Eagers Automotive

BCA ASSESSMENT REPORT

Heritage Motors – Bungaree Street, Maitland

Project Number: 117280
Report Type: BCA
Revision: 2
Date: 20 March 2024

PREPARED FOR

Centric Architects
david@centricarchitects.com.au

PREPARED BY

Warwick Hunter
02 8484 4077
warwick.hunter@jensenhughes.com

JENSEN HUGHES

Jensen Hughes Pty Limited, Trading as BCA Logic
Suite 302, Level 3, 151 Castlereagh St, Sydney NSW 2000
Postal Address: PO Box Q1440, Queen Victoria Building NSW 1230

Document Control

Revision	Issue Date	Issue Description	Prepared By:	Verified by:
117280-BCA-r1	4 December 2023	BCA Assessment Report (DA Stage)	Warwick Hunter	Matthew Kemp
117280-BCA-r2	20 March 2024	BCA Assessment Report (DA Stage) (Updated)	Warwick Hunter	Matthew Kemp
	20 March 2024	Warwick Hunter Registered Certifier Grade A1, BDC 2417	Signed: DocuSigned by: Warwick Hunter 34688FE12EE445A...	

Jensen Hughes Australia

Providing building regulations, fire engineering, accessibility, and energy consulting services to NSW for over 25 years

Our story begins in 1997 with the founding of BCA Logic to fulfill the demand of a consultancy company whose expertise expanded across the entire life cycle of a building, from consulting on the initial planning through to construction and occupation.

BCA Logic, SGA Fire and BCA Energy joined Jensen Hughes in 2021, a leading global, multi-disciplinary engineering, consulting and technology firm focused on safety, security and resiliency. We continue to be at the forefront of our industry and work thoroughly to preserve our position by ensuring the successful delivery of projects.

Jensen Hughes was launched in 2014 through the historic merger of Hughes Associates and Rolf Jensen & Associates (RJA), two of the most experienced and respected fire protection engineering companies at the time. Since then, we have gained market leadership in nuclear risk consulting and established commanding positions in areas like forensic engineering, security risk consulting and emergency management. Over the past 22 years, our integration of more than 30 privately held engineering and consulting firms has dramatically expanded our global footprint, giving us a powerful market presence ten times larger than our nearest competitor in some of our markets and extending our historical lineage back to 1939.

With more than 90 offices and 1500 employees worldwide supporting clients globally across all markets, we utilise our geographic reach to help better serve the needs of our local, regional, and multinational clients. In every market, our teams are deeply entrenched in local communities, which is important to establishing trust and delivering on our promises.

Table of Contents

Executive summary

This document provides an assessment of the architectural design drawings for the proposed new car showroom, modified car showroom and alterations and extension to existing workshop development at Heritage Motors – Bungaree Street, Maitland, against the Deemed-to-Satisfy provisions of the Building Code of Australia (BCA) 2022.

Part 3 'Matters for Further Consideration' of this report outlines the identified BCA compliance issues that require further information or consideration and/or assessment as Performance Solutions.

Any Performance Solution will need to be detailed in a separate report and must clearly indicate methodologies for achieving compliance with the relevant BCA Performance Requirements.

Item	Description	BCA Provision
Performance Solutions Required		
1.	If combustible, to permit combustible signage which does not have a group number 1 or 2	C2D14
2.	Except for metal cladding, AAC or masonry, the weatherproofing of external walls shall be designed such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements.	F3P1 Performance Provisions
Building Code of Australia Compliance Matters to be Addressed		
1.	<u>Workshop</u> Due to combined floor area of 3147m^2 it is necessary for the building to be constructed as per requirements for Type B Construction. Due to the boundary setbacks on most elevations being more than 18 metres, the only Fire Resistance Levels would be to the loadbearing external wall/columns nearest the Mitsubishi showroom where the setback is 15 -18 metres. With design development, any loadbearing elements to the northern external walls/columns within 18m would need to be detailed with fire resisting construction.	BCA Clause C2D2 & Specification 5

1.0 Adoption of BCA 2022

1.1 PROPOSED INTRODUCTION

As of 26 August 2022, the ABCB have advised to introduce the National Construction Code (NCC), Volume One, Building Code of Australia (BCA) 2022 on 1 May 2023. BCA2022 is proposing some major changes to Condensation Management, Energy Efficiency, and the introduction of Livable Housing Design.

Building Ministers agreed to publish NCC 2022 on 1 October 2022. The full and final version of NCC 2022, in its entirety, is live on **NCC online**. The pdf files will be released close to the new NCC adoption date.

The States and Territories will bring the majority of NCC 2022 into full effect from 1 May 2023, to allow industry time to learn and adapt to the new requirements.

There will also be transition periods for specific requirements. These include:

- New livable housing requirements, new energy efficiency and condensation mitigation requirements – 1 October 2023
- New low lead in plumbing product requirements – 1 September 2025.

These provisions of NCC 2019.1 will be considered mandatory until 1 May 2023.

1.2 MAJOR CHANGES KNOWN TO DATE

Below is a summary of the proposed changes which were released in the May draft preview. We have also provided a table below for quick reference. Your project has been assessed against the proposed changes where applicable.

Livable housing

Note: NSW have advised that the livable housing provisions will not be adopted at this time as a result of the impact of the pandemic, rising interest rates and stability of the current housing market. This could change at any time in the future.

Volumes One and Two contain new livable housing requirements for Class 1a buildings (houses and townhouses) and Class 2 sole-occupancy units (individual apartments). This puts in place features based on the Livable Housing Design Guidelines silver standard, with a voluntary gold standard also available for features over and above silver.

Consistent volume structure

BCA2022 uses a new structure and clause referencing system to create better consistency across all volumes. While the new Section-Part-Type-Clause system makes the NCC look different at first, it's intended to improve user experience and make it more web accessible.

The new structure results in a reorganisation of specifications and parts, some of which are contained in the table below.

Early childhood centres

There are new deemed-to-satisfy (DTS) Provisions for early childhood centres in Volume One. Most of these are extra requirements to address the difficulties associated with evacuating young occupants from the upper levels of multi-storey buildings; but some requirements apply for all early childhood centres.

