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Regulatory Compliance Report

Camp Kurrajong Scouts
759 Oura Road, Eunanoreenya NSW 2650

Prepared for: **Adapt Project Management**
Date: **17/10/2023**
Revision: **2**

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Date	Rev No	No. of Pages	Issue or Description of Amendment	Assessed By	Approved By	Date Approved
26/09/23	0	34	Regulatory Compliance: Drafted for Client Review	Carla Manso	Geoff Pearce	26/09/23
13/10/23	1	32	Regulatory Compliance: For Final Review	Carla Manso	Geoff Pearce	13/10/23
17/10/23	2	33	Final: For Development Approval Issue	Carla Manso	Geoff Pearce	17/10/23

1. Executive Summary

Development Overview

The proposed development is a refurbishment of the Scouts NSW Camp Currajong site located approximately 10km North East of Wagga Wagga on 759 Oura Road, Eunanoreenya NSW. The development is proposed to demolish existing structures and remove trees to introduce new accommodation buildings for visitors and bus drivers, a Scout hall, recreational climbing tower, carparking area with EV charging and bus bays, internal service roadworks, in ground service lines, landscaping and outdoor camping facilities. The development also includes internal refurbishments of existing 3x 'Merritt' buildings. As the development is located in bushfire-prone land, provisions relating to the construction in bushfire prone areas are required to be complied with.

Compliance Summary

As the Registered Certifiers we have reviewed the preliminary architectural design documents prepared by PMDL Architecture Interiors Master planning (refer appendix A) for compliance with the building assessment provisions currently outlined in BCA 2022, as current project timeframes indicate that BCA 2022 will be that which applies to the development.

This report has been prepared to assess the project against the Building Code of Australia to enable issuance of construction approvals. Further assessment of the design will be undertaken as the design develops to ensure compliance is achieved prior to approval being issued

Deviations from the Deemed-to-Satisfy Provisions

The assessment of the preliminary design documentation has revealed that the following areas deviate from the deemed-to-satisfy provisions of the BCA. These items are to be addressed to ensure compliance is achieved, either through design amendment to achieve compliance with the deemed-to-satisfy provisions, or through a performance solution demonstrating compliance with the Performance Requirements of the BCA:

No.	Description	DTS Clause	Performance Requirements
Fire Safety Items			
1	The distance to a singular exit (for a person(s) with a disability requiring egress to road via ramp) is greater than 20m from multiple points in the Scout Hall, in lieu of not more than 20m.	D2D5	D1P6, E2P2
2	The distance of alternate exits is in excess of 68m in lieu of 45m, where access to ramps for egress is considered for a person(s) with a disability.	D2D6	D1P2
3	Alternative exits in the Scout Hall are less than 9m apart where the exits are considered at the external steps.	D2D6	D1P2
4	Swing doors in accommodation wing are required to be open in the direction of egress.	D3D25	D1P2
Accessibility Items			
5	Door circulation spaces in the sanitary facilities of the Scout Hall are required to be in accordance with AS 1428.1.	D4D3	D1P2
6	Class 1b Drivers Accommodation is required to contain 1 bedroom and associated sanitary facility.	D4D2	D1P1, D1P2
7	The New Accommodation Wing is required to have 2 accessible SOUs.	D4D2	D1P1, D1P2

No.	Description	DTS Clause	Performance Requirements
8	In the New Accommodation Wing, a pedestrian entrance that is not accessible must not be located more than 50m from an accessible pedestrian entrance.	D4D3	D1P1, D1P2

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

Fire Safety Services

The following key fire safety services are required to meet the minimum DTS requirements.

1.	Fire hydrant system throughout Class 3 New Accommodation Wing and Scout Hall.
2.	Fire hose reels throughout the Scout Hall.
3.	Automatic Smoke Detection/Alarm System in accordance with the requirements of BCA Spec 20 Clause 3, 4 or a combination of Clause 3 and 4 (previously E2.2a) and AS 3786 and/or AS 1670.1-2018 are required to the New Accommodation Wing.

Refer to parts 9 and 10 of this report for further details regarding the required services.

Further Assessment

The assessment of the design documentation has also revealed that the following additional information is required in order to complete the assessment, and/or the following areas need to be further reviewed.

No.	Further Information / Review Required	Report Reference
1.	Schedule of the fire resistance levels of relevant fire rated building elements.	6.1, Appendix D
2.	Fire Hazard properties	6.3
3.	Extended travel distances and alternate exits.	7.2
4.	Handrail details including the construction details of the stairways	7.4
5.	Details of sanitary facilities to be provided	9.6
6.	Acoustic Report for the Sound Transmission and Insulation	9.8
7.	Energy Efficiency Report including provisions for 20% of roof for photovoltaic panels.	10

Documentation to enable assessment and demonstrate compliance will be required to address the above items prior to approval.

The application for Construction Certificate shall be assessed under the relevant provisions of the Environmental Planning & Assessment Act 1979 (As Amended) and the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021.

2. Introduction

The proposed development comprises of erection of new buildings including a Class 3 accommodation wing, Class 9b Scouts hall assembly building, Class 1b accommodation block for duty managers, Class 10a amenities block and Class 10a new tower/drone pad & zipline.

The development also includes demolition of several existing buildings, removal of existing trees, new internal service roads and pedestrian paths, new gate and scouts signage, revegetation to site, new camping and activity facilities and carparking with new bus bays and EV charging.

The site is located on 759 OURA ROAD EUNANOREENYA 2650.

The development is in a bushfire prone area and the Class 3 New Accommodation Wing will be required to be constructed with the appropriate protection measures in accordance with G5 of the BCA.

This report is based upon the review of the design documentation listed in Appendix A of this Report.

The report is intended as an overview of the relevant provisions of the Building Code of Australia for assistance only. Detailed drawings and associated review will still be required as the final design is developed.

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979. This Act requires that all new building works must be designed to comply with the BCA.

The version of the BCA applicable to the development, is version that in place at the time of the application to the Registered Certifier for the Construction Certificate. For the purposes of this Report, BCA 2022 has been utilised as it is anticipated that BCA 2022 will apply to the project based on project timeframes.

3. Compliance with the Building Code of Australia

The Building Code of Australia is a performance based document, whereby compliance is achieved by complying with the Governing Requirements and the Performance Requirements.

Performance Requirements are satisfied by one of the following:

1) A Performance Solution
2) A Deemed-to-Satisfy Solution
3) A combination of (1) and (2)

4. Preliminaries

4.1. Building Assessment Data

Summary of Construction Determination:

Part of Project	Classification	Number of Storeys	Rise In Storeys	Type of Construction	Effective Height (m)
New Accommodation Wing	3	1	1	C	N/A
New Scout Hall	9b	1	1	C	N/A
New South Camp Amenities	10a	1	1	N/A	N/A

New Duty Manager Accommodation	1b	1	1	N/A	N/A
Refurbished Merritt Building 1	1b	1	1	N/A	N/A
Refurbished Merritt Building 2	1b	1	1	N/A	N/A
Refurbished Merritt Building 3	1b	1	1	N/A	N/A
New Recreational Climbing Tower	10a	N/A	N/A	N/A	N/A

Note: The effective height is 0 as the above buildings are only single storey and as per the BCA 2022 definition of effective height.

Summary of the floor areas and relevant populations where applicable: -

Part of Project	BCA Classification	Approx. Floor Area (m^2)	Approximate Volume (m^3)	Assumed Population
Accommodation Wing	3	685m^2	2398m^3	*121
Scouts Hall	9b	555m^2	27350m^3	**360
South Camp Amenities	10a	56m^2	78m^3	N/A
Duty Managers Accommodation	1b	73m^2	196m^3	***4
Merritt Building 1	1b	31m^2	93m^3	****4
Merritt Building 2	1b	32m^2	96m^3	****4
Merritt Building 3	1b	31m^2	93m^3	****4
New Climbing Tower	10a	TBC	TBC	N/A

- The above populations have been based on floor areas and calculations in accordance with Table D2D18 (prev. Table D1.13) of the BCA.

