GROUPDLA

Building Code of Australia 2022 Report

Report for BCA Compliance – Rev H

PROJECT NAME: The Maltings Mittagong (Building M3+M4)
PROJECT NUMBER: **GDL190311**
DATE: **27/02/2024**

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REVISION HISTORY

Revision	Date	Details	Authorised	
			Name/Position	Signature
A	27.08.2019	For Tender	Prepared: Shane Berry Technical Director	
			Reviewed: Brett Clabburn Director	
B	25.10.2019	Executive Summary update	Prepared: Shane Berry Technical Director	
			Reviewed: Brett Clabburn Director	
C	25.10.2019	Executive Summary update – further update	Prepared: Shane Berry Technical Director	
			Reviewed: Brett Clabburn Director	
D	17.02.2020	Review updated SD Plans dated 03.02.2020	Prepared: Shane Berry Technical Director	
			Reviewed: Brett Clabburn Director	
E	19.02.2020	Review updated SD Plans dated 03.02.2020 – further update	Prepared: Shane Berry Technical Director	
			Reviewed: Brett Clabburn Director	
F	27.04.2020	Review for DA Submission Plans	Prepared: Shane Berry Technical Director	
			Reviewed: Justin Jones-Gardiner Director	
G	22.12.2023	Review for plan design change and DA submission	Prepared: Andrew Beames Building Regulations Consultant	
			Reviewed: Shane Berry Technical Director	
H	27.02.2024	Review for plan design change and S4.55 Submission	Prepared: Andrew Beames Building Regulations Consultant	
			Reviewed: Shane Berry Technical Director	

Table 1 - Revision History

1.0 EXECUTIVE SUMMARY

The report is for the assessment of the proposed development of the existing heritage listed Mittagong Maltings. The aim is to assess compliance with the Building Code of Australia 2022 ("BCA").

The information submitted at this stage of the design is not considered to be detailed to the extent where the development of a comprehensive BCA report is achievable and therefore this report is preliminary only.

The following items have been noted as items of interest at this stage of the review. The items have been considered non-compliant and require further review against the detailed design, or may be able to be justified as a Performance Solution:

However, it is important to note that the items identified will NOT have an impact on the DA planning submission approval and therefore these noted items can be resolved at the Detailed Design Stage, prior to the issuance of the Construction Certificate. Before the DA planning submission, The Architect is to consider Table 2 & 3 below and review any implications some design changes may have (such as windows and natural lighting).

	DTS non-compliant items requiring further consideration by the design team.
	DTS non-compliant items that have been resolved in principle, however, require final close out at a later stage, i.e., finalisation of the Fire Engineered Report, DDA Access Performance Solution Report, etc.
	Previous item CLOSED OUT

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
Part C Fire Resistance				
C1	**Fire Ratings Omissions and Shortfalls** Item Closed – New structure proposed inside the existing structure.			
C2	**Lightweight Fire Rating – Columns** Item Closed – New structure proposed inside the existing structure. No Steel or Timber columns proposed.			

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
C3	**Combustible Façade Items** The following building elements are deemed combustible: a) The existing timber battens are combustible in lieu of being deemed NOT combustible. b) Timber doors & windows in the external façade. c) Other – Awaiting external wall details and proposed wall type drawings.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	C2D10, C2D14 [C1.9, C1.14]	C1P2
C4	**Oversized Compartment** The size of the fire compartment is potentially oversized, i.e., greater than 8,000 m^2 and / or 48,000 m^3. The floor area of the entire building is approximately 8,300 m^2, however it is unknown where fire separation is provided.	Pending the close out of Item A of Table 3, the Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	C3D3 [C2.2]	C1P2, E2P2
C5	**Separation of Lift & Stair Shafts** The lifts and Central Hotel stairway are required to be fire separated; however, they currently share the same shaft.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	C3D11, C3D12 [C2.10, C2.11]	C1P2
C6	**Residential Public Corridors – Smoke Separation** Smoke separation is required where a residential (Class 3) corridor is greater than 40m in length. There is currently no smoke separation to the public corridors.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	C3D15 [C2.14]	C1P4, E2P2
C7	**Bounding Construction – Hotel Portion** The following non-compliances have been identified: a) No bounding construction (fire separation) is shown between the Class 3 hotel portion and the remainder of the building.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	C2D2, C4D12 [C1.2, C3.11]	C1P2

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
C8	**Sealing Service Penetrations** Item Closed – There are no Fire Engineered FRLs proposed at this stage of design. Close out of Item A of Table 3 is required to confirm.			
Part D – Access & Egress				
D1	**Basement Exits** Only one exit from the basement has been provided in lieu of not less than two (2). Two (2) exits are required due to the vertical egress rise to the level of discharge is more than 1.5 m, and the floor area of the basement is greater than 50m^2.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	D2D3 [D1.2]	D1P4
D2	**Central Hotel Exit Stair (Stair 5)** The Central Residential exit stair is required to be a fire-isolated stairway and contains the following non-compliances: a) The Central Hotel exit stair is not contained in a fire rated shaft. It connects more than three (3) storeys in a building that is provided with sprinklers throughout and is therefore required to be fire-isolated from the remainder of the building. It has been proposed to keep this stair open or non-fire isolated. b) Travel from the stair to a road required passing by unprotected openings (less than 60 min FRL for a height of 3 m above the path of travel) within 6 m of the building (including under the bridge – awaiting assessment of Item B(5) + (6) of Table 3 below). c) Discharges internally in lieu of open space. d) Contains rising and descending design to the basement level, i.e., not smoke separated at ground level. e) Sliding door is used to enter the stairway on basement level.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024. **Note that the Fire Safety Engineer has suggested that the Architect change the basement sliding door with a swinging door.** *The Fire Safety Engineer is to confirm the assessment method for this stair. For example, will the stairway be assessed as a fire-isolated stairway (D2D12) or a non-fire-isolated stairway (D2D15) under the performance solution. Further assessment by Group DLA is required once we receive confirmation (travel distance, discharge inside the building etc may change). So far, the Central Stair has been treated as if it was Fire-Isolated for the purposes of Travel Distance.*	D2D4, D2D12, D3D5, D3D24 [D1.3, D1.7, D2.4, D2.19]	D1P4, D1P5, EP2.2

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
D3	**Travel Distances to Exits – Excessive** Extended travel distance DTS non-compliance as outlined in Table 9. Refer Appendix C for Travel Distance & Exit Plan Markup. *Important Note: In the absence of furniture layouts the assessment is considered to be incomplete.*	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024. The following extended travel distances have been accepted: 1. Basement – 30m to a point of choice. 2. L2 – 24m to a point of choice. 3. L3 – 27m to a point of choice. 4. L4 – 30m to a point of choice.	D2D5, D2D6, D2D14 [D1.4, D1.5, D1.9]	D1P4, E2P2
D4	**Path of Travel Widths – Undersized** The following non-compliances have been identified: a) Paths of travel to exits are illustrated at less than 1 m in the following areas: a. Pool plant room. b. Basement storerooms and meter room. c. Other – TBC. b) There is insufficient egress width for the proposed population on Level 3 and 4.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	D2D8 [D1.6]	D1P6
D5	**Fire Isolated Exits – Doorways Opening Issue** Item Closed – Design Change.			
D6	**Discharge from Fire-Isolated Stairways – Protection** Occupants that discharge from stair 1, 4 and 6 pass unprotected openings (less than 60 min FRL for a height of 3 m above the path of travel) within 6 m of the building.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	D2D12, C4D5 [D1.7, C3.4]	D1P5

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
D7	**Travel via Fire-Isolated Stairways – Discharge Location** Stair 1 is required to be fire isolated as it passes by four (4) storeys. However, the stair does not meet the discharge requirements of D2D12(2) where it discharges on L02.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	D2D12 [D1.7]	D1P4, D1P5, E2P2
D8	**Non-Fire Isolated Required Exit Stair – Discharge** A non-fire-isolated stairway serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided (Ground Floor). The non-fire isolated required exit stair (stair 7) discharges on Level 3 in lieu of within 20 m of an external exit door on Ground Level.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	D2D14 [D1.9]	D1P4, E2P2
D9	**Door Latching in Fire Mode – Not to Fail Safe Unlock** The BCA requires all locked doors that are not openable without a key in the direction of egress to failsafe unlock/ unlatch on general fire trip. It is understood that this may not be desirable for security reasons to certain doors.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	D3D26 [D2.21]	D1P2
D10	**Operation of a Latch** Panic bars are required to the Class 9b portions that accommodate more than 100 occupants, however, there are several required exit doors (or doors in a path of travel) that are proposed to be sliding doors OR they swing against the direction of egress. This combination of door operation and hardware will not work.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	D3D26 [D2.21]	D1P2

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
D11	**DDA Access – Non-Compliances** A number of access related non-compliance and suggested improvements have been noted within the current GDLA Access Report, as updated from time to time.	Refer Group DLA Access Report.	Part D4 [Part D3]	D1P1 D1P2
Part E – Services & Equipment				
E1	**Fire Hydrant System - Location** Site/ Building fire booster – location to be confirmed, however it is expected NOT to be able to achieve full technical compliance in that it cannot be located at the main entry to site, within 20 m of the various buildings principal pedestrian entrances and be within sight of the individual building entries, all at once.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	E1D2 [E1.3]	E1P3
E2	**Hydrant Landing Valves – Locations** Certain fire hydrants will not be located in fire isolated stairs, rather Fire Engineered stairs. These items are to be considered by the fire Safety Engineer for the feasibility of Performance Solutions.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	E1D2 [E1.3]	E1P3
E3	**Fire Hose Reel System – Omission** Potential Performance Solution pending Fire Safety Engineer review - Fire hose reel coverage shall be omitted throughout the building, with additional portable fire extinguishers being provided in lieu.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.	E1D3 [E1.4]	E1P1

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
Part F – Health and Amenity				
F1	**External Weatherproofing** The proposed external wall materials may not be listed in the BCA as compliant materials for weatherproofing. Further details are required. *Please note that BCA 2022 may permit wall cladding such as masonry, concrete, metal clad as DtS compliant as currently identified within BCA 2022.*	Step 1 – Provide a copy of the required Performance Based Design Brief (PBDB) from the façade engineer for stakeholder review. *Ref: BCA Clause A2G2(4)(a)* Step 2 – Provide a justifiable Final Performance Solution from the Façade Engineer.	F3D5	F3P1
F2	**Acoustic Rating of Lift into an SOU** Item Closed – Lift now opens into a common lobby.			
F3	**Natural Lighting** Item Closed – The Architect has confirmed compliance has been achieved. Awaiting calculations for assessment and confirmation.			
Part G – Ancillary Provisions				
G1	**Atrium Provisions** The hotel and silo void form an atrium in the building. Compliance with BCA Part G3 provisions are required, however, the project may warrant consideration to omit of some of these provisions, TBC pending Fire Engineer review. For example: a) Fire rated Bounding Construction TBC. b) The dimension of the atrium well is illustrated at less than 6 m in diameter. c) Certain Specification sprinkler provision relaxations. d) Relaxations to the fire and smoke control systems – actual TBC by the Fire Safety Engineer; and e) Relaxations to the fire detection and alarm systems – actual TBC by the Fire Safety Engineer; and f) Other – TBC.	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024. Note that the Fire Safety Engineer has not confirmed items will be assessed, such as: 1. G3D4 bounding construction details. 2. G3D2 dimension of the atrium to be minimum 6m diameter. 3. G3D6 sprinkler system to the silo roof. 4. G3D7 a minimum of 2 exits are not provided from within the atrium. It has been assumed that these items will be addressed at the next stage of design, following the development application.	Part G3, Spec 31 [Part G3]	C1P1, C1P2, E1P4, E2P2

Item	Query or DTS Non- Compliance	Suggested Resolution	BCA Clause	BCA Performance Requirements
Part J – Energy Efficiency				
J1	**Section J Compliance issues** The following high-level Section J Compliance issues have been noted: a) Unsealed openings in the building envelope are required to be self-closing and contain air-infiltration seals (adjacent the pool for example). b) Insulation concerns with regards to existing walls. c) Openings without glazing or sealing and nil envelope insulation. d) Hold open doors and semi-open spaces v's conditioned space and sealing of openings / doors with self-closing requirements. e) The L05 guest suite and bathroom skylight shall be confirmed as being 5% or less of the floor area of the room it serves. The L05 floor plan and the roof plan show something different. f) The L04 skylight is more than 5% of the floor area of Lounge 2.	Further assessment by the ESD Consultant required. It is expected that a Performance Solution Report will be issued pending the building envelope and conditioned space. It is assumed that in order to comply with J1P1, modelling will be required. ESD Consultant is to confirm which Verification Method will be applied.	Part J	J1P1, Other TBC

Table 2 - DtS Non-compliance Summary

Note: The above summary is not an exhaustive list of all non-compliances for the development. The report in its entirety needs to be reviewed by the design team to obtain an understanding of all BCA related matters.

1.1 Additional Information required for further assessment

In order for Group DLA to confirm the design complies with the BCA, the following items listed in Table 3 below are required to be clarified, submitted, illustrated, etc. as the case may be.

However, it is important to note that the items identified will NOT have an impact on the DA planning submission approval and therefore these noted items can be resolved at the Detailed Design Stage, prior to the issuance of the Construction Certificate. Before the DA planning submission, The Architect is to consider Table 2 & 3 below and review any implications some design changes may have (such as windows and natural lighting).

Item No.	Item	Comment	BCA Clause
00	Use of the Building *(Entertainment Venue, Sporting Complex, etc.)*	The client is to confirm in writing the use of the building so the BCA report can be updated as necessary, i.e., is it to be used for functions, weddings, school tours, public access to the gallery etc. The following use should be considered carefully by the design team, as it would have a big impact on the design of the building: **Entertainment Venue** The use of the building was discussed early on in the design phase. GDLA have been advised that the building will not be used as an *entertainment venue*. The client and end user are to confirm in writing that this is the case, as additional requirements will apply should the building be used as an entertainment venue: ***Entertainment venue** means a building used as a cinema, theatre or concert hall or an indoor sports stadium.*	Environmental Planning and Assessment Regulation 2021 + BCA NSW E2D19
A	Final Fire Compartmentation Plans, Volumes and Floor areas (consistent with FER)	The colour-coded fire rating plans are required to be developed by the architect and are to include the following items to assist with our BCA reviews: 1) The BCA defined exits as noted within Appendix C. 2) 1:10, 1:20 detail of the fire rated wall construction to external wall junctions – Typical. 3) Please number each stair shaft. 4) To include fire rating of walls, columns, floor/ ceiling slabs/ shafts, fire stairs/ passageways, etc. This is to include the existing FRLs. Workshop required with Fire Safety Engineer. 5) The following measurements, as noted in Table 5 below: a. Max fire compartment area; and b. Max fire compartment volume; and	Part C

Item No.	Item	Comment	BCA Clause
		c. Max building floor area; and d. Max building volume. 6) Electrical engineer to confirm that there no rooms required to be fire rated due to Clause C3D13 type battery's or nominate such rooms. If required, architect to update plans. 7) All fire separated services type rooms such as (confirm is proposed or not): a. Lift motors and control panels b. Emergency generators used to sustain equipment in emergency mode c. Smoke control plant d. Boilers e. Battery systems – Assumed no battery systems (please confirm) f. Electrical Sub-stations g. Main switchboard which operates equipment in emergency mode (TBC) 8) Lift services consultant to confirm penetrations between LMR and Lift Shaft can be adequately fire sealed in accordance with C4D15 [C3.15]. 9) Design team to confirm there are no additional requirements under E1D17 such as any proposed solar panels on the roof areas of each building. Refer E1D17 below for FRNSW requirements for solar panel installations. 10) Architect to confirm the Classification and use of each portion of each building – Refer to Appendix F. 11) Architect, GDLA and Fire Safety Engineer to review the compartmentation (if any). This may affect smoke exhaust, roof light and other requirements throughout the building. 12) Provide fire rating details / sections for Stair 1. Note: Upon review of the fire compartmentation and FRL plans it is expected that a number of further non-compliances will be identified, due to the complex nature of the existing portion of the timber building – TBC.	
B	Egress assessment – completed at high level only	The following items need to be updated in the architectural documentation:	Part D2 and D3

Item No.	Item	Comment	BCA Clause
		1) Partition and furniture layout to areas such as the BOH, galleries, plant rooms and gym will need to be completed before the travel distance and egress assessment can be absolute. 2) The Class 9b portions with more than 50 persons require a minimum of 2 exits. This may also be an issue on levels such as Ground, where certain areas of the building could be inaccessible pending what doors are open / closed and what galleries are being used. If any galleries are proposed to be inaccessible at certain times, then travel distance and egress widths would need to be reassessed. Please confirm if this is the case, or if there are any other portions of the building that may be inaccessible or locked off from the public. 3) At the time of this report, there are sliding doors (surrounding the lift core on Ground Floor) that are proposed to be locked after hours. Confirmation is required that these doors will fail-safe open on fire trip. If not, further assessment would be required, as travel distance would not comply without the use of these doors which lead to additional exits. 4) Show paths from each final exit door to the public road. Gradients, handrails, tactiles, steps etc are to be shown on the plan for further assessment. 5) Provide confirmation on whether occupants egressing the eastern exit from the ground floor lobby can travel past the SOUs, or whether occupants are required to travel under the proposed bridge. Note that an additional Fire Safety Engineering performance solution may be required where occupants are required to travel back under the building / bridge. Further discussion is required between the Fire Safety Engineer, GDLA and the Architect. **6) <u>Bridge – United Building</u>** Further discussion between Group DLA, Fire Safety Engineer and the Architect is required to determine any non-compliances (if any) associated with the bridge connection. For example, it is currently unclear how the bridge will be connected to the proposed buildings on either end - the bridge can be considered as follows in accordance with BCA Clause A7G1: a. Bridge, Galley and Carpark could be considered as a single building; however, the Bridge and Carpark would need to be Type A Construction.	

Item No.	Item	Comment	BCA Clause
		b. The Bridge and the Gallery could be considered as single building that is fire separated from the Carpark, however extended travel distance would need to be assessed by the Fire Safety Engineer (if feasible). c. The Bridge and the Carpark could be considered as a single building that is fire separated from the Gallery, however extended travel distance would need to be assessed by the Fire Safety Engineer (if feasible). Note that the Carpark + Bridge could potentially be Type C Construction if it was fire separated from the Gallery – further assessment required once sections and elevations are available. d. The Bridge, Carpark and Gallery could all be considered separate buildings; however, fire serration and egress provisions would not comply. The Bridge would also need a separate access stairway for escape. Please note that additional Performance Solutions may be required once further details are provided of the bridge and the proposed separation is determined. Note that the Structural Engineer will need to be involved as the bridge cannot be supported off a section of a building in which it is not associated with. It is suggested that compartmentation and fire rating plans are provided in the first instance for assessment by GDLA. 7) Provide details of the non-trafficable areas of Ground Floor where the existing openings are proposed to be used for maintenance staff in the case of an emergency.	
C	Architectural Drawings	The following items need to be updated in the architectural documentation: 1) RCPs and sections required to determine the clear floor to ceiling heights throughout, or dimensioned sections. The Class 9b portions with more than 100 persons accommodating require not less than 2.7 m, 2.4 in all other cases. 2) Provide tolerance to each stair, riser, going, landing, handrail, egress path etc for onsite buildability. 3) A minimum 1 m clear pathway shall be shown on the architectural drawings connecting each exit from the building to the carpark/ public road (ref: D2D15).	Various

Item No.	Item	Comment	BCA Clause
		4) The Architect is to highlight any areas that are proposed to provide less than 1m clear width. 5) Furniture / fit out layouts will be required in order to finalise this assessment. 6) No void space is confirmed on L01. 7) Provide sections and elevations of the car park ramp to determine the correct rise in storeys and effective height. 8) Note that an additional ambulant bathroom is required on Level 03 (one for male and one for female occupants).	
D	Stair / Ramp / Barrier Details	The following items need to be updated in the architectural documentation: 1) Provide detailed dimensioned drawings of the stairs inclusive of steps, nosing's, TGSI, handrails, balustrades/barriers. 1:20 or 1:50 details of the existing and proposed stairs are required for further assessment. The details are to include compliant dimensioning of all components, i.e. unobstructed widths of not less than 1 m, steps (riser and goings), handrails (diameter of min 50 mm clearances), etc. 2) Offset risers should be considered for each stairway as it is difficult to provide the necessary terminations and consistent height handrails without. **Architect is to provide tolerances for onsite construction otherwise it may become an OC risk. Particular attention should be paid to the ramps shown at 1:20. If these ramps are built at 1:19 on site, then handrails and tactiles are required. Tolerance should be provided throughout the development.**	Part D3
E	Door Schedule & Operation review	A door schedule is required for further review and comment. This schedule must include the following: 1) **Proposed Construction Material**. Note all external doors are required to be Non-Combustible, therefore cannot be timber. The schedule notes a number of doors as "solid" with no further information. If any are proposed to be timber, please confirm to Group DLA so it can be added to Table 2 for the Fire Engineer to confirm the feasibility of a justifiable performance solution. Or update the door schedule to include compliant material.	Part D

Item No.	Item	Comment	BCA Clause
		2) Operation of Latch (D3D26) which confirms if the door is; a. **Free Access** from the side that faces egress with complaint single handle in accordance with D3D26(1)(a)(b) b. **Power operated** with a separate manual push button, in accordance with D3D26(2) c. To remain locked however connected to an **Auto fail-safe** device which unlocks the door upon the fire trip, in accordance with d. Required to be fitted with **Panic Bars** in accordance with NSW D3D26(5) 3) The **Force** of all power operated doors (both sliding and swinging) must not be more than **110N** if there is a malfunction or failure to the power source, in accordance with D3D24. 4) In the case of for any power operated doors which lead directly to the road or open space, they must **Fail Safe Open** upon the power failure to the door or on the activation of a fire or smoke alarm with the compartment. 5) Additional items required to be shown on the door schedule such as but not limited to: a. Part J5 sealing and self-closing. b. 110N force limitations, especially on the large heritage style sliding doors and large door/wall panels. c. 20N force limitations, especially on the large heritage style sliding doors. (Access consultant to confirm) d. Failsafe open requirement for any automated sliding doors. e. Failsafe release of locks/latching requirements on fire trip, which may be a security issue for any expensive exhibits. f. Class 9b panic bar to exit doors and doors in the path of travel to exits that serve more than 100 persons. g. Pivot doors to operate as exit doors. h. It is expected that the detailed review will involve fire engineering justifications where found to be feasible by the Fire Safety Engineer.	

