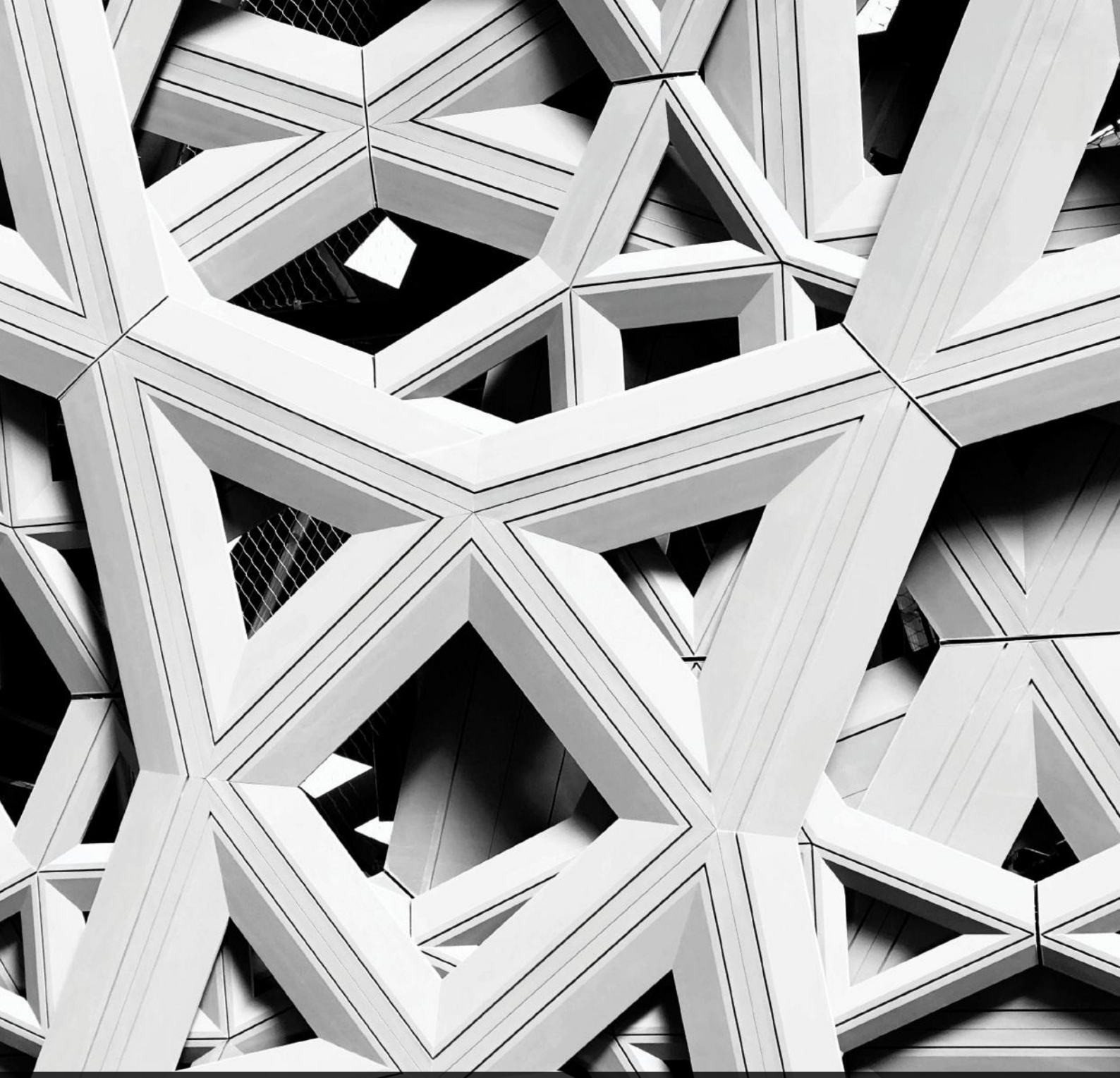

BCA & Access Assessment Report

FOR TENDER

Moree Hospital Redevelopment

35 Alice St, Moree NSW 2400

Prepared for:

Besix Watpac

Revision 4

10 November 2023

Reference: 230307

bmplusg.com.au

Executive Summary

The following comprises a summary of the key BCA compliance issues identified under the clause-by-clause assessment in Section 3.0, 4.0 and 5.0, that will be addressed prior to the BCA Crown Certificate for the project.

Note the drawings are still very preliminary – input on performance pathways will be refined once updated drawings are provided.

A. Matters requiring redesign or additional information at Crown Stage:

+ BCA (DTS) Clause		+ Description
1.	**C2D2 / Spec 5**	+ From the legend of the fire compartment plans, it is to reference "Combined 2hr Fire & Smoke Wall." + Rooftop plantdeck loadbearing columns are to achieve an FRL of 120/-/-. + From level 1 fire compartment plan as nominated in yellow below, (refer to BCA cl C2D2/Spec 5), this fire wall is not required to extend to the door from the ward area compartment.
2.	**C4D4 / Spec 5**	+ Where the northern side of the load bearing ASB external wall is located <18m from the existing Building 1 external walls, it is required to achieve an FRL of 120/30/-. + Where the western side of the load bearing ASB external wall is located <18m from the existing Building 3 external walls, it is required to achieve an FRL of 120/30/-.
3.	**D2D12**	+ Stairs 2, 3 and 4 are nominated as fire isolated stairways and are required to comply with the requirements of this clause. + It is required to detail an unimpeded path of travel from the point of discharge on ground level stairs 2, 3 & 4 to open space. It is to our understanding stair 2 discharge door is to be amended where it currently opens to the ambulance bay where no suitable barrier has been provided. + The discharge from Stair 3 has now removed the external stair to Alice Street, provide confirmation of the path of travel to the street for our review.
4.	**D2D15**	It is required to detail an unimpeded path of travel from the point of discharge on ground level stairs 2 & 3 to open space. Also, regarding the unimpeded path of travel to the road it is required to indicate the gradient of the path.
5.	**D3D23**	As per plan MHR-STH-AR-DR-B02-200201 Rev H, a roof access walkway has been proposed, this is required to be designed in accordance with AS 1657 – 2018.
6.	**E1D2**	Fire services designer is to provide confirmation that fire hydrant coverage is in accordance with AS 2419.1–2021. Regarding the fire water tank, the fire services designer is to provide commentary whether there are any implications on the separation between building 3 which is not sprinkler protected.
7.	**E4D9**	Provide confirmation if the EWIS speakers are to be omitted from certain patient care rooms.

8.	**F1D8**	The service designers are to advise requirements on the required services within subfloor space.
9.	**Part F4**	BCA requires a plunge-type bath in each storey containing ward areas. Where operational requirements for the hospital WILL NOT require a bath for patient bathing (except birthing), then a performance requirement will be required justifying removal, based on provision for bathing facilities and amenities to the degree necessary.
10.	**Part G5**	Confirmation required that the site is NOT in a bushfire prone area
11.	**D3D22 & D4D4**	It is recommended to propose a separate 1m high balustrade at all mid and top landings to Stairs 1-4 in addition to the handrail to the stairway. Also, detail a measurement of 865-1000mm from the nosing line of the riser to the top of the handrail as a critical dimension.
12.	**D4D4**	As per attachment titled "231110 - DDA Markup (For Tender Drawings)", nominates certain spaces where latch-side clearances and doorway circulation does not comply. The nominated areas are to be rectified. In certain instances, we do not agree with STH comments as issued from Aconex no. STH(Aus)-GCOR-000446. This is to be further developed at DD stage note, where it is staff managed, these rooms are to be included in the D4D5 Exemption Letter prepared by the LHD.
13.	**D4D5**	The LHD will need to provide a letter confirming what areas are subject to a concession during the Crown Certification Stage.
14.	**F4D5**	As per page 11-13 of attachment titled "231110 - DDA Markup (For Tender Drawings)", refer to the call-out comments the nominated areas are to be rectified.

B. Matters requiring fire safety engineered performance solutions:

+ BCA (DTS) Clause		+ Description
1.	**Spec 5**	+ Provide separation at the perimeter slab edge between storeys that is not in accordance with a tested system to achieve the required fire-resistance level in accordance with Specification 5 of the NCC. + Provide fire-rated seals between the fire rated compartment walls and inside face external wall coverings of the subject building, in lieu of the fire-rated compartment walls extending to the external wall without an external wall cavity. + Permit the ground floor slab and supporting structure within the sub-floor space to not achieve an FRL. Note, the sub-floor space shall not be used for storage. + Permit structural steel members, other than roof battens 75mm x 50mm, to penetrate through fire walls within Level 1 of the building. + A fire engineered performance solution for the omission of FRL to external columns only supporting the covered walkway canopy. + It is proposed to have an access hatch to the top of the fire stair (in order to provide access for maintenance personnel), which does not achieve the required FRL.
2.	**C2D14**	External tenant signage, which will not achieve a Group 1 or Group 2 classification, is permitted to be attached to the external walls of the building and will be addressed as a fire engineered solution.
3.	**C3D6**	Fire Compartment Ward Area 575.9m^2 on the first floor will be addressed as a fire engineered solution as it exceeds 500m^2.

4.	**C3D8**	+ Provide fire-rated seals between the fire rated compartment walls and inside face external wall coverings of the subject building, in lieu of the fire-rated compartment walls extending to the external wall without an external wall cavity. + Permit structural steel members, other than roof battens 75mm x 50mm, to penetrate through fire walls within Level 1 of the building.
5.	**C4D4**	Exposure between different fire compartments will be addressed as a fire engineered performance solution. Note, openings within fire compartments Ward Area (393.8m^2) and Ward Area (230.1m^2) on the first floor will be protected on one side only.
6.	**C4D6/ D3D25 & Spec 12**	+ To justify reasonable smoke leakage through pivot smoke doors. This solution should consider the fact that pivot doors cannot stop 100% smoke leakage. + To permit fire and smoke doors only swing in one direction. This solution will need to rely on automatic opening doors. Alternatively, this performance solution may be justified in low population or non-patient areas such as CSSD. The nominated fire/smoke doors as indicated in blue below swing against direction of egress. **The "For Tender" drawing nominates change of swing for certain doors on level 1, it will be required to amend the figure for the swing of doors in the fire engineering report.**
7.	**D2D5**	Justify point of choice to exceed 12m in the following areas: + 14m to a point of choice from the Endoscopy on the southern side of level 1. + 13m to a point of choice from the staff room on the southern side of level 1.
8.	**D2D12**	It is proposed to permit the path of travel from fire-isolated exit stair 4 discharging on ground floor beneath the external awning to pass within 6m of unprotected openings.
9.	**D2D15**	**From Schematic Design, stair 3 discharges at a different level than the public road which is connected via stairway which is not permissible for a class 9a building. This is to be justified via a fire engineered performance solution. However, the "For Tender drawings" details the discharge from Stair 3 with no external stair to Alice Street, provide confirmation of the path of travel to the street for our review.**
10.	**D2D16**	A fire engineered performance solution will be required to address the requirements for occupants to travel via multiple horizontal exits to reach a final exit (i.e. door to open space or fire-isolated exit).
11.	**D3D24**	The sliding doors as nominated in blue (**in the table assessment of this clause**) on the ground floor are required to be addressed as a fire engineered solution.
12.	**E1D2**	+ It is proposed to permit additional on-floor fire hydrants for full coverage within the building. + It is proposed to permit fire hydrants to be located up to 6m from an exit, in lieu of not greater than 4m. + To justify the booster assembly not within the main sight of the principal pedestrian entrance to the building.
13.	**E1D3**	A fire engineered performance solution will be prepared to justify the nominated areas not to be provided with fire hose reels: + Ground Level, south-western side areas Medical Gas, MSB, DAS, UPS, Medical Gas-Suction, Medical Gas-MA/CA, and Comms Rooms. + Ground Level, south-eastern side plant area + First Floor, western side comms room.

14.	**E1D4 / E1D10**	+ A fire engineered performance solution will be prepared to justify the omission of sprinklers from all electrical and comms rooms and cupboards (MSB room, UPS room, DAS room, the 2 comms rooms, 4x EDB cupboards) + A fire engineered performance solution will be prepared to omit sprinkler protection from service cupboards with floor areas of up to 4m^2 in lieu of not more than 2.5m^2.
15.	**E2D4/ E2D11**	To justify the omission of smoke detection to the lift shafts via fire engineered performance solution.

C. Other matters requiring performance solutions:

+ BCA (DTS) Clause		+ Description
1.	**D3D22**	An Access Performance Solution will be required to justify the handrail terminations within birthing suites plunge baths. Refer to BM+G commentary from Aconex no. BM+G-GCOR-000116.

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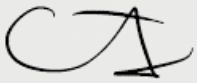
+ Report Status

+ Date	10 November 2023
+ Revision	04
+ Status	Submission For Tender
+ Author	Charlie Ibrahim
+ Reviewed	David Blackett

Prepared by:



Charlie Ibrahim
Building Surveyor
BM+G

Reviewed by:

David Blackett
Director
BM+G
Building Surveyor-Unrestricted (NSW)
BDC No.: 0032

+ Revision History

+ Revision	01	**+ Date**	10.07.2023
+ Status	Schematic Design (mini version)		
+ Revision	02	**+ Date**	21.09.2023
+ Status	Schematic Design (revised design) DRAFT		
+ Revision	02	**+ Date**	18.10.2023
+ Status	Schematic Design (Submission for FEBQ)		
+ Revision	03	**+ Date**	20.10.2023
+ Status	Schematic Design Revised (incl DDA)		
+ Revision	04	**+ Date**	10.11.2023
+ Status	Submission For Tender		

1.0 Description of Project

1.1 Proposal

BM+G Pty Ltd have been commissioned by NSW Health Infrastructure to undertake an assessment of the Schematic Design of the proposed new Acute Services Building (ASB) and services yard at Moree Hospital - 34 Alice Street, Moree, against the relevant provisions of the Building Code of Australia 2022 (BCA) and the Disability (Access to Premises – Buildings) Standards 2010.

An assessment of BCA & Accessibility compliance with respect to the new works is included within Section 3.0. For matters relating to the upgrade of existing building/s, refer to Section 4.0.

1.2 Aim

The aim of this report is to:

+ Undertake an assessment of the proposed development against the performance requirements of the BCA.
+ Identify matters that require plan amendments in order to achieve compliance with the BCA.
+ Undertake an assessment of the proposed development against the Disability (Access to Premises – Buildings) Standards 2010 – high level.
+ Identify matters that are to be required to be addressed by Performance Solutions.
+ Identify matters relating to the existing building that are required to be addressed as an upgrade strategy to accommodate the new works and / or to deal with significant fire safety issues within the building.

1.3 Project Team

The following BM+G team members have contributed to this Report:

+ **Charlie Ibrahim** – Report Preparation (Building Surveyor)
+ **David Blackett** – Project Peer Review (Director) | Building Surveyor-Unrestricted
+ **Michael Potts** – Access Consultant (Associate Director) | ACAA Member 618

1.4 Referenced Documentation

The following documentation has been reviewed, referenced and/or relied upon in the preparation of this report:

- Building Code of Australia 2022 (BCA)
- Disability (Access to Premises – Buildings) Standards 2010
- The Guide to the Building Code of Australia 2019 Amendment 1
- AS 1428.1:2009 Design for access and mobility - General requirements for access - New building work
- AS1428.2:1992 Design for access and mobility - Enhanced and additional requirements - Buildings and facilities
- AS1428.4.1:2009 Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators.
- HB198:2014 Guide to the specification and testing of slip resistance of pedestrian surfaces
- NSW Health Infrastructure Design Guidance Note 32.
- NSW Heath Engineering Services Guide dated 12 December 2022.
- Architectural Plans prepared by STH numbered:

+ Drawing No.	+ Rev	+ Date
MHR-STH-AR-DR-SW-01XX01	H	31.10.23
MHR-STH-AR-DR-SW-10XX10	B	31.10.23
MHR-STH-AR-DR-B02-200101	P	31.10.23
MHR-STH-AR-DR-B02-23XX01	D	31.10.23
MHR-STH-AR-DR-B02-23XX03	D	31.10.23
MHR-STH-AR-DR-B02-23XX05	D	13.10.23
MHR-STH-AR-DR-B02-23XX07	B	31.10.23
MHR-STH-AR-DR-B02-270001	F	31.10.23
MHR-STH-AR-DR-B02-50XX02	F	31.10.23

+ Drawing No.	+ Rev	+ Date
MHR-STH-AR-DR-SW-10XX01	L	31.10.23
MHR-STH-AR-DR-B02-200001	Q	31.10.23
MHR-STH-AR-DR-B02-200201	H	31.10.23
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MHR-STH-AR-DR-B02-50XX03	D	31.10.23

