rise in storeys of 3, the building is required to be constructed in accordance with the requirements of Type B Construction and building elements achieve a Fire Resistance Level (FRL) in accordance with Specification 5 – refer to Appendix B for further details.

**Table C2D2: Type of construction required**

| *Rise in storeys* | Class of building 2, 3, 9 | Class of building 5, 6, 7, 8 |
|---|---|---|
| 4 or more | A | A |
| 3 | A | B |
| 2 | B | C |
| 1 | C | C |

The following building elements and their components must be non-combustible including:

- External walls and common walls including all components incorporated in them including the face covering, framing and insulation.
- The flooring and floor framing of lift pits.
- Non-loadbearing internal walls where they are required to be fire resisting.
- Additional notes:
    - Load-bearing internal walls (including shafts) and a load–bearing fire wall must be constructed from concrete or masonry.
    - Ancillary elements must also be non-combustible or otherwise comply with clause C2D14 (noting specific provisions for signage attached to the building).

New floor, wall and ceiling internal linings, materials and/or assemblies are to comply with the fire hazard properties requirement outlined in clause C2D11 and Specification 7.

A schedule of all wall, floor, and ceiling linings along with associated test reports are to be provided for review to ensure compliance with the fire hazard property requirements of the BCA. Key information required is as follows:

- Minimum Group Numbers applying to wall and ceiling linings. AS 5637 test reports must be provided to determine compliance.
- Minimum Critical Radiant Flux values applying to floor linings. AS ISO 9239.1 test reports must be provided to determine compliance.
- Product data sheets and/or test reports showing the fire hazard properties of materials complying with the above are to be provided at the design development stage.

Any externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame.

***Part C3: Compartmentation and Separation***

The building exceeds the maximum floor area and volume limitations of Table C3D3 and has therefore been assessed as a single large-isolated building in accordance with Clause C3D4.

**Table C3D3: Maximum size of fire compartments or atria**

| Classification | Type A construction | Type B construction | Type C construction |
|---|---|---|---|
| 5, 9b or 9c | Max *floor area*—8 000 $m^2$ | Max *floor area*—5 500 $m^2$ | Max *floor area*—3 000 $m^2$ |
| | Max *volume*—48 000 $m^3$ | Max *volume*—33 000 $m^3$ | max *volume*—18 000 $m^3$ |
| 6, 7, 8 or 9a (except for *patient care areas*) | Max *floor area*—5 000 $m^2$ | Max *floor area*—3 500 $m^2$ | Max *floor area*—2 000 $m^2$ |
| | Max *volume*—30 000 $m^3$ | Max *volume*—21 000 $m^3$ | Max *volume*—12 000 $m^3$ |

Key design parameters that need to be considered as part of the design development phase for the building include:

- Protected throughout with a sprinkler system complying with Specification 17; and
- Provided with perimeter vehicular access that has a minimum unobstructed width of 6m with no part of its furthest boundary more than 18m from the building. Vehicular access must enable travel in a forward direction from a public road around the entire building.

Vehicular access along the eastern boundary is not provided, and compliance is proposed to be addressed by means of a Performance Solution at Construction Certificate stage.

Equipment as specified in Clauses C3D13 and C3D14 are required to be fire separated from the remainder of the building. Typically, two hour fire separation is required.

***Part C4: Protection of openings***

Any opening within 3m of the eastern boundary are required to be protected in accordance with Clause C4D5. Where wall-wetting sprinklers are proposed, the windows must be either automatic closing or permanently fixed in the closed position.

Any service penetrations through fire rated floor and/or walls are to be adequately protected by fire rated shafts and/or sealed in accordance with the relevant provisions of Clause C4D15.

## Section D: Access and Egress

***Part D2: Provision for escape***

The number of exits provided on each storey complies with clause D2D3.

Travel distances based on the proposed location of the exits would appear to indicate compliance with the DtS provisions of the BCA except at the upper ground floor. Travel distances at the upper ground are anticipated to be within the vicinity of:

- 30m to a point of choice in lieu of 20m
- Up to 60m to the first exit in lieu of 40m
- Up to 90m between alternative exits in lieu of 60m measured back through the point of choice

A detailed assessment will need to be undertaken once the supermarket control plan is available to confirm travel distances, however compliance by means of a Performance Solution will be required at the Construction Certificate stage.