Item No.	Item	Comment	BCA Clause
F	Fire Services Plans	Complete Wet and Dry Fire Services Plans are to be provided for review. The plans must include but not limited to: (a) Fire Hydrant and Fire Hose Reel coverage plans. (b) Booster location. (c) Service Consultants to review / comment on any void spaces or concealed spaces and confirm if coverage is required.	Part E
G	Structural Engineering	Structural Engineer to comment on the following existing building elements in terms of level of compliance with the current BCA: 1) Lintels. 2) Bracing. 3) Ties. 4) FRL of loadbearing internal and external loadbearing elements (refer to BCA Table S5C11a). 5) FRL of existing floors. 6) FRL of existing roof structure. 7) All elements – earthquake provisions. 8) Other – TBC. Note that where compliance cannot be achieved, the Fire Safety Engineer will need to review the shortfalls and comment on the feasibility of a justifiable performance solution.	Various
H	Energy efficiency	Provide a copy of the Final Section J report, which includes a set of colour coded building envelope plans which illustrate the required external and internal R rating insulation lines throughout the building, inclusive of external walls, internal walls, roof and floor slabs as developed by the ESD Consultant for further review and comment.	Section J
I	Accessibility / DDA Report	Final access report to be reviewed.	Part D4

Item No.	Item	Comment	BCA Clause
J	Performance Based Design Briefs	Provide a copy of the project Performance Based Design Brief Reports for the relevant non-compliances noted above in Table 2 as follows: • Fire Engineering Brief • DDA Access Performance Based Design Brief • Section J – JV2/JV3 Performance Based Design Brief • Weatherproofing Performance Based Design Brief • Ergonomics Performance Solution Report Other – N/A at this stage of the design review - TBC	A2G2
K	Performance Solutions – Reports	Provide a copy of the final project Performance Solution Reports justifying the relevant non-compliances noted above in Table 2 as follows: • Fire Engineering Report • DDA Access Performance Solution Report • Section J – JV2/JV3 Performance Solution Report • Weatherproofing Performance Solution Report • Ergonomics Performance Solution Report Other – N/A at this stage of the design review - TBC	A2G2
L	Fire Hazard Property Test Reports	Required for all floor, wall and ceiling materials other than plasterboard and wet area tiles. Refer Table 7or specific requirements.	C2D11
M	Window Schedule	A windows schedule is required for further review and comment. This schedule must include. (a) If the window is openable and any protection required for D3D29. (b) Any sealing requirements for ventilation and Section J. **(c) Natural Light assessment, include the total aggregate width against floor area**	D3D29, Part F6, Section J
N	Natural ventilation	Mechanical Engineer to confirm ventilation can be achieved through the mechanical system where natural ventilation cannot be achieved.	Part F6

Item No.	Item	Comment	BCA Clause
O	Door threshold accessibility and water entry prevention	External - Provide details of any proposed external door thresholds in relation to entry and rainwater entry prevention. This includes: (a) External balconies (such as Maltsters House). (b) Plant access doors (such as switch room, comms room and sprinkler room). (c) General circulation entry / exit doors. Internal - Provide details of any proposed internal door thresholds. This includes: (d) Plantroom hobs. (e) General circulation doorways.	D3D16, D4D2, F1P2
P	Performance Based Design Briefs	Provide a copy of the project Performance Based Design Brief Reports for the relevant non-compliances noted above in Table 2 as follows: • Fire Engineering Brief • DDA Access Performance Based Design Brief • Section J – JV2/JV3 Performance Based Design Brief - TBC • Weatherproofing Performance Based Design Brief • Other – N/A at this stage of the design review - TBC	A2G2
Q	Performance Solutions – Reports	Provide a copy of the final project Performance Solution Reports justifying the relevant non-compliances noted above in Table 2 as follows: • Fire Engineering Report • DDA Access Performance Solution Report • Section J – JV2/JV3 Performance Solution Report - TBC • Weatherproofing Performance Solution Report • Other – N/A at this stage of the design review – TBC	Various
R	Earthquake actions Design of parts and components	All designers will be required to ensure any new components and service installations comply for seismic impact in accordance with the earthquake code AS 1170.4-2007, EDC II. Note that all structures, including parts and components, are required to be designed for earthquake actions. Refer to Table in Section 4 of the report for more details.	Part B

Item No.	Item	Comment	BCA Clause
S	Structural Building Importance Level	The BCA determined Building Importance Level is 2. As a result, the building will need to be considered by the Structural Engineering accordingly. However, is the building being used for post disaster recovery? If so, the building importance level will be 4.	Table B1D3a
T	External Wall System & Ancillary Attachments	Provide details (1:5 or 1:10) of the external wall system make up identifying all materials and components including insulation. Reason: Evidence of no combustible materials used.	C2D10, C2D14
U	Pool Safety Barriers	A suitably qualified swimming pool inspector / certifier (E1) is to review the drawings and provide a statement on the compliance of the proposed pool safety barriers.	NSW G1D2
V	Vertical Transportation	VT Consultant to confirm the size of the lifts will comply with D3D3.	E3D3
W	Plan Markups	Successful close out of all items within the latest Group DLA Plans Markup. Architect to provide comment on each item for consideration.	Various
X	Waterproofing details and confirmation of compliance by the Waterproofing consultant.	Provide the following, typical waterproofing details in accordance with AS 3740-2021, AS 4654.1-2012 and AS 4654.2-2012 of the following areas/ junctions: 1. Roof top stair details including water stop, membrane termination and strip drain. 2. Balcony and associated threshold details, including compliant water stop, termination heights and drainage grate / strip drains. 3. Plant and equipment penetrations (such as services and support posts) proposed on the roof top slab membrane. 4. Internal wet areas. 5. Provide confirmation from the waterproofing consultant that the plans comply with the relevant BCA Clauses and noted Australian Standards.	Part F, AS 3740, AS 4654.1, AS 4654.2
Y	Bushfire Protection	Provide a Bushfire Assessment Report confirming the design complies with the BCA and AS 3959-2018 and Planning for Bushfire Protection (PBP)	Part G5

Table 3 - Request for Further Information

2.0 INTRODUCTION

The subject BCA review has been limited to a desktop assessment of the listed Architectural Drawings which at this stage, do not detail sufficient information to allow a full BCA report to be produced. **The design is yet to be developed to the extent that a complete BCA assessment can be concluded and therefore this report is preliminary only.**

However, it is important to note that the items identified will NOT have an impact on the DA planning submission approval and therefore these noted items can be resolved at the Detailed Design Stage, prior to the issuance of the Construction Certificate. Before the DA planning submission, The Architect is to consider Table 2 & 3 below and review any implications some design changes may have (such as windows and natural lighting).

The report is prepared based on a review of the documentation listed in Appendix D and the information provided by the client and is intended for their use only.

2.1 Reporting Team

The information contained within this report was prepared by Andrew Beames (Building Regulations Consultant, and reviewed by Shane Berry, Register Certifier Grade A1 (BPB0721) from Group DLA.

2.2 Current Legislation

The applicable legislation governing the BCA version for buildings is the Environmental Planning and Assessment Act 1979.

The provisions of this Act require that all new building works are carried out in accordance with the Building Code of Australia (BCA). The applicable version of the BCA to be adopted will be the BCA version in force when the Construction Certificate is applied for on the NSW e-Planning Portal.

The BCA is now updated every three (3) years, the next updated will be BCA 2025 which is anticipated to come into force on the 1st May 2025.

2.3 Change of Use

Clause 14 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 requires consideration to be given to the existing buildings fire protection and structural capacity. A certifier must not issue a construction certificate for alteration of building work unless, on completion of the building work, the fire protection and structural capacity of the building will not be reduced.

Any additional structural BCA requirements for the change in use as to be confirmed by the Structural Engineer.

The following performance requirements must also be considered:

- E1P3 – Fire Hydrants: This report request confirmation of compliance from the Fire Services Engineer. Confirmation remains pending.
- E1P4 – Automatic Fire Suppression Systems: This report request confirmation of compliance from the Fire Services Engineer. Confirmation remains pending.
- E1P6 – Fire Control Centres: Not applicable to this project.
- E2P1 - Automatic Warning for Sleeping Occupants: The design will comply with the deemed-to-satisfy provisions of the BCA. Justifiable Fire Engineering will also be considered as the design progresses.
- E2P2 – Save Evacuation Routes: The design complies with the deemed-to-satisfy provisions of the BCA. Justifiable Fire Engineering will also be considered as the design progresses.
- E3P2 – Emergency Lifts: Not applicable to this project.

2.4 Fire Brigade

As per BCA 2022 Clause A2G2(4) all Performance Solutions are required to undertake a Performance Based Design Brief (PBDB) process, NSW Fire Brigades have advised (https://www.fire.nsw.gov.au/page.php?id=9154) that they will only provide their stakeholder input via a Fire Engineering Brief Questionnaire (FEBQ) process prepared and lodged by the engaged Fire Safety Engineer. This applies to all projects irrespective of the approval process, Crown,

REF, CDC or Construction Certificate projects, if there are any Performance Solutions affecting fire safety all need to undertake this stakeholder engagement with NSW Fire Brigade which the Fire Safety Engineering will lodge.

Construction Certificates - the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulations 2021 (EP&A (DCFS) Reg 2021), Section 27 (previously Clause 144 of the Old Regulation), requires buildings the subject of Construction Certificate approval to have the Fire Engineering Report to be referred to Fire Brigade within seven (7) days of lodgement of the CC application on the NSW Government e-Planning Portal in certain cases.

From the from 1st August 2023, Section 26 of the EP&A (DCFS) Reg 2021 will be amended to mandate that consultation with FRNSW is required for **all building works that involves a performance solution for a **fire safety requirement*.** This is regardless of the project size or the type of fire safety system which the Performance Solution is supporting.

This amendment means that;

- **Before lodging a Construction Certificate application**, the owner of a building must ensure that the person who develops a performance-based design brief (FEBQ) for a fire safety performance solution (usually a Fire Safety Engineer) for Class 2–9 buildings, where a construction certificate is to be issued, consults FRNSW during the development of the performance-based design brief, and
- **Before determining a Construction Certificate or Occupation Certificate application**, the Principal Certifying Authority, must refer all performance solutions involving a fire safety requirement for Class 2–9 buildings to FRNSW at both the Construction Certificate and Occupation Certificate stages.

*A '*Fire Safety Requirement'* is defined in the EP&A (DCFS) Reg 2021 as '*a requirement under the Building Code of Australia relating to a fire safety system within the meaning of the Building Code of Australia, or the safety of persons if there is a fire, or the prevention, detection or suppression of fire'*.

This design currently contains Fire Safety DtS Non-Compliant / Performance Solutions which are to be referred to Fire Rescue NSW.

Under recent changes to the legislation and Fire Brigade advice, for Section 27 referrals of the Fire Engineering Report, the Fire Brigade are required to respond within 10 working days advising whether or not they will be proceeding with a review and providing the Initial Fire Safety Report. If so, they have not more than 28 working days from the initial lodgement to provide their report or the Certifier can choose to invoke the provisions under Clause 28(2) and issue the Construction Certificate after 28 days of officially lodging the Section 27 application. Further consultation is required on this issue with the engaged Certifier as in almost all cases the Certifier will await comments and adopt any recommendations made by NSW Fire & Rescue which may have programme implications to be planned for.

2.5 Limitations

This report does not constitute or include, nor imply or audit any assessment of the following:

- This assessment is limited to the developed documentation at the date of this report and as referenced within the "Documentation Assessed" section of the Report.
- Preparation of performance provisions of the BCA are excluded.
- This report does not include assessment of the documentation against the provisions of the Disability Discrimination Act 1992 or (Access to Premises Buildings) Standards 2010.
- Any roof top plant or the like has been assessed (assumed) as open to the sky. Covered areas to roof tops may constitute an extra storey thus BCA requirement for the entire building may change.
- Travel distances have been assessed on an open plan basis with an allowance made for travel around pending fixed structures. No consideration has been given to any future fixed structures and accordingly, further assessment will be required in the event of floor plan or fixture amendments if and when these are provided formally.
- This report excludes any form of Certification Work as defined in the regulations, and is for BCA Compliance purposes only
- Generally, the assessment does not include a detailed assessment of Australian Standards.
- Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning, Liquor Licensing Act 1997 and the like; and
- Demolition Standards not referred to by the BCA;

- Work Healthy and Safety Act 2011 (Safety in Design);
- The National Construction Code – Plumbing Code of Australia Volume 3;
- BCA Report lists Clauses and Specifications are based on the Draft version of BCA 2022, should changes occur in the issued/adopted version then any changes are excluded and the actual clause in the BCA will supersede anything listed in the Report.
- The capacity of design of any Electrical, Fire, Hydraulic or Mechanical Services;
- Structural and services drawings have not been reviewed, nor any consideration given to the structural capacity (or inherent FRL's) of the building.
- No assessment has been made to the small standalone building. Further details are required to complete this assessment, i.e., what it is used for, height, construction etc.

2.6 Latest BCA 2022 Amendment 1 Changes – Synopsis of Major Changes

Main Change is the Numbering, Clauses and Specification have all changed, and been relocated.

Section A – Governing Requirements

- A2.2 Performance Solution – The addition of clause A2.2(4), which details further requirements which must be met when addressing a performance solution in the BCA, being a Performance Based Design Brief and FEBQ process with NSW Fire Brigades as a stakeholder
- A5.7 Labelling of aluminium composite panels – An aluminium composite panel must be labelled in accordance with SA TS 5344.

Section C – Fire Resistance

- Clause C2D10 & C2D14 - Non-Combustible Building elements & Ancillary elements - a lot of additional elements added to the list of exempted materials and elements , Concrete for example is now exempted. Interesting note added that considers a balustrade on a balcony to be an ancillary elements,
- Clause C3D6, D2D3 - Class 9b Childhood centre - required to be fire separated from the remainder of the building, when in a mixed-use building, and has egress, fire compartmentation, egress requirements.
- Clause C2D15 - Laminated Panels (such as ACP products)- cannot be solely fixed with adhesives, and all layers must be mechanically fixed, details within the clause.

Section D – Access and Egress

- Clause D2D23 – Egress from Primary Schools - Can only be on a Storey that provides direct egress to road or open space (Ground floor only), but does not apply if the building has a Rise in Storeys as defined by the BCA of 4 or less where the "whole" building is used only as a "Primary school"
- Clause D3D19 D3D20 - Balustrades and climability rules to Fire Stairs serving a Class 9b early childhood centre – this rules out the concession for the wider gaps for fire stair balustrades, and also the 4m climability is required to be complied with as well for Class 9b Early Childhood centres.
- D3D27 - Re Entry to Fire Stairs - required for fire stairs that serve a Class 9b Childhood Centre now, in addition to the other uses.

Section E – Services and Equipment

- Clause E1D11 - Sprinklers are required to the whole building if it has a Class 9b Early Childhood centre , not just to the childhood centre part
- Clause E2D20 - Detection system - in addition to a Sprinkler system, Early Childhood Centres are also required to have Detection and Alarm system to the entire building (even other classes) if it has a Class 9b Early Childhood centre .

Section F – Health and Amenity

- Part F1 - Changes to Waterproofing, rainwater management and rising damp for all classes of building, weatherproofing etc.
- Part F2 -Changes to waterproofing of wet areas - All classes of building
- F1D4 – Exposed Joint provisions added for weatherproofing, additional requirements apply
- Clause F2D4 - Floor Wastes to Class 2, 3 or 4 Buildings - no requires a floor graded at a min of 1:50 and a maximum of 1:80 Grade to floor waste.
- Clause F3D2 - Roof Coverings - now allows Waterproof membranes as a roof covering to F1D5

- Clause F3D5 – Weatherproofing of External Wall – some external wall types are now DTS for weatherproofing and do not require a performance solution, these are- Brick veneer, Masonry, Concrete, and metal cladding that complies with AS 1562.1 – any other type needs Perf Solution still required.
- Clause F4D4 - Toilets have been further updated to reflect the requirements of separate male and female ambulant facilities
- Clause F4D5 - Ambulant Toilets - made it clear that cant be a unisex Ambulant facility, must be one for Male and One for Female (fixes an anomaly in the prior BCA versions which could have been read as allowing it.
- Part F8 - Condensation Management - is apparently changing but will not know till Later in 2022 what this will be and to which types of building it will apply to

Section G

- New Part G7 - Liveable Housing – Required for all Class 2 SOU's only in Class 2 Buildings - big change for apartments but not affecting other classes in Volume 1.
- Bushfire – G5D4 and Specification 43 - Bushfire Protection for Class 9 Buildings - affects Class 9b Health Care, Class 9b Childcare, and Primary and Secondary Schools, Class 9c Residential care building and Class 10a Building or Deck associated with one of these classes - Has a lot of impacts regarding setbacks to other buildings, Lot boundaries setbacks, pathways around the buildings, non-combustible walls and roof, Hydrant system (even if less than 500m2) or Static Water supply (details in Spec), Emergency Power supply, Large Isolated Building vehicular roads too for these types of buildings listed in BCA Clause G5D4

Section I – Special Use Buildings

- Section I added which is the home of these provisions for the National BCA Provisions for Class 9b Buildings
- NSW Part I – Entertainment Venues in NSW has been changed from Part H

Section J – Energy Efficiency

- Numerous changes to Section J are anticipated– Section J Consultant will need to provide update in regards to any impacts to the Design parameters. As the details of the changes have not been release yet, and will be forthcoming later in 2022.

Schedule 2 – Referenced Documents (Australian Standards) – the below is not exhaustive but the main standards that have changed, refer to Schedule 2 of NCC 2022 for full list of referenced documents.

- BCA 2022 has adopted numerous new versions of Australian Standards as follows:
    - AS1170.2-2021 -Structural Wind Actions - new version adopted
    - AS1288-2021 – Glazing Standard – new version adopted
    - AS 1562.1 -2018 – Metal roofing – new version adopted (AS 1562.3 Plastic roof also new version)
    - AS 1657-2018 – fixed platforms, walkways and ladders – new version adopted
    - AS 1684.2-2021 – Timber framing code – new version adopted
    - AS 1720.4 – 2019 Timber structures Fire resistance for structural adequacy – new version adopted
    - AS 2419.1-2021 – Hydrants – new version adopted
    - AS 2699 – 2020 – Built in components for masonry – new version adopted
    - AS 3500 – 2021 – Plumbing and Drainage – new version adopted
    - AS 3700 – 2018 - Masonry Structures – new version adopted
    - AS 3740-2021 – Waterproofing of domestic wet areas – new version adopted
    - AS 4100-2020 – Steel Structures – new version adopted
    - AS 4253-2021 – Ductwork for air handling systems – Flexible Duct – new version adopted
    - ABCB Livable Housing Design 2022 – New Section G7 (relates to Class 2 Buildings only)
    - FPAA101D-2021 – Sprinkler system – Drinking Water supply system
    - FPAA101H-2018 – Sprinkler system – Hydrant water supply system

2.7 Building Population

The population for the building is required in order to determine three compliance matters. They are as follows:

1. Egress widths
2. Bathroom numbers
3. Mechanical ventilation requirements (compliance to be determined by others)

BCA Clause NSW D2D18 allows for the calculation of occupants per storey. The floor area for each part is divided by the square meter per person listed in Table D2D18. Other means of calculation can be used by reference to a seating capacity or other means of assessing capacity.

Table 11 below illustrates the population of the building and the method of calculation for each part. If these numbers appear to be particularly high, then further discussion with the design team is required to establish realistic occupant loads at the worst-case scenario / peaks.

This determination will need to be endorsed by the client/user or Project Team. If more accurate numbers are available, such as seating or licencing capacity, then these are to be provided and can be used.

Note that the proposed population in Table 11 and the sanitary facility populations are different. The proposed population is per storey; however, the sanitary facility population is based on the entire building (or parts that are accessible to those populations). It is therefore considered that the proposed population shown in Table 11 be used for egress widths, and the sanitary facility population is generally the limiting factor, as a smaller population is permissible under these numbers shown in Section 4.46 of this report. Further assessment is required once the final use and population numbers are locked in.

However, note that the egress widths are not compliance when using the population in Table 11. Refer to item D4 of Table 2 above, where the Fire Safety Engineer has confirmed that a performance solution is feasible. It is suggested that the Fire Safety Engineer confirm if there are any additional requirements prior to DA submission to try and avoid s4.55 during design development stage.

3.0 BUILDING DESCRIPTION

3.1 Building Site

The site comprises major malthouse buildings on the western side of Nattai River and fronting the main Southern Railway line. The site is dissected diagonally by the Nattai River and has established adjoining riparian zones.

The Maltings is a locally listed heritage site in the Mittagong LEP. It is recognised as a major and relatively intact turn-of-the-century industrial complex connected with the growth and centralisation of the NSW brewing trade. The site is also considered for a State Heritage Listing.

The works consist of material refurbishments and additions to the buildings known as M1, M2, M3, M4 & Maltsters House for the hotel, exhibitions and private function use.

This report focuses on the M3-M4 building (depicted below in Orange - Figure 1).

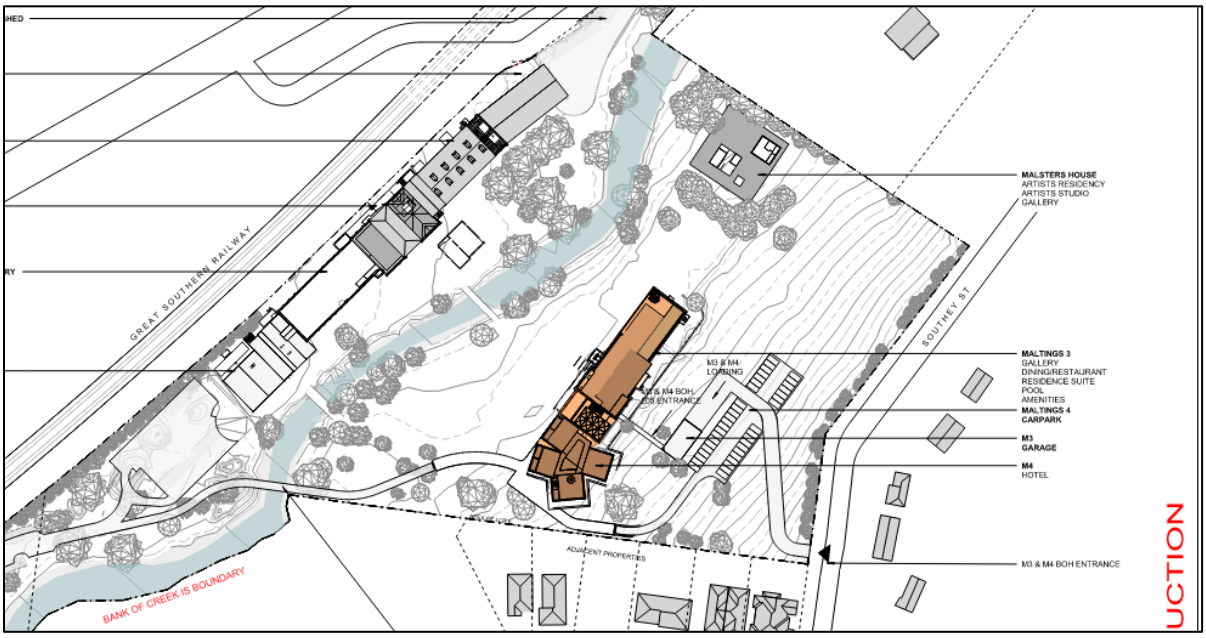


Figure 1 – Arial view of site

The NSW Government ePlanning Spatial Viewer confirms that the site is located on Bushfire Prone, refer Figure 2 below. **As a result, the Bushfire Consultant is the review the site and the proposed buildings in accordance with BCA Part G5.**

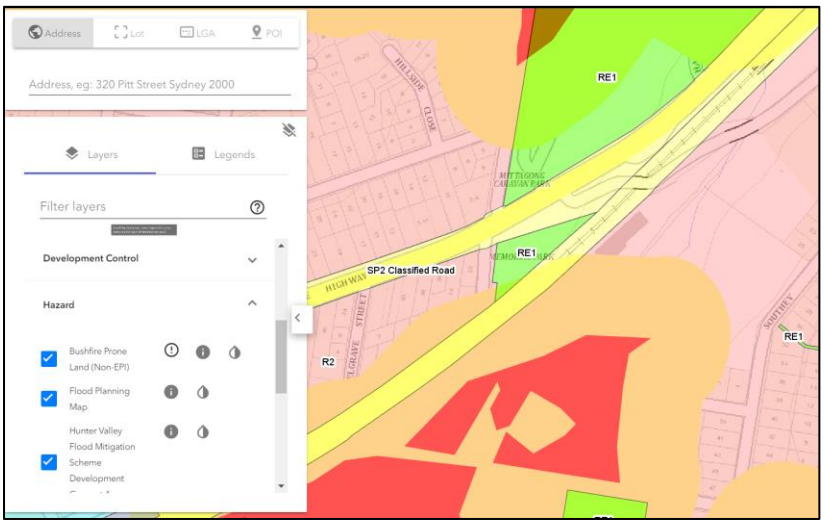


Figure 2 – ePlanning Spatial Viewer

In addition to above, Clause B1D6 *Construction of buildings in flood hazard areas* requires the building to be designed in accordance with the ABCB Standard for Construction of Buildings in Flood Hazard Areas ("Standard".) Typically, this document requires the floor level of habitable areas to be built no less than 500 mm above the Council defined flood level, and for non-habitable areas to be positioned not more than 1.0 m below the Council designated flood level. However, there are a number of prerequisites and varying provisions, so the actual levels will need to be determined by an appropriately qualified person after review of the Standard. Confirmation of such will be required prior to the issuance of the relevant Construction Certificate, which will be structure. Please obtain a council planning certificate to confirm if the building is in a flood prone area.

3.2 Building Description (M3+M4)

Characteristic	Description
Classifications *(Refer Appendix E – Classification Mark-up)*	Basement: Class 7a Car park Class 7b Storage Class 9b Gym Ground: Class 3 Hotel Class 9b Assembly Building (*exhibition hall/ art gallery)* Level 1: Class 3 Hotel Level 2: Class 3 Hotel Class 7a Car park Class 7b Storage Class 8 Substation Class 9b Assembly Building (*exhibition hall/ art gallery*) Bridge TBC – Refer to Item B(6) of Table 3 above. Level 3: Class 3 Hotel Class 6 Restaurant Class 9b Assembly Building (*function room*) Level 4: Class 3 Hotel Class 6 Bar Class 9b Assembly Building (*lounge / gallery*) Level 5: Class 3 Hotel / Guest Suite *Additional details are required on the rear plant and service rooms on ground floor. It is unclear if they are part of the building or if they are separate from the main building. This will affect the protection of openings etc. Further assessment required once this is known.* *The use of the Guest Suite is required, as this may be considered Class 2 in lieu of Class 3.*
Type of Construction:	Type A
Floor Area of Building:	*8,300 m^2
Volume of the Building:	TBC by architect (if more than 30,000 m3 then fire compartmentation or fire engineering may be required)
Max Fire Compartment Size – Area:	TBC. Awaiting Fire Rating & Compartmentation plans
Max Fire Compartment Size – Volume:	TBC. Awaiting Fire Rating & Compartmentation plans
Rise in Storeys:	Seven (7) TBC awaiting updated Sections & Elevations
Levels Contained:	Seven (7) assuming the carpark entry / roller door constitutes a storey - TBC awaiting updated Sections & Elevations
Effective Height:	** TBC additional Sections & Elevations are required to determine if the basement storey should be included in the rise in storeys and effective height calculation.
Climate Zone:	Zone 6

Building Importance Level:	3 (TBC)
Earthquake Design Category:	As per AS 1170.4-2007

Table 4.1 – M3+M4 Building Characteristics

3.3 M3+M4 Effective Height and Rise in Storey

The building has a rise in storeys of Seven (7). Awaiting additional Sections & Elevations to determine if the basement storey should be included in the rise in storeys and effective height calculation.