Note:

** The Accommodation Wing is based on the number of beds shown on drawings and each bed to be a bunk bed (2 beds counted per bed shown on drawings) except for the 1x accessible room in Block A*

*** The Scout Hall has been adjusted by -15% of the floor area for the Hall and Kitchen*

**** The Duty Managers accommodation is based on the number of beds or client to advise the number of people that will be accommodated in this building.*

***** The number of persons accommodated for Merritt Building 2 is based on the same rate used to calculate for guest house building in Table D2D18.*

5. Structure

5.1. Structural Provisions (BCA B1):

New structural works are to comply with the applicable requirements of BCA Part B1, including AS/NZS 1170.0-2002, AS/NZS 1170-1-2002, AS/NZS 1170.2-2021 and AS 1170.4-2007.

Depending on the importance level of the building as determined by AS/NZS 1170.0-2002, the non structural elements of the building, including partitions (and non-structural fire walls), ceilings, services and racking/shelving may be required to comply with the seismic restraint requirements of AS 1170.4-2007. Where this is required, certification will be required confirming that the design of the seismic restraints comply with AS 1170.4-2002. This may be provided by a specialist seismic consultant or by the architect and services design engineers.

Glazing is to comply with AS1288-2021, and AS2047-2014.

Prior to the issue of the Construction Certificate structural certification is required to be provided by a Professional Engineer registered on the National Engineering Register.

6. Fire Protection

6.1. Fire Compartmentation (BCA C2D2 (previously C1.1))

The BCA stipulates three levels of fire-resistant construction, which is based upon the rise in storeys and classification of the building. Each of these types of construction has maximum floor area and volume limitations as per BCA Table C3D3 (previously C2.2).

Based upon the rise in storeys and use of the building, it is required to be constructed in accordance with the requirements of **Type C Construction**, in accordance with Tables **S5C24a-e** of Specification 5 (previously Table **5** of Specification C1.1) of the Building Code of Australia 2022.

The building has been assessed on the basis of the following fire separation / compartmentation within the development:

- Bounding construction to the sole occupancy units of FRL 60/60/60 for internal walls between or bounding sole occupancy units.
- Bounding construction to the sole occupancy units of FRL 60/60/60 for internal walls bounding public corridors.

The maximum floor area and volume limitations of a fire compartment as nominated in the deemed to satisfy provisions are as follows:

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

6.2. Fire Resistance (BCA C2D2 (previously C1.1))

The building should be constructed generally in accordance with the relevant provisions of Specification 5 (previously Specification C1.1) of the BCA applicable to **Type C Construction**, Please refer to Appendix D which outlines the required fire rating to be achieved by the development.

Where a fire wall is proposed, it is noted that the wall is to achieve a structural rating regardless of whether it is loadbearing or not. Refer to Appendix D for required FRLs.

Please note that with regards to fire separation, the provisions and required FRL's that apply to the building also apply to an occupiable outdoor space associated with the building.

As the development is located in a bushfire prone land, fire resistance levels may be nominated for specific building elements as per AS 3959 dependent on the bushfire attack level. Please refer to Section 12 for more information regarding construction in bushfire prone areas.

6.3. Fire Hazard Properties (BCA C2D10 and C2D11 (previously C1.10 and BCA C1.9))

The fire hazard properties of fixed surface linings and mechanical ductwork will also need to be addressed within the detailed documentation phase pursuant to Specification 5 (previously Spec C1.10) of the Building Code of Australia.

Rigid and flexible air handling ductwork must comply with AS4254 Parts 1 & 2 2012.

7. Access and Egress

7.1. Provision for Escape (BCA D2 (previously D1))

The egress provisions for the proposed building are provided by the following:

- Required non-fire isolated stairways.
- External Doors

The egress provisions that apply to the building also apply to any occupiable outdoor areas.

Detailing issues that will need to be addressed as the design develops include:

- Door Hardware
- Exit Door Operation
- Stair Construction
- Handrail construction
- Details of the egress provisions to the Road.
- Door swings

7.2. Exit Travel Distances (BCA D2D5, D2D6 (previously D1.4, D1.5))

The locations of the proposed exits would appear to indicate that the deemed to satisfy requirements in terms of travel distances, distances between alternative exits and egress widths would be satisfied.

The travel distances to exits should not exceed:

Class 9b

- no point on the floor must be more than 20m to a single exit or point of choice and where two exits are provided, a maximum of 40m to one of those exits; and
- exits shall be located to not be more than 60m apart and not closer than 9m

Class 3

- The entrance doorway of any sole-occupancy unit must be not more than – 6 m from an exit or from a point from which travel in different directions to 2 exits is available; or 20 m from a single exit serving the storey at the level of egress to a road or open space; and

- In other cases - no point on the floor must be more than 20m to a single exit or point of choice and where two exits are provided, a maximum of 40m to one of those exits; and
- exits shall be located to not be more than 45m apart and not closer than 9m

The available exits specific to this development are:

- Ramps providing egress to open space
- External stairway providing egress to open space
- A door way opening directly to a road or open space.

Where open space is defined to be a space, part of a building adequately protected from fire, open to the sky and connected directly with a public road. The point of exit has been considered where no roof is located above.

The travel distances have been assessed as per below cases:

- Case 1 assumes a Ramp to North deck of the Accommodation Wing will be implemented as an additional means of access for persons with a disability to access the building. This case specifically considers a person in a wheelchair seeking egress.
- Case 2 considers egress paths for an able-bodied person(s) in the Accommodation Wing.
- Case 3 considers a person with a disability seeking egress in the Scout Hall where only one exit is available leading to open space, and ramp access to the road.
- Case 4 considers egress paths for an able-bodied person(s) in the Scout Hall, whilst considering that the operable wall will be engaged at any point of time. Thus, the direct travel distance between the two halves of the hall.

The locations of the proposed exits indicate that the travel distances within the building are as follows:

Area	BCA Provisions (Distance to Point of Choice/ Travel Distance/Distance Between	Assessed Distances			Comments
		To a Point of Choice	Overall Travel Distance	Between Alternate Exits	
Case 1 Point A – From entrance doorway of the Accessible SOU	6m/20m/45m	1m	8m	**68m**	**The non-compliance is the distance of alternate exits (exits where a ramp is available for access to open space) is in excess of 68m in lieu of 45m.**
Case 1 Point B – From gathering area	20m/40m/45m	4m	34m		
Case 1 Point C – From gathering area	20m/40m/45m	5m	29m		
Case 2 Point A – From sanitary facilities in Block C	20m/40m/45m	9m	25m	31m	

Case 2 Point B – From entrance doorway of SOU in Block C	6m/20m/45m	1m	10m	31m	
Case 2 Point C -– From entrance doorway of SOU in Block C	6m/20m/45m	1m	14m	28m	
Case 2 Point D – From entrance doorway of SOU in Block C	6m/20m/45m	1m	10m	34m	
Case 2 Point E – From entrance doorway of SOU in Block A	6m/20m/45m	1m	19m	34m	
Case 3 Point A – From furthest point in Hall to exit.	20m/40m/60m	N/A	**49m**	N/A	**The non-compliance is the distance to a singular exit is in excess of 49m, in lieu of 20m.**
Case 3 Point B – From furthest point on Hall Verandah to exit	20m/40m/60m	N/A	**46m**	N/A	**The non-compliance is the distance to a singular exit is in excess of 46m, in lieu of 20m.**
Case 3 Point C – From furthest point in meeting/store room	20m/40m/60m	N/A	**41m**	N/A	**The non-compliance is the distance to a singular exit is in excess of 41m, in lieu of 20m.**
Case 4 Point A – From middle of Hall however assuming operable wall is fully engaged.	20m/40m/60m	9m	23m	26m	
Case 4 Point B – From meeting/store room	20m/40m/60m	16m	31m	45m	
Case 4 Point C – From sanitary facilities	20m/40m/60m	8m	31m	45m	
Case 4 Point D – From Kitchen	20m/40m/60m	10m	23m	45m	

