280-300 Lakemba Street & 64-70 King Georges Road, Wiley Park, NSW

AMB Built

BCA Compliance Report

Holmes Fire

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I	Updated to reflect new drawings and comments made by the Architect
J	Updated to reflect new drawings
K	Minor updates to building description
L	Updated booster location

About Holmes Fire

Holmes Fire is a professional engineering consultancy specialising in the field of fire and safety engineering, including performance-based fire engineering, Building Code of Australia assessments and human behaviour analysis. These services are provided for all building classifications, both new and existing, and infrastructure projects.

As the largest specialist fire engineering firm in Australasia, with offices in Sydney, Brisbane, Christchurch, Wellington, Hawke's Bay, and Auckland, as well as Los Angeles and San Francisco, Holmes Fire has extensive experience in delivering performance-based fire engineering designs; having completed projects throughout Australia, New Zealand, the United States of America and the Middle East.

Holmes Fire is committed to providing superior service and value to our clients. This is done by finding innovative safety solutions that complement the architectural designs of buildings and meet the needs of Clients, Emergency Services, Approval Authorities and the building users. Holmes Fire believes in communicating effectively with all stakeholders and establishing ongoing relationships.

Executive Summary

This document constitutes a Building Code of Australia, Volume 1, Amendment 1, 2019 (BCA) assessment report for the proposed mixed-use development to be located at 280-300 Lakemba Street & 64-70 King Georges Road, Wiley Park, NSW. The development is to consist of four blocks, each with retail tenancies on Level 00, seven levels of residential units above, and rooftop communal space. The blocks are connected by three levels of basement carpark, including a supermarket.

Compliance with the Deemed-to-Satisfy requirements of the BCA is generally achieved; however, a number of potential fire safety issues have been identified. Fire safety compliance issues comprise the following:

- Clause C1.1, C2.7, C2.8, C2.9, C3.5 – The carpark levels are required to be separated from the retail supermarket on B1 and B2 by construction with an FRL of at least 180/180/180, or the entire floor is required to be constructed to the higher FRL. Retail tenancies on Level 00 are required to achieve an FRL of 180/180/180. The loading dock may be considered a storage area and require a 240/240/240 FRL. Holmes Fire can provide a Performance Solution to modify the FRL to the retail and storage areas and address the separation of classifications.
- Clause D1.2 – At least two exits must be provided to each storey over 25 m. Retail tenancies, waste rooms, residential lobbies, toilets and service rooms on Level 00 only have access to a single exit. Holmes Fire can provide a Performance Solution to address the single exit non-compliance.
- Clause D1.3 – Each stairway or ramp serving as a required exit must be fire-isolated where it passes three or more consecutive storeys. These stairs are required to be in a fire-resisting shaft, which includes a fire rated lid. The upper flights that serve the roofs (Levels 07 and 08) are not in a fire-resisting shaft as it does not have a fire rated lid. Holmes Fire can provide a Performance Solution to address the non-compliant fire-isolated stair shafts.
- Clause D1.4(a) – The maximum travel distance from the entry door of a residential SOU to a point of choice of exits is permitted to be 6 m. The distance from several SOUs is up to 7 m to a point of choice of exits. A Performance Solution using a comparative approach will be provided to address Performance Requirement DP4 to allow for this travel distance.
- Clause D1.7(b) – A fire-isolated stair must provide independent egress from each storey served and discharge directly or by way of its own fire-isolated passageway to open space or a covered area satisfying particular criteria. The discharge area from a number of the residential fire-isolated stairs do not satisfy these requirements. Holmes Fire can provide a Performance Solution to address the discharge areas of the fire-isolated stairs which are not open for 2/3 of their perimeters.
- Clause D1.7(c) – The path of travel from a fire-isolated exit discharge must not pass within 6 m of unprotected openings in the building's external walls. The discharge from a number of the residential fire-isolated stairs do not satisfy these requirements. Holmes Fire can provide a Performance Solution to address the path of travel from fire-isolated stairs passing within 6 m of unprotected openings, or the glazing can be protected by wall wetting sprinklers.
- Clause D1.9(a) – A non-fire-isolated stairway serving as a required exit must provide a continuous means of travel by its own flights and landings to the level at which egress to a road or open space is provided. A number of non-fire-isolated stairs serve the roof levels and do not provide continuous

means of travel by their own flights to reach open space. Holmes Fire can provide a Performance Solution to address the use of non-fire-isolated stairs serving the roof levels.

- Clause D1.12(c) – Escalators and moving walkways must not connect more than three storeys if each of those storeys is provided with a sprinkler system. The escalators and moving walkways serving the basement supermarket connect three storeys but pass by a fourth, such that the three connected storeys are not consecutive. Holmes Fire can provide a Performance Solution to address the connection of escalators and moving walkways.
- Clause D2.12 – If an exit discharges occupants to the roof, the roof must not have any openings within 3 m of the travel path to reach open space. The fire-isolated stairs discharge to the roof of the supermarket (Level B0) and openings are located within 3 m of the travel path to open space.
- Clause D2.20(b) – A swinging door in a required exit must swing in the direction of egress unless it serves a building or part with a floor area not more than 200 m², it is the only required exit from the part of the building, and it is fitted with a device for holding it in the open position. Retail and residential lobby doors are proposed to swing against the direction of egress and if the compartment is under 200 m², the doors may not be provided with a hold open device. Holmes Fire can provide a Performance Solution to address the door swing direction without providing hold open devices.
- Clause E2.2 – A stair serving a storey with an effective height of greater than 25 m is required to be provided with pressurisation or open access balconies. Depending on the interpretation of what height the residential fire-isolated stairs serve, a pressurisation system is required. This cannot be provided to the open flights serving the roof.
- Clause E2.2 – A Class 6 retail area in a building greater than 25 m in effective height is required to be provided with a zone smoke control system. It is not proposed to provide this system to the retail tenancies at Basement 1 and Ground Floor Holmes Fire can provide a Performance Solution to address the retail areas not being provided with a zone smoke control system.

A list of the issues of non-compliance, together with recommendations of the method of addressing the issues, be it via a Performance Solution or compliance with the BCA Deemed-to-Satisfy Provisions, is provided within Section 3 of this report.

This report is provided in accordance with the fee proposal (134666.F001a, 5 April 2017), as executed between Holmes Fire LP and the Client. Holmes Fire LP is a New Zealand limited partnership formed under the New Zealand Limited Partnerships Act 2008. No obligations in contract exist between Holmes Fire LP and any other party. It is assumed that the assumptions and limitations of this report are read and understood. Holmes Fire should be contacted if there are any queries in regard to the content. Holmes Fire takes no responsibility for the misinterpretation by others.

This assessment presents Holmes Fire's interpretation of the Deemed-to-Satisfy Provisions of the BCA. Others may have a differing interpretation.

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1 INTRODUCTION

1.1 Report Purpose

This report provides an assessment of the level of compliance for the proposed mixed-use development to be located at 280-300 Lakemba Street & 64-70 King Georges Road, Wiley Park, NSW, against the Deemed-to-Satisfy Provisions of Sections C, D (excluding Part D3), E, and F of the Building Code of Australia (BCA), Volume One, Amendment 1 of the National Construction Code of Australia 2019[1].