3.4 Documentation Assessed

The architectural plans are yet to be developed to the extent that a complete BCA assessment can be concluded and therefore this report is preliminary only. The plans are considered satisfactory for a planning submission.

This report is based on the documentation listed in Appendix D, prepared by Snohetta dated 12.02.2024.

4.0 BCA COMPLIANCE DISCUSSION & DESIGN CONSIDERATIONS

The following assessment will provide an overview of the compliance with the BCA and identify issues that require particular attention at this stage of the development. Please read these issues outlined below in conjunction with the clause-by-clause assessment of this report as this section is a high-level precis of the main issues affecting the design at this stage.

Legend:

Red – Non-compliance. Design rectification or performance solution required.

Blue – Further information or clarification required.

Green – Compliant / Compliance readily achievable through DtS or Performance Solution

Section B – Structure

4.1 Part B1 - Structural Provisions

The Structural Engineer is required to determine compliance with regard to the various components of construction as noted within this Part of the BCA. The fire ratings have been nominated in Appendix B, the Structural Engineer will need to confirm that the design meets these ratings, which may contain some FRL's resulting from fire engineering analysis. More information is required on the existing structure, Refer to Item G of Table 3.

The BCA determined Building Importance Level is 2 and will need to be considered by the Structural Engineering accordingly. However, we have assumed that the building is not proposed to be used for post disaster recovery. If this is not the case, and the building is proposed to be used for post disaster recovery, the Building Importance Level would be 4 and the design would need to accommodate according.

All designers will be required to ensure any new installations comply for seismic impact in accordance with the earthquake code AS 1170.4-2007, EDC II or III, Structural Engineer to confirm.

> *Note: during an earthquake, motion will be imposed on all parts of any construction, Therefore, parts of a structure (including non-loadbearing walls, etc) should be designed for lateral earthquake forces such as out-of-plane forces.*

All designers shall review Section 8 of AS 1170.4 and certify that the proposed design complies.

Areas to consider at this stage include but are not limited to:

Designer	Parts and components (Section 8 of AS 1170.4)
Architect Refer to Part 8.1.4 (a) of AS 1170.4 for more details	(i) All non-loadbearing walls. (ii) Appendages, including parapets, gables, verandas, awnings, canopies, chimneys, roofing components (tiles, metal panels) containers and miscellaneous components. (iii) Connections (fasteners) for wall attachments, curtain walls, exterior non-loadbearing walls. (iv) Partitions. (v) Floors (including access floor systems, where the weight of the floor system shall be determined in accordance with Clause 6.2.2 of AS 1170.4). (vi) Ceilings. (vii) Architectural equipment including storage racks, library shelves with a height over 2m.
Service Engineers	(a) Smoke control systems. (b) Emergency electrical systems (including battery racks).

Refer to Part 8.1.4(b) of AS 1170.4 for more details	(c) Fire and smoke detection systems. (d) Fire suppression systems (including sprinklers). (e) Life safety system components. (f) Boilers, furnaces, incinerators, water heaters, and other equipment using combustible energy sources or high-temperature energy sources, chimneys, flues, smokestacks, vents and pressure vessels. (g) Communication systems (such as cable systems motor control devices, switchgear, transformers, and unit substations). (h) Reciprocating or rotating equipment. (i) Utility and service interfaces. (j) Anchorage or lift machinery controllers. (k) Lift and hoist components including structural frames providing supports for guide rail brackets, guide rails and brackets, car and counterweight members, (l) Escalators. (m) Machinery (manufacturing and process). (n) Lighting fixtures. (o) Electrical panel boards and dimmers. (p) Conveyor systems (non-personnel). (q) Ducts, cabling and piping distribution systems. (r) Supports for ducts, cabling and piping distribution systems, except individually supported services, in the following situations: (A) In structures classified as being in EDC 1. (B) For gas piping less than 25mm inside diameter. (C) For piping in boiler and mechanical rooms less than 32mm inside diameter. (D) For all other piping less than 64mm inside diameter. (E) For all electrical conduit less than 64mm inside diameter. (F) For all rectangular air-handling ducts less than 0.4m^2 in cross-sectional area. (G) For all round air-handling ducts less than 700 mm in diameter. (H) For all ducts and piping suspended by individual hangers 300 m or less in length.
All Designers Refer to Part 8.1.4(c) of AS 1170.4 for more details	All other components similar to those abovementioned items.

Table 5 - Earthquake Design Requirements

Section C – Fire Resistance

4.2 C2D2 - Type of Construction Required

The building is subject to Type A Fire Resistance Construction requirements as per Specification 5. Refer to Appendix B for required FRL's.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Item A of Table 3 above stipulates what is needed in terms of developing these plans. Where certain FRL's are to be reduced from the DTS provisions, the Fire Safety Engineer is to comment on the feasibility of justifiable performance solutions for inclusion in the FER.

External walls which are within 3m of a fire source feature[1] generally require to be provided with a Fire Resistance Level, depending on if it is a loadbearing or non-loadbearing part. This includes the protection of openings as per C4D3, see below.

Comment: Site allotment boundaries are to be shown on the plans for further assessment. For the purposes of this report, it has been assumed that the building is not subject to any fire-source features.

4.3 C2D10 – Non-Combustible Building Elements / C2D14 – Ancillary Elements

BCA Clause C2D10, C2D14 and Specification 5, illustrate the restrictions on using combustible materials for the external wall system, inclusive of internal linings. Any new materials to the external wall shall comply with the DtS Provisions of the BCA. AS 1530.1 non-combustibility test reports will also be required in order to determine if compliance has been achieved.

Comment: The majority of the building is proposed to be existing. However, for any new materials, it is unclear at this stage what is proposed to the external walls. Further details, specifications and test reports are required to be provided prior to the Construction Certificate applications.

The following building elements are deemed combustible:

a) *The existing timber battens are combustible in lieu of being deemed NOT combustible.*

b) *Other – Awaiting external wall details and proposed wall type drawings.*

The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

[1] *Fire source feature means:*

(a) *The far boundary of a road, river, lake or the like adjoining the allotment; or*

(b) *A side or rear boundary of the allotment; or*

(c) *An external wall of another building on the allotment which is not a class 10 building.*

4.4 C2D11 – Fire Hazard Properties

The Fire Hazard Properties of floor linings and floor coverings, wall and ceiling lining's, and other material as noted within Clause C2D11, must comply with the provisions of Specification 7, which are noted in Table 6 below.

Comment: It is recommended that the Fire Hazard Property Test Reports of the various linings and coverings are submitted to this office for a compliance check prior to procurement/installation. Notwithstanding this, they will be required to be verified prior to the issuance of the OC, which is often too late in the case of the use of non-compliant materials.

Item	*Location*	*Requirement*
Class 9b (exhibition hall/ art gallery/ entertainment venue/ occupiable outdoor area)		
Floor linings or coverings	Fire-isolated exits	*CRF of no less than 2.2 kW/m^2 ***Group Number 1 or, where floor covering continues more than 150mm up a wall
	All other areas	*CRF of no less than 1.2 kW/m^2 ***Group Number 1 or, where floor covering continues more than 150mm up a wall
Wall and ceiling linings	Fire-isolated exits	***Group Number 1
	Public corridors	***Group Number 1, 2
	Specific areas	***Group Number 1, 2, 3
	Other areas	***Group Number 1, 2, 3
Class 6 (Retail / Shop)		
Floor linings or coverings	Fire-isolated exits	*CRF of no less than 2.2 kW/m^2 ***Group Number 1 or, where floor covering continues more than 150mm up a wall
	All other areas	*CRF of no less than 1.2 kW/m^2 ***Group Number 1 or, where floor covering continues more than 150mm up a wall
Wall and ceiling linings	Fire-isolated exits	***Group Number 1
	Public corridors	***Group Number 1, 2, 3
	Specific areas	***Group Number 1, 2, 3
	Other areas	***Group Number 1, 2, 3

Table 6 - Fire Hazard Properties

**Note: CRF stands for critical radiant flux, which is a BCA defined term as follows – "Critical radiant flux means the critical heat flux at extinguishment as determined by AS ISO 92391.1 – 2003."*
***Note SDR means the smoke development rate as determined by testing flooring materials in accordance with AS ISO 9239.1*

****Note Group Number is a BCA defined term as follows – "Group number means the number of one of 4 groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling."*
The Group Numbers are as follows –
(a) For the purposes of this Clause, the method/procedure of determining the Group number is dictated via AS 5637.1-2015. Then in accordance with AS 5637.1-2015, the group number of a material is determined by either—
(i) physical testing in accordance with AS ISO 9705 ; or
(ii) prediction in accordance with Clause 3 of Specification A2.4 using data obtained by testing the material at 50 kW/m2 irradiance in the horizontal orientation with edge frame in accordance with AS/NZS 3837 .
(b) The group number of a material is as follows when tested or predicted in accordance with subclause (a):
(i) A Group 1 material is one that does not reach flashover when exposed to 100 kW for 600 seconds followed by exposure to 300 kW for 600 seconds.
(ii) A Group 2 material is one that reaches flashover following exposure to 300 kW within 600 seconds after not reaching flashover when exposed to 100 kW for 600 seconds.
(iii) A Group 3 material is one that reaches flashover in more than 120 seconds but within 600 seconds when exposed to 100 kW.
(iv) A Group 4 material is one that reaches flashover within 120 seconds when exposed to 100 kW.
(c) A material used as a finish, surface, lining or attachment to a wall or ceiling must be a Group 1, Group 2 or Group 3 material used in accordance with Table 3 and for buildings not fitted with a sprinkler system complying with Specification E1.5, have—
(i) a smoke growth rate index not more than 100; or
(ii) an average specific extinction area less than 250 m 2/kg.
*****Note SGRI is the smoke growth rate index and ASEA is the average specific extinction area. Both must be determined in accordance with AS 5637.1*

4.5 **C3D3 – Fire Compartment Floor Areas**

The size of any fire compartment within a building must not exceed the relevant maximum floor area nor the relevant maximum volume area, as set out in Table C3D3. The maximum permissible fire compartment size is noted below in Table 7 below. This is divided between the Classification type.

Comment: Fire rating and compartmentation plans are required in order to determine compliance or otherwise with these provisions. The close out of Item A of Table 3 is required to determine if compliance has been achieved.

The size of the fire compartment is potentially oversized, i.e., greater than 8,000 m2 and / or 48,000 m3. Architect to confirm fire compartment sizes, inclusive of volume for further assessment. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

Classification / Compartment	*Floor Area (m^2) / Permitted Floor Area*	*Proposed Max floor area (m^2) / volume (m^3)*	*Compliance Achieved*
Total M3M4 building	*8,300 / 7,525*	*TBC*	*TBC*

Table 7 - Max Permitted Compartment Sizes

**Note 1 – Fire Compartment Plans are required to be provided by the Architect.*

4.6 C3D9 / C3D10 – Separation of Classifications in the same storey and different storey

The building has parts of different classification within the same storey and are required to be separated by fire walls, or the building elements of that storey are to have the highest FRL prescribe in Specification 5 of the highest Classification. The building also has different classification on different storeys, where the floor between the adjoining storeys must have the FRL as prescription in Specification 5 for the classification of the lower storey.

Comment: This issue is currently under review by the Architect, Structural Engineer, Group DLA and the Fire Safety Engineer. Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Item A of Table 3 above stipulates what is needed in terms of developing these plans.

4.7 C3D11 – Separation of lift shafts

A lift connecting more than 3 storeys in a building fitted with sprinklers must be separated from the remainder of the building by an enclosure shaft which is constructed in accordance with Specification 5, which is 120/120/120 for loadbearing, and -/120/120 for non-loadbearing.

Comment: Structural Engineer is to confirm if the lift shaft is loadbearing or non-loadbearing.

Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Item A of Table 3 above stipulates what is needed in terms of developing these plans.

Currently, the stair shaft in the hotel that is adjacent the lift shaft is required to be fire separated, however, the stair and lift shafts share the same landing. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

4.8 C3D12 – Stairways and lifts in one shaft

A stairway and lift must not be within the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.

Comment: Refer to C3D11 above.

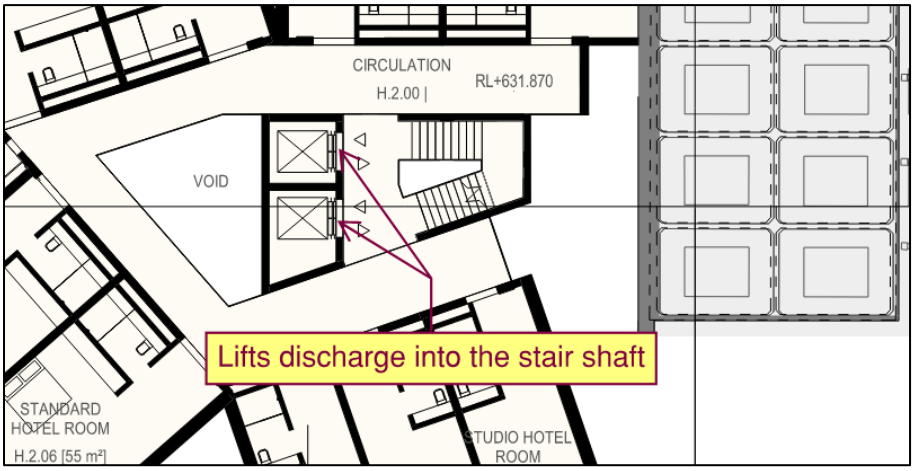


Figure 3 - Lifts and stairs share the same shaft

4.9 C3D13 – Separation of equipment

The following equipment, if provided, will need to be fire separated from the remainder of the building by construction having an FRL as required by Specification 5, but no less than 120/120/120 (once the location of any equipment is known, this FRL requirement will need to be reviewed).

- Lift motors and control panels.
- Emergency generators used to sustain emergency equipment operating in emergency mode including standby power systems.
- Central smoke control plant, boilers:
- Battery systems that are 12 V or more with a storage capacity of 200 kWh or more.
- Electricity sub-stations.
- Main switchboard located within the building which sustains emergency equipment in emergency mode

Comment: Electrical engineer to confirm which equipment is or isn't required for the building. Where required, Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Item A of Table 3 above stipulates what is needed in terms of developing these plans.

4.10 C3D15 – Public corridors in Class 3 Buildings

In a Class 3 building (or part), a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with S11C2.

Comment: The public corridor has a combined length of more than 40m. The corridor is to be divided into intervals of not more than 40m with smoke-proof walls complying with S11C2. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

4.11 C4D3 – Protection of openings

Openings in an external wall, that is required to have an FRL, require appropriate fire protection as nominated below in Clause C4D5. This is only required where the opening is located within close proximity to a fire source feature[2]. Close proximity is described as:

- 6 m from a far boundary of a road, river, lake or the like adjoining the allotment; or
- 3 m from the side or rear boundary of the allotment; or
- 6 m from an external wall of another building on the allotment which is not a class 10 building

Comment: No boundary is shown on the M3M4 plans, please confirm if there are any boundaries within 6m of the building.

4.12 C4D12 – Bounding Construction

A doorway in a Class 2 or 3 building must be provided with a self-closing -/60/30 fire doors if it provides access from a sole-occupancy unit or any other room, to a public corridor, public lobby, any other room not within a SOU, a landings of an internal non-fire-isolated stairway or any other SOU.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Item A of Table 3 above stipulates what is needed in terms of developing these plans.

No bounding construction (fire separation) is shown between the Class 3 hotel portion and the remainder of the building. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

[2] *Fire source feature means:*

(d) The far boundary of a road, river, lake or the like adjoining the allotment; or

(e) A side or rear boundary of the allotment; or

(f) An external wall of another building on the allotment which is not a class 10 building.

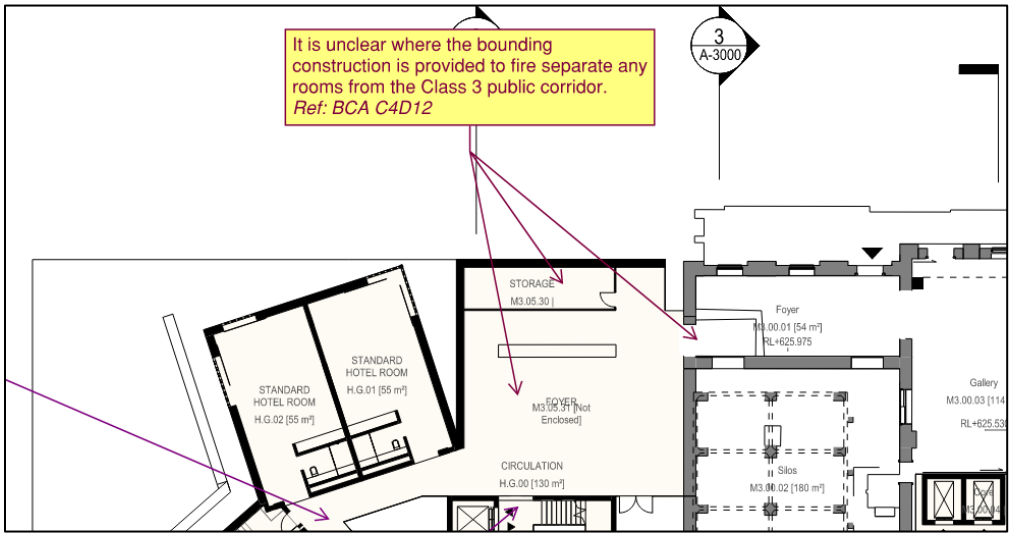


Figure 4 - Bounding Construction

4.13 C4D13 – Openings in floors and ceiling for services

All services which pass through a floor that is required to have an FRL, must be protected by a shaft complying with Specification 5, or protected in accordance with C4D15.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Item A of Table 3 above stipulates what is needed in terms of developing these plans.

All service shafts shall be identified on the FRL plan for further assessment. Any materials used to build the shafts shall be identified on the wall type drawings and associated schedules. Where test reports are required, they shall be supplied.

Where existing shafts are proposed, the Structural Engineer shall review and comment on the FRL of each. Where compliance cannot be achieved, the Fire Safety Engineer shall review and comment on the feasibility of a justifiable performance solution.

4.14 C4D15 – Openings for service installations

All penetrations through fire rated elements (walls, floors, ceilings, etc) are required to be to be appropriately fire stopped in accordance with this section.

Comment: Relevant fire tests for each type of penetration protection are required to be submitted to Group DLA for approval prior to installation.

Specification 5 – Fire-resisting construction

The below is a summary of BCA Specification 5 where there may be concessions available to the development.

4.15 S5C2 – Exposure of fire-source features

The building is not shown adjacent to or in close proximity to any fire-source features. The design team are to update Group DLA on any proposed changes should there be any allotment boundary consolidations / separations.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. An overlay of the site boundaries on the site plan is required for further assessment. Where the boundary is located within 3m of the building, protection of openings will be required. Proximity to boundaries also affects the required FRL of the structure, so further consideration would need to be given.

4.16 S5C3, S5C4 & S5C5 – Fire protection for supports

Where a part of a building required to have an FRL depend upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must have an FRL not less than that required by other provisions of BCA Clause S5C11. Additionally, lintels and ancillary elements shall be suitably fire rated and must not reduce the FRL of parts in which it is attached. The Structural Engineer is to confirm that compliance can be achieved. Where compliance cannot be achieved, then the Fire Safety Engineer will need to review and confirm if there are any justifiable Performance Solutions feasible.

There are no FRL plans at this stage of the design, hence it is unclear if any fire walls or the like are proposed to the building. It is suggested that the Fire Safety Engineer review the building, including the Atrium and non-fire isolated stairs and comment on whether any Fire Safety Engineering fire separation is required in the building.

4.17 S5C6 – General concessions

General Concessions (structures on roofs) - A non-combustible structure situated on a roof need not comply with the other provisions of Specification 5 if it only contains-

(a) lift motor equipment; or

(b) one or more of the following:

  (i) Hot water or other water tanks.

  (ii) Ventilating ductwork, ventilating fans and their motors.

  (iii) Air-conditioning chillers.

  (iv) Window cleaning equipment.

  (v) Other service units that are non-combustible and do not contain flammable or combustible liquids or gases.

Comment: This may apply to any small plant or lift machinery located on the roof i.e. no FRL requirement for wall or roof of these plant areas. Further information required regarding any structures on roofs.

4.18 S5C8 – Enclosure of shafts

Shafts required to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. This requirement shall be reflected on the FRL and compartmentation plans.

4.19 S5C11 – Type A fire-resisting construction

In a building required to be of Type A construction, each building element listed in Tables S5C11a, S5C11b, S5C11c, S5C11d, S5C11e, S5C11f and S5C11g and any beam or column incorporated in it, must have an FRL not less than that listed in those Tables for the particular Class of building concerned.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed

4.20 S5C13 – Floor loading for Class 9b buildings concession

Floor FRL Concessions - If a floor in a Class 5 or 9b building is designed for a live load not exceeding 3 kPa:

(a) then the floor next above (including floor beams) may have an FRL of 90/90/90; or

(b) the roof, if that is next above (including roof beams), may have an FRL of 90/60/30.

Comment: The Structural Engineer is to confirm live loadings, as this concession will not be applicable should the live loadings exceed 3 kPa.

4.21 S5C15 – Roof concession

Roof Concession. A roof need not comply with Table S5C11g if its covering is *non-combustible* and the building:

(a) has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout; or

(b) has a rise in storeys of 3 or less; or

(c) is of Class 2 or 3; or

(d) has an effective height of not more than 25 m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.

Comment: Due to the atrium and Class 3 SOUs, the building is required to be sprinkler protected. However, the Fire Service Engineer is required to confirm that the system complies with Specification 17 (other than a FPAA101D or FPAA101H system). If a sprinkler system is proposed, then the roof need not have an FRL and may be non-combustible.

An AS 1530.1 test report will be required prior to the lodgement of Construction Certificate applications to demonstrate that any new roof materials are non-combustible.

4.22 S5C17 – Internal columns and walls concession

Internal column concessions. As the building M3M4 is assumed to be less than 25m and have a non-combustible roof (subject to confirmation of roof materials), the storey immediately below that roof may accommodate internal columns other than those referred to in S5C11(1)(d) and internal walls other than fire walls and shaft walls with an FRL of 60/60/60.

Refer to Appendix B - BCA Tables S5C11a, S5C11b, S5C11c, S5C11d, S5C11e, S5C11f and S5C11g – Type A Construction: FRL of Building Elements.

Section D – Access & Egress

For the purpose of this egress assessment, BCA defined required exits have been assumed as noted in Appendix B, Exit & Travel Distance Assessment Plan Mark-ups, by the illustration of the running man symbol.

Comment: The architect will need to review Appendix C and confirm that the nominated exits are correct

4.23 D2D3 – Number of exits required

Every building must be provided with at least one exit from each storey, and in some cases as required by BCA Clause D2D3, not less than two exits from each storey. Access to exits must be available without passing through another sole-occupancy unit, and where two exits are required from the storey, each part of the storey must have access to at least two exits.

Comment: In the case of the Class 9b portions in this building, a storey which accommodates more than 50 persons will require a minimum of two (2) exits.

