THE STAR

MODIFICATION 13
ACCESSIBILITY DESIGN REVIEW

PREPARED BY

mckenzie group

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1 EXECUTIVE SUMMARY

Report Revisions

Report Title	Report Issue Date	Prepared by
Accessibility Design Review DRAFT	23/05/2017	Francis Lenny
Accessibility Design Review UPDATED	15/06/2017	Francis Lenny
Accessibility Design Review UPDATED	06/07/2017	Francis Lenny
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Accessibility Design Review AMENDED	30/01/2018	Senan Mescall

The following final report (dated 30th January 2018) is a review of the Development Application documentation and provides a summary of the compliance strategy of the proposed works highlighting the key principles of accessibility as well as the technical requirements of a building to ensure the public, staff and visitors, have equitable and dignified use.

The report is prepared in relation to "Modification 13" at The Star Entertainment Group in Sydney. The proposed works in relation to Accessibility considerations include:

NEW RITZ-CARLTON HOTEL AND RESIDENTIAL TOWER

- Demolition of part of the existing building in the northern portion of the site, including part of the Pirrama Road façade and part of the Jones Bay Road façade.
- Construction of a new Tower, 237.0 metres AHD (approximate, 234 metres from Pirrama Road);
- Residential uses across 35 levels, comprising:
    - A residential vehicular drop off lobby on Level B2
    - A residential lobby on Level 00 to be accessed from Jones Bay Road;
    - Residential communal space on Level 07 to be accessed via Level 08; and
    - 204 residential apartments located from Levels 05 to 06 and from Levels 08 to 38, featuring one-bedroom, two-bedroom and three-bedroom unit types *(Note – no Level 13)*
- Hotel uses across 31 levels, comprising:
    - A hotel arrival lobby on Level B2 to be accessed from the new Ritz-Carlton porte-cochere along Pirrama Road;
    - A hotel Sky Lobby for guest check-in on Level 39 and 40, featuring a restaurant, bar and lounge;
    - 220 hotel rooms located from Level 42 to 58 and from Level 60 to 61
    - A hotel spa and gym on Level 07
    - A VIP link to the Sovereign Room on Level 04 and 04 Mezzanine
    - A Ritz-Carlton Club lounge and terrace on Level 59
    - Hotel staff end-of-trip facilities on Level B3
    - Hotel staff arrival point on Level 00
    - Hotel back-of-house and plant on Level B2, 02, 03, 05, 41 and 42
- A Neighbourhood Centre consisting of a cafe, library, learning / innovation hub and function centre;
- A new car-parking stacker system below the new porte-cochere of the Ritz-Carlton Hotel, with a total

capacity of 221 spaces, to serve the new hotel and apartments
- Vertical transport associated with the tower and podium; and
- A new drop-off / pick up area (short-term parking) on Jones Bay Road for the proposed apartments.

Level 07

- A 'Ribbon' at Level 07 connecting the new Hotel and Residential Tower to the existing building along Pirrama Road, comprising:
    - Two pools and associated pool decks (one for the new Hotel, one for The Star); and
    - Two food and beverage premises with associated store rooms and facilities;
- Lift access from the Level 05 Terrace to Level 07;
- Residential communal open space associated with the new residential apartments, comprising pool and landscaped terrace at the base of the Tower adjacent to Jones Bay Road;
- Gym and associated change rooms and facilities for the residents;
- Gym and associated change rooms and facilities for hotel guests; and
- Landscaping treatments.

Level 05 Sky Terrace

- Three food and beverage outlets with external areas;
- Completion of the Vertical Transportation drum to connect with Level 05 Sky Terrace;
- Designated event spaces on the Terrace; and
- Landscaping treatment.

Level 05 Astral Hotel Pool and Spa Recreational Facility Upgrade

- New pool deck, pool, spa, gym and amenities upgrade for Astral Hotel and Residences.

Tower to Sovereign Link by Escalator and Lift

- Link from the Tower (across Level 04 and Level 04 Mezzanine) to the Sovereign Resort and MUEF at Level 03, connected via Lift G4, Lift VIP 1 and escalators.
- Extension of the lift service to stop at Level 00, 01 and 05 in addition to Level 3, 4 and 4M.

Level 03 Sovereign Column Façade Treatment along Pirrama Road

- New glazed detail to enclose exposed Level 03 Sovereign columns along the Pirrama Road façade.

Various reconfiguration works around Vertical drum Level 00 to L5A

- Revolving door at L00 main entrance landing Pirrama Road end
- Sliding door at L00 landing at stairs from Light Rail
- Reconfiguring of existing L1 and 2 void edge
- New escalators from L2 to L3 due to revised landing at Level 3
- Infill of L2 atrium void to main entrance at Pirrama Road

Façade Integration Works

- Upgrades to the Pirrama Road and Jones Bay Road façades to integrate the new Ritz Carlton Hotel and Residential Tower with the existing building.

Infrastructure Upgrades

- A new plant room located within the podium over Levels 03, 04, 05 and 06 of the proposed Hotel and Residential Tower;
- Relocation of the current Level 03 cooling towers (adjacent to the MUEF) to the Level 09 plant room

above the Level 06 plantroom adjacent to the Astral Hotel;
- New capstone microturbine units and associated flues in the proposed plant room at Level 03 between the Darling Hotel and the Astral Residence Tower;
- New capstone microturbine units and associated flues in the new Level 03 plant room at the base of the Tower;
- Relocation of the existing main switch-room to the new plant room on Level 02, south of the demolition area;
- Relocation of the existing data recovery centre to the new plant room on Level B1 of the Darling Hotel;
- Relocation of diesel generator flues to the side of the new Level 09 plantroom, adjacent to Astral Hotel

Level B2 Transport Interchange

- Upgrades to the Event Centre Loading Dock;
- Entry into Basement car stacker for the Tower apartments and Ritz-Carlton Hotel;
- New commuter bike parking and hire bike system;
- Upgrade of finishes to light rail station surrounds (but not within Light Rail corridor) and removal of existing wall barrier to the Pirrama Road frontage;
- Upgraded taxi-rank arrangements;
- Designated Star coach parking along Service Road in front of Light Rail station; and
- Realignment of kerbs and line-marking.
- *Note – no works to the Light Rail corridor*

Transport Improvements – Other Locations

- Reconfiguration of existing median strips on Jones Bay Road and addition of new median strip on Pyrmont Street, with associated line-marking to enable a new right-hand turning lane into the Astral Hotel Porte-Cochere;
- New Pyrmont Street carpark entry and exit, associated line marking, changes to internal circulation, and reconstruction of the pedestrian footpath along Pyrmont Street; and
- Relocation of existing feeder taxi-rank from Jones Bay Road to the Level B2 transport interchange.