All paths of travel to an exit, or within a required exit, must achieve a minimum unobstructed width of 1000mm and height throughout not less than 2000mm. Doorways are permitted to achieve an unobstructed height not less than 1980mm and clear opening width of 850mm.

The exits serving the upper ground floor provide an aggregate egress width of ~13m excluding the specialty retail which egresses directly to the on-grade carpark along the southern end of the supermarket. This width can accommodate a population of up to 1690 which exceeds the total anticipated 1575 population for the entire building. The lower ground commercial and retail areas egress directly out to open space. The first floor commercial level is served by 3 x 1m stairways which can accommodate up to 320 occupants whilst the anticipated population is ~186.

The table below identifies the key areas and population density ratio that has been applied to determine the total population in the building, as follows:

| Population Assessment | | | | | | |
|---|---|---|---|---|---|---|
| **Area** | **Use** | **Total area ($m^2$)** | **FOH/BOH Split Retail (80/20%) F & B (70/30%)** | **Fixtures and fittings 30% deduction Net Area ($m^2$)** | **DtS density / Staff %** | **Total Population** |
| **Woolworths Retail** | Class 6 | 3881$m^2$ | 1580$m^2$ net area based on concept layout plan | | 3$m^2$ | 526 |
| | | | Assumed staff population including BWS | | | 80 |
| **BWS Retail** | Class 6 | 200$m^2$ | FOH – 160$m^2$ | 112$m^2$ | 3$m^2$ | 37 |
| **Upper Ground Mall** | Class 6 | 340$m^2$ | Excluding kiosk and seating areas | | 3$m^2$ | 113 |
| **Speciality Retail** | Class 6 | 761$m^2$ | FOH – 609$m^2$ | 423$m^2$ | 3$m^2$ | 141 |
| | | | BOH – 152$m^2$ | 106$m^2$ | 10% | 11 |
| **F & B** | Class 6 | 761$m^2$ | FOH – 533$m^2$ | 373$m^2$ | 1$m^2$ | 373 |
| | | | BOH – 228$m^2$ | 159$m^2$ | 5% | 8 |
| | | | Assumed outdoor dining seating | | | 100 |
| **Commercial (LG)** | Class 5 | 386$m^2$ | - | - | 10$m^2$ | 39 |
| **Commercial (L1)** | Class 5 | 1473$m^2$ | - | - | 10$m^2$ | 147 |
| **Population Summary** | | | **Total Retail Patrons Population** | | | 817 |
| | | | **Total Retail Staff Population** | | | 91 |
| | | | **Total F & B Patrons Population** | | | 473 |
| | | | **Total F & B Staff Population** | | | 8 |
| | | | **Total Commercial Population** | | | 186 |
| | | | **Total Population** | | | **1575** |

**NOTES AND ASSUMPTIONS:**

- The Woolworths supermarket will be provided with their own dedicated sanitary facilities for staff members which includes BWS in accordance with Part F4 of the BCA.
- For the purposes of calculating sanitary facilities required in accordance with the relevant Table(s)

referenced at Clause F4D4 of the BCA for Woolworths and BWS, the client has confirmed a maximum of 80 staff members will be located within the stores at any given time.

- For the purposes of calculating population and minimum sanitary facilities under Clauses D2D18 and F4D3.3 of the BCA:

  Specialty Retail

  - Twenty percent (20%) of the total floor area is considered to be BOH and remaining 80% will be FOH.
  - An additional 30% will be subtracted from the FOH area for permanent fixtures, fixed shelving, racking and the like to determine the net area.
  - Population density is $3m^2$ per person in accordance with Table D2D18.

  F & B Tenancies

  - Thirty percent (30%) of the total floor area is considered to be BOH and remaining 70% will be FOH.
  - An additional 30% will be subtracted from the FOH area for permanent fixtures, fixed shelving, racking and the like to determine the net area.
  - Population density is $1m^2$ per person in accordance with Table D2D18.
  - It is assumed the outdoor dining area will accommodate up to 100 seats.

  Staff (Specialty Retail, F&B and Commercial)

  - Staff population is assumed to be 5% / 10% of the net BOH areas for patron population.
  - Commercial population density is $10m^2$ per person in accordance with Table D2D18.
- A common unisex accessible facility may be counted once for the male and female members in accordance with Clause F4D3(3) of the BCA.
- Staff and patrons are permitted to share the same facilities located in the common mall in accordance with Clause F4D4(5) of the BCA.
- At least one ambulant sanitary compartment must be provided within each the male and female facilities complying with Section 16 of AS1428.1 – 2009.