The development is to consist of four blocks, each with retail tenancies on Level 00 (ground level). The blocks are separated above ground. The blocks have seven levels of residential SOUs and rooftop communal areas. The blocks are connected by three levels of basement carpark (B1-B3), a basement supermarket (B1), and basement plant (B0). Furthermore, there will be a central open plaza between the four blocks at Ground Level.

An inspection was not undertaken due to the proposed nature of the works.

1.2 Potential Performance Solutions

Identified non-compliances that may be addressed by Fire Engineered Performance Solutions relate to:

- Clause C1.1, C2.7, C2.8, C2.9, C3.5 – The carpark levels are required to be separated from the retail supermarket on B1 and B2 by construction with an FRL of at least 180/180/180, or the entire floor is required to be constructed to the higher FRL. Retail tenancies on Level 00 are required to achieve an FRL of 180/180/180. The loading dock may be considered a storage area and require a 240/240/240 FRL. Holmes Fire can provide a Performance Solution to modify the FRL to the retail and storage areas and address the separation of classifications.
- Clause D1.2 – Several retail tenancies, waste rooms, residential lobbies, toilets, and service rooms on Level 00 only have access to a single exit. Holmes Fire can provide a Performance Solution to address the single exit non-compliance.
- Clause D1.3 – The fire-isolated stairs are required to be in a fire-resisting shaft, which includes a fire rated lid. The upper flights that serve the roofs (Levels 07 and 08) are not in a fire-resisting shaft as it does not have a fire rated lid. Holmes Fire can provide a Performance Solution to address non-compliant fire-isolated stair shafts.
- Clause D1.4(a) – The distance from several SOUs is up to 7 m to a point of choice of exits. Holmes Fire can provide a Performance Solution to address the travel distances from these SOUs.
- Clause D1.7(b) – The discharge from a number of the residential fire-isolated stairs do not satisfy these requirements. Holmes Fire can provide a Performance Solution to address the discharge areas of the fire-isolated stairs which are not open to 1/3 of their perimeters.

[1] Australian Building Codes Board, National Construction Code Series 2019, Volume 1, Amendment 1, Building Code of Australia, Class 2 to Class 9 Buildings. Australian Building Codes Board, CAN, Australia, 2020.

- Clause D1.7(c) – The discharge from a number of the residential fire-isolated stairs do not satisfy these requirements. Holmes Fire can provide a Performance Solution to address the path of travel from fire-isolated stairs passing within 6 m of unprotected openings, or the glazing can be protected by wall wetting sprinklers.
- Clause D1.9(a) – Non-fire-isolated stairs are proposed to serve all roof levels and do not provide continuous means of travel by their own flights to reach open space. Holmes Fire can provide a Performance Solution to address the use of non-fire-isolated stairs serving the roof levels.
- Clause D1.12(c) – The escalators and moving walkways serving the basement supermarket connect three storeys but pass by a fourth, such that the three connected storeys are not consecutive. Holmes Fire can provide a Performance Solution to address the connection of escalators and moving walkways.
- Clause D2.12 – The fire-isolated stairs discharge to the roof of the supermarket (Level B0) and openings are located within 3 m of the travel path to open space. Holmes Fire can provide a Performance Solution to address the openings.
- Clause D2.20(b) – Retail and residential lobby doors are proposed to swing against the direction of egress and if the compartment is under 200 m², the doors may not be provided with a hold open device. Holmes Fire can provide a Performance Solution to address the door swing direction in all retail compartments without providing hold open devices.
- Clause E2.2 – A stair serving a storey with an effective height of greater than 25 m is required to be provided with pressurisation or open access balconies. Depending on the interpretation of what height the residential fire-isolated stairs serve, a pressurisation system is required. Holmes Fire can provide a Performance Solution to address the omission of stair pressurisation to all or part of the fire-isolated stairs.
- Clause E2.2 – A Class 6 retail area in a building greater than 25 m in effective height is required to be provided with a zone smoke control system. It is not proposed to provide this system to the retail tenancies at Basement 1 and Ground Floor Holmes Fire can provide a Performance Solution to address the retail areas not being provided with a zone smoke control system.

1.3 Relevant Stakeholders

The relevant stakeholders for the subject project are listed in Table 1-1.

Table 1-1: Relevant Stakeholders

Name	Company	Role
Mr Abdallah Saboune	ABM Built	Client
Paolo Salotto	Marchese Partners Architects	Architect
Sarnia Rusbridge	Holmes Fire LP	BCA Consultant / Fire Engineer

1.4 Assumptions

This BCA assessment has been prepared based upon information provided to Holmes Fire. Holmes Fire has not verified the accuracy or completeness of this information and assumes that the information provided is accurate and complete. Holmes Fire shall not be responsible for any errors or omissions which may be incorporated into this report as a result.

It is assumed that the limitations and assumptions of this report are read and understood. The author of this report should be contacted if there are any queries in regard to the content. Holmes Fire takes no responsibility for the misinterpretation by others.

1.5 Limitations

A number of issues within the BCA are recognised to be interpretive. Where these issues are encountered, interpretations have been made consistent with Holmes Fire policy which is believed to be in accordance with standard industry practice.

Unless specifically requested by the client or stated in this report, issues above and beyond the BCA fire safety requirements have not been considered. This may include, but not be limited to, property protection, business continuance, egress for persons with disabilities and extent or availability of insurance. This report does not include review of the subject building against the following documents and provisions:

1) The detailed requirements of each Australia Standard referenced within the BCA that has been cited as being relevant to this development;
2) Requirements of Energy Australia for substations;
3) The Disability Discrimination Act, Work Health & Safety legislation and Dangerous Goods; and
4) The Deemed-to-Satisfy Provisions of Section B “Structure” (this Section includes structural requirements for the building that would need to be reviewed by a structural engineer); Part D3 (Access for People with Disabilities); Section F (Health & Amenity); and Section J (Energy Efficiency).

2 BUILDING AND OCCUPANT CHARACTERISTICS

2.1 Description of Building

The development is to consist of four blocks, called B01-A (south), B01-B (west), B02-A (east), and B02-B (north). The site will contain a total of 142 SOUs. All four blocks have communal roof areas on Levels 07 and 08 that are to contain seating, barbecue amenities, and child play items including a water play pool up to 300 mm deep. On Ground Level (Level 00), the blocks contain three to eight retail tenancies. The tenancies range between 45 m^2 and 111 m^2 in area. The blocks are connected by three levels of basement carpark including a 1,019 m^2 supermarket on Level B1, and plant on Level B0. Furthermore, there will be a central open plaza between the blocks.

The building will be located at the corner of King George Road and Lakemba Street, with the entrance to the carpark levels from Lakemba Street and access to the residential towers from the central plaza and King Georges Street.

Figure 2-1: Location of the Proposed Development

2.2 Building Code of Australia Summary

The general description of the building under the Deemed-to-Satisfy Provisions of BCA 2019 is as indicated in Table 2-1.