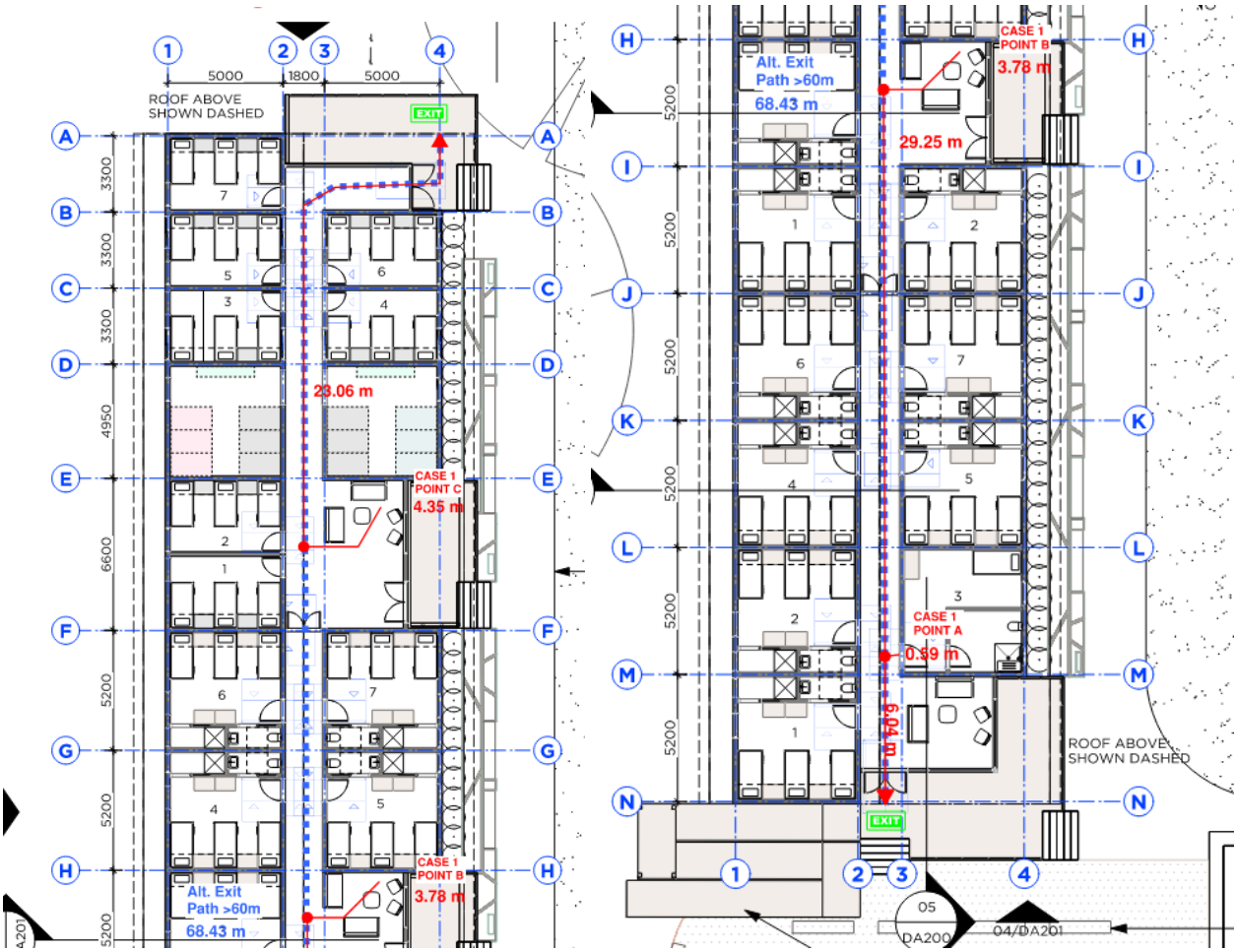
The above indicates that the deemed to satisfy requirements in terms of travel distances would be satisfied, except for the following areas:

- **The distance to a singular exit (for a person(s) with a disability requiring egress to road via ramp) is greater than 20m from multiple points in the Scout Hall, in lieu of not more than 20m as required in D2D6.**

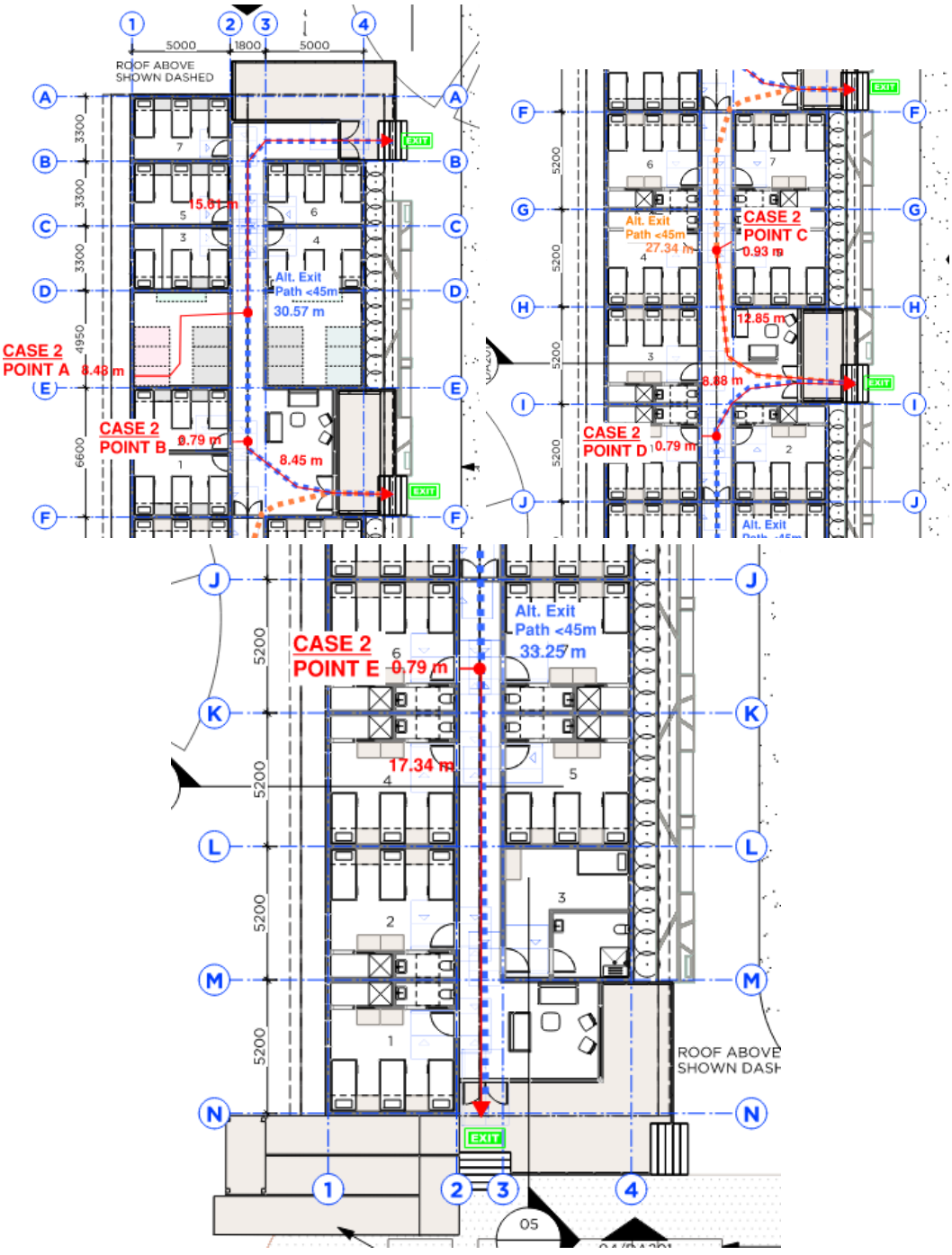
Refer to the below markups.