***Part D3: Construction of exits***

All stairways serving as required exits (incl. landings and any supporting building elements) must be constructed only of reinforced/prestressed concrete or steel in no part less than 6mm thick.

Stairway goings, risers and slip resistance classification is to comply with relevant provisions Clause D3D14 of the BCA. Landings at the top and bottom of stairways / ramps must comply with Clause D3D15.

Any new electrical meters, distribution boards (telecommunications or electrical) in the path of travel must be contained within a non-combustible enclosure with the doorways fitted with smoke seals in accordance with Clause D3D8 of the BCA.

A continuous balustrade with a minimum height of 1000mm and maximum openings of 125mm must be provided along the side of a roof to which has general access, a stairway or ramp, floor, landing, balcony, delineated path of access to a building etc. where the change in level to the surface beneath is greater than 1m. Where it is possible to fall 4m to the surface beneath, the balustrade must not contain any horizontal (or near horizontal members) that facilitate climbing between 150mm and 760mm. These provisions apply also to any other building element that is within 1m of the balustrade – i.e. planter boxes, air-conditioning units, water and gas fittings etc.

Handrails are required to be provided at a height of 865-1000mm alongside all stairways and ramps. Public stairs and ramps which are located within an accessible path of travel must also comply with the relevant provisions of AS1428.1.

All doorways serving as required exits must swing in the direction of egress (i.e. open outwards) and be fitted with hardware complying with Clause D3D26. Typically, free downward action levers are provided and/or automatic fail-safe devices.

Sliding doors serving as required exits are only permitted where they lead directly to a road or open space. If power operated, they must also be able to be opened manually under a force of not more than 110N if there is a malfunction or power failure and open automatically on activation of a fire / smoke alarm. It is understood sliding doors serving as required exits are not proposed to open automatically upon power failure or activation of the fire/smoke alarm after hours due to security reasons. Compliance is proposed to be addressed by means of a Performance Solution at Construction Certificate stage.

## BCA Part D4: Access for persons with a disability

Refer to separate Accessibility Design Assessment Report ADAR_23011_R1.1 dated 14/06/23 prepared by Hontas Hatzi & Co Pty Ltd.

## Section E: Services and Equipment

This section outlines the essential fire safety measures including performance requirements of those measures which must be provided to the building.

***Part E1: Fire fighting equipment***

Fire hydrants

A fire hydrant system designed and installed in accordance with BCA Clause E1D2 & AS 2419.1. The location of the booster assembly is required to be:

- Within or affixed to the façade of the building containing the principal pedestrian entrance and not more than 20m from the principal pedestrian entrance which is identified by a visual alarm device; OR
- Remote from the building and within sight of the principal pedestrian entrance to the building –
    - adjacent to the site boundary and the principal vehicle access; or
    - not more than 20m from the façade of the building containing the principal pedestrian entrance and not more than 20m from the main pedestrian entrance.

The location of booster on Eighth Avenue is located greater than 20m from the principal pedestrian entrance which is considered to be piazza lift lobby / open stair. Compliance is proposed to be addressed by means of a Performance Solution at Construction Certificate stage.

The location of all proposed fire hydrants outlets (internal and external) will need to be shown to allow a review to be undertaken and confirm compliance at the Construction Certificate stage.

Fire hose reels

Designed and installed in accordance with BCA Clause E1D3 & AS 2441 throughout all retail and plantroom areas.

Hose reels do not need to serve the commercial office areas on lower ground and first floor.

The location of all proposed fire hose reels will need to be shown to allow a review to be undertaken and confirm compliance at the Construction Certificate stage.

Sprinklers

A sprinkler system must be provided throughout the building in accordance with Clause E1D8 and Specification 17. The system must comply with either the requirements of AS2118.1 or AS2118.6 for a combined sprinkler and hydrant system. The system must also be connected to and activate the building occupant warning system.

The sprinkler valve enclosure must be located in a secure room (or enclosure) which has direct egress to a road or open space. The room or enclosure must be secured with a system suitable for use by NSW fire brigade.

Portable fire extinguishers

Provided to areas required by BCA Clause E1D14 of the BCA and selected, located and distributed in accordance with Sections 1 to 4 of AS2444.