Table 2-1: BCA General Description

BCA Clause	Description
Schedule 3 Effective Height	~ 26.1 m
A6 Classification	Class 2 - Residential Class 6 - Retail Class 7a – Carpark Class 7b – Storage (loading dock)
C1.1 Type of Construction Required	Type A construction
C1.2 Rise in Storeys	8, with 12 storeys contained
C2.2 Floor Area and Volume Limitations	Class 6 Maximum floor area: 5,000 m^2 Maximum volume: 30,000 m^3 These size limitations for the fire compartments are not exceeded, based on each storey being a separate fire compartment. Area and volume limitations do not apply to Class 2 buildings or to a carpark provided with a sprinkler system.

2.3 Occupant Characteristics

Occupancy of building may consist of adults, elderly and children. Occupants can consist of people from a wide range of cultural, educational, demographic and religious backgrounds. The diversity in backgrounds can result in different behaviours and actions in the event of a fire. People with disabilities may also be present to the same proportion as expected within the general population.

The occupancy of the building is sufficiently large and uncensored to assume that there will be a mix of abilities amongst the individuals. It will however be assumed that nobody in the building needs to be transported in a bed or via a stretcher to evacuate the building. Within the residential portion of the building, the majority of occupants are expected to have a high level of familiarity with the building and the locations of the exits.

Within the Ground Floor retail areas, occupants are more likely to choose exits they are familiar with, especially the way in which they entered[2]. Customers may not be familiar with the layout of the entire building and they are therefore expected to choose to exit through the main entry unless encouraged by staff to choose a different path, or if the entry is blocked by the fire. The staff within the retail tenancies are expected to be familiar with the retail portion of the building and are expected to 'sweep' the retail tenancies and ensure all customers have evacuated prior to initiating their own evacuation.

2.4 Occupant Load

The occupant load of the residential portion of the subject building is based on two people in the main bedroom and one person in each additional bedroom. Although higher occupant numbers may occur in individual apartments on isolated occasions, the estimated figure is considered to be the typical maximum expected occupant load for the whole building. The total number of occupants within the residential portions of the building is presented in Table 2-2.

For the retail areas, the occupant load has been based on the occupant density specified within Table D1.13 of the BCA for a shop occupancy (at a level entered directly from the open air), that being 3 m^2 per person. The total occupant load is provided within Table 2-2. Note that no allowance has been made for the provision of back-of-house areas, therefore the occupant numbers provided below are considered to be conservative.

Occupant characteristics are not presented for the carpark since occupants within the carpark area are assumed to be coming from or going to the other parts of the building and only occupying the area for relatively short periods of time.

Table 2-2: Number of Occupants

Floor / Apartment Type	Area	Number	Density	No. of Occupants
Level 00 Retail	1,201 m^2	-	3 m^2/person	400 persons
Level B1 Supermarket	1,098 m^2	-	5 m^2/person	220 persons
Three-bedroom apartments	-	4	2 people in main bedroom and 1 person in each additional bedroom	14 persons
Two-bedroom apartments	-	80	2 people in main bedroom and 1 person in each additional bedroom	240 persons

[2] BSi, *PD 7974-6:2004, The Application of Fire Safety Engineering Principles to Fire Safety Design of Buildings – Human Factors: Life Safety Strategies – Occupant Evacuation, Behaviour and Conditions*, July 2004.

Floor / Apartment Type	Area	Number	Density	No. of Occupants
Single-bedroom apartments	-	58	2 people per bedroom	116 persons
Total	-	-	-	**990 persons**

2.5 Fire Safety Provisions

The building is to be provided with the following fire safety measures, listed in Table 2-3. It is assumed that these systems are all operable and appropriately maintained.

Table 2-3: Fire Safety Provisions

Fire Safety Measure	Standard of Performance
Access panels, doors and hoppers to fire-resisting shafts	BCA 2019 A1 Clause C3.13
Automatic fire detection and alarm system	BCA 2019 A1 Clause E2.2a, Spec. E2.2a, AS 3786-2014, AS 1670.1-2018
Automatic fire suppression system	BCA 2019 A1 Clause E1.5, E2.2, Spec. E1.5, AS 2118.1-2017
Emergency evacuation procedures	Clause 43 of the Work Health & Safety Regulation 2011
Emergency lift	BCA 2019 A1 Clause E3.4
Emergency lighting	BCA 2019 A1 Clause E4.2 & E4.4, AS 2293.1-2005
Exit and directional signage	BCA 2019 A1 Clause E4.5, NSW E4.6, & E4.8, AS 2293.1-2005
Fire alarm monitoring system	AS 2118.1-2017
Fire control centres	BCA 2019 A1 Clause E1.8, Spec E1.8
Fire dampers	BCA 2019 A1 Clause E2.2, AS 1668.1-2015, AS 1682.1-2015
Fire doorsets	BCA 2019 A1 Clause C2.12, C2.13, C3.8, C3.11, Spec C3.4, AS 1905.1-2015
Fire hydrant system	BCA 2019 A1 Clause E1.3, AS 2419.1-2005
Fire hose reel systems	BCA 2019 A1 Clause E1.4, AS 2441-2005
Fire seals (protecting openings and service penetrations in fire resisting components of the building)	BCA 2019 A1 Clause C3.15, Spec C3.15, Manufacturer's specifications
Mechanical air handling systems	BCA 2019 A1 Clause E2.2, Spec E2.2a, AS 1668.1-2015, AS 1668.2-2012

Fire Safety Measure	Standard of Performance
Occupant warning system	BCA 2019 A1 Spec. E1.5, Clause E2.2, Spec. E2.2a, AS 1670.1-2018
Openings in fire-isolated lift shafts	BCA 2019 A1 Clause C3.10, AS 1735.11-1986
Path of travel for stairways, passageway and ramps	Clauses 183-186 of the Environmental Planning and Assessment Regulation 2000
Pressurising systems	BCA 2019 A1 Clause E2.2a, AS 1668.1-2015
Portable fire extinguishers	BCA 2019 A1 Clause E1.6, AS 2444-2001
Sound systems and intercom systems for emergency purposes	BCA 2019 A1 Clause E4.9, AS 1670.4-2018
Warning and operational signs	BCA 2019 A1 Clause D2.23, E3.3, Clause 183 of the Environmental Planning and Assessment Regulation 2000

2.6 Fire Brigade Facilities

The location of the following facilities is anticipated to be of particular interest to Fire & Rescue NSW:

- The location of the Fire Detection Control and Indicating Equipment (FDCIE) is not noted in the referenced drawings.
- The fire brigade hydrant and sprinkler booster connections will be located on Ground Level outside the supermarket entrance facing King Georges Road.
- The hydrant and / or sprinkler water tank location is to be confirmed.
- The hydrant and / or sprinkler pump room will be located on Level B1, accessed via the fire-isolated stairs of B01-A.
- The location of the sprinkler valves is to be confirmed. They are required to be located in an area with direct access to open space.
- The water supply for the sprinkler system will be a Grade 1 supply.