Only one exit from the basement has been provided in lieu of not less than two (2). It has been assumed that two (2) exits are required due to the vertical egress rise to the level of discharge is more than 1.5 m, and the floor area of the basement is greater than 50m^2. It is suggested that Architectural Sections & Elevations be provided for further assessment. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

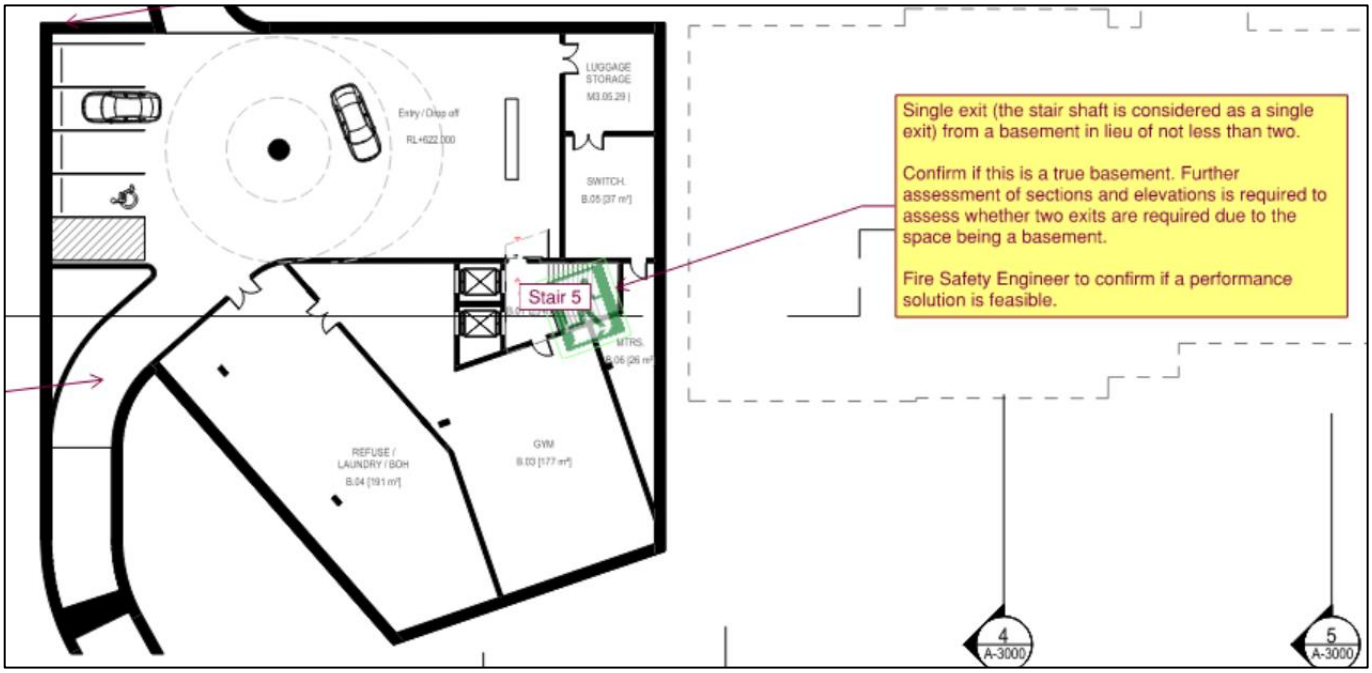


Figure 5 - Single exit from the carpark

4.24 D2D4 – When fire-isolated stairways and ramps are required

Every stairway or ramp servings as a required exit, must be fire-isolated unless it connects, passes through, or passes by no more than three (3) consecutive storeys (as the building has a sprinkler system installed in accordance with Specification 17 installed throughout).

Comment: Refer to BCA Clause D2D12 and D2D14 assessments below for more details.

Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Each stair shall be labelled or clearly identified with a number for identification purposes. The stair shall then designated as 'fire-isolated', 'required non-fire-isolated', 'non-required non-fire-isolated' stairway as applicable. A short workshop with Group DLA may be required.

Stair Number	Location	Stair Type*	Compliance Achieved
Stair 1	Stair from Event Room M3.05.32.	S1	X Refer to Table 2
Stair 2	Wide stair from L02 Terrace M3.02.06.	S3a	?
Stair 3	Wide stair from L02 Circulation M3.02.06.	S3a	X Refer to Table 2
Stair 4	Gallery core fire-isolated stairway.	S1	?
Stair 5	Hotel core stairway adjacent the lifts.	S2	X Stair is open in lieu of fire-isolated
Stair 6	Hotel fire-isolated stairway.	S1	?
Stair 7	Wide stair from lounge 2 M3.04.07	S3a	X Refer to Table 2

Table 8 - Stair Requirements

Note the following comments apply to the stairs designated as '1' and '2' below:

a) *Stair 2 is considered to be a non-fire-isolated stairway as it passes through three (3) storeys.*

b) *Stair 1 is considered to be a fire-isolated stairway as it passes by four (4) storeys. To achieve this, there needs to be fire separation between each shaft. Where compliance cannot be achieved, the Fire Safety Engineer would need to review and comment on the feasibility of a justifiable performance solution.*

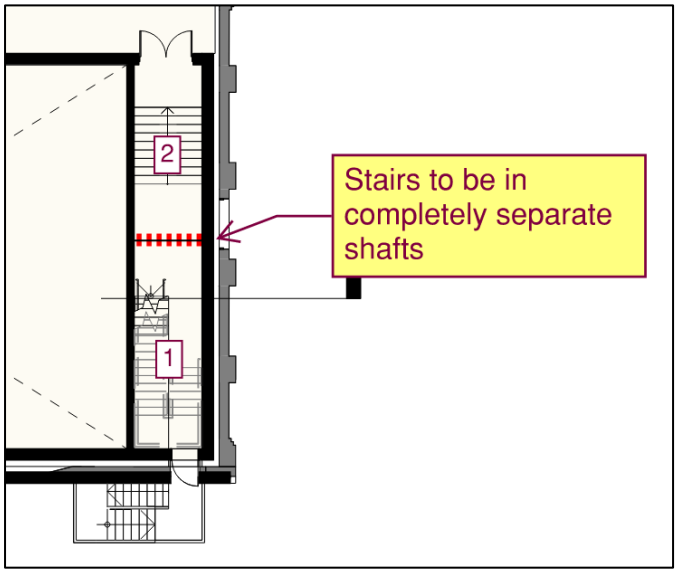


Figure 6 - fire separation required between the stair shafts

4.25 D2D5 – Exit Travel Distance / D2D6 – Distance between alternative exits

The BCA maximum permitted travel distances are:

- 20 m to an exit, or
- 20m to a point in which travel in two different directions to two alternative exits are available, where then the maximum distance is 40 m to the nearest exit of the two, measure back from the starting point, and 60 m between alternative exits measure through the point of choice.

Exits that are required as alternative means must not be less then 9m apart and must not converge such that they become less than 6m apart.

Comment: The following DTS non-compliant exit travel distances have been identified in Table 9 below - worst cases only. Refer Appendix C for the Exit & Travel Distance Assessment Plan Mark-ups. Suggested resolutions have been nominated below.

Note that furniture layouts are required in order to complete the following assessment, as more travel distance non-compliances may be identified upon final assessment.

Location	DTS Travel Distance Requirement	Actual	Design Team Nominated Resolution
Basement car spaces *Refer travel assess A of Appendix C*	*20*	***30***	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.
L02 – Southern Gallery *Refer travel assess G of Appendix C*	*20/40/60/80*	***21****/30/45/56*	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.
L03 – Pool Plant *Refer travel assess J of Appendix C*	*20/40/60*	***27****/30/56*	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.
L04 – In-side the pool *Refer travel assess L of Appendix C*	*20/40/60*	***30****/30/27*	The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

Table 9 - Travel Distance Assessment

4.26 D2D7 / 8 / 9 – Heights and Widths of required exits

The aggregate unobstructed width of required exits or paths of travel to an exit must not be less than that specified in the abovementioned clauses.

Comment: Table 3 below illustrates the maximum number of persons permissible based on the available exit widths under BCA Clause D2D8. Further documentation is required to ascertain whether the egress widths provided, comply. It has been assumed that each exit will provide a minimum of 1 m as required by D1.6 – hence the question mark in the below Table 3 below. Where compliance has not been met, the Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

Location	No. of Occupants	DTS required width (m)	Illustrated width (m)	Compliance achieved?
Basement	72	1.00	Approx 1.25	?
Ground Level	167	1.75	Approx 3.00	?
Level 1	18	1.00	Approx 1.00	?
Level 2	131	1.50	Approx 3.00	?
Level 3	413	4.00	Approx 3.00	X Population is currently limited to 320 based on egress width. Exit strategy would be required from the Fire Safety Engineer, as the exits from the Class 3 portions would need to be utilised.
Level 4	390	4.00	Approx 1.00	X Population is currently limited to 100 based on egress width.
Level 5	10	1.00	Approx 1.00	?

Table 10 - Exit Width Analysis

Paths of travel are to be not less than 1 m wide and not less than 2 m high, except for doorways which can be reduced to not less than 750 mm wide and 1980 mm high. However, increased limits are required to areas for the purposes of access for persons with disabilities and health and amenity issues in relation to minimum ceiling heights, see Part D4 and F5 below accordingly.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. However, at this stage of the design, the following paths of travel to exits are illustrated at less than 1 m:

a) Basement storerooms and meter room.

b) Pool plant room.

c) Other – TBC.

The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

4.27 D2D12 – Travel via fire-isolated exits

A doorway from a room must not open directly into a fire-isolated stairway, passageway or ramp unless it is from a public corridor, public lobby or the like; or a sole-occupancy unit occupying all of a storey; or a sanitary compartment, airlock or the like.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed.

All fire-isolated stairways or ramps must discharge directly to a road or open space, or to a point within the confines building which meets the requirements of D2D12 (1) or (2).

Comment: Preliminary assessment of this Clause is not possible without Fire Safety Engineering input. The Hotel open stair that currently spans seven (7) storeys is not proposed to be fire isolated, contrary to the DtS provisions under D2D4. In order to assess this stairway under this Clause, we will need to understand whether we can omit assessment under this Clause, and instead use BCA Clause D2D14, and consider the stair as a non-fire-isolated stairway under those provisions. As an example:

1. *If the stairs can be assessed under D2D14, then we have 20m from the base of the stairs on ground floor to reach open space (this could comply), however, if we need to assess the stairway as if it was a fire-isolated stairway, then the current discharge into the confines of the building would not comply, hence an additional non-compliance would need to be considered.*
2. *Further consideration of BCA Clause D3D4 and E2D4 (stair pressurisation to a fire-isolated stair in an atrium) should also be taken into consideration, and whether this Clause could be applied to the stairway.*
3. *This stair also has the combined issue of rising / descending flights, hence this would also need to be given consideration during the fire engineering assessment (refer to assessment under D3D5).*
4. *As a result, early consultation with a Fire Safety Engineer is required – we can then progress this assessment. Refer to Item D2 of Table 2 for more details.*
5. *In addition to above, occupants that discharge from stair 1, 4 and 6 pass unprotected openings (less than 60 min FRL for a height of 3 m above the path of travel) within 6 m of the building. The Fire Safety Engineer and Architect will need to review this detail to determine the compliance pathway (DtS, performance solution or a combination).*
6. *Furthermore, Stair 1 is required to be fire isolated as it passes by four (4) storeys. However, the stair does not meet the discharge requirements of D2D12(2) where it discharges on L02. As the stair commences as a full internal fire-isolated stairway on L03, it has been considered that BCA Clause D2D13 would not apply to the stairway, i.e., we are committed to D2D12. The Fire Safety Engineer is to comment on the feasibility of justifiable performance solution for inclusion in the FER.*

The Fire Safety Engineer has confirmed the feasibility of the above items for a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

Where the path of travel from the discharge passes within 6m of the any part of the external wall of the same building, that part, measured horizontally at right angles to the path of travel, must have an FRL of not less than 60/60/60 and all openings protected internally in accordance with C4D5. This protection must extend 3m above and below to the level of the path of travel or to the height of the wall, whichever is lesser.

Comment: Refer above, early consultation with a Fire Safety Engineer is required – we can then progress this assessment.

If more than 2 access doorways, not from a sanitary compartment or the like, open to a required fire-isolated exit within the same storey, a smoke lobby in accordance with D3D7 must be provided; or the exit must be pressurised in accordance with AS 1668.1.

Comment: Refer above, early consultation with a Fire Safety Engineer is required – we can then progress this assessment.

4.28 D2D14 – Travel by non-fire-isolated stairways or ramps

All required non-fire-isolated stairways must provide continuous means of travel by its on flights and landing to the level at which egress to the road or open space is provided.

Comment: *The required non-fire isolated exit stair (stair 7) discharges on Level 3 in lieu of within 20 m of an external exit door on Ground Level. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.*

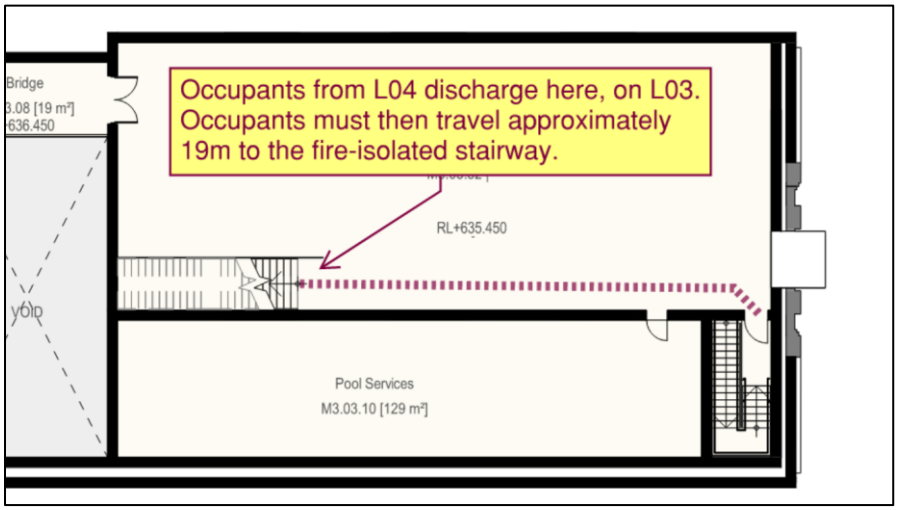


Figure 7 - Discharge of non-fire-isolated stairs

When traveling via a non-fire-isolated stairway, the total distance from any point of the floor to the point of road or open space must not exceed 80 m, and the non-fire-isolated stairway must discharge at a point no more than 20 m from a required door providing egress to the road or open space, or the doorway proving egress to a fire-isolated exit leading to a road or open space. This 20 m can extend up to 40 m if there are 2 exits available in the opposite direction.

Comment: Refer to assessment under BCA Clause D2D4 above for more information.

4.29 D2D15 – Discharge from exits

All exit discharges must not be blocked, must maintain an unobstructed path of travel width of the required exit or 1 m to the open space, must, if at a different level to the open space, have a path of travel by ramp or stairway no steeper then 1:8 or not steeper the 1:14 if required to be accessible via Part D4. Where two exits have been used as alternative exits, they must discharge as far apart as practical.

Comment: Where each exit discharges to open space, this Clause requires that a safe means of travel be provided from the open space to a public road. A minimum 1 m clear pathway shall be shown on the architectural drawing set connecting each exit to the carpark/ public road.

Please also confirm if there are any locks to the site that would prevent occupants from leaving the site.

4.30 D2D18 – Number of persons accommodated

This clause allows for the calculation of occupants per storey. It is determined with consideration to the purpose for how which the storey or room is used. The floor area for each part is divided by the square meter per person listed in Table D2D18. Other means of calculation can be used by reference to a seating capacity or other means of assessing capacity.

The below table illustrates the method of calculation for each part. Further discussion with the design team is required to establish realistic occupant loads at the worst-case scenario / peaks. This determination will need to be endorsed by the client/user. If the client/user has more accurate actual numbers, then this can be used. The Project Team is to review and comment on the accuracy of occupant's numbers below.

Location	Room Number	Area m2	Person Usage Factor %	Tenancy Person Usage Area m2	m2/person	Calculation Method	Persons Accommodated
Basement							
Carpark		405	100%	405	30	Table D2D18 (carpark)	**10**
Laundry		191	90%	171.9	30	Table D2D18 (gallery)	**6**
Gym		177	90%	159.3	3	Table D2D18 (office)	**54**
Staff (assumed)						Assumed (Number TBC by client	**2**
TOTAL							**72**
Ground Level							
Hotel rooms						8 rooms x 2 occupants	**16**
Foyer	M3.05.31	130	90%	117	4	Table D2D18 (gallery)	**30**
Foyer / Gallery / platform	M3.00.01+03+06	168	90%	151.2	4	Table D2D18 (gallery)	**38**
Northern gallery	M3.00.09	356	90%	320.4	4	Table D2D18 (gallery)	**81**
Staff (assumed)						Assumed (Number TBC by client	**2**
TOTAL							**167**
Level 1							
Hotel rooms						9 rooms x 2 occupants	**18**
Staff (assumed)						Assumed (Number TBC by client	**2**
TOTAL							**20**
Level 2							
Hotel rooms						9 rooms x 2 occupants	**18**
Southern gallery	M3.02.01	216	90%	194.4	4	Table D2D18 (gallery)	**49**
Terrace	M3.02.06	84	90%	75.6	4	Table D2D18 (gallery)	**19**
Circulation	M3.02.06	159	90%	143.1	4	Table D2D18 (gallery)	**36**
Platform		28	90%	25.2	4	Table D2D18 (gallery)	**7**
Staff (assumed)						Assumed (Number TBC by client	**2**
TOTAL							**131**
Level 3							
Hotel rooms						9 rooms x 2 occupants	**18**
Kitchen	M3.03.01	59	90%	53.1	10	Table D2D18 (kitchen)	**6**
Restaurant Dining	M3.03.02	150	90%	135	1	Table D2D18 (dining)	**135**
Amenities	M3.03.05					N/A	
Bridge	M3.03.08					N/A	
Event room	M3.05.32	266	90%	239.4	1	Table D2D18 (dining)	**240**
Pool services	M3.03.10	129	90%	116.1	30		**4**
Staff (assumed)						Assumed (Number TBC by client	**10**
TOTAL							**413**
Level 4							
Hotel rooms						7 rooms x 2 occupants	**14**
Bar	M3.04.02	76	90%	68.4	10	Table D2D18 (kitchen)	**7**
Lounge 1	M3.04.04	241	90%	216.9	1	Table D2D18 (dining / hall)	**217**
Lounge 2	M3.04.07	109	90%	98.1	1	Table D2D18 (dining / hall)	**99**
Amenities	M3.04.03	60				N/A	
Pool	M3.04.06	150				N/A	
Landscape terrace	M3.04.08	47	90%	42.3	1	Table D2D18 (dining / hall)	**43**
Staff (assumed)						Assumed (Number TBC by client	**10**
TOTAL							**390**
Level 5							
Guest suite						Assumed	**10**
TOTAL							**10**

Table 11 - Population

4.31 D3D4 – Non-fire-isolated stairs and ramps

In a building having a rise in storeys of more than 2, required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to D3D3, or only of material listed in D3D4

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Refer to assessment under BCA Clause D2D4 above for more information.

4.32 D3D8 – Installation in exits and paths of travel

Any service or equipment that comprises of electricity meters, distributions boards, central telecommunications distributions boards or equipment, must be suitable sealing against the spread of smoke and be made of:

- Non-combustible construction, or
- Fire-protective coverings

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Refer to Item A(6) + (7) of Table 3.

4.33 D3D9 – Enclosure of space under stairs and ramps

Fire-isolated stairways and ramps — If the space below a required fire-isolated stairway or fire-isolated ramp is within the fire-isolated shaft, it must not be enclosed to form a cupboard or similar enclosed space.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed.

Non fire-isolated stairways and ramps - Any space below a required non-fire-isolated stairs must not be enclosed to form a cupboard or the like unless the enclosing walls and ceiling are not less than 60/60/60 and the doorway to be -60/30 self-closing door.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed.

4.34 D3D14 – Goings and Risers / D2D15 – Landings

All stairs must comply with the number of risers across the flight; the dimensions of the risers and goings, including consistent dimensions between adjacent treads, achieve the minimum slip resistance, achieve the minimum landing length at the top, middle and bottom of the flight, as well as other requirements required by BCA Clause D3D14 and D2D15 and AS1428.1-2009.

Refer Appendix E Stair Analysis for various requirements for the various stair and ramp scenarios and related provisions for your convenience.

Comment: Further information is required in order to confirm compliance with this part. Refer Table 3 Item D.

Detailed dimensioned drawings (1:50-1:10) of the stairs inclusive of steps and nosing's, are to be provided in line with these Clauses and AS 1428.1-2009. The drawings will be reviewed by the Group DLA Access Consultant and provide compliance confirmation with AS1428.1-2009.

4.35 D3D16 – Door Thresholds

The 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 threshold of exit doors, which open to a road or open space, are to be level or contain a step ramp or threshold ramp in accordance with AS1428.1-2009. This includes all of the required exit doors and the doors discharging from the building via the fire-isolated stairs and passageways. Figure 8 below illustrates typical complaint threshold and step ramps.

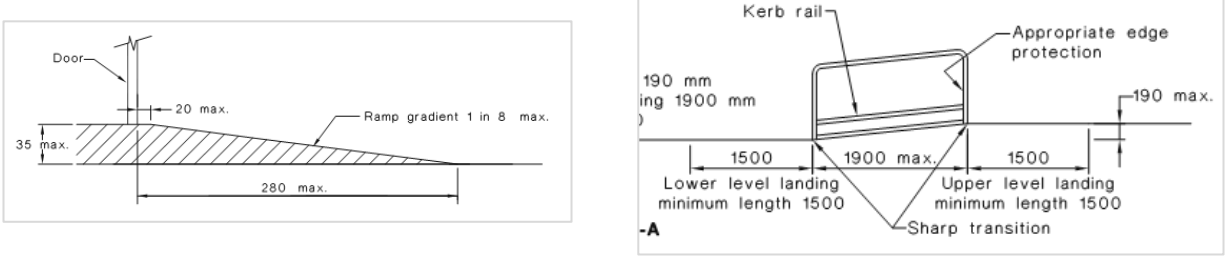


Figure 8 - Threshold Ramp & Step Ramp

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. RL's of each side of each threshold required on the architectural drawings for further assessment. As the building is accessible. Where threshold ramps or steps are proposed, detailed dimensioned drawings (1:50-1:10) should be provided.

4.36 D3D17 / D3D18 / D3D19 / D3D20 / D3D21 – Barriers

Fall barriers are to be provided along a surface edge where the trafficable surface is 1 m or more above the surface beneath. All fall barriers are to be designed and installed to AS1170.0-2002, AS1170.1-2002 and AS1288-2006 (where glazing is used).

Fall barriers are mostly required to be 1m or higher in height, with lower provisions allowed along stairway or ramp.

Openings in a barrier must not allow a 125mm sphere to pass through, except for fire-isolated stairs, where this can be increased to 300mm: or where rails are used, 150mm from the noising to the bottom rail and 460mm between rails.

Where trafficable surface is 4 m or more above the surface beneath, the fall barrier can not have any near horizontal elements that could facilitate climbing between 150mm and 760mm from the standing surface. This does not apply to fire-isolated exits.

Comment: Further information is required in order to confirm compliance with this part. Refer Table 3 Item D.

Detailed dimensioned drawings (1:50-1:10) of all barriers are to be provided in line with these clauses. This includes an existing barriers that are to remain. Compliance cannot be confirmed at this stage.

4.37 D3D22 – Handrails

All stairs and ramps must contain complaint handrails including the number of handrails on the side of the stair or ramp, the height of the handrail including the consistent height across the flight, as well as other requirements required by BCA Clause D3D22. In Areas required to assist people with a disability, handrails must be provided in accordance with D4D4.

Refer Appendix E Stair Analysis for various requirements for the various stair and ramp scenarios and related provisions for your convenience.

Comment: Further information is required in order to confirm compliance with this part. Refer Table 3 Item D.

Detailed dimensioned drawings (1:50-1:10) of the stairs and ramp inclusive of handrails, are to be provided in line with these clauses and AS1428.1-2009.

The Access Consultant is to review these drawing and provide compliance confirmation with AS1428.1-2009.

4.38 D3D24 – Doorways and doors

A doorway serving as a required exit or forming part of a required exit must not be fitted with a sliding door unless it opens directly to a road or open space. If the door is fitter with a power-operated function, then it must be able to be opened manually under a force not more than 110 N if there was a malfunction to the power failure, and if it leads directly to the road or open space it must open automatically on the activation of a fire detection or power failure.

Any power operated door in a path of travel, must be able to be opened manually under a force of not more than 110N if there is a failure to the power source.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Door schedule is to be provided – Refer to Item E of Table 3.

4.39 D3D25 – Swinging Doors

Generally, all **required exit doors** must swing in the direction of egress. This does not include doors in the path of travel to an exit.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Door schedule is to be provided – Refer to Item E of Table 3.

4.40 D3D26 – Operation of latch

All required exit doors, doors forming part of a required exit and doors in the path of travel, must be readily openable without a key from the side that faces a person seeking egress. This can be by a single hand downward actions on a single device located between 900mm and 1100mm from the floor. If servicing an area required to be accessible by Part D4, this device must be such that the hand of the person can not slip off the device and have a clearance between the handle and the back plate not less than 35mm and not more than 45mm. If the latch operation device is not located on the door leaf itself, the controls must be installed in accordance with D3D26 (a) (iii).