Site Wide Landscape and Public Domain Upgrades

- Upgrades to street frontages along Pirrama Road (for the Hotel Porte Cochere) and Jones Bay Road (for the residential entry);
- Upgrades to street frontage to Pyrmont Street, due to new car parking entry; and
- Entrance upgrade to the SELS building at the corner of Jones Bay Road and Pyrmont Street.

Level 00 - Restaurant Street

- Creation of a new destination Restaurant Street by:
    - Incorporating existing Balla & Black Food and Beverage premises on Level 00; and
    - Converting existing retail shops into new Food and Beverage tenancies

Pirrama Road and Jones Bay Road - Food and Beverage tenancies

- A revised food and beverage tenancy at the existing Pizzaperta outlet along Pirrama Road;
- A new food & beverage tenancy at the Marquee street entry; and
- A small café outlet adjacent to the residential lift lobby at Jones Bay Road.
- A new food & beverage tenancy accessed off existing walkway from Jones Bay Road

Food and Beverage – Other Locations

- Reconfiguration of Harvest Buffet, including new escalators from Level 00 Food Court to Level 01;

and

- Refurbishment of Bistro 80 into the interim Century tenancy

Darling Hotel Corners

- Upgrade of the corner plaza at the Union/Edward Street property entry:
  - A new food and Beverage premises on Level 01 and 02;
  - A new entry foyer leading to the Food Court;
  - A relocated awning enclosure at street level;
- Upgrade of the corner plaza at the Union/Pyrmont Street property entry:
  - A new awning enclosure at for the existing café;
  - New revolving door at entry to Darling Hotel
  - Eight (8) luxury display cases at Darling Hotel car park entry; and
  - Two car display areas at Darling Hotel car park entry.

Site-Wide Acoustic Strategy

- A site-wide acoustic monitoring strategy applied to assess impact of potential noise generating sources in Mod13.

Site-Wide Lighting Strategy

- A site-wide lighting strategy integrating and improving the existing lighting across the precinct, with new lighting the proposed Tower, Podium and Ribbon, including:
  - Internal lighting of Hotel and Residential spaces;
  - Illuminated highlights at the Sky Lobby and Club Lounge levels;
  - Integrated lighting on the eastern and western vertical façade slots and angled roof profile;
  - Podium external illumination from awnings, and under retail and lobby colonnades;
  - Landscape lighting on Level 07 open terraces and pool decks;
  - Feature lighting accentuating the wing-like profile of the Ribbon and vertical element;
  - Internal and external lighting to Food and Beverage outlet at Union/Edward Street corner;
  - Façade LED lighting to the heritage SELS Building

Special Lighting Events

- Approval for fifty-three (53) Special Lighting Events per year for the use of permanent installation of moving projector lights on the rooftop of the Astral Hotel

Signage Upgrades

- Consolidation of existing signage approvals and new signage, including:
  - Approved signs not yet installed
  - Wayfinding signs;
  - Business identification (including for Food and Beverage outlets); and
  - Signage on the Tower and Podium.

Stormwater upgrades

- Stormwater upgrade works, including increased pit inlets and pipe capacities at the low points along Pyrmont Street and Edward Street. Flood gate to Pyrmont Street carpark entry-exit ramp.

BCA / SEPP 65 / DCP Compliance (Mandatory minimum compliance with BCA/SEPP – State legislation, DCP Council legislation)

General comments

- Access is typically required to and within all areas normally used by occupants
- Consider accessible entry/exit to the swimming pool/s where the perimeter exceeds 40m
- Provide 15% of residential apartments that are designed to meet Silver level of the Livable Housing design guidelines / capable of adaption under AS 4299-1995. (31 units from a total of 204)
- Provide a further 5% of residential apartments that are designed to meet Silver level of the Livable Housing design guidelines (11 additional units from a total of 204)
- Provide a minimum of 10 accessible bedrooms (SOUs) as part of the hotel accommodation

All stairs are set back so that prescribed horizontal handrail extensions can be provided; the stairway handrails will not contain any vertical sections and the handrails will not protrude into the traverse path of travel

Universal design / Adaptable apartment's allocated storage areas are recommended to have adequate circulation space in front of them, so that users can access and use these spaces easily (Cage doors). Operable controls should ideally be able to be operable with the use of one hand (as a recommendation).

LEVEL B3 UNISEX ACCESSIBLE WC

Accessible WC set- out will be updated as part of detailed design to meet AS1428.1-2000, Clause 15.

LEVEL B2

Carstacker entry room / Hotel arrival

a. Door circulation spaces (clear of the parked car) will be provided at the car stacker entry rooms.
b. The hinged door position (provided adjacent to the revolving door at the hotel entry point) will be adjusted to provide a minimum latchside circulation space of 530 mm.

BOH areas / Staff entry door into building

Staff only access areas will not be designed/constructed with accessible features given the physical nature of many duties necessitates that all staff members need to have a minimum level of physical fitness. At Construction Certificate stage any technical departure from the Deemed to Satisfy provisions of the BCA will be documented by means of an Accessibility Performance Solution against the Performance Requirements of the BCA, as permitted under BCA Clause A0.2.

LEVEL 00

Access to Concierge/Mail room areas

The use of these spaces are deemed exempt from the requirement to be accessible, as permitted under Clause D3.4 of the BCA.

LEVEL 01

Whilst the BCA permits provision of a spiral staircase, it does not meet the enhanced design provisions of AS1428.2 and as such poses a design risk for people of varying disabilities. Ensure stair 'going' dimension is maintained at its greatest in order to mitigate the pinchpoint of narrow goings to the inner circumference of the stair – coupled with provision of compliant nosings and stair handrails.

