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Hall Street, Bondi

BCAAssessment Report

REPORT 2008/090 R1.4

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EXECUTIVE SUMMARY

An assessment of a proposed 12 storey mixed use development at Hall Street, Bondi, has been carried out against the relevant Deemed-to-Satisfy provisions of the Building Code of Australia (BCA). The assessment has revealed that the building is generally capable of complying with the BCA and hence the plans may be lodged as part of a Development Application.

A number of compliance issues, as outlined under Section 8 and Section 9 of this report, need to be resolved prior to the issue of a Construction Certificate. The non-compliances identified require either further details, minor amendments to plans and/or Alternative Solution(s) to satisfy the Performance Requirements of the BCA.

A number of compliance issues rely on assumptions and interpretations as outlined in section 7.1 and 7.2 of this report. These items should be clarified and the method of compliance needs to be confirmed prior to construction.

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1. INTRODUCTION

This report presents the findings of an assessment of the design of a 12 storey mixed use development at Hall Street, Bondi against the Deemed-to-Satisfy (DTS) provisions of the relevant sections of the Building Code of Australia (BCA). It has been prepared by building regulations consultants and certifiers Steve Watson and Partners for Toga Group of Companies.

2. PURPOSE

The purpose of this report is to provide an assessment of the design documentation for the proposed project against the current requirements of the BCA.

The assessment is undertaken for the purpose of, and to the extent necessary for, construction certification to be issued under Part 4a of the NSW Environmental Planning and Assessment Act 1979 (The Act) and Regulation 2000 (EPAR).

3. SCOPE AND LIMITATIONS

3.1. SCOPE

The scope of this assessment is limited to the design documentation referenced in Appendix A of this report.

3.2. LIMITATIONS

The following limitations apply to the assessment:

- The plans are assessed to the extent necessary to issue a construction certificate under Part 4a of The Act. This means that the design has been assessed as able to comply with the BCA ie – the submitted plans are consistent with the BCA but certain design details may be not specified at this stage.
- Details in regard to access for people with disabilities have been assessed to the extent of the deemed-to-satisfy provisions of the BCA only. An assessment against AS 1428 is outside the scope of this report.
- The assessment does not consider the requirements for people with disabilities under the provisions of the Disabilities Discrimination Act 1992.
- The assessment does not consider the requirements of legislation other than the nominated sections of the EP&A Act which might address building works such as OH&S, Construction Safety or the like.
- Generally the assessment does not incorporate the detailed requirements of the Australian Standards.

4. STATUTORY FRAMEWORK

The following table summarises the key statutory issues relating to fire safety and the BCA in relation to the certification of new building works.

Issue	EPAR Clause Ref	Comment	Relevant section of this report
New Work	145	All new works must comply	0 and 13

4.1. NEW WORK

Clause 145 of the Environmental Planning and Assessment Regulation 2000 (EPAR) requires that all new work comply with the current requirements of the BCA.

This means that all works proposed in the plans are required to comply but that existing features of an existing building need not comply with the BCA unless required to under other clauses of the legislation.

4.2. RESIDENTIAL FLAT DEVELOPMENT

Clause 143A of the EPAR requires a qualified designer to provide a statement that verifies that the plans and specifications achieve or improve the design quality of the development having regard to the design quality principles set out in Part 2 of the *State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development* (SEPP 65) prior to the issue of a Construction Certificate.

Clause 154A of the EPAR requires a qualified designer to provide a statement that verifies that the residential flat development achieves the design quality of the development as shown in the plans and specifications having regard to the design quality principles set out in Part 2 of SEPP 65 prior to issuing an Occupation Certificate.

4.3. FULFILMENT OF BASIX COMMITMENTS

Clause 154B of the EPAR requires the certifying authority to monitor fulfilment of any commitments listed on the BASIX certificate, where the BASIX certificate requires the certifying authority to monitor those commitments. A final occupation certificate must not be issued until the certifying authority is satisfied that each of the commitments has been fulfilled.

5. METHODOLOGY

5.1. PROCESS ADOPTED

The following method of assessment has been used in the preparation of this report:

- 1) Determine the basic assessment data for the building.
- 2) Assess the design of the building against the current Deemed-to-Satisfy requirements of Sections B, C, D, E, F and J of the BCA. Establish the status of each clause into the following categories:
 - a) Clause is administrative information only (**Noted**).
 - b) Clause is or is not relevant to the proposed work (**Applicable or Not Applicable**).
 - c) The proposed work complies with the requirements of the clause (**Complies**).
 - d) Compliance with the requirements of the clause is unable to be determined from the documentation (**Not Specified**). A recommendation in the “Comments” column will indicate if further information is required.
 - e) Proposed work does not comply with the requirements of the clause (**Does Not Comply**). An indication will be given in the Comments field as to the nature of the issue and whether an alternative solution has been proposed to address the issue.
- 3) Nominate the status of the design against each BCA requirement.
- 4) Provide comments against each BCA requirement as appropriate

6. DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development comprises 12 storeys of mixed use development containing ground floor retail tenancies, restaurants, gymnasium, swimming pool, 3 levels of serviced apartments, 4 levels of residential apartments and 3 basement levels of associated car parking.

7. ASSESSMENT DATA SUMMARY

The following basic assessment data has been drawn from the provisions of the BCA 2008.

7.1. ASSUMPTIONS

Assumptions made in the preparation of this report are listed below:

1. The toilet block on the Lower Ground Floor will be relied upon for use by the retail and restaurant staff and restaurant patrons.
2. The double doors accessing the Loading Dock from the service corridor on the Lower Ground Floor will be openable at all times in the event of an emergency and can act as a horizontal exit. The loading dock is to form a separate fire compartment.

7.2. INTERPRETATIONS

A number of issues within the BCA are recognised to be interpretive in nature. Where these issues are encountered, interpretations are made that are consistent with Standard Industry Practise and/or Steve Watson & Partners policy formulated in regard of each issue.

1. Pursuant to Table F2.3 of the BCA sanitary facilities are not required for the retail patrons as less than 600 people are accommodated.
- 2.

7.3. BUILDING CHARACTERISTICS

The following assessment data has been drawn from the provisions of the BCA.

7.3.1. Classification

The significant spaces in the proposed design have been classified in accordance with the requirements of Clause A3.2 of the BCA and are summarised in the table below:

Floor	Space	Classification
Basements 003, 002, 001	Carpark	7a
Lower Ground Floor	Carpark ramp	7a
	Loading dock	7a
	Retail	6
Ground Floor	Retail	6
	Restaurant	6, 9b POPE
	Gymnasium	9b
	Swimming pool	10b

Floor	Space	Classification
	Residential lobby	2
	Serviced apartments lobby	3
Levels 1-3	Serviced apartments	3
Levels 4-7	Residential	2

7.3.2. Summary of construction determination

The type of construction required for the proposed design is summarised in the table below. Refer to appendix B for further detailed assessment data on the proposed development.

Classification	2, 3, 6, 7a, 9b, 9b POPE, 10b
Number of storeys contained	12
Rise in storeys	9
Type of construction required	A
Effective height	24.950m

8. ISSUES REQUIRING RESOLUTION

8.1. ISSUES REQUIRING FURTHER RESOLUTION PRIOR TO CONSTRUCTION CERTIFICATE

The following issues need further resolution before issuing the Construction Certificate.

Item	DTS Clause	Description of Non-compliance	Requirement to Satisfy BCA
1.	C1.1	Fire walls	The loading dock and residential lobbies have been assumed to be separate fire compartments. The CC documents are required to show this.
2.	C2.6	Spandrel separation has not been shown for all windows along the O'Brien & Hall Street facades, and the glazed corridor end on level 2.	Clause C2.6 requires the extension of 450mm beyond openings where horizontal spandrels are proposed. Alternatively, vertical spandrels consisting of a 900mm fire rated vertical upstand are to be provided.
3.	C2.14	Smoke doors have not been provided on Levels 3- 7 where the public corridors exceed 40m.	Public corridors are to be divided into 40m intervals with smoke doors.
4.	C3.2	A number of window openings are within 3 m of the eastern and western boundaries. Note that the walls at 90° to the boundaries at boundary corners are also affected (eg Hall St Facade) .	Protection of openings to be in accordance with Clause C3.4.
5.	D2.4	There is a direct connection between the rising and descending stair flights in Stair 3 at the level of discharge.	Separation is required between the rising and descending flights. Separating construction must be non-combustible and smoke-proof in accordance with Clause 2 of Specification C2.5.

Item	DTS Clause	Description of Non-compliance	Requirement to Satisfy BCA
6.	D2.20	The egress door into the residential lobby is required to swing in the direction of egress. The exit door from the loading dock is required to swing in the direction of egress.	Egress doors are required to swing in the direction of egress.
7.	E1.3	Fire hydrant coverage is not shown throughout the building.	Plans are to show fire hydrant landing valves in all fire-isolated exits, on each level.
8.	E1.3	The Hydrant and sprinkler boosters must be detailed to ensure that adequate fire-separation is provided to either side of the booster.	Details to be provided at CC stage.
9.	E1.4	Fire hose reels are to be installed internally within 4m of an exit or internally adjacent to a fire hydrant so that the fire hose reel will not need to pass through fire and smoke doors. Currently inadequate hose reels are shown.	Additional hose reels will be required with regard to the following key areas: - Residential levels where corridors are separated by smoke doors. Hose reel coverage through smoke doors is not permitted. Hence, additional hose reels will be required in these areas. - Retail levels – a review of hose reel coverage is required - Basement levels – a review of hose reel coverage is required
10.	Spec. E1.5	A sprinkler valve enclosure has not been shown on the plans.	Clause 6 of Spec. E1.5 requires a sprinkler valve enclosure to be located in a room having direct egress to the road or open space.
11.	E2.2a	Stair pressurisation is required for Exits 1, 2 and 3 as they serve more than 2 storeys below ground, not counted in the rise in storeys.	Design certification to be provided prior to the issue of a Construction Certificate OR provide alternative solution to delete this requirement.

8.2. ALTERNATIVE SOLUTIONS REQUIRED

It is proposed to satisfy the following non-compliances by alternative solutions:

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
1.	Access to exits	D1.2	Access to an alternative exit necessitates. Pool & Deck Area – Access to the secondary egress necessitates traversing through the residential/serviced apartments lobbies (eg passes through another SOU)	DP4	Subject to fire safety engineering design.

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
2.	Extended travel distances	D1.4	Extended travel distances occur in the following locations: - Basement 03 – the area under the vehicle ramp is approximately 45 m to the nearest exit. - Basement 02 – The Plant room is approximately 25m to the point of choice. - Basement 02 – The southern portion exceeds 40m to the nearest exit (approx 50 m) - Basement 01 – The Garbage room is approximately 30m to the point of choice and 55 m to an exit (adjacent laundry room also affected). - Lower Ground – Retail tenancies (LG.06, LG.07, LG.08 & LG.09) facing the through site link. Travel distances may exceed 20m to the point of choice after fitout works are completed. - Levels 00-03 – The point of choice exceeds 6m from various dead-ends (up to 13m). - Level 01 – the North Eastern section has a dead end distance approaching 20 m. - The extended travel distances will be subject to a fire engineered alternative solution. Level 1 may need reconfiguration to reduce the distance.	DP4, EP2.2	Subject to fire safety engineering design.
3.	Distance between alternative exits	D1.5	- Basement 03 – Distance between exits is approximately 65 m measured through the point of choice. - Basement 02 - Distance between exits is approximately 72 m measured through the point of choice. - Basement 01 – The Switch room area is approximately 78 m between exits measured through the point of choice. - Exits 1 & 2 are located approximately 47 m apart on Levels 1, 2 & 3. Extended distances between alternative exits will be subject to a fire engineered alternative solution.	DP4, EP2.2	Subject to fire safety engineering design.
4.	Direct access into fire-isolated exits	D1.7	Retail tenancy LG.05 opens directly into Exit 1 (Stair 1) on the Lower Ground Floor.	DP4, EP2.2	Subject to fire safety engineering design.
5.	Discharge of fire-isolated exits	D1.7	Exit 1 (Stair 1) discharges within the residential lobby, and is not open for 2/3 of its perimeter.	DP5, EP2.2	Subject to fire safety engineering design.