Fire safety of external walls

Volume One contains a number of amendments to the fire safety of external walls. This clarifies interpretation of concessions from non-combustibility requirements. Also included is a new provision that prevents fixing of certain bonded laminated cladding panels by adhesive only.

Waterproofing

There are new DTS Provisions in Volume Two for waterproofing of wet areas, not previously covered by an acceptable construction practice or manual.

Waterproofing in Volume One is restructured into three parts to enhance readability and accommodate future changes.

Weatherproofing

Volume One contains additional DTS Provisions, providing new solutions for weatherproofing of external walls. These include references to weatherproofing provisions in Australian Standards for masonry, autoclaved aerated concrete and metal wall sheeting.

Falls for floor wastes

Volumes One and Two are amended to require bathrooms and laundries where a floor waste is installed, to have a fall of the floor in order to help drain the surface. This also applies to floor wastes included voluntarily.

Number of exits

Some minor amendments to the required number of exits are in Volume One. This includes a new concession allowing a single exit for a part of a storey in some circumstances, where previously at least two exits were required.

1.3 SUMMARY OF MAJOR CHANGES

Summary of Major Changes		
Clause Reference		**Description of proposed changes**
BCA 2019	**BCA2022**	
C1.9	C2D10	**Non-combustible building elements** Further exemptions to the non-combustible requirements of external walls added. Larger list of materials that can be used where non-combustible materials are required.
-	C2D15	**Fixing of Bonded Laminated Cladding panels**
C2.5	C3D6	Fire separation of **early childhood centres** and requirement for 2 fire compartments per storey.
D1.2	D2D3	**Number of Exits** + Ground floor can be provided with a single exit in lieu of 2 + 2 exits required from each storey and each fire compartment of an **early childhood centre**

D1.6	D2D7 – D2D11	**Dimensions of Exits** Clause split into multiple clauses
D1.11	D2D16	**Horizontal Exits** – New provisions relating to early childhood centres
D2.16	D3D17 - D3D21	**Barrier** clause split into multiple clauses
E1.5	E1D4 - E1D13	**Sprinkler** requirements split into separate clauses for each building class.
E2.2	E2D3 – E2D21	General Requirements – **Smoke Hazard Management** Tables removed and replaced with clauses for each building class
F1.7	Part F2	**Wet Area and Overflow Prevention**
F1.11	F2D4	**Floor wastes –** floor must be graded with a minimum fall of 1:80
FP1.4	Part F3	**Roof and Wall Cladding** Introduces DTS provisions for walls and roofs in lieu of the previous BCA requiring performance solutions for all weatherproofing
-	G7	**Livable housing design**
H1.1	Part I1	**Class 9b Building**
H2.1	Part I2	**Public Transport Buildings**
H3.1	Part I3	**Farm Buildings and Farm Sheds**

2.0 Basis of Assessment

2.1 LOCATION AND DESCRIPTION

The building development, the subject of this report, is located at Heritage Motor Group, Bungaree Street, Maitland and comprises the following works:

1. The construction of a new single storey car showroom (Mazda)
2. Minor internal alterations to existing car showroom (Mitsubishi)
3. Internal alterations to existing workshop to include new service reception areas and extended workshop
4. New car showroom attached to workshop (Kia)

The development will be accessed via Bungaree Street and will include an internal perimeter roadway connecting all showrooms.

2.2 PURPOSE

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of BCA 2022, 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 2022. 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.

2.3 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, 2022, (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.

2.4 LIMITATIONS

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

1. the structural adequacy or design of the building;
2. the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and
3. the design basis and/or

This report does not include, or imply compliance with:

1. the National Construction Code – Plumbing Code of Australia Volume 3
2. the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to),
3. The accessibility provisions of BCA Part D4 and Clause F4D5/F4d6;
4. Demolition Standards not referred to by the BCA;
5. Work Health and Safety Act 2011;

6. Requirements of Australian Standards unless specifically referred to;
7. 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), Local Council, ARTC, Department of Planning and the like; and
8. Conditions of Development Consent issued by the Local Consent Authority.

2.5 DESIGN DOCUMENTATION

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

3.0 Building Description

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

3.1 RISE IN STOREYS (CLAUSE C2D3)

The new showroom has a rise in storeys of one (1)

The existing showroom building has a rise in storeys of two (2)

The modified workshop building/Kia showroom has a rise in storeys of two (2)

3.2 CLASSIFICATION (CLAUSE A6G1)

The buildings have been classified as follows.

Table 1: Building Classification

Class	Level	Description
Class 6	Ground (All buildings)	Showroom
Class 7b	Mezzanine (Workshop building)	Parts Storage
Class 8	Ground (Workshop building	Workshop

3.3 EFFECTIVE HEIGHT (CLAUSE A1.0)

The buildings have an *effective height* of less than 12 metres.

3.4 TYPE OF CONSTRUCTION REQUIRED (TABLE C2D2)

The new showroom will be Type C Construction

The existing showroom building will be Type C Construction

The modified workshop/showroom building has a floor area in excess of 2000m^2 (3147m^2) and will be Type B Construction.

3.5 FLOOR AREA AND VOLUME LIMITATIONS (TABLE C3D34)

The showroom buildings of Type C Construction meet the maximum floor area and volume limits of:-

Class 5	Maximum Floor Area	3000m^2
	Maximum Volume	18,000m^3
Class 6/7b/8	Maximum Floor Area	2000m^2
	Maximum Volume	12,000m^3

The workshop building of Type B Construction meets the maximum floor area and volume limits of:-

Class 5	Maximum Floor Area	5500m^2
	Maximum Volume	33,000m^3
Class 6/7b/8	Maximum Floor Area	3500m^2
	Maximum Volume	21,000m^3

3.6 FIRE COMPARTMENTS

All buildings have a single *fire compartment*.

3.7 EXITS

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

1. Top riser of stair to Mitsubishi showroom
2. External doors leading to open space at ground floor level.

3.8 CLIMATE ZONE

The building is located within Climate Zone 5

3.9 LOCATION OF FIRE-SOURCE FEATURES

The fire source features for the subject development are:

North: The far boundary of New England Highway

South: The side allotment boundary

East: The far boundary of New England Highway

West: The far boundary of Bungaree Street

In accordance with Clause 2.1 of Specification C1.1, a part of a building element is exposed to a *fire-source feature* if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that–

a. has an FRL of not less than 30/–/–; and

b. is neither transparent nor translucent.