The Accessible WC's provided as part of the Neighbourhood Centre shall alternate the handed design of the WC/ grabrails at each level that they are provided.

As above, access to & the use of the Data Recovery Centre, Residential Waste store and BOH areas are deemed exempt from the requirement to be accessible, as permitted under Clause D3.4 of the BCA

LEVEL 04 MEZZANINE VIP LINK

Note that a 1:20 walkway is detailed running parallel to Jones Bay Road; it is considered prudent that as part of construction documentation that this gradient is adjusted to 1:21 to allow for Construction tolerance.

LEVEL 07

The Hotel & Resident's pools will both meet the design requirements of Part/Specification D3.10 of the BCA.

DDA COMPLIANCE

(ADDITIONAL RECOMMENDATIONS TO MINIMISE RISK OF COMPLAINT UNDER DDA – FEDERAL LEGISLATION)

- It is noted that the current design drawing set illustrates compliance can be achieved with the BCA and relevant Standards / Legislation. As part of the construction phase, a programme of ongoing review against existing design documentation / new design details would be prudent to ensure a suitable final product is delivered.

2 INTRODUCTION

The Star Entertainment Group has engaged the services of McKenzie Group Consulting as Accessibility and DDA consultants to conduct a review of the project documentation to ensure that functional and compliant accessibility has been applied to the design. As members of the Access Consultants Association of Australia (ACAA), McKenzie Group Consulting use expert accessibility knowledge to ensure the project complies with the spirit and intent of the Disability Discrimination Act (DDA), within the project scope.

2.1 PURPOSE OF REPORT

SEGL has commenced a five-year redevelopment journey to create a landmark, exemplar integrated resort. This proposed redevelopment will occur through the lodgment of two s75W modification applications to the original Major Project Approval (MP08_0098) with the Department of Planning and Environment (the Department).

Modification 14 (Mod 14) was determined in October 2017 and included approval for a range of upgrades to the existing site. These upgrades included the enclosure of the level 3 terrace to facilitate an expansion in gaming floor area and a new bar and restaurants, expansion of the level 3 pre-function space, changes to the Astral Hotel lobby and retail space, and alterations to internal vertical transportation, services and infrastructure, including the harbour heat rejection system.

Mod 13 is a modification to the development as approved under MP08_0098, up to and including Mod 14. This forms the basis for technical impact assessments.

Modification 13, proposes the development of a new Ritz-Carlton Hotel and Residential Tower in the northern portion of the site with associated podium treatment, as well as other transport, retail, food and beverage improvements across the site. It is Modification 13 that is the subject of this report.

This report forms part of the DA Submission Design review. The report is prepared in relation to a proposed works at Pyrmont Street, Pyrmont NSW 2009.

This report provides a compliance overview of the project with respect to achieving compliance with the Building Code of Australia (BCA) and the Disability Discrimination Act (and Disability Standards) (DDA), within the project scope. Additional Detailed Design documentation and compliance assessment will be undertaken as the design develops.

2.2 PROJECT DESCRIPTION

The proposed works include the redevelopment of the existing site to include residential and hotel accommodation together with associated leisure and essential amenities.

3 LEGISLATIVE REQUIREMENTS

The legislative requirements for this project include the application of Federal, State and Council legislation.

FEDERAL

The Disability Discrimination Act (DDA - 1992) is Federal Government legislation enacted in 1993 that seeks to ensure all new building infrastructure, refurbishments, services and transport projects provide functional and equitable accessibility. The DDA is a complaints based legislation, which is administered by the Australian Human Rights Commission (AHRC). For any built environment the key requirement of the DDA is to ensure functionality, equality and dignity of people with disabilities, their companions, family and carer givers.

The DDA utilises statutory instruments known as Disability Standards to provide detailed requirements. The Disability Standards are: Disability (Access to Premises – Buildings) Standards 2010, Disability Standards for Education 2005 and the Disability Standards for Accessible Public Transport 2002. These Disability Standards draw extensively on technical provisions in the AS 1428 series details technical requirements related to design for access and mobility.

STATE

The Building Code of Australia has adopted key accessibility and DDA legislation into the 2011 and subsequent BCA. In particular adherence to the Access to Premises Standard (2010) (APS); AS1428.1 2009; AS1428.4.1 2009 and AS2890.6 2009 has become mandatory. This means that compliance with the relevant sections of the BCA, ensures compliance with the relevant 'Premises' component of the DDA.

However, compliance with the BCA alone does not necessarily mean compliance with the Disability Discrimination Act if the elements of equality, dignity and functionality remain compromised within an environment. The building owner/occupier should therefore ensure that their policies, practices and procedures promote equality in all employment, education and services provided, within their built environment.

3.1 ACCESS TO PREMISES STANDARDS APPLICATION AND EXEMPTIONS TO EXISTING BUILDINGS

Where the project involves the internal works within part of an existing building by the building owner; The Access to Premises Legislation (2010) defines these new works as the new part of the building and requires that the affected parts of a building are also made accessible and compliant to the requirements of AS1428.1 2009 and the Access to Premises Legislation (2010) technical provisions. Affected parts are defined as the principal pedestrian entrance and a continuous path of travel between the primary entrance and the new part. (PS 2010 pg. 5-6). In this case this also includes the condition of the existing lift to travel between levels.

Where the project involves internal alterations within an existing building in which the client is a lessee; The Access to Premises Standard (2010) defines new works as the new part of a building and requires that affected parts of the building are also accessible. Affected parts are defined as the principal pedestrian entrance and a continuous path of travel from the entrance to the new part. There is an exemption to this requirement whereby if the lessees (not building owner) submit an application for approval for building works they are exempt from this requirement. As such there is no requirement under the Access to Premises Standard (2010) to provide alteration to the lift/ building entry.

Exemptions may also apply to existing sanitary facilities and to lift car size.