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
6.	Discharge of fire-isolated exits	D1.7	The path of travel to the road, from the discharge point of Exit 4 (Stair 4), necessitates passing within 6m of the glazed shopfronts to retail tenancies LG.08 and LG.09. The discharge area is not open for 1/3 of the perimeter. Openable doors will be unable to comply with C3.4.	DP5, EP2.2	Subject to fire safety engineering design.
7.	Doors and doorways	D2.19	Ground Floor – The security gates at the stairs (Exits 5 & 6) facing Hall St & O'Brien St do not incorporate compliant doors.	DP4	Subject to fire safety engineering design.
8.	Hydrant system	E1.3	The Hydrant Pump room is located in Basement 01. The location does not comply.	EP1.3	Subject to fire safety engineering design.
9.	Smoke exhaust	E2.2b	A smoke exhaust system has not been proposed to the Ground Floor mall area where the fire compartment, including the enclosed common mall exceeds 2,000m ² .	EP2.2	Subject to fire engineering design
10.	Stair pressurisation	E2.2b	Basement fire stairs 1, 2 and 3 serve more than 2 below ground floor storeys and require stair pressurisation. An alternative solution is therefore required to delete this requirement.	EP2.2	Subject to fire engineering design

9. ISSUES TO BE RESOLVED PRIOR TO CONSTRUCTION

The following identifies certain items which are not detailed or specified on the design documentation which may become issues if not designed in accordance with the requirements of the BCA. The items below are those items which we have experienced to be regular issues only. Not all unspecified items have been noted below:

Item	Clause	Description	Requirement to Satisfy BCA
1.	C2.6	Vertical separation of openings in external walls	The construction of the spandrels providing vertical separation between openings in the external walls is not specified. The fire rating detail at the junction of the floors and the curtain wall has not been detailed. The method of fire rating at the junction needs to be detailed in accordance with a tested method that will ensure that the spandrel achieves the required fire rating of 60/60/60.
2.	C3.4	Acceptable method of protection (wall-wetting sprinklers)	Wall-wetting sprinklers are allowed under BCA Clause C3.4 to protect window openings in walls required to have an FRL. However, these are often mistakenly used in conjunction with openable windows which is strictly prohibited under the clause. Only fixed pane windows are permitted due to the fact that the drencher spray needs to land on the glass for the barrier to be effective.
3.	C3.15	Openings for services penetrations (mixed metal and PVC plumbing systems)	Metal pipes are allowed to penetrate fire-resisting construction on the basis that a wholly metal pipe system is reasonably resistant to fire and smoke. However, when metal pipework penetrates a floor and PVC is used within the same pipe system it does not comply. When PVC is used it should penetrate the slab and should be protected by a fire collar.

Item	Clause	Description	Requirement to Satisfy BCA
4.	D2.15	Thresholds	External doorway thresholds are generally required to be less than 190 mm and even less for health or aged care facilities. Often the door threshold signals the limit of design responsibility (or attention to design) so that the threshold height is omitted from the design.
5.	D2.16	Balustrades or other barriers (No climbable members for floors 4m above floor beneath)	Balustrades located more than 4 m above the ground below must not be climbable by children. Incorrect balustrade design can result in significant rectification works given that there are often large quantities of balustrading all constructed to the same detail (particularly in residential projects.) The interpretation of "must not facilitate climbing" as required under BCA clause D2.16(g) is the issue that can lead to significant problems as it is not adequately specified under the BCA. The non-climbable zone is between 150 mm and 760 mm from the floor. We therefore recommend that the Pool Fence Code AS1926 be consulted for clarification. The key is that any ledge of greater than 10 mm in width can be held to facilitate climbing if the angle to horizontal is less than 60°. Also, acceptable construction tolerances for building elements means that a complying design detail can easily be constructed so as not to comply. The 10 mm limit is not able to be extended to allow for tolerances. The following items can lead inadvertently to a defective detail: • Split balustrade elements (ie brick hob to 500 mm and then 500 mm clear glazing panel above) will almost certainly create a climbable ledge once built; • End fixing points can create footholds where balustrade infill elements are fixed to posts; • Not allowing enough height for tiles to be built up to create falls so that the dimensions from the finished floor do not comply; • Taps and other fittings fixed to the balustrade; • Other climbable points located close to but not actually on the balustrade.
6.	D2.17	Handrails	Handrails are often omitted from the design of ramps and stairs. Even as little as two steps is counted as a stairway and as such requires a handrail.
7.	D2.21	Operation of latch (door hardware)	BCA Clause D2.21 requires certain types of latches to all doors in the path of egress. This effectively means that every single door in commercial and industrial buildings needs to comply. The problem is that knob type handles do not and cannot comply. Deadlocks do not comply.
8.	D3.2	General building access requirements (Door widths)	The Access standard AS1428.1 has recently been amended to require a minimum of 800 mm wide door way openings. The problem is that a standard 820 mm door leaf is usually trimmed down and fitted to jambs with 10 mm reveals. That is, openings for standard 820 mm doors can never comply.
9.	D3.3	Parts of buildings to be accessible (handrails)	Low rise retail, industrial and commercial premises do not have lifts but are required to have "accessible" stairs. This means that there are special requirements for handrails to the internal stairs including • Handrails to both sides of the stair; • Handrails must extend 300 mm beyond the stair; • See clause 9 of AS1428.1 for further details.
10.	D3.5	Carparking (disabled carparking)	These car spaces have a special requirement for 2.5 m of clear height to permit roof-mounted wheelchairs to be demounted.

Item	Clause	Description	Requirement to Satisfy BCA
11.	D3.8	Tactile indicators	BCA clause D3.8 requires tactile ground indicators to be installed in certain locations. The "tactiles" must be 600 mm in depth and extend for the width of the stair, ramp, kerb ramp or other feature. Tactiles are often seen as a last minute item. However, they are often required to be set into concrete or terrazzo which can lead to costly and time-consuming retrofit activity.
12.	E1.3	Hydrants (Walls adjacent to external hydrants)	External Hydrants are required to be located 10 m from a building. Where this is not proposed, the external wall of the building is required to achieve a 90/90/90 fire rating for 2 m side from the centre of the hydrant outlet and 3 m above the hydrant (or to the roof line if this is lower.) Note that tilt-up concrete panels supported by steel portal frames will not achieve the fire rating unless the supporting structure is also fire-rated.
13.	F2.4	Facilities for people with disabilities	Toilets for people with disabilities are required to comply with AS1428.1 in all respects. The standard regulates the locations, dimensions and details associated with taps, pans, grab rails, roll holders, basins, soap dishes and floor wastes. In fact, almost every element is regulated with respect to heights, offsets from walls, height beneath etc.
14.	G1.1	Swimming Pools (pool safety fence)	Pool fences are required to meet the strict design criteria set down in AS1926 parts 1 and 2. The main risk with pool fencing layout and design is that the pool is often located within sloping or landscaped sites. A number of different ground levels and types of fencing can therefore intersect to create complicated 3-dimensional arrangements where the requirements of the code are difficult to apply. Problem areas to create potential for climbability include: • Stairs and ramps alongside fences; • Retaining walls; • Any place fencing is at right angles to other fences or walls; • Other structures located close (within 1.1 m) to fencing.

10. STATUTORY FIRE SAFETY MEASURES

The Statutory Fire Safety Measures listed in Appendix G of this report are required to be certified upon completion of the project and prior to occupation of the building by the owner of the building, by issuing a Final Fire Safety Certificate under the Act.

The owner is also required under the Act to certify each of the Fire Safety Measures annually by issuing a Fire Safety Statement.

11. CONCLUSIONS

The design complies with the requirements of the relevant sections of the BCA subject to resolution of the identified areas of non-compliance and compliance with the recommendations provided within the report.

12. APPENDIX A – DETAILED ASSESSMENT DATA

12.1. NOMINATED FIRE COMPARTMENTS

The BCA does not require sprinkler protected car parks and Class 2 buildings to be considered.

The remaining fire compartments are indicated in the table above.

<i>Compartment</i>	<i>Approx Area (m²)</i>	<i>Approx Volume (m³)</i>	<i>Comment</i>
Basement Carpark Levels 003, 002, 001, carpark entry ramp on Lower Ground Floor	N/A	N/A	Sprinkler protected car parks are not considered under Clause C2.2.
Electricity substation in Level 001 Basement	167 m ²	550m ³	
Loading dock on Lower Ground Floor	360m ²	1650 m ³	Approximate
Mall on Lower Ground Floor (through site link), Retail LG.01, LG.02, LG.03, LG.04, LG.05, LG.06, LG.07, LG.08, LG.09, Ground Floor Retail G.01, G.02, G.03, G.04, G.05, G.06, Mall (through site link) from Hall Street to grid line C	3,410 m ²	12,300m ³	
Ground Floor residential lobby	69 m ²	200m ³	

12.2. POPULATION

Relevant populations for the building are set out below.

<i>Location</i>	<i>Use</i>	<i>Class</i>	<i>Approx Area (m²)</i>	<i>Density m²/person</i>	<i>Population</i>	<i>Comments</i>
Basement 003	Carpark	7a	3,578 m ²	30	119	Adequate egress is available
Basement 002	Carpark	7a	3,578 m ²	30	119	Adequate egress is available
Basement 001	Carpark	7a	3,091 m ²	30	103	Adequate egress is available
LG Retail LG.01	Retail	6	196 m ²	3	54	Less 20% for BOH
LG Retail LG.02	Retail	6	102 m ²	3	25	Less 20% for BOH
LG Retail LG.03	Retail	6	106 m ²	3	27	Less 20% for BOH
LG Retail LG.04	Retail	6	84 m ²	3	20	Less 20% for BOH
LG Retail LG.05	Major Retail	6	926 m ² FOH – 650 m ² BOH – 276 m ²	FOH – 3 BOH – 30	217 9	Adequate egress is available
LG Retail LG.06	Retail	6	149m ²	3	40	Less 20% for BOH
LG Retail LG.07	Retail	6	135m ²	3	36	Less 20% for BOH
LG Retail LG.08	Retail	6	181m ²	3	49	Less 20% for BOH
LG Retail LG.09	Retail	6	160m ²	3	43	Less 20% for BOH

Location	Use	Class	Approx Area (m²)	Density m²/person	Population	Comments
Ground Restaurant G.01	Restaurant	6	161m ²	FOH – 1 BOH – 10	110 4	70% for FOH 30% for BOH
Ground Retail G.02	Retail	6	93m ²	3	23	Less 20% for BOH
Ground Retail G.03	Retail	6	102m ²	3	27	Less 20% for BOH
Ground Retail G.04	Retail	6	69m ²	3	18	Less 20% for BOH
Ground Restaurant G.05	Restaurant	6	175m ²	FOH – 1 BOH – 10	123 5	70% for FOH 30% for BOH
Ground Lobby G.06	Restaurant	6	330 m ²	FOH – 5 BOH – 10	48 4	70% for FOH 30% for BOH
Ground Restaurant G.11	Licensed Restaurant	6	210m ²	FOH – 1 BOH – 10	150 11	70% for FOH 30% for BOH
Ground Gymnasium	Gymnasium	9b	91m ²	3	30	Adequate egress is available
Ground Pool & Deck Area	Deck Area	10b	703m ²	10	70	Adequate egress is available

12.3. EXITS

The exits from the building are set out below:

Exit No	Area	Type	Grid Ref	No of storeys connected	Comments
1.	Southern	Fire-isolated	B-7	11	Discharges on Ground Floor within the Residential Lobby. See comments under Clause D1.7.
2.	North-east	Fire-isolated	G-7	9	Discharges on the Lower Ground Floor to O'Brien Street.
3.	Western	Fire-isolated	B-2	8	Discharges on the Lower Ground Floor to O'Brien Street.
4.	Northern	Fire-isolated	E/F-3	4	Discharges on the Lower Ground Floor to O'Brien Street. See comments under Clause C2.11, D1.3 and D1.7.
5.	Lower Ground Floor – South	Open stair	A-3/4	N/A	Discharges on the Ground Floor to Hall Street.
6.	Lower Ground Floor - North	Open stair	F-3/4	N/A	Discharges on the Lower Ground Floor to O'Brien Street.
7.	-				
8.	Restaurant G.11 – Ground Floor	Sliding door	A-7/8	N/A	Discharges on Ground Floor to Hall Street. See comments under Clause D2.20.
9.	Residential Lobby – Ground Floor	Sliding door	A-7	N/A	Discharges on Ground Floor to Hall Street. See comments under D2.20.