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MHR-STH-AR-DR-B02-610004	C	31.10.23
MHR-STH-AR-DR-B02-610101	C	31.10.23
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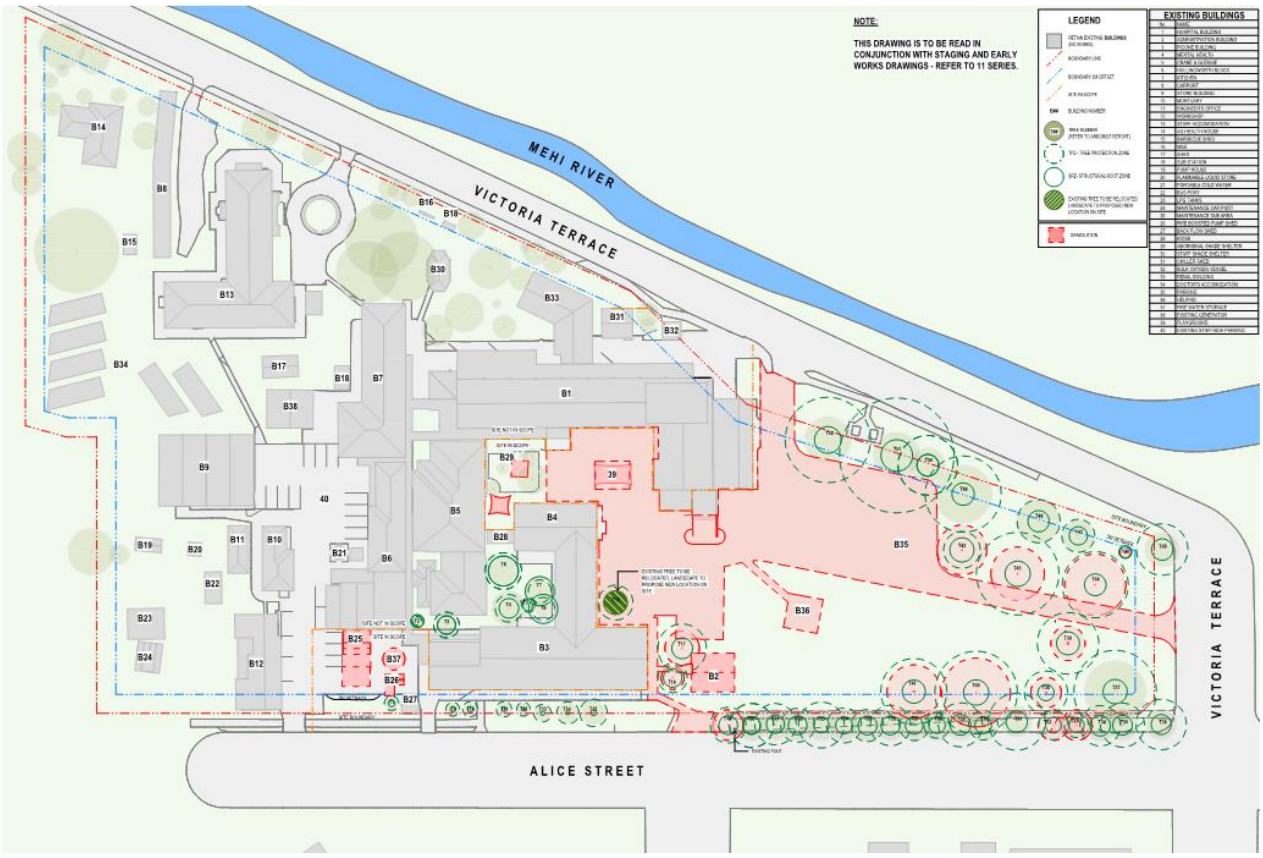
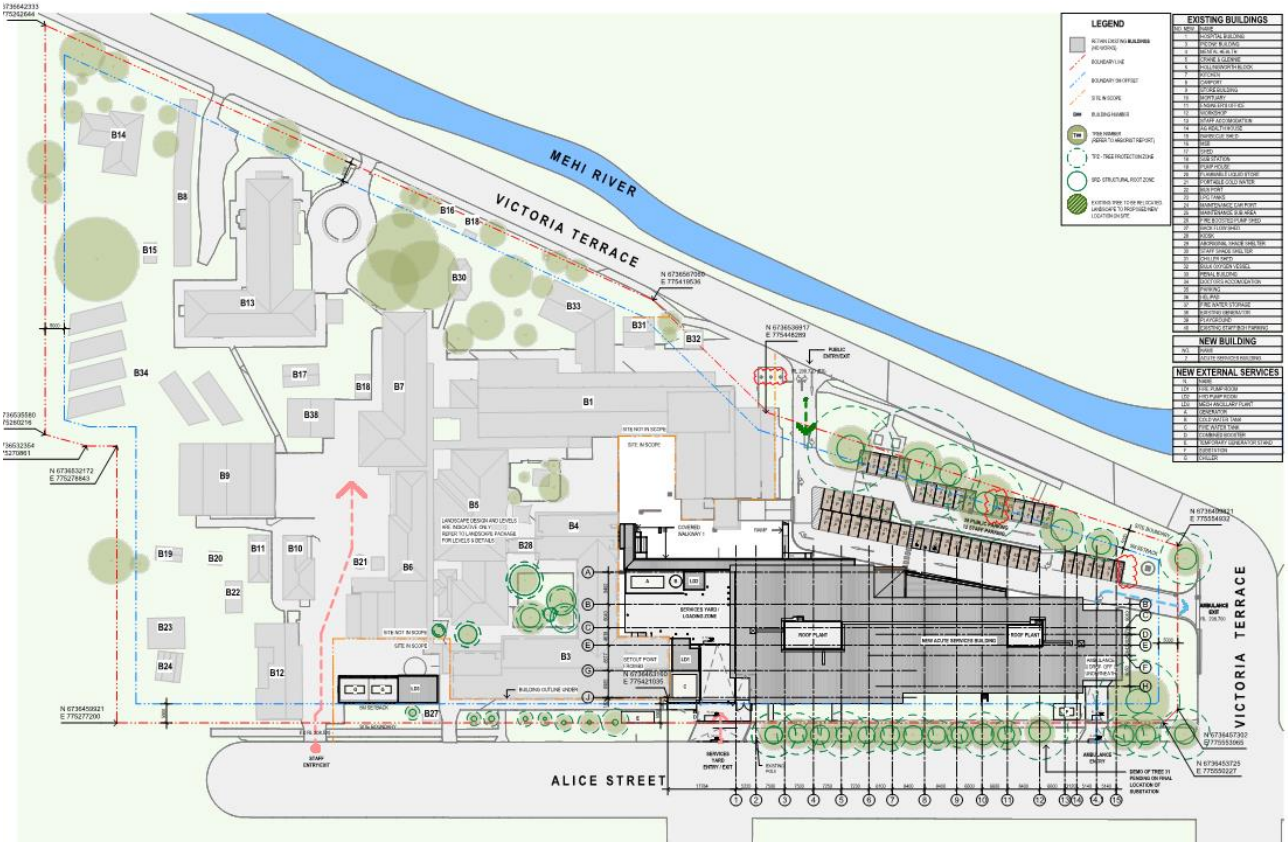
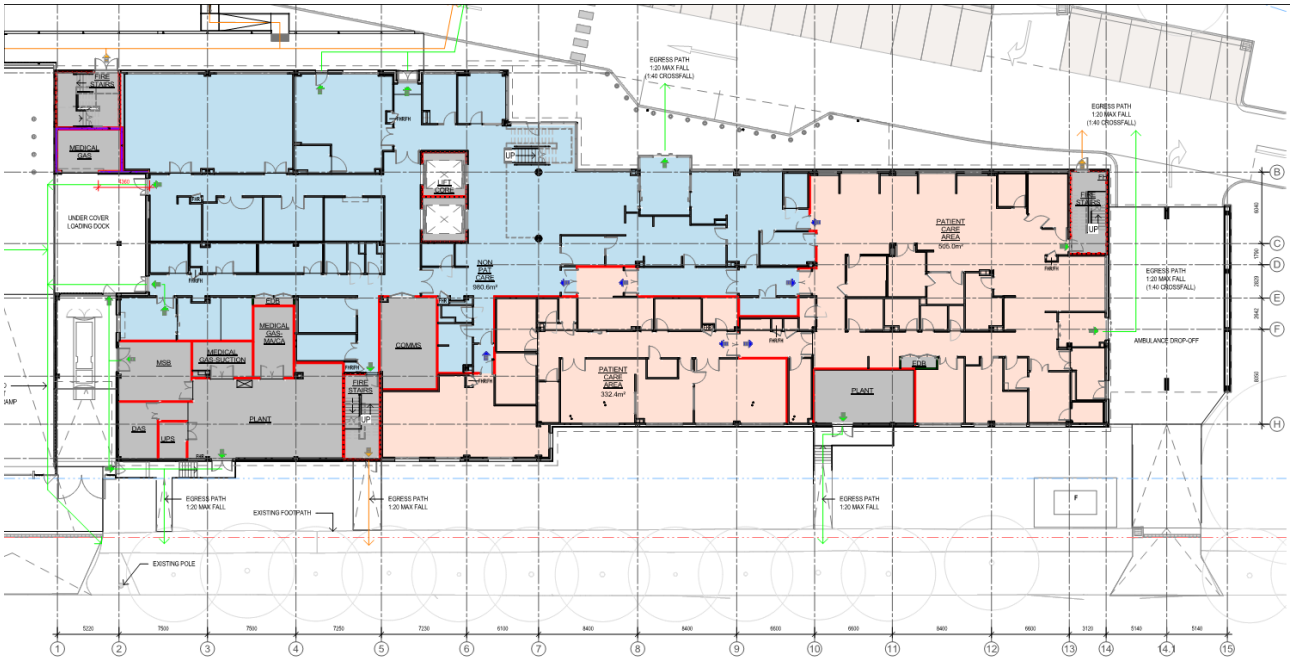
MHR-STH-AR-DR-B02-610005	C	31.10.23
MHR-STH-AR-DR-B02-610102	C	31.10.23
MHR-STH-AR-DR-B02-610104	C	31.10.23
MHR-STH-AR-DR-B02-64ED304	E	31.10.23
MHR-STH-AR-DR-B02-64OP303	D	31.10.23



Demolition Plan



Proposed Site Plan



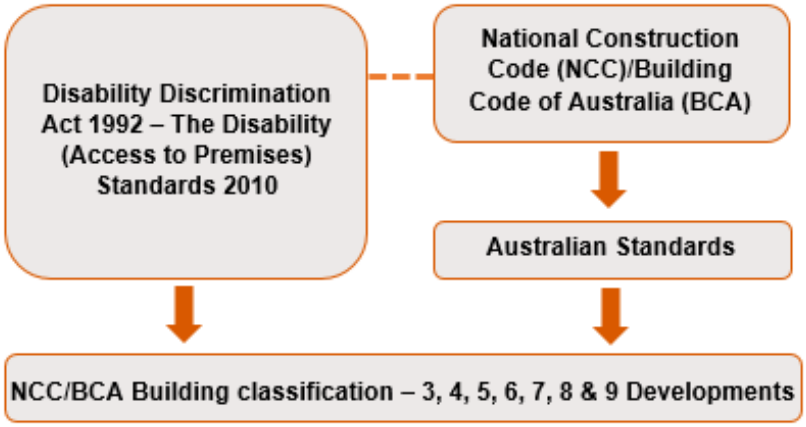
Fire Compartment Ground Floor Plan

Fire Compartment First Floor Plan

1.5 Regulatory Framework

Pursuant to S6.28 of the Environmental Planning and Assessment Act 1979, the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the time of the date of invitation for tenders to carry out the Crown building work.

The below figure represents the statutory framework addressing accessibility as noted in the below Act, Code and Standards.



The Disability Discrimination Act 1992 (DDA) is Commonwealth legislation enacted in 1993 that seeks to ensure that all new building infrastructure, refurbishments, services and transport projects provide independent and equitable access. The DDA is a complaints based legislation administered by the Australian Human Rights Commission (AHRC).

Subordinate to the DDA are the Disability Standards, which include; Disability (Access to Premises – Buildings) Standards 2010, Disability Standards for Education 2005, and the Disability Standards for Accessible Public Transport 2002. These Disability standards refer back to the AS 1428 suite of standards and Building Code of Australia.

Since 2011, the Building Code of Australia has adopted the key accessibility provisions of the Disability (Access to Premises – Buildings) Standards 2010, with compliance with AS 1428.1 – 2009, AS 1428.4.1 – 2009, and AS 2890.6 – 2009 becoming mandatory. As such, compliance with the relevant sections of the BCA ensures compliance with the Disability (Access to Premises – Buildings) Standards 2010 and vicariously the DDA.

With respect to existing works, there are statutory upgrade requirements within the Disability (Access to Premises – Buildings) Standards 2010 that apply to all building works which require consent (including Crown building work). This relates to the upgrade of any 'affected part' of the building, which includes;

- The principal pedestrian entry (i.e. entry door and ramp), and
- The pathway / corridor / lift / ramp which form an accessible path of travel to any area of new work (note: only one accessible path of travel is required to any new part under this requirement).

Section 23 of the Disability Discrimination Act DDA 1992 states;

It is unlawful for a person to discriminate against another person on the ground of the other person's disability:

- *By refusing to allow the other person access to, or the use of, any premises that the public or a section of the public is entitled or allowed to enter or use (whether for payment or not); or*
- *In the terms or conditions on which the first-mentioned person is prepared to allow the other person access to, or the use of, any such premises; or*
- *In relation to the provision of means of access to such premises.*

The DDA Act 1992 is a complaints-based legislation whilst compliance with The Disability (Access to Premises) Standards 2010 affords some certainty regarding the minimum compliance requirements it does not prevent a claim

being made under the DDA Act 1992. Whilst implementing the minimum compliance requirements under the Disability (Access to Premises) Standards 2010 and BCA will satisfy the minimum compliance requirements there is nothing preventing a greater degree of access than those minimum requirements specified.

Note: The below report also includes recommendations for best practice/non mandatory items for consideration by the project team stakeholders and as applicable have been identified in the below report in *italics.*

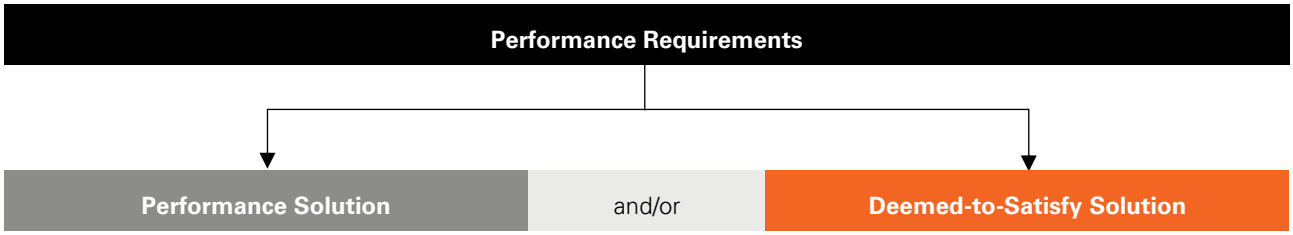
1.6 Relevant Version of the NCC Building Code of Australia

Pursuant to Section 6.28 of the Environmental Planning and Assessment Act 1979, the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the time of the date of invitation for tenders to carry out the Crown building work. The current BCA that is in force is BCA 2022, with BCA 2025 coming in to force 1 May 2025. As the invitation to tender is after 1 May 2023, this report assesses the design against compliance with the requirements of BCA 2022.

The following parts of the BCA are subject to transitional provisions:

+ NCC 2022 Energy Efficiency provisions – 1 October 2023.
+ NCC 2022 Condensation Management provisions under BCA Part F8 – 1 October 2023.

1.7 Compliance with the National Construction Code



Compliance with the NCC is achieved by complying with:

+ the Governing Requirements of the NCC; and
+ the Performance Requirements.

Performance Requirements are satisfied by one of the following, as shown in the Figure below:

+ A Performance Solution.
+ A Deemed-to-Satisfy Solution.
+ A combination of the above two options.

Where a *Performance Requirement* is proposed to be satisfied by a *Performance Solution*, the following steps must be undertaken:

+ Prepare a performance-based design brief in consultation with relevant stakeholders.
+ Carry out analysis, using one or more of the Assessment Methods listed in A2G2(2), as proposed by the performance-based design brief.

- Evaluation the results against the acceptance criteria in the performance-based design brief.
- Prepare a final report that includes:
  - All Performance Requirements and/or Deemed-to-Satisfy provisions identified through A2.2(3) or A2G4(3) as applicable; and
  - Identification of all Assessment Methods used; and
  - Details of steps (a) to (c); and
  - Confirmation that the Performance Requirement has been met; and
  - Details of conditions or limitations, if any exist, regarding the Performance Solution.

It is noted that any functional Class 9a health care building is unlikely to be designed predominately against the DTS provisions of the BCA. Operational requirements of a health care building demands the need for design against performance requirements.

1.8 Limitations and Exclusions

The limitations and exclusions of this report are as follows:

- Evacuation of occupants with a disability. No assessment has been undertaken to consider the equitable evacuation of all occupants.
- This report is based on a review of the referenced documents. At this point in time, no inspection has been undertaken to ascertain the current level of DDA compliance.
- Please note that whilst the BCA specifies a minimum standard of compliance Part D4 of the BCA for access and facilities for people with disabilities, compliance with such requirements may not necessarily preclude the possibility of a future complaint made under the DDA 1992. The DDA is a complaint-based legislation and is presently not identified by the State Building Codes and Regulations. In this regard the building owner should be satisfied that their obligations under the DDA have been addressed.
- No assessment has been undertaken with respect to the following areas of the NCC:
  - Structural
  - Weatherproofing
  - Waterproofing
  - Acoustic
  - Passive Fire Protection
  - Section J / ESD
  - Fire Safety Engineering
- No assessment has been undertaken with respect to SEPP (Housing) 2021. It is understood that suitably qualified consultants will be engaged to determine the relevance of any Council planning requirements or SEPP requirements and provided detailed assessment reports where applicable.

  Where relevant to this development, it is assumed that these assessments will be undertaken by others.
- This report does not consider BCA Part G5 (Volume 1) which makes provision for construction of buildings in bushfire-prone areas, therefore no assessment has been undertaken in consideration of RFS, Planning for Bushfire Protection and AS 3959. Where Part G is applicable to the site, then it is required that assessment / due diligence is undertaken by a specialist consultant to verify compliance.
- This report does not constitute a detailed assessment of the architectural documentation against the requirements of Section J. It is understood that a suitably qualified consultant will be engaged to determine compliance in this regard.
- BM+G has not undertaken an assessment of any Performance Solution Reports at the time of the preparation of this report.

- The Report does not address matters in relation to the following Local Government Act and Regulations:
  - Work Health and Safety Act and Regulations.
  - Work Cover Authority requirements.
  - Water, drainage, gas, telecommunications and electricity supply authority requirements.
  - Disability Discrimination Act 1992.
- BM+G cannot guarantee acceptance of this report by Local Council, Fire & Rescue NSW or other approval authorities.
- This report may not be relied upon under the provisions of the Design and Building Practitioners Act & Regulation for the purposes of issuing a Design Compliance Declaration.
- No part of this document may be reproduced in any form or by any means without written permission from BM+G. This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.

1.9 Report Terminology

Access for People with Disabilities - Access to a building which is planned to minimise obstacles or hazard to disabled persons.

Accessible – Means having features to permit use by people with disabilities

Accessway – Means a continuous accessible path of travel to or within a building suitable for people with disabilities as defined in AS 1428.1

BCA Completion Certificate – A certificate issued at the completion of works which confirms the building is suitable for occupation in accordance with its classification under the BCA.

BCA Crown Certificate – A certificate issued against building works carried out by or on behalf of the Crown which verifies that the works comply with the requirements of the BCA prior to works commencing, subject to S6.28 of the Environmental Planning and Assessment Act 1979.

Braille – A system of touch reading for the blind, which employs raised dots that are evenly arranged in quadrangular letter spaces or cells.