<u>Application of legislation to this development</u>

With regard to this project, upgrading works for an affected part may include:

- Providing lift access between the levels to the new works
- Providing accessible and ambulant sanitary facilities to each level where sanitary facilities are provided
- Upgrading the main entrances of existing building
- Minimum width requirements of doorways or passageways, including passing and turning spaces

along the access path from the main entrance to and within all new works.
- Upgrading the applicable stair/ramp/door located along the ‘affected part’ path of travel

3.2 REFERENCED LEGISLATION AND STANDARDS

The review of the project has been undertaken against the following legislation;

- Disability Discrimination Act (DDA) 1992.
- Disability (Access to Premises – Buildings) Standards 2010 (DAPS 2010).
- Building Code of Australia (BCA) and BCA referenced standards including:
    - AS1428.1 2009 Part 1: General Requirements for access – new building work.
    - AS1428.2 1992 Part 2: Enhanced and additional requirements – Buildings and facilities.
    - AS1428.4.1 2009 Part 4.1: Means to assist the orientation of people with vision impairment – TGSI.
    - AS2890.1 2004 Part 1: Off-street car parking.
    - AS2890.6 2009 Part 6: Off-street parking for people with disabilities.
    - AS1735.12 1999 Lift facilities for people with disabilities.
- SEPP 65
- City of Sydney Access DCP 2004

4 DOCUMENTATION

The report has been prepared based on a review of the drawings listed in Appendix A; Final Consultants Drawings prepared by FJMT and DWP as detailed in Appendix A.

5 EXEMPTIONS AND PERFORMANCE BASED SOLUTIONS

5.1 EXEMPTIONS

Based on the use of some areas within a building, it is reasonable to not provide access to some spaces where it is deemed inappropriate because of the required duties to be carried out in the space or if the area poses as a health or safety risk for people with a disability. These areas may include:

- Plant rooms, Store rooms, cleaner's rooms, residential waste store and the like.
- Switch room
- Data recovery centre
- Loading docks
- Commercial kitchen
- Housekeeping Back of House Areas
- Concierge desk & Mail room

5.2 PERFORMANCE BASED SOLUTIONS

Performance based solutions are likely to be required for the following areas:

- Design of "Spiral staircases"
- Operational requirements to access & use Back of House areas by all members of staff.

6 ISSUES AND RECOMMENDATIONS

The following compliance assessment is set out in tabular format. The comment/issue identifies the issues followed by recommendations and whether relevant to BCA or DDA compliance. 'BCA' compliance means meeting minimum mandatory compliance of the BCA and the Premises Standard component of the DDA. Where 'DDA' compliance is shown against a recommendation, this indicates an area of residual DDA risk, i.e. outside BCA parameters and the Access to Premises Standards. The 'DDA" recommendations relate to best practice design for accessible environments. These recommendations, in conjunction with the owner/occupier's policies, practices and procedures will maximize DDA compliance and meet the spirit and intent of the DDA.

6.1 GENERAL BUILDING ACCESS REQUIREMENTS

Buildings and parts of buildings must be accessible in accordance with Table 3.1 of the BCA.

A continuous accessible path of travel is to be provided as follows:

Part Of Building	Accessibility Requirements	BCA/DDA
Class 2 – Residential	- From the pedestrian entrance to the entrance doorway of each sole-occupancy unit (SOU). - To and within not less than 1 type of common room used by residents i.e. laundry, gym, swimming pool etc.	BCA
Class 2 – Residential	- 20% of apartments to be to "Universal Design" (40)	SEPP 65
Class 2 – Residential	- 15% of apartments to be "adaptable"	DCP
Class 3 – Hotel Accommodation	- Not more than 2 accessible SOUs may be located adjacent each other - Where more than 2 accessible SOUs are required, they must be representative of the range of rooms available - From the pedestrian entrance to the entrance doorway of each sole-occupancy unit (SOU). - To and within not less than 1 type of common room used by residents i.e. laundry, gym, swimming pool etc. - To and within 10 Accessible bedrooms (SOU's)	BCA
Class 5 – Office/Administration ; Class 6 – Retail; Class 7b – storage; Class 9b – Public Realm/Function Areas	- To and within all areas normally used by the occupants	BCA
Class 7a – Car parking	- Valet parking is likely to negate the requirement to provide Accessible car parking for hotel guests; however, additional discussion is required.	BCA
Class 10b – Swimming pool	- To and within a swimming pool with a total perimeter greater than 40m	BCA
List all common facilities and areas normally used by the occupants Common facilities required to be accessible include: gym, sauna, steam room, Spa area, communal kitchen, refuse room, refuse chutes, tenant storage rooms, laundry,		

6.2 EXTERNAL APPROACHES, WALKWAYS, RAMPS, KERBS AND STEPS

A continuous accessible path is to be provided to the new building:

- From the main points of a pedestrian entry at the allotment boundary, and
- From another accessible building connected by a pedestrian link
- From any required accessible carparking space on the allotment

Comment/issue	Recommendation	BCA/DDA
Ensure external paths are of adequate width to accommodate passing and turning spaces	- Provide a minimum of 1500mm width to allow a pram and wheelchair to pass - Consider a path width of 1800mm to allow two wheelchairs to pass, particularly to the public realm - Minimum width must be measured clear of bollards or fixtures	BCA
Provide warning TGSIs and kerb ramps at Pedestrian Crossings in accordance with AS1428.4.1	- Warning TGSIs are to be provided, located 300mm from the hazard of the roadway - Where bollards are provided, ensure they are positioned either side of the dedicated walkway, maintain a clear width of 1200mm	BCA
Pedestrian crossings and or drop-off areas should be designed inclusive of linemarking, kerb ramps and TGSIs in accordance with AS1428.1 & AS1428.4.1.	- Ongoing review as the development progresses to ensure compliance of pedestrian crossings or drop-off zones including gradient, finishes, tactile indicators, colour and textural contrast of surfaces and required kerb ramps is maintained.	DDA
Rest seating should be provided adjacent entrances, at taxi drop off points and along external pedestrian paths of travel	- Locate rest seating near/adjacent the taxi drop off bay - Provide a range of seating to accommodate all users i.e. some with backrest, some with armrests and at various seat heights etc. - Any seating to be set back 500mm from the walkway.	DDA
Where pedestrian walkways and vehicular routes are at grade, hazard warning required	- Position hazard TGSIs in accordance with AS1428.4.1	BCA
Recommend obstacles abutting a path are readily identifiable and do not obstruct a user on the path	- Recommend bollards, bike racks, rest seating and bins possess a 30% luminance contrast to the surroundings - Ensure fixtures and furniture is recessed a minimum of 500mm from required minimum width of path	DDA
The public realm offers significant opportunities to enhance the existing scheme. There will be minimum BCA requirements in terms of access paths, gradient, stairs etc., however, many aspects of good design in external spaces, fall outside these minimum requirements.	- The following are some design considerations for providing equitable access to the public realm; - Surface treatments e.g.; grass, gravel, stone, pavers – be aware of abutment detail with other surfaces; both level difference and slip resistance differences. - Careful design of drainage grates, surface falls and gradients generally - Provision of rest seating opportunities along walkways, stair landings etc. - Lighting designs that minimise glare. - Luminance contrast of features such as; steps, seats, bollards, bins etc. - Consistent/compliant use of TGSIs o create a predicable environment - Landscape planting can offer tactile and olfactory clues to the environment to enhance different areas.	BCA/DDA