Exit No	Area	Type	Grid Ref	No of storeys connected	Comments
10.	Serviced Apartments Lobby – Ground Floor	Sliding door	A-6	N/A	Discharges on Ground Floor to Hall Street. See comments under D2.20.
11.	Restaurant G.06 – Ground Floor	Swinging door	A-6	N/A	Discharges on Ground Floor to Hall Street.
12.	Restaurant G.05 – Ground Floor	Swinging door	A-4	N/A	Discharges on Ground Floor to Hall Street.
13.	Restaurant G.01 – Ground Floor	Swinging door	A-3	N/A	Discharges on Ground Floor to Hall Street.
14.	Retail G.02 – Ground Floor	Swinging door	B-3	N/A	Discharges on Ground Floor to common mall.
15.	Retail G.03 – Ground Floor	Swinging door	C-3	N/A	Discharges on Ground Floor to common mall.
16.	Retail G.04 – Ground Floor	Swinging door	D-3	N/A	Discharges on Ground Floor to common mall at O'Brien Street end.

13. APPENDIX B – CLAUSE BY CLAUSE ASSESSMENT

13.1. SECTION B - STRUCTURE

Clause	Description	Status	Comments
B1.1	Resistance to actions	Not Specified	The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions. A design certificate will be required by a qualified structural engineer prior to the issue of a Construction Certificate.
B1.2	Determination of individual actions	Not Specified	The magnitude of individual actions must be determined in accordance with Clause B1.2 of the BCA. A design certificate will be required by a qualified structural engineer prior to the issue of a Construction Certificate.
B1.3	Loads	Not Specified	The building or structure must resist loads determined in accordance with AS 1170 Parts 1 to 4 as listed in Clause B1.3. A design certificate will be required by a qualified structural engineer prior to the issue of a Construction Certificate.
B1.4	Determination of structural resistance of materials and forms of construction	Not Specified	The structural resistance of materials and forms of construction must be determined in accordance with the relevant Australian Standards in accordance with Clause B1.4 of the BCA. A design certificate will be required by a qualified structural engineer prior to the issue of a Construction Certificate.

13.2. SECTION C - FIRE RESISTANCE

Clause	Description	Status	Comments
C1.1	Type of construction required	Not Specified	The building is to be erected in Type A fire resisting construction in accordance with Specification C1.1 of the BCA. Refer to Appendix D for the relevant fire resisting requirements. Note, a concession is permitted for the car park levels. The roof is not required to have an FRL if its covering is non-combustible, has an effective height not exceeding 25m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space not less than 60 minutes.
C1.2	Calculation of rise in storeys	Noted	Refer to Section 7.3.2 of this report.
C1.3	Buildings of multiple classification	Noted	The building is required to be constructed of Type A fire resisting construction as the classification of the top storey is a Class 2.
C1.4	Mixed types of construction	Not Applicable	
C1.5	Two storey Class 2, 3 or 9c buildings	Not Applicable	
C1.6	Class 4 parts of buildings	Not Applicable	
C1.7	Open spectator stands and indoor sports stadiums	Not Applicable	

Clause	Description	Status	Comments
C1.8	Lightweight construction	Not Specified	Lightweight construction used in a wall system must comply with Specification C1.8. Lightweight construction used as a fire-resisting covering of a steel column or the like, and where the covering is not in continuous contact with the column must have the voids filled to a height of not less than 1.2m above the floor and where the column is liable to be damaged must be protected by steel or other suitable material.
C1.9	-	-	No provisions.
C1.10	Fire hazard properties	Not Specified	The fire hazard properties of all floor materials, floor coverings, wall and ceiling lining materials must comply with Specification C1.10a. The fire hazard properties of all other materials must comply with Specification C1.10.
C1.11	Performance of external walls in fire	Not Applicable	
C1.12	Non-combustible materials	Noted	Gypsum, metal and laminated non-combustible materials containing combustible components are deemed to be non-combustible.
C2.1	Application of Part	Applicable	Clauses C2.2, C2.3 and C2.4 do not apply to a sprinkler protected carpark, open deck carpark or open spectator stand.
C2.2	General floor area limitations	Complies	The retail fire compartment on Lower Ground and Ground Floor is within the fire compartment limitations as provided under Table C2.2. See Section 12.1 for calculations.
		Not Applicable	Floor area and volume limitations do not apply to Class 2 buildings.
C2.3	Large isolated buildings	Not Applicable	
C2.4	Requirements for open spaces and vehicular access	Not Applicable	
C2.5	Class 9a and 9c buildings	Not Applicable	
C2.6	Vertical separation of openings in external walls	Does Not Comply	In a building of Type A construction that is not sprinkler protected, a spandrel must be provided. The spandrel must be not less than 900mm in height, extended not less than 600mm above the upper surface of the intervening floor and be of non-combustible material having an FRL of not less than 60/60/60. Spandrel separation has not been shown in all required locations along the O'Brien Street and Hall St façades & glazed corridor end on Level 2.
C2.7	Separation by fire walls	Not Specified	The fire wall required to separate Restaurant G0.6 from the Serviced Apartments Lobby may be treated as separating fire compartments if it extends to the underside of the floor above, achieving an FRL not less than 180/180/180, and if it is constructed in accordance with the following: - The wall is to achieve an FRL of at least 180/180/180; - All openings must comply with Part C3; - Building elements must not pass through or cross the fire wall unless the required fire resisting performance of the fire wall is maintained.

Clause	Description	Status	Comments
C2.8	Separation of classifications in the same storey	Not Specified	As the building has parts of different classifications located alongside one another in the same storey each building element must have the higher FRL prescribed in Specification C1.1 of the BCA or the parts must be separated by a fire wall. Fire separation is required between the hotel lobby and Restaurant G.06 to achieve 3 hours. Fire separation is required between Restaurant G.12 (POPE) and the residential lobby to achieve 90 minutes. Fire separation is required between the following parts: - The Hotel lobby and Restaurant G.06 – 3 hours. - Restaurant G.12 (POPE) and the residential lobby – 90 minutes.
C2.9	Separation of classifications in different storeys	Not Specified	As different classifications are situated one above the other they must be separated in accordance with the BCA. The floor slab separating Basement 01 from the loading dock on the Lower Ground Floor is required to achieve 4 hours. The floor slabs to the Lower Ground Floor, Ground Floor and Level 1 are required to achieve 3 hours. The floor slabs between the residential and serviced apartments are required to achieve 90 minutes.
C2.10	Separation of lift shafts	Not Specified	Any lift connecting more than 2 must be separated from the remainder of the building as specified in Clause C2.10. Openings for lift landing doors and services must be protected in accordance with the DTS provisions of Part C3 of the BCA.
C2.11	Stairways and lifts in one shaft	Complies	
C2.12	Separation of equipment	Not Specified	Equipment that comprises lift motors, lift control panels, central smoke control plant, boilers or batteries must be separated from the remainder of the building by construction with an FRL as required under Specification C1.1 but not less than 120/120/120.
C2.13	Electricity supply system	Not Specified	Electrical substations and main switchboards sustaining emergency equipment operating in the emergency mode must be separated from the remainder of the building by construction with an FRL not less than 120/120/120. All switchboards and electrical conductors are to comply with the requirements of Clause C2.13.
C2.14	Public corridors in Class 2 and 3 buildings	Does Not Comply	Public corridors must be divided at intervals of not more than 40m by smoke-proof walls complying with Clause 2 of Specification C2.5. Smoke doors have not been provided on Levels 3-7 where the public corridors exceed 40m.
C3.1	Application of Part	Noted	Concessions and definition of certain openings.
C3.2	Protection of openings in external walls (NSW (a) Deleted)	Not Specified	Openings within 3m of an allotment boundary shall be protected by sprinklers, fire doors, fire windows etc, in accordance with Clause C3.4 of the BCA. The openings along the southern corner on Levels 1-3 are within 3m from the allotment boundary. Protection is required in accordance with Clause C3.4.

Clause	Description	Status	Comments
C3.3	Separation of external walls and associated openings in different fire compartments	Not Applicable	The fire compartments on the Ground Floor are located further apart than the minimum distance required under Table C3.3.
C3.4	Acceptable method of protection	Noted	Window openings that are required to be protected are to be protected by wall wetting sprinklers with windows that are automatic closing or permanently fixed in the closed position, --/60/-- fire windows or --/60/60 automatic fire shutters. Doorways are to be protected by wall wetting sprinklers used with doors that are self closing or automatic closing, or --/60/30 self closing or automatic closing fire doors.
C3.5	Doorways in fire walls	Not Specified	Doorways in firewalls are to be protected by a fire door or fire shutter that has an FRL of not less than that required for the firewall except that the insulation rating must be at least 30. The doorways separating the Loading Dock from the Service corridor on the Lower Ground Floor is to achieve an FRL not less than --/240/30. The doorway separating the Garbage Room from the carpark on Basement 01 Level is to achieve an FRL not less than --/180/30.
C3.6	Sliding fire doors	Not Applicable	
C3.7	Protection of doorways in horizontal exits	Not Applicable	
C3.8	Openings in fire isolated exits	Not Specified	--/60/30 self-closing fire doors are required to doorways providing access to fire isolated stairways.
C3.9	Service penetrations in fire isolated exits	Not Specified	Service penetrations other than electrical wiring for essential service installations, pressurisation ducts with an FRL of --/120/60, or water pipes for fire services are not permissible.
C3.10	Openings in fire isolated lift shafts	Not Specified	Openings in lift shafts are to be protected by --/60/-- fire doors complying with AS1735.11. Lift indicator panels are to be backed by construction having an FRL of not less than --/60/60 if it exceeds 35,000mm² (175 X 200 mm).
C3.11	Bounding construction: Class 2, 3, 4 and 9 buildings (NSW Requirements for Class 3 changed and additional requirements for Class 9)	Not Specified	Doorways which open into a public corridor, public lobby or the like are to have self-closing --/60/30 fire doors fitted. Openings in construction required to separate one space from another in a Class 9b POPE are to be protected in accordance with Clause C3.4.
C3.12	Openings in floors for services	Not Specified	Services passing through floors are to be placed within fire resisting shafts or in accordance with Clause C3.15. Loadbearing shafts passing through the carpark portions are required to have an FRL not less than 120/90/90, and for non-loadbearing shafts an FRL not less than --/90/90. Loadbearing shafts passing through the retail portions are required to have an FRL not less than 180/120/120, and for non-loadbearing shafts an FRL not less than --/120/120. Loadbearing shafts passing through the residential & serviced apartments portions are required to have an FRL of not less than 90/90/90, and for non-loadbearing shafts an FRL of not less than --/90/90.