4.0 BCA Assessment

4.1 INTRODUCTION

The assessment undertaken is in relation to the plans prepared for the development consent application. The technical details required for a development consent are far less than that required for a construction certificate and as such, this assessment is designed to address a higher level assessment of the building against the provisions of the BCA.

The main purpose of this report is to address any major design changes required to the building, services required to be installed, and the fundamentals of design required by sections C, D, E, F, G and H (where applicable) of the BCA. This report does not address the design requirements for the structure of the building (Section B), or for the detailed design of services (Section E).

The summary below is to be read in conjunction with the BCA specification contained in Annexure E of the report.

4.2 FIRE RESISTANCE AND STABILITY – PART C2 & SPECIFICATION 5

The new showroom building is proposed to be constructed of the following elements:

Element	Method of Construction
External Walls	Glazing & Aluminium Cladding with steel columns
Floors	Concrete Slab
Roof	Metal
Lift shafts	N/A
Stair shafts	N/A

The workshop and new Kia showroom building is proposed to be constructed of the following elements:

Element	Method of Construction
External Walls	Showroom – Glazing & Aluminium Cladding Workshop – Metal Cladding & steel columns
Floors	Concrete slab
Roof	Metal
Fire Walls (where required)	Block
Lift shafts	N/A
Stair shafts	N/A

The required fire resistance levels for the building elements are outlined in Annexure C of this report.

Existing Showroom

Only minor works are proposed to the existing Mitsubishi Showroom. As a small building of Type C Construction there are no fire resisting construction requirements.

New Showroom

The external walls and all components of the wall, in a building of Type C construction, are not required to be non-combustible. Therefore, the green wall proposed to the northern elevation is permitted subject to fire engineered performance solution being prepared to permit Type C Construction.

Workshop and Kia Showroom

The external walls and all components of the wall, in a building of Type B construction, are required to be non-combustible. Therefore, any signage proposed to be installed will require a Group Number of 1 or 2. Alternatively, a fire engineered performance solution will be required to permit the acrylic signage.

For all buildings, the plans do not indicate the exact materials of the external wall and further details will be required to be submitted at CC stage for assessment, however compliance is readily achievable by a number of common wall types.

Workshop and Kia Showroom

The northern external wall of the existing workshop is located within 18 metres of the Mitsubishi Showroom building. As the building is Type B Construction it will require a Fire Resistance Level of FRL240/60/- to loadbearing external wall and FRL240-/- to loadbearing columns that are within 18m of the adjacent building.

Due to the portal frame roof design the northern wall appears to be non-loadbearing and should the future design also retain non-loadbearing external wall design there will be no requirement for fire rating. This matter will need to be further considered with design development and commentary provided by the structural engineer.

Subject to the required FRL's being provided, the proposed building is capable of complying with the requirements of the BCA with respect to fire resistance.

4.3 COMPARTMENTATION AND SEPARATION – PART C3

Existing Showroom

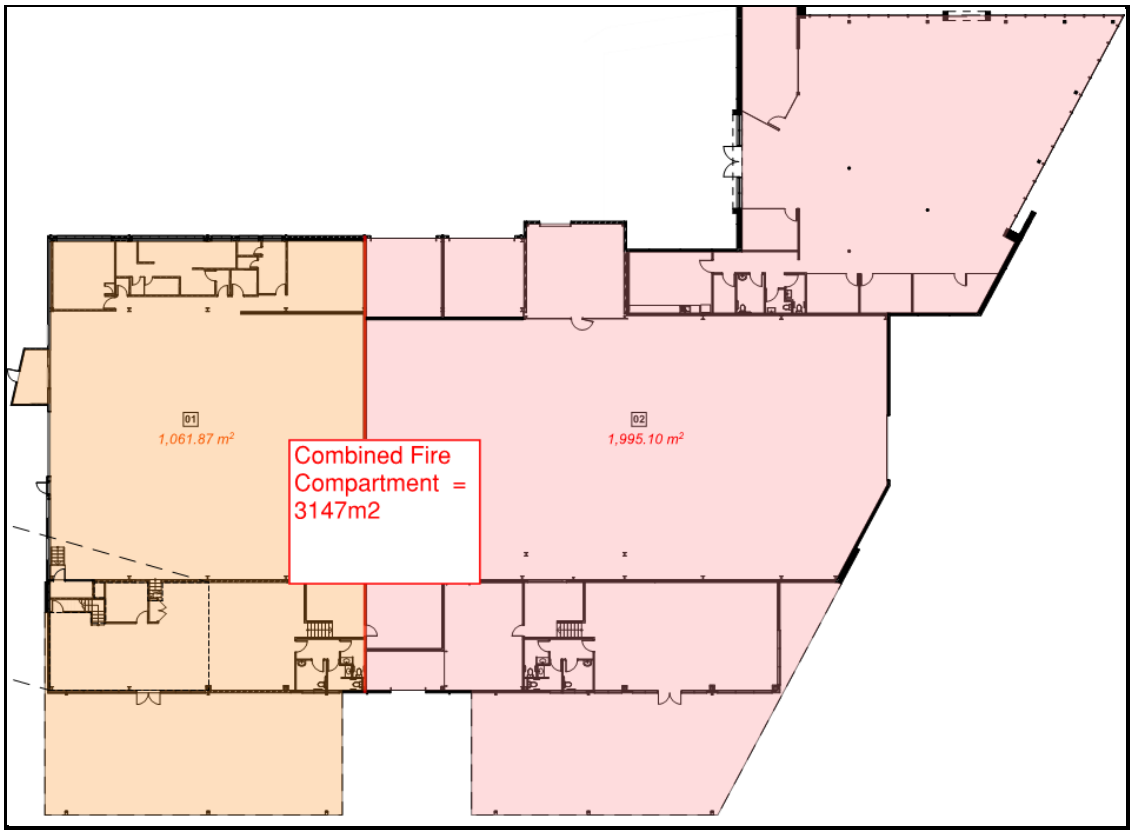
The existing Mitsubishi showroom has a combined fire compartment size of 900m^2 across both storeys and is permitted to be Type C Construction.