KEY EXTERNAL WALKWAY CRITERIA:

- Walkways to be provided with passing bays (1800 x 2000mm) every 20m.
- Walkway gradient to be no steeper than 1:20 with landings every 15m.
- Landings in direction of travel 1200mm long; landings at 90° directional change 1500mm x 1500mm. Landings at 180° directional change 1540mm length.
- If gradient of walkway is less than 1:33 no landings are required.
- TGSIs required to warn of hazard along pedestrian and vehicular routes on grade

KEY KERB AND PEDESTRIAN CROSSING CRITERIA:

- Kerb ramp to have gradient no steeper than 1:8, length no greater than 1520mm.
- Pathways from accessible parking across roadways to have designated line marking.
- Stairs design criteria:
- Common use stairs require AS1428 series compliant handrails, tread features and TGSI.

KEY RAMP DESIGN CRITERIA:

- Maximum gradient of a ramp exceeding 1900mm is 1:14. Gradient to be consistent throughout ramp.
- Ramp required to have unobstructed width of 1000mm
- Ramps to be provided with landings at bottom and top of ramp.
- Landings required every 9m where grade 1:14, Landings required every 15m where grade 1:20.
- Landings in direction of travel 1200mm long; landings at 90° directional change 1500mm x 1500mm. Landings at 180° directional change 1540mm x 2070mm length.
- Ramps require AS1428 series compliant handrails and TGSI.
- Ramps to be set back 900mm at property boundaries or 400mm at internal corners.
- Vertical rise not to exceed 3.6m

Kerb ramps – max rise 190mm; max 1:8 gradient

Threshold ramps – max rise 35mm; 1:8 max gradient; within 20mm of door leaf

Step ramps – max rise 190mm; 1:10 max gradient

6.3 CAR PARKING

Comment/issue	Recommendation	BCA/DDA
In accordance with Table D3.5 of the BCA, accessible carparking is required to be provided as follows. - Class 2 parts – no requirements - Class 3 part – total number of carparking spaces designated for class 3 multiplied by percentage of required accessible SOUs - Class 5, 7, - 1 space per 100	- Valet parking is proposed - Pedestrian access to/from the car stacker “room” is required to be accessible in relation to residential car parking provision. - It is noted that compliance is capable of being achieved	BCA

KEY CAR PARKING AND TRANSPORT DESIGN CRITERIA:

- Accessible spaces are to be designed in accordance with AS2890.6-2009.
- Dimensions of angled accessible parking bays 2400 x 5400mm with adjacent 2400mm x 5400mm shared area and bollard in shared area.
- Dimensions of parallel parking bays 3200mm x 7800mm.
- Provide direct kerb ramp access from adjacent to the accessible parking space to pathway.
- Accessible bays to be located near entrances.
- Provide a designated area for accessible drop off from private vehicles, taxis and community vehicles with kerb ramp access to the pathway.
- Height of vehicular path of travel to accessible parking space to be 2200mm and height above accessible parking space to be 2500mm

6.4 ENTRANCES

Access for persons with a disability is to be provided to and within all areas normally used by the occupants.

Access must be provided via the main principal entrance and:

- Not less than 50% of all pedestrian entrances including the principal entrance, and
- In buildings with a floor area >500m², a non-accessible entrance must not be located more than 50nm from an accessible entrance.

Comment/issue	Recommendation	BCA/DDA
All entry doors are to comply	- All entry doors must achieve a minimum clear door opening width of 850mm (920mm leaf door required) - The current design indicates that compliance will be achieved in relation to the spatial design.	BCA
All doors to have light operation forces	- Ensure doors have light operational forces (less than 20 N). Consider use of bearing hinges or other enhanced hardware to achieve requirement.	BCA
Glazing decals	- All glazed doors must be marked with contrasting marking not less than 75mm wide for full width of doors with lowest edge at 900-1000mm.	BCA
30% minimum luminance contrast is required between 2 elements of the door face, door architrave and wall.	- Please provide further details within door schedule / specification.	BCA

KEY ENTRANCE CRITERIA:

- Main entry must be accessible.
- Entry requires single door leaf width clearance of 850mm (920mm door size).
- Circulation space of 1450mm required either side of entry.
- All glazed doors must be marked with contrasting marking not less than 75mm wide for full width of doors with lowest edge at 900-1000mm.

6.5 LIFTS/ESCALATORS

An accessible path of travel is required to all areas normally used by occupants.

Comment/issue	Recommendation	BCA/DDA
- Any new lift travelling >12m requires a minimum compartment size of 1400mm wide x 2000mm depth (requires 2000mm depth where stretcher use indicated and travelling >12m). - Any lift travelling <12m requires a minimum compartment size of 1100mm wide x 1400mm depth. - Fitout must comply with AS1735.12	- Any new lift is to comply - The current design indicates that compliance will be achieved in relation to the spatial design/installation of all lifts	BCA

KEY LIFT DESIGN CRITERIA:

- Lift dimensions to be 1100mm x 1400mm (up to 12m) or 1400mm x 1600mm (>12m minimum).
- Lift doorway opening clearance to be 900mm
- Fit out of lifts to include: Handrail 600mm (min) length; at height between 850-950mm, Tactile and Braille symbols on control buttons and panels, Automatic auditory information detailing lift stops. Control buttons set back from corner.

6.6 INTERNAL STAIRS

An accessible path of travel is required to all areas normally used by occupants. All stairs (excluding fire-isolated stairs) must be provided with handrails both sides, nosing strips and TGSIs.