Clause	Description	Status	Comments
C3.13	Openings in shafts	Not Specified	In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage, or other service shaft must be protected by: • If it is a sanitary compartment - a door or panel which together with its frame, is non combustible or has an FRL of not less than --/30/30, or • A self closing --/60/30 fire door or hopper, or • An access panel with an FRL of not less than --/60/30, or • If the shaft is a garbage shaft - a door or hopper of non-combustible construction.
C3.14	-	-	No provisions
C3.15	Openings for service installation	Not Specified	Methods and materials used are to be identical to tested prototypes and in accordance with AS4072.1 and AS1530.4, and having achieved the required FRL or resistance to the incipient spread of fire or other specified method.
C3.16	Construction Joints	Not Specified	Construction joints are to be installed in accordance with a tested prototype in accordance with AS1530.4.
C3.17	Columns protected with lightweight construction	Not Specified	Columns must be protected in accordance with the identical tested prototype.

13.3. SECTION D – ACCESS AND EGRESS

Clause	Description	Status	Comments
D1.1	Application of Part	Applicable	Does not apply to the internal parts of a sole occupancy unit in a Class 2, 3 or 4 building.
D1.2	Number of exits required (NSW Extra POPE subclause)	Complies	
D1.3	When fire isolated exits are required	Complies	Exits 1, 2, 3, 7 are contained within a fire-isolated shaft.
D1.4	Exit travel distances	Does Not Comply	Extended travel distances occur in the following locations: • Basement 03 – the area under the vehicle ramp is approximately 45 m to the nearest exit. • Basement 02 – The Plant room is approximately 25m to the point of choice. • Basement 02 – The southern portion exceeds 40m to the nearest exit (approx 50 m) • Basement 01 – The Garbage room is approximately 30m to the point of choice and 55 m to an exit (adjacent laundry room also affected). • Lower Ground – Retail tenancies (LG.06, LG.07, LG.08 & LG.09) facing the through site link. Travel distances may exceed 20m to the point of choice after fitout works are completed. • Levels 00-03 – The point of choice exceeds 6m from various dead-ends (up to 13m). The extended travel distances will be subject to a fire engineered alternative solution. Level 1 may need reconfiguration to reduce the distance.

Clause	Description	Status	Comments
D1.5	Distance between alternative exits	Does Not Comply	- Basement 03 – Distance between exits is approximately 65 m measured through the point of choice. - Basement 02 – Distance between exits is approximately 72 m measured through the point of choice. - Basement 01 – The Switch room area is approximately 78 m between exits measured through the point of choice. - Exits 1 & 2 are located approximately 47 m apart on Levels 1, 2 & 3. Extended distances between alternative exits will be subject to a fire engineered alternative solution.
D1.6	Dimensions of exits (NSW Differing requirements for P.O.P.E.)	Not Specified	In a required exit or path of travel, the unobstructed height throughout be 2m or more, except the unobstructed height of doorways may be reduced to no less than 1980mm. The unobstructed width of each exit or path of travel to an exit except a doorway must not be less than 1m.
D1.7	Travel via fire-isolated exits	Does Not Comply	Direct access into a fire-isolated exit is not permitted unless it is from a public corridor, a sole-occupancy unit occupying the whole storey, or a sanitary compartment or airlock. Retail tenancy LG.05 opens directly into Exit 1 (Stair 1) on the Lower Ground Floor. Each fire-isolated exit must provide independent egress by way of its own fire-isolated passageway and discharge directly: - To a road or open space; or - To a point within the confines of the building, that is open for at least 2/3 of its perimeter, and from which has an unimpeded path of travel no further than 20m to a road or open space. Exit 1 (Stair 1) discharges within the residential lobby, and is not open for 2/3 of its perimeter. Exit 4 (Stair 4) discharges at LG, is not open for 1/3 of its perimeter, and the path of travel is within 6 m of the building. A fire engineered alternative solution is proposed to address these issues.
		Not Specified	The path of travel to the road, from the discharge point of Exit 4 (Stair 4), necessitates passing within 6m of the glazed shopfronts to retail tenancies LG.08 and LG.09. The wall, to which the path of travel is exposed, is required to achieve an FRL not less than 60/60/60, and any openings contained therein to be protected in accordance with Clause C3.4.
D1.8	External stairways in lieu of fire-isolated exits	Not Applicable	
D1.9	Travel by non-fire-isolated stairways or ramps	Not Applicable	
D1.10	Discharge from exits (NSW Additional requirements for P.O.P.E.)	Not Specified	Suitable barriers such as bollards are to be provided to prevent the blockage of exits by vehicles, etc.

Clause	Description	Status	Comments
D1.11	Horizontal exits	Not Applicable	
D1.12	Non-required stairs, ramps or escalators	N/A	A non-required open stairway is permitted to connect no more than 2 consecutive storeys in a building that is not sprinkler protected, provided that one of those storeys connected is situated at a level where direct egress to a road or open space is available.
D1.13	Number of persons accommodated (NSW Differing requirements for P.O.P.E.)	Noted	Refer to section 7.3.2 of this report.
D1.14	Measurement of distance	Noted	
D1.15	Method of measurement	Noted	
D1.16	Plant rooms and lift machine rooms: Concession	Not Applicable	
D1.17	Access to lift pits	Not Specified	Access to lift pits where the pit depth is not more than 3m must be through the lowest landing doors. Lift pits with a depth of more than 3m must have an access doorway that is level with the pit floor and not be less than 600mm wide by 1980mm high. Access to the doorway must be by a stairway complying with AS 1657. Doors must be horizontal sliding or outward opening and be self-closing and self-locking from the outside and be provided with signage on the landing side in letters not less than 35mm high stating: "DANGER LIFTWELL- ENTRY OF UNAUTHORISED PERSON PROHIBITED – KEEP CLEAR AT ALL TIMES".
D2.1	Application of Part	Applicable	
D2.2	Fire isolated stairs or ramps	Not Specified	Stairs or ramps within fire resisting shafts are to be constructed of non-combustible materials. The construction of the stairs is not to cause structural damage or impair the fire resistance of the shaft if there is local failure.
D2.3	Non-fire-isolated stairways and ramps	Not Specified	Required stairs that are not required to be within a fire-resting shaft are to be constructed of concrete, steel, or timber of specified minimum dimensions.
D2.4	Separation of rising and descending stair flights	Does Not Comply	Rising and descending fire isolated stairways must not be directly connected. There is a direct connection between the rising and descending stair flights in Stair 3 at the level of discharge. Plans are to be amended such that separation is provided between the flights.
D2.5	Open access ramps and balconies	Not Applicable	
D2.6	Smoke lobbies	Not Applicable	
D2.7	Installations in exits and paths of travel	Does Not Comply	Access to service shafts and services are not permitted inside a fire-isolated exit unless they are for fire fighting or detection equipment. An unknown shaft is shown within Exit 1 (Stair 1) on Levels 4, 5 & 6.

Clause	Description	Status	Comments
		Not Specified	Electrical boards and the like are to be located within and enclosed by non-combustible construction or have a fire-protective covering with the doorway suitably sealed against smoke spreading from the enclosure. Generally the services or equipment may be enclosed in non-combustible construction such as MDF with a solid core door. Electrical wiring may only be installed in a fire-isolated exit if the wiring is associated with: • a lighting, detection, or pressurisation system serving the exit, or • a security, surveillance or management system serving the exit, or • intercommunication system or audible or visual alarm system in accordance with Clause D2.2 or • the monitoring or hydrant or sprinkler isolation valves.
D2.8	Enclosure of space under stairs and ramps	Not Applicable	There is no space proposed beneath stairs throughout the building.
D2.9	Width of stairways	Noted	Stairway width is to be measured clear of obstructions such as handrails, projecting parts of balustrades and the like and extend to a height of not less than 2m. A stairway more than 2m in width is only counted as having a width of 2m unless it is divided by a continuous handrail or balustrade between landings and each division is less than 2m wide.
D2.10	Pedestrian ramps	Not Specified	Ramps serving as a required exit must not have a gradient steeper than 1:8. If the ramp is required for disabled access under Part D3 it must comply with AS1428.1. The surface of the ramp must have a non-slip finish.
D2.11	Fire-isolated passageways	Not Specified	Fire isolated passageways are to have an FRL equivalent to the fire resisting stair shaft as specified in Specification C1.1.
D2.12	Roof as open space	Not Specified	The floor beneath the pool & deck area on the Ground Floor is required to have an FRL of not less than 120/120/120 and not incorporate any roof lights or other openings within 3m of the path of travel.
D2.13	Goings and risers (NSW Differing requirements for P.O.P.E.)	Not Specified	Stairs are to have risers measuring between 115-190mm and goings between 250-355. Goings and Risers are to satisfy the equation of $2R+G=700(\text{max})$ and $550(\text{min})$. Goings and risers are to be consistent throughout in one flight. Any gap between risers must not permit a 125mm sphere to pass through it. All treads to be fitted with non-slip finish or non-skid strips.
D2.14	Landings	Not Specified	Landings must comply with the requirements of Clause D2.14 of the BCA. Landings must be not less than 750mm long and have a non-slip finish throughout or an adequate non-skid strip near the edge of the landing where it leads to a flight below.

Clause	Description	Status	Comments
D2.15	Thresholds (NSW Differing requirements for P.O.P.E.)	Not Specified	A threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless: The door opens to a road or open space, external stair landing or external balcony and the doorsill is not more than 190mm above the finished surface of the ground balcony or the like to which the door opens.
D2.16	Balustrades (NSW Differing requirements for P.O.P.E.)	Not Specified	Balustrades complying with Deemed-to-Satisfy provisions of the BCA are to be provided to where the level of the surface below is 1m or more. Where the level of the surface below is 4m or more, a balustrade or other barrier must not facilitate climbing of horizontal elements between 150mm and 760mm above the floor. Any opening in the balustrade must not permit a 125mm sphere to pass through the balusters. Wire balustrades must be constructed to comply with Clause D2.16(h) and Tables D2.16a and D2.16b. External balustrades in a Class 9b POPE are required to be not less than 1.2m in height above the floor.
D2.17	Handrails	Not Specified	Handrails are to be provided to at least one side of stair flights and located not less than 865mm above the nosings of stair treads and the floor surfaces of landings. Handrails must be not more than 2m apart in the case of intermediate handrails. Note that under the requirements of Clause D3.3a handrail may be required to both sides of the stairway.
D2.18	Fixed platforms walkways, stairways, and ladders	Not Specified	Fixed platforms, walkways, stairways, ladders, landings, handrails, balustrades and any tread or riser in a plant room, lift motor room or the like is to comply with AS1657.
D2.19	Doorways and doors (NSW Additional requirements for P.O.P.E.)	Does Not Comply	The security gates at the stairs (Exits 5 & 6) facing Hall Street & O'Brien Street do not incorporate compliant doors.
		Not Specified	The doors leading to the Serviced Apartments Lobby & Residential Lobby on the Ground Floor are proposed to be card controlled. As they provide egress to occupants from the Pool & Deck Area, they will be required to automatically open on the side seeking egress if there is a power failure to the door on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. The sliding doors to the Residential Lobby & Serviced Apartments Lobby are permitted if they are able to be opened manually under a force not exceeding 110N. If these doors are power-operated, they must be capable of being manually opened under a force not exceeding 110N in the event of a power failure. Alternatively, the doors must open automatically on the activation of a fire or smoke alarm.
D2.20	Swinging doors	Does not comply	Door into the residential lobby must swing in the direction of egress. The door from the loading dock must swing in the direction of egress.