Building Code of Australia – Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

Climatic Zone – Means an area defined in Figure 2 and in Table 2 (of BCA Schedule 3) for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

Construction Certificate – Building Approval issued by the Certifying Authority pursuant to Part 6 of the EP&A Act 1979.

Construction Type – The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C2D2 and Specification 5, except as allowed for:

- certain Class 2, 3 or 9c buildings in C2D6; and
- a Class 4 part of a building located on the top storey in C2D4(2); and
- open spectator stands and indoor sports stadiums in C2D8.

Note: *Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.*

Deemed-to-Satisfy (DTS) Provisions of the BCA – Means the prescriptive provisions of the BCA which are deemed to satisfy the performance requirements.

Dedicated Parking Space – a parking space set aside exclusively for the parking of a single vehicle for a person with a disability.

Effective Height – The vertical distance between the floor of the lowest storey included in the calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift, or other equipment, water tanks or similar service units).

Exit – Any, or any combination of the following if they provide egress to a road or open space:

- An internal or external stairway.
- A ramp.
- A fire-isolated passageway.
- A doorway opening to a road or open space.

Fire Compartment – The total space of the building; or when referred to in

- The Performance Requirements – any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
- The Deemed-to-Satisfy Provisions – any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to-Satisfy Provisions of the relevant part.

Fire Resistance Level (FRL) – The grading periods in minutes for the following criteria:

- structural adequacy; and
- integrity; and
- insulation.

and expressed in that order.

Fire Source Feature (FSF) – The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

Health-care building: A building whose occupants or patients undergoing medical treatment generally need physical assistance to evacuate the building during an emergency and includes—

- a public or private hospital; or
- a nursing home or similar facility for sick or disabled persons needing full-time care; or
- a clinic, day surgery or procedure unit where the effects of the predominant treatment administered involve patients becoming non-ambulatory and requiring supervised medical care on the premises for some time after the treatment.

Hearing Augmentation – The communication of information for people who are deaf or hearing impaired by using a combination of audio, visual, and tactile means.

Horizontal exit: A required doorway between 2 parts of a building separated from each other by a fire wall.

Luminance Contrast - The light reflected from one surface or component, compared to the light reflected from another surface or component.

National Construction Code Series (NCC) – The NCC was introduced 1 May 2011 by the Council of Australian Governments (COAG). The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

Occupiable outdoor area means 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.

Occupation Certificate (OC) – Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 6 of the EPA Act 1979.

Open Space – Means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

Patient Care Area – A part of a health-care building normally used for the treatment, care, accommodation, recreation, dining and holding of patients including a ward area and treatment area.

People with Ambulant Disabilities - People who have a mobility disability but are able to walk.

Performance-based Design Brief – Means the process and the associated report that defines the scope of work for the performance-based analysis, the technical basis for analysis, and the criteria for acceptance of any relevant Performance Solution as agreed by stakeholders.

Performance Requirements of the BCA – A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must meet.

Compliance with the Performance Requirements can only be achieved by-

+ complying with the Deemed-to-Satisfy Provisions; or
+ formulating an Alternative Solution which-
  - complies with the Performance Requirements; or
  - is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
+ a combination of the above.

Performance Solution – Means a method of complying with the performance requirements other than by a Deemed-To-Satisfy Solution.

Sensory Impairment - Any significant loss of hearing or vision.

Shared Area (for carparking) – An area adjacent to a dedicated space provided for access or egress to or from a parked vehicle and which may be shared with any other purpose that does not involve other than transitory obstruction of the area, e.g. a walkway, a vehicular aisle, dual use with another adjacent dedicated space.

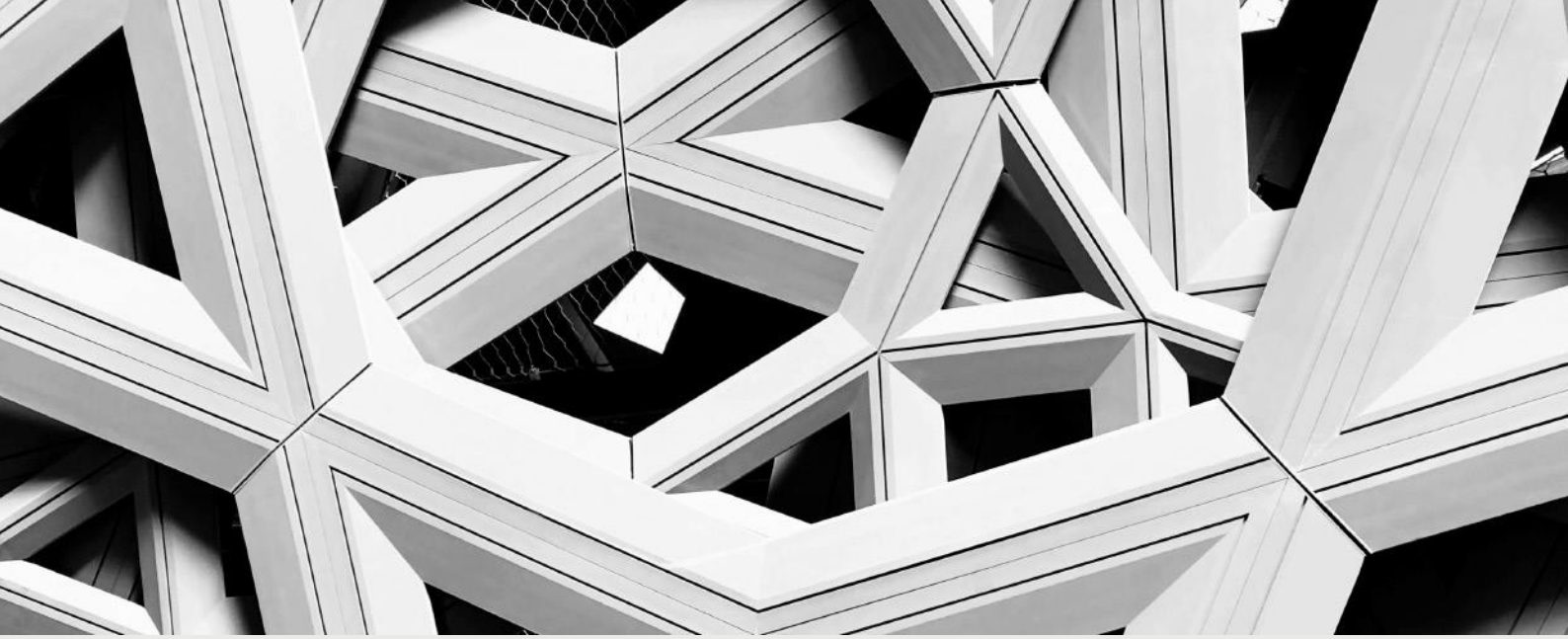
Slip Resistant – A property of a surface having a frictional force-opposing movement of an object across a surface.

Tactile Ground Surface Indicators (TFSI) - Truncated cones and/or bars installed on the ground or floor surface, designed to provide pedestrians who are blind or vision-impaired with warning or directional orientation information.

Tactile Sign - Signage incorporating raised text, and/or symbols and Braille to enable touch reading by people who are blind or who are vision impaired.

Treatment area – An area within a patient care area such as an operating theatre and rooms used for recovery, minor procedures, resuscitation, intensive care and coronary care from which a patient may not be readily moved.

Ward area – That part of a patient care area for resident patients and may contain areas for accommodation, sleeping, associated living and nursing facilities.



2.0 Building Characteristics

2.1 Proposed Development

The proposed development consists of construction of a new Acute Services Building (ASB) at Moree Hospital which includes the following:

- Emergency care services
- Overnight inpatient beds
- Operating theatre
- Imaging services
- Birthing suites
- Pathology shell space
- Clinical support services

In addition to the above clinical services, the redevelopment will also incorporate associated works such as:

- Emergency care services
- A new hospital main entry and Front of House
- Back of House services
- Modifications to existing carparking
- Landscaping
- decommissioning & demolition of redundant existing facilities
- A new substation, and
- A new loading dock & services yard area

The drawings that have been assessed as part of the Schematic Design (revised) Report are considered very high level and may be still subject to design change.

The new ASB is classified as follows:

BCA Classifications:	9a
Rise in Storeys:	Two (2)
Storeys Contained:	Two (2)
Type of Construction:	Type B Construction

Importance Level (Structural)	IL4
Sprinkler Protected Throughout	Yes - New build will be protected throughout with an Automatic Fire Suppression System in accordance with AS 2118.1-2017
Effective Height	<12m
Floor Area	4,695 m^2
Largest Fire Compartment	980 m^2 & 4,174 m^3
Climate Zone	Zone 4

2.2 Fire Compartment Floor Area Limitations

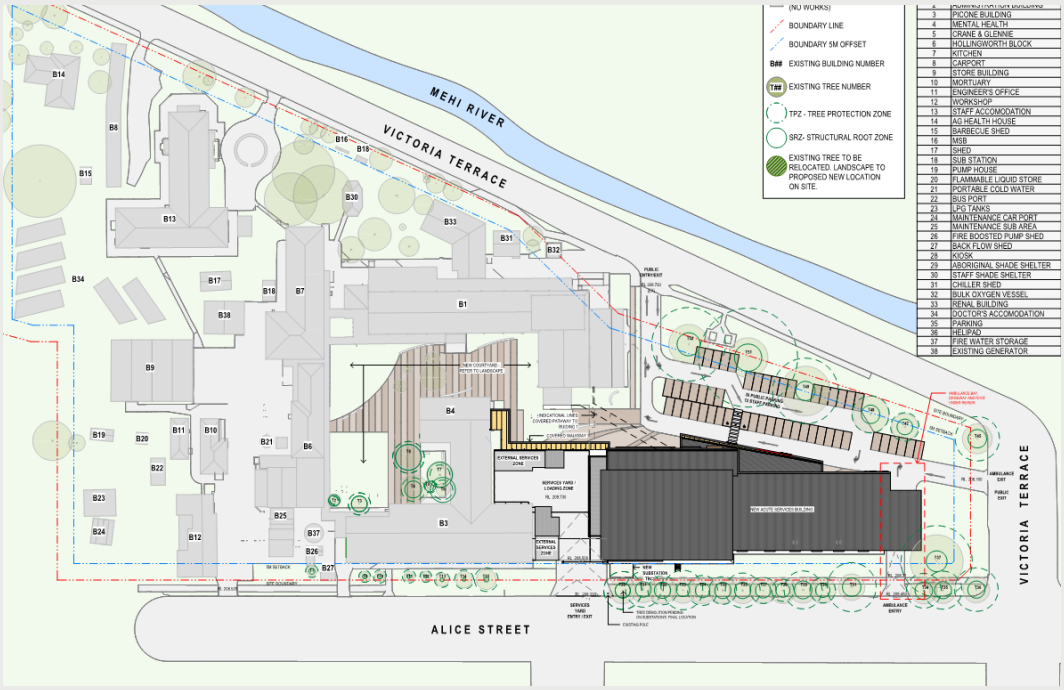
Maximum size of fire compartment/atria is:

+ Classification		+ Type A	+ Type B	+ Type C
6, 7, 8 or 9a	Max. floor area	5,000m^2	3,500m^2	2,000m^2
	Max. volume	30,000m^3	21,000m^3	21,000m^3
5, 9b or 9c	Max. floor area	8,000m^2	5,500m^2	3,000m^2
	Max. volume	48,000m^3	33,000m^3	18,000m^3

2.3 Distance to Fire Source Features

Based upon a review of the plans, it is noted that each elevation of the building is located within the following distances from fire source features on the site.

+ Elevation	+ Fire Source Feature	+ Distance
North	Hospital Building on same allotment	<18m
East	Far side of the Victoria Terrace	>18m
West	Picone Building on same allotment	<18m
South	Far side of the Alice Street	>18m



Note: Fire Source Feature (FSF) – The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

2.4 Overview of Access Requirements

The project site is located at Moree Hospital

	+ Requirements for Accessibility
Class 9a	Access requirements are as follows: + For Class 9a buildings, access must be provided to and within all areas normally used by the occupants. + Access to be provided from the street and also from onsite accessible parking spaces. + Access needs to be provided between the respective accessible buildings on the site

2.5 Accessibility Exemptions

The use of certain parts of the building are not required to be accessible in the following instances:

- An area where access would be inappropriate because of the particular purpose for which the area is used.
- An area that would pose a health or safety risk for people with a disability.
- Any path of travel providing access only to an area exempted by the above two items

Some examples of the above include:

- Cleaner's rooms used by cleaning staff only
- Plantrooms and specialty equipment rooms (e.g. comms, UPS, distribution boards etc.)
- Loading Docks
- Clean and dirty utility rooms
- Equipment stores

LHD / HI to provide input on parts of the building that may be considered inappropriate for accessibility.

2.6 Performance Solutions

Where there are any departures from achieving compliance with the BCA, there is an opportunity to address the compliance issue by the development of a Performance Solution.

This report currently identifies one (1) Performance Solution, additional performance solutions may be further developed during the Design Documentation Phase.

It is noted that any functional Class 9a health care building is unlikely to be designed predominately against the DTS provisions of the BCA. Operational requirements of a health care building demands the need for design against performance requirements.

3.0 BCA Assessment

We note the following BCA compliance matters with relation to proposed building works are capable of complying with the BCA. Please note that this is not a full list of BCA clauses, they are the key requirements that relate to the proposed work and the below should be read in conjunction with the BCA.

3.1 Section B – Structure

Part B1	**Structural Provisions:** + New building works are to comply with the structural provisions of the BCA 2022 and referenced standards including AS 1170. + The structural engineer will need to certify that the structural capacity of the existing building will not be reduced as a result of the new works and that the building is considered structurally adequate for its intended use. + The Importance Level provisions of BCA (Section B) are to be acknowledged by the Structural Engineer and addressed to the degree necessary. + New building works to the existing building must be compliant with earthquake provisions of AS1170.4 – Earthquake Actions in Australia. Comment: In response *SY220253-SL02[3] - Existing Building 1 Structural Statement.pdf* as included from Aconex no. NE-GCOR-000136, it is not a BCA requirement to bring the existing building structures in line with current earthquake design. However, the structural engineer is to consider these requirements and whether the existing building will be suitable for the appropriate uses. As required by DGN24, confirmation is to be sought from the HI Project Director as to the Importance Level category proposed to be adopted for the existing buildings. – Note Provide a Certificate of Structural Adequacy from an appropriately qualified Structural Engineer to the effect that the existing building structure is capable of withstanding the new loads to be imposed as a result of the new building works / change of use. This is to be provided at Crown Certificate Stage. Note: Regarding commentary for the existing buildings, this is not included for Part 4 Design Development Stage.

3.2 Section C – Fire Resistance

C2D2 / Spec 5	**Type of Construction Required:** The new ASB building is required to comply with the requirements of Type B Construction as stated within Specification 5. The table below provides an overview of the requirements of each. Refer to Table 5 of Appendix 1 for the FRL requirements of Type B Construction. **+ Type B Construction:**

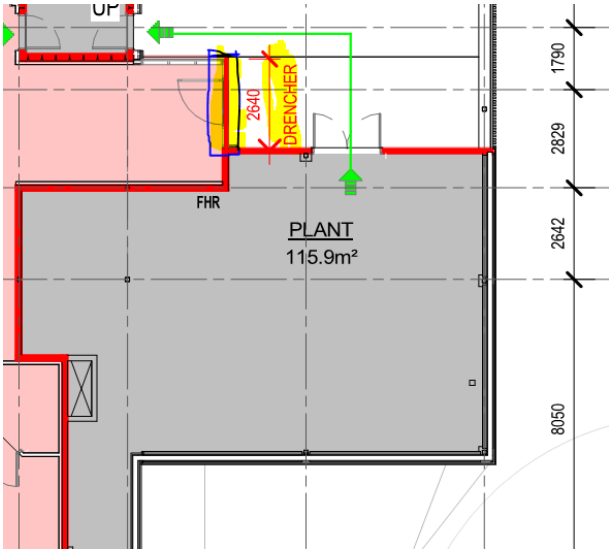
- Load-bearing external walls and columns need not achieve an FRL if >18m from a boundary / separate building.
- Non load-bearing external walls (and columns incorporated within) need not achieve an FRL if >3m from a boundary or separate building.
- Floors must be protected in accordance with Spec 5, subject to complying with S5C3.
- Roof must be of non-combustible construction.
- Internal columns on the floor immediately below the roof need not achieve an FRL.

Performance Solution: The following issues will be addressed via a fire engineered performance solution:

- Provide separation at the perimeter slab edge between storeys that is not in accordance with a tested system to achieve the required fire-resistance level in accordance with Specification 5 of the NCC.
- Provide fire-rated seals between the fire rated compartment walls and inside face external wall coverings of the subject building, in lieu of the fire-rated compartment walls extending to the external wall without an external wall cavity.
- Permit the ground floor slab and supporting structure within the sub-floor space to not achieve an FRL. Note, the sub-floor space shall not be used for storage.
- Permit structural steel members, other than roof battens 75mm x 50mm, to penetrate through fire walls within Level 1 of the building.
- A fire engineered performance solution for the omission of FRL to external columns only supporting the covered walkway canopy.
- It is proposed to have an access hatch to the top of the fire stair (in order to provide access for maintenance personnel), which does not achieve the required FRL.

Comment:

- Consideration to future proofing with regard to services installation and storage below the floor are to be addressed in the FER, this will need to be more than just displayed signage.
- From the legend of the fire compartment plans, it is to reference "Combined 2hr Fire & Smoke Wall."
- Rooftop plantdeck loadbearing columns are to achieve an FRL of 120/-/-. Roof plantdeck and external canopy roof are not required to achieve an FRL. Ensure sprinkler coverage is provided to the roof of the external walkway.
- From level 1 fire compartment plan as nominated in yellow below, this fire wall is not required to extend to the door from the ward area compartment.