Comment/issue	Recommendation	BCA/DDA
- All general circulation stairs are to be designed to comply with AS1428.1-2009 i.e. clear width not less than 1m, handrails both sides, TGSIs and nosings.	- All new stairs and/or existing stairs along the 'affected part' are to comply with AS1428.1-2009. - The current design indicates that compliance will be achieved in relation to the spatial design.	BCA
- Fire-isolated stairs (FISs) are exempt from full compliance	- FIS shall be upgraded/designed to include a single handrail compliant to Clause 12 of AS1428.1 (circular) and provision of stair handrails as a minimum - If FISs are to be encouraged for general circulation use, the stairs should be upgraded to full compliance with AS1428.1-2009 features.	BCA
- Spiral Stairs	- The proposed inclusion of spiral stairs will be documented by means of an Accessibility Performance Solution	

Comment/issue	Recommendation	BCA/DDA
- South Eastern corner stairs	- The current design will be adjusted in order that this stair is “set back” ensuring that the stair handrails will not protrude into the traverse path of travel	

KEY STAIR DESIGN CRITERIA:

- Stairs to be set back 900mm at property boundaries or sufficient space to accommodate required handrails internal corners.
- Circular or spiral stairs are generally unsafe due to their inconsistent tread width.
- Common use stairs require AS1428 series compliant handrails, tread features and TGSI.
- Tactile ground surface indicators (TGSI) shall be installed for the full width of the path of travel
- TGSI’s shall be located at both the top and bottom of the stairs
- Fire-isolated stairs required a single handrail compliant to Clause 12 of AS1428.1 and stair nosings as a minimum.

6.7 INTERNAL RAMPS

An accessible path of travel is required to all areas normally used by occupants. All ramps along a continuous accessible path of travel must be provided with handrails both sides, kerb rails, landings and TGSIs as required.

Comment/issue	Recommendation	BCA/DDA
- All general circulation ramps are to be designed to comply with AS1428.1-2009 i.e. clear width not less than 1m, handrails both sides, TGSIs, compliant landing sizes and gradient	- Any new ramps and/or existing ramps along the ‘affected part’ are to comply with AS1428.1-2009.	BCA

KEY RAMP DESIGN CRITERIA:

- Maximum gradient of a ramp exceeding 1900mm in length is 1:14. Gradient is to be consistent throughout ramp.
- Ramp required to have unobstructed width of 1000mm
- Ramps to be provided with landings at bottom and top of ramp.
- Landings required every 9m where grade 1:14, Landings required every 15m where grade 1:20.
- Landings in direction of travel 1200mm long; landings at 90° directional change 1500mm x 1500mm. Landings at 180° directional change 1540mm x 2070mm length.
- Ramps require AS1428 series compliant handrails and TGSI.
- Ramps to be set back 900mm at property boundaries or 400mm at internal corners.

6.8 TACTILE GROUND SURFACE INDICATORS (TGSIS) AND HAZARD IDENTIFICATION

Comment/issue	Recommendation	BCA/DDA
- TGSIs are required to be installed in accordance with AS1428.4.1, to the top and bottom of every stair, ramp and escalator and to external areas such as where the pedestrian walkway is at grade with the roadway, kerb ramps.	- Further review to be undertaken at final design stage	BCA
- Any Hazards which have < 2000mm vertical height clearance along a continuous accessible path of travel will require to be identified	- Initially anticipated that there are no such implications in this instance.	BCA
- All glazed doors, sidelights and glazing that could be mistaken for a door or opening must be marked with contrast marking	- Provide contrast marking no less than 75mm wide for full width of glazing at 910-1000mm height.	BCA

KEY TGSI AND HAZARD IDENTIFICATION CRITERIA:

- Standard warning TGSI size is 600-800mm for full width of path of travel
- TGSI's to be set back 300mm +/- 10mm from hazard
- TGSIs to have min 30% luminance contrast for integrated TGSI's and 45% for discrete TGSIs
- TGSIs not required in Aged Care building
- Contrast marking to achieve minimum 30% luminance contrast against floor or surfaces within 2m

6.9 INTERNAL WALKWAYS

An accessible path of travel is required to all areas normally used by occupants. Internal walkways should be designed with the following features:

- Suitable circulation spaces to enable turning into adjacent doorways and workstation areas,
- Landing areas at suitable intervals
- Adequate passing spaces, and
- Turning areas at corridor or room terminators

Comment/issue	Recommendation	BCA/DDA
Public paths of travel and internal corridors throughout shall be designed to comply as follows: - Ensure a minimum unobstructed clear width of 1000 mm along all corridors to rooms or spaces. - Provide turning spaces of 1500x1500 (corner may be truncated) where a user is required to make a directional turn. - Provide turning space within 2000 mm at the ends of corridors, where it is not continuous to offer turning space: minimum width 1540 mm x 2070 mm length. - Passing bays (1800mm wide x 2000mm length) are required every 20m where no direct line of sight is provided	- In general, the hotel and residential corridors have been detailed with a width which accommodates turning spaces, corridor terminations and passing bays as required – compliance indicated	BCA

KEY INTERNAL WALKWAY AND SURFACE CRITERIA:

- Walkways to be provided with passing bays (1800 x 2000mm) every 20m.
- Minimum width of internal walkway 1000mm.
- Path of travel in front of doorways or those accessed from a frontal approach required to be 1450mm width (minimum).
- Path of travel in front of doorways accessed from the latch side to be 1240mm minimum width.
- Landing spaces at directional changes of: at 90° - 1500mm x 1500mm (corner can be truncated); at 180°- 1540mm x 2070mm.
- Turning space at corridor terminations to be 1540mm width x 2070mm length.

6.10 INTERNAL DOORWAYS

An accessible path of travel is required to all areas normally used by occupants. Future detailed design should provide compliant door circulation space to all doors where appropriate.