This clause does not apply to a door fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler system or smoke detection system installed throughout the buildings and is then readily openable when unlocked.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Door schedule is to be provided – Refer to Item E of Table 3.

For the Class 9b building, the requirements above do not apply to the doors serving a storey or room accommodating more than 100 persons, in which case it must be readily openable without a key from the side that faces a person seeking egress; and by a single hand pushing action on a single device such as a panic bar located between 900 mm and 1.2 m from the floor.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Door schedule is to be provided.

The architect is to review and provide a plan noting where panic bars are required. Where these are not achievable, i.e. sliding doors or doors in the path of travel not opening in the direction of travel - the Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

There is another item to consider when assessing this Clause, and that is the security risk of any power operated doors openings on fire trip. It may be desirable for security reasons that some doors remain shut during a fire alarm. If this is the case, the Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

4.41 D3D29 – Protection of Openable Windows

A barrier with a height not less than 865 mm above the floor is required to an openable window where the floor below the window is 4 m or more above the surface beneath. The barrier must not permit a 125 mm sphere to pass through it and have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing, except in the fire-isolated stair and carpark, it must not permit a 300m sphere to pass through it.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Item D of Table 3 above stipulates what is needed in terms of developing these plans.

4.42 Part D4 – Access for people with a disability

Refer Group DLA Access Consultants Report for the assessment against this part.

Refer Appendix E Stair Analysis for various requirements for the various stair and ramp scenarios and related provisions for your convenience.

Section E –Services & Equipment

The following firefighting equipment is required to be installed in the M3-M4 building, including the any balconies/ terraces which are defined as outdoor occupiable areas:

a) **Automatic shutdown** of any air handling system which does not form part of the smoke hazard management system. Ref: BCA Clause E2D3 & NSW E2D16.

b) **Smoke exhaust** – TBC. The majority of the building is to be used as an exhibition hall or the like as per BCA NSW Clause NSW E2D18. At this point of design, the building is proposed to be a single fire compartment. As the floor area is over 3,500m2, the building is to have a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 AND a smoke exhaust or automatic smoke and heat vents.

   Confirmation of the size of the Class 9b compartment is required to confirm smoke exhaust requirements. Further compartmentation may be considered throughout the silo portions of the building as discussed with the Architect.

c) **Stair pressurisation** – to Clause E2D4. Automatic stair pressurisation is required to a fire-isolated stairway which serves an atrium which Part G3 applies. An automatic air pressurisation system for a fire-isolated exit must serve the entire exit.

d) **Smoke detection and alarm system** – Clause E2D9, Part G3, S20C5 or S20C6 (Service Engineer to confirm final system) of Specification 20 in support of Automatic Shut Down (item (a) above).

   (*Final system to be confirmed by the Fire Services Engineer for review by Group DLA)*

e) **EWIS** to BCA Clause E4D9 and AS 1670.4

f) **Sprinkler system (TBC)** – to Clause E1D4, E1D6, E2D9, Part G3, Specification 17, Specification 18, Specification 31 and AS 2118.1-2017

   With the installation of a sprinkler system complying with BCA Clause E1D4 and Specification 17 (note that the system cannot be an FPAA system), the roof covering of the building may be non-combustible in lieu of complying with BCA Table S5C11g.

   Note item (b) abive – where a 9b portion of the building is over 3,500m2, then a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 would be required to the building.

   A sprinkler system is also required under BCA Clause E2D9 as the Class 9b building has a rise in storeys of more than 3 (refer to Clause for other options).

   (*Final system to be confirmed by the Fire Services Engineer for review by Group DLA).*

   Pending above sprinkler system - **Fire Alarm Monitoring system / Alarm signalling Equipment** in accordance with Clause S20C8 and AS 1670.3-2018 – TBC by Fire Services Engineer.

g) **Fire hydrants** to Clause E1D2 and AS 2419.1 – 2021.

h) **Fire hose reels** to Clause E1D3 and AS 2441-2005.

   (Pending any Fire Engineering assessment to omit the need for hose reels – TBC).

i) **Portable fire extinguishers** to Clause E1D14 and AS 2444-2001 as limited by BCA Clause E1D14.

   i. Residential areas - 2.5kg or more Type ABE fire extinguishers are required to be located within 10m of all apartment entry doors.

j) **Emergency lighting and exit signs** are required to be installed throughout the building in accordance with Part E4 of the BCA and AS 2293.1-2018.

k) **Fire and smoke dampers** in accordance with Clause C4D15 of the BCA, AS 1668.1-2015 and AS 1682.1.

l) **Fire precautions during construction** to Clause E1D16 – compliance required.

m) **Atrium provisions** complying with Part G3, Specification 31 and **FER - TBC**

n) **Any enhanced or additional systems** that are deemed to be required by the Fire Safety Engineer or any Fire Services Engineers.

Note: This list is not complete, further discussion with the Fire Safety Engineer and other fire services consultants required.

Note: The items listed above are the minimum essential services required by the BCA. Additional fire & life safety items may be added subject to design review. The buildings insurance representative should be consulted to ensure all required items are captured in the building. Additionally, the project Fire Safety Engineer may have further requirements to be captured in the design/ build.

The following have been noted at this stage of the design:

a) *Fire Services Engineer / Architect is to confirm the location of the hydrant booster (The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.).*
b) *Pending Fire Engineering assessment for omission of hose reels, it should be noted that fire hose reels cannot pass through fire walls/ doors (if any fire walls are proposed).*
c) *Updated plans to show internal hydrants within 4 m of required exits. Detailed plans or sections are required at Design Development stage to confirm compliance is achieved. Note that certain fire hydrants will not be located in fire isolated stairs, rather Fire Engineered stairs. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.*
d) *Updated plans to show fire hose reels within 4 m of required exits (TBC pending Fire Engineering assessment to omit hose reels). Detailed plans or sections are required at Design Development stage to confirm compliance is achieved.*
e) *E1D17 - Solar panels if proposed to be installed on the rooftop of the building. Generally, FRNSW will require specific items to be installed, these typically include the following:*
    a. *A schematic diagram shall be clearly displayed at the FIP indicating the presence of solar panels and shall achieve the following requirements:*
        i. *The schematics diagram must be constructed of all-weather fade resistant material.*
        ii. *Heading on the schematics diagram to be 25mm in red – 'SOLAR PANELS', with a contrasting-coloured background.*
        iii. *The schematics diagram must clearly identify the location of the solar panels along with the type of alternative electrical generation system installed.*
        iv. *If the solar panels automatically isolate on fire trip, this should be indicated on the schematics diagram.*
    b. *A block plan is to be provided and displayed at the FIP showing the location of all associated isolation switches, AC and DC isolators for the shut-off of generated electricity.*

Part E3 - Lift Installations - The BCA requires the following lift provisions to be implemented for this development:

- **Stretcher facilities** as required by Clause E3D3.
- **Warning signage**, i.e. "Do not use lifts if there is a fire"
- **Landings** are to comply with the access and egress provision of Section D of the BCA.
- The lifts must be a type of lift noted in **E3D7** and must have **Accessible features** in accordance with **E3D8**, i.e. handrails, certain dimensions, etc.
- **Fire services controls** in accordance with Clause E3D9 and E3D11.
- The lift cars must have **emergency lighting** in accordance with **Specification S24C3.**
- An **electric passenger lift** installation and an electrohydraulic passenger lift installation must comply with **Specification 24**, including
- **Lift cars exposed to solar radiation**, in accordance with **Specification S24C2,** must have mechanical ventilation at a rate of one air change per minute or mechanical cooling. As well as a 2 hour alternative power source for the mechanical system in the event of power loss.
- **Cooling of the lift shaft** in accordance with **Specification S24C4**, to ensure that the dry bulb air temperature in the lift shaft does not exceed 40oC and if the cooling is by ventilated system, be provided with an air change rate determined using a temperature rise of no more than 5 K.
- **Access to Lift Pits** in accordance with D2D22

Section F – Health and Amenity

4.43 Part F1 - Surface water management, rising damp and external waterproofing

Storm water drainage must comply with Clause F1D3 - AS/NZS 3500.3 and the NCC Plumbing Code of Australia.

Moisture from the ground must be prevented from reaching the building elements such as the flooring, walls above DPC levels, etc. Vapour barriers must comply with AS 2870-2011.

Any external above ground membranes are required to comply with AS 4654 Parts 1 & 2. This is a new requirement coming into effect as of 1 May 2014 and careful design consideration will need to be applied in the areas of the balconies and the like in this development. This may be applicable for the proposed trafficable rooftop area of the design.

Balcony surface water must drain to the drainage outlet via a finished floor fall of no flatter than 1:100.

There may be conflict with the accessible provisions of Part D4 of the BCA which will need to be comment on further by the access consultant, as this Standard may require hobs at the thresholds to the rooftop, see Figure 13 below. There is relief available as the Standard does allow for a gutter system at the threshold of the door sill, which is to be fitted with an AS1428.1-2009 approved grate, in lieu of a hob (Ref: AS 4654.2). However, such detail should only be determined in accordance with the hydraulic engineer and the access consultant. Note that the accessible Standard contains restrictions on heights differences between abutting surfaces, such as the flooring and door sill, and a review of Section 7 of AS 1428.1-2009 should be considered as part of the threshold designs.

Figure 9 below also illustrates the membrane termination heights which are given in Table A1 of Appendix of the Waterproofing Standard. Note that the heights are related to the determined wind class from AS 4055-2012 and should only be determined by the appropriate project engineer, i.e. structural, hydraulic or façade engineer.

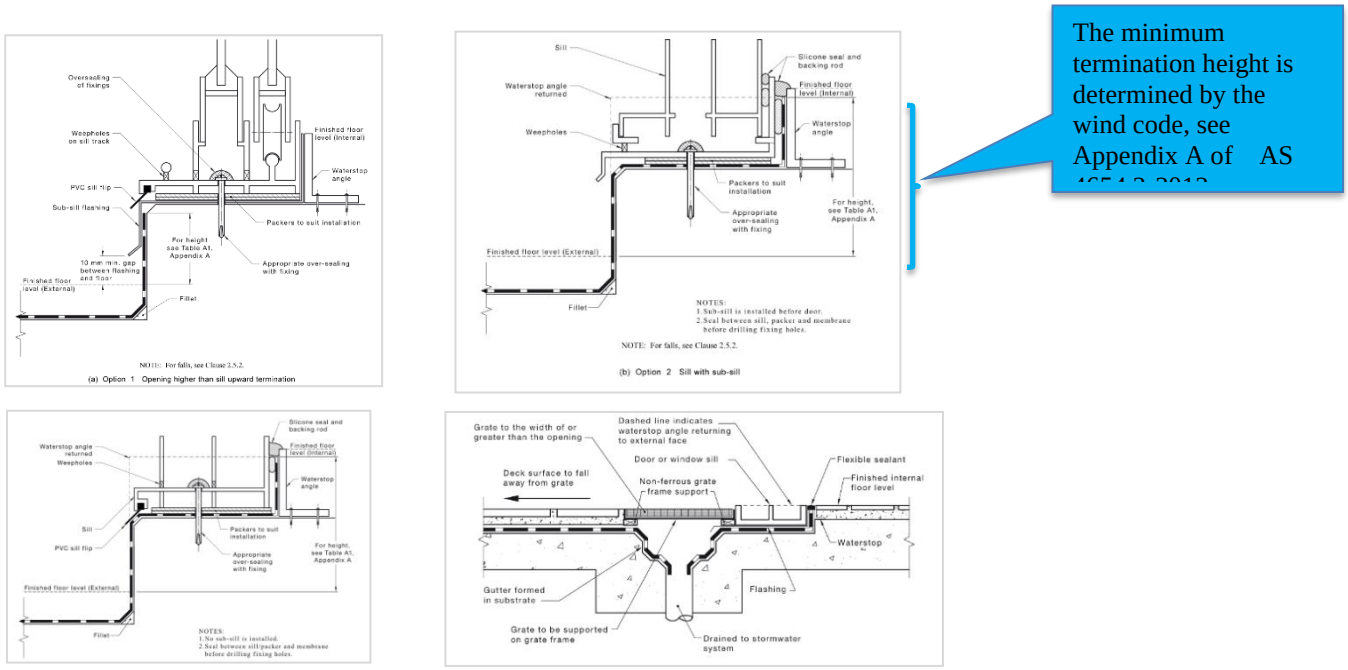


Figure 9 - Various waterproofing options at threshold and outlets.

Comment: Design Certification is required from the relevant Consultant Engineers for each of these services prior to the issue of a Crown Building / Construction Certificate for the commencement of construction works.

4.44 Part F2 - Wet areas and overflow protection

The internal wet areas must comply with BCA Clause F2D2, Specification 26 and AS 3740-2010. Where urinals are proposed, the wall and floor surface must comply with Clause F2D3.

Comment: Design Certification is required from the relevant Consultant for each of these services prior to the issue of a Crown Building / Construction Certificate for the commencement of construction works. The Structural Engineer is to note this item as it's becoming an issue for structural floor thickness. The Structural engineer to review and the design is to illustrate compliance.

4.45 Part F3 - Roof and Wall Cladding

With reference to the new proposed external walls, the systems used will need to meet the requirements of Part F3.

Please note that BCA 2022 may permit wall cladding such as masonry, concrete, metal clad as DtS compliant as currently identified within the BCA 2022 Draft.

Comment: Designer to review the DtS and Performance Provisions of the BCA. Any systems of the proposed design that do not meet the strict DtS requirements of the BCA shall form part of a Performance Solution by the Architect / façade engineer.

The following glazed assemblies in an external wall, must comply with AS 2047 requirements for resistance to water penetration:

a) Windows.
b) Sliding and swinging glazed doors with a frame, including French and bi-fold doors with a frame.
c) Adjustable louvres.
d) Shopfronts.
e) Window walls with one piece framing.

Comment: Design Certification is required from the relevant Consultant for each of these services prior to the issue of a Crown Building / Construction Certificate for the commencement of construction works

4.46 Part F4 – Sanitary and other Facilities

Sanitary facilities and quantities are to be in accordance with BCA Clause F4D3, F4D4 & Tables F4D4. Please note that the below summary table assumes that all building occupants (including all staff and participants) have full access throughout the building whilst the building is occupied. The Architect/ Client shall confirm that full access to the building is provided at all times during occupancy. If this is not the case, then a reassessment would be required to determine if sufficient sanitary facilities are provided. Notwithstanding above, a summary of the facilities required in the total building is based on our previous population numbers determined in D3D18 as follows.

Note that 2 scenarios have been provided for consideration by the design team:

1. Scenario 1 – Mixture of gallery and dining uses.
2. Scenario 2 – Mixture of function, gallery and dining uses.

Note that additional ambulant bathrooms are required on Level 03 (one for male and one for female occupants).

Scenario 1

Gallery patrons have full use of Ground, L02 and L03 amenities. The dining / bar / lounge patrons have full access to the L04 facilities.

Staff *(F4D4a)*				
Staff for the site have been counted in the M1+M2 building population.				
Class 9b gallery patrons with full use of Ground, L02 & L03 amenities *(F4D4h)*				
Gender	Closet Pans	Urinals	Wash Basins	Population
Male	**1 (250)**	3 (300)	4 (600)	250 limited by male pans
Female	5 (350)	-	5 (830)	250 limited by male pans
Class 6 restaurant / bar patrons in the dining / lounge / bar areas *(F4D4d)*				
Gender	Closet Pans	Urinals	Wash Basins	Population
Male	**1 (100)**	**2 (100)**	2 (200)	100
Female	**3 (100)**	-	4 (150)	100
TOTAL				

Gender	**Total Population**
Male	**350**
Female	**350**
TOTAL	**700**

Scenario 2

This scenario considers a mixed use for the building, i.e.:

1. Gallery spaces on Ground Floor, L02 and L03 are open to the public / visitors. The total population permitted based on bathroom numbers would be 100 patrons.
2. The restaurant on Level 03 is open and operating with a capacity of 200 patrons based on bathroom numbers.
3. The function / event room / lounge / bar is operating with a capacity of 200 patrons based on bathroom numbers.

Please confirm the below population split is ok. If there is another preferred population split, then please provide this for further assessment.

Staff *(F4D4a)*				
Staff for the site have been counted in the M1+M2 building population.				
Class 9b gallery patrons with full use of Ground, L02 & L03 amenities *(F4D4h)*				
Gender	Closet Pans	Urinals	Wash Basins	Population
Male	0.02	0.50	0.33	50
Female	2	-	0.63	50
Class 6 restaurant / bar patrons in the L03 dining *(F4D4d)*				
Gender	Closet Pans	Urinals	Wash Basins	Population
Male	1	2	1.33	100
Female	3	-	1.50	100
Class 9b function patrons on L03 + L04 *(F4D4L)*				
Gender	Closet Pans	Urinals	Wash Basins	Population
Male	1	2	1.33	100
Female	3	-	1.50	100
TOTAL				

Gender	**Total Population**
Male	**250**
Female	**250**
TOTAL	**500**

Sanitary compartments must have doors and partitions that separate adjacent compartments and extend from floor level to the ceiling in the case of a unisex facility or in other cases 1.8 m above the floor. The door to a fully enclosed sanitary compartment must open outwards, slide, or be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2 m between the closet pan within the sanitary compartment and the doorway.

Comment: Further review of the developed construction documentation is required before a final assessment against this part of the BCA can be completed.

A sanitary compartment must not open directly into, a kitchen or pantry; a public dining room or restaurant; a dormitory in a Class 3 building; a room used for public assembly; or a workplace normally occupied by more than one person. If it does, then the compartment must be accessed via an airlock, hallway or other room with a floor area of not less than 1.1 m2 and fitted with self-closing doors at all access doorways; or the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.

Comment: Further review of the developed construction documentation is required before a final assessment against this part of the BCA can be completed.

4.47 Part F5 – Room Heights

The ceiling height must be not less than.

- Generally throughout - 2.4 m, except for
- Corridors, passageway, or the like - 2.1 m; and
- General stores, plant or the like - 2.1 m; and
- a bathroom, shower room, sanitary compartment, airlock, tea preparation room, pantry, store room, or the like - 2.1 m; and
- a commercial kitchen - 2.4 m; and
- above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like, and 2.1m above the stair/ramp landings.

Comment: Further review of the developed construction documentation is required before a final assessment against this part of the BCA can be completed.

4.48 Part F6 - Light and Ventilation

Artificial lighting must be provided to all rooms in accordance with Clause F6D5, G6D9, and AS/NZS 1680.0-2009.

Comment: Design Certification is required from the relevant Consultant prior to the issue of a Crown Building / Construction Certificate for the commencement of construction works.

A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F6D7, or a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1.

Any commercial cooking it must have a kitchen exhaust system complying with AS 1668.1-2012 & AS 1668.2-2012.Any duct work passing through fire compartments will need to be carefully considered in terms of fire separation of the duct as dampers are not permitted.

Comment: Design Certification is required from the relevant Mechanical Consultant for each of these services prior to the issue of a Crown Building / Construction Certificate for the commencement of construction works.

Natural lighting is to be provided to each bedroom for the Class 3 SOUs. Windows are required to have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room.

Comment: As shown below, some of the SOUs show a bedroom internal, away from the window. If we are to apply F6D4 where natural lighting can be borrowed from an adjoining room, then the window would need to be a minimum of 4.5m^2. It has been confirmed by the Architect that the natural lighting will comply through the use of staggered, open brickwork. Awaiting the calculations for confirmation.

A sanitary compartment must not open directly into, a kitchen or pantry; a public dining room or restaurant; a dormitory in a Class 3 building; a room used for public assembly; or a workplace normally occupied by more than one person. If it does, then the compartment must be accessed via an airlock, hallway, or other room with a floor area of not less than 1.1 m2 and fitted with self-closing doors at all access doorways; or the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.

Comment: Further review of the developed construction documentation is required before a final assessment against this part of the BCA can be completed.

Section G – Ancillary Provisions

4.49 Part G1 – Minor Structures and Components

NSW G1D2 – Swimming Pools

A swimming pool with a depth of water more than 300 mm and which is associated with a Class 3 building must have suitable barriers to restrict access by young children to the immediate pool surrounds in accordance with AS 1926 Parts 1 and 2.

However, in NSW, out-of-ground pool walls and the walls of above ground pools, including inflatable pools, are not to be considered to be effective barriers; and the reference in Clause 2.3.1 of AS 1926.1 to a barrier within a property including a boundary barrier.

Note: The Swimming Pools Act 1992 and the Swimming Pools Regulation 2018, applicable to swimming pool with a depth of water of more than 300 mm, regulate the circumstances in which a barrier is required and prevail in the case of any inconsistency.

Comment: Further review of the developed documentation is required before an assessment against this part of the BCA can be completed. Note that any doors / gates that are proposed as the pool barrier are to be self-closing. This may be an issue with the proposed sliding door to the terrace / pool.

A suitably qualified E1 certifier is to review the drawings and provide a report on the compliance of the proposed pool safety barriers.

4.50 Part G2 – Boilers, Pressure Vessels, Heating Appliances, Fire laces, Chimneys and Flues

TBC once known what type of Fireplace is proposed. Further assessment is required once known.

4.51 Part G3 – Atrium Construction

The hotel and silo form an atrium in the building.

Compliance with BCA Part G3 provisions are required, however, the project may warrant consideration to omit of some of these provisions. The Fire Safety Engineer has confirmed the feasibility of a justifiable performance solution for inclusion in the FER. Refer to Credwell DA Fire Engineer Letter dated 20/02/2024.

Note that the Fire Safety Engineer has not confirmed which items will be assessed, such as:

1. *G3D4 bounding construction details.*
2. *G3D2 dimension of the atrium to be minimum 6m diameter.*
3. *G3D6 sprinkler system to the silo roof.*
4. *G3D7 a minimum of 2 exits are not provided from within the atrium.*

It has been assumed that these items will be addressed at the next stage of design, following the development application.

4.52 Part G4 – Construction in Alpine Areas

This Part is not applicable to this development.

4.53 Part G5 – Construction in Bushfire Prone Areas

Provide a Bushfire Assessment Report confirming the design complies with the BCA and AS 3959-2018 and Planning for Bushfire Protection (PBP).

4.54 Part G6 – Occupiable Outdoor Areas

The part applies to all areas which are deemed occupiable outdoor areas. This is defined as a space on a roof, balcony, or similar part of a building, that is open to the sky; and to which access is provided, other than access only for maintenance; and that is not “open space” or directly connected with open space.

- Clause G6D2 - Fire hazard properties
- Clause G6D3 - Fire separation
- Clause G6D4 - Provision for escape
- Clause G6D5 - Construction of exits
- Clause G6D6 - Firefighting equipment
- Clause G6D7 – Lift Installations
- Clause G6D8 - Visibility in an emergency, exit signs and warning systems
- Clause G6D9 - Artificial Lighting
- Clause G6D10 – Fire orders

Comment: Design Certification is required from the relevant Consultant prior to the issue of a Crown Building / Construction Certificate for the commencement of construction works

Section J – Energy Efficiency

4.55 Part J1 Energy efficiency performance requirements

This Part sets the thermal performance properties of building fabric, the energy efficiency of key energy using equipment and the features a building must have to facilitate the future installation of distributed energy resources.

Compliance with Section J is required for this development. The building is located within Climate Zone 6.

Comment: An appropriately qualified ESD/Energy Efficiency consultant is to provide a Section J Report that confirms compliance of all new proposed building works against Section J of the BCA.

Below is an assessment to BCA 2022 provisions, note that this will need to be updated once the ESD consultant has provided their report.

- BCA Part J1 – Performance Requirements: Noted
- BCA Part J2 – Energy Efficiency: Noted
- BCA Part J3 – Provisions for a sole-occupancy unit of a Class 2 building: *N/A*
- BCA Part J4 – Building Fabric / Glazing/wall: A Total System U-Value of wall and glazing construction in accordance with Clause J1.5 must not be exceeded. *Submission of the system calculations will be required prior to the issuance of the relevant Construction Certificate.*
- BCA Part J5 – Building Sealing: *Details of compliance with this provision is required to be illustrated within the architectural documentation, i.e. where required, self-closing doors, window and doors seals to be illustrated within the schedules.*
- BCA Part J6 – Air-conditioning and Ventilation Systems: *Design certification from the mechanical consultant will be required prior to the issuance of the relevant Construction Certificate.*
- BCA Part J7 – Artificial Lighting and Power – *Design certification from the Electrical consultant will be required prior to the issuance of the relevant Construction Certificate.*
- BCA Part J8 - Heated Water Supply and Swimming Pool and Spa Plant: *Installation and Commissioning Certification from the Plumbing Contractor will be required prior to the issuance of the Occupation Certificate. Compliance with the NCC Plumbing Code of Australia required.*
- BCA Part J9 – *Energy Monitoring: Design Certification from the services consultant will be required in relation to BCA Clause J9D3, prior to the issuance of the Construction Certificate*

At this stage of the design, the following high-level Section J Compliance issues have been noted:

a) *Unsealed openings in the building envelope are required to be self-closing and contain air-infiltration seals.*
b) *Insulation concerns with regards to existing walls.*
c) *Openings without glazing or sealing and nil envelope insulation.*
d) *Hold open doors and semi-open spaces v's conditioned space and sealing of openings / doors with self-closing requirements.*
e) *The L05 guest suite and bathroom skylight shall be confirmed as being 5% or less of the floor area of the room it serves. The L05 floor plan and the roof plan show something different.*
f) *The L04 skylight is more than 5% of the floor area of Lounge 2.*

Further assessment by the ESD Consultant required. It is expected that a Performance Solution Report will be issued.