New Showroom

The proposed new Mazda showroom has a combined fire compartment size of 700m^2 including areas beneath canopies which contain fire load and is permitted to be Type C Construction.

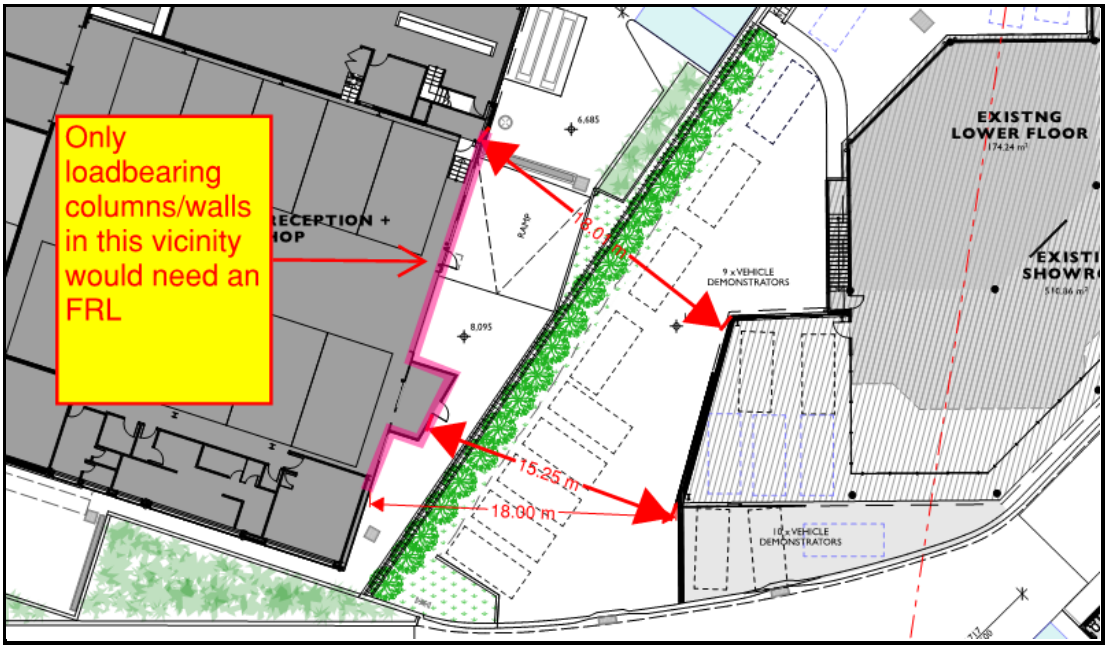
Workshop and Kia Showroom

The existing workshop is proposed to be extended towards the south for an enlarged workshop and a second service reception area. In addition, a new car showroom is proposed (Kia) to the south eastern corner of the building. As a result, the overall fire compartment floor area is 3147m^2 which is greater than 2000m^2 permitted for Type C Construction and would trigger Type B Construction which has a maximum fire compartment floor area of 3500m^2/21,000m^3.



In this instance it is recommended to retain Type B Construction instead of inserting a fire wall to reduce the fire compartment floor area/volume which would be more onerous than accepting Type B Construction.

Due to the boundary setbacks on most elevations being more than 18 metres, the only Fire Resistance Levels would be to the loadbearing external wall/columns nearest the Mitsubishi showroom where the setback is 15 -18 metres as per the following location.



For Type B Construction the following is needed:-

a. The mezzanine floor does not need any FRL.
   However, internal loadbearing columns to the lowest floor level would in theory require FRL. This would only be a small number of internal columns supporting the mezzanine.
b. Signage to be non-combustible, or at least achieve a group 1 or 2 Rating as per BCA2022 Clause C2D14 otherwise will need a fire engineered performance solution.

Compliance with Part C3 of the BCA can be readily achieved by the proposal.

4.4 PROTECTION OF OPENINGS – PART C4

4.4.1 Openings in external walls

To all buildings, the external walls are proposed to be located more than 3m from any boundary and more than 6 metres between each building. As such there is no requirement to protect any openings within the external walls.

4.4.2 Fire Walls

Subject to the workshop building design including Type B Construction requirements, there will be no fire walls required as part of the proposed development.

4.4.3 Openings in Floors for Services and Service Installations

As the buildings are either Type C or Type B Construction there is no requirement for fire sealing service penetrations for the BCA Classifications proposed.

4.5 OCCUPANT ACCESS AND EGRESS – SECTION D

4.5.1 Egress from the building

Egress from the showroom, workshop and office is required in sufficient numbers and location to ensure that no point on the floor is more than 20m from an exit, or a point of choice of two exits, in which case the distance to one of those exits is not more than 40m, as required by clause D2D5 of the BCA.

On the ground floor, the distance to a single exit is permitted to be 30m.

The distance between alternative exits is required by clause D2D6 of the BCA to be no closer than 9m and no further apart than 60m when measured through the point of choice. The travel distances and distances between exits comply with the above requirements.

Existing Showroom

The existing Mitsubishi showroom has sufficient existing exits and I will meet exit travel distance requirements of Section D.

New Showroom

The proposed new Mazda showroom has sufficient existing exits and will meet exit travel distance requirements of Section D. The exits are considered to be the front and rear doors. With design development the exit signs and door hardware to be firmed up to comply.

Workshop and Kia Showroom

The existing workshop is proposed to be extended and an internal wall provided to the main workshop area.

Additional exits have been provided to the extended workshop and exit travel distance is not more than 20m to a point of choice and not more than 40 metres to an exit.

Alternative egress path of travel will be needed through the mazda workshop control room to ensure compliant exit travel distance. With design development the exit signs and door hardware to be firmed up to comply.

External Egress Path

Where the egress discharges to open space on the property, a continuous pathway from the point of discharge to the street is required. The plans do indicate such a pathway and as such the provisions of Clause D2D15 of the BCA are readily satisfied.

Details of treads and risers, landings, thresholds, balustrades and handrails have not been provided however compliance is readily achievable. The design of these elements can be assessed at the CC stage.

Electrical distribution cupboards are to be provided with smoke separation to satisfy the requirements of BCA D3D8. The doors are to be lined internally with fire grade plasterboard or metal backing sheets and smoke seals provided to all four sides, including drop down seals on the bottom. All penetrations from the enclosure are to be suitable sealed against smoke spread by sealing with fire mastic.