C2D9	**Lightweight Construction:** Lightweight construction must comply with Specification 6 if used in a wall system that is required to have an FRL. **Comment:** Details to be provided at Crown Certification stage.
C2D10 / C2D14	**Non-Combustible Building Elements:** All materials and or components incorporated in an external wall or fire-rated wall must be non-combustible. This includes but not limited to: + Any external wall claddings. + Any framing or integral formwork systems. I.e. timber framing, sacrificial formwork, etc. + Any external linings or trims. I.e. external UPVC window linings, timber window blades, etc. + Any sarking or insulation contained within the wall assembly. This is not an exhaustive list, and any element incorporated within any external wall assembly must be identified and approved prior to the issue of a Crown Certificate. Refer to Table 1 in Appendix 1 for the elements required to be non-combustible. Note that these works are subject to NSW HI DGN 32 and as such bonded laminate cladding is not permitted. **Ancillary Elements:** An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible, unless it is in accordance with this clause. **Performance Solution:** External tenant signage, which will not achieve a Group 1 or Group 2 classification, is permitted to be attached to the external walls of the building and will be addressed as a fire engineered solution. **Comment:** Details to be provided at Crown Certification Stage provide detail on the external signage to the façade.
C2D11 & Spec. 7	**Fire Hazard Properties:** A schedule of all wall, floor, and ceiling linings along with associated test reports are to be provided for review to ensure compliance with the fire hazard property requirements of the BCA. Noting: + Minimum Group Numbers apply to wall and ceiling linings. AS 5637 test reports must be provided to determine compliance. + Minimum Critical Radiant Flux values apply to floor linings. AS ISO 9239.1 test reports must be provided to determine compliance Refer to Table 2 and 3 in Appendix 1 below for the required fire hazard properties. **Comment:** Refer to comments under Specification 7 below. Details to be provided at Crown Certification Stage.
C2D15	**Fixing of Bonded Laminated Cladding Panels:** In a building required to be of Type A or B construction, externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame. An externally located bonded laminated panel need not comply with this requirement if it is one of the following: + A laminated glass system. + Layered plasterboard product. + Perforated gypsum lath with a normal paper finish. + Fibrous-plaster sheet. + Fibre-reinforced cement sheeting. + A component of a garage door.

Comment: Details to be provided at Crown Certification Stage.

C3D3

General Floor Area and Volume Limitations: The building is to achieve fire compartment sizes not in excess of the DtS requirements of this clause.

Comment: The building does not exceed the maximum fire compartment sizes as nominated from table C3D3.

C3D6

Class 9a Buildings: The following fire and smoke compartmentation requirements apply to Class 9a patient care areas.

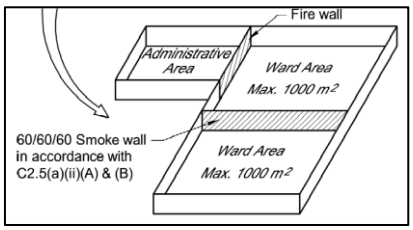
+ Fire and Smoke Compartments:

Patient care areas need to be separated into maximum 2,000m² fire compartments by fire walls having an FRL of 120/120/120. Non-patient care areas may be increased to maximum 5,000m² fire compartments.

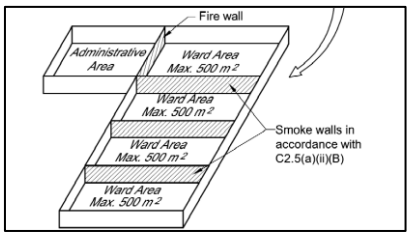
Compartmentation is to be as follows:-

A. In Ward Areas –

i) Where the floor area exceeds 1,000m², then it must be divided into compartments of not more than 1,000m², by walls with an FRL of not less than 60/60/60, and



ii) Where the floor area exceeds 500m², then it must be separated into further compartments of not more than 500m2, by smoke proof walls complying with the requirements of Specification 11, and



B. Treatment areas must be divided into compartments of not more than 1,000m², by smoke proof walls complying with Specification 11.

- Consideration of upgrading smoke compartment walls to combined 2-hour fire and smoke walls, as discussed above, will be required in order to utilise additional horizontal exits to maintain acceptable egress distances. Refer to Section D2D5 / D2D6.
- All fire walls are considered combined fire and smoke walls.
- Ancillary use spaces are required to be 1-hour fire separated from patient care areas. Ancillary use spaces in a Class 9a comprise:
- A kitchen and related food preparation areas having a combined floor area of more than 30m².
- A room containing a hyperbaric facility.
- A room used predominately for the storage of medical records having a floor area of more than 10m².
- A laundry, where items of equipment are the type that are potential fire sources (e.g. gas fire dryers).

Reservoirs are required over each of the fire/smoke doors (400mm reservoir)

Performance Solution: Fire Compartment Ward Area 575.9m² on the first floor will be addressed as a fire engineered solution as it exceeds 500m².

C3D8

Separation by Fire Walls:

	Separation of fire compartments- A part of a building, separated from the remainder by a fire wall, may be treated as a separate fire compartment if the fire wall extends to the underside of: + A floor having an FRL required for a fire wall; or + The roof covering. **Performance Solution:** + Provide fire-rated seals between the fire rated compartment walls and inside face external wall coverings of the subject building, in lieu of the fire-rated compartment walls extending to the external wall without an external wall cavity. + Permit structural steel members, other than roof battens 75mm x 50mm, to penetrate through fire walls within Level 1 of the building.
C3D9/ C3D10	**Separation of Classifications:** Where parts of a building with different classifications are located adjacent one another, the fire resisting construction requirements of the most stringent classification apply throughout – unless the classifications are separated via a fire wall with an FRL of that required for the most stringent classification. Where different classifications are located above and below one another, the floor is required to achieve the FRL of that required for the classification in the storey below. **Comment:** The building will consist of Class 9a throughout, albeit patient care and non-patient care parts.
C3D11	**Separation of Lift Shafts:** The lift shaft/s are required to achieve a 2 hour FRL. **Comment:** As indicated on the fire compartment plans both lifts are within a shaft that achieves 2-hour FRL.
C3D13	**Separation of Equipment / Electricity Supply Systems:** Dependent on plant and equipment to be housed within the plant rooms, FRL 120/120/120 fire separation may be required to separate these areas from the building remainder. The following equipment required FRL120/120/120 fire separation from the building: + Main switch rooms / boards; or + Electricity substations; or + Light motors and lift control panels; or + Emergency generators used to sustain emergency equipment operating in the emergency mode; or + Central smoke control plant; or + Boilers; + A battery or batteries installed in the building that have a voltage exceeding 12 volts and a capacity exceeding 200kWh. **Comment:** Medical Gas, MSB, DAS, UPS, Medical Gas-Suction, Medical Gas-MA/CA, and the 2 Comms Rooms and plant room are detailed on the compartment plans as fire separated.
C4D3 & C4D5	**Protection of Openings in External Walls:** Openings in an external wall that is required to have n FRL must be protected in accordance with C4D5 if the distance between the opening and a separate building or allotment boundary to which it is exposed to is less than: + 3m from a side or rear boundary of the allotment; or + 6m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or + 6m from another building on the allotment that is not Class 10. Note: If wall-wetting sprinklers are used, they are to be located externally.

Comment:

+ Where the northern side of the load bearing ASB external wall is located <18m from the existing Building 1 external walls, it is required to achieve an FRL of 120/30/-.
+ Where the western side of the load bearing ASB external wall is located <18m from the existing Building 3 external walls, it is required to achieve an FRL of 120/30/-.

We note, all openings in the external walls are >6m from adjacent buildings, protection of these openings will not be required.

C4D4

Separation of external walls and associated openings in different fire compartments: External walls and openings of adjacent fire compartments must be protected in accordance with this clause where exposed to one another. The extent of fire-rating is driven by the angle of exposure, refer to the below table for the applicable distances.

+ Angle between walls	+ Min. Distance
0^0 (walls opposite)	6m
More than 0^0 to 45^0	5m
More than 45^0 to 90^0	4m
More than 90^0 to 135^0	3m
More than 135^0 to 180^0	2m
0^0 or more	Nil

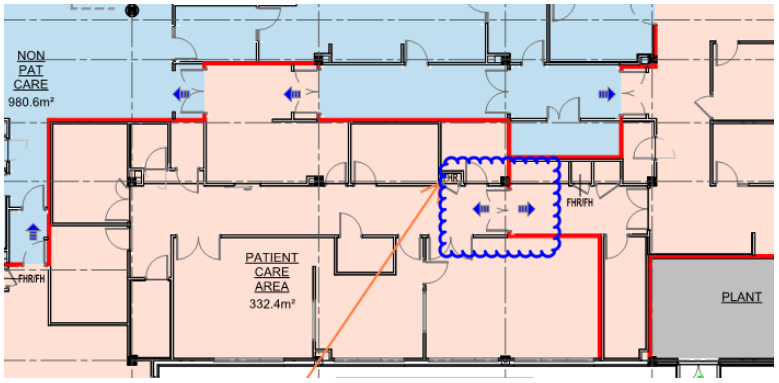
Performance Solution: Exposure between different fire compartments will be addressed as a fire engineered performance solution. Note, openings within fire compartments Ward Area (393.8m^2) and Ward Area (230.1m^2) on the first floor will be protected on one side only.

C4D6 & Spec. 12

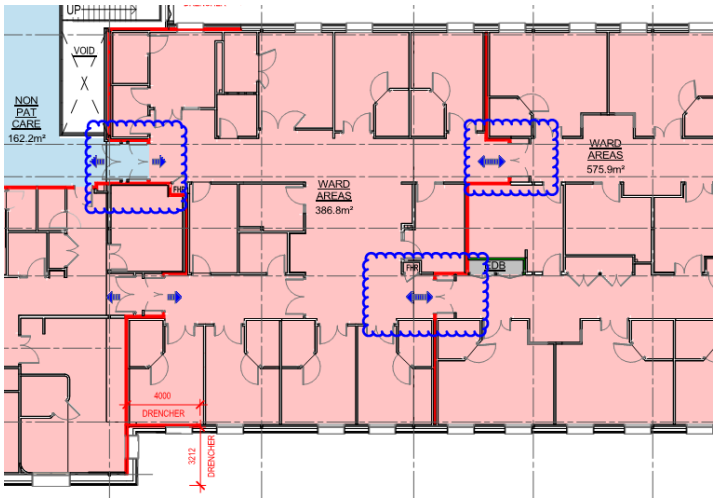
Fire Doors, Smoke Doors, Fire Windows and Shutters: Fire doors and smoke doors must comply with the requirements of this specification.

Performance Solution:

+ To justify reasonable smoke leakage through pivot smoke doors. This solution should consider the fact that pivot doors cannot stop 100% smoke leakage.
+ To permit fire and smoke doors only swing in one direction. This solution will need to rely on automatic opening doors. Alternatively, this performance solution may be justified in low population or non-patient areas such as CSSD. The nominated fire/smoke doors as indicated in blue below swing against direction of egress.



Ground Floor



First Floor

C4D13	**Openings in floors and ceilings for services:** Where a service passes through: + A floor required to have an FRL (integrity and insulation), or; + A ceiling required to have a resistance to the incipient spread of fire, That service must be protected: + In a building of Type B construction, by a shaft that will not reduce the fire performance of the building elements it penetrated, and; + The performance of any *required* fire-protective floor covering must not be reduced by service penetrations.
C4D15	**Openings for services installations:** When a service penetrates a building element that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that penetration must: + Be identical to a tested prototype assembly, tested in accordance with AS4072.1 and AS1530.4. + In the case of ventilating or air-conditioning ducts/equipment, the installation must comply with AS1668.1.
Spec. 11	**Smoke-proof Walls in Health-care and Residential Care Buildings:** Smoke-proof Walls must comply with the requirements of this specification. **Comment:** Details demonstrating compliance are to be shown on the CC Application plans where applicable.

3.3 Parts D – Provision for Escape and Construction of Exits

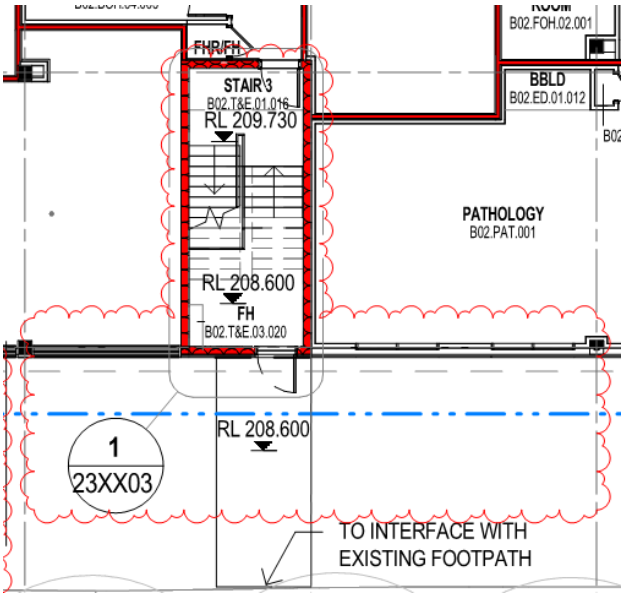
D2D3	**Number of Exits Required:** The building is required to be provided with 2 exits to each storey. **Comment:** The number of exits provided complies with the requirements of this clause.
D2D4	**When Fire-Isolated Stairways and Ramps are Required:** This clause sets out the requirements for stairways and ramps to be fire-isolated in buildings. A required exit stair must be fire-isolated if it connects, passes through, or passes by more than two storeys in a Class 9a building. An additional storey is permitted to be included in certain circumstances. **Comment:** Stairs 2, 3 and 4 are nominated as fire isolated stairways.
D2D5	**Exit Travel Distances:** Egress from the building will rely on a combination of exit stairways and horizontal exits across the floor plate. The following is noted in relation to egress: + Travel distances are permitted to extend to 20m to a point of choice and 40m to a single exit in non-patient care areas. + Travel distances in patient care areas are permitted to extend to 12m to a point of choice and 30m to a single exit. **Performance Solution:** The exit travel distances exceed beyond the DtS limitations, in this regard the following non-compliance issues will be addressed as a fire engineered performance solution: + 14m to a point of choice from the Endoscopy on the southern side of level 1. + 13m to a point of choice from the staff room on the southern side of level 1.
D2D5	**Distance Between Alternative Exits:** The maximum distance permitted between alternative exits in Class 9a areas is 40m. This must be measured back through the point of choice. Alternative egress paths are not permitted to converge to less than 6m, and alternative exits must be located more than 9m apart. **Comment:** Distance between alternative exits are in accordance with the requirements listed from this clause.
D2D7/ D2D8/ D2D9/ D2D10/ D2D11	**Dimensions of Paths of Travel to an Exit:** The minimum clear height through all egress paths is required to be no less than 2m, and a minimum of 1m wide (this width dimension is measured clear of any obstructions such as handrails and joinery). Aggregate exit widths must be achieved which are driven by occupancy numbers of each floor. In patient care areas through which patients would normally be transported in beds: + if the doorway provides access to, or from, a corridor of width - less than 2.2 m — 1200 mm; or - 2.2 m or greater — 1070 mm. **Comment:** In a Class 9a health-care facility corridors are to achieve minimum 1.8m in corridors normally used for the transportation of patients in beds. All fire doors nominated as horizontal exits are to achieve a clear open width not less than 1250mm
D2D12	**Travel via Fire Isolated Exits:** A fire isolated stairway is required to provide independent egress from each storey that it serves and discharge directly – + To a road open space; or + To a point – - In a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3 of its perimeter; and - From which an unimpeded path of travel, not further than 20m, is available to a road or open space

External walls and openings exposed to the discharge path of a fire-isolated stairway (less than 6m, measured perpendicular to the path of travel) must be protected with a 1-hour fire-rating for external walls, and C4D5 for openings.

Performance Solution: It is proposed to permit the path of travel from fire-isolated exit stair 4 discharging on ground floor beneath the external awning to pass within 6m of unprotected openings.

Comment:

- Stairs 2, 3 and 4 are nominated as fire isolated stairways and are required to comply with the requirements of this clause.
- It is required to detail an unimpeded path of travel from the point of discharge on ground level stairs 2, 3 & 4 to open space.
- The discharge from Stair 3 has now removed the external stair to Alice Street, provide confirmation of the path of travel to the street for our review.



D2D13

External Stairways in Lieu of Fire Isolated Stairways: An external stairway or ramp may serve as a required exit in lieu of a fire-isolated exit provided that it is constructed in accordance with the following.

- The external stair is to achieve a minimum FRL of 60/60/60 – when tested from the inside;
- Stair to be non-combustible;
- Exit doors to the stair is to be self-closing -/60/30 fire door;
- No openings to occur in the external wall of the building within 3m for the exit.
- If openings are within 3-6m of the exit they are to be protected in accordance with BCA Clause C4D5 (if drenchers are used, they are to be located internally). Openings are restricted from being within 0-3m of the exit.

Comment: No external stairways have been proposed stairs 2, 3 and 4 are nominated as fire isolated stairways.

D2D15

Discharge of Exits: In accordance with the DTS provisions of the BCA, the discharge of exits to open space cannot incorporate any steps to connect the discharge point to the adjoining roadway.

Verification will be required as to whether there are any proposed stairways connecting the exits to the public roadways that a person is required to travel via (where there is no alternative ramp).

Where ramps are used, the gradient cannot exceed 1:8 at any part or 1:14 where the ramp is also used for access for a person with a disability.