Clause	Description	Status	Comments
D2.21	Operation of latch (NSW Additional requirements for P.O.P.E.)	Not Specified	The latch of a door in a required exit, forming part of a required exit or in the path of travel is to be readily openable without a key from the side of that faces a person seeking egress. It is to have a single downward action and to be located between 900mm and 1.20m from the floor unless it serves a sanitary compartment. This means lever handles are generally required. A Class 9b POPE requires panic bolts instead of latchsets and main entry must yield to pressure from within.
D2.22	Re-entry fire-isolated exits	Not Applicable	
D2.23	Signs on doors (NSW Additional requirements for P.O.P.E.)	Not Specified	Signage is required on both sides of fire & smoke doors alerting persons that the doors must not be impaired. Under Clause 183 of the Environmental Planning and Assessment Regulation 2000 a notice is to be displayed in a conspicuous location adjacent to a doorway providing access to but not within a fire isolated stairway. The words "OFFENCES RELATING TO FIRE EXITS" are to be provided in letters at least 8mm high and the remaining words are to be at least 2.5mm high. The notice is to state the following: OFFENCES RELATING TO FIRE EXITS It is an offence under the Environmental Planning and Assessment Act 1979: a) To place anything in or near this fire exit that may obstruct persons moving to & from the exit; or b) Interfere with or obstruct the operation of any fire doors; and c) To remove, damage or otherwise interfere with this notice.
NSW D2.101	Doors in path of travel in a P.O.P.E.	Applicable	
D3.1	Application of Part	Applicable	
D3.2	Access to buildings	Not Specified	Access complying with AS1428.1 is to be provided to the following areas: 1. From the allotment boundary at the major points of entry. 2. To and within all areas normally used by the public. 3. From any accessible carparking space on the allotment. 4. Through the principle public entrance.
D3.3	Parts of buildings to be accessible	Not Specified	Access complying with AS1428.1 is to be provided to the following areas: 1. Any sanitary compartment required for the use of people with disabilities. 2. To areas used by occupants, excluding plantrooms, commercial kitchens, cleaners store rooms, maintenance accessways or the like. 3. The passenger lift. At least one stairway must have handrails on both sides complying with clause 9 of AS 1428.1.
D3.4	Concessions	Noted	

Clause	Description	Status	Comments
D3.5	Car parking	Not Specified	Car parking spaces for people with disabilities are to be provided in the ratio of one space for every 100-carparking spaces. Compliance with AS2890.1 is required. The space above the disabled car space on basement level 001 is marked as having limited head room. The minimum unobstructed height of disabled access car spaces is 2.5m. Confirmation of this is required prior to the issue of a Construction Certificate.
D3.6	Identification of access facilities, services and features	Not Specified	Braille and tactile signage complying with Specification D3.6 and incorporating the international symbol of access or deafness is to be provided to the sanitary facilities and the passenger lift within the building in accordance with AS1428.1.
D3.7	Hearing augmentation	Not Applicable	
D3.8	Tactile indicators	Not Specified	Tactile indicators are to be provided to all stairways and ramps used by the public. Tactile indicators are to Type B indicators complying with AS1428.4.

13.4. SECTION E – SERVICES AND EQUIPMENT

Clause	Description	Status	Comments
E1.1	-	-	No provisions
E1.2	-	-	No provisions
E1.3	Fire Hydrants	Does Not Comply	Fire hydrant coverage is not shown throughout the building. The hydrant booster assembly may not meet the fire separation requirements of AS2419. Further details are required. The Hydrant pump room is not located at grade with direct access to the street. This may be subject to a fire engineered solution.
		Not Specified	Fire hydrants must conform to the pressure and flow requirements and distance limitations as per AS 2419.1.
E1.4	Hose reels	Does Not Comply	Fire hose reels are to be installed internally within 4m of an exit or internally adjacent to a fire hydrant so that the fire hose reel will not need to pass through fire and smoke doors. Additional hose reels will be required with regard to the following key areas: - Residential levels where corridors are separated by smoke doors. Hose reel coverage through smoke doors is not permitted. Hence, additional hose reels will be required in these areas. - Retail levels – a review of hose reel coverage is required - Basement levels – a review of hose reel coverage is required
		Not Specified	Fire hose reels are to be provided in accordance with AS2441.

Clause	Description	Status	Comments
E1.5	Sprinklers	Does Not Comply	A sprinkler valve enclosure must be located in a secure room or enclosure having direct egress to the road or open space. A sprinkler valve enclosure has not been shown on the plans.
		Not Specified	The carpark portion is to be provided with a sprinkler system throughout in accordance with Specification E1.5.
E1.6	Portable fire extinguishers	Not Specified	Portable fire extinguishers are to be provided in accordance with Table E1.6 of the BCA and AS 2444.
E1.7	-	-	No provisions.
E1.8	Fire control centres	Not Applicable	
E1.9	Fire precautions during construction	Not Specified	During construction, at least one fire extinguisher is required to suit Class A, B and C fires for each storey, and is required to be located adjacent to each exit. After the building has reached an effective height of 12m, hydrants and hose reels must be operational in at least every storey, except the 2 uppermost storeys, covered by the roof or the floor structure above and any required booster connections must be installed.
E1.10	Provisions for special hazards	Not Applicable	
E2.1	Application of Part	Not Applicable	Part is not applicable to • open deck car parks • open spectator stands • storerooms, etc less than 30m² • sanitary compartments • plantrooms or the like
E2.2	General requirements (NSW Replacement of provisions for Class 9b buildings)	Does Not Comply	An automatic smoke exhaust system complying with Specification E2.2b is to be required to the Lower Ground Floor through site link, as it is part of a fire compartment exceeding 2,000m ² in size. A concession is provided for the retail tenancies opening onto the through site link as they do not exceed 1,000m ² . Smoke exhaust is not required to the carpark entry ramp, and loading dock where they are separated to prevent the free passage of smoke. A fire engineered alternative solution is proposed to delete the smoke exhaust system from the Ground Floor arcade.
		Does Not Comply	Basement fire stairs 1, 2 and 3 serve more than 2 below ground floor storeys and require stair pressurisation. An alternative solution is therefore required if pressurisation is not to be provided.

Clause	Description	Status	Comments
		Not Specified	The carpark is to be provided with a sprinkler system complying with Specification E1.5 as it accommodates more than 40 vehicles. The carpark is to be provided with fans with metal blades suitable for operation at normal temperature and electrical power and control cabling need not be fire rated. Exits 1,2 and 3 are to be provided with automatic stair pressurisation, in accordance with AS/NZS 1668.1 as they serve more than 2 basement storeys. It is noted that Exit 4 is not required to have stair pressurisation as it does not serve more than 2 basement storeys. The gymnasium and Restaurant G.12 are to be provided with automatic shutdown of an air-handling system to comply with AS/NZS 1668.1. The serviced apartments and residential portion are to be provided with an automatic smoke detection and alarm system complying with Clause 4 of Specification E2.2a in the common areas with smoke detectors complying with Clause 3 of Specification E2.2a inside each sole-occupancy unit. A building occupant warning system complying with Clause 6 of Specification E2.2a is required to sound through all occupied areas.
E2.3	Provisions for special hazards	Not Applicable	
E3.1	-	-	No provisions.
E3.2	Stretcher facility in lifts	Not Specified	The stretcher lift is to have the minimum dimension of 600mm wide x 2000mm long and 1400mm high above floor level.
E3.3	Warning against use of lifts in fire	Not Specified	A warning sign is to be displayed where it can be readily seen near every call button of the passenger lift. The warning sign is to comply with the details and dimensions set out in Figure E3.3 of the BCA.
E3.4	Emergency lifts	Not Applicable	
E3.5	Landings	Not Specified	Access and egress to and from the lift well landings is to comply with the Deemed-to-Satisfy provisions of Section D of the BCA.
E3.6	Facilities for people with disabilities	Not Specified	The passenger lift is required to comply with the requirements of AS1735.12 and be fitted with a door sensory device that will detect a 75mm diameter rod across the door opening between 50mm and 1550mm above floor level.
E3.7	Fire Services Control	Not Specified	Passenger lift cars are to be provided with fire service controls in accordance with AS1735.2.
E3.8	Aged care buildings	Not Applicable	
E4.1	-	-	No provisions.

Clause	Description	Status	Comments
E4.2	Emergency light requirements	Not Specified	Emergency lighting is to be provided throughout the building in accordance with Clause E4.2 of the BCA. Emergency lighting is to be provided in : • Every fire-isolated stairway, fire-isolated ramp or fire-isolated passageway. • Every passageway, hallway, corridor or the like, that is part of the path of travel to an exit. • In every room having a floor area more than 100m² that does not open to a corridor or space that has emergency lighting or to a road or open space. • In any room having a floor area more than 300m². • In every required non-fire isolated stairway • To every room or space that has public access in a Class 6 or 9b building if: • the floor area is more than 300m²; • or if any point on the floor is more than 20m from the nearest doorway opening directly to the road or open space; or • if the egress involves a vertical rise within the building of more than 1.5m.
E4.3	Measurement of distance	Noted	
E4.4	Design and operation of emergency light	Not Specified	Emergency lighting shall be provided throughout the building in accordance with the requirements of Clause E4.4 of the BCA and AS 2293.1. A design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
E4.5	Exit signs	Not Specified	Exit signs are to be provided in accordance with Clause E4.5 of the BCA. Exit signs must be clearly visible to person approaching the exit and must be installed on, above or adjacent to; 1. A door providing direct egress from a storey to a stairway, passageway or ramp serving as a required exit. 2. A door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space. 3. A door serving as or forming part of a required exit in a storey required to be provided with emergency lighting.
E4.6	Direction signs (NSW POPE - External to the building where the exit does not open directly onto a street.)	Not Specified	Where an exit is not readily apparent then exit signs with directional arrows must be installed in appropriate positions in corridors, hallways, lobbies and the like indicating the direction to a required exit in accordance with Clause E4.6 of the BCA.
E4.7	Class 2, 3 and 4 buildings: Exemptions	Applicable	
E4.8	Design and operation of exit signs	Not Specified	Exit signs are to operate in accordance with AS 2293.1 and be clearly visible at all times while the building is occupied. A design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
E4.9	EWIS systems	Not Applicable	

13.5. SECTION F – HEALTH AND AMENITY

Clause	Description	Status	Comments
F1.1	Stormwater drainage	Not Specified	Stormwater drainage design shall be in accordance with AS/NZS 3500.3. A design certificate will be required by a qualified hydraulic engineer prior to the issue of a Construction Certificate.
F1.2	-	-	No provisions
F1.3	-	-	No provisions
F1.4	-	-	No provisions
F1.5	Roof coverings	Not Specified	Roof coverings are to comply with the relevant Australian Standards as per Clause F1.5.
F1.6	Sarking	Not Specified	Sarking type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2.
F1.7	Waterproofing of wet areas	Not Specified	Shower enclosure surfaces, floor surfaces in bathrooms, shower rooms, slop hoppers, sink compartments, laundry and sanitary compartments is required to be waterproofed in accordance with AS 3740.
F1.8	-	-	No provisions
F1.9	Damp-proofing	Not Specified	Moisture from the ground must be prevented from reaching the lowest floor timber and the walls above the lowest floor joists, the walls above the dam proof course and the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. Damp proof course must consist of a material that complies with AS/NZS 2904 or an impervious termite shield in accordance with AS 3660.1.
F1.10	Damp-proofing of floors on the ground	Not Specified	A vapour barrier in accordance with AS2870 is to be provided beneath the lowest floor slab.
F1.11	Provision of floor wastes	Not Specified	The floor of each bathroom and laundry in each sole occupancy of a Class 2 or 3 building is to be graded to permit drainage to a floor waste.
F1.12	Sub-floor ventilation	Not Applicable	
F1.13	Glazed assemblies	Not Specified	Windows, sliding doors with a frame, adjustable louvres, shopfronts and window walls with one piece framing in an external wall must comply with AS 2047 requirements for resistance to water penetration.
F2.1	Facilities in residential buildings	Complies	
F2.2	Calculation of number of occupants and fixtures	Noted	
F2.3	Facilities in Class 3 to 9 buildings	Not Specified	Toilet numbers have not been specified on the plans provided for the retail portions of the building.
F2.4	Facilities for people with disabilities	Not Specified	The number of sanitary facilities for people with disabilities is not known as the sanitary facilities have not been specified. Sanitary facilities for people with disabilities are to be designed in accordance with AS1428.1.
F2.5	Construction of sanitary compartments	Not Specified	Doors to the fully enclosed toilets are to open outwards, slide or be readily removable from the outside of the sanitary compartment.