***Part E2: Smoke hazard management***

The class 6 retail areas have a floor area >2000m$^2$ which trigger the requirement for smoke hazard management throughout the building. A performance-based smoke hazard management system is proposed to be provided and assessed at Construction Certificate stage by the fire engineer. The assessment is to include (but not limited to) rationalising the extent and location of smoke exhaust, exhaust quantities, make-up air provisions, smoke reservoir size etc.

***Part E3: Lift installations***

All electric and electrohydraulic passenger lift installations must comply with Specification 24. The building has an effective height of less than 12m, therefore stretcher facilities are not required. The lifts must have accessible features complying with the relevant requirements of BCA Clause E3D8.

***Part E4: Visibility in an emergency, exit signs and warning systems***

Emergency lighting and exit signage is to be provided throughout to ensure compliance with Part E4 of the BCA and AS/NZS2293-2018. Where exit signs are proposed to be mounted above a height of 2.7m, a Performance Solution will be required at Construction Certificate stage.

## Section F: Health and Amenity

***Part F1: Surface water management, rising damp and external waterproofing***

Stormwater drainage must be designed and constructed in accordance with AS/NZS 3500.3.

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must be protected in accordance with Section 2.9 of AS 4654.2 and not be located beneath or run through a planter box, water feature or similar part of the building.

***Part F2: Wet areas and overflow protection***

Building elements in a bathroom, shower, slop hopper, sink compartment or sanitary compartment must be water resistant or waterproof in accordance with Specification 26 and comply with AS370.

The floor surface of rooms containing urinals must be an impervious material and graded to a floor waste. The minimum continuous fall of a floor plane to the floor waste must be 1:80 and a maximum of 1:50.

***Part F3: Roof and wall cladding***

External wall cladding and waterproofing of external walls is typically addressed by means of a Performance Solution prepared by suitably qualified façade engineer or registered architect. The Performance Solution demonstrates the proposed assembly prevents the penetration of water that could cause unhealthy or dangerous conditions, or loss of amenity for occupants; and undue dampness or deterioration of building elements. The solution is to be prepared prior to the issue of the Construction Certificate. Notwithstanding, BCA 2022 has introduced some DtS provisions that relate to waterproofing of external walls. These provisions apply only to:

- Masonry, including masonry veneer, unreinforced and reinforced masonry compliant with AS 3700; or
- Autoclaved aerated concrete compliant with AS 5146.3; or
- Metal wall cladding compliant with AS 1562.1; or
- Any one or a combination of the systems above.

***Part F4: Sanitary and other facilities***

Sanitary facilities required for staff and patrons in accordance with Clause F4D4 are outlined in the table:

| Minimum Required Facilities | | | | | | |
|---|---|---|---|---|---|---|
| **Area** | **Occupant Numbers** | | | **WC Required** | **Urinal Required** | **Basin Required** |
| | **Total** | **Sex** | **50/50 Split** | | | |
| **Staff** Woolworths and BWS | 80 | Male | 40 | 1* | 2 | 1* |
| | | Female | 40 | 2* | - | 1* |
| | | Accessible | - | *Accessible WC complying with AS1428.1 – 2009 counted once for each sex | | |

| Minimum Required Facilities | | | | | | |
|---|---|---|---|---|---|---|
| **Area** | **Occupant Numbers** | | | **WC Required** | **Urinal Required** | **Basin Required** |
| | **Total** | **Sex** | **50/50 Split** | | | |
| **Patrons** Woolworths and Specialty Retail | 817 | Male | 409 | 1 | 1 | 1 |
| | | Female | 409 | 1 | - | 1 |
| **Patrons** F & B | 473 | Male | 236 | 2 | 5 | 3 |
| | | Female | 236 | 6 | - | 3 |
| **Staff** Specialty and F&B | 19 | Male | 10 | 1 | 0 | 1 |
| | | Female | 10 | 1 | - | 1 |
| **Staff** LG Commercial | 39 | Male | 19 | 1 | 1 | 1 |
| | | Female | 19 | 2 | - | 1 |
| **Staff** L1 Commercial | 147 | Male | 74 | 4 | 3 | 3 |
| | | Female | 74 | 5 | - | 3 |
| **Common Facility** | - | Accessible | - | Min. 1 x accessible WC complying with AS1428.1 – 2009 required per storey which can be counted once per sex. For males, the accessible | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | | WC can be counted as an additional WC or urinal, but not both. | |
| | | | | | |
| **Total Required *(Excluding Level 1 Commercial)*** | | **Male** | **5** | **7** | **6** |
| | | **Female** | **10** | **-** | **6** |
| | | **Accessible** | **1** | **-** | **1** |
| **Total Required *(Level 1 Commercial Only)*** | | **Male** | **4** | **3** | **3** |
| | | **Female** | **5** | **-** | **3** |
| | | **Accessible** | **1** | **-** | **1** |