4.5.2 Access for people with disabilities

To be addressed in separate access report.

4.6 SERVICES AND EQUIPMENT- PARTS E1, E2 AND E4

The building is required to be provided with the services and equipment set out in Annexure B of this report. The annexure also outlines the standard of performance to be achieved by the services and equipment.

4.6.1 Fire Fighting Equipment – Part E1

Fire Hydrants

There is no existing onsite fire hydrant. Due to all buildings containing a floor area of more than 500m^2 a fire hydrant system complying with AS2419.1-2021 is to be provided to serve the proposed buildings.

Fire Hose Reels

Fire hose reels are currently only installed to the workshop building.

- Existing Showroom
  The existing Mitsubishi showroom has a fire compartment exceeding 500m^2, fire hose reels are required to the building development to serve all levels.
- New Showroom
  The new Mazda showroom has a fire compartment exceeding 500m^2, fire hose reels are required to the building.
- Workshop and Kia Showroom
  Due to the size of the proposed fire compartment exceeding 500m^2, the existing fire hose reels are required to be extended throughout the building development.

Subject to design development at CC stage showing location and design of fire hose reels to the development in accordance with BCA Clause E1D3, compliance is assumed to be readily achievable.

Sprinklers

All buildings have a floor area less than 3500m^2 and less than 40 carparking spaces therefore, do not require sprinklers in accordance with Clause E1D4 of BCA2022.

The requirement for sprinklers would only be as a result of consideration to BCA Clause E1D17 Provision for special hazards whereby the special problems for fire fighting could arise because of the nature or quantity of materials stored such as electric vehicles and electrical vehicle batteries.

As a relatively small development with large boundary setbacks it is not considered that special hazards would be triggered by the design. However, this may be something of consideration to the certifier at Construction Certificate stage.

Portable Fire Extinguishers

The building is required to be served by portable fire extinguishers in accordance with AS2444-2001.

4.6.2 Smoke Hazard Management – Part E2

The building development is single storey or two (2) storey throughout and therefore, does not require smoke hazard management systems.

Furthermore, due to the Class 6 showroom portion of the fire compartment not exceeding 2000m^2, no smoke hazard management systems are required.

As a relatively small development with large boundary setbacks it is not considered that additional smoke hazard management measures would be triggered by BCA Clause E2D21 (provision for special hazard).

Whilst there will be electric vehicles, this alone should not trigger the need for a performance solution to address the provisions of BCA Clause D2D21. At this stage Fire & Rescue NSW only has guidance documentation for large scale battery storage.

4.6.3 Visibility in an emergency, exit signs and warning systems – Part E4

The building development contains buildings with floor area greater than 300m^2 therefore, the requirements for emergency lighting systems ae applicable and to be installed in accordance BCA Clause E4D2 and designed and operated in accordance with BCA Clause E4D4. Although not currently provided based on available details, it is assumed that compliance can be readily achieved subject to design development at CC stage.

4.7 LIFT INSTALLATIONS – PART E3

Existing Showroom

The existing Mitsubishi showroom has the ability for level access to the upper level. And there is no internal lift connection to the lower ground floor level. No lift is required to this building.

New Showroom

The proposed new Mazda showroom has a split level entrance and will require a passenger lift. As a new building a low rise low speed lift is required. See access report for details.

Workshop and Kia Showroom

The existing workshop has a two storey portion with floor area less than 200m^2. The two storey portion will be retained and is utilised by workshop staff and therefore, a lift will not be required. See access report.

4.8 SURFACE WATER MANAGEMENT, WET AREAS & ROOF AND WALL CLADDING – PART F1-F3

To the new showroom building and extended workshop building the design for surface water management, bathroom wet areas and cladding design are all elements that need to be further developed at Construction Certificate stage.

4.9 FACILITIES IN CLASS 3 TO 9 BUILDINGS – PART F4

Based on the proposed use of the buildings, it is required to be constructed with a sufficient number of sanitary facilities to serve the staff of the showroom, office and workshop in accordance with BCA Clause F2.3.

Based upon the available sanitary facilities and calculating in accordance with Clause F4D4 and Table F4D4a, the sanitary facilities will serve the following population:-

New Showroom

Males

1 WC = 20

1 Urinal = 25 (Access WC pan counted here)

2 Handwash = 60

Females

2 WC = 30 (Access WC counted)

2 Handwash = 60

Based upon equal numbers of males and females and the limiting factor of male WC pans the facilities will serve up to 40 employees which would be in excess of the expected number of employees (10x staff based upon seating to offices) occupying the showroom portion of the building. Therefore, compliance is readily achievable with the design.

Existing Showroom

Males

1 WC = 20

1 Urinal = 25 (Access WC pan counted here)

2 Handwash = 60

Females

2 WC = 30 (Access WC counted)

2 Handwash = 60

Based upon equal numbers of males and females and the limiting factor of male WC pans the facilities will serve up to 40 employees which would be in excess of the expected number of employees (10x staff based upon seating to offices) occupying the showroom portion of the building. Therefore, compliance is readily achievable with the design.

Workshop

The existing amenities are considered to be able to serve the workshop staff and there would only be a minor increase in workshop staff as a result of the workshop extension with up to 20 maximum workshop staff. In addition, there are new amenities proposed to the each of the service reception areas which are primarily for reception staff but can be used by persons in the waiting rooms.

The following amenities are proposed to each of the service reception areas:-

Males

1 WC = 20

1 Urinal = 25 (Access WC pan counted here)

2 Handwash = 60

Females

2 WC = 30

2 Handwash = 60

Based upon equal numbers of males and females and the limiting factor of male WC pans the facilities will serve up to 40 reception/workshop employees per reception. As there are two banks of toilets to the service reception areas (ie one in each service reception area) (and excluding existing workshop amenities) with similar amenities the population served will be 80.

This is greater than the likely combined workshop staff, office staff and guest population which is estimated to be 20x workshop staff + 10x office staff + no more than 20 guests at any one time = 50 persons.

Therefore, compliance is readily achievable with the design.