3 BUILDING ASSESSMENT

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
Part A1 – Interpretation and Part A3 – Classifications							
Schedule 3	Definitions	Effective Height: 26.7 m (RL 64.55 – 37.83)	☒	☐	☐	☐	☐
A6	Classifications	The subject building is classified as: Class 2 – Residential Class 6 – Retail Class 7a – Carpark Class 7b – Storage (loading dock)	☒	☐	☐	☐	☐
Part C1 – Fire Resistance and Stability							
C1.1 Type of construction required	The type of construction is based on the building's rise in storeys and classification (refer to Table C1.1)	Type A construction is required. The Fire Resistance Level (FRL) is generally: Carpark: 120/120/120 Residential: 90/90/90 Retail: 180/180/180 (a solution can be provided to reduce the FRL if required) Storage: 240/240/240 (a solution can be provided to reduce the FRL if required)	☐	☒	☐	☐	☒
C1.2 Calculation of rise in storeys	Calculation of rise in storeys	The subject building has a rise in storeys of 8, with 12 storeys contained.	☒	☐	☐	☐	☐
C1.3 Buildings of multiple classification	The most fire-resisting type of construction required for the building applies to all storeys based on the classification applying to the top storey applying to all storeys.	Noted	☒	☐	☐	☐	☐
C1.4 Mixed types of construction	Allowable where they are separated in accordance with Clause C2.7.	The subject building does not have multiple types of construction.	☒	☐	☐	☐	☐
C1.5 Two storey Class 2, 3, or 9c buildings	Allows subject building to be of Type C construction if the building has a rise in storeys of two, access to two exits or direct access to a road, and is only of Class 2, 3, or 9c use.	The subject building has a rise in storeys of more than two.	☒	☐	☐	☐	☐
C1.6 Class 4 parts of buildings	Requires building to have the same FRL as Class 2 parts in the same type of construction.	Subject building does not have any Class 4 parts.	☒	☐	☐	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
C1.7 Open spectator stands and indoor sports stadiums	Concessions allowing for Type C construction.	Subject building does not comprise spectator stands or indoor sports stadium	☒	☐	☐	☐	☐
C1.8 Lightweight construction	Lightweight construction must comply with the requirements of Specification C1.8.	Loadbearing internal walls and loadbearing firewalls must be of concrete or masonry construction.	☐	☒	☐	☐	☐
C1.9 Non-combustible materials	Lists materials that can be used wherever non-combustible materials is required.	Noted	☒	☐	☐	☐	☐
C1.10 Fire hazard properties	Materials and assemblies to comply with relevant fire hazard properties in Specification C1.10.	Noted	☐	☒	☐	☐	☐
C1.11 Performance of external walls in fire	Concrete external walls that could collapse as complete panels in a building with a rise in storeys of not more than two must comply with Specification C1.11.	Not applicable. The building has a rise in storeys of more than two.	☒	☐	☐	☐	☐
C1.13 Fire-protected timber: Concession	Fire-protected timber in a Class 2, 3, or 5 building may be used wherever an element is required to be non-combustible, provided the building is less than 25 m in height and is sprinkler protected.	Not of timber construction	☒	☐	☐	☐	☐
Part C2 – Compartmentation and Separation							
C2.2 General floor area and volume limitations	Maximum floor area: 5,000 m^2 Maximum volume: 30,000 m^3	The floor area and volume of the subject Class 6 Type A building does not exceed the maximum allowable sizes in Table C2.2	☐	☒	☐	☐	☐
C2.3 Large isolated buildings	Additional fire protection measures are required for a building that exceeds the areas/volumes listed in Table C2.2.	Building does not exceed the areas/volumes listed in Table C2.2.	☒	☐	☐	☐	☐
C2.4 Requirements for open spaces and vehicular access	Requirements to enable access to the perimeter of the building for the fire brigade.	Not applicable.	☒	☐	☐	☐	☐
C2.5 NSW Class 9a and 9c buildings	Additional requirements for fire compartmentation and smoke zones for Class 9a and 9c buildings.	Not applicable.	☒	☐	☐	☐	☐
C2.6 Vertical separation of openings in external walls	Vertical separation is required to openings in external walls located directly above other external openings, in non-sprinkler protected Type A buildings.	Not applicable as the building is to be sprinkler protected.	☒	☐	☐	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
C2.7 Separation by fire walls	Fire walls must be constructed in accordance with Specification C1.1. Separation of buildings and fire compartments can be achieved by the construction of a fire wall.	Fire walls are to achieve the required FRL as specified in Specification C1.1. The carpark levels are required to be separated from the retail supermarket by construction with an FRL of at least 180/180/180, and the loading dock separated by 240/240/240 fire rated construction, or the entire floor is required to be constructed to the higher FRL. Holmes Fire can provide a Performance Solution to address the separation of classifications.	☐	☒	☐	☐	☒
C2.8 Separation of classifications in the same storey	Fire walls between areas of different classifications on the same storey are to achieve the higher FRL specified in Specification C1.1.	Refer to Specification C1.1 for required FRLs for fire walls. The highest of the classifications applies to the fire walls. Required on Level 00 between retail and residential and to the loading dock, and Level B1-B2 between the supermarket and carpark. Holmes Fire can provide a Performance Solution to provide a reduced FRL to the Level 00 and B1 retail tenancies and storage, and address the separation from the supermarket.	☐	☒	☐	☐	☒
C2.9 Separation of classifications in different storeys	Floor/ceiling construction between storeys of different classifications	The subject building is of Type A construction and the FRL of the lower floor prescribed in Specification C1.1 applies to the floor between storeys of different classification. Holmes Fire can provide a Performance Solution to provide a reduced FRL to the Level 00 and B1 retail tenancies and storage and address the separation from the supermarket.	☐	☒	☐	☐	☒
C2.10 Separation of lifts shafts	FRLs prescribed for the separation of lift shafts in different building types.		☐	☒	☐	☐	☐
C2.11 Stairways and lifts in one shaft	Stairways and lifts must not be located in the same shaft if either one is required to be in a fire-resisting shaft.		☐	☐	☒	☐	☐
C2.12 Separation of equipment	Lift motors, lift control panels, emergency generators, central smoke control plants, boilers or batteries must be fire separated from the remainder of the building.		☐	☒	☐	☐	☐
C2.13 Electricity supply system	FRLs required for the separation of electrical equipment within a building.		☐	☒	☐	☐	☐
C2.14 Public corridors in Class 2 and 3 buildings	Division of public corridors into 40 m lengths.	Corridors less than 40 m.	☐	☐	☒	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
Part C3 – Protection of Openings							
C3.2 Protection of openings in external walls	External openings within the minimum distances to a fire source feature must be protected in accordance with Clause C3.4 and must not occupy more than 1/3 the area of the external wall.	Distance to rear allotment boundary exceeds 3 m. Distance to far side or road exceeds 6 m.	☐	☐	☒	☐	☐
C3.3 Separation of external walls and associated openings in different fire compartments	External openings within the minimum distances to other fire compartments must be protected in accordance with Clause C3.4.	Not applicable.	☒	☐	☐	☐	☐
C3.4 Acceptable methods of protection	Requirements for the protection of external openings.	Not applicable.	☒	☐	☐	☐	☐
C3.5 Doorways in fire walls	Doors in fire walls must maintain the integrity of the fire wall.	If separated by a fire rated wall, the doors between the supermarket and carpark are required to be -/180/30 fire rated doorsets and to the loading dock -/240/30. Holmes Fire can provide a Performance Solution to address the separation of classifications.	☐	☒	☐	☐	☒
C3.6 Sliding fire doors	Installation requirements for automatic closing sliding fire doors in a fire wall.	Not applicable.	☒	☐	☐	☐	☐
C3.7 Protection of doorways in horizontal exits	Installation requirements for doorways in horizontal exits.	Not applicable.	☒	☐	☐	☐	☐
C3.8 Openings in fire-isolated exits	Doorways in fire-isolated exits which do not open to a road or open space must be provided with fire protection and be self-closing or automatic closing, triggered by either a smoke detector located within 1.5 m of the door, or via the building's sprinkler system. External windows in a stair within 6 m of another window of the same building must be protected in accordance with Clause C3.4.		☐	☒	☐	☐	☐
C3.9 Service penetrations in fire-isolated exits	Fire-isolated exits must not be penetrated by any services other than electrical wiring in accordance with D2.7(e), ducting associated with the pressurisation system constructed of material with an FRL not less than -/120/60 where it passes through other parts of the building, or water supply pipes serving fire services.		☐	☒	☐	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
C3.10 Openings in fire-isolated lift shafts	Doorways to fire-isolated lift shafts must be protected by -/60/- fire doors. Lift indicator panels must be backed by construction no less than -/60/60.		☐	☒	☐	☐	☐
C3.11 NSW Bounding construction: Class 2 and 3 buildings and Class 4 parts	Doorways in Type A buildings to be self-closing -/60/30 fire rated doorsets. Other openings must maintain the integrity and insulation performance of the wall.		☐	☒	☐	☐	☐
C3.12 Openings in floors and ceilings for services	In a Type A building, a service passing through a floor or ceiling, the service must be protected by a shaft complying with Specification C1.1.		☐	☒	☐	☐	☐
C3.13 Openings in shafts	In a Type A building, openings in shafts must be provided with fire protection.		☐	☒	☐	☐	☐
C3.15 Openings for service installations	Where services penetrate a fire-rated building element, they must maintain the FRL of the element they penetrate and be a tested system or installed in accordance with Specification C3.15.		☐	☒	☐	☐	☐
C3.16 Construction joints	Construction joints, spaces and the like in between building elements must achieve the same FRL of the associated building element.		☐	☒	☐	☐	☐
C3.17 Columns	Columns protected with lightweight construction to achieve an FRL		☒	☐	☐	☐	☐
Part D1 – Provision for Escape							
D1.2 NSW Number of exits required	At least two exits must be provided to each storey of a building over 25 m in effective height and to basement levels with a rise of more than 1.5 m.	Multiple retail tenancies on Level 00, waste rooms, residential lobbies, toilets, and service rooms only have access to a single exit.	☐	☐	☐	☒	☒
D1.3 When fire-isolated stairways and ramps are required	Each stairway or ramp serving as a required exit must be fire-isolated where it passes three or more consecutive storeys.	The residential fire-isolated stairs are not in a fire-resisting shaft due to the non-fire isolated flights serving the roof levels and hence no fire rated lid to the shafts.	☐	☐	☐	☒	☒
D1.4 Exit travel distances	The entrance doorway of a sole-occupancy unit must be no greater than 6 m to a point of choice of exits, other than on ground level where this distance may be 20 m.	Distance from several SOUs exceed 6 m, being up to 7 m.	☐	☐	☐	☒	☒