***Part F5 and F6: Room heights, light and ventilation***

Room heights are to comply with clause F5D2, as follows:

- Corridors, passageways and the like – 2.1m
- Bathrooms/sanitary compartments – 2.1m
- Rooms and other spaces in a clause 5 or 6 building – 2.4m

Artificial lighting complying with clause F6D4 and AS1680.0-2009 is to be provided throughout.

Mechanical ventilation complying with clause F6D6 and AS1668.2-2012 is to be provided throughout.

## Section J: Energy Efficiency

The building works are subject to compliance with the Energy Efficiency Provisions of Section J relating to:

- Building Fabric
- Building Sealing
- Air-conditioning and ventilation systems
- Artificial lighting and power
- Hot water supply
- Access for maintenance

This Part sets the thermal performance properties of building fabric, the energy efficiency of key energy using equipment and the features a building must have to facilitate the future installation of distributed energy resources. The discipline of energy efficiency has become a specialised field which necessitates the involvement of third party services consultants, engineers and ESD consultants to provide advice during the design and documentation phases. Performance based BCA J1V3 assessments may also be adopted for projects where compliance with DtS provisions of the BCA is problematic.

A detailed assessment will need to be undertaken by an appropriately qualified consultant(s) in consultation with the project architect. Design certification and details demonstrating compliance will need to be provided from these consultants and project architect certifying compliance with this clause at the Construction Certificate stage.

## 8. Items Requiring Performance Solutions

The following summary outlines the BCA DtS non-compliances associated with the new works that require further investigation at the design development stage and the possible issue of a Performance Solution.

The feasibility and any additional requirements that will apply as a result of the performance solution will need to be confirmed by the professional preparing the performance solution.

| Item No. | Non-Compliance | DTS Clause | Description | Performance Requirement |
|---|---|---|---|---|
| 1. | Ancillary elements – signage | C2D14 | Combustible signage is proposed to be attached to the external façade and/or external face of an external wall. | C1P2 and C1P4 |
| 2. | Requirements for vehicular access | C3D5 | The furthest part of the required 6m wide perimeter vehicular access along the northern and western elevation does not comply with this clause as it is greater than 18m from the building.<br>Perimeter vehicular access is not provided along the entire eastern boundary. | C1P9 |
| 3. | Exit travel distances | D2D5<br>D2D6 | Exit travel distances exceed the maximum limitations of 20m to a point of choice, 40m to the first exit and 60m between alternative exits as follows:<br>**Upper Ground Floor**<br>• Up to 30m to a point choice in lieu of 20m.<br>• Up to 60m to an exit in lieu of 40m.<br>• Up to 90m between alternative exits in lieu of 60m.<br>**First Floor**<br>• Up to 30m to a single exit without a point choice from the Woolworths plant room | D1P4 and E2P2 |

| Item No. | Non-Compliance | DTS Clause | Description | Performance Requirement |
|---|---|---|---|---|
| 4. | Operation of latch to doorways and doors | D3D24 D3D26 | The following locations propose sliding doors and/or roller shutters which will not open automatically upon failure or activation of fire/smoke alarm afterhours:<br>• The lift lobby at lower and upper ground<br>• Direct to boot on upper ground<br>• Main entry / airlock serving the supermarket on upper ground<br>• Any specialty retail and/or commercial tenancy with a floor area greater than 200m$^2$ | D1P2 |
| 5. | Fire hydrant system | E1D2 | The booster assembly which is affixed within the northern façade is located greater than 20m from the principal pedestrian entry which is considered to be piazza lift lobby / open stair (~65m along Eighth Ave).<br>The doorway from the internal pump room does not lead directly to the road or open space. Access necessitates using the common passageway which also serves the main switchboard room and Woolworths team area.<br>AS2419.1 – 2021 does not prescribe hydrant flow rates for large isolated buildings. | E1P3 |
| 6. | Sprinkler valve location | E1D4 | The sprinkler valves are located within the pump room on lower ground which does not lead directly to the road or open space. Access necessitates using the common passageway which also serves the main switchboard room and Woolworths team area. | E1P4 |
| 7. | Smoke hazard management | E2D3 E2D15 | A performance-based smoke hazard management system is proposed to include (but | E2P2 |