Comment/issue	Recommendation	BCA/DDA
The unobstructed clear width of doors must achieve a minimum of 850mm (920mm leaf required).	All doors along an accessible path of travel must have compliant door circulation and clear opening width of 850mm	BCA
All doors to have light operation forces	Ensure doors have light operational forces (less than 20 N). Consider use of bearing hinges or other enhanced hardware to achieve requirement.	BCA
To enable visitability to all residential apartments & hotel bedrooms it is recommended that all doors achieve the minimum clear width	Provide a clear opening width of 850mm (920mm leaf doors) to all Accessible bedroom (Sole-occupancy unit, SOU) apartment entry doors	DDA

Comment/issue	Recommendation	BCA/DDA
Ensure a level transition is provided to and within terraced/deck areas	Thresholds ramps are to be installed in accordance with AS1428.1-2009.	BCA
Multiple internal doors do not achieve the required compliant clear latchside circulation space – refer to drawing mark ups	Doors will be re-positioned to comply as part of the next stage of design	BCA
Airlocks require clear circulation spaces between doors	Provide 1450mm clear circulation at airlocks, in particular leading to terrace areas	BCA
30% minimum luminance contrast is required between 2 of the door face, door architrave and wall.	Please provide further details within door schedule / specification.	BCA

KEY INTERNAL DOORWAY CRITERIA:

- All doors require 850mm clearance width (920mm doors) incl. active leaf of double doors.
- Latch side clearance of 510mm to inward opening doors; 530mm to outward opening doors.
- Circulation space of 1450mm required either side of doors that are approached from the front. Circulation space of 1240mm required in front of inward opening doors approached from latch side.
- All glazed doors must be marked with contrast marking no less than 75mm wide for full width of doors at 910-1000mm height.

6.11 SANITARY FACILITIES

Facilities are to be provided in accessible parts of the building. Accessible sanitary facilities must be provided on each level where other sanitary facilities are also provided and if the storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks. The accessible facilities should be located adjacent/opposite the gender facilities.

Where one or more pans are provided, an ambulant toilet within each of the male and female facilities is to be provided.

Comment/issue	Recommendation	BCA/DDA
Where two or more accessible sanitary facilities are installed there shall be an even distribution of mirror imaged layouts to provide left hand and right hand transfer.	This is recommended for review at Level's 2 & 4 within the Community building	BCA
Accessible WC's set out of fixtures & fittings	The design of all compartments will continue to be reviewed and updated as part of detailed design	
Ambulant cubicles	Ambulant cubicles will be fully documented at detail design stage	

KEY SANITARY FACILITY CRITERIA:

- Accessible sanitary facilities to be in same location as gender facilities and located on all levels of a multi-level building.
- Minimum room dimension with WC and basin: 1900mm x 2630mm or 2330mm x 2200mm.
- Provide AS1428 series compliant fixtures inclusive of shelf, clothes hooks, full length mirror
- A sanitary compartment suitable for a person with an ambulant disability must also be provided for use by males and females
- Baby change tables are not permitted to encroach on fixture circulation spaces and are to be installed in accordance with Clause 15.2.8.2

6.12 SIGNAGE

Mandatory Braille and tactile signage must be provided to sanitary facilities (except SOUs), spaces with hearing augmentation, for required exit signage and directional signage to alternative accessible entrances, paths of travel or alternative sanitary facilities.

Comment/issue	Recommendation	BCA/DDA
A wayfinding strategy should be developed for the project	Further review of the statutory wayfinding package shall to be undertaken when available, at a future stage in the design / construction process	BCA/DDA

KEY SIGNAGE DESIGN CRITERIA:

- Accessible way finding should highlight the pathway from entrance to reception to lifts/stairs, amenities and to key components of the facility.
- Ensure accessible way finding signage is:
- Located at appropriate viewing heights
- Perpendicular to the path of travel or beside identifiable features (e.g. door faces)
- Of suitable colour contrast (luminance contrast min 30%)
- Of compliant notation inclusive of use of the international symbol of access.
- Signage to accessible sanitary facilities requires identification with the international symbol of access, raised tactile and Braille signage and letters RH or LH to indicate side of transfer to the WC pan.
- Signage required to areas with required hearing augmentation provided

6.13 HEARING AUGMENTATION

Hearing Augmentation Listening Systems are an essential assistive device for people who use hearing aids and are mandatory at screened reception counters, lifts and areas with public announcement systems.

Comment/issue	Recommendation	BCA/DDA
- Hearing Augmentation will be required, if in-built amplification is available within the Buildings/rooms - Consider provision of hearing augmentation early in design	As the services design is completed confirm precise requirements for hearing augmentation.	BCA

KEY HEARING AUGMENTATION CRITERIA:

- Hearing Augmentation systems must be provided where inbuilt amplification is provided in rooms (e.g. auditoriums, conference rooms or meeting rooms)
- Hearing Augmentation systems must be provided where inbuilt amplification is provided to ticket offices, tellers booths, reception areas or the like where the public is screened from the service provider.
- Hearing augmentation systems can be permanent or portable. The nature of the built environment will dictate the desired outcome.

6.14 SWIMMING POOL

Accessible entry/exit is required to and within swimming pools in accordance with D3.10 of the BCA.

Comment/issue	Recommendation	BCA/DDA
Access is required to and into a pool with a perimeter of 40m or greater. Provision of access into the pool is to comply with D3.10 of the BCA via a platform swimming pool lift, sling style lift or the like.	Further details required regarding proposed pool perimeters	BCA
In addition, if the perimeter exceeds 70m, entry/exit into the pool is to be via either a: - a fixed or movable ramp and an aquatic wheelchair; or - a zero depth entry at a maximum gradient of 1:14 and an aquatic wheelchair; or - a platform swimming pool lift and an aquatic wheelchair.	Compliant accessible entry/exit into the pools is to be established in the next phase of the design.	BCA

6.15 ACCESSIBLE SOLE-OCCUPANCY UNITS (SOUS)

A Class 3 Building requires the provision of accessible SOUs in accordance with Table D3.1 of the BCA.