Clause	Description	Status	Comments
F2.6	Interpretation: Urinals and washbasins	Noted	
F2.7	Warm water installations	Not Applicable	Not Applicable in NSW
F2.8	Waste	Not Applicable	
F3.1	Height of rooms and other spaces	Complies	
F4.1	Provision of natural light	Not Applicable	
F4.2	Methods and extent of natural light	Not Applicable	
F4.3	Natural light borrowed from adjoining room	Not Applicable	
F4.4	Artificial lighting	Not Specified	Lighting shall be provided throughout the building to comply with AS1680.0 in accordance with the requirements of Clause F4.4 of the BCA. A design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
F4.5	Ventilation of rooms (NSW Reference to AS/NZS 3666.1 deleted for NSW)	Not Specified	Ventilation shall be provided throughout the building in by means of natural ventilation complying with Clause F4.6 or mechanical ventilation complying with the requirements of AS1668.2 as required by Clause F4.5 of the BCA. A design certificate will be required by a qualified mechanical engineer prior to the issue of a Construction Certificate.
F4.6	Natural ventilation	Not Applicable	
F4.7	Ventilation borrowed from adjoining room	Not Applicable	
F4.8	Restriction on position of water closets and urinals	Not Applicable	
F4.9	Airlocks		
F4.10	-	-	No Provisions
F4.11	Carparks	Not Specified	The carpark is to be provided with ventilation complying with AS1668.2. A design certificate will be required by a qualified mechanical engineer prior to the issue of a Construction Certificate.
F4.12	Kitchen local exhaust	Not Specified	A commercial kitchen must be provided with a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2, where, - any cooking apparatus has a total maximum electrical power input exceeding 8kW, or - a total gas power input exceeding 29 MJ/h, or the total maximum power input to more than one apparatus exceeds 0.5kW electrical power or 1.8 MJ gas per metre square of the room or enclosure. A design certificate will be required by a qualified mechanical engineer prior to the issue of a Construction Certificate.
F5.1	Application of part	Applicable	Applicable to Class 2, 3 buildings only.

Clause	Description	Status	Comments
F5.2	Determination of airborne sound insulation ratings	Noted	Construction required to have an airborne sound insulation rating must have the value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term ($R_w + C_{tr}$) determined in accordance with AS/NZS1276.1, or ISO717.1 using result from laboratory measurements, or comply with Specification F5.2 of the BCA.
F5.3	Determination of impact sound insulation ratings	Noted	A floor required to have an impact sound insulation rating must have the required value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w} + C_i$) determined in accordance with AS/ISO 717.2 using results from laboratory measurements or comply with Specification F5.2 of the BCA.
		Not Specified	A wall that is required to have an impact sound insulation rating must be of discontinuous construction.
F5.4	Sound insulation rating for floors	Not Specified	Floors separating sole occupancy units or separating sole occupancy units from a public corridor, public lobby or the like must have an $R_w + C_{tr}$ of not less than 50 and an $L_{n,w} + C_i$ of not more than 62. A design certificate will be required by a qualified acoustic consultant prior to the issue of a Construction Certificate.
F5.5	Sound insulation rating of walls	Not Specified	Walls between sole occupancy units, and walls separating sole occupancy units from a public corridor, public lobby or the like must have an $R_w + C_{tr}$ not less than 50. Compliance with F5.3(b) is required to walls separating a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (excluding a kitchen) in another adjoining unit or a sole occupancy unit from a plant room or lift shaft. A door may be incorporated in a wall separating a sole occupancy unit from a stairway, public corridor or the like, provided the door assembly has an R_w not less than 30. Where a wall required to have sound insulation has a floor above, the wall must continue to the underside of the floor above or a ceiling that provides the sound insulation required for the wall. Where a wall required to have sound insulation has a roof above, the wall must continue to the underside of the roof above or a ceiling that provides the sound insulation required for the wall. A design certificate will be required by a qualified acoustic consultant prior to the issue of a Construction Certificate.
F5.6	Sound insulation rating of services	Not Specified	A wall separating a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (other than a kitchen) in an adjoining unit must have • an R_w of not less than 50; • not incorporate a duct which reduces the R_w of the wall below 50; and • provide a satisfactory level of insulation against impact sound. A design certificate will be required by a qualified acoustic consultant prior to the issue of a Construction Certificate.

Clause	Description	Status	Comments
F5.7	Isolation of pumps	Not Specified	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.

13.6. SECTION G – ANCILLARY PROVISIONS

Clause	Description	Status	Comments
G1.1	Swimming Pools (NSW – added subclause (c))	Not Specified	Swimming pool safety fencing and the restriction of access to swimming pools in NSW is to be regulated under the Swimming Pools Act 1992. Compliance with AS 1926 Part 1 and 2 is required. Water reticulation and filtration systems must comply with AS 1926.3.
G1.2	Refrigerated chambers, strong-rooms and vaults	Not Applicable	
G1.101	Provision for cleaning windows	Not Specified	A safe manner of cleaning windows is to be provided as windows are located 3 or more storeys above ground level. The windows must either be able to be cleaned wholly from within the building, or a method complying with the Construction Safety Act 1912 and Regulations is required.
Part G2	Heating appliances, fireplaces, chimneys and flues	Not Applicable	
Part G3	Atrium construction	Not Applicable	
Part G4	Construction in alpine areas	Not Applicable	
Part G5	Construction in bushfire prone areas	Not Applicable	

13.7. SECTION H – SPECIAL USE BUILDINGS

Clause	Description	Status	Comments
Part H1	Theatres, stages and public halls	Not Applicable	
NSW H101.1	Application of Part	Applicable	NSW Part H101 replaces Part H1 for POPEs.
NSW H101.2	Fire separation	Not Specified	Restaurant G.12 on the Ground Floor is to be fire separated from the remainder of the building with an FRL not less than 60/60/60. It is noted that the separation from the Residential Lobby is required to achieve a minimum FRL of 90/90/90 and 120/120/120 from the Gymnasium.
NSW H101.3	Foyer space	Not Applicable	
NSW H101.4	Sprinkler systems for common foyers	Not Applicable	
NSW H101.5	Conventional stages	Not Applicable	
NSW H101.6	Non conventional stages	Not Applicable	
NSW H101.7	Flying scenery	Not Applicable	

Clause	Description	Status	Comments
NSW H101.8	Load notice	Not Applicable	
NSW H101.9	-	-	No provisions.
NSW H101.10	Safety curtains	Not Applicable	
NSW H101.11	Seating in rows	Not Applicable	
NSW H101.12	Continental seating	Not Applicable	
NSW H101.13	Provision of guardrails	Not Applicable	
NSW H101.14	Guardrails	Not Applicable	
NSW H101.15	Dressing rooms	Not Applicable	
NSW H101.16	Storerooms	Not Applicable	
NSW H101.17	Projection suites	Not Applicable	
NSW H101.18	Basement storeys	Not Applicable	
NSW H101.19	Electric mains installation	Not Applicable	
NSW H101.20	Lighting	Not Applicable	
NSW H101.21	-	-	No provisions.
NSW H101.22	Automatic smoke-and-heat vents for stages	Not Applicable	
NSW H101.23	Solid fuel burning stoves and open fire places	Not Applicable	
NSW H101.24	Fuel gas cylinders	Not Applicable	
NSW Part H102	Temporary structures	Not applicable	NSW Part H102 applies to temporary POPE.

13.8. SECTION J – ENERGY EFFICIENCY

Clause	Description	Status	Comments
NSW J(A)	Energy Efficiency – Class 2 Buildings and Class 4 Parts	Noted	
NSW J(A)1	Building Fabric		
NSW J(A)1.1	Application of Part	Noted	Applies to thermal insulation in a Class 2 building where a development consent, complying development certificate, or an environmental planning instrument specifies that the insulation is to be provided.
NSW J(A)1.2	Compliance with BCA provisions	Noted	Class 2 buildings are required to comply with the provisions of Clause J1.2 except the reference to “Where required” is deemed to refer to “Where a development consent, complying development certificate, or an environmental planning instrument specifies that insulation is to be provided.
		Not Specified	A thermal break must be provided between the external cladding and framing in accordance with Clause J1.3(d) for a metal framed roof and Clause J1.5(e) for a metal framed wall.
J1.2	Thermal construction general	Not Specified	Insulation is to be provided in accordance with AS/NZS 4859.1 and in accordance with the requirements of Clause J1.2.
NSW J(A)2	Building Sealing		
NSW J(A)2.1	Application of Part	Noted	Applies to a Class 2 building excluding; - a building in climate zone 2 and 5 where the only means of air-conditioning is by using an evaporative cooler, and - a building ventilation opening that is necessary for the safe operation of a gas appliance, and - parts that can not be fully enclosed.
NSW J(A)2.2	Compliance with BCA provisions	Applicable	Class 2 buildings must comply with the national provisions of J3.2, J3.3, J3.4, J3.5, J3.6 and J3.7.
J3.2	Chimneys and flues	Not Applicable	
J3.3	Roof lights	Not Applicable	
J3.4	Windows and doors	Not Specified	A seal to restrict air infiltration must be fitted to each edge of an external door, openable external window or the like when serving a conditioned space.
J3.5	Exhaust fans	Not Specified	A miscellaneous exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a conditioned space.
J3.6	Construction of roofs, walls and floors	Not Specified	Roofs, external walls, external floors and any opening must be constructed to minimise air leakage in accordance with Clause J3.6(b) when forming part of the external fabric of a conditioned space.
J3.7	Evaporative coolers	Not Applicable	

Clause	Description	Status	Comments
NSW J(A)3	Air-Conditioning and Ventilating Systems		
NSW J(A)3.1	Application of Part	Applicable	Applies to a Class 2 building.
NSW J(A)3.2	Compliance with BCA Provisions	Applicable	Class 2 buildings must comply with the national provisions of J5.2, J5.3, J5.4 and J5.5.
J5.2	Air conditioning and ventilating systems	Not Specified	An air-conditioning unit or system must comply with the requirements of Clause J5.2 and Specification J5.2.
J5.3	Time switch	Not Specified	A time switch in accordance with Specification J6 must be provided to control: - an air-conditioning system of more than 10kW_r, or - a ventilation system with an air flow rate or more than 1000L/s, or - a heating systems of more than 10kW_{heating}.
J5.4	Heating and chilling systems	Not Specified	Systems that provide heating or chilling for air-conditioning systems must comply with Clause J5.4 and Specification J5.4.
J5.5	Miscellaneous exhaust systems	Not Specified	A miscellaneous exhaust system with an air flow rate of more than 1000L/s that is associated with equipment having a variable demand such as a stove in a commercial kitchen must have the means for the operator to reduce the energy used or stop the motor when the system is not needed. It must be designed to minimise exhausting of air conditioning.
NSW J(A)4	Hot Water Supply		
NSW J(A)4.1	Application of Part	Not Applicable	Applies to a Class 2 building.
NSW J(A)4.2	Compliance with BCA provisions	Not Applicable	Class 2 buildings must comply with the national provisions of J7.2
J7.2	Hot water supply	Not Specified	A hot water system must be designed and installed in accordance with Section 8 of AS/NZS 3500.4. A design certificate will be required by a qualified hydraulic engineer prior to the issue of a Construction Certificate.
NSW J(A)5	Access for Maintenance		
NSW J(A)5.1	Application of Part	Not Applicable	Applies to Class 2 buildings only, except within a sole occupancy unit.
NSW J(A)5.2	Access for maintenance	Not Specified	Access for maintenance must be provided to all services and their components as required under Clause NSW J(A)5.2.
NSW J(B)	Energy Efficiency - Class 3 and Class 5 to 9 Buildings		
NSW J(B)1	Compliance with BCA provisions	Not Applicable	Class 3 and Class 5 to 9 buildings must comply with all of the national provisions of Section J that are applicable to the relevant classifications, except as varied by NSW J1.6 for Class 3 buildings, NSW J3.1 and NSW J8.2 for Class 3 and Class 5 to 9 buildings.
J1.1	Application of Part	Applicable	Applies to building elements forming the envelope of a Class 3 and Class 5 to 9 building.