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
	Every point on a floor must be located no more than 20 m from a single exit or to a point of choice of exits, to which the maximum travel to the nearest exit shall be no greater than 40 m. The distance to a single exit at ground level may be extended to 30 m.	It should be noted the carpark distances (noted as compliant) are based on measurement through carpark spaces and measuring around them may result in greater travel distances to the nearest exit.	☐	☐	☒	☐	☐
D1.5 Distance between alternative exits	A minimum of two exits must be provided and be distributed evenly throughout the storey they are located in, with a minimum distance between exits of 9 m and travel paths leading to them not converging such that they are less than 6 m apart.		☐	☐	☒	☐	☐
	In a Class 2 building the maximum travel distance between alternative exits must be no greater than 45 m.		☐	☐	☒	☐	☐
	In a Class 6 and 7a building the maximum travel distance between alternative exits must be no greater than 60 m when measured through the point of choice.		☐	☐	☒	☐	☐
D1.6 NSW Dimensions of exits and paths of travel to exits	The unobstructed height and width of required exits or paths of travel to exits must be no less than 2 m and 1 m respectively. The aggregate egress width per storey is based on the number of persons accommodated, as calculated by D1.13.		☐	☒	☐	☐	☐
D1.7 Travel via fire-isolated exits	A doorway from a room must not open directly into a fire-isolated exit unless it is from a public corridor, a sole-occupancy unit occupying the entire storey, or a sanitary compartment.		☐	☐	☒	☐	☐
	Each fire-isolated exit must provide independent egress directly to open space, or to a covered area meeting certain requirements.	Residential fire-isolated stairs discharge to covered areas open for approximately 25% of the perimeter.	☐	☐	☐	☒	☒
	A path of travel from a fire-isolated exit discharge must not pass within 6 m of unprotected openings in the building's external walls.	The paths of travel from the north and east basement fire-isolated stairs and south and west residential fire-isolated stairs require occupants to pass within 6 m of unprotected openings of the lobbies or retail tenancies. To be Deemed-to-Satisfy compliant, the lobby doors and retail tenancy glazing need to be fire rated or internally sprinkler protected.	☐	☐	☐	☒	☒
	If more than two access doors open into the stair, either a smoke lobby or pressurisation must be provided.	Not applicable.	☒	☐	☐	☐	☐
D1.8 External stairways or ramps in lieu of fire-isolated exits	Non-combustible external stairways or ramps located greater than 6 m from unprotected openings may be used in lieu of fire-isolated exits when serving a storey below an effective height of 25 m.	Not applicable.	☒	☐	☐	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
D1.9 Travel by non-fire-isolated stairways or ramps	A non-fire-isolated stairway or ramp must provide continuous means of travel by its own flights to reach open space.	Non-fire isolated stairs are proposed to serve all roof levels and do not provide continuous means of travel by their own flights to reach open space.	☐	☐	☐	☒	☒
D1.10 NSW Discharge from exits	Exits must discharge to an open space that has an unobstructed travel path with a minimum width of 1 m to allow occupants to reach the road.		☐	☐	☒	☐	☐
D1.11 Horizontal exits	Horizontal exits can be considered as required exits in certain cases. They must not comprise more than half the required exits from a storey.	Not applicable.	☒	☐	☐	☐	☐
D1.12 Non-required stairways, ramps or escalators	An escalator, moving walkway or non-required non-fire-isolated stair may connect up to three consecutive storeys if protected by a sprinkler system.	The escalators and moving walkways serving the basement supermarket connect three storeys but pass by a fourth (B2, B1, B0, L00), such that the three connected storeys are not consecutive.	☐	☐	☐	☒	☒
D1.13 Number of persons accommodated	Table D1.13 provides the area per person according to the usage of the area.	Retail: 3 m^2/person at level entered direct from open air Residential: 2 persons in main bedroom and 1 person in each additional bedroom Carpark: 30 m^2/person	☒	☐	☐	☐	☐
D1.14 Measurement of distances	Distances involving exits must be measured to the nearest part of the exit.	Noted	☒	☐	☐	☐	☐
D1.15 Method of measurement	Outlines the method used to measure travel distances.	Noted	☒	☐	☐	☐	☐
D1.16 Plant rooms, lift machine rooms and electricity network substations: concession	A ladder may form part of a required exit from small plant rooms, lift machine rooms and electricity network substations.	To comply if applicable.	☐	☒	☐	☐	☐
D1.17 Access to lift pits	Access to the lift pit must be provided either via the lowest landing doors where the pit depth is not more than 3 m, or via an access doorway where the pit depth is deeper than 3 m.		☐	☒	☐	☐	☐
Part D2 – Construction of Exits							
D2.2 Fire-isolated stairways and ramps	A stairway or ramp within a fire-resisting shaft must be constructed of non-combustible materials.		☐	☒	☐	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
D2.3 Non-fire-isolated stairways and ramps	In a building with a rise in storeys greater than two, non-fire-isolated stairways and ramps must be constructed in accordance with the requirements of Clause D2.2 or D2.3.	Not applicable.	☒	☐	☐	☐	☐
D2.4 Separation of rising and descending stair flights	Fire-isolated stairs must have no direct connection between the rising and descending parts of the stair. Separating construction must be non-combustible and smoke proof.	Separate stairs provided for residential levels and basement levels.	☐	☐	☒	☐	☐
D2.5 Open access ramps and balconies	Ventilation openings to the outside are required to open access ramps and balconies.	Not applicable.	☒	☐	☐	☐	☐
D2.6 Smoke lobbies	Smoke lobbies must have a floor area not less than 6 m^2 and be smoke separated from the occupied areas on the storey they are located.	Not applicable.	☒	☐	☐	☐	☐
D2.7 Installations in exits and paths of travel	Access to service shafts and non-firefighting or detection equipment must not be located in a fire-isolated stair, passageway or ramp. Certain services and equipment may be installed in a fire-isolated exit or corridor leading to the exit if they are enclosed by non-combustible construction and smoke sealed.		☐	☒	☐	☐	☐
D2.8 Enclosure of space under stairs and ramps	The space below a required fire-isolated stair or ramp must not be enclosed if it is within the fire-isolated shaft. The space below a required non-fire-isolated stair or ramp must not be enclosed unless provided with construction with an FRL of 60/60/60 and a self-closing -/60/30 fire rated doorset.		☐	☒	☐	☐	☐
D2.9 Width of required stairways and ramps	A required stairway or ramp greater than 2 m in width counts as a width of 2 m unless it is divided by a handrail, balustrade or other barrier, continuous between landings, in 2 m divisions.	Not applicable.	☒	☐	☐	☐	☐
D2.10 Pedestrian ramps	A fire-isolated ramp may be used in lieu of a fire-isolated stairway provided its dimensions comply with the requirements for a fire-isolated stairway.	Not applicable.	☒	☐	☐	☐	☐
D2.11 Fire-isolated passageways	A fire-isolated passageway must have an FRL not less than the fire-isolated stair or ramp to which it adjoins, or not less than 60/60/60.	Not applicable.	☒	☐	☐	☐	☐
D2.12 Roof as open space	If an exit discharges occupants to the roof, the roof must have an FRL not less than 120/120/120, and not have any openings or rooflights within 3 m of the travel path to reach open space.	The fire-isolated stairs discharge to the roof of the supermarket (Level B0). Slab is expected to achieve the required FRL, however openings are located within 3 m of the travel path to open space. Holmes Fire can provide a Performance Solution to address the openings.	☐	☐	☐	☒	☒