It is assumed that in order to comply with J1P1, modelling will be required. ESD Consultant is to confirm which Verification Method will be applied (JV1 Nabers, JV2 Green Star, JV3 / JV4 Reference Building).

5.0 PERFORMANCE SOLUTIONS

The Following are Performance Solutions proposed or expected as a result of our assessment of the listed documentation:

Fire Engineering Performance Solutions

The Following measures are proposed to be justified via Performance Solutions for the proposed building/works as follows:

- TBC at the detailed design stage. Further input from the Fire Safety Engineer is required to confirm which items in Table 2 of this report are feasible for inclusion in the FER.

Disabled Access Performance Solutions

Disabled Access consultant is to advise if any Performance Solutions are proposed for any Disabled Access matters for the building – see separate Access consultant's report for details.

Section J Energy Efficiency

It is expected that a Verification Method approach is proposed for the building based off the design, if that is the case then the Provision of the Section J report will be required to meet the requirements of the relevant Verification Clause of Section J and be provided as part of the Construction Certificate/Crown Certificate/Complying Development Certificate Application to the Certifier.

See Section J Consultants report for requirements relating to the design of the building and services requirements, which may differ from the BCA clauses contained in this report.

Weatherproofing of External Walls

As the materials that can be used as external walls under the DTS provisions (BCA Clause F3D5) are limited, and the proposed design is expected to contain other external wall material/cladding a Performance Solution to BCA Clause F3P1 is to be provided as part of the Construction Certificate/Crown Certificate/Complying Development Certificate Application to the Certifier.

Note: Design team is to establish which consultant will be preparing this Report, and the required PBDB for it as well, this is not as simple as a Design Statement but involves the preparation of a Performance Solution Report.

Important Note to Design Team / Consultants

Should the Architect or any Design Consultants believe that additional items need to be the subject of a Performance Solution or the Deemed to Satisfy provisions of the BCA or referenced Australian Standard is not able to be achieved for the design.

Then please advise Group DLA, Project Manager and Design Team as soon as possible to ensure that the team is informed to ensure captured, and solutions evaluated by the relevant consultant as soon as possible and before the design progresses to completion. Please do not assume elements will be included, if they are not listed in the above section of the Report then they are not and either the design will need to change to ensure compliance, or an additional Performance Solution will need to be discussed and assessed by the relevant consultant preparing the Performance Solution.

6.0 ESSENTIAL FIRE SAFETY MEASURES (EFSM)

TBC at the Design Development stage.

Appendix A:

BCA Provisions Checklist

BCA 2022

TBC at the Design Development stage.

Appendix B:
Fire Resistance Levels (FRL's)

M3M4 Building

Specification 5, BCA Tables S5C11a, S5C11b, S5C11c, S5C11d, S5C11e, S5C11f and S5C11g – Type A Construction: FRL of Building Elements

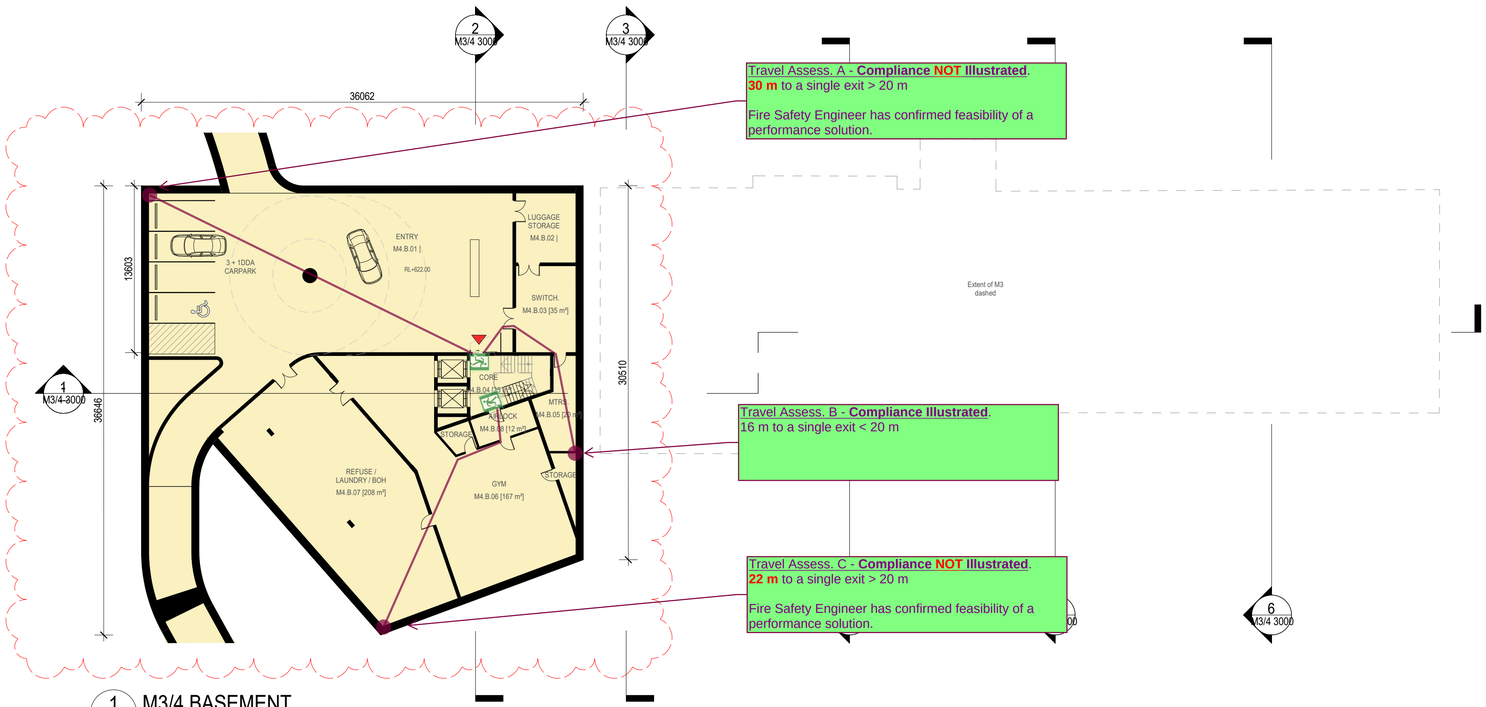
Item	Class 2, 3 or 4 part	Class 5, 7a or 9b	Class 6	Class 7b or 8
Loadbearing External Walls • Less than 1.5m to a fire source feature • 1.5 – less than 3m from a fire source feature; • 3m or more from a fire source feature	90/90/90 90/60/60 90/60/30	120/120/120 120/90/90 120/60/30	180/180/180 180/180/120 180/120/90	240/240/240 240/240/180 240/180/90
Non-Loadbearing External Walls • Less than 1.5m to a fire source feature • 1.5 – less than 3m from a fire source feature; • 3m or more from a fire source feature	-/90/90 -/60/60 -/-/-	-/120/120 -/90/90 -/-/-	-/180/180 -/180/120 -/-/-	-/240/240 -/240/180 -/-/-
External Columns • Loadbearing • Non-loadbearing	90/-/- -/-/-	120/-/- -/-/-	180/-/- -/-/-	240/-/- -/-/-
Common Walls & Fire Walls	90/90/90	120/120/120	180/180/180	240/240/240
Stair and Lift Shafts required to be fire-resisting • Loadbearing • Non-loadbearing	90/90/90 -/90/90	120/120/120 -/120/120	180/120/120 -/120/120	240/120/120 -/120/120
Internal walls bounding sole occupancy units • Loadbearing • Non-loadbearing	90/90/90 -/60/60	120/-/- -/-/-	180/-/- -/-/-	240/-/- -/-/-
Internal walls bounding public corridors, public lobbies and the like: • Loadbearing • Non-loadbearing	90/90/90 -/60/60	120/-/- -/-/-	180/-/- -/-/-	240/-/- -/-/-
Ventilating, pipe, garbage and like shafts: • Loadbearing • Non-loadbearing	90/90/90 -/90/90	120/90/90 -/90/90	180/120/120 -/120/120	240/120/120 -/120/120
Other loadbearing internal walls, 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

Note: See concessions in Spec 5 for concessions to these above tabulated requirements, as this may reduce or remove fire rating requirements subject to certain criteria and haven't been captured in this report.

Appendix C:

Exit Locations and Travel Distances

M3/4 Plan Basement



1 M3/4 BASEMENT
--- 1 : 250

Reference Map

North

0 2.5 5 12.5 25 m

Scale 1:250

Notes

Figured dimensions take precedence to scaled readings.| All dimensions are in millimetres unless noted otherwise. | Dimensions are to be verified on Site prior to Project Commencement. | Any discrepancies are to be reported to Snøhetta in writing for decision before proceeding with work. | Drawing is to be read in conjunction with all relevant and associated material, Contracts, Specifications and Drawings. | This drawing is an uncontrolled copy, unless noted otherwise.

BUILDING ENTRY

NEW BUILT - YELLOW HATCH

EXISTING - GREYWALL

NEW - BLACKWALL

SOFT LANDSCAPE

Revision	Description	Date
E	For Development Application	12.02.2024
D	Final draft	20.12.2023
C	For Coordination	08.12.2023
B	For Coordination	29.11.2023
A	For Coordination	03.11.2023

Consultant

Consultant

Consultant

Project
The Maltings
MITTAGONG NSW 2575

Client
MEDICH FAMILY OFFICE

Consultant
Snøhetta
Snøhetta Australasia Pty Ltd ABN 74 612 295 735
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Adelaide SA 5000 Australia

Status
For Development Application

Title
1100 - General Arrangement - Floor Plans
M3/4 Plan Basement

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK

Project Number	Sheet Number	Rev
18-17	M3/4 1100	E

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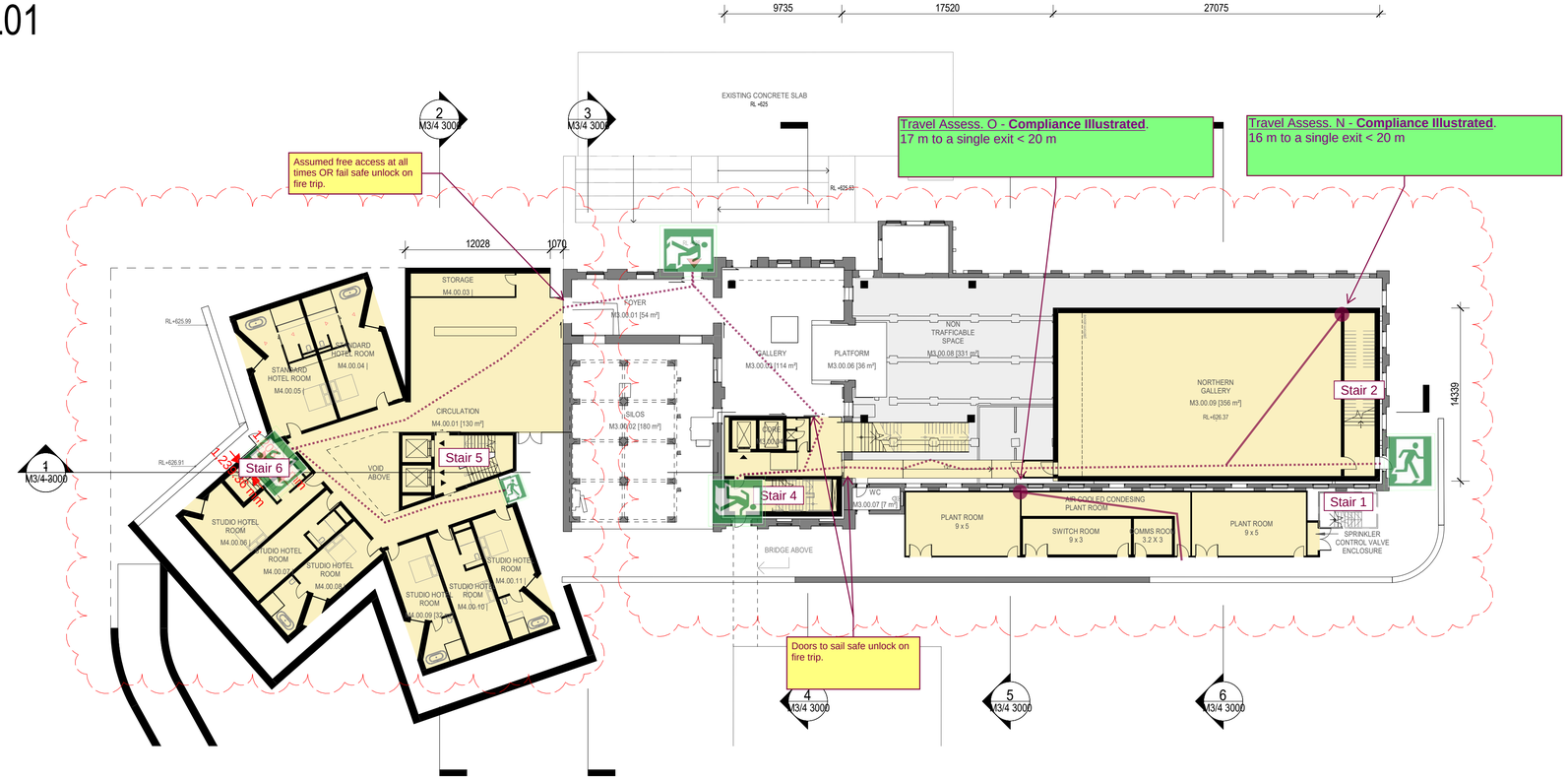
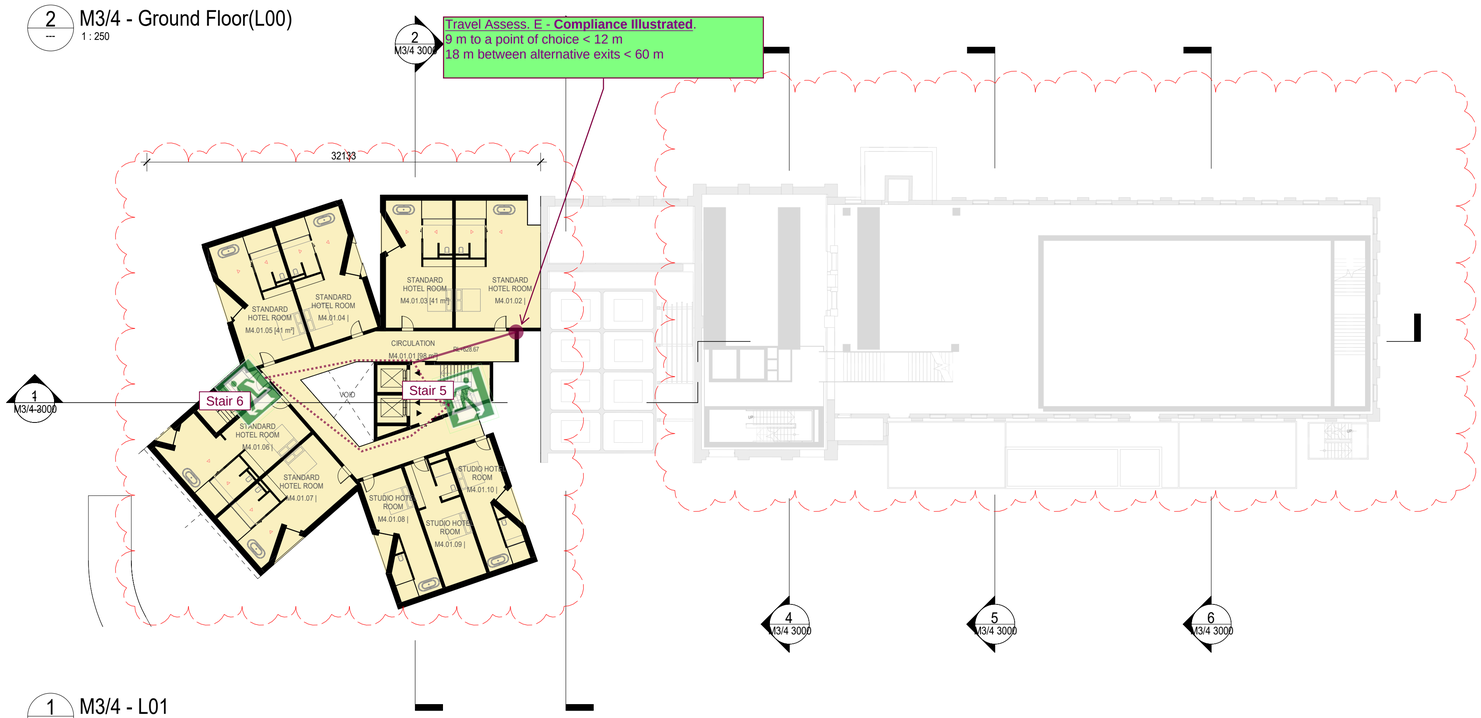
Original Sheet Format A1 | 841 x 594mm

M3/4 Plan L00 - L01



2 M3/4 - Ground Floor(L00)
1 : 250



1 M3/4 - L01
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Reference Map

North

0 2.5 5 12.5 25 m

Scale 1:250

Notes

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- BUILDING ENTRY
- NEW BUILT - YELLOW HATCH
- EXISTING - GREYWALL
- NEW - BLACKWALL
- SOFT LANDSCAPE

Revision	Description	Date
E	For Development Application	12.02.2024
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Status
For Development Application

Title
1100 - General Arrangement - Floor Plans
M3/4 Plan L00 - L01

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK

Project Number	Sheet Number	Rev
18-17	M3/4 1101	E

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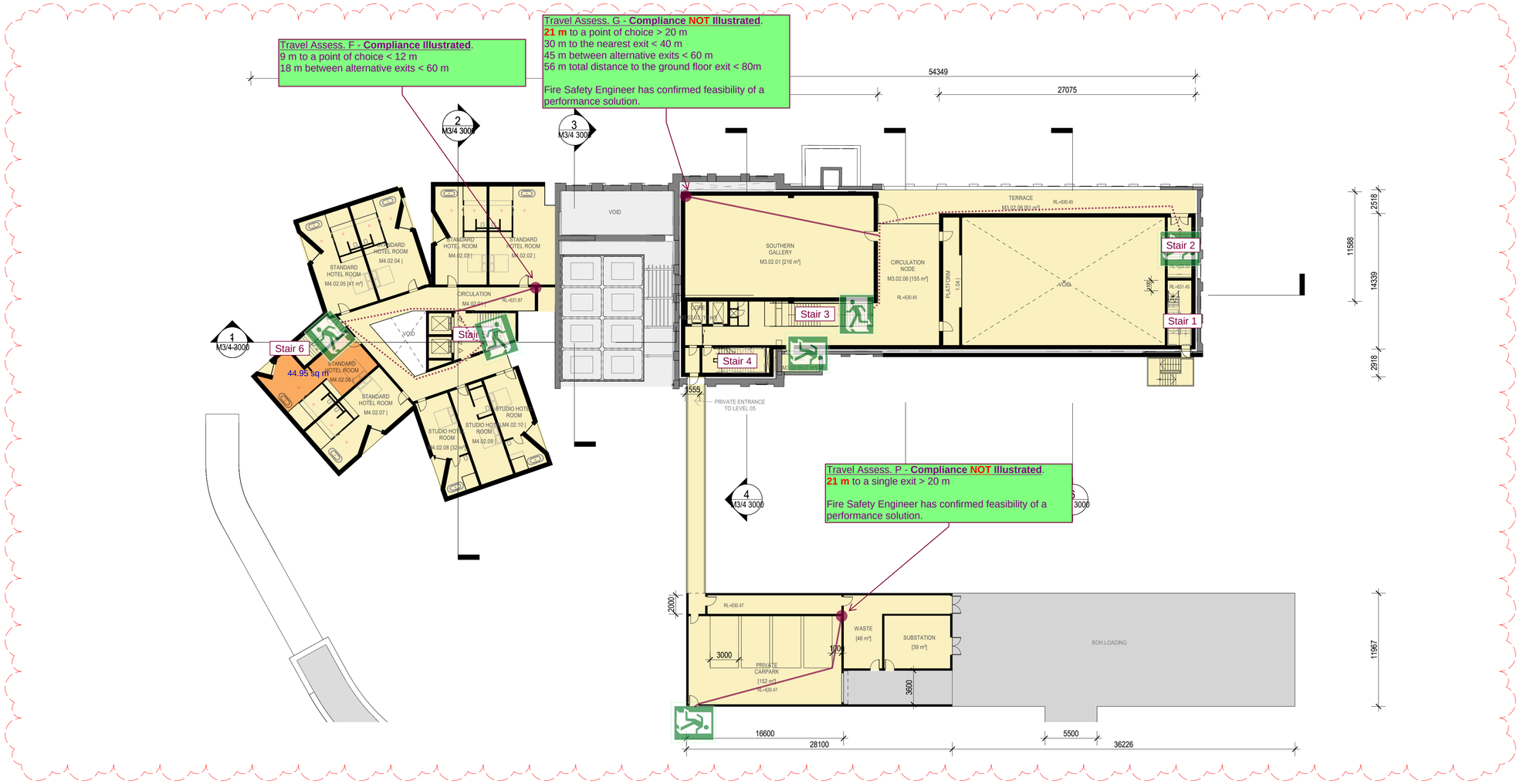
M3/4 PLAN L02



1 M3/4 - L02
1 : 250

Reference Map

North

0 1 2 5 10 m

Scale 1:100

Notes

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BUILDING ENTRY
NEW BUILT - YELLOW HATCH
EXISTING - GREYWALL
NEW - BLACKWALL
SOFT LANDSCAPE

Revision	Description	Date
E	For Development Application	12.02.2024

Consultant

Consultant

Consultant

Project
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Title
1100 - General Arrangement - Floor Plans
M3/4 PLAN L02

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK

Project Number	Sheet Number	Rev
18-17	M3/4 1102	E

Original Sheet Format A1 | 841 x 594mm

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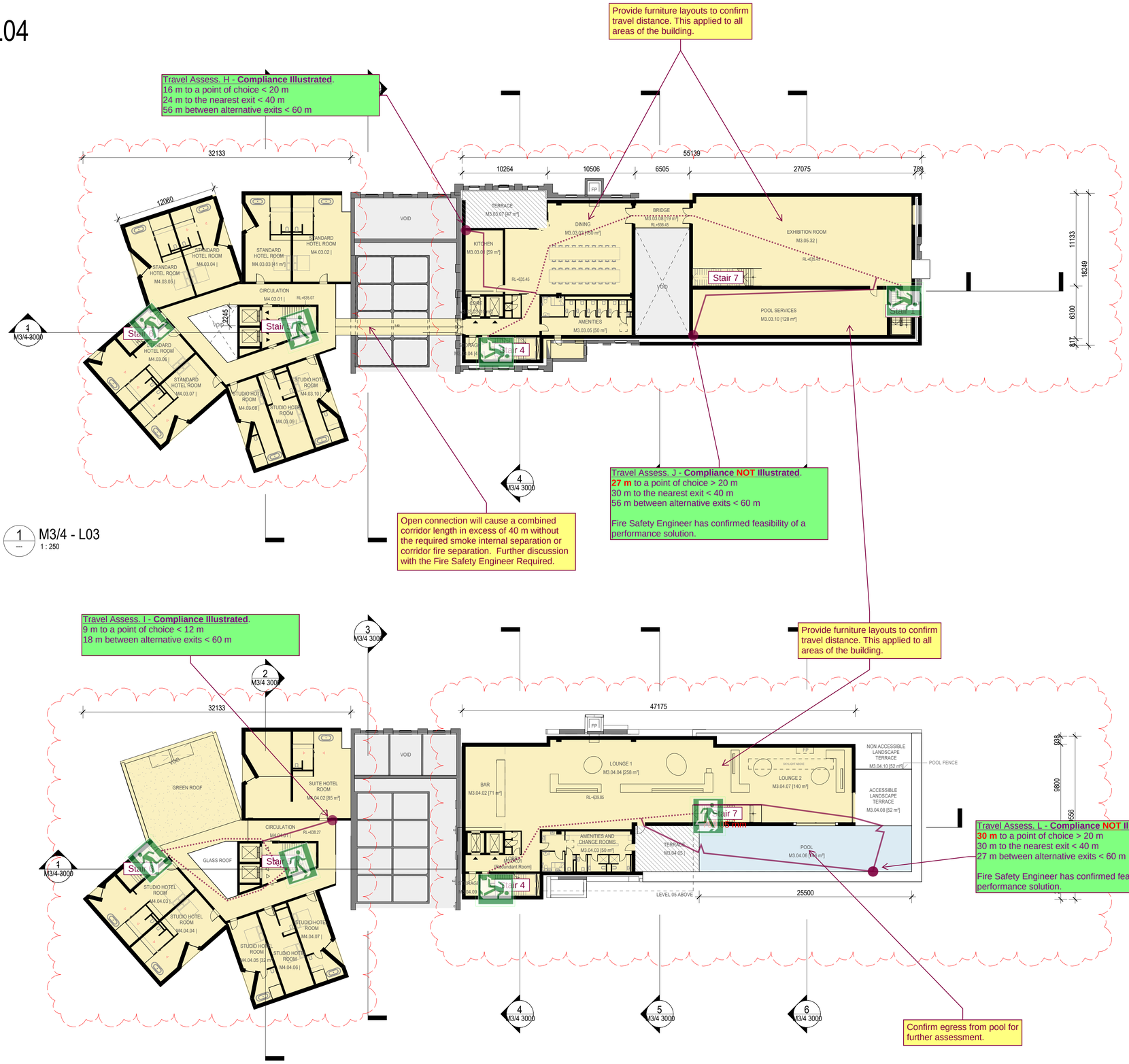
M3/4 Plan L03 - L04