Clause	Description	Status	Comments
J1.2	Thermal construction general	Not Specified	Insulation must comply with AS/NZS 4859.1 and be installed in accordance with Clause J1.2. Insulation must abut or overlap adjoining insulation, form a continuous barrier with ceilings, walls, bulkheads, floors or the like and not affect the safe or effective operation of services.
J1.3	Roof and ceiling construction	Not Specified	A roof or ceiling that is part of the envelope must achieve the Total R-Value specified in Table J1.3 for the direction of heat flow. The minimum total R-Value required for roofs or ceilings are specified in Appendix F. The minimum total R-value for the roof and ceiling is generally 2.7 with an upward heat flow. The minimum total R-value for the ceiling above the retail tenancies is generally 3.2 with a downward heat flow. The minimum total R-value for the roof and ceiling above the serviced apartments is generally 2.7 with an upward heat flow. The minimum total R-value may be reduced to the retail and gymnasium portion by: • R0.25 if the roof upper surface solar absorptance value is not more than 0.55, or • R0.5 if the roof upper surface solar absorptance value is not more than 0.35.
J1.4	Roof lights	Not Applicable	
J1.5	Walls	Not Specified	Each part of an external wall that is part of the envelope must satisfy one of the options in Table J1.5a or Table J1.5b except as specified in Clause J1.5. Refer to Appendix F for required minimum R-Values and other requirements. The general minimum Total R-Value applicable to the serviced apartments and residential units is 1.4. The general minimum Total R-Value applicable to the retail and gymnasium portions is 1.8.
NSW J1.6	Floors	Not Applicable	
J2.1	Application of Part	Applicable	
J2.2	Applicable glazing provisions	Applicable	Glazing of a building must be designed and installed, as appropriate, in accordance with: - J2.3 for Class 3 buildings, - J2.3 or J2.4 for a Class 6 building with a total floor area of not more than 500m². - J2.4 for a Class 6 building with a floor area more than 500m² and a Class 5, 7, 8, 9a and 9b building.
J2.3	Glazing – Method 1	Not Specified	The glazing in each storey of a sole occupancy unit, public space or other occupied space must be assessed separately in accordance with Clause J2.3(b) and (c). The glazing calculator for Method 1 must be completed and submitted with the Construction Certificate application as evidence of compliance.

Clause	Description	Status	Comments
J2.4	Glazing – Method 2	Not Specified	The glazing in each storey of a building and facing each orientation must be assessed separately in accordance with Clause J2.4(b) and (c). The glazing calculator for Method 2 must be completed and submitted with the Construction Certificate application as evidence of compliance.
J2.5	Shading	Not Specified	Where shading is required to comply with Clause J2.3 or J2.4, it must; a) be provided by a permanent projection, such as a verandah, balcony, fixed canopy, eaves or shading hood which i. extends horizontally on both sides of the glazing for the same projection distance P in figure J2.4 of the BCA, or ii. provides the equivalent shading to that above with a reveal or the like, or b) be provided an external shading device such as a blind, vertical or horizontal building screen with blades, battens or slats, which i. is capable of restricting at least 80% of summer solar radiation, and ii. is adjustable.
NSW J3.1	Application of Part	Applicable	Applies to elements forming the envelope of a Class 3, and Class 5 to 9 building other than as specified.
J3.2	Chimneys and flues	Not Applicable	
J3.3	Roof lights	Not Applicable	
J3.4	Windows and doors	Not Specified	A seal to restrict air infiltration must be fitted to each edge of an external door, openable external window or the like when serving a conditioned space.
J3.5	Exhaust fans	Not Specified	A miscellaneous exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a conditioned space.
J3.6	Construction of roofs, walls and floors	Not Specified	Roofs, walls, floors and any opening must be constructed to minimise air leakage in accordance with Clause J3.6(b) when forming part of the external fabric of a conditioned space. These requirements do not apply to openings, grilles and the like required for smoke hazard management.
J3.7	Evaporative coolers	Not Applicable	
J4.1	Application of Part	Not Applicable	Not Applicable in NSW.
J5.1	-	-	No Provisions
J5.2	Air conditioning and ventilating systems	Not Specified	An air-conditioning unit or system must comply with the requirements of Clause J5.2 and Specification J5.2. A design certificate will be required by a qualified mechanical engineer prior to the issue of a Construction Certificate.

Clause	Description	Status	Comments
J5.3	Time switch	Not Specified	A time switch in accordance with Specification J6 must be provided to control: - an air-conditioning system of more than 10kW_r, or - a ventilation system with an air flow rate or more than 1000L/s, or - a heating systems of more than 10kW_{heating}.
J5.4	Heating and chilling systems	Not Specified	Systems that provide heating or chilling for air-conditioning systems must comply with Clause J5.4 and Specification J5.4.
J5.5	Miscellaneous exhaust systems	Not Specified	A miscellaneous exhaust system with an air flow rate of more than 1000L/s that is associated with equipment having a variable demand such as a stove in a commercial kitchen must have the means for the operator to reduce the energy used or stop the motor when the system is not needed. It must be designed to minimise exhausting of air conditioning. A design certificate will be required by a qualified mechanical engineer prior to the issue of a Construction Certificate.
J6.1	Application of Part	Applicable	
J6.2	Interior artificial lighting	Not Specified	The artificial lighting in the building must not exceed the maximum lamp power density as follows, or in a bathroom, dressing room or the like, provide an average artificial light source efficacy not less than 40 Lumens/W. The maximum illumination power density required are as follows: - Carpark – general 3 W/m² - Carpark – entry (first 20 m of travel) 25 W/m² - Circulation space and corridor 6 W/m² - Control room, switch room and the like 10 W/m² - Entry lobby 15 W/m² - Kitchen & food preparation area 8 W/m² - Plant room 5 W/m² - Public toilet 5 W/m² - Restaurant, café 20 W/m² - Retail space 25 W/m² - Storage with shelving no higher than 75% of the height of the aisle lighting 10 W/m² - Storage with shelving higher than 75% of the height of the aisle lighting 8 W/m² - Within a Class 3 sole-occupancy unit 10 W/m² - Within public corridors, stairways & the like 3 W/m² - Employees' work areas 10 W/m²
J6.3	Interior artificial lighting and power control	Not Specified	The power control for artificial interior lighting is to comply with the requirements of Clause J6.3. A design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.

Clause	Description	Status	Comments
J6.4	Interior decorative and display lighting	Not Specified	Interior decorative and display lighting, such as for foyer mural or art displays, must be controlled as specified in Clause J6.4. A design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
J6.5	Artificial lighting around the perimeter of a building	Not Specified	Artificial lighting around the perimeter of a building must be controlled as specified in Clause J6.5. A design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
J6.6	Boiling water and chilled water storage units	Not Specified	Power supply to a boiling water or chilled water storage unit must be controlled by a time switch in accordance with Specification J6.
J7.1	-	-	No provisions
J7.2	Hot water supply	Not Specified	A hot water supply system for food preparation and sanitary purposes, other than a solar hot water supply system in climate zones 1, 2 and 3 must be designed and installed in accordance with Section 8 of AS/NZS 3500.4. A design certificate will be required by a qualified hydraulic engineer prior to the issue of a Construction Certificate.
J8.1	Application of Part	Applicable	
NSW J8.2	Access for maintenance	Not Specified	Access to service must be provided to all services and their components.

14. APPENDIX C – REFERENCED DOCUMENTATION

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

<i>Drawing No.</i>	<i>Title</i>	<i>Issue</i>	<i>Date</i>	<i>Drawn By</i>
A2-201	General Arrangement Level 002 (3)	3	23.2.10	Bates Smart
A2-202	General Arrangement Level 002	3	23.2.10	Bates Smart
A2-203	General Arrangement Level 001	3	23.2.10	Bates Smart
A2-204	General Arrangement Level 000	3	23.2.10	Bates Smart
A2-205	General Arrangement Level 00	3	23.2.10	Bates Smart
A2-206	General Arrangement Level 01	3	23.2.10	Bates Smart
A2-207	General Arrangement Level 02	3	23.2.10	Bates Smart
A2-208	General Arrangement Level 03	3	23.2.10	Bates Smart
A2-209	General Arrangement Level 04	3	23.2.10	Bates Smart
A2-210	General Arrangement Level 05	3	23.2.10	Bates Smart
A2-211	General Arrangement Level 06	3	23.2.10	Bates Smart
A2-212	General Arrangement Level 07	3	23.2.10	Bates Smart
A5-101	North West Elevation	3	23.2.10	Bates Smart
DA-5-02	South East Elevation	3	23.2.10	Bates Smart

15. APPENDIX D – CONSTRUCTION DETAILS

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, 9 or 7a	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is-				
For loadbearing parts-				
less than 1.5m	90/ 90/ 90	120/ 120/ 120	180/ 180/ 180	240/ 240/ 240
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/ 180/ 120	240/ 240/ 180
3 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, where the distance from any fire-source feature to which it is exposed is-				
less than 3 m	90/ --/ --	120/ --/ --	180/ --/ --	240/ --/ --
3 m or more	--/ --/ --	--/ --/ --	--/ --/ --	--/ --/ --
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

16. APPENDIX E – OPTIONS FOR SMOKE HAZARD MANAGEMENT

Requirements and options are set out in the table below:

<i>Position</i>	<i>Space</i>	<i>Class</i>	<i>Requirement</i>
Basements 03, 02, 01	Carpark	7a	E1.5 – Sprinkler system complying with Specification E1.5; E2.2a – Mechanical ventilation to comply with Clause 5.5 of AS/NZS 1668.1; E2.2a – Automatic air pressurisation system to the fire-isolated stair in accordance with AS/NZS 1668.1.
<u>Lower Ground Floor</u>	Retail	6	E2.2a – Automatic smoke detection and alarm system complying with E2.2a.
	Retail supermarket	6	E2.2b – For compartments greater than 2000m ² , provide an automatic smoke exhaust system complying with Spec E2.2b. See further comments under Clause E2.2.
<u>Ground Floor</u>	Retail / restaurant	6	E2.2a – Provide automatic smoke detection and alarm system complying with Spec E2.2a.
	Restaurant POPE	9b POPE	E2.2b – Automatic shutdown of air handling systems.
	Gymnasium	9b	E2.2b – Automatic shutdown of air handling systems.
	Residential / Hotel	2, 3	E2.2a – Automatic fire detection and alarm system complying with Specification E2.2a.