4.10 ROOM HEIGHTS – PART F5

The ceiling heights have been assessed in accordance with Part F5 of the BCA which has indicated that compliance is readily achievable within all habitable spaces, corridors and the like.

4.11 LIGHT AND VENTILATION – PART F6

For a Class 5 Office, Class 6 showroom building, Class 8 workshop, the artificial lighting and mechanical ventilation are required and these systems can be readily installed in the building. To be further assessed with design development.

The workshop is required to be provided with a system of mechanical ventilation where required by clause F6D11 of the BCA due to the parking of cars in that portion of the building.

4.12 ENERGY EFFICIENCY – SECTION J

To be assessed within separate energy consultants report.

Existing Showroom

The existing Mitsubishi showroom will only undergo minor internal alterations and cosmetic changes. The relevant provisions would apply to ventilation (Part J5) and lighting and power controls (Part J6).

New Showroom

The proposed new Mazda showroom will be required to comply with all provisions of Section J.

Workshop and Kia Showroom

The proposed new service reception areas will be required to comply with all provisions of Section J. The existing workshop is a non-conditioned space and the extended portion would need to comply with ventilation (Part J5) and lighting and power controls (Part J6).

6.0 Statement of Compliance

The plans assessed were developed to a standard suitable for submission as a development application and do not contain all the details necessary to allow a CC to be issued. As such, this assessment was limited to the major items of the BCA with the view of identifying any items that may result in a modified development consent being required, or additional key items that need to be included in the design.

The architectural design documentation as referred to in report has been assessed against the applicable provisions of the Building Code of Australia, (BCA) and it is considered that such documentation complies or is capable of complying with that Code.

Annexures

Annexure A - Design Documentation

This report has been based on the following design documentation.

Table 3: Architectural Plans

Architectural Plans Prepared by Centric Architects dated 22/9/2023		
Drawing Number	**Revision**	**Title**
0000	E	COVER PAGE
1300	D	3D VIEWS - WORKSHOP
1400	E	3D VIEWS - MAZDA
1500	C	3D VIEWS - MITSUBISHI + SUZUKI
1600	B	3D VIEWS - KIA
2000	A	SITE PLAN - EXISTING
2002	M	SITE PLAN - PROPOSED
2010	A	EXISTING PARKING PLAN
2011	F	PROPOSED PARKING PLAN
2500	A	SITE ELEVATIONS
3300	B	WORKSHOP - EXISTING / DEMOLITION PLAN
3400	P	WORKSHOP - GENERAL ARRANGEMENT PLAN
3500	E	WORKSHOP ELEVATIONS
3600	B	WORKSHOP SECTIONS
4300	A	MAZDA - EXISTING / DEMOLITION PLAN
4400	L	MAZDA - GENERAL ARRANGEMENT PLAN
4500	C	MAZDA SHOWROOM ELEVATIONS
4600	C	MAZDA SECTIONS
5300	B	MITSUBISHI + SUZUKI - EXISTING / DEMOLITION PLAN
5400	K	MITSUBISHI + SUZUKI - GENERAL ARRANGEMENT PLAN
5500	C	MITSUBISHI + SUZUKI SHOWROOM ELEVATIONS
6300	A	KIA - EXISTING / DEMOLITION PLAN
6400	F	KIA GENERAL ARRANGEMENT PLAN
6500	B	KIA SHOWROOM ELEVATIONS
6600	A	KIA SECTIONS
9100	A	FIRE COMPARTMENTATIONS 01
9101	A	FIRE COMPARTMENTATIONS 02

Annexure B - Essential Services

The following fire safety measures are required to be installed in the building. The following table may be required to be updated as the design develops and options for compliance are confirmed.

Table 4: Essential Fire Safety Measures

Item	Essential Fire and Other Safety Measures	Standard of Performance
New Showroom		
1.	Automatic Fail-safe Devices, Door Releases	BCA2022 Clause D3D26
2.	Emergency Lighting	BCA 2022 Clause E4D2, E4D3, E4D4, AS 2293.1 – 2018
3.	Exit Signs	BCA 2022 Clause E4D5, E4D6, E4D8 AS 2293.1-2018
4.	Fire Hydrant System	BCA2022 Clause E1D2 AS2419.1-2021
5.	Hose Reel System	BCA2022 Clause E1D3 AS2441-2005
6.	Portable fire extinguishers	BCA2022 Clause D1D14 AS2444-2001
Existing Showroom		
1.	Automatic Fail-safe Devices, Door Releases	BCA2022 Clause D3D26
2.	Emergency Lighting	BCA 2022 Clause E4D2, E4D3, E4D4, AS 2293.1 – 2018
3.	Exit Signs	BCA 2022 Clause E4D5, E4D6, E4D8 AS 2293.1-2018
4.	Fire Hydrant System	BCA2022 Clause E1D2 AS2419.1-2021
5.	Hose Reel System	BCA2022 Clause E1D3 AS2441-2005
6.	Portable fire extinguishers	BCA2022 Clause D1D14 AS2444-2001

Item	Essential Fire and Other Safety Measures	Standard of Performance
Existing Workshop & New Kia Showroom		
1.	Automatic Fail-safe Devices, Door Releases	BCA2022 Clause D3D26
2.	Emergency Lighting	BCA 2022 Clause E4D2, E4D3, E4D4, AS 2293.1 – 2018
3.	Exit Signs	BCA 2022 Clause E4D5, E4D6, E4D8 AS 2293.1-2018
4.	Fire Hydrant System	BCA2022 Clause E1D2 AS2419.1-2021
5.	Hose Reel System	BCA2022 Clause E1D3 AS2441-2005
6.	Portable fire extinguishers	BCA2022 Clause D1D14 AS2444-2001
7.	Lightweight fire rated construction (where necessary) • FRL 240/60/- to loadbearing external walls within 18m of Mitsubishi showroom • FRL240/-/- to loadbearing external wall columns within 18m of Mitsubishi showroom	BCA Clause C2D2 / Specification 5

Annexure C - Fire Resistance Levels

The following fire resistance levels (FRL's) are required for the various building elements, 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 B Construction (Existing Workshop/ Service Reception/Kia Showroom)

Note: The higher Fire Resistance levels of the Class 8 workshop has been applied to the Class 6 Kia showroom and Class 5 Service Reception areas.