New Accommodation Hall

Case 1

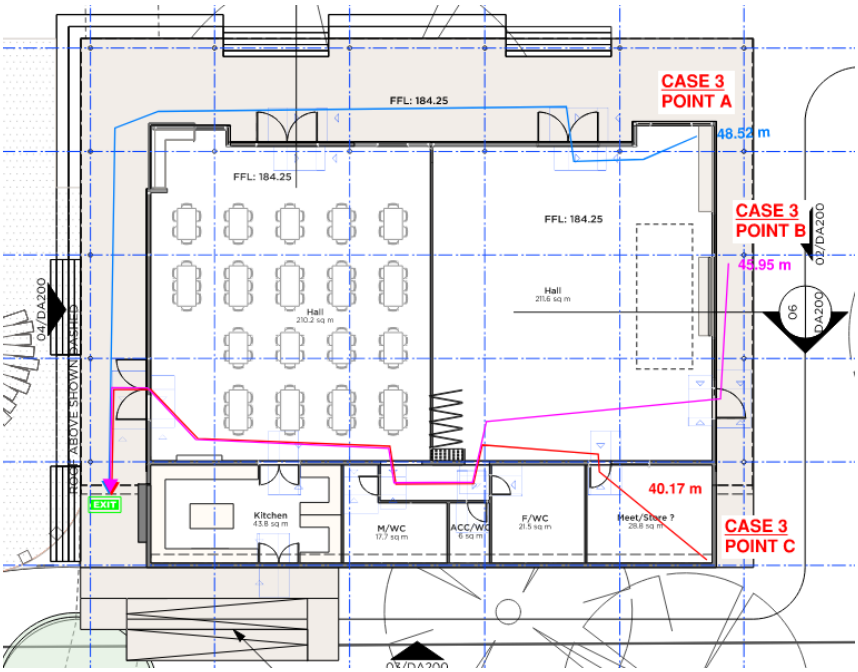


Case 2

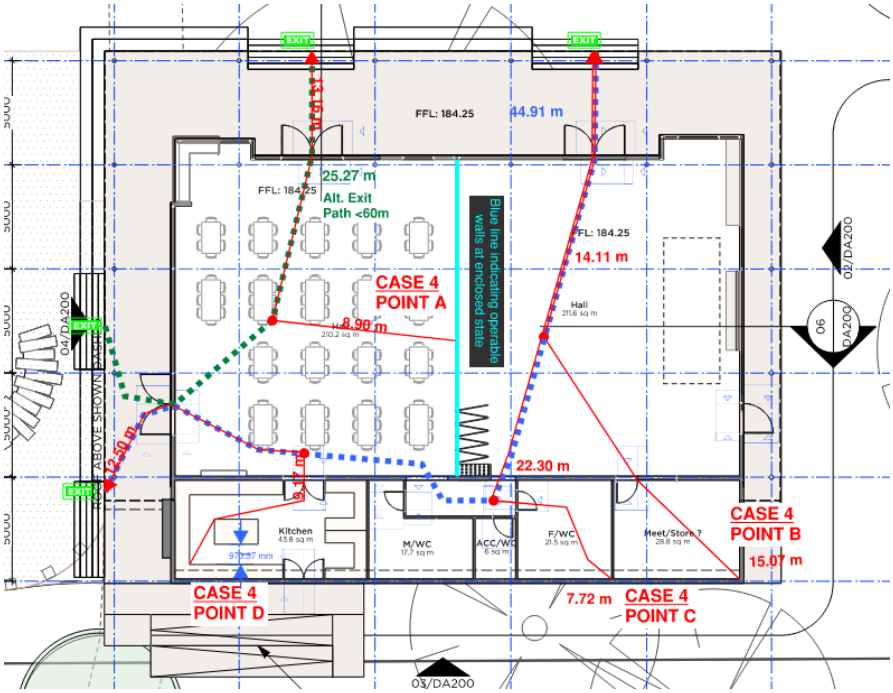

ROOF ABOVE SHOWN DASHED
CASE 2 POINT A
8.48 m
CASE 2 POINT B
0.79 m
15.81 m
Alt. Exit Path <45m
30.57 m
8.45 m
CASE 2 POINT C
0.93 m
Alt. Exit Path <45m
27.34 m
12.85 m
8.88 m
CASE 2 POINT D
0.79 m
CASE 2 POINT E
0.79 m
Alt. Exit Path <45m
33.25 m
17.34 m
ROOF ABOVE SHOWN DASH
EXIT

New Scout Hall

Case 3



Case 4



The location of bifold doors being engaged to enclose part of the hall is indicated in blue as per this markup.

Distances between alternative exits do not comply in the following areas:

The distance of alternate exits (exits where a ramp is available for access to open space for a person(s) with a disability) is 68m in lieu of not more than 45m as required in Clause D2D6.

The extended travel distances and distance between the exit stairs will need to addressed to comply with the requirements of the deemed to satisfy provisions noted above, or be assessed as performance solutions by the Fire Safety Engineer using BCA Performance Requirements D1P4 and E2P2 (previously DP4 & EP2.2)

7.3. Dimensions of Exits (BCA D2D7, D2D8, D2D9, D2D10, D2D11 (previously D1.6))

Minimum dimensions of 1000mm and 2000mm height to be provided within exits, with the paths of travel should provide a minimum width of 1000mm (note that all maintenance access, cat walks, etc may comply with AS1657-2018 in which case a 600mm clear width is required).

The following table summarises the exit widths required by BCA Clause D2D7, D2D8, D2D9, D2D10, D2D11 (previously D1.6):

Storey	Number of people	Exit Width Required	Exit Width Provided
Accommodation Wing	121	1.25m	3.2m
Scout Hall	360	23.5m	5.64m

Doorways are permitted to contain a clear opening width of the required width of the exit minus 250mm, with a height of 1980mm as part of egress requirements. Access for persons with disabilities however requires a clear doorway opening width of 850mm (i.e. minimum 920 mm doors).

7.4. Handrails (BCA D3D22)

Generally

Handrails should be provided at a minimum height of 865mm alongside of all ramps and stairs.

The public stairs and ramps located along an accessible path of travel should be designed in accordance with the requirements of AS1428.1 for persons with disabilities. This requires a handrail on each side of the stair and ramp and for the handrail to extend approximately 550mm – 600mm past the last tread / end of ramp.

In addition to the above, handrails are required to both sides of all stairs with a width of 2m or more.

7.5. Slip Resistance (BCA D3D15 (previously D2.14))

The adoption of BCA 2014 introduced a requirement for slip resistance of stairway treads and ramp surfaces. The requirements are as follows:

Table D3D15 (prev. Table D2.14) SLIP-RESISTANCE CLASSIFICATION

Application	Surface conditions	
	Dry	**Wet**
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

8. Services and Equipment

The following section of this report describes the essential fire safety measures and the minimum performance requirements of those measures. A draft essential fire safety schedule can be found in Appendix B.

It is noted that the provisions below also apply to occupiable outdoor areas.

8.1. Fire Hydrants (BCA E1D2 (previously E1.3))

A system of Fire Hydrants is required to be provided in accordance with BCA Clause E1D2 (prev. E1.3) and AS2419.1-2021 to the New Accommodation Wing and Scout Hall.

Pressure and flow information will be required to confirm the required pressures and flow to the system, depending on the type of hydrant to be utilized;

The fire services/hydraulic engineer is to confirm the required flow rates for the development, if a booster assembly, fire pump location and if the fire ring main is required.

If a booster assembly is required, it is to be located attached to the building at the main entry. If remote from the building, the booster is to be located at the main vehicle entry or with sight of the main entry of the building within 20m of a hardstand area.

8.2. Fire Hose Reels (BCA E1D3 (previously E1.4))

A Fire Hose Reel System is required to BCA Clause E1D3 (previously E1.4) and AS2441-2005.

The system is required to provide coverage to the Scout Hall. .

Fire hose reels are to be located within 4m of exits and provide coverage within the building based on a 36m hose length and 4m of water spray. Where required, additional fire hose reels shall be located internally as required to provide coverage. These hose reels are to be located adjacent to internal hydrants.

Fire hose reel cupboards must not contain any other services such as water meters, etc., and doors to fire hose reel cupboards are not to impede the path of egress unless a performance solution is developed under BCA Performance Requirement E1P1 (previously EP1.1).
The hose reels currently are not indicated, and are to be shown as the design develops prior to Construction Certificate.

8.3. Fire Extinguishers (BCA E1D14 (previously E1.6))

The provision of portable fire extinguishers is required to BCA Clause E1D14 (previously E1.6) and AS2444 - 2001 to provide coverage to the Class 3 and 9b zones in the new Accommodation Wing and new Scout Hall.

Table E.6 details when portable fire extinguishers are required:

Occupancy Class	Risk Class (as defined in AS 2444)
General provisions – Class 2 to 9 buildings	a) To cover Class AE or E fire risks associated with emergency services switchboards. (Note 1) b) To cover Class F fire risks involving cooking oils and fats in kitchens. c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not excluding that held in fuel tanks of vehicles).