17. APPENDIX F – ENERGY EFFICIENCY R-VALUES

ROOFS AND CEILINGS - MINIMUM TOTAL R-VALUE (Table J1.3)

Climate zone	1	2		3	4	5	6	7	8
		Below 300 m altitude	At or above 300 m altitude						
(a) Class 2 or 3 building, Class 4 part of a building or Class 9c <i>aged care building</i>									
Minimum <u>Total R-Value</u> for a roof or ceiling generally	2.2	2.2	2.5	2.2	3.0	2.7	3.2	3.8	4.3
Minimum <u>Total R-Value</u> for a ceiling below a non- <u>conditioned space</u> such as a plant room, lift machinery room, store room or the like	1.1	1.1	1.25	1.1	1.5	1.35	1.6	1.9	2.15
Direction of heat flow	Downwards		Downwards and upwards		Upwards				
(b) Class 5, 6, 7, 8, 9a or 9b building									
Minimum <u>Total R-Value</u> for a roof or ceiling generally	3.2			3.2					4.3
Minimum <u>Total R-Value</u> for a ceiling below a non- <u>conditioned space</u> such as a plant room, lift machinery room, store room or the like	1.6			1.6					2.15
Direction of heat flow	Downwards			Upwards					
Note: Altitude means the height of the highest part of the roof above the Australian Height Datum									

OPTIONS FOR EACH PART OF AN EXTERNAL WALL OF A CLASS 2 OR 3 BUILDING, CLASS 4 PART OF A BUILDING OR CLASS 9C AGED CARE BUILDING (Table J1.5a)

Climate zone	Options	
1, 2 and 3	(a)	Achieve a minimum <u>Total R-Value</u> of 1.4.
	(b)	Shade the <u>external wall</u> of the <u>storey</u> with a verandah, balcony, eaves, overhang, carport or the like which projects at a minimum angle of 15 degrees in accordance with <u>Figure J1.5</u> .
4	(a)	Achieve a minimum <u>Total R-Value</u> of 1.7.
	(b)	Achieve a surface density of not less than 220 kg/m ² .
5	(a)	Achieve a minimum <u>Total R-Value</u> of 1.4.
	(b)	Achieve a surface density of not less than 220 kg/m ² .
6	(a)	Achieve a minimum <u>Total R-Value</u> of 1.7.
	(b)	(i) Achieve a surface density of not less than 220 kg/m ² ; and
		(ii) the <u>storey</u> be constructed on a flooring system that is in direct contact with the ground, such as a concrete slab-on-ground or the like.
	(c)	(i) Achieve a surface density of not less than 220 kg/m ² ; and
		(ii) incorporate insulation with an <u>R-Value</u> of not less than 1.0.
7	(a)	Achieve a minimum <u>Total R-Value</u> of 1.9.
	(b)	(i) Achieve a surface density of not less than 220 kg/m ² ; and
		(ii) incorporate insulation with an <u>R-Value</u> of not less than 1.0.

8	Achieve a minimum <u>Total R-Value</u> of 2.8.
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OPTIONS FOR EACH PART OF AN EXTERNAL WALL OF A CLASS 5, 6, 7, 8, 9a AND 9b BUILDING (Table J1.5b)

Climate zone	Options
1, 3, 4 and 6	(a) Achieve a minimum <u>Total R-Value</u> of 1.8.
	(b) (i) Achieve a surface density of not less than 220 kg/m ² ; and
	(ii) incorporate a cavity of 20 mm to 35 mm; and
	(iii) shade the <u>external wall</u> of the <u>storey</u> with a verandah, balcony, eaves, overhang, covered <u>carpark</u> , carport or the like which projects at a minimum angle of 15 degrees in accordance with <u>Figure J1.5</u> ; and
	(iv) incorporate insulation with an <u>R-Value</u> of not less than 1.0.
	(c) (i) Achieve a surface density of not less than 220 kg/m ² with masonry that has a thermal conductivity of less than 0.8; and
	(ii) incorporate a cavity of 20 mm to 35 mm; and
	(iii) incorporate insulation with an <u>R-Value</u> of not less than 1.0.
	(d) (i) Achieve a surface density of not less than 220 kg/m ² with masonry that has a thermal conductivity of less than 0.8; and
	(ii) shade the <u>external wall</u> of the <u>storey</u> with a verandah, balcony, eaves, overhang, covered <u>carpark</u> , carport or the like which projects at a minimum angle of 30 degrees in accordance with <u>Figure J1.5</u> ; and
	(iii) incorporate insulation with an <u>R-Value</u> of not less than 0.5.
	(e) For an <u>external wall</u> where the only space for insulation is provided by a furring channel—
	(i) achieve a minimum <u>Total R-Value</u> of 1.4; and
	(ii) satisfy <u>glazing</u> energy index option B of <u>Table J2.4a</u> .
2 and 5	(a) Achieve a minimum <u>Total R-Value</u> of 1.8.
	(b) (i) Achieve a surface density of not less than 220 kg/m ² with masonry that has a thermal conductivity of less than 0.8; and
	(ii) shade the <u>external wall</u> of the <u>storey</u> with a verandah, balcony, eaves, overhang, covered <u>carpark</u> , carport or the like which projects at a minimum angle of 30 degrees in accordance with <u>Figure J1.5</u> .
	(c) (i) Achieve a surface density of not less than 220 kg/m ² ; and
	(ii) incorporate a cavity of 20 mm to 35 mm; and
	(iii) shade the <u>external wall</u> of the <u>storey</u> with a verandah, balcony, eaves, overhang, covered <u>carpark</u> , carport or the like which projects at a minimum angle of 15 degrees in accordance with <u>Figure J1.5</u> ; and
	(iv) incorporate insulation with an <u>R-Value</u> of not less than 0.5.
	(d) (i) Achieve a surface density of not less than 220 kg/m ² with masonry that has a thermal conductivity of less than 0.8; and
	(ii) incorporate a cavity of 20 mm to 35 mm; and
	(iii) incorporate insulation with an <u>R-Value</u> of not less than 0.5.
	(e) For an <u>external wall</u> where the only space for insulation is provided by a furring channel—
	(i) achieve a minimum <u>Total R-Value</u> of 1.4; and
	(ii) satisfy <u>glazing</u> energy index option B of <u>Table J2.4a</u> .
7	(a) Achieve a minimum <u>Total R-Value</u> of 1.8.
	(b) (i) Achieve a surface density of not less than 220 kg/m ² ; and

OPTIONS FOR EACH PART OF AN EXTERNAL WALL OF A CLASS 5, 6, 7, 8, 9a AND 9b BUILDING (Table J1.5b)

		(ii)	incorporate a cavity of 20 mm to 35 mm; and
		(iii)	shade the <u>external wall</u> of the <u>storey</u> with a verandah, balcony, eaves, overhang, covered <u>carpark</u> , carport or the like which projects at a minimum angle of 15 degrees in accordance with <u>Figure J1.5</u> ; and
		(iv)	incorporate insulation with an <u>R-Value</u> of not less than 1.0.
	(c)	(i)	Achieve a surface density of not less than 220 kg/m ² with masonry that has a thermal conductivity of less than 0.8; and
		(ii)	incorporate a cavity of 20 mm to 35 mm; and
		(iii)	incorporate insulation with an <u>R-Value</u> of not less than 1.0.
	(d)		For an <u>external wall</u> where the only space for insulation is provided by a furring channel—
		(i)	achieve a minimum <u>Total R-Value</u> of 1.4; and
		(ii)	satisfy <u>glazing</u> energy index option B of <u>Table J2.4a</u> .
8	Achieve a minimum <u>Total R-Value</u> of 2.8.		

SUSPENDED FLOOR WITH AN UNENCLOSED PERIMETER - MINIMUM TOTAL R-VALUE (Table J1.6)

Class of building	Climate zone								
	1	2		3	4	5	6	7	8
		Below 300 m altitude	At or above 300 m altitude						
2, 3, 4 and 9c <u>aged care building</u>	Nil	Nil	Nil	Nil	Nil	Nil	1.0	1.0	2.5
5, 6, 7, 8, 9a and 9b	1.5	Nil	Nil	1.5	1.5	Nil	1.5	2.5	
Direction of heat flow	Upwards		Downwards and upwards			Downwards			
Note: Altitude means the height, above the Australian Height Datum, of the location where the building is to be constructed.									

CLASS 3 BUILDINGS - SUSPENDED FLOOR FORMING PART OF BUILDING ENVELOPE - MINIMUM TOTAL R-VALUE (NSW Table J1.6)

Class 3 buildings	Climate Zone			
	4	6	7	8
Unenclosed perimeter	0.9	0.9	0.9	2.5
Enclosed perimeter	0.9	0.9	0.9	1.5
Direction of heat flow	Downwards			

18. APPENDIX G – STATUTORY FIRE SAFETY MEASURES

Schedule of Statutory Fire Safety Measures

Measure	Standard of Performance
Access panels, doors and hoppers to fire resisting shafts	BCA2008 Clause C3.13 and tested prototypes (AS 1530.4 – 2005)
Automatic fail safe devices	Scheduled devices release upon trip of fire detection in accordance with BCA2008 Clause D2.21.
Automatic fire detection and alarm system (<i>smoke detection system</i>)	BCA2008 Specification E2.2a and AS 1670.1 – 2004
Automatic fire detection and alarm system (<i>smoke alarm system</i>)	BCA2008 Specification E2.2a and AS 3786 – 1993
Automatic fire detection and alarm system (<i>smoke detection system to operate stair pressurisation system</i>)	BCA2008 Clause 5 of Specification E2.2a and AS/NZS 1668.1 – 1998 and AS 1670.1 - 2004
Automatic fire suppression systems (<i>Sprinklers</i>)(<i>Carpark only</i>)	BCA2008 Specification E1.5 and AS 2118.1 – 1999
Emergency lighting	BCA2008 Clause E4.2, E4.4 and AS 2293.1 – 2005
Exit signs	BCA2008 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS 2293.1 – 2005
Fire dampers	BCA2008 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire doors	BCA2008 Specification C3.4 and AS 1905.1 – 2005
Fire hydrants systems	BCA2008 Clause E1.3 and AS 2419.1 – 2005
Fire seals protecting opening in fire resisting components of the building	BCA2008 Clause C3.15, Specification C3.15 and AS 1530.4 – 2005 and AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Hose reel system	BCA2008 Clause E1.4 and AS 2441 – 2005
Lightweight construction	BCA2008 Specifications C1.8, Clause A2.3 and AS 1530.4-2005
Mechanical air handling system (<i>automatic shut down of air-handling system</i>)	BCA2008 Clause E2.2 and AS/NZ 1668.1-1998
Mechanical air handling system (<i>automatic air pressurisation system</i>)	BCA2008 Table E2.2a and AS/NZ 1668.1-1998
Mechanical air handling system (<i>carpark mechanical ventilation system</i>)	BCA2008 Table E2.2a and Clause 5.5 of AS/NZ 1668.1-1998 and 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
Portable fire extinguishers	BCA2008 Clause E1.6 and AS 2444 – 2001
Smoke doors	BCA2008 Specifications C2.5 and C3.4
Wall wetting sprinkler and drencher systems	BCA2008 Clause C3.4

Measure	Standard of Performance
Warning and operational signs	BCA2008 Clauses D2.23, E3.3, and Specifications E1.8

Note that the fire safety schedule may need to be amended subject to the inclusion of a fire engineered alternative solution.