Table 5: Type B Construction

Table S5C21a: Type B construction: FRL of loadbearing parts of external walls

Distance from a fire-source feature	FRL (in minutes): Structural adequacy / Integrity / Insulation Class 8
Less than 1.5 m	240/240/240
1.5 to less than 3 m	240/180/120
3m to less than 9 m	240/90/60
9 m to less than 18 m	240/60/-
18 m or more	-/-/-

Table S5C21b: Type B construction: FRL of non-loadbearing parts of external walls

Distance from a fire-source feature	FRL (in minutes): Structural adequacy / Integrity / Insulation Class 8
Less than 1.5 m	-/240/240
1.5 to less than 3 m	-/180/120
3 m or more	-/-/-

Table S5C21c: Type B construction: FRL of external columns not incorporated in an external wall

Distance from a fire-source feature	FRL (in minutes): Structural adequacy / Integrity / Insulation Class 8
Loadbearing column – less than 18 m	240/-/-
Loadbearing column – 18m or more	-/-/-
Non-loadbearing column	-/-/-

Table S5C21e: Type B construction: FRL of loadbearing internal walls

Location	FRL (in minutes): Structural adequacy / Integrity / Insulation Class 8
Fire-resisting lift and stair shafts	240/120/120
Bounding public corridors, public lobbies and the like	240/-/-
Between or bounding sole-occupancy units	240/-/-

Table S5C21f: Type B construction: FRL of non-loadbearing internal walls

Location	FRL (in minutes): Structural adequacy / Integrity / Insulation Class 8
Fire-resisting lift and stair shafts	-/120/120
Bounding public corridors, public lobbies and the like	-/-/-
Between or bounding sole-occupancy units	-/-/-

Table S5C21g: Type B construction: FRL of other building elements not covered by Tables S5C21a to S5C21f

Location	FRL (in minutes): Structural adequacy / Integrity / Insulation Class 7b or 8
Other loadbearing internal walls and columns	240/-/-
Roofs	-/-/-

Type C Construction (Existing Showroom & New Mazda Showroom)

Note: Due to boundary and building setbacks there are no Fire Resistance levels applicable to the showrooms.

Table 6: Type C Construction

Item	Class 6
External Walls + Less than 1.5m to a *fire- source feature* + 1.5 – less 3m from *fire- source feature* + 3m or more from a *fire- source feature*	 90/90/90 60/60/60 -/-/-
External Column not incorporated in an external wall + Less than 1.5m to a fire source feature + 1.5 – less 3m from fire source feature; + 3m or more from a fire source feature	 90/-/- 60/-/- -/-/-
Common Walls and Fire Walls	90/90/90
Internal walls bounding sole occupancy units	-/-/-
Internal walls bounding public corridors, hallways and the like	-/-/-
Internal walls bounding a stair if required to be fire rated	60/60/60

Annexure D - Definitions

Average specific extinction area

Average specific extinction area means the average specific extinction area for smoke as determined by AS 5637.1:2015.

Critical radiant flux

Critical radiant flux (CRF) means the critical heat flux at extinguishment (CHF in kW/m2) as determined by AS ISO 9239.1:2003.

Designated bushfire prone area

Designated bushfire prone area means land which has been designated under a power of legislation as being subject, or likely to be subject, to bushfires.

Effective height

Effective height means the vertical distance between the floor of the lowest storey included in a determination of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).

Envelope

Envelope, for the purposes of Section J in Volume One, means the parts of a building's fabric that separate a conditioned space or habitable room from—

1. the exterior of the building; or
2. a non-conditioned space including—
    a. the floor of a rooftop plant room, lift-machine room or the like; and
    b. the floor above a carpark or warehouse; and
    c. the common wall with a carpark, warehouse or the like.

Exit

Exit means –

1. Any, or any combination of the following if they provide egress to a road or open space—
    a. An internal or external stairway.
    b. A ramp.
    c. A fire-isolated passageway.
    d. A doorway opening to a road or open space.
    e. A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Fire compartment

Fire compartment means –

1. the total space of a building; or
2. when referred to in—
    a. the Performance Requirements — any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
    b. the Deemed-to-Satisfy Provisions — any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to-Satisfy Provisions of the relevant Part.

Fire-resistance level (FRL)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

1. structural adequacy; and
2. integrity; and
3. insulation,

and expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

Fire-source feature

1. the far boundary of a road, river, lake or the like adjoining the allotment; or
2. a side or rear boundary of the allotment; or
3. an external wall of another building on the allotment which is not a Class 10 building

Fire wall

Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

Flammability index

Flammability Index means the index number as determined by AS 1530.2:1993.

Group number

Group number means the number of one of 4 groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling.

Loadbearing

Intended to resist vertical forces additional to those due to its own weight.

Non-combustible

Non-combustible means—

1. applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and
2. applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

Open space

Open space means a space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.

Performance Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Performance Solution

Performance Solution means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Sarking-type material

Sarking-type material means a material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.

Smoke developed index

Smoke developed index means the index number for smoke as determined by AS/NZS 1530.3.

Smoke development rate

Smoke development rate means the development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1.

Smoke growth rate index

Smoke growth rate index (SMOGRA RC) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

Annexure E - 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. Building elements, including external walls and their components, must be non-combustible in accordance with C2D9 of BCA2019.1, except where Type C Construction is applied.
2. Fire resisting construction will be provided to loadbearing external walls or external columns to the workshop which are located within 18 metres of the existing Mitsubishi Showroom in accordance with Specification 5.
3. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C2D11 and Specification 7 of the BCA.
4. Workshop/Kia Showroom - Any ancillary elements fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible will comply with Clause C2D14 of the BCA. except as modified by fire engineering report.
5. Equipment will be separated in accordance with Clause C3D13 of the BCA.
6. The dimensions of exits and paths of travel to exits, including the height, width, and width of doorways will be provided in accordance with D2D7 to D2D10 of the BCA.
7. Discharge from exits will be in accordance with Clause D2D15 of the BCA.
8. The ladder from the plant, lift machine rooms, and electricity network substation in lieu of a stairway will be in accordance with Clause D2D21 of the BCA.
9. The construction of EDB's and telecommunications distribution boards will be in accordance with Clause D3D8 of the BCA 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.
10. Stair geometry will be in accordance with Clause D3D14 of the BCA. Stair treads are to have a surface with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
11. Landings and door thresholds throughout the development will be provided in accordance with Clause D3D15 and D3D16 of the BCA. Landings will have either a surface with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
12. The handrails and balustrades to all stairs and throughout the building will be in accordance with D3D17 to D3D22 of the BCA.
13. 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 AS 1657:2018 or Part D3 of the BCA.
14. The doorways and doors will be in accordance with Clause D3D24 and D3D25 of the BCA.