<table>
<tr><th>Clause</th><th>Clause Requirement</th><th>Comments</th><th>Noted / Not applicable</th><th>Compliance Achievable</th><th>Complies</th><th>Non-compliant</th><th>Performance Solution</th></tr>
<tr><td>D2.13 NSW
Goings and risers</td><td>A stairway must have not more than 18 nor less than 2 risers in each flight, consistent goings and risers as per Table D2.13 which do not have openings greater than 125 mm, and treads of solid construction with a non-slip finish. Required stairways must not have winders in lieu of a landing.
<table>
<tr><th rowspan="2">Stairway type</th><th colspan="2">Riser (R)</th><th colspan="2">Going (G)</th><th colspan="2">Quantity (2R + G)</th></tr>
<tr><th>Max</th><th>Min</th><th>Max</th><th>Min</th><th>Max</th><th>Min</th></tr>
<tr><td>Public</td><td>190</td><td>115</td><td>355</td><td>250</td><td>700</td><td>550</td></tr>
<tr><td>Private</td><td>190</td><td>115</td><td>355</td><td>240</td><td>700</td><td>550</td></tr>
</table></td><td></td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>D2.14
Landings</td><td>Landings with a maximum gradient of 1:50 may be used to separate risers in each flight of a stairway. They must be not less than 750 mm in length and 500 mm in width and have a non-slip finish.</td><td></td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>D2.15 NSW
Thresholds</td><td>A doorway threshold must not incorporate a step or ramp any closer than the width of the door.</td><td></td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>D2.16 NSW
Barriers to prevent falls</td><td>A continuous barrier must be provided alongside any trafficable area if it is greater than 1 m above the surface beneath. The balustrade must have a height not less than 1 m above the floor and 865 mm above the stair nosing. Additional requirements for opening and climbability.</td><td></td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>D2.17
Handrails</td><td>Handrails must be provided to at least one side of a ramp or flight and both sides if the total width is greater than 2 m.</td><td></td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>D2.18
Fixed platforms, walkways, stairways and ladders</td><td>Concessions available within plant rooms and non-habitable rooms and similar.</td><td></td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>D2.19 NSW
Doorways and doors</td><td>Allows roller shutter, tilt-up, sliding or power operated doors with certain requirements. Revolving doors may not be used. Power operated doors must be manually openable by less than 110 N of force.</td><td></td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr>
</table>