Performance Solution: From Schematic Design, stair 3 discharges at a different level than the public road which is connected via stairway which is not permissible for a class 9a building. This is to be justified via a fire engineered performance solution. However, the "For Tender drawings" details the discharge from

	Stair 3 with no external stair to Alice Street, provide confirmation of the path of travel to the street for our review. **Comment:** It is required to detail an unimpeded path of travel from the point of discharge on ground level stairs 2 & 3 to open space. Also, regarding the unimpeded path of travel to the road it is required to indicate the gradient of the path.
D2D16	**Horizontal Exits:** HEs are proposed throughout each floor. HEs to achieve not less than 1250mm clear width. The provision of horizontal exits (within FRL 120/120/120 combined fire and smoke walls) will be required throughout the floor plate of each level to bring travel distances down to acceptable levels. The FER needs to address the use of the HEs, noting the quantity per compartment exceeds the DTS limitation of maximum 50%. All required HEs and fire/smoke doors in all fire/smoke walls require a minimum 400mm smoke reservoir immediately above the door. **Performance Solution:** A fire engineered performance solution to address the requirements for occupants to travel via multiple horizontal exits to reach a final exit (i.e. door to open space or fire-isolated exit).
D2D17	**Non-Required Stairways:** An escalator, moving walkway or non-required non fire-isolated stairway or ramp must not be used between storeys in patient care areas. **Comment:** The central stairway is a non-required stairway where it is only utilised in non-patient care. Note, this has been discounted from egress assessment.
D3D8	**Installations in Exits & Paths of Travel:** This clause restricts the installation of certain services in fire-isolated exits, non-fire-isolated exits and certain paths of travel to exits. Sub-clauses (1) to (6) prescribe which services shall not be installed as well as the circumstances in which certain services may be installed in fire-isolated and non-fire-isolated exits. **Comment:** This requirement applies to all cupboards containing electrical distribution boards or comms. equipment that is located in a path of travel to an exit. In this regard, such cupboards are to be enclosed in non-combustible materials and are to be suitably sealed against the spread of smoke.
D3D9	**Enclosure of Space under Stairs and Ramps:** The space below a required, non-fire isolated stairway/ramp must not be enclosed to form a cupboard or other enclosed space, unless the cupboard is bound by construction achieving an FRL of at least 60/60/60, with a self-closing -/60/30 door. **Comment:** If the space under Stair 1 is proposed to be enclosed to form a cupboard or the like, the enclosing walls and ceilings will need to achieve an FRL of 60 minutes and the doorway will need to be fitted with a self-closing -/60/30 fire door. Details demonstrating compliance are to be shown on the CC Application plans where applicable.
D3D14/ D3D15/ D3D22	**Stairways, Balustrades, and Handrails:** <u>Stairways:</u> + A stairway must have no more than 18, nor less than 2, risers in each flight. + Landings must be not less than 750mm in length. + Landings in patient care areas must accommodate a stretcher, 2m long and 600mm wide, throughout all flights of all stairs. This includes navigating landings that may turn 90-180°. + The stair landings of the external stairways provided in lieu of fire stairways which serve the Level 1 patient care areas must be designed in accordance with the following: ○ The area of any landing must be sufficient to move a stretcher, 2m long and 600mm wide, at a gradient not more than the gradient of the stairs, with at least one end of the stretcher on the landing while changing direction between flights; or ○ The stair must have a 180 degree landing, with a clear width of 1600 mm and clear length of 2700 mm.

Verification required that the stairway landings can facilitate a stretcher movement.

Slip Resistance Classification

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

Minimum slip resistance ratings required to stairs and ramps

In addition to the slip resistance ratings detailed within the table, the following slip resistance ratings are required throughout the building:

Location	Minimum Slip Resistance
External Car Park	P4 or R11
Loading Dock	P5 or R12
External walkways etc	P4 or R11
Bathrooms and ensuites	P3 or R10
Wards and corridors *Note: Where handwash basins are contained within a corridor, a minimum Slip Rating of P3 or R10 should be maintained for a radius of 2m from the basin.*	P2 or R9
Consultation Areas	P2 or R9
Building Entry (wet area)	P3 or R10
Building Entry (transitional area)	P3 or R10
Building Entry (dry area)	P2 or R9
Lifts	P2 or R9

Balustrades:

- All balustrades must achieve a **minimum** height of 1m above finished floor level.
- Balustrades (except for fire-isolated stairs) must not permit a 125mm sphere to pass through any opening.
- Balustrades in fire-isolated exits must comprise no gap larger than 150mm between nosing line (or landing) and bottom rail. Other openings in the balustrade must not exceed 460mm. If the fire-isolated exit also functions as a circulation stair, the 125mm gap requirement applies in lieu of these reduced provisions.

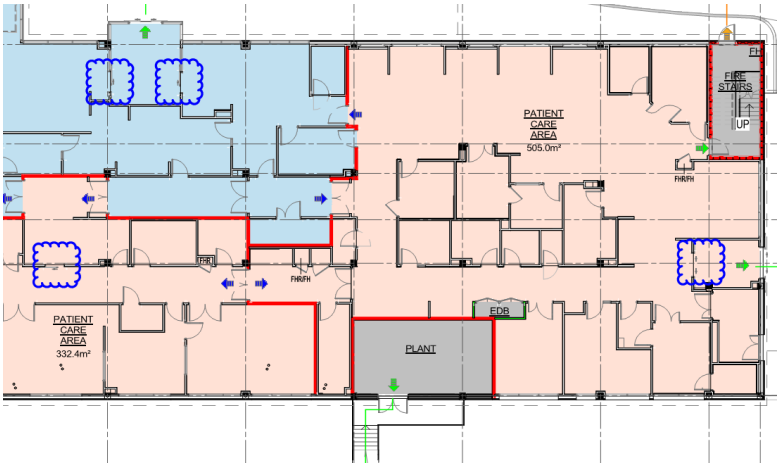
	+ Where fire-isolated stairs are also intended to be used as circulation stairs, they must be designed to comply with the 125mm sphere balustrade requirements. Handrails: + Handrails must be located on both sides of all stairways and ramps except for fire-isolated stairs. Handrails must comply with AS 1428.1 as relevant. + Where fire-isolated stairs are also intended to be used as circulation stairs, they must be designed to comply fully with AS 1428.1 – 2009 with respect to handrails. Landings: + The area of any landing must be sufficient to move a stretcher, 2 m long and 600 mm wide, at a gradient not more than the gradient of the stairs, with at least one end of the stretcher on the landing while changing direction between flights; or + the stair must have a change of direction of 180°, and the landing a clear width of not less than 1.6 m and a clear length of not less than 2.7 m. **Further Information Required:** It is recommended to propose a separate 1m high balustrade at all mid and top landings to Stairs 1-4 in addition to the handrail to the stairway. Also, detail a measurement of 865-1000mm from the nosing line of the riser to the top of the handrail as a critical dimension. Performance Solution: An Access Performance Solution will be required to justify the handrail terminations within birthing suites plunge baths. Refer to BM+G commentary from Aconex no. BM+G-GCOR-000116.
D3D16	**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 – + In a building required to be accessible – o The doorway opens to a road or open space; and o Is provided with a threshold ramp or step ramp in accordance with AS 1428.1. + In other cases – o the doorway opens to a road or open space, external stair landing or external balcony; and o the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.
D3D23	**Fixed Platforms, Walkways Stairways and Ladders:** A fixed platform, walkway, stairway, ladder, any going and riser, any balustrade or other barrier attached thereto may comply with AS1657 if it only serves a machinery or plant room. **Comment:** As per plan MHR-STH-AR-DR-B02-200201 Rev H, a roof access walkway has been proposed, this is required to be designed in accordance with AS 1657 – 2018.
D3D24 /D3D25	**Doorways and Doors:** Doorways located in a patient care area must not incorporate a sliding door unless that door leads directly to open space and is able to be manually opened under a force of not more than 110 N and open automatically upon fire trip or power failure. Doors in a path of travel in patient care areas are not permitted to be sliding doors. Fire doors (serving as horizontal exits) and smoke doors are required to swing in the direction of egress. There will be situations where egress will be required from both directions. We recommend that fire and smoke doors are provided as dual swing pivot doors as an alternative to addressing single swing smoke doors via a fire engineered performance solution noting the degree of additional measures that would be required to justify most occurrence (self-opening devices activated via push button, doors releasing from hold open devices on local detectors, signage, etc.). This can be developed with the design. Where dual swing smoke doors are provided, a fire engineered performance solution would be required to rationalise potential smoke leakage. All one-way swing compartment doors will be addressed in the FER.

Sliding doors are generally not permitted within patient care areas of a Class 9a building. The provision of such would require justification under a fire engineered performance solution

There are a number of exit doors which swing against egress flow – these doors are to swing outward, or otherwise be addressed in the FER, noting the likely need for power operated mechanical control.

Performance Solution:

+ To permit fire and smoke doors only swing in one direction as indicated from C4D6 & Spec.12 of the report. The "For Tender" drawing nominates change of swing for certain doors on level 1, the figure of swings doors is to be revised for the fire engineering report.
+ The sliding doors as nominated in blue below on the ground and first floor are required to be addressed as a fire engineered solution.



Ground Floor Sliding Doors

D3D26

Operation of Latching: All egress doorways must be readily openable without a key from the side that faces a person seeking egress, by a single handed downward or pushing action on a single device which is located between 900mm and 1100mm from the floor.

Comment: Architect to note. Details demonstrating compliance will be required to be included on the Crown Certificate plans.

D3D27

Re-entry from Fire-Isolated Exits: Doors of a fire-isolated exit must not be locked from the inside in a Class 9a health-care building, throughout the exit.

This clause details the exceptions to the above requirements if the doors are fitted with an automatic failsafe device that automatically unlocks the door upon the activation of a fire alarm as follows:

+ On at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating that re-entry is available; or
+ An intercommunication system, or an audible or visual alarm system, operated from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and method of operation.

Part D4

Access for People with a Disability: The extent of access required depends on the classification of the building. Buildings and parts of buildings must be accessible as set out in D4D2 unless exempted by Clause D4D4. The building is required to comply with AS1428.1-2009.

Comment: Refer to accessibility commentary below.

3.4 Section E – Services and Equipment

E1D1

Fire Hydrants: Fire hydrant coverage is required to be provided to the building in accordance with AS2419.1–2021.

Note: The below comprises a limited summary of requirements under AS 2419.1 – 2021. Refer to the full standard for all applicable requirements.

Fire Brigade Booster Assemblies:

A fire brigade booster assembly shall be located (including but not limited to) -

- within or affixed to the facade of the building containing the principal pedestrian entrance and not more than 20 m from the principal pedestrian entrance;
- within or affixed to the facade of the building containing the principal pedestrian entrance and identified by a visual alarm device (VAD) in accordance with Clause 7.3.2; or
- remote from the building and within sight of the principal pedestrian entrance to the building -
  - adjacent to the site boundary and the principal vehicle access for the fire brigade pumping appliance to the building or site; or
  - not more than 20 m from the facade of the building containing the principal pedestrian entrance and not more than 20 m from the main pedestrian entrance.

In addition, a fire brigade booster assembly shall be (including but not limited to):

- Not more than 10m from a hardstand
- Not less than 10m from:
  - Any high voltage electrical distribution equipment such as transformers and distribution boards
  - Any electric vehicle charging station regardless of voltage
  - Any stored quantity of dangerous goods
  - Any external combustible storage
- Not less than 3m from the vent terminal of any gas assembly or gas measurement systems
- Not less than 3m from the discharge outlet of any building exhaust system when operating in fire mode.

Where located less than 10m from a non-sprinkler protected building, the booster shall be protected in accordance with the requirements of Cl. 7.6.2 of AS 2419.1 -2021.

Internal Hydrants

Any Internal Hydrants are to be located within the fire isolated exits or within 4m of the top riser of the non-fire isolated exits (external stairs in lieu of fire stairs). In addition, if floor coverage cannot be achieved a Performance Solution is required to locate hydrants >4m from an exit in Class 5-9 buildings.

External Hydrants

External hydrants are required to be located:

- Not less than 10m from:
  - Any high voltage electrical distribution equipment such as transformers and distribution boards
  - Any electric vehicle charging station regardless of voltage
  - Any stored quantity of dangerous goods
  - Any external combustible storage

	+ Not less than 3m from the vent terminal of any gas assembly or gas measurement systems + Not less than 3m from the discharge outlet of any building exhaust system when operating in fire mode. Hydrant Pump Rooms Where required, a hydrant pump room is required to have a door opening to a road or open space, or a door opening directly into a fire isolated airlock connected to a fire stair. Pump rooms shall be weatherproof and only contain firefighting pump sets and associated equipment. A minimum of 1m clearance must be provided around all sides of each pump set. For additional requirements refer to Cl. 6.11 of AS 2419.1 – 2021. **Performance Solution:** + It is proposed to permit additional on-floor fire hydrants for full coverage within the building. + It is proposed to permit fire hydrants to be located up to 6m from an exit, in lieu of not greater than 4m. + To justify the booster assembly not within the main sight of the principal pedestrian entrance to the building. **Comment:** Fire services designer is to provide confirmation that fire hydrant coverage is in accordance with AS 2419.1–2021. An external fire hydrant is to be provided to the open services yard. Regarding the fire water tank, the fire services designer is to provide commentary whether there are any implications on the separation between building 3 which is not sprinkler protected
E1D3	**Fire Hose Reels:** Fire hose reels are required to be provided to areas other than any Class 5 buildings / parts. Where required to be provided, fire hose reels are to comply with AS 2441 – 2005. **Comment / Performance Solution:** It appears not all Fire Hose Reels are within 4m of the exit, either re-locate FHR's or this can be justified via a fire engineered performance solution. **Performance Solution:** A fire engineered performance solution will be prepared to justify the nominated areas not to be provided with fire hose reels: + Ground Level, south-western side areas Medical Gas, MSB, DAS, UPS, Medical Gas-Suction, Medical Gas-MA/CA, and Comms Rooms. + Ground Level, south-eastern side plant area + First Floor, western side comms room.
E1D4 / E1D10	**Sprinklers:** An automatic fire sprinkler system is required to be provided in accordance with AS 2118.1 – 2017. **Performance Solution:** + A fire engineered performance solution will be prepared to justify the omission of sprinklers from all electrical and comms rooms and cupboards (MSB room, UPS room, DAS room, the 2 comms rooms, 4x EDB cupboards) + A fire engineered performance solution will be prepared to omit sprinkler protection from service cupboards with floor areas of up to 4m^2 in lieu of not more than 2.5m^2.
E1D14	**Fire Extinguishers:** To be provided and designed in accordance with AS 2444-2001. Powder Type fire extinguishers are not permitted to be provided within any patient care areas.
E2D4/ E2D11	**Smoke Hazard Management:** The following smoke hazard management systems are to be installed to the building and will be required throughout: + An Automatic Fire Detection and Alarm System and Building Occupant Warning System complying with AS 1670.1 – 2018 and S20C4 (5m grid) S20C6 (10m grid). + Automatic shut-down of mechanical air handling systems upon fire trip in accordance with Section 5 and 6 of AS 1668.1. **Comment:** Mechanical services designer is to provide confirmation in accordance with the requirements of this clause.

	Performance Solution: To justify the omission of smoke detection to the lift shafts via fire engineered performance solution.
Part E3	**Lifts:** A minimum number of two (2) emergency lifts will be required to be provided to serve each storey of the building that are served by the passenger lifts. The emergency lifts must be installed within separate banks so that an emergency lift is available within each bank of lifts, otherwise if they are located within the same bank, they need to be contained in separate fire rated shafts. The following provisions are required to be provided to the lifts: + Fire service controls in accordance with E3D9. + Fire service recall control switch in accordance with E3D11. + Lift car fire service drive control switch in accordance with E3D12. All passenger lifts possess appropriate internal dimensions of not less than 1400mm (width) x 1600mm (depth) (NCC E3.6) to meet the minimum accessibility requirements. The sizing of the lift cars will be nominated by the lift consultant. All lifts must be provided with minimum components to meet NCC E3.6, including handrails, tactile and Braille control buttons, and further enhanced features for people with disabilities to meet the parameters of AS 1735.12:1999, including however not limited to, delayed door closing device, visual and audible indication upon lift arrival and arrival at each landing. The below minimum lift car dimensions apply to emergency lifts in a Class 9a building.

+ Lift Component	+ Minimum Dimension (mm)
Minimum depth of car	2280
Minimum width of car	1600
Minimum floor to ceiling height	2300
Minimum door height	2100
Minimum door width	1300

	Comment: The Emergency Lifts should be fire separated within the main shaft
E4D2 - E4D8	**Emergency Lighting and Exits Signs:** Emergency lighting and exit signage to be provided in accordance with E4D2 - E4D5 complying with AS 2293.1 – 2018.
E4D9	**Emergency Warning & Intercom Systems (EWIS):** An Emergency Warning and Intercom System is required to be provided in accordance with AS 1670.4 – 2018. **Comment:** Provide confirmation if the EWIS speakers are to be omitted from certain patient care rooms.

3.5 Section F – Health and Amenity

Part F1	**Damp and Weatherproofing:** Damp and weatherproofing to comply with the prescriptive requirements of this part.
F1D8	**Subfloor spaces:** All subfloor spaces must— + be provided with openings in external walls and internal subfloor walls in accordance with Table F1D8 for the climatic zones given in Figure F1D8; and

- have clearance between the ground surface and the underside of the lowest horizontal member in the subfloor in accordance with Table F1D8.

Additional detailed requirements are listed in sub-clauses (3)-(5).

Comment: The service designers are to advise requirements on the required services within subfloor space.

Part F2

Wet Areas and Overflow Protection: Where urinals are installed, an impervious wall lining must be provided up to the top of the urinal.

Where any floor waste is installed (including floor wastes not required by the BCA), they must be provided with falls in accordance with F2D3.

Part F3

Roof and Wall Cladding: This section contains DtS provisions for the weatherproofing of certain external wall and roof designs.

- Roof coverings must comply with F3D2.
- Sarking must comply with F3D3.
- Glazed assemblies must comply with F3D4.
- Wall cladding must comply with F3D5.

Part F4

Sanitary Facilities: Sanitary facilities must be provided to comply with the requirements of F4D2 and F4D4 as applicable for the subject part. The following facilities are also required to be provided:

- one kitchen or other adequate facility for the preparation and cooking or reheating of food including a kitchen sink and washbasin; and
- laundry facilities for the cleansing and drying of linen and clothing or adequate facilities for holding and dispatch or treatment of soiled linen and clothing, sanitary products and the like and the receipt and storage of clean linen; and
- one shower for each 8 patients or part thereof; and
- one island-type plunge bath in each storey containing a ward area.

Minimum BCA requirements for Sanitary facilities are below:-

User Group	Closet Pans		Urinals		Washbasins	
	Design Occupancy	Number	Design Occupancy	Number	Design Occupancy	Number
Class 3, 5, 6 and 9 other than *schools*						
Male employees	1 — 20 > 20	1 Add 1 per 20	1 — 10 11 — 25 26 —50 >50	0 1 2 Add 1 per 50	1 — 30 > 30	1 Add 1 per 30
Female employees	1 — 15 > 15	1 Add 1 per 15	N/A	N/A	1 — 30 > 30	1 Add 1 per 30
Class 9a — *health-care buildings*						
Male patients	1 — 16 >16	2 Add 1 per 8			1 — 8 > 8	1 Add 1 per 8
Female patients	1 — 16 >16	2 Add 1 per 8	N/A	N/A	1 — 8 > 8	1 Add 1 per 8

Patients & Visitors

Minimum BCA DTS provisions require not less than

- Males – 2 pans + 1 per each 8 additional patients in excess of 16
- Females – 2 pans + 1 per each 8 additional patients in excess of 16
- 1 shower per every 8 patients

Noting that each ward bedroom has an Ensuite for exclusive use, the amenities numbers are compliant.