15. Door latching mechanisms will be in accordance with Clause D3D26 of the BCA
16. Fire precautions whilst the building is under construction will be in accordance with Clause E1D16 of the BCA.
17. Additional provisions will be made in accordance with Clause E1D17 of the BCA, due to the special hazards associated with the building works or the location of the building works.
18. External above ground waterproofing membranes will comply with Clause F1D5 of the BCA and AS 4654 Parts 1 & 2:2012.
19. The new roof covering will be in accordance with Clause F3D1 of the BCA.
20. Any sarking proposed will be installed in accordance with Clause F3D2 of the BCA.
21. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F2D2 of the BCA and AS 3740:2010.
22. Damp proofing of the proposed structure will be carried out in accordance with Clause F1D6 and F1D7 of the BCA.
23. All new glazing will be in accordance with Clause F3D4 of the BCA and AS 1288:2006 / AS 2047:2014.
24. Sanitary facilities will be provided in the building in accordance with Clause F4D2 to F4D8 of the BCA.
25. The construction of the sanitary facilities will be in accordance with Clause F4D8 of the BCA.
26. Ceiling heights will be in accordance with Clause F5D2 of the BCA.
27. Water closets and urinals will be located in accordance with Clause F6D9 of the BCA.
28. The sanitary compartments will either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F6D10 of the BCA.
29. Essential fire or other safety measures will be maintained and certified on an ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2000.
30. Building Fabric and Thermal Construction will be in accordance with Part J1 of the BCA.
31. Glazing will be in accordance with Part J1 of the BCA.
32. Building sealing will be in accordance with Part J3 of the BCA.
33. Facilities for Energy Monitoring will be provided in accordance with Clause J8.3 of the BCA.

Electrical Services Design Certification:

34. Emergency lighting will be installed throughout the development in accordance with Clause E4D2 and E4D4 of the BCA and AS/NZS 2293.1:2018.
35. Exit signage will be installed in accordance with Clause E4D5 and E4D8 of the BCA and AS/NZS 2293.1:2018.
36. Artificial lighting will be installed throughout the development in accordance Clause F6D5 of the BCA and AS/NZS 1680.0:2009.
37. Lighting power and controls will be installed in accordance with Part J6 of the BCA.
38. Electrical conductors located within the building that supply a main switchboard that sustains emergency equipment will comply with Clause C3D14 of the BCA.

Hydraulic Services Design Certification:

39. Storm water drainage will be provided in accordance with Clause F1D3 of the BCA and AS/NZS 3500.3:2018
40. Fire hydrant system will be installed in accordance with AS 2419.1:2021
41. Fire hose reels will be installed in accordance with Clause E1D3 of the BCA and AS 2441:2005.
42. Portable fire extinguishers will be installed in accordance with Clause E1D14 of the BCA and AS 2444:2001, except as modified by fire engineering report prepared by ADP Consulting.
43. The heated water supply systems will be designed and installed to NCC Volume Three – Plumbing Code and Clause J7.2 of the BCA.

Mechanical Services Design Certification:

44. An air-handling system which does not form part of a smoke hazard management system will be installed in accordance with Clause E2D3 of the BCA, and AS 1668.1:2015.
45. Where not naturally ventilated the building will be mechanically ventilated in accordance with Clause F6D6 of the BCA and AS 1668.2:2012.
46. Where exhaust discharges directly or via shaft into a roof space of a Class 2 or 4 *sole-occupancy unit*, ventilation of the roof space will comply with Clause F8D5 of the BCA.
47. The air-conditioning and ventilations systems will be designed and installed in accordance with Part J5 of the BCA
48. Rigid and flexible ductwork will comply with the fire hazard properties set out in AS 4254 Parts 1 and 2.

Structural Engineers Design Certification:

49. The material and forms of construction for the proposed works will be in accordance with Clause B1D2, B1D3 and B1D4 of the BCA as follows:
50. Dead and Live Loads – AS/NZS 1170.1:2002
51. Wind Loads – AS/NZS 1170.2:2011
52. Earthquake actions – AS 1170.4:2007
53. Masonry – AS 3700:2018
54. Concrete Construction – AS 3600:2018
55. Steel Construction AS 4100:1998
56. Aluminium Construction – AS/NZS 1664.1 or 2:1997
57. Timber Construction – AS 1720.1:2010
58. ABCB Standard for Construction of Buildings in Flood Hazard Areas.

NSW Specification Design Certificate:

59. Materials, floor and wall linings/coverings, surface finished and air-handling ductwork used in the works will comply with the fire hazard properties in accordance with Clause C2D11, NSW Clause C2D11, Specification 7 and NSW Specification 7 of the BCA.
60. The discharge points of exits will be in accordance with Clause D2D15, and NSW Clause D2D15(6) of the BCA.
61. The width of doorways in exits and paths of travel to exits will be provided in accordance with Clause D2D96, and NSW Clause D2D9(a) to (g) of the BCA.

62. Stair geometry to the new stairways will be in accordance with Clause D3D14, and NSW Clause D3D14(1) of the BCA. Stair treads are to have a surface with a slip-resistance classification complying with Table D3D154 when tested in accordance with AS 4586:2013 or a nosing strip with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
63. Landings and door thresholds throughout the development will be provided in accordance with Clause D3D15 and D3D162.15, and NSW Clause D3D16(a) to (e) of the BCA. Landings to have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013 where the edge leads to a flight below.
64. The door latching mechanisms to the proposed required exit doors will be in accordance with Clause D3D26 and NSW Clause D3D26(5) and (6) of the BCA.
65. Insulation will be in accordance with AS/NZS 4859.1:2018 and will be installed as required by NSW Part J1 of the BCA.