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
D2.20 Swinging doors	Swinging doors must not encroach the travel path of exits. Doors must generally swing in the direction of egress.	Retail and residential lobby doors are proposed to swing against the direction of egress. For compartments under 200 m^2, the door may swing inwards provided they are fitted with a device for holding it in the open position. Areas greater than 200 m^2 must have doors that swing in the direction of egress. Holmes Fire can provide a Performance Solution to address the door swing direction without a hold open device.	☐	☐	☐	☒	☒
D2.21 NSW Operation of latch	A door in the path of travel must be readily openable without a key from the side that faces a person seeking egress, by a single hand downward action or pushing action on a single device, located between 900 mm and 1.1 m from the floor.		☐	☒	☐	☐	☐
D2.22 Re-entry from fire-isolated exits	Doors in a fire-isolated exit must not be locked from the inside in a building over 25 m in effective height. Automatic fail-safe devices may be used if on at least every fourth floor cannot be locked or an intercom system is provided.		☐	☒	☐	☐	☐
D2.23 Signs on doors	Automatic fire / smoke door or door discharging from fire-isolated exit: “FIRE SAFETY DOOR – DO NOT OBSTRUCT” Self-closing door: “FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN”		☐	☒	☐	☐	☐
D2.24 Protection of openable windows	Window protection is required where the lowest level of the window opening is less than 1.7 m above the floor.		☐	☒	☐	☐	☐
D2.25 Timber stairways: Concession	Notwithstanding D2.2(a), timber treads, risers, landings, and associated supporting framework of certain dimensions may be used within a fire-isolated stairway constructed from fire-protected timber	Not applicable.	☒	☐	☐	☐	☐
Part E1 – Fire Fighting Equipment							
E1.3 Fire hydrants	A fire hydrant system installed in accordance with AS 2419.1 is required in a building with a floor area greater than 500 m^2 in total.	The hydrant booster is proposed to be located on Ground Level outside the supermarket entrance facing King Georges Road.	☐	☒	☐	☐	☐
	An internal pump room is required to have a door that opens directly to a road, open space or a fire-isolated exit.	The fire hydrant and sprinkler pump room is proposed to be accessed via fire-isolated stair via airlock.	☐	☐	☒	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
E1.4 Fire hose reels	A fire hose reel system installed in accordance with AS 2441 is required where internal fire hydrants are installed or to serve any fire compartment greater than 500 m^2.	Fire hose reels are not required in a Class 2 areas.	☐	☒	☐	☐	☐
E1.5 Sprinklers	A sprinkler system in accordance with Specification E1.5 is required in a building over 25 m in effective height and carparks with more than 40 vehicles.	The entire building is required to be provided with a sprinkler system to comply with the BCA Deemed-to-Satisfy Provisions.	☐	☒	☐	☐	☒
E1.6 Portable fire extinguishers	Portable fire extinguishers are required to be installed in certain areas accordance with AS 2444. In residential buildings, 2.5 kg ABE extinguishers are to be within 10 m of unit entry doors.		☐	☒	☐	☐	☐
E1.8 Fire control centres	A fire control centre in accordance with Specification E1.8 is required for a building greater than 25 m in effective height.	Location of fire control centre is to be confirmed.	☐	☒	☐	☐	☐
E1.9 Fire precautions during construction	Portable fire extinguishers must be provided to each exit and fire hydrants, hose reels and booster connections must be operational once the building has reached an effective height of 12 m.	Noted	☒	☐	☐	☐	☐
E1.10 Provisions for special hazards	Additional provisions may be required due to the quantity of materials stored or the location of the building.	Noted.	☒	☐	☐	☐	☐
Part E2 – Smoke Hazard Management							
E2.2 NSW General requirements	A required fire-isolated stairway serving a story above an effective height of 25 m or more than 2 below ground storeys must be provided with: • An automatic air pressurisation system for fire-isolated exits in accordance with AS/NZS 1668.1; or • Open access ramps or balconies in accordance with D2.5 A Class 2 building with an effective height greater than 25 m must be provided with an automatic smoke detection and alarm system complying with Specification E2.2a. A Class 6 portion of a building with an effective height greater than 25 m must be provided with a zone smoke control system in accordance with AS/NZS 1668.1. A Class 7a building, provided with a mechanical ventilation system in accordance with AS 1668.2 must comply with Clause 5.5 of AN/NZS 1668.1 except that- • Fans with metal blades suitable for operation at normal temperature may be used: and • The electrical power and control cabling need not be fire rated.	Depending on the interpretation of what height the residential fire-isolated stairs serve (due to the open nature of the upper level), a pressurisation system may required. This cannot be provided to the open flights serving the roof. A Performance Solution can be provided to omit zone pressurisation from the retail tenancies if required.	☐	☐	☐	☒	☒

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
E2.3 Provision for special hazards	Additional smoke hazard management measures not listed in Table E2.2a and Table E2.2b may be required in a building with special characteristics, function/usage, type and quantity of materials stored, or having a mix of classifications.		☒	☐	☐	☐	☐
Part E3 – Lift Installations							
E3.2 Stretcher facilities in lifts	Stretcher facilities must be provided in emergency lifts and in in passenger lift serving a storey above 12 m to accommodate a raised stretcher with dimensions of 600 mm wide by 2,000 mm long at 1,400 mm height.		☐	☒	☐	☐	☐
E3.3 Warning against use of lifts in fire	Warning signs must be displayed near lift call buttons stating: “DO NOT USE LIFTS IF THERE IS A FIRE”		☐	☒	☐	☐	☐
E3.4 Emergency lifts	Emergency lifts are required in buildings over 25 m in effective height and in Class 9a buildings.		☐	☒	☐	☐	☐
E3.5 Landings	Access and egress to liftwell landings to comply with Section D.		☐	☒	☐	☐	☐
E3.6 Passenger lifts	Limitations and features for passenger lifts in accessible buildings.		☐	☒	☐	☐	☐
E3.7 Fire service controls	Passenger lifts serving a storey above 12 m must be fitted with fire service controls.		☐	☒	☐	☐	☐
E3.8 Aged care buildings	On levels not provided with direct access to open space, a ramp or a lift able to accommodate a stretcher is required.	Not applicable.	☒	☐	☐	☐	☐
E3.9 Fire service recall controls switch	Each group of lifts must be provided with one fire recall control switch located at the landing.		☐	☒	☐	☐	☐
E3.10 Lift car fire service drive control switch	The lift car fire service drive control switch must be activated from within the lift car.		☐	☒	☐	☐	☐
Part E4 – Visibility in an Emergency, Exit Signs, and Warning Systems							
E4.2 Emergency lighting requirements	Emergency lights must be installed in every required stairway, in every Class 6 storey greater than 300 m^2 in floor area, in Class 2 corridors greater than 6 m in length, and in every required fire control centre.		☐	☒	☐	☐	☐

Clause	Clause Requirement	Comments	Noted / Not applicable	Compliance Achievable	Complies	Non-compliant	Performance Solution
E4.3 Measurement of distance	Distances to be measured via the shortest path.	Noted	☒	☐	☐	☐	☐
E4.4 Design and operation of emergency lighting	Emergency lighting systems must comply with AS 2293.1.		☐	☒	☐	☐	☐
E4.5 Exit signs	Clearly visible exit signs must be installed above doors providing egress from a storey or compartment.		☐	☒	☐	☐	☐
E4.6 NSW Direction signs	Exits not readily apparent to occupants must have directional signage leading to them.		☐	☒	☐	☐	☐
E4.7 Class 2 and 3 building and Class 4 parts: Exemptions	Clear text stating “EXIT” may be used in lieu of exit signage. Exit signage is not required in a sole-occupancy unit.		☐	☒	☐	☐	☐
E4.8 Design and operation of exits signs	Exit signs to be clearly visible and comply with AS 2293.1 or Specification E4.8 for photoluminescent signs.		☐	☒	☐	☐	☐
E4.9 Sound systems and intercom systems for emergency purposes (SSISEP)	Required in a building with an effective height greater than 25 m.		☐	☒	☐	☐	☐

4 REPORT BASIS INFORMATION

The report is based on the following:

1) Pre Development Application, prepared by Marchese Partners, 14 March 2017; and
2) Architectural drawings prepared by Marchese Partners and as listed in Table 4-1.