Occupancy Class	Risk Class (as defined in AS 2444)
	d) To cover Class A fire risks in normally occupied fire compartments less than 500m^2 not provided with fire hose reels (excluding open deck carparks). e) To cover Class A fire risks in classrooms and associated schools not provided with fire hose reels. f) To cover Class A fire risks associated with Class 2 or 3 building or class 4 part of building.
Specific provisions (in addition to general provisions) – a) Class 3 accommodation for children, aged persons and people with disabilities	To cover class A and E fire risks. (Note 2)

In addition, extinguishers are to be provided to the class 3 portions of the building in accordance with the below:

- an ABE type fire extinguisher is to be installed with a minimum size of 2.5 kg; and
- extinguishers are to be distributed outside a sole-occupancy unit:
  a) to serve only the storey at which they are located; and
  b) so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10 m.

Fire extinguishers are to be located in accordance with AS 2444 - 2001, often collocated with fire hydrants and/or fire hose reels.

The fire extinguisher locations currently not indicated and are to be shown as the design develops prior to Construction Certificate.

8.4. Smoke Hazard Management (BCA E2D3 – E2D20 (previously E2.2)

Smoke hazard management shall be provided throughout the Accommodation Wing building by means of the following systems:

- Automatic Smoke Detection/Alarm System in accordance with the requirements of BCA Spec 20 Clause 3, 4 or a combination of Clause 3 and 4 (previously E2.2a) and AS 3786 and/or AS 1670.1-2018

A fire indicator panel is required as part of the detection system. This panel is to be located within 4m of the main entry and should be incorporated within the fire control room. Any variation to the prescriptive provisions will require the consent of the fire brigade and should form part of the fire safety engineering report to verify the performance requirements of the BCA.

8.5. Exit Signs and Emergency Lighting (BCA E4D2, E4D4, E4D5, E4D6 and E4D8 (previously E4.2 E4.5, E4.6, E4.8))

Emergency Lighting and Exit Signs indicating exit location paths of travel to exits to be provided in accordance with BCA Part E4 and AS/NZS 2293.1-2018, including the potential use of photo luminescent exit signs.

9. Health and Amenity

9.1. Stormwater Drainage (BCA Clause F1D3 (previously Clause F1.1)

Stormwater drainage systems serving the building are to comply with AS3500.3 - 2018.

The use of a syphonic stormwater drainage system is not covered by Australian Standards and any design incorporating one would need an appropriate performance solution will need to be documented by the hydraulic consultant addressing the system compliance against BCA Performance Requirements F1P2 and F1P3 (prev. FP1.2 & FP1.3).

9.2. Surface Water Management (BCA Part F1)

Exposed Joints

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must not be located beneath or run through a planter box, water feature or similar part of the building.

Joints are to be protected in accordance with Section 2.9 of AS 4654.2.

External Waterproofing Membranes

All external above ground areas (roof slabs, balconies etc.) shall be protected by a waterproofing system in accordance with AS4654 Parts 1 and 2 – 2012.

9.3. Floor Wastes (BCA Clause F2D4 (previously F1.11)

Floor wastes are required to be provided where wall hung urinals are provided and the floor shall be sloped towards these wastes.

9.4. Roof & Wall Cladding (BCA Part F3 (previously Part F1))

BCA 2022 has introduced some deemed to satisfy provisions that relate to the waterproofing of external walls. These provisions apply as follows:

- Masonry, including masonry veneer, unreinforced and reinforced masonry is to comply with AS 3700
- Autoclaved aerated concrete is to comply with AS 5146.3
- Metal wall cladding is to comply with AS 1562.1

Where the installation is not proposed to comply with the above, or a different material is proposed to be used, a performance solution can be utilised to demonstrate compliance.

Performance Requirement F3P1 (previously FP1.4) which relates to the prevention of the penetration of water through external walls, must be complied with. Where a performance solution is proposed, it is to be prepared by a suitably qualified professional (façade engineer with NER for structural engineering) that demonstrates that the external walls of the proposed building comply with Performance Requirement F3P1 (previously FP1.4) which reads as follows:

A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause—

a) unhealthy or dangerous conditions, or loss of amenity for occupants; and
b) undue dampness or deterioration of building elements.

9.5. Wet Areas & Overflow Protection (BCA Part F2 (previously Part F1)

Internal wet areas throughout the development (e.g. bathrooms, laundries) shall be waterproofed in accordance with AS3740 - 2010 requirements.

Further review will be undertaken as the design develops with respect to the specification of waterproofing membrane, provision of water-stops at doorways etc.

9.6. Sanitary Facilities (BCA F4D2, F4D3, F4D4, F4D5, F4D6 (previously F2.2 and F2.3)

In the Class 3 New Accommodation Wing.

Separate sanitary facilities are required to be provided for male & female staff and for male & female students; this also includes the provision of a unisex disabled facility for both staff and students separately.

For residents in each building, for each 10 residents for whom private facilities are not provided, provide a bath or shower, a closet pan and a washbasin.

For every bank of toilets, an accessible unisec sanitary facility must be located so that it can be entered without crossing an area reserved for one sec only.

The below tables describe cases respectively if staff are to be housed or non-staff are housed in the Block C portion of the Accommodation Wing.

Sanitary Facilities Required (Where there are 21 males, and 21 female employees considered)				
Table F4D4a, F4D5, F4D6	WC	Urinals	Basins	Ambulant Toilet
Male	2	1	1	1
Female	2	N/A	1	1
Accessible	1	N/A	1	

Sanitary Facilities Required (Where there are 42 residents without private facilities)				
F4D2, F4D5, F4D6	WC	Bath/Shower	Basins	Ambulant Toilet
For all residents	5	5	5	1
Accessible	1	1	1	1

In the Class 9b Scout Hall building

Sanitary Facilities Required			
Table F4D4l	WC	Urinals	Basins
Male	3	*6	3
Female	*7	N/A	4
Accessible	*1	-	*1

Detailed designs will need to be developed as to the layout, dimensions, etc of the sanitary facilities.

Note: The Unisex facilities provided for people with disabilities may be counted once for each sex. These facilities are to be provided in accordance with AS1428.1-2009.

* The fixtures available in the accessible sanitary compartment reduces the required number of facilities by 1x WC for females and 1x urinal for males.

Bathroom Construction

Where bathrooms or rooms containing water closets have the WC within 1200mm of the doorway, the door shall be either sliding, open outwards, or be provided with removable hinges.

9.7. Light and Ventilation (BCA Part F6 (previously Part F4)

Class 3

Natural light and ventilation is to be provided to all habitable rooms at a rate of 10% and 5% of the floor area of the rooms respectively.

A required window that faces a boundary of an adjoining allotment or a wall of the same building or another building on the allotment must not be less than a horizontal distance from that boundary or wall that is the greater of:

(i) generally — 1 m; and
(ii) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill.

Class 9

Natural Ventilation is required to be provided to rooms at a rate of 5% of the floor area in openings. Alternatively, mechanical ventilation is required in accordance with AS1668.2-2012

Artificial lighting complying with AS/NZS1680.0-2009 is to be incorporated with the final detailed design to be developed to confirm this.

These provisions also apply to areas considered as occupiable outdoor areas.

9.8. Sound Transmission and Insulation (BCA Part F7 (previously Part F5))

Building elements within Class 3 buildings should provide the following sound insulation levels.

Location	Notes	Sound Insulation Requirement
Walls separating habitable rooms		$R_w + C_{tr} \geq 50$
Walls separating habitable room and kitchen or bathroom	Wall must be of Discontinuous Construction	$R_w + C_{tr} \geq 50$
Floor separating habitable rooms	Impact isolation required	$R_w + C_{tr} \geq 50$ $L_{n,w} + C_I \leq 62$
Duct, soil, waste or water supply pipe, including pipes that is located in a floor or wall cavity, serves or passes through more than one room	Adjacent habitable room or Adjacent non-habitable room	$R_w + C_{tr} \geq 40$ or $R_w + C_{tr} \geq 25$
Door to habitable room		$R_w \geq 30$

Please note for walls requiring impact resistance an air gap between leafs of the wall construction is required to be provided.

Please provide a report from the acoustic engineer verifying design compliance with the provisions of Part F7 (previously Part F5) of the BCA during the Construction Certificate phase.

10. Energy Efficiency

10.1. SECTION J (JP1 Energy Efficiency)

Efficient energy use must be achieved appropriate to the function and use of the building, level of human comfort, solar radiation, energy source of the services and sealing of the building envelope. To achieve this JV1, JV2, JV3, JV4 and JV5 verification methods have been introduced as options available to achieve compliance.

It is noted that a deemed to satisfy pathway is still available.

The proposed site will be located in a climate zone 4.