	Each treatment zone, patient consult and public waiting zone must have amenities provided – this includes the need for wheelchair accessible unisex WC in the public waiting zones. <u>Staff</u> + BCA minimum requirements does not focus on distribution for staff toilet locations. + Over and above BCA minimum requirements however, it is often necessary to ensure there are sufficient amenities in the various Depts to ensure staff have readily available access to the facilities without need to leave these areas. + The LHD / user groups should have input on whether staff WCs are required per dept, however suggesting may not be necessary for this particular facility. + The user group discussions and architect verification for the number and distribution of amenities for staff use needs to be closed out before finalisation of DD Stage. The following facilities are also required to be provided for the ASB: + A kitchen and food preparation area, or area for the reheating of food. + Laundry facilities, or an area for the dispatch and receiving of laundry. + One shower for every 8 patients or part thereof. + One island plunge-type bath **Comment**: As nominated from the Operational Model prepared by Health Infrastructure, there is approximately a total of 70 staff. A 50:50 split for staff has been considered, 35 females and 35 males. A total of 8 sanitary facilities have been provided to the ground floor and level 1, within this count includes 3 accessible WC's. The number of sanitary facilities provided for staff members is in accordance with the requirements of this clause. **Further Information Required:** BCA requires a plunge-type bath in each storey containing ward areas. Where operational requirements for the hospital WILL NOT require a bath for patient bathing (except birthing), then a performance requirement will be required justifying removal, based on provision for bathing facilities and amenities to the degree necessary.
Part F5	**Ceiling Heights:** The floor to ceiling heights must be as follows: The minimum ceiling heights in a Class 9a building are as follows – + a patient care area -2.4 m; + an operating theatre or delivery room – 3 m; and + a treatment room, clinic, waiting room, passageway, corridor, or the like – 2.4 m. *In any building:* + Bathrooms, sanitary compartments, tea preparations rooms, pantries, store rooms or the like – 2.1m, + A commercial kitchen – 2.4m, + Above a stairway, ramp, landing or the like – 2m.
Part F6	**Light and Ventilation:** Artificial lighting systems are required to comply with Clause F4.4 and AS 1680. All mechanical or air-conditioning installations must be undertaken in accordance with Clauses F4.5(b) and AS 1668.2.-2012. In Class 9a buildings, natural lighting must be provided to all rooms used for sleeping purposes.

3.6 Section G – Ancillary Provisions

Part G5

Construction in Bushfire Prone Areas: In a designated bushfire prone area the following must comply with Specification 43:

- A Class 9a health-care building.
- A Class 9b—
  - early childhood centre; or
  - primary or secondary school.
- A Class 9c residential care building.

Comment: Confirmation required that the site is NOT in a bushfire prone area

3.7 Section J – Energy Efficiency

Part J

Energy Efficiency: The new building works subject to compliance with the Energy Efficiency Provisions of BCA 2022 Section J relating to:

- J1: Energy Efficiency Performance Requirements
- J2: Energy Efficiency
- J3: Elemental Provisions for a Class 2 Building and a Class 4 Part
- J4: Building Fabric
- J5: Building Sealing
- J6: Air-Conditioning and Ventilation
- J7: Artificial Lighting and Power
- J8: Heated Water Supply and Swimming Pool and Spa Pool Plant
- J9: Energy Monitoring and On-Site Distributed Energy Resources

Comment: The Crown Certificate documentation from the architect, mechanical, electrical, and hydraulic engineers are to incorporate details demonstrating compliance with the above provisions (as applicable to their respective disciplines) and in accordance with Section J Report prepared by appropriately qualified individual.

3.8 Pandemic Zones

It is necessary to understand if Pandemic Zones will be required in the building. It is necessary to ascertain whether they are required in the early design stage as there are a number of fire safety implications which must be considered. Examples include:

- Egress arrangements may need to be reviewed to mitigate the need to pass through these areas in the event of horizontal evacuation; and
- Zone smoke control and shut down systems may need to be programmed and or provided on isolated systems to mitigate risk of spread / transfer of airborne disease to other parts of the hospital or to outside atmosphere. Pressurising a pandemic zone / compartment to achieve the minimum 20Pa pressure differential at the

compartment doors is a great example of how airborne disease could be mechanically forced to spread out of the seclusion zone into adjoining compartments; and

- Brigade intervention strategies may need to be prepared to prevent FRNSW passing through pandemic zones – may require location of the zones away compartments that contain stairways or provide specific airlocks to the stairway entries.

As a result of such potential Pandemic Zones, they would likely trigger additional fire engineered performance solutions.

4.0 Existing Building Upgrade

We understand the scope of existing building refurbishment will be developed with the Design. The scope of the refurbishment works is to be confirmed. The existing building is separate from Phase Part 4 Design Development.

Certain upgrades are recommended to take place within existing buildings where new works are proposed in order to ensure an adequate level of fire and life safety is achieved. The BCA, NSW Health Guidelines, and community expectation are used as a benchmark to determine the baseline for these upgrades, with matters such as existing building deficiencies and proposals for performance-based designs also driving these recommendations.

5.0 Accessibility Assessment

+ Legend	
Complies	The referenced plans show compliance with this clause
Compliance Readily Achievable	The referenced plans do not show sufficient information to establish compliance with this clause. Design certification, should be submitted with the application for the BCA Crown Certificate.
Further Information Required	The referenced plans do not show sufficient information to establish compliance with this clause. Further details, should be submitted with the application for the BCA Crown Certificate.
Performance Solution	The referenced plans do not comply with this clause and a Performance Solution is required/proposed to demonstrate compliance with the Performance Requirements
Does Not Comply	The proposal does not comply with this clause and redesign is required.
Note	Provisions contained within this BCA clause are provided for guidance or are to be read in conjunction with other BCA clauses.

5.1 BCA Part D4 & AS 1428.1-2009 Assessment

+ Clause	+ Reference	+ Comment
Section D	**Access and Egress**	
Part D4	**Access for people with a disability**	
D4D2 (Previously D3.1) General building access requirements	Buildings and parts of buildings must be accessible as required by this clause, unless exempted by D4D5. For Class 9a buildings, access must be provided to and within all areas normally used by the occupants.	All areas normally used by occupants, unless exempted by BCA Clause D3.4, is required to be accessible.
D4D3 (Previously D3.2) Access to buildings	Accessways must be provided to accessible buildings from the main points of pedestrian entry at the allotment boundary and any accessible car parking space or accessible associated buildings connected by a pedestrian link. An accessway must be provided to a building required to be accessible- + From the main points of a pedestrian entry at the allotment boundary; and + From another accessible building connected by a pedestrian link; and	ASB building have a number of accessible entrance points, they are: + On-grade carpark accessed via Victoria Terrace + Covered walkway from Building B4 Mental Health

+ Clause	+ Reference	+ Comment
	+ From any required accessible car parking space on the allotment. In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances including the principal pedestrian entry.	
AS1428.4.1 Cl.2.5 Pedestrians and Carriageway at same grade	Where a pedestrian area joins a carriageway at grade (same level) or to delineate the pedestrian area from the carriageway, TFSI's shall be provided in accordance with Figures 2.5(A) and 2.5(B)B	**Compliance Readily Achievable:** Details to be included in the Design Development Stage.

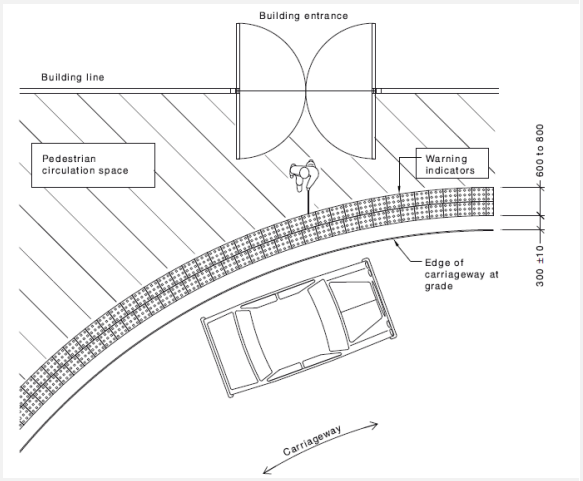


Figure 25(A)

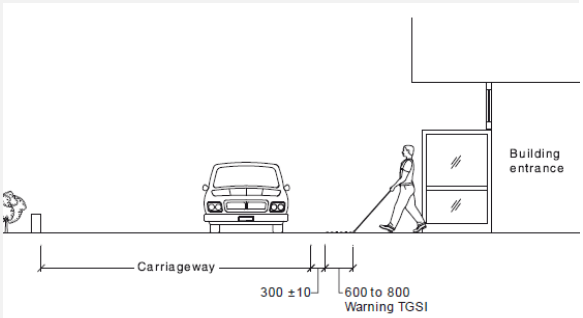
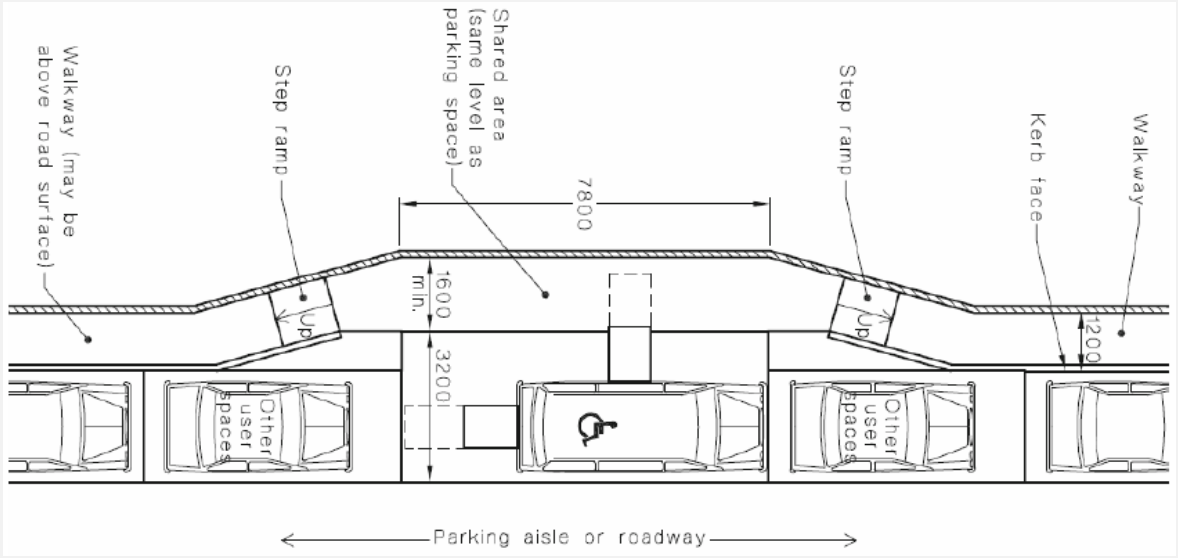


Figure 25(A)

AS1428.4.1 Cl.2.5 Set Down Areas:	For public drop off / setdown areas, if a kerb is provided separating the drop-off area from the pavement, a compliant kerb ramp will need to be provided. The detailing of the parallel set down will need to satisfy the provisions of AS 2890.6 – 2006. Where the pedestrian pathway and the driveway is at the same grade it will be necessary to achieve a 30% luminous contrast between the walkway and the driveway. Details of the materials, colour and texture will need to be provided as part of the detailed Design Development / Construction Issue Architectural Documentation.	**Compliance Readily Achievable:** Accessible drop off / pick up has now been included on MHR-STH-AR-DR-SW-10XX10. Additional details to be included in the Design Development Stage.

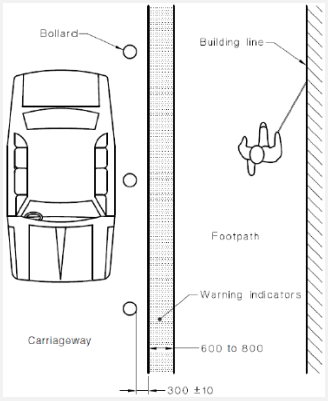
+ Clause	+ Reference	+ Comment

Set Down Areas



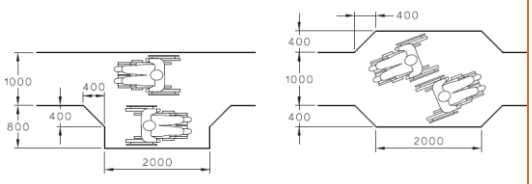
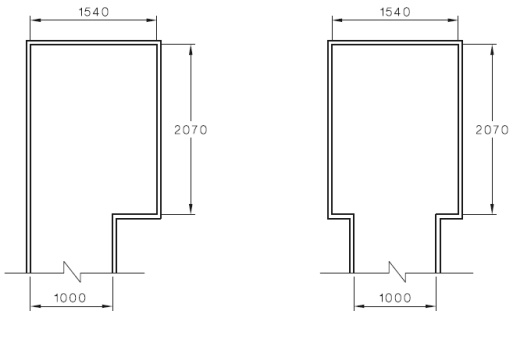
Requirements for parallel parking

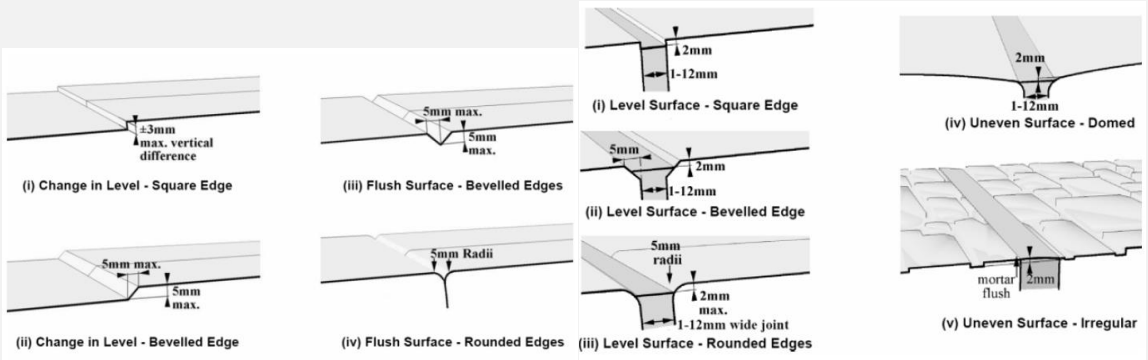
If the set down area is level with the pavement, tactile indicators and bollards are required to be provided as required by AS 1428.4.1 – 2009.

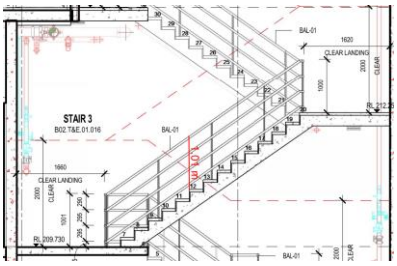


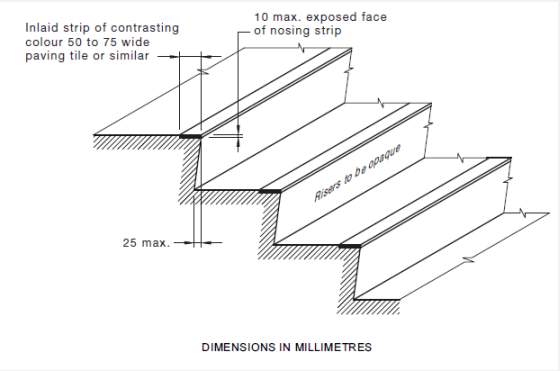
Requirements tactiles / bollards

D4D4 (Previously D3.3) Parts of buildings to be accessible	The works are required to comply with the requirements of AS 1428.1-2009.	**Compliance Readily Achievable:** All floor linings are required to be tested to AS 4586 in relation to achieving compliance with Handbooks HB 197 and HB 198. If the designer is unsure of these requirements, we recommend a schedule of floor linings be provided for review as early as possible to determine compliance.
AS1428.1 Cl. 6.1 General	A continuous accessible path of travel shall not include a step, stairway, turnstile, revolving door, escalator, moving walk or other impediment.	**Compliance Readily Achievable:** Compliance in relation to the requirements of this clause has been achieved for the "For Tender" Architectural Drawings. Where there is any design change, it is required to be verified at the Crown Certification Stage.