Comment/issue	Recommendation	BCA/DDA
- Based on the number of accessible hotel rooms (220), a total of 10 accessible Sole-occupancy units are to be provided	- As part of final detailing of the accessible hotel bedroom layouts ensure compliance is achieved - Must be representative of the range provided i.e. Queen, King etc. - Provide an equal mix of LH & RH Transfer bathrooms as required, alternating on a floor by floor basis	BCA
<u>SOU - Doors</u> All doors to and within the unit must comply with the door circulation space requirements of AS1428.1-2009. Front approach doors require: - Clear width: 850mm - Length: 1450mm - Latch: 510/530mm - Hinge: 0/110mm Depends on direction of approach and swing of door. Either side approach doors require, range: - Clear width: 850mm - Length: 1240mm or 1670mm - Latch: 900/660mm - Hinge: 660/560mm Refer Figures 31 & 32 of AS1428.1 for further details.	- The entry doors and bathroom facility door must comply. - Please provide further details within door schedule / specification.	BCA

Comment/issue	Recommendation	BCA/DDA
Accessible bedroom - SOU - Internal Circulation - A minimum clear width shall be maintained to and within the unit. - Circulation spaces around fixtures and heavy furniture shall comply with Clause 6 of AS1428.1 to enable a user to safely manoeuvre within the unit.	To comply - Required circulation space to make 90 degree turns - 1500x1500 (corner may be truncated), and - Provide a minimum of 1000mm each side of the bed and - Provide a required circulation space for 180 degree turn of 1540x2070mm in direction of travel at the end of bed Refer to Figures 4 & 5 of AS1428.1 for further details.	BCA
- Access to and within the SOUs is to comply with AS1428.1-2009	Ongoing Review – further details are required to assess full compliance of the proposed accessible bedrooms (SOU's).	BCA

6.16 EMERGENCY EVACUATION

Comment/issue	Recommendation	BCA/DDA
Consider implementation of an emergency evacuation plan for people with disabilities.	- The emergency evacuation strategy for the development should address the operational solution of evacuating occupants that cannot use fire stairs. - Further discussion is recommended in particular to consider the provision of a Refuge area within fire stairs.	DDA

KEY EMERGENCY EVACUATION CRITERIA:

- Consideration of individuals with disabilities is required as part of emergency evacuation planning. The types of accessible emergency evacuation include "protect in place" i.e. 1 hour rated rooms on non-fire effected levels; smoke isolated lift lobbies with managed lift access; horizontal evacuation movement to other building areas; or provision of fire refuges within fire stairs or identified zones.
- If areas of refuge are provided spaces of 1300mm x 800mm are required per individual. This space needs to be set back from the main egress thoroughfare.
- Fire evacuation plans should include provision of management plans to assist individuals with disabilities or access requirements. Individuals with accessible requirements should be provided with a "fire buddy" to escort them to pre-determined areas of refuge.
- Fire engineering reports should detail accessible evacuation within a sub section of the plan.
- The current best practice is detailed in the 'AS 3745 - 2010 Planning for emergencies in facilities' and should be used as a guideline to assist in the implementation of the Emergency Plan

6.17 ADDITIONAL SITE SPECIFIC COMPONENTS

Comment/issue	Recommendation	BCA/DDA
Internal Seating - Recommend that any internal seating considers accessible needs and is provided with both backrest and armrests in accordance with AS1428.2.	- Provide a range of seating within waiting and kiosk areas to accommodate all users i.e. some with backrest, some with armrests and at various seat heights etc. - Any seating to be set back 500mm from the walkway.	DDA
Reception/Service Desk/counters - Any reception/service desk/counter or the like should be at an accessible height to cater for all users in accordance with the requirements of AS1428.2	Counters should be at a universally accessible height of 900mm or if higher provide an 850mm wide section of 850mm height with underbench clearance.	DDA
Furniture & Fixtures - Future design should consider accessible requirements teapoint, vending machines, drinking fountains, telephones, controls etc. - Items shall be a minimum of 500mm away from the path of travel.	Future fitout/design of fixtures, furniture and fittings should consider accessible requirements in accordance with AS1428.2	DDA

7 COMPLIANCE SUMMARY

As Accredited Certifiers, we have reviewed architectural design documents prepared by fjmt Architects and DWP (refer appendix A) for compliance with:

a. Disability Discrimination Act (DDA) 1992;
b. Disability (Access to Premises – Buildings) Standards 2010 (DAPS 2010);
c. Building Code of Australia (BCA) and BCA referenced standards including:
    - AS1428.1 2009 Part 1: General Requirements for access – new building work;
    - AS1428.2 1992 Part 2: Enhanced and additional requirements – Buildings and facilities;
    - AS1428.4.1 2009 Part 4.1: Means to assist the orientation of people with vision impairment – TGSI;
    - AS2890.1 2004 Part 1: Off-street car parking;
    - AS2890.6 2009 Part 6: Off-street parking for people with disabilities;
    - AS1735.12 1999 Lift facilities for people with disabilities.
d. SEPP 65;
e. City of Sydney Access DCP 2004

Mod 13 is a modification to the development as approved under MP08_0098, up to and including Mod 14.

This has formed the basis for this technical assessment. The recommendations in this report have been provided to assist in the creation of a universally accessible environment within the proposed development.

Report Provided by:

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8 APPENDIX A – DOCUMENT LIST

FJMT project number SM13:

Drawing No.	Rev	Title
MOD13-AS2054	B	South East Corner – Floor Plans – Sheet 2
AF102	P4	General Arrangement Plans B2 Hotel Entry Ground Floor Plan
AF203	P3	General Arrangement Plans B3 Floor Plan
AF204	P4	General Arrangement Plans B2 Floor Plan
AF2000	P3	General Arrangement Plans Level 00 Residential Entry Ground Floor Plan
AF2001	P3	General Arrangement Plans Level 01 Floor Plan
AF2002	P3	General Arrangement Plans Level 02 Floor Plan
AF2003	P3	General Arrangement Plans Level 03 Floor Plan
AF2004	P3	General Arrangement Plans Level 04 Floor Plan
AF2004	Q	General Arrangement Plans Level 04 Mezzanine Floor Plan
AF2007	Q	General Arrangement Plans Level 07 Floor Plan
AF1006	P3	General Arrangement Plans Level 07 + 08 Pool Terrace Floor Plan
AF2042	P3	General Arrangement Plans Level 42 Hotel BOH Floor Plan
AF2043	P3	General Arrangement Plans Level 43 – 45 Typical Hotel Floor Plan
AF2046	P3	General Arrangement Plans Level 46 – 57 Typical Hotel Floor Plan
AF2058	P3	General Arrangement Plans Level 58 Typical Hotel Floor Plan