Certification from an appropriately qualified engineer should be provided for either option with a report / computations outlining how compliance is achieved.

Verification Methods

The Verification Methods available to demonstrate compliance with the BCA on a performance basis are as follows:

J1V1 NABERS Energy for Class 3

For a Class 3 building, compliance with J1P1 is verified when—

a) a minimum 4-star NABERS Energy for Hotels Commitment Agreement is obtained; and

b) the operating hours of the services are not less than 12 hours per day in bedrooms, dining rooms and conference facilities, 24 hours per day in corridors and foyers and 18 hours per day in back-of-house areas; and

c) the energy model required for (a) demonstrates that—

   i. the greenhouse gas emissions of the services are less than 70% of the 5-star level; and

   ii. a thermal comfort level of between a Predicted Mean Vote of -1 to +1 is achieved across not less than 95% of the floor area of occupied zones, excluding indoor swimming pool chambers, for not less than 98% of the annual hours of operation of the building; and

   iii. the space temperature in any indoor swimming pool chamber is maintained at 2°C above the pool temperature during occupied hours of not less than 12 hours per day; and

d) the building complies with the additional requirements in Specification 33.

The calculation method must comply with ANSI/ASHRAE Standard 140

J1V2 (previously JV3) Green Star

To achieve compliance with J1P1 (previously JP1) for Class 3 and 9 buildings Green Star can be used as a verification method when the calculation method complies with ANSI/ASHRAE Standard 140, Specification 34 (previously Spec JVb) and when:

- The building complies with simulation requirements and is registered for a Green Star – Design & As-Built rating; and
- The annual greenhouse gas emissions of the proposed building are less than 90% of the annual greenhouse gas emissions of the reference building; and

- In the proposed building, a thermal comfort level of between predicted mean vote of -1 to +1 is achieve across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building; and

J1V3 (previously JV3) Verification Using a Reference Building

To achieve compliance with JP1 for Class 3and 9 verification using a reference building can be used when the calculation method complies with ANSI/ASHRAE Standard, Specification 34 (previously Spec JVb) and when:

- It is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building when
  - the proposed building is modelled with the proposed services; and
  - the proposed building is modelled with the same services as the reference building.
  - The proposed building thermal comfort level is to be between predicted mean vote of -1 to +1 across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation; and
  - The building achieves the additional requirements in Specification 33 (previously Spec JVa); and
  - The greenhouse gas emissions of the proposed building may be offset by renewable energy generated and use on site and another process such as reclaimed energy used on site.

J1V4 (previously JV4) Building Envelope Sealing

Compliance with J1P1(e) (previously JP1) and J1P2 (previously JP2) is verified for building envelope sealing when the envelope is sealed at an air

- For class 3 building climate zones 4, 5m³/hr.m² at 50 Pa reference pressure.

Part J3 and performance solution that uses on of the other NCC assessment Methods which verifies that compliance with JP1 (e) will be achieve can also be used as verification methods.

11. Access for People with Disabilities

The development is required to comply with the accessibility provisions contained within:

- The Building Code of Australia 2022;
- Disability (Access to Premises – Buildings) Standards 2010;
- AS1428.1-2009 General Requirements for Access – New Building Work;
- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

Note: With the introduction of the Commonwealth *Disability Discrimination Act (DDA)* in 1992 (enacted in 1993), all organisations have a responsibility to provide equitable and dignified access to goods, services and premises used by occupants. Organisations and individuals since its introduction, are required to work to the objects of the Act which are to eliminate, as far as possible, discrimination against persons on the ground of disability in the **areas of work, accommodation, education, access to premises, clubs and sports, and the provision of goods, facilities, services and land, existing laws and the administration of Commonwealth laws and programs.**

This report assesses against the requirements contained with the Building Code of Australia (and documents referred to therein) and is not considered to be a full assessment against the Disability Discrimination Act.

11.1. General Building Access Requirements (BCA D4D2 (previously D3.1))

Access for people with disabilities shall be provided to and within the building in accordance with the requirements of Clause D4D3, D4D4 and D4D5 (previously D3.2, D3.3 and D3.4) of the BCA 2022 and AS 1428.1. Parts of the building required to be accessible shall comply with the requirements of:-

- AS1428.1-2009 General Requirements for Access – New Building Work;
- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

Access for persons with a disability is to be provided as follows:

Duty Manager's Accommodation and The Three Merritt Buildings (Class 1b)

4 to 10 dwellings	To and within 1 dwelling
11 to 40 dwellings	To and within 2 dwellings
41 to 60 dwellings	To and within 3 dwellings
61 to 80 dwellings	To and within 4 dwellings
81 to 100 dwellings	To and within 5 dwellings
More than 100 dwellings	To and within 5 dwellings and 1 additional dwelling for each additional 30 dwellings or part thereof in excess of 100 dwellings

New Accommodation Wing (Class 3 buildings)

- From the pedestrian entrance to at least 1 floor containing Sole Occupancy Units and to the entrance door of all Sole Occupancy Units on that floor, and to at least one type of each common facility, such as gyms, shops, laundries (shared), gaming rooms etc.
- Where an AS1428.1 compliant lift or ramp is provided in addition to the above and access is required to and within all spaces, and to the entrance of doors to single occupancy units on the levels, served by the lift or ramp.

Where individual Class 3 single occupancy units are provided:

1 to 10 single occupancy units	To and within 1 accessible sole occupancy units
11 to 40	To and within 2 accessible sole occupancy units
41 to 60	To and within 3 accessible sole occupancy units
61 to 80	To and within 4 sole occupancy units
81 to 100	To and within 5 sole occupancy units
101 to 200	To and within 5 sole occupancy units and 1 for every 25 sole occupancy units over 100
201 to 500 single occupancy units	To and within 9 accessible sole occupancy units, plus 1 for every 30 units in excess of 200 units
More than 500	To and within 19 accessible sole occupancy units, plus 1 for every 50 units in excess of 500 units

* Not more than 2 required accessible units may be located adjacent to each other; and
* Where more than 2 sole occupancy units are required to be accessible, they must be indicative of the range of units/rooms available.

Where the uses of some areas could be deemed inappropriate, confirmation is required as the appropriateness of the areas in question by the owners or tenant. Where an exemption is sought from providing access under clause D4D5 (previously D3.4), this is to be applied for as part of the application for building work approval.

Assembly Halls

To all required wheelchair seating spaces and to all areas normally used by occupants except tiers or seating areas or platforms not containing accessible wheelchair seating areas.

Where a ramp or a lift complying with AS1428.1 is provided, to and within all areas of the level served by the lift or ramp.

11.2. Provision for Access to Buildings (BCA Clause D4D3 (previously D3.2)

The BCA prescribes access to be provided to and within the building as follows:

- Via the principle pedestrian entry and at least 50% of all other entrances from the allotment boundary
- From designated car parking spaces for the use of occupants with a disability.
- From another accessible building connected by a pedestrian link.
- All areas used by the occupants.

In buildings over 500m^2 in floor area, a non-accessible entrance must not be located more than 50m from an accessible entrance.

Where a pedestrian entry contains multiple doors, the following is required;

- Entrance containing not more than 3 doors, at least one of the doorways must be accessible.
- Where an entrance contains more than 3 doors, not less than 50% of the doorways must be accessible.

A door is considered to be accessible if it is automatic (open and closing) or is more than 850mm in clear opening width and contains the required door circulation space.

11.3. Accessibility within Building (BCA Clause D4D4 (previously D3.3))

A building required to be accessible is required to be equipped with either a AS 1428.1 compliant lift or AS 1428.1 compliant ramp, (but the maximum vertical rise of a ramp must not exceed 3.6m).

An exemption to not provide either a lift or ramp exists for class 5, 6, 7b, or 8 buildings, where a building contains;

a) Less than 3 storeys.

Within the building the following are required;

- Door circulation space as per AS1428.1 Clause 13.3
- Doorways must have a clear opening of 850mm;
- Passing spaces (1.8m wide passages) must be provided at maximum of 20m intervals
- Within 2.0m of end access ways/corridors, turning areas spaces are required to be provided.
- Carpet pile height of not more than 11mm to an adjacent surface and backing <4mm
- Any glazing capable of being mistaken for a doorway or opening must be clearly marked (or contain chair rail, hand rail or transom as per AS 1288 requirements)

The design would generally comply with the prescriptive provisions of the BCA with additional ongoing review being undertaken as to door widths, circulation, etc. Further details are to be provided or access to these areas is to be assessed by an access consultant.