| Item No. | Non-Compliance | DTS Clause | Description | Performance Requirement |
|---|---|---|---|---|
| | | | not limited to) rationalising the extent and location of smoke exhaust, exhaust quantities, make-up air provisions, smoke reservoir size etc. | |
| 8. | Exit signs | E4D5 | Exit signs within the common mall and supermarket are proposed to be located at a height greater than 2.7m. | E4P2 |
| 9. | Weatherproofing of external walls | F3D5 | The external walls are proposed to be constructed of materials not nominated in Clause F3D5. | F3P1 |

## 9. Conclusion

Hontas Hatzi & Co Pty Ltd have completed a preliminary BCA compliance assessment of the project design documentation prepared for the Development Application lodgment to the Consent Authority.

We confirm the new works are capable of complying with the relevant provisions of the NCC/BCA 2022 and referenced Australian Standards, subject to the satisfactory resolution of all recommendations outlined in **Sections 7 and 8** of this report.

Further detailed reviews will need to be progressively undertaken by Hontas Hatzi & Co as the design develops to ensure it is capable of being approved under a Construction Certificate and contains all relevant details regarding performance-based solutions or other documentation necessary to satisfy the relevant legislative requirements.

## 10. Appendix A – Statutory Fire Safety Measures

The following draft fire safety measures are required for the new building works.

The fire safety measures may need to be revised at Construction Certificate stage to include:

- Reference to any relevant fire safety Performance Solution(s).

| Measure | Standard of Performance |
|---|---|
| Automatic Fail Safe Devices | Scheduled devices release upon trip of smoke detection, fire detection and sprinkler activation in accordance with BCA 2022 Clause D3D26. |
| Automatic Fire Detection and Alarm System *(Smoke Detection System)* | BCA 2022 S20C4 and AS 1670.1 - 2018 |
| Automatic Fire Detection And Alarm System *(Smoke Detection System To Automatically Shutdown Air-Handling System)* | BCA 2022 S20C6 and AS 1670.1 - 2018 |
| Automatic Fire Detection And Alarm System *(Smoke Detection System To Activate Smoke Exhaust System)* | BCA 2022 S20C6 and AS 1670.1 - 2018 |
| Automatic Fire Suppression Systems *(Sprinklers)* | BCA 2022 Specification 17 and AS 2118.1 - 2017 |
| Building Occupant Warning System | BCA 2022 S20C7 and AS 1670.1 - 2018 |
| Emergency Lighting | BCA 2022 Clause E4D2, E4D4 and AS/NZS 2293.1 - 2018 |
| Emergency Warning and Intercommunication System | BCA 2022 Clause E4D9, Specification 31 and AS 1670.4 - 2018 |
| Exit Signs | BCA 2022 Clause E4D5, NSW E4D6, E4D7, E4D8 and AS/NZS 2293.1 - 2018 |
| Fire Alarm Monitoring System | BCA 2022 S20C8 and AS 1670.3 - 2018 |
| Fire Dampers | BCA 2022 Clause C4D15 and AS 1668.1 - 2015 (AS 1682.1 - 2015 and AS 1682.2 - 2015) |
| Fire Doors | BCA 2022 Specification 12 and AS 1905.1 - 2015 |
| Fire Hydrants Systems | BCA 2022 Clause E1D2 and AS 2419.1 - 2021 |
| Fire Seals Protecting Opening In Fire Resisting Components Of The Building | BCA 2022 Clause C4D15, Specification 13, AS 1530.4 - 2014, AS 4072.1 - 2005 and installed in accordance with the tested prototype. |
| Hose Reel System | BCA 2022 Clause E1D3 and AS 2441 - 2005 |
| Mechanical Air Handling System *(Automatic Shut Down Of Air-Handling System)* | BCA 2022 Clause E2D3 and AS 1668.1 - 2015 |

| Measure | Standard of Performance |
|---|---|
| Mechanical Air Handling System *(Air-Handling System Design To Operate As A Smoke Control System)* | BCA 2022 Clause E2D3 and AS 1668.1 - 2015 |
| Mechanical Air Handling System *(Automatic Smoke Exhaust System)* | BCA 2022 Specification 21 |
| Perimeter Vehicle Access For Emergency Vehicles | BCA 2022 Clause C3D5 |
| Portable Fire Extinguishers | BCA 2022 Clause E1D14 and AS 2444 - 2001 |
| Warning And Operational Signs | BCA 2022 Clauses D2D22, D4D7 and E3D4 |