1 / --- M3/4 - L03
1 : 250

2 / --- M3/4 - L04
1 : 250

Reference Map

North

0 2.5 5 12.5 25 m

Scale 1:250

Notes

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BUILDING ENTRY

NEW BUILT - YELLOW HATCH

EXISTING - GREYWALL

NEW - BLACKWALL

SOFT LANDSCAPE

Revision	Description	Date
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Title
1100 - General Arrangement - Floor Plans
M3/4 Plan L03 - L04

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK

Project Number	Sheet Number	Rev
18-17	M3/4 1103	E

Original Sheet Format A1 | 841 x 594mm

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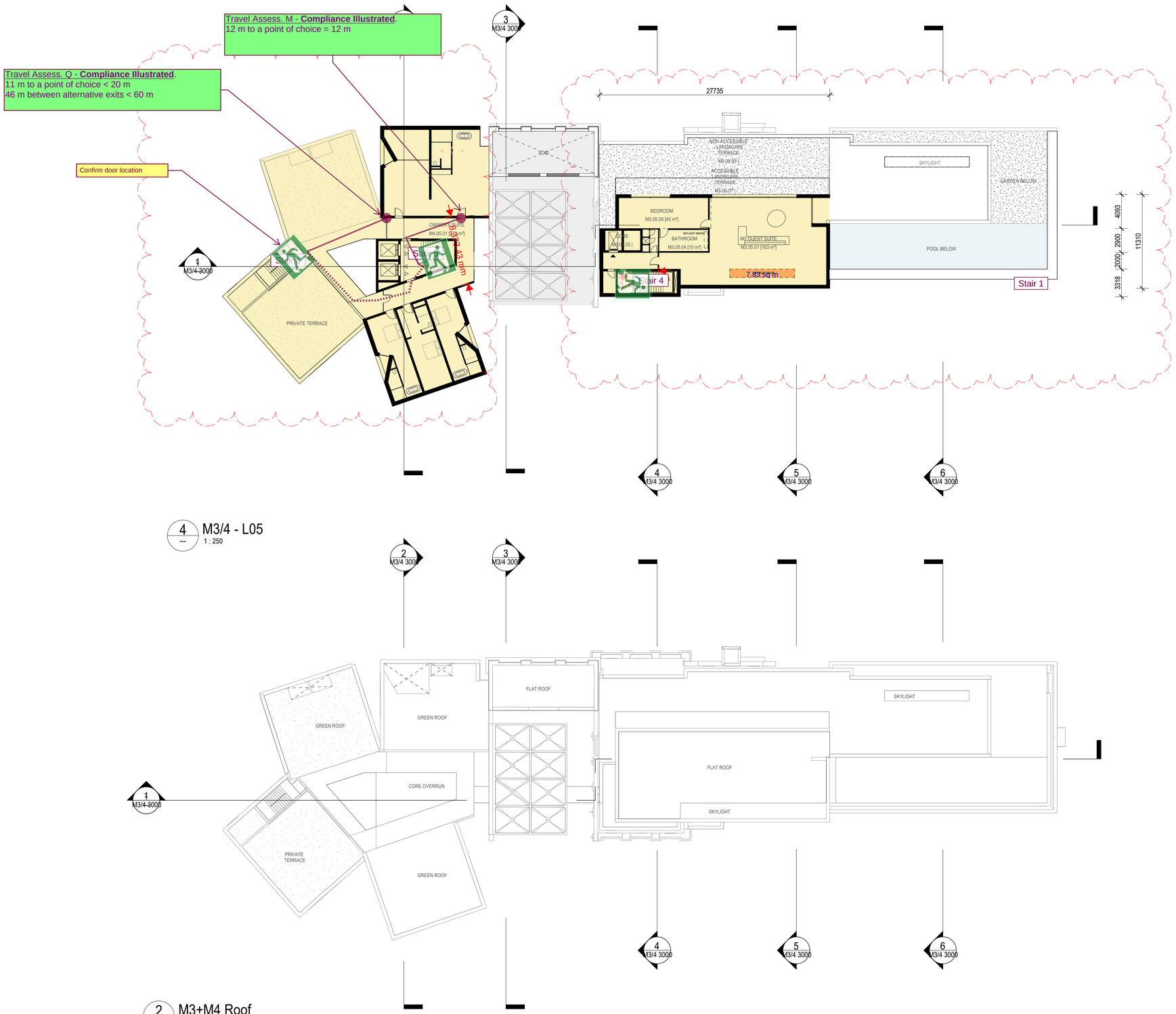
M3/4 Plan L05 - Roof



4 M3/4 - L05
1 : 250

2 M3+M4 Roof
1 : 250

Reference Map

North

0 2.5 5 12.5 25 m

Scale 1:250

Notes

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BUILDING ENTRY

NEW BUILT - YELLOW HATCH

EXISTING - GREYWALL

NEW - BLACKWALL

SOFT LANDSCAPE

Revision	Description	Date
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Status
For Development Application

Title
1100 - General Arrangement - Floor Plans
M3/4 Plan L05 - Roof

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK

Project Number	Sheet Number	Rev
18-17	M3/4 1104	E

Original Sheet Format A1 | 841 x 594mm

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Appendix D:
Documentation Assessed

Plans developed by Snohetta:

Description	Drawing No.	Revision	Date
Cover Sheet + Drawing Index	M3/4 000	E	12.02.2024
M3/4 Site Plan	M3/4 0100	E	12.02.2024
M3/4 Demolition Plan - Basement,Ground (L00)	M3/4 300	E	12.02.2024
M3/4 Demolition Plan - L01, L02	M3/4 301	E	12.02.2024
M3/4 Demolition Plan - L03, Roof	M3/4 302	E	12.02.2024
M3/4 Plan Basement	M3/4 1100	E	12.02.2024
M3/4 Plan L00 - L01	M3/4 1101	E	12.02.2024
M3/4 PLAN L02	M3/4 1102	E	12.02.2024
M3/4 Plan L03 - L04	M3/4 1103	E	12.02.2024
M3/4 Plan L05 - Roof	M3/4 1104	E	12.02.2024
M3/4 GFA Plans	M3/4 1801	E	12.02.2024
M3/4 Elevations - North, East, South, West	M3/4 2000	E	12.02.2024
M3/4 Sections	M3/4 3000	E	12.02.2024
M3/4 Materials Schedule	M3/4 6000	E	12.02.2024

Appendix E:

Stair Analysis

Stair Analysis

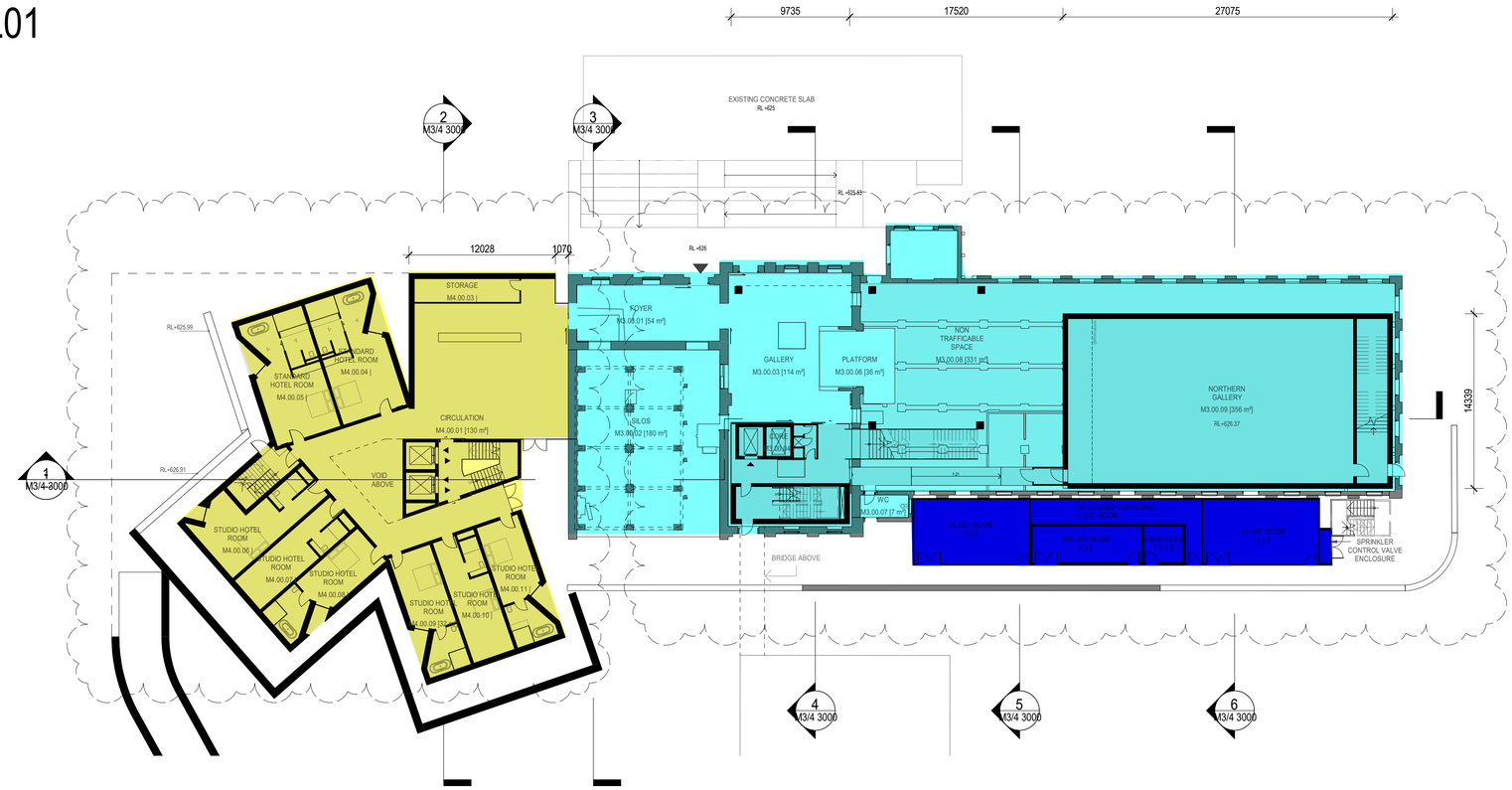
TYPE	Stairs	Access requirement	Handrails	Balustrade	Slip Resistance	Treads, Risers, Widths, Other	TGSI	Common Issues
S1	**Required Fire Isolated Stairs (FIS)**	**NO** Only minor provisions made for egress.	**YES:** 1 handrail required which must resemble that required by the accessibility provisions, i.e.: • 180 degrees handrail turndown or return to wall, 300 mm past last riser. • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. • Located between 865 mm and 1 m above nosing line. And must be at consistent height through the stairs and landings. • Continuous rail, no handhold breaks. • Clear area for 270 degrees to the top of the handrail. **Ref:** BCA D3D22, D4D4(a)(iii) & Cl 12 of AS 1428.1-2009.	**YES:** No less than 865 mm above stair nosing lines, no less than 1 m above landings. No openings greater than 300 mm OR in the case of rails, top rail, mid rail and bottom rail required. No gaps greater than 150 mm above nosing line and 460 mm between rails. **Ref:** BCA D3D18, D3D19, D3D20	**YES:** P3 rated slip resistance and highlighted nosing's to no less than 30% luminance contrast to the background. Nosing widths to be between 50 & 75 mm. Strip may be set back 15 mm from the front edge of the nosing but where it is not set back the luminance contrast must not extend down the riser by more than 10 mm. The lip between the tread and strip must not exceed 3 mm, or 5 mm where the edges are chamfered. **Ref:** BCA D3D14, D3D15, D4D4(a)(iii) & Cl 11, 7.2, 7.3 of AS 1428.1-2009.	**Tread:** 250 to 355 mm. **Riser:** 115 to 190 mm **Quantity:** Must be between 550 to 700 when applying (2 x Riser + Tread.) **Open Riser:** Permitted to 125 mm. **Stair Width:** Minimum unobstructed width of 1000 mm, measured clear of handrails. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Stair Height Clearance:** No less than 2m. **Ref:** BCA D23D14, D2D7, D2D8	**NO**	• Lip of the nosing strip excessive in height. • No site allowance for balustrade tolerances. • If separate handrail and balustrade is not used, this usually causes a conflict with the requirement to have the same heights throughout the landings and stairs. • Tread and riser dimensions not constructed uniform in dimension.
S2	**Required Fire Isolated Stairs & Communication Stairs (FIS)**	**YES**	**YES:** Fully accessible handrails required to both sides as follows • 180 degrees handrail turndown or return to wall, • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. • Located between 865 mm and 1 m above nosing line. And must be at consistent height through the stairs and landings. • Continuous rail, no handhold breaks • Clear area for 270 degrees to the top of the handrail. **Ref:** BCA D3D22, D4D4(a)(iii) & Cl 12 of AS 1428.1-2009.	**YES:** No Less than 865 mm above stair nosing line, no less than 1 m above landings. No openings greater than 125 mm. No climbable members between 150 and 760 mm where the floor level is 4 m or more above the surface beneath. **Ref:** BCA D3D18, D3D19, D3D20	**YES:** P3 rated slip resistance and highlighted nosing's to no less than 30% luminance contrast to the background. Nosing widths to be between 50 & 75 mm. Strip may be set back 15 mm from the front edge of the nosing but where it is not set back the luminance contrast must not extend down the riser by more than 10 mm. The lip between the tread and strip must not exceed 3 mm, or 5 mm where the edges are chamfered. **Ref:** BCA D3D14, D3D15, D4D4(a)(iii) & Cl 11, 7.2, 7.3 of AS 1428.1-2009.	**Tread:** 250 to 355 mm. (Public) **Tread:** 240 to 355 mm. (Private) **Riser:** 115 to 190 mm. **Quantity:** Must be between 550 to 700 when applying (2 x Riser + Tread.) **Open Riser:** Not permitted, must be opaque. **Riser Splay Back:** Be vertical or max 25 mm. **Stair Width:** Minimum unobstructed width of 1000 mm, measured clear of handrails. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Stair Height Clearance:** No less than 2m. **Ref:** BCA D23D14, D2D7, D2D8	**YES:** Required to the top and bottom of landings. No requirement for the mid landing. **Ref:** BCA D4D9, AS/NZS 1428.4.1-2009	• Lip of the nosing strip excessive in height. • Outer handrail not continuous due to allowing for fire hydrant equipment. • No site allowance for balustrade tolerances. • If separate handrail and balustrade is not used, this usually causes a conflict with the requirement to have the same heights throughout the landings and stairs. • Tread and riser dimensions not constructed uniform in dimension.
S3a	**Required Non-Fire Isolated Stair (NFIS)** (Communication stair)	**YES**	**YES:** Fully accessible handrails required to both sides as follows: • 180 degrees handrail turndown or return to wall, • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. • Located between 865 mm and 1 m above nosing line. And must be at consistent height through the stairs and landings. • Continuous rail, no handhold breaks. • Clear area for 270o to the top of the handrail. **Ref:** BCA D3D22, D4D4(a)(iii) & Cl 12 of AS 1428.1-2009.	**YES:** No Less than 865 mm above stair nosing line, no less than 1 m above landings. No openings greater than 125 mm. No climbable members between 150 and 760 mm where the floor level is 4 m or more above the surface beneath. **Ref:** BCA D3D18, D3D19, D3D20	**YES:** P3 (dry) and P4 (wet) rated slip resistance and highlighted nosing's to no less than 30% luminance contrast to the background. Nosing widths to be between 50 & 75 mm. Strip may be set back 15 mm from the front edge of the nosing but where it is not set back the luminance contrast must not extend down the riser by more than 10 mm. The lip between the tread and strip must not exceed 3 mm, or 5 mm where the edges are chamfered. **Ref:** BCA D3D14, D3D15, D4D4(a)(iii) & Cl 11, 7.2, 7.3 of AS 1428.1-2009.	**Tread:** 250 to 355 mm. (Public) **Tread:** 240 to 355 mm. (Private) **Riser:** 115 to 190 mm. **Quantity:** Must be between 550 to 700 when applying (2 x Riser + Tread.) **Open Riser:** Not permitted, must be opaque. **Riser Splay Back:** Be vertical or max 25 mm. **Stair Width:** Minimum unobstructed width of 1000 mm, measured clear of handrails. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Stair Height Clearance:** No less than 2m. **Ref:** BCA D23D14, D2D7, D2D8	**YES:** Required to the top and bottom of landings. No requirement for the mid landing. And around base of stair stringer or stair when it can be considered as an overhead obstruction within 2 m from floor level. **Ref:** BCA D4D9, AS/NZS 1428.4.1-2009	• Lip of the nosing strip excessive in height. • No site allowance for balustrade tolerances. • If separate handrail and balustrade is not used, this usually causes a conflict with the requirement to have the same heights throughout the landings and stairs.
S3b	**Non-Required Non-Fire Isolated Stair (NFIS)** (Communication stair throughout general floor area of a building or between tenancy levels, and not deemed as a fire egress stair or exit)							

TYPE	Stairs	Access requirement	Handrails	Balustrade	Slip Resistance	Treads, Risers, Widths, Other	TGSI	Common Issues
S4a **S4b**	**Required Non-Fire Isolated Stair (NFIS)** (Non-Accessible areas) **Non-Required Non-Fire Isolated Stair – Non-Accessible (NFIS)** (Throughout non-required accessible parts of and not deemed as a fire egress stair or exit)	**NO**	**YES:** • 1 handrail required, expect, • 2 handrails are required where stairway is more than 2m. And; • Located between 865 mm and 1 m above nosing line. And must be at consistent. • Continuous rail, no handhold breaks. Additional items for consideration • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. **Ref**: BCA D2D22(1)(a),(b),(d),(e)	**YES:** No Less than 865 mm above stair nosing line, no less than 1 m above landings. No openings greater than 125 mm. No climbable members between 150 and 760 mm where the floor level is 4 m or more above the surface beneath. **Ref:** BCA D3D18, D3D19, D3D20	**YES:** A nosing strip at the edge of the landing to be P3 (dry) and P4 (wet) rated slip resistance. Surface of the tread to have a slip-resistance classification not less than P3 (dry) and P4 (wet). **Ref:** BCA D3D14, D3D15, D4D4(a)(iii)	**Tread:** 250 to 355 mm. (Public) **Tread:** 240 to 355 mm. (Private) **Riser:** 115 to 190 mm **Quantity:** Must be between 550 to 700 when applying (2 x Riser + Tread.) **Open Riser:** Permitted to 125 mm. **Stair Width:** Minimum unobstructed width of 1000 mm, measured clear of handrail/s. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Stair Height Clearance:** No less than 2m. **Ref:** BCA D23D14, D2D7, D2D8	**NO**	• No site allowance for handrail/ barrier tolerances. • If separate handrail and balustrade is not used, this usually causes a conflict with the requirement to have the same heights throughout the landings and stairs. • Tread and riser dimensions not constructed uniform in dimension.
S5	**Steps in a path of travel** (steps serving the same storey)	**YES**	**YES:** Fully accessible handrails required to both sides as follows: • 180 degrees handrail turndown or return to wall, • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. • Located between 865 mm and 1 m above nosing line. And must be at consistent height through the stairs and landings. • Continuous rail, no handhold breaks. • Clear area for 270o to the top of the handrail. **Ref:** BCA D3D22, D4D4(a)(iii) & Cl 12 of AS 1428.1-2009.	**YES:** No Less than 865 mm above stair nosing line, no less than 1 m above landings. No openings greater than 125 mm. No climbable members between 150 and 760 mm where the floor level is 4 m or more above the surface beneath. **Ref:** BCA D3D18, D3D19, D3D20	**YES:** P3 (dry) and P4 (wet) rated slip resistance and highlighted nosing's to no less than 30% luminance contrast to the background. Nosing widths to be between 50 & 75 mm. Strip may be set back 15 mm from the front edge of the nosing but where it is not set back the luminance contrast must not extend down the riser by more than 10 mm. The lip between the tread and strip must not exceed 3 mm, or 5 mm where the edges are chamfered. **Ref:** BCA D3D14, D3D15, D4D4(a)(iii) & Cl 11, 7.2, 7.3 of AS 1428.1-2009.	**Tread:** 250 to 355 mm. (Public) **Tread:** 240 to 355 mm. (Private) **Riser:** 115 to 190 mm. **Quantity:** Must be between 550 to 700 when applying (2 x Riser + Tread.) **Open Riser:** Not permitted, must be opaque. **Riser Splay Back:** Be vertical or max 25 mm. **Stair Width:** Minimum unobstructed width of 1000 mm, measured clear of handrails. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Stair Height Clearance:** No less than 2m. **Ref:** BCA D23D14, D2D7, D2D8	**YES:** Required to the top and bottom of landings. No requirement for the mid landing. And around base of stair stringer or stair when it can be considered as an overhead obstruction within 2 m from floor level. **Ref:** BCA D4D9, AS/NZS 1428.4.1-2009	• Lip of the nosing strip excessive in height. • No site allowance for balustrade tolerances. • If separate handrail and balustrade is not used, this usually causes a conflict with the requirement to have the same heights throughout the landings and stairs.
R1	**Accessible Ramp** (1:14 max. gradient)	**YES**	**YES:** Fully accessible handrails required to both sides as follows: • 180 degrees handrail turndown or return to wall, • 30 to 50 mm diameter with a 270 degrees clearance around the top of the handrail, • 50 mm clearance to back of handrail, and to a height of 600 mm above the handrail. • Located between 865 mm and 1 m above the surface. And must be at consistent height through the ramp and mid-landings. • Continuous rail, no handhold breaks. • Continuous kerbing on both sides in compliance with AS1428.1 Figures (18 & 19). • Handrails not to protrude into over the traverse path. • Clear area for 270 degrees to the top of the handrail. **Ref:** BCA D2.17, D3.3(a)(i) & Cl 1.3 & 12 of AS 1428.1-2009.	**YES:** No Less than 865 mm above stair nosing line, no less tanh 1 m above landings. No openings greater than 125 mm. No climbable members between 150 and 760 mm where the floor level is 4 m or more above the surface beneath. **Ref:** BCA D2.16(g)(h)(ii)	**YES:** P3 (dry) and P4 (wet) rated slip resistance and highlighted nosing's to no less than 30% luminance contrast to the background. Nosing widths to be between 50 & 75 mm. Strip may be set back 15 mm from the front edge of the nosing but where it is not set back the luminance contrast must not extend down the riser by more than 10 mm. The lip between the tread and strip must not exceed 3 mm, or 5 mm where the edges are chamfered. **Ref:** BCA D2.13, D2.14, D3.3(a)(iii) & Cl 11, 7.2, 7.3 of AS 1428.1-2009.	**Ramp Width:** Minimum unobstructed width of 1000 mm, measured clear of handrails. Note: 1000 mm clear width will only allow for 100 persons, occupancy quantity review may be required. **Ref:** BCA D2.13, D1.6	**YES:** Required to the top and bottom of landings. No requirement for the mid landing. **Ref:** BCA D3.8, AS/NZS 1428.4.1-2009	• Handrails extension protruding over traverse path or side boundary. Note: TGSI are not required for residential aged care and nursing homes buildings.