11.4. Car Parking (BCA Clause D4D6 (previously D3.5))

Accessible car parking spaces are required to comply with AS 2890.6-2009.

The development is proposed to contain car parking spaces which requires a minimum of accessible spaces in accordance with D4D6. The number of car parking spaces is not yet indicated.

A 'shared zone' of minimum 5400mm x 2400mm is required adjacent to accessible car parking spaces, protected with a bollard.

11.5. Tactile Indicators (BCA Clause D4D9 (previously D3.8))

Tactile indicators are required to be provided to warn occupants of all stairs (except Fire Isolated stairs) and ramps regardless of public nature or private environment and where an overhead obstruction occurs less than 2.0m above the finished floor level.

11.6. Stairs (BCA Clause D4D4 (previously clause D3.3 inter Alia AS1428.1))

Stairs shall be constructed as follows:

a) Where the intersection is at the property boundary, the stair shall be set back by a minimum of 900mm so that the handrail and TGSIs do not protrude into the transverse path of travel.
b) Where the intersection is at an internal corridor, the stair shall be set back one tread width plus 300mm (nominally 700mm as per AS 1428.1-2009 Fig 26(b)), so the handrails do not protrude into transverse path of travel.
c) Stairs shall have opaque risers.
d) Stair nosing shall not project beyond the face of the riser and the riser may be vertical or have a splay backwards up to a maximum 25mm.
e) Stair nosing profiles shall;
   - Have a sharp intersection;
   - Be rounded up to 5mm radius; or
   - Be chamfered up to 5mm x 5mm
f) All stairs, including fire isolated stairs shall, at the nosing of each tread have a strip not less than 50mm and not more than 75mm deep across the full width of the path of travel. The strip may be set back a maximum of 15mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall not exceed a difference of 5mm.

11.7. Accessible Sanitary Facilities (BCA Clause F4D5, F4D6, F4D7 (previously F2.4))

Unisex Accessible Sanitary Facilities

An accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only and provided in accordance with AS 1428.1-2009 and must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary products and as per following.

Building Type	Minimum accessible unisex sanitary compartments to be provided
New Accommodation Wing Class 3	a) In every accessible sole-occupancy unit provided with sanitary compartments within the accessible sole-occupancy unit, not less than 1; and b) At each bank of sanitary compartments containing male and female sanitary compartments provided in common areas, not less than 1.

Ambulant Facilities

At each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1-2009 must be provided for use by males and females.

Where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations.

An accessible unisex sanitary compartment or an accessible unisex shower need not be provided on a storey or level that is not provided with a passenger lift or ramp complying with AS 1428.1-2009

Accessible unisex showers

Accessible unisex showers must be provided in accordance with AS 1428.1 and at the following rates;

Building	Minimum accessible unisex showers to be provided
New Accommodation Wing Class 3	a) In every accessible sole – occupancy unit provided with showers within the accessible sole-occupancy unit, not less than 1; and b) 1 for every 10 showers or part thereof provided in common areas

11.8. Signage (BCA Clause D4D7 (previously D3.6))

As part of the detailed design package, specifications will need to be developed indicating:

- Sanitary Facility Identification Signs (note that they are to comply with BCA Specification 15 (previously Spe. D3.6) and include the use of Braille, Tactile, etc and be placed on the wall on the latch side of the facility);
- Directional / Way Finding signs to the Lifts, Sanitary Facilities, etc;
- Identify each door required by BCA Clause E4D5 (previously E4.5) to be provided with an exit sign, stating ‘EXIT’ and ‘Level” number
- Braille and tactile signs must be illuminated to ensure *luminance contrast* requirements are met at all times during which the sign is required to be read.

12. Construction in Bushfire Prone Areas

The Class 3 New Accommodation Wing is required to be constructed in accordance with Part G5 of BCA 2022.

Any Class 10a building or deck immediately adjacent or connected to the Class 3 building will also be required to comply with Part G5 of the BCA.

The protection measures required for this portion of the development must comply with AS 3959 except as amended by Planning for Bush Fire Protection prepared by the NSW Rural Fire Service, and the relevant development consent conditions specific to the Bushfire Attack Level of the land.

Construction of the building must also comply with the requirements following consultation, if required, with NSW Rural Fire Service pursuant to Section 4.14 of the Environmental Planning and Assessment Act 1979 prior to development consent.

13. Appendix A - Reference Documentation

The following documentation was used in the assessment and preparation of this report:

Drawing No.	Title	Revision	Date	Prepared By
3174-DA100	Site Analysis & Demolition Plan	Preliminary	July 2023	PMDL
3174-DA110	Masterplan	Preliminary	July 2023	PMDL
3174-DA114	Hall Plans	Preliminary	July 2023	PMDL
3174-DA115	Main Accommodation Wing	Preliminary	July 2023	PMDL
3174-DA116	Drivers & Amenities Plans	Preliminary	July 2023	PMDL
3174-DA117	Merritt Buildings	Preliminary	July 2023	PMDL
3174-DA200	Hall Sections & Elevations	Preliminary	July 2023	PMDL
3174-DA201	Accommodation Sect. & Elev.	Preliminary	July 2023	PMDL
3174-DA202	Amenities Sections & Elevations	Preliminary	July 2023	PMDL
3174-DA203	Drivers Sections & Elevations	Preliminary	July 2023	PMDL

14. Appendix B - Draft Fire Safety Schedule

	Essential Fire Safety Measures	Standard of Performance
1.	Automatic Smoke Detection and Alarm System	BCA 2022 Clause E2D3, E2D5, E2D7, E2D8, E2D9, E2D10, E2D11, E2D13, E2D14, E2D15, E2D16, E2D17, E2D19, E2D20, Spec 20 Clause S20C3/S20C4/S20C5, AS 1670.1 – 2018, AS/NZS 1668.1 – 2015, AS 3786-2014
2.	Emergency Lighting	BCA 2022 Clause E4D2, E4D4 & AS/NZS 2293.1 – 2018
3.	Exit Signs	BCA 2022 Clauses E4D5, E4D6 & E4D8 and AS/NZS 2293.1 – 2018
4.	Fire Doors	BCA 2022 Clause C4D3, C4D5, C4D6, C4D7, C4D8 & C4D9 and AS 1905.1 – 2015
5.	Fire Hose Reels	BCA 2022 Clause E1D3 & AS 2441 – 2005 Amdt 1
6.	Fire Hydrant System	BCA 2022 Clause C3D13, E1D2, Spec 18, I3D9 & AS 2419.1 – 2021
7.	Lightweight Construction	BCA 2022 Clause C2D9, Spec 6
8.	Warning and Operational Signs	BCA 2022 Clause C4D7, D2.23, E3D4, AS 1905.1 –2015

No.	Measure	Particulars of Measure *(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)*	Currently Implemented (Yes/No)	Proposed (Yes/No)
STATUTORY FIRE SAFETY MEASURES				
1.	Access Panels, Doors and Hoppers	BCA 2022 Clause C4D14		
2.	Automatic Fail Safe Devices	BCA 2022 Clause D3D24 & D3D26		
3.	Automatic Fire Detection and Alarm System	BCA 2022 Clause E2D3, E2D5, E2D7, E2D8, E2D9, E2D10, E2D11, E2D13, E2D14, E2D15, E2D16, E2D17, E2D19, E2D20, Spec 20 Clause S20C3/S20C4/S20C5, AS 1670.1 – 2018, AS/NZS 1668.1 – 2015, AS 3786-2014		
4.	Automatic Fire Suppression System (sprinklers)	BCA 2022 Clause C3D4, E1D5, E1D7, E1D8, E1D9, E1D10, E1D11, E1D13, E2D8, E2D9, E2D10, E2D11, E2D13, E2D14, E2D15, E2D16, E2D17, E2D19, E2D20, G3D8, Spec 17, Spec 31 & AS 2118.1 – 2017 Amdt 1 & 2, AS 2118.6 – 2012 (Combined sprinkler & hydrant) Residential: BCA 2022 Clause E1D6 Spec. 17/18, and ▪ AS 2118.1; or ▪ AS 2118.4, as applicable; or ▪ FPAA101D; or ▪ FPAA101H		
5.	Emergency Lifts	BCA 2022 Clause E3D5 & AS 1735.2 – 2001		