# 11. Appendix B – Fire Resisting Levels

| Type B Construction: FRL of Building Elements | | | | |
|---|---|---|---|---|
| **BUILDING ELEMENT** **Class of building – FRL** (*Structural adequacy/Integrity/Insulation in minutes*) | | | | |
| | **2, 3 or 4 part** | **5, 9 or 7a** | **6** | **7b or 8** |
| **EXTERNAL WALL** (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is- | | | | |
| For loadbearing parts | | | | |
| less than 1.5m | 90/90/90 | 120/120/120 | 180/180/180 | 240/240/240 |
| 1.5 to less than 3 m | 90/60/30 | 120/ 90/60 | 180/120/90 | 240/180/120 |
| 3 to less than 9 m | 90/30/30 | 120/ 30/30 | 180/90/60 | 240/90/60 |
| 9 to less than 18 m | 90/30/- | 120/30/- | 180/60/- | 240/60/- |
| 18 m or more | - / - / - | - / - / - | - / - / - | - / - / - |
| For non-loadbearing parts- | | | | |
| less than 1.5 m | -/90/90 | - /120/120 | - /180/180 | - /240/240 |
| 1.5 to less than 3 m | -/60/30 | - / 90/60 | - /120/90 | - /180/120 |
| 3 m or more | - / - / - | - / - / - | - / - / - | - / - / - |
| **EXTERNAL COLUMN** not incorporated in an external wall and distance to fire-source feature is | | | | |
| Less than 18m | 90/ - / - | 120/ - / - | 180/ - / - | 240/ - / - |
| 18 m or more | - / - / - | - / - / - | - / - / - | - / - / - |
| For non-loadbearing columns | - / - / - | - / - / - | - / - / - | - / - / - |
| **COMMON WALLS & FIRE WALLS** | 90/90/90 | 120/120/120 | 180/180/180 | 240/240/240 |
| **INTERNAL WALLS**- | | | | |
| Fire-resisting lift and stair shafts- | | | | |
| Loadbearing | 90/90/90 | 120/120/120 | 180/120/120 | 240/120/120 |
| Non-loadbearing | - /90/90 | - /120/120 | - /120/120 | - /120/120 |
| Bounding public corridors, public lobbies and the like- | | | | |
| Loadbearing | 60/60/60 | 120/ - / - | 180/ - / - | 240/ - / - |
| Non-loadbearing | - /60/60 | - / - / - | - / - / - | - / - / - |
| Between or bounding sole-occupancy units- | | | | |
| Loadbearing | 60/60/60 | 120/ - / - | 180/ - / - | 240/ - / - |
| Non-loadbearing | - /60/60 | - / - / - | - / - / - | - / - / - |
| **OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and COLUMNS** | 60/ - / - | 120/ - / - | 180/ - / - | 240/ - / - |
| **ROOFS** | - / - / - | - / - / - | - / - / - | - / - / - |

## 12. Appendix C – Exits and Aggregate Egress Width

The exits from the building are set out below:

| Exit No. | Location | Type | Width (m) | No of storeys connected / passed by |
|---|---|---|---|---|
| 1. | Lower ground floor | Passage serving Woolworths team area, fire pump and main switchboard room | 1m | 1 |
| 2. | | Auto sliding door to lift lobby | 1.5m | 1 |
| 3. | | Single / double swing doors serving commercial and retail tenancies | 1-2m each | 1 |
| 4. | Upper ground | Open stair leading down to piazza from mall | 2m | 1 |
| 5. | | Mall entry to carpark | 7m | 1 |
| 6. | | DTB automatic sliding door | 2m | 1 |
| 7. | | Single swing door to receiving area of supermarket | 1m | 1 |
| 8. | | Non-fire isolated stairway within supermarket | 1m | 3 |
| 9. | | Single / double swing doors serving retail | 1-2m each | 1 |
| 10. | | Lift lobby | 1m | 2 |
| 11. | First floor | Lift lobby stairway | 1m | 1 |
| 12. | | Enclosed stairway at southern end | 1m | 2 |
| 13. | | Enclosed stairway at northern end | 1m | 3 |

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