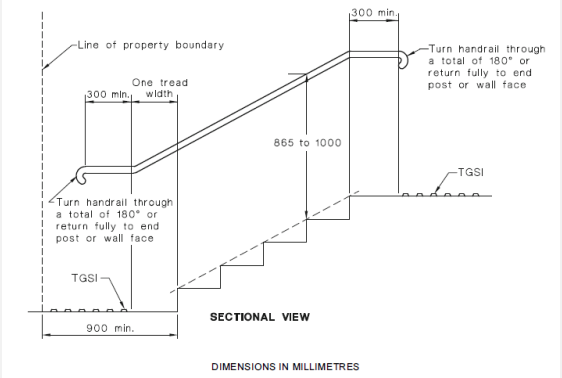
+ Clause	+ Reference	+ Comment
AS1428.1 Cl. 6.2 Height of paths	The minimum unobstructed height of a continuous accessible path of travel shall be 2000 mm or 1980 mm at doorways	**Compliance Readily Achievable:** Door schedule to be provided at DD Stage.
AS1428.1 Cl. 6.3 Widths of paths	Unless otherwise specified (such as at doors, curved ramps and similar), the minimum unobstructed width of a continuous accessible path of travel shall be 1000 mm and the following shall not intrude into the minimum unobstructed width of a continuous accessible path of travel: + Fixtures and fittings such as lights, awnings, windows that, when open, intrude into the circulation space, telephones, skirtings and similar objects. + Essential fixtures and fittings such as fire hose reels, fire extinguishers and switchboards. + Door handles less than 900 mm above the finished floor level.	**Compliance Readily Achievable:** Compliance in relation to the requirements of this clause has been achieved for the "For Tender" Architectural Drawings. Where there is any design change, it is required to be verified at the Crown Certification Stage.
AS1428.1 Cl. 6.4 Passing Space	Accessways must have passing spaces complying with AS 1428.1 at maximum 20m intervals on those parts of an accessway where a direct line of sign is not available.  DIMENSIONS IN MILLIMETRES	**Compliance Readily Achievable:** Compliance in relation to the requirements of this clause has been achieved for the "For Tender" Architectural Drawings. Where there is any design change, it is required to be verified at the Crown Certification Stage.
AS1428.1 Cl. 6.5 Turning Space	Turning spaces must comply with AS1428.1 and located within 2m of the end of accessways where it is not possible to continue travelling along the accessway, and at maximum 20m intervals along the accessway.  (a) Space required in corridor (b) Space required in corrid	**Compliance Readily Achievable:** Compliance in relation to the requirements of this clause has been achieved for the "For Tender" Architectural Drawings. Where there is any design change, it is required to be verified at the Crown Certification Stage.
AS1428.1 Cl. 7	Tolerances for Abutment of Surfaces:	**Compliance Readily Achievable:**

+ Clause	+ Reference	+ Comment
Floor Transition/s	Transitions between floor finishes will need to comply with Clause 7.2 of AS1428.1-2009. Recessed / Soft Floor Coverings: + Pile height or pile thickness shall not exceed 11mm and the carpet backing thickness shall not exceed 4mm. + Exposed edges of floor coverings be fastened to the floor with a trim along any exposed edges. + At leading edges, carpet or other soft materials shall have a vertical face no higher than 3mm or a rounded bevelled edge no higher than 5mm. Up to 10mm is permitted at a 1:8 gradient. + Recessed matting must be no more than a 3mm vertical, or 5mm rounded, proud of the adjacent floor surface. This also applies when the matting is depressed below surface level. Grates: Grates shall comply with the following: + Circular openings shall be not greater than 13 mm in diameter. + Slotted openings shall be not greater than 13 mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel. *NOTE: Where slotted openings are less than 8 mm, the length of the slots may continue across the width of paths of travel.*	Details to be included at the Crown Certification Stage.
	Tolerances for Abutment of Surfaces:  	
AS1428.1 Cl. 11.1 Stairway Construction	+ Where the intersection is at the property boundary, the stair shall be set back by a minimum of 900 mm so that the handrail (complying with Clause 12) and TGSIs do not protrude into the transverse path of travel. + Where the intersection is at an internal corridor, the stair shall be set back so that handrails or TGSIs do not protrude into the path of travel.	**Compliance Readily Achievable:** As per Architectural drawings MHR-STH-AR-DR-B02-23XX01 – 23XX07 compliance is readily achievable in accordance with these requirements. **Further Information Required:** It is recommended to propose a separate 1m high balustrade at all mid and top landings to Stairs 1-4

+ Clause	+ Reference	+ Comment
	+ Stairs shall have opaque risers. + Stair nosings shall not project beyond the face of the riser and the riser may be vertical or have a splay backwards up to a maximum 25 mm. + Stair nosing profiles shall— – have a sharp intersection; – be rounded up to 5 mm radius; or – be chamfered up to 5 mm × 5 mm. + At the nosing, each tread shall have a strip not less than 50 mm and not more than 75 mm deep across the full width of the path of travel. The strip may be set back a maximum of 15 mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall comply with Clause 7.2 and Clause 7.3. + Where the luminance contrasting strip is not set back from the front of the nosing then any area of luminance contrast shall not extend down the riser more than 10 mm. + TGSIs shall be installed in accordance with AS 1428.4.1.	in addition to the handrail to the stairway. Also, detail a measurement of 865-1000mm from the nosing line of the riser to the top of the handrail as a critical dimension. 

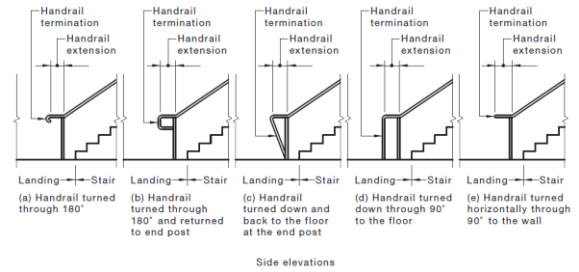
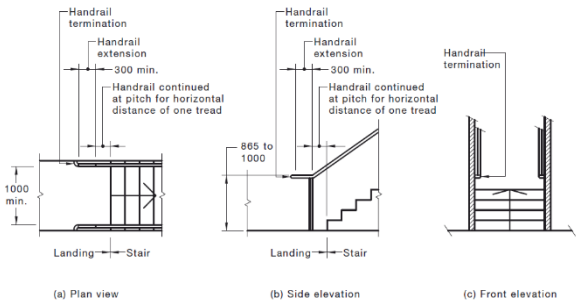
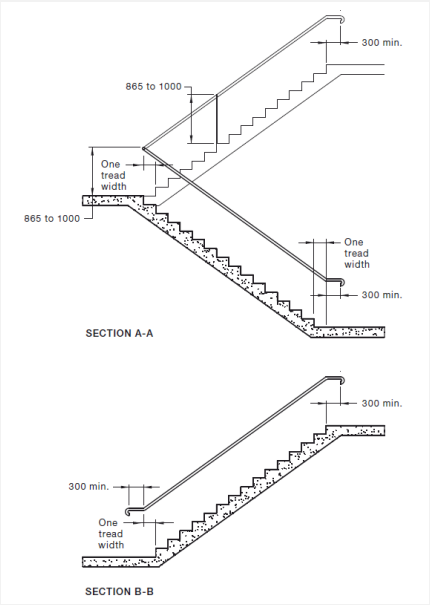


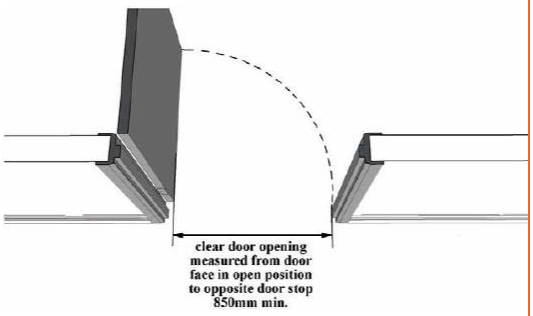
Example of Compliant Nosing Strip Detail

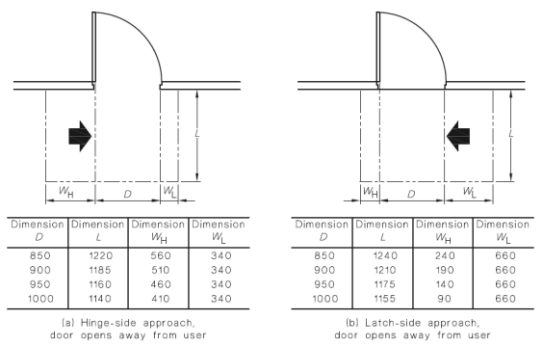
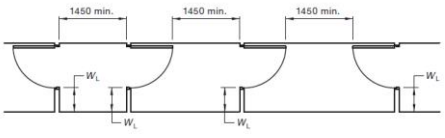
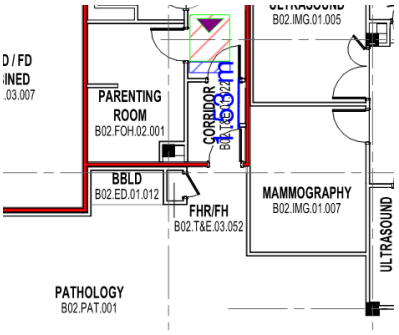


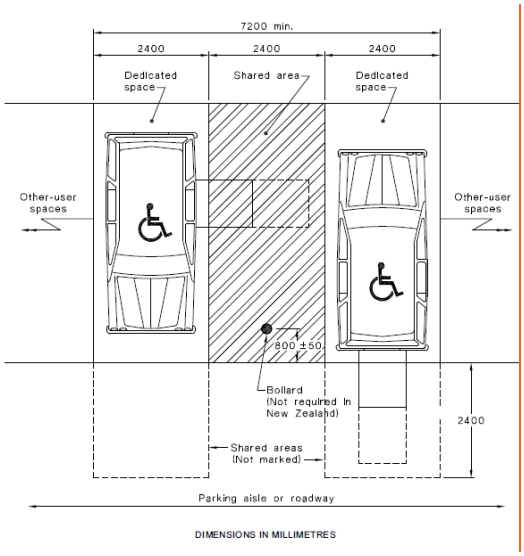
Example of Compliant Stairway Design

AS1428.1 Cl. 11.2 Stairway Handrails	Handrails shall be continuous throughout the stair flight and, where practicable, around landings and have no obstruction on or above up to a height of 600 mm and as follows: + The design and construction of handrails shall comply with Clause 12 of AS 1428.1 – 2009. + Handrails shall be installed on both sides of the stairs. + Handrails shall have no vertical sections and shall follow the angle of the stairway nosings.	**Compliance Readily Achievable:** As per Architectural drawings MHR-STH-AR-DR-B02-23XX01 – 23XX07 compliance is readily achievable in accordance with these requirements. **Further Information Required:** It is recommended to propose a separate 1m high balustrade at all mid and top landings to Stairs 1-4 in addition to the handrail to the stairway. Also, detail a

+ Clause	+ Reference	+ Comment
	+ Where a handrail terminates at the bottom of a flight of stairs, the handrail shall extend at least one tread depth parallel to the line of nosings plus minimum of 300 mm horizontally from the last riser. + The handrail shall extend a minimum of 300 mm horizontally past the nosing on the top riser. + Where the handrail is continuous, the 300 mm extension is not required in the inner handrail at intermediate landings. + The dimensions indicating the heights of handrails shall be taken vertically from the nosing of the tread to the top of the handrail or from the landing to the top of the handrail.	measurement of 865-1000mm from the nosing line of the riser to the top of the handrail as a critical dimension.
	  	
AS1428.1 Cl. 12 Handrails	The design and construction of handrails shall comply with the following: + The cross-section of handrails shall be circular or elliptical, between 30-50mm dia. for a width of not less than 270° around the uppermost surface. + Exposed edges shall have a radius of not less than 5mm. + The top of handrails shall be between 865-1000mm above the nosing line of a stairway, or the plane of finished floor otherwise. + The height of the top of the handrail shall be consistent through any stair, ramp, and landing.	**Compliance Readily Achievable:** As per Architectural drawings MHR-STH-AR-DR-B02-23XX01 – 23XX07 compliance is readily achievable in accordance with these requirements. **Further Information Required:** It is recommended to propose a separate 1m high balustrade at all mid and top landings to Stairs 1-4 in addition to the handrail to the stairway. Also, detail a measurement of 865-1000mm from the nosing line of the riser to the top of the handrail as a critical dimension.

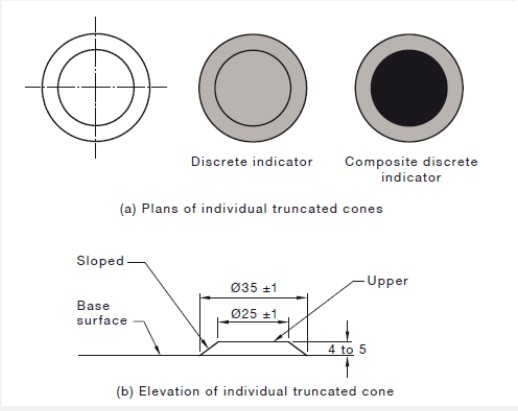
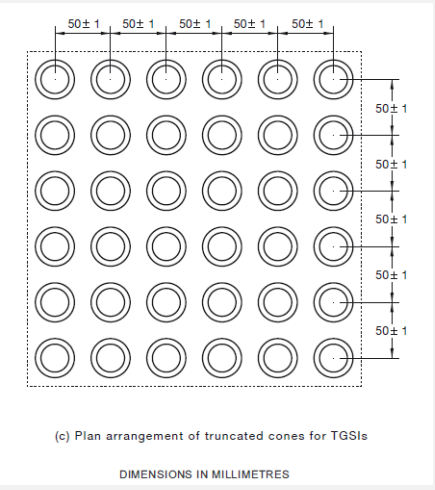
+ Clause	+ Reference	+ Comment
	+ Handrails shall be securely fixed and rigid, and their ends shall be turned through a total of 180°, or to the ground, or returned fully to the end post or wall face. The clearance between a handrail and an adjacent wall surface or other obstruction shall be not less than 50mm.	
AS1428.1 Cl. 13.1 Luminance Contrast	All doorways shall have a minimum luminance contrast of 30% provided between— + door leaf and door jamb; + door leaf and adjacent wall; + architrave and wall; + door leaf and architrave; or + door jamb and adjacent wall. The minimum width of the area of luminance contrast shall be 50 mm.	**Compliance Readily Achievable:** Details to be included at the Design Development Stage.
AS1428.1 Cl. 13.2 / 13.3 Doorways	The minimum width of an accessible doorway must have a *clear opening* width of not less than 850mm in accordance with AS1428.1. Where double doors are provided, at least one leaf must have a clear unobstructed width of 850mm. *Noting that most doors in Class 9a require greater width than 850mm as outlined in the preceding report*  Clear Unobstructed Width of Doorway Circulation space is required to all doorways throughout the building that are required to be accessible in accordance with Section 13 of AS 1428.1 – 2009 (see diagrams below). Circulation space is not required to be provided to rooms where access for a person with a disability is not required i.e. dirty utility / clean utility rooms, plant rooms, comms rooms etc. See below required doorway circulation space for swinging and sliding doors.	**Further Information Required:** As per attachment titled "231110 - DDA Markup (For Tender Drawings)", nominates certain spaces where latch-side clearances and doorway circulation does not comply. The nominated areas are to be rectified. In certain instances, we do not agree with STH comments as issued from Aconex no. STH(Aus)-GCOR-000446. This is to be further developed at DD stage note, where it is staff managed, these rooms are to be included in the D4D5 Exemption Letter prepared by the LHD. Door schedule to be provided at DD stage.

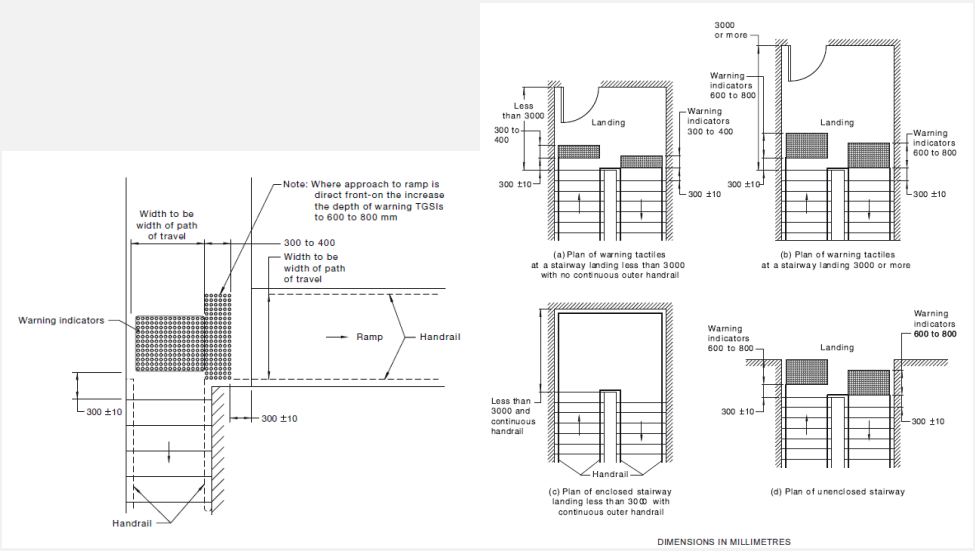
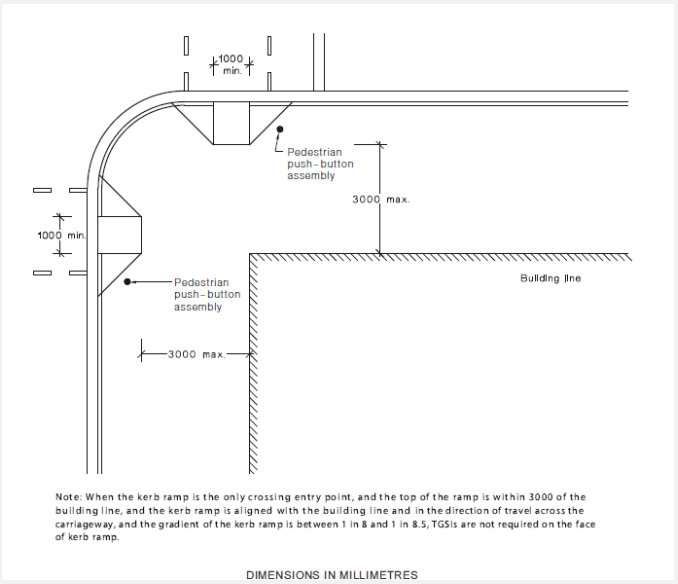
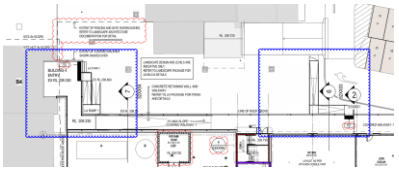
+ Clause	+ Reference	+ Comment
	 (a) Hinge-side approach, door opens away from user (b) Latch-side approach, door opens away from user (c) Either side approach, door opens away from user (d) Front approach, door opens away from user (e) Hinge-side approach, door opens towards user (f) Latch-side approach, door opens towards user (g) Either side approach, door opens towards user (h) Front approach, door opens towards user (a) Slide-side approach (b) Latch-side approach (c) Either side approach (d) Front approach	
AS1428.1 Cl. 13.4 Successive Doorways in Passages	The distance between doorways in vestibules, air locks and other similarly enclosed spaces shall be not less than 1450 mm. Where the doors encroach into space, the distance shall be not less than 1450 mm plus the door leaf width.  (a) Continuous accessible path of travel DIMENSIONS IN MILLIMETRES FIGURE 34 (in part) DISTANCE BETWEEN SUCCESSIVE DOORWAYS IN VESTIBULES AND AIR LOCKS	**Compliance Readily Achievable:** From Ground Floor the corridor that leads to Pathology, a clear distance of 1450mm has now been provided. 
AS1428.1 Cl.13.5 Door Controls	Door handles and hardware to rooms required to be accessible must comply with the requirements of Clause 13.5 of AS 1428.1 – 2009.	**Compliance Readily Achievable:** Door schedule to be provided at DD stage.
AS1428.1 Cl.14.1 Switches and GPO's	All switches and controls shall be positioned at a height of 900-1000mm above the FFL and be no closer than 500mm to any corner	**Compliance Readily Achievable:** Details to be included at the Crown Certification Stage.