Table 4-1: Referenced Architectural Drawings

Dwg no.	Title	Date	Issue
DA 2.01	Level B3	12 May 2021	C
DA 2.02	Level B2	12 May 2021	C
DA 2.03	Level B1	12 May 2021	C
DA 2.04	Level B0	12 May 2021	C
DA 2.05	Level 00	12 May 2021	C
DA 2.06	Level 01	12 May 2021	C
DA 2.07	Level 02	12 May 2021	C
DA 2.08	Level 03	12 May 2021	C
DA 2.09	Level 04	12 May 2021	C
DA 2.10	Level 05	12 May 2021	C
DA 2.11	Level 06	12 May 2021	C
DA 2.12	Level 07	12 May 2021	C
DA 2.13	Level Roof	12 May 2021	C
DA 3.01	Section A-A	12 May 2021	C
DA 3.02	Section B-B	12 May 2021	C
DA 3.03	Section C-C	12 May 2021	C
DA 4.01	Elevation – South-West	12 May 2021	C
DA 4.02	Elevation – North-West	12 May 2021	C
DA 4.03	Elevation – North-East	12 May 2021	C
DA 4.04	Elevations – South-East	12 May 2021	C
DA 4.05	Elevation – South-West Internal	12 May 2021	C
DA 4.06	Elevation – North-East Internal	12 May 2021	C
DA 4.07	Elevation – South-East Internal	12 May 2021	C
DA 4.08	Elevations – North-West Internal	12 May 2021	C

5 CONCLUSION

This report has assessed the level of compliance with the fire safety Deemed-to-Satisfy Provisions of the BCA (Sections C, D (excluding Part D3) and E for the proposed building located at 280-300 Lakemba Street & 64-70 King Georges Road, Wiley Park, NSW.

BCA Deemed-to-Satisfy non-compliances have been identified, which relate to:

- Clause C1.1, C2.7, C2.8, C2.9, C3.5 – The carpark levels are required to be separated from the retail supermarket on B1 and B2 by construction with an FRL of at least 180/180/180, or the entire floor is required to be constructed to the higher FRL. Retail tenancies on Level 00 are required to achieve an FRL of 180/180/180. The loading dock may be considered a storage area and require a 240/240/240 FRL. Holmes Fire can provide a Performance Solution to modify the FRL to the retail and storage areas and address the separation of classifications.
- Clause D1.2 – At least two exits must be provided to each storey over 25 m. Retail tenancies, waste rooms, residential lobbies, toilets and service rooms on Level 00 only have access to a single exit. Holmes Fire can provide a Performance Solution to address the single exit non-compliance.
- Clause D1.3 – Each stairway or ramp serving as a required exit must be fire-isolated where it passes three or more consecutive storeys. These stairs are required to be in a fire-resisting shaft, which includes a fire rated lid. The upper flights that serve the roofs (Levels 07 and 08) are not in a fire-resisting shaft as it does not have a fire rated lid. Holmes Fire can provide a Performance Solution to address the non-compliant fire-isolated stair shafts.
- Clause D1.4(a) – The maximum travel distance from the entry door of a residential SOU to a point of choice of exits is permitted to be 6 m. The distance from several SOUs is up to 7 m to a point of choice of exits. A Performance Solution using a comparative approach will be provided to address Performance Requirement DP4 to allow for this travel distance.
- Clause D1.7(b) – A fire-isolated stair must provide independent egress from each storey served and discharge directly or by way of its own fire-isolated passageway to open space or a covered area satisfying particular criteria. The discharge area from a number of the residential fire-isolated stairs do not satisfy these requirements. Holmes Fire can provide a Performance Solution to address the discharge areas of the fire-isolated stairs which are not open for 2/3 of their perimeters.
- Clause D1.7(c) – The path of travel from a fire-isolated exit discharge must not pass within 6 m of unprotected openings in the building's external walls. The discharge from a number of the residential fire-isolated stairs do not satisfy these requirements. Holmes Fire can provide a Performance Solution to address the path of travel from fire-isolated stairs passing within 6 m of unprotected openings, or the glazing can be protected by wall wetting sprinklers.
- Clause D1.9(a) – A non-fire-isolated stairway serving as a required exit must provide a continuous means of travel by its own flights and landings to the level at which egress to a road or open space is provided. A number of non-fire-isolated stairs serve the roof levels and do not provide continuous means of travel by their own flights to reach open space. Holmes Fire can provide a Performance Solution to address the use of non-fire-isolated stairs serving the roof levels.

- Clause D1.12(c) – Escalators and moving walkways must not connect more than three storeys if each of those storeys is provided with a sprinkler system. The escalators and moving walkways serving the basement supermarket connect three storeys but pass by a fourth, such that the three connected storeys are not consecutive. Holmes Fire can provide a Performance Solution to address the connection of escalators and moving walkways.
- Clause D2.12 – If an exit discharges occupants to the roof, the roof must not have any openings within 3 m of the travel path to reach open space. The fire-isolated stairs discharge to the roof of the supermarket (Level B0) and openings are located within 3 m of the travel path to open space.
- Clause D2.20(b) – A swinging door in a required exit must swing in the direction of egress unless it serves a building or part with a floor area not more than 200 m², it is the only required exit from the part of the building, and it is fitted with a device for holding it in the open position. Retail and residential lobby doors are proposed to swing against the direction of egress and if the compartment is under 200 m², the doors may not be provided with a hold open device. Holmes Fire can provide a Performance Solution to address the door swing direction without providing hold open devices.
- Clause E2.2 – A stair serving a storey with an effective height of greater than 25 m is required to be provided with pressurisation or open access balconies. Depending on the interpretation of what height the residential fire-isolated stairs serve, a pressurisation system is required. This cannot be provided to the open flights serving the roof.
- Clause E2.2 – A Class 6 retail area in a building greater than 25 m in effective height is required to be provided with a zone smoke control system. It is not proposed to provide this system to the retail tenancies at Basement 1 and Ground Floor Holmes Fire can provide a Performance Solution to address the retail areas not being provided with a zone smoke control system.

Appendix A FRL of Building Elements

Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building — FRL: (in minutes) *Structural adequacy/Integrity/Insulation*			
	2, 3 or 4 part	5, 7a or 9	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 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120	240/240/180
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90	240/180/ 90
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/ 60	–/ 90/ 90	–/180/120	–/240/180
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an *external wall*—				
For *loadbearing* columns—	90/–/–	120/–/–	180/–/–	240/–/–
For non-*loadbearing* columns—	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and 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	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion—				
Loadbearing	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non-*loadbearing*	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120

OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and COLUMNS—	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180	240/240/240
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60