6.	Emergency Lighting	BCA 2022 Clause E4D2, E4D4 & AS/NZS 2293.1 – 2018		
7.	EWIS (Sound Systems and Intercom Systems for Emergency Purpose)	BCA 2022 Clause E4D9 & AS 1670.4 - 2018		
8.	Exit Signs	BCA 2022 Clauses E4D5, E4D6 & E4D8 and AS/NZS 2293.1 – 2018		
9.	Fire Control Centres and Rooms	BCA 2022 Spec. 19		
10.	Fire Dampers	BCA 2022 Clause C3D13, C4D15, Spec 11, D2D12, E2D3, E2.3, F4.12, Spec E2.2, E2D21, Spec 21, Spec 31 & AS 1668.1 – 2015		
11.	Fire Doors	BCA 2022 Clause C4D3, C4D5, C4D6, C4D7, C4D8 & C4D9 and AS 1905.1 – 2015		
12.	Fire Hose Reel Systems	BCA 2022 Clause E1D3 & AS 2441 – 2005 Amdt 1		
13.	Fire Hydrant Systems	BCA 2022 Clause C3D13, E1D2, Spec 18, I3D9 & AS 2419.1 – 2021		
14.	Fire Seals protecting fire resisting components of the building	BCA 2022 Clause C4D15, C4D16, Spec 13, Spec 14, & AS 1530.4 –2014		
15.	Fire Shutters	BCA 2022 C4D5, Spec 12 & AS 1905.2 – 2005		
16.	Fire Windows	BCA 2022 C4D5, Spec 12		
17.	Lightweight Construction	BCA 2022 Clause C2D9, Spec 6		
18.	Mechanical Air Handling System (nominate installed systems here e.g. zone smoke, smoke exhaust, pressurisation)	BCA 2022 Clause E2D3, E2D4, E2D6, E2D7, E2D8, E2D9, E2D10, E2D11, E2D12, E2D13, E2D14, E2D15, E2D16, E2D17, E2D18, E2D19, E2D20, G3D8, Spec 21, AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012		
19.	Perimeter Vehicular Access for emergency vehicles	BCA 2022 Clause C3D5		
20.	Portable Fire Extinguishers	BCA 2022 Clause E1D14 & I3D11, AS 2444 – 2001		
21.	Safety Curtains in Proscenium Openings	BCA 2022 Clause NSW I4D15, NSW I4D16		
22.	Smoke and Heat Alarms	BCA 2022 Spec 20 & AS 3786 - 2014		
23.	Smoke and Heat Vents	BCA 2022 Clause E2D10, E2D14, E2D15, E2D16, E2D17, E2D18, E2D19, E2D20, Spec 22 & AS 2665 – 2001		
24.	Smoke Dampers	BCA 2022 Clause E2D3, E2D21, Spec 21, Spec 31 & AS/NZS 1668.1 – 2015		
25.	Smoke Detectors and Heat Detectors	BCA 2022 Clause E2D3, E2D5, E2D7, E2D8, E2D9, E2D10, E2D11, E2D13, E2D14, E2D15, E2D16, E2D17, E2D19, E2D20, Spec 20 Clause S20C3/S20C4/S20C5, AS 1670.1 – 2018, AS/NZS 1668.1 – 2015		

26.	Smoke Doors	BCA 2022 Spec 11		
27.	Solid Core Doors	BCA 2022 Clause C4D12		
28.	Stand-by Power System	BCA 2022 Clause G3D8, Spec 31		
29.	Wall-Wetting Sprinkler and Drencher Systems	BCA 2022 Clause C4D5, G3D8, Spec 31		
30.	Warning and Operational Signs	EP&A (Development Certification and Fire Safety) Regulation 2021 Clause 108, BCA 2022 Clause C4D7, D2.23, E3D4, NSW I4D14 & AS 1905.1 –2015		
OTHER FIRE SAFETY MEASURES				
31.	Building Occupant Warning System	BCA 2022 Spec 17 & Spec 20 Clause S20C7 & AS 1670.1 – 2015 – Clause 3.22		
32.	Emergency Evacuation Plan	Fire Engineering Report XXXX Revision XX prepared by XXXX dated XXXX and AS 3745 – 2002		
33.	Fire Collars protecting fire resisting components of the building	BCA 2022 Clause C4D13, C4D15, C4D16 & AS 1530.4 – 2014		
34.	Paths of Travel	EP&A (Development Certification & Fire Safety) Reg 2021 Section 108, 109		
35.	Required Exit Doors (power operated)	BCA 2022 Clause E3D24 (3)		
36.	Self-Closing Fire Hoppers	BCA 2022 Clause C4D14 & AS 1530.4 – 2015		

No.	**Measure**	**Particulars of Measure** *(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)*	**Intervals for Inspection**	**Intervals for Supplementary Fire Safety Statements to be submitted to Council**
CRITICAL FIRE SAFETY MEASURES ***(per clause 168(3)(d) of the EPA Regulation 2000***				
1.				
2.				

15. Appendix D - Fire Resistance Levels

The table below represents the Fire resistance levels required in accordance with BCA 2022:

Type C Construction

Table S5C24a: Type C Construction: FRL of parts of external walls

Distance from a fire source feature	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/90/90	90/90/90	90/90/90	90/90/90
1.5 to less than 3m	-/-/-	60/60/60	60/60/60	60/60/60
3m or more	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C24b: Type C Construction: FRL of external columns not incorporated in an external wall

Column tyle	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/-/-	90/-/-	90/-/-	90/-/-
1.5 to less than 3m	-/-/-	60/-/-	60/-/-	60/-/-
3m or more	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C24c: Type C Construction: FRL of common walls and fire walls

Wall type	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or non-loadbearing	90/90/90	90/90/90	90/90/90	90/90/90

Table S5C24d: Type C Construction: FRL of internal walls

Location	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Bounding public corridors, public lobbies and the like	60/60/60	-/-/-	-/-/-	-/-/-
Between or bounding sole-occupancy units	60/60/60	-/-/-	-/-/-	-/-/-
Bounding a stair if required to be fire rated	60/60/60	60/60/60	60/60/60	60/60/60

Table S5C24e: Type C Construction: FRL of roof

Location	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Roofs	-/-/-	-/-/-	-/-/-	-/-/-

Carparks

1) Notwithstanding S5C21, a carpark may comply with this clause if it is an open-deck carpark or is protected with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 and is—

   a) a separate building; or
   b) a part of a building, and if occupying only part of a storey, is separated from the remaining part by a fire wall.

2) For the purposes of this clause, a carpark—

   a) includes—

      i. an administration area associated with the functioning of the carpark; and
      ii. where the carpark is sprinklered, is associated with a Class 2 or 3 building and provides carparking for separate sole-occupancy units each carparking area with an area not greater than 10% of its floor area for purposes ancillary to the sole-occupancy units; but

   b) excludes—
   c)
      i. except for (a), any area of another classification, or other part of a Class 7 building not used for carparking; and
      ii. a building or part of a building specifically intended for the parking of trucks, buses, vans and the like.

3) For building elements in a carpark as described in (1) and (2), the following minimum FRLs are applicable:

   a) External walls:

      i. Less than 1.5 m from a fire-source feature to which it is exposed:
         A. Loadbearing: 60/60/60.
         B. Non-loadbearing:–/60/60.
      ii. 1.5 m or more from a fire-source feature to which it is exposed: –/–/–.

   b) Internal walls: -/-/-

   c) Fire walls:

      i. From the direction used as a carpark: 60/60/60.
      ii. From the direction not used as a carpark: 90/90/90.

   d) Columns:

      i. Steel column less than 1.5m from a fire source feature—
         A. 60/–/–; or
         B. an ESA/M of not greater than 26 m2/tonne.
      ii. Any other colums not less than 1.5m from a fire source feature: 60/-/-
      iii. Any other column not covered by (i) or (ii): -/–/–.

   e) Beams:

i. Steel floor beam, less than 1.5m from a fire source feature, in continuous contact with a concrete floor slab—
   A. 60/–/–; or
   B. an ESA/M of not greater than 30 m2/tonne.

ii. Any other beam: 60/–/–.
iii. More than 1.5m from a fire source feature: -/-/-

f) Roof, floor slab and vehicle ramp: –/–/–.

4) For the purposes of (3), ESA/M means the ratio of exposed surface area to mass per unit length