Appendix F:

BCA Classification Plans

M3/4 Plan L00 - L01



Classification Legend

	Class 3: Hotel SOUs
	Class 6: Bar / Restaurant
	Class 7a: Car park
	Class 7b: Storage
	Class 9b: Assembly Building
	Class 10a: Non-habitable building

Reference Map

North

0 2.5 5 12.5 25 m

Scale 1:250

Notes

Figured dimensions take precedence to scaled readings.| All dimensions are in millimetres unless noted otherwise. | Dimensions are to be verified on Site prior to Project Commencement. | Any discrepancies are to be reported to Snøhetta in writing for decision before proceeding with work. | Drawing is to be read in conjunction with all relevant and associated material, Contracts, Specifications and Drawings. | This drawing is an uncontrolled copy, unless noted otherwise.

BUILDING ENTRY

NEW BUILT - YELLOW HATCH

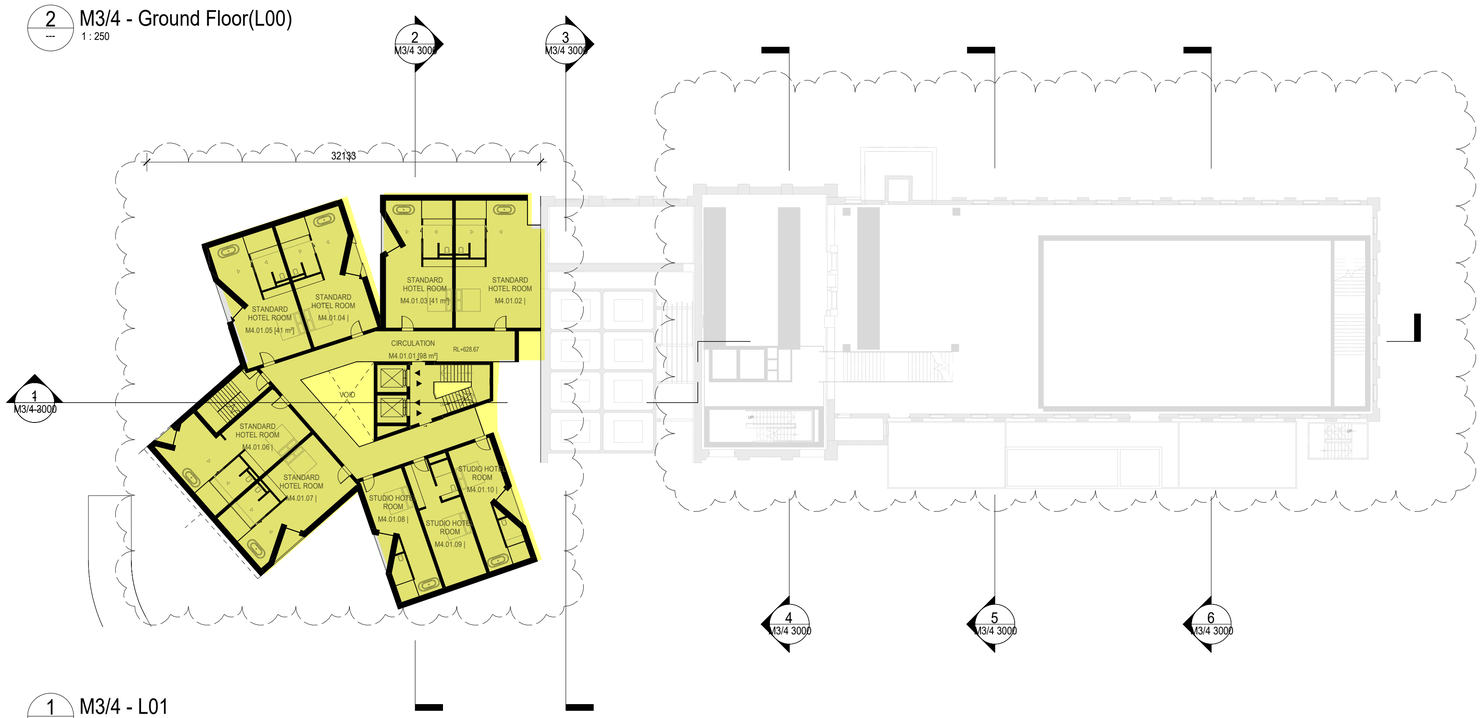
EXISTING - GREYWALL

NEW - BLACKWALL

SOFT LANDSCAPE

2 M3/4 - Ground Floor(L00)

1 : 250



1 M3/4 - L01

1 : 250

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E	For Development Application	12.02.2024
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B	For Coordination	29.11.2023
A	For Coordination	03.11.2023

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Status

For Development Application

Title

1100 - General Arrangement - Floor Plans

M3/4 Plan L00 - L01

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK

Project Number	Sheet Number	Rev
18-17	M3/4 1101	E

Original Sheet Format A1 | 841 x 594mm

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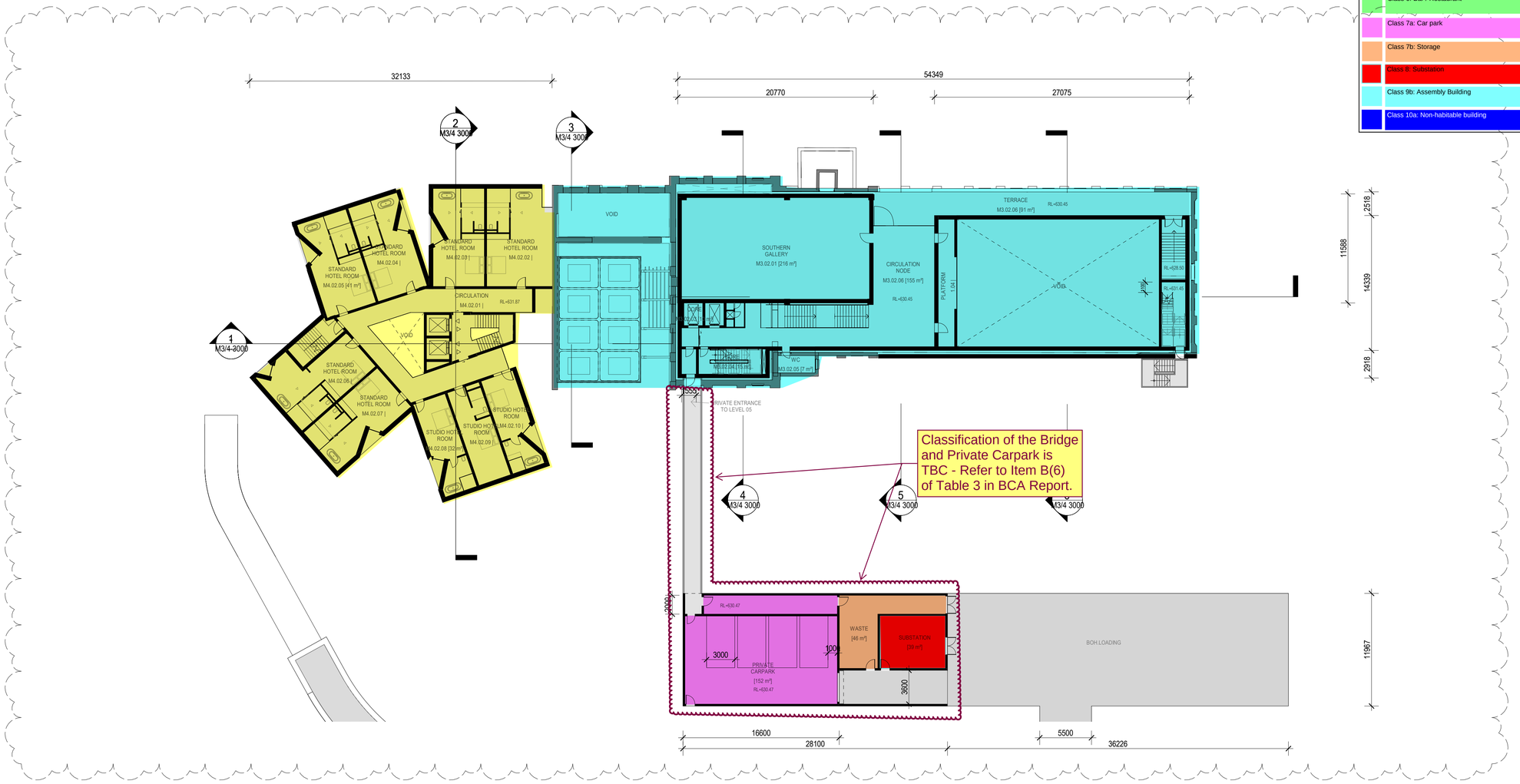
M3/4 PLAN L02



1 M3/4 - L02
1 : 250

Classification Legend

- Class 3: Hotel SOUs
- Class 6: Bar / Restaurant
- Class 7a: Car park
- Class 7b: Storage
- Class 8: Substation
- Class 9b: Assembly Building
- Class 10a: Non-habitable building

Reference Map

North

0 1 2 5 10 m

Scale 1:100

Notes

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- BUILDING ENTRY
- NEW BUILT - YELLOW HATCH
- EXISTING - GREYWALL
- NEW - BLACKWALL
- SOFT LANDSCAPE

Revision	Description	Date
E	For Development Application	12.02.2024

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Status
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Title
1100 - General Arrangement - Floor Plans
M3/4 PLAN L02

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As indicated	SNO	SM	KK

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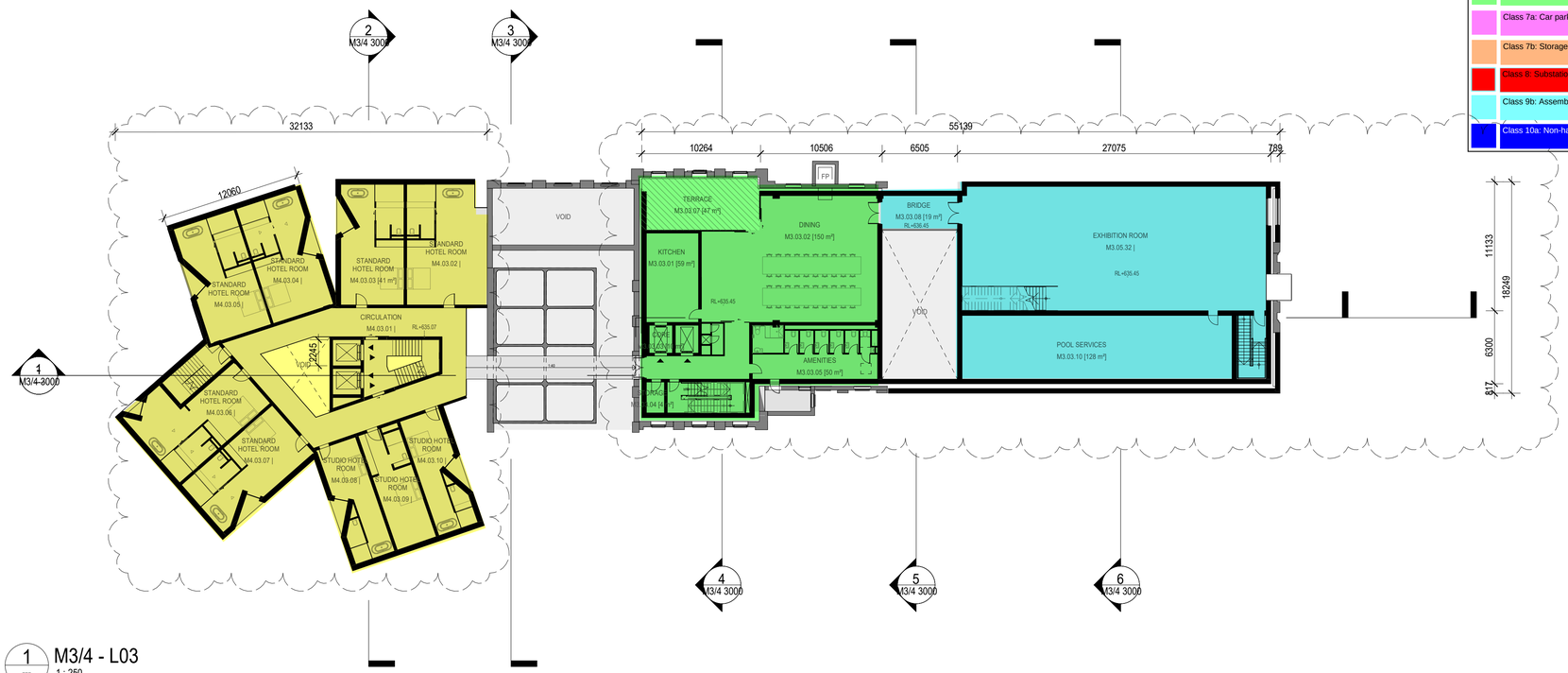
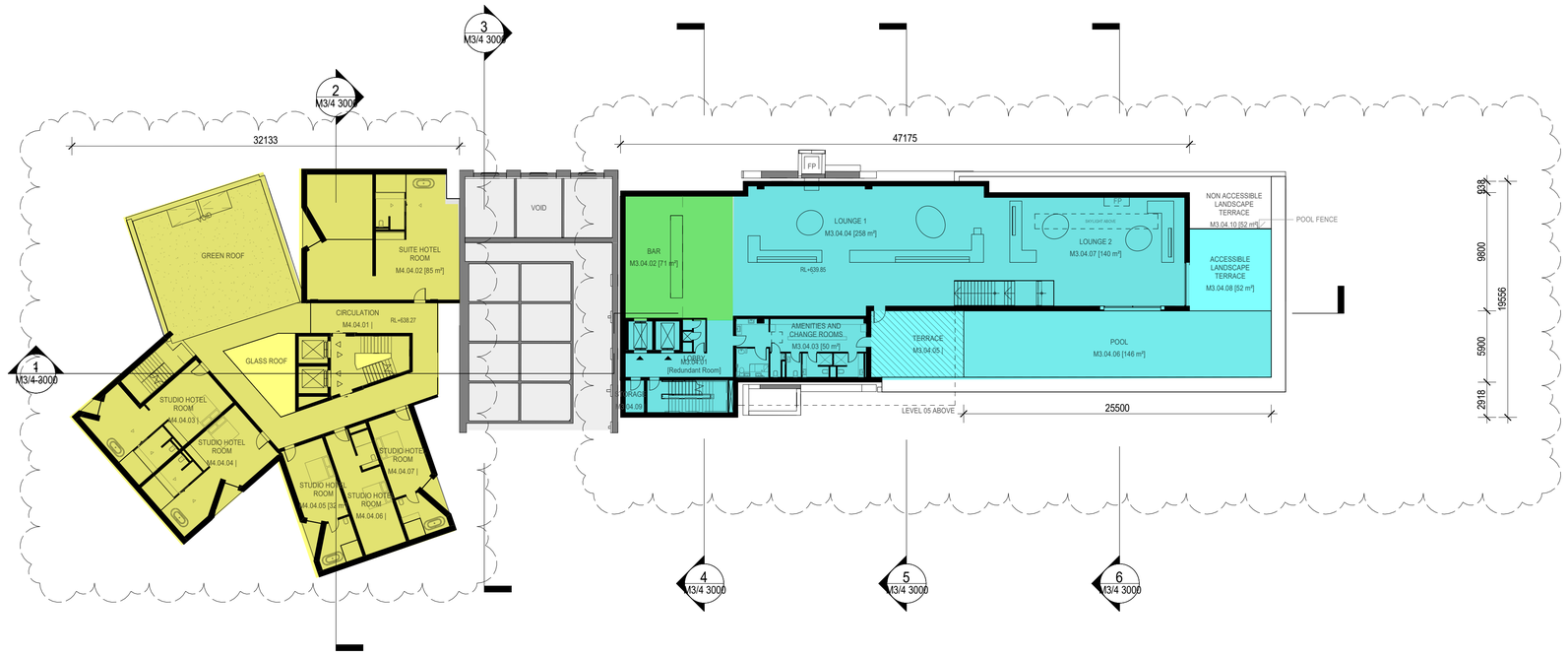
M3/4 Plan L03 - L04



1 M3/4 - L03
1 : 250



2 M3/4 - L04
1 : 250

Classification Legend

- Class 3: Hotel SOUs
- Class 6: Bar / Restaurant
- Class 7a: Car park
- Class 7b: Storage
- Class 8: Substation
- Class 9b: Assembly Building
- Class 10a: Non-habitable building

Reference Map

North

0 2.5 5 12.5 25 m

Scale 1:250

Notes

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- BUILDING ENTRY
- NEW BUILT - YELLOW HATCH
- EXISTING - GREYWALL
- NEW - BLACKWALL
- SOFT LANDSCAPE

Revision	Description	Date
E	For Development Application	12.02.2024
D	Final draft	20.12.2023
C	For Coordination	08.12.2023
B	For Coordination	29.11.2023
A	For Coordination	03.11.2023

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Status
For Development Application

Title
1100 - General Arrangement - Floor Plans
M3/4 Plan L03 - L04

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK
Project Number: 18-17	Sheet Number: M3/4 1103		Rev: E

Original Sheet Format A1 | 841 x 594mm

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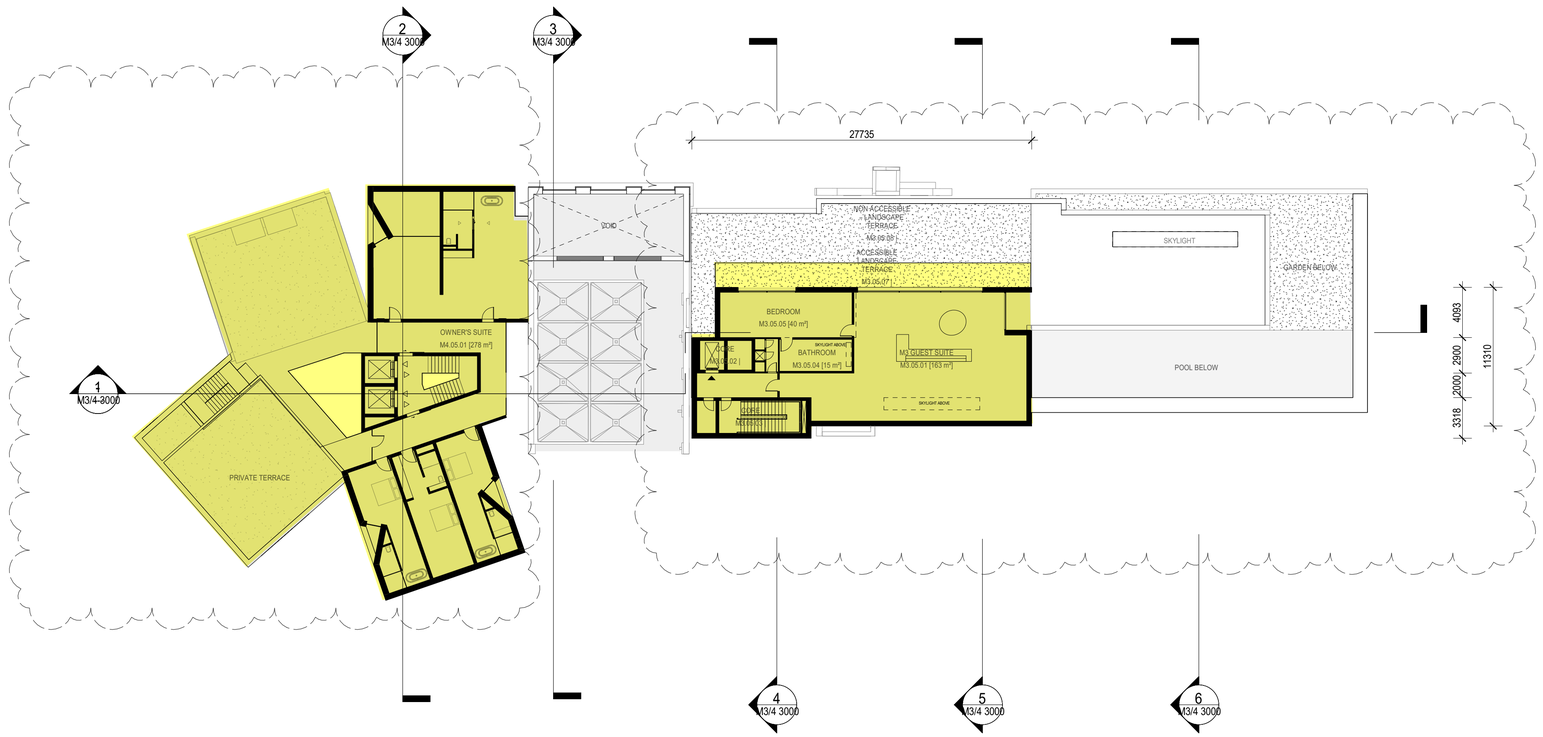
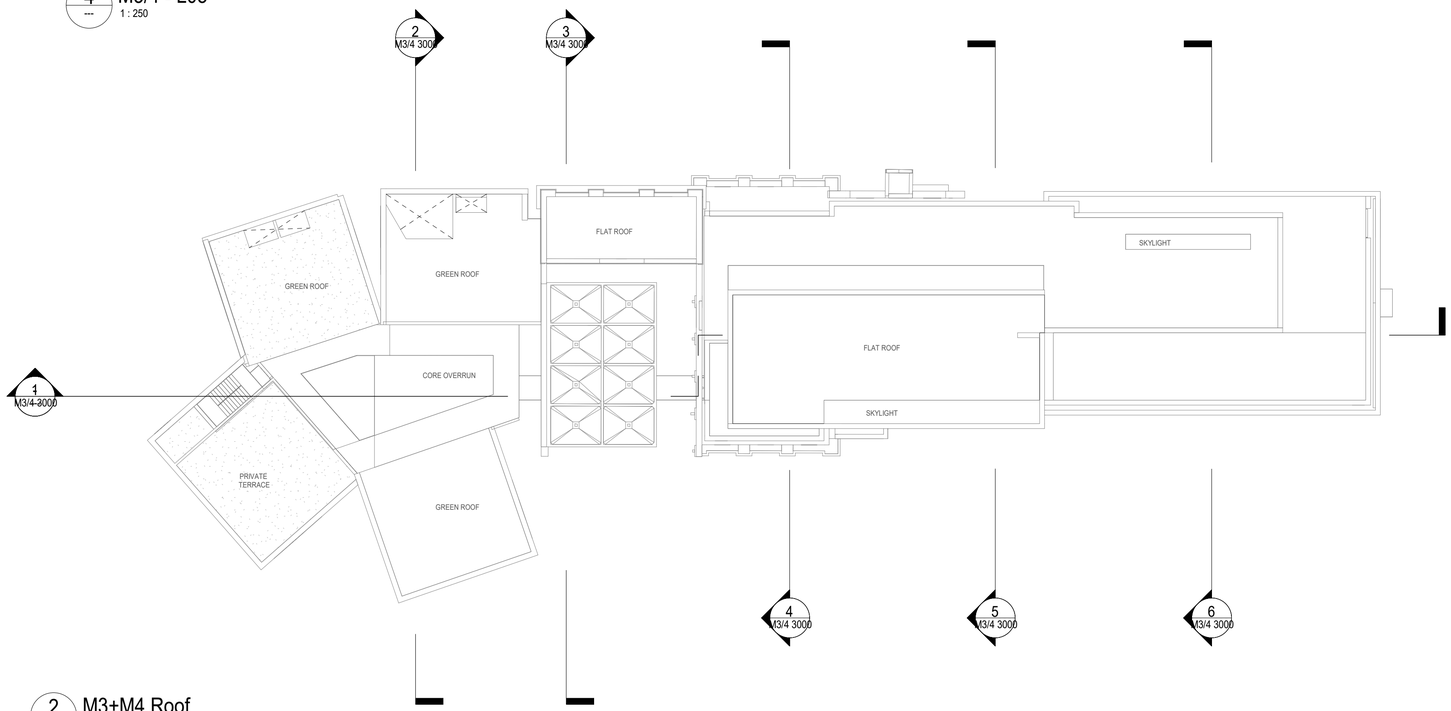
M3/4 Plan L05 - Roof



4 M3/4 - L05
1 : 250



2 M3+M4 Roof
1 : 250

Classification Legend

Class 3: Hotel SOUs
Class 6: Bar / Restaurant
Class 7a: Car park
Class 7b: Storage
Class 8: Substation
Class 9b: Assembly Building
Class 10a: Non-habitable building

Reference Map

North

0 2.5 5 12.5 25 m

Scale 1:250

Notes

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BUILDING ENTRY

NEW BUILT - YELLOW HATCH

EXISTING - GREYWALL

NEW - BLACKWALL

SOFT LANDSCAPE

Revision	Description	Date
E	For Development Application	12.02.2024
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1100 - General Arrangement - Floor Plans
M3/4 Plan L05 - Roof

Scale @ A1	Drawn	Reviewed	Approved
As indicated	SNO	SM	KK

Project Number	Sheet Number	Rev
18-17	M3/4 1104	E

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