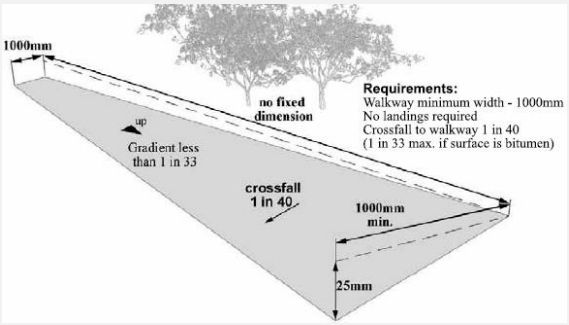
+ Clause	+ Reference	+ Comment
AS1428.1 Cl.14.2 Switches	Accessible SOU's and accessible WC's are required to be provided with 30mm x 30mm toggle switches Where push button switches are located associated with the security system of the entry doors, then the push button will need to be the mushroom type.	**Compliance Readily Achievable:** Details to be included at the Crown Certification Stage.
D4D5 (Previously D3.4) Exemptions	The following areas, and any path of travel providing access only to these areas, are not required to be accessible: + An area deemed inappropriate to access due to the areas particular use + An area that would pose a health or safety risk for people with a disability.	**Further Information Required:** Some examples of the above include: + Cleaner's rooms used by cleaning staff only + Plantrooms and specialty equipment rooms (e.g. comms, UPS, distribution boards etc.) + Loading Docks + Clean and dirty utility rooms + Equipment stores The LHD will need to provide a letter confirming what areas are subject to a concession during the Crown Certification Stage.
D4D6 (Previously D3.5) Accessible carparking	Accessible carparking spaces – + Must be provided in accordance with the ratios set out in this clause. + Must comply with AS 2890.6-2009	Refer to comments below.
AS1428.6 Cl.2.2 Parking Spaces		**Complies:** As per plan MHR-STH-AR-DR-SW-10XX10 accessible carparking spaces are in accordance with the requirements of this clause. 
AS1428.6 Cl.2.2 Pavement	Each accessible parking space and shared area must have a maximum crossfall of 1:40 (or 1:33 for bitumen) and have a slip resistance surface	**Compliance Readily Achievable:** Details to be included at the Design Development Stage.

+ Clause	+ Reference	+ Comment
D4D7 **(Previously D3.6)** Signage	In a building required to be accessible, braille and tactile signage must be provided to all: + Required accessible sanitary facilities + Spaces with hearing augmentation + Ambulant sanitary facilities + Non-accessible pedestrian entrances + Each door required to be provided with an exit sign Braille and tactile signage is to comply with sub-clause (a) and Specification 15.	**Compliance Readily Achievable:** Details to be included at the Crown Certification Stage.
AS1428.1 Cl.8.1 Forms of Signage	The below signs are examples of required sanitary facility signage. The signs shall be positioned so that the raised braille is between 1200-1600mm above FFL.	**Compliance Readily Achievable:** Details to be included at the Crown Certification Stage.
	    	
Spec 15 Braille and tactile signage	Signage Specification: - The signage is to be: - (a) Located between 1200-1600mm above FFL (b) Signs with single lines of characters are to have the line of the tactile characters between 1250mm-1350mm above FFL (c) Signage tactile characters must be raised or embossed to a height between 1mm-1.5mm (d) Upper case letter to be between 20mm-55mm (e) Signage is to be contrasting & is to comply with BCA Specification E3.6. Signage Locations The Braille & tactile egress signage is to be located adjacent or on (see above) each door that:- (a) Provides direct egress into a fire isolated stairway (b) Provides direct discharge from the storey into a passageway or lobby (airlock) associated with the fire isolated stairway (c) Provide direct discharge from a fire isolated stairway to open space (discharge door) (d) Forms part of a horizontal exit (–/120/30 fire doors in the fire compartment walls) The below signage is an *example* of what is required –	

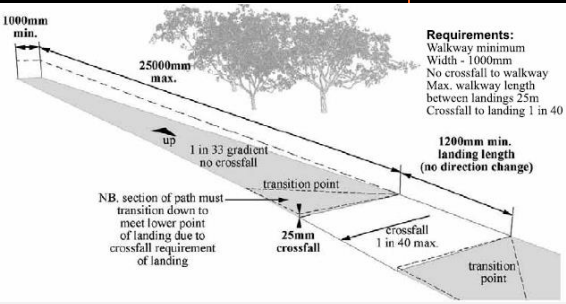
+ Clause	+ Reference	+ Comment
		
D4D8 **(Previously D3.7)** Hearing Augmentation	A hearing augmentation system must be provided where an inbuilt amplification system (excluding emergency warning systems) is present in the following areas: + In conference room, meeting room, + In a reception area of the like where the public is screened by the service provider. A hearing augmentation system is required to comply in the following way: + An induction loop – it must serve >80% of the floor area of the spaced served by the inbuilt amplification system; or + A system requiring the use of receivers or the like. It must be available to not less than 95% of the floor of the space served and provide the applicable number of receivers; – 500 people – 1 receiver for every 25 persons and a minimum of 2 receivers; and – 500-1000 people – 20 receivers plus 1 receiver for every 33 people in excess of 500; and – 1000-2000 people – 35 receivers plus 1 receiver for every 50 people in excess of 1000; and – >2000 people – 55 receivers plus 1 receiver for every 100 people in excess of 2000. Any screen or scoreboard capable of displaying public announcements must be capable of supplementing any public address system. The below symbol shall be provided on a sign in ultramarine blue in accordance with clause 5.1 of AS 1428.5-2010	**Compliance Readily Achievable:** Details to be included at the Design Development Stage. Hearing Augmentation is required to be provided at reception desks where there is dividing glass and is recommended to be provided at all reception desks.

+ Clause	+ Reference	+ Comment
		
D4D9 **(Previously D3.8)** Tactile Indicators	Tactile ground surface indicators must be provided to: + A stairway, other than a fire-isolated stairway; and + An escalator or passenger conveyor; and + A ramp other than a fire-isolated ramp; and + In the absence of a suitable barrier- – An overhead obstruction <2m above floor level; and – An accessway meeting a vehicular way adjacent to any pedestrian entrance to a building including a pedestrian entrance serving an area referred to in D4D5, if there is no kerb or kerb ramp at that point. Tactile indicators are required to be designed in accordance with AS 1428.4.1-2009.	**Compliance Readily Achievable:** As per Architectural drawings MHR-STH-AR-DR-B02-23XX01 – 23XX07 compliance is readily achievable in accordance with these requirements. Further details in accordance with the requirements of this clause are to be developed during the Design Development Stage.
AS1428.4.1 Cl.2.2.3 Placement	 	

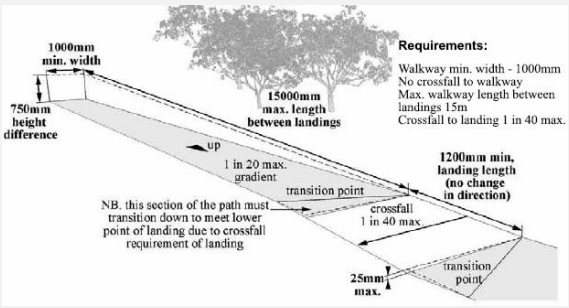
+ Clause	+ Reference	+ Comment
AS1428.4.1 Cl.2.4 Stairways		
AS1428.4.1 C3 Kerb Ramps	TGSI's are <u>not</u> required on kerb ramps if – + the distance between the building line/boundary and the top of the kerb ramp is less than 3 m; + the change in gradient between that of the pedestrian surface at the top of the kerb ramp and the gradient of the kerb ramp surface lies between 1 in 8 to 1 in 8.5; and + the kerb ramp is aligned with the building line and  Tactiles <u>are</u> required when a kerb ramp where the gradient is shallower than 1 in 8.5.	
D4D12 (Previously D3.11) Ramps	Ramps may be used as part of an accessway where there is a change of level and must comply with the requirements set out in AS1428.1 On an accessway— + a series of connected ramps must not have a combined vertical rise of more than 3.6 m; and + a landing for a step ramp must not overlap a landing for another step ramp or ramp.	**Compliance Readily Achievable:** Provide detailed plans of the ramps from the covered walkway to Building 1 & 4. 

+ Clause	+ Reference	+ Comment
AS1428.1 **Cl 10.1** Walkways, Ramps, and Landings - Generally	Walkways, ramps and landings that are provided on a continuous accessible path of travel shall be as follows: + Sharp transitions shall be provided between the planes of landings and ramps. + Landings shall be provided at all changes in direction in accordance with Clause 10.8. + Landing or circulation space shall be provided at every doorway, gate, or similar opening. + For walkways and landings having gradients in the direction of travel shallower than 1 in 33, a camber or crossfall shall be provided for shedding of water and shall be no steeper than 1 in 40, except that bitumen surfaces shall have a camber or crossfall no steeper than 1 in 33. *NOTE: For requirements for ground surfaces, see Clause 7.*	**Compliance Readily Achievable:** Provide detailed plans of the ramps from the covered walkway to Building 1 & 4.
AS1428.1 **Cl. 10.2** Walkways	The requirements for walkways are as follows: + Walkways can have a gradient up to 1:20. Anything steeper is a ramp and requires kerbs or kerb rails plus handrails to both sides. + A walkway with a gradient less than 1 in 33 does not require landings but does require a crossfall of maximum 1 in 40 (maximum cross fall of 1 in 33 if the surface is bitumen). + Walkways steeper than 1 in 33 do not require a crossfall to the main walkway but do require a crossfall of 1 in 40 to landings	**Compliance Readily Achievable:** Details to be included at the Design Development Stage.
	 Requirements for a Walkway with a Gradient Less Than 1 in 33	

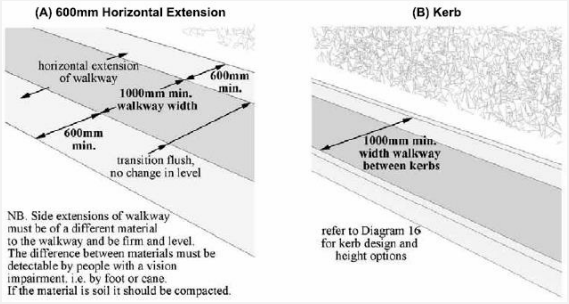
+ Clause	+ Reference	+ Comment



Requirements for a Walkway with a 1 in 33 Gradient



Requirements for a Walkway with a 1 in 20 Gradient



Requirements for Edges of Walkways

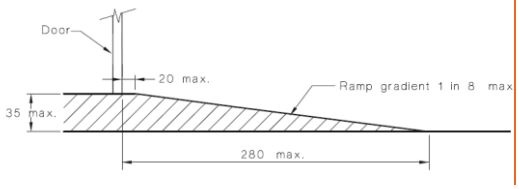
AS1428.1
Cl. 10.3
Ramps

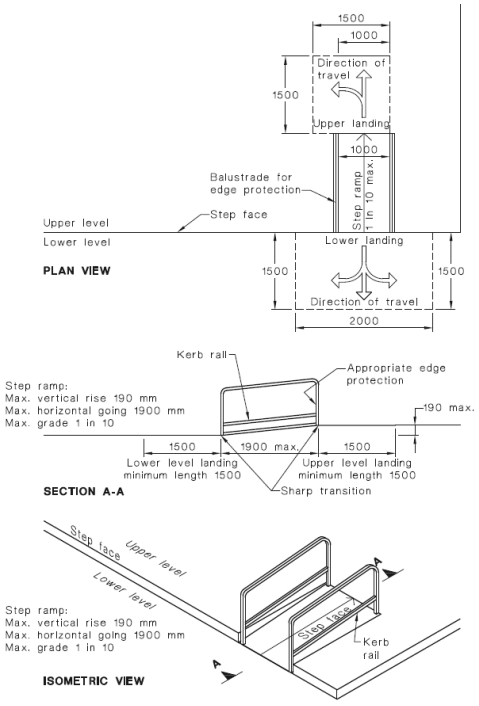
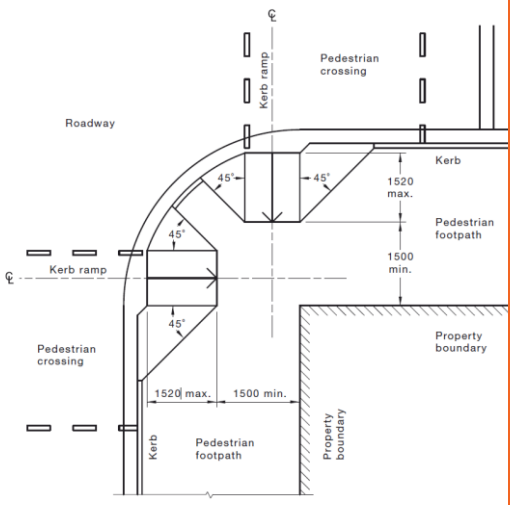
Ramps to comply with the following:

+ Maximum gradient of a ramp exceeding 1900mm shall be 1 in 14.
+ The gradient of a ramp shall be constant throughout its length.
+ Ramps shall be provided with landings:
  - For ramp gradients of 1 in 14, at intervals not greater than 9m.
  - For ramp gradients steeper than 1 in 20, at intervals not greater than 15m.
  - For ramp gradients between 1 in 14 and steeper than 1 in 20, at interpolated intervals.
+ Handrails must be provided on either side complying with Clause 12.
+ TGSIs shall be installed in accordance with AS 1428.4.1.
+ Ramps shall be set-back at internal corridors so that handrail extensions do not protrude into paths of travel.

Compliance Readily Achievable:

Provide detailed plans of the ramps from the covered walkway to Building 1 & 4.

+ Clause	+ Reference	+ Comment	
	+ Ramps and intermediate landings shall have kerbs or kerb rails on either side.		
AS1428.1 Cl. 10.4 Curved Walkways, Ramps, and Landings	Curved ramps, walkways, and landings shall comply with the following: + Curved walkways shall have a width not less than 1500mm. + Any cross-fall shall be towards the centre of curvature. + The gradient of curved ramps and walkways shall comply with the graph in Figure 20 within AS 1428.1 – 2009.	**Compliance Readily Achievable:** Details to be included at the Design Development Stage.	
AS1428.1 Cl. 10.5 Threshold Ramps	Threshold ramps at doorways on a continuous path of travel shall have— + a maximum rise of 35 mm; + a maximum length of 280 mm; + a maximum gradient of 1:8; and + be located within 20 mm of the door leaf which it serves. 	No threshold ramps are noted in the current design.	
AS1428.1 Cl. 10.6 Step Ramps	Step ramps shall have— + a maximum rise of 190 mm; + a length not greater than 1900 mm; and + a gradient not steeper than 1 in 10. The edges of step ramp shall have a 45° splay where there is pedestrian cross traffic. Otherwise, it shall be protected by a suitable barrier, such as— + a wall or suitable barrier with a minimum height of 450 mm; or + where an open balustrade is provided a kerb or kerb rail shall be provided.	No step ramps are noted in the current design.	

+ Clause	+ Reference	+ Comment
		
AS1428.1 **Cl. 10.7** Kerb Ramps	Kerb ramps shall have + a maximum rise of 190 mm; and + a length not greater than 1520 mm; and + a gradient not steeper than 1 in 8, located within or attached to a kerb; and be aligned in the direction of travel as shown below.  Refer to Clause 10.7 of AS 1428.1 - 2009 for the full requirements for Kerb Ramps.	**Note**: Confirm if there are any proposed kerb ramps to be included in the design of the on-grade carpark.
AS1428.1 **Cl. 10.8** Landings	Walkways and ramps The length of landings at walkways (up to a gradient of 1 in 33) and ramps shall comply with one of the following:	**Compliance Readily Achievable:** Provide detailed plans of the ramps from the covered walkway to Building 1 & 4.

+ Clause	+ Reference	+ Comment
	+ Where there is no change in direction, the length shall be not less than 1200 mm, as shown in **Figure 25(A).** + Where there is a change of direction not exceeding 90°, the landing shall be not less than 1500 mm. The internal corner shall be truncated for a minimum of 500 mm in both directions, as shown in **Figure 25(B).** + For a 180° turn, the landing shall be as shown in **Figure 25(C).** <u>Step ramps</u> + The length of landings at step ramps shall be not less than 1200 mm in the direction of travel, as shown in **Figures 22(A)** and **22(B).** + Where a change in direction is required, the length of step ramp landings shall be a minimum of 1500 mm, as shown in **Figure 22(A).** + Where doorways are at landings, the dimensions of the landings shall be in accordance with the requirements of Clause 13.3 for circulation spaces at doorways shown in **Figure 25(D).** <u>Kerb ramps</u> The length of landings at kerb ramps shall be not less than 1200 mm in the direction nof travel. Where a 'T' junction occurs, the kerb ramp landing shall be a minimum of 1500 × 2000 mm, as shown in Figure 24(B). Where a single change in direction is required, the ramp landings shall be a minimum of 1500 mm × 1500 mm. **See Below for Figures**	

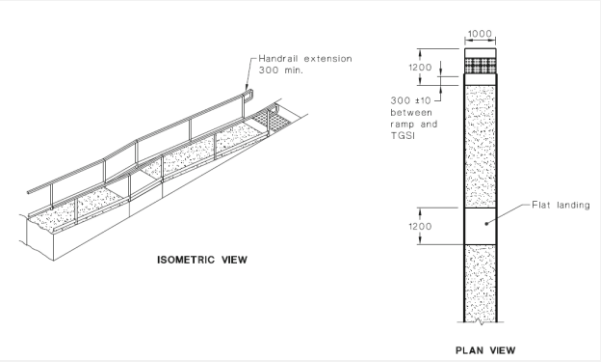


Figure 25A

+ Clause	+ Reference	+ Comment

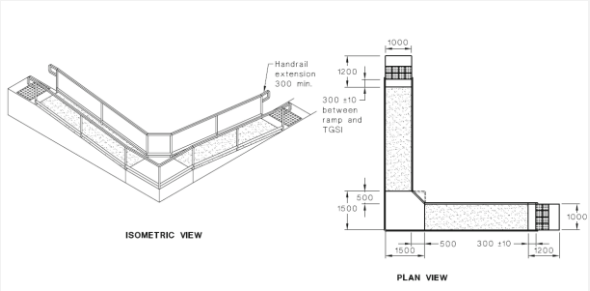


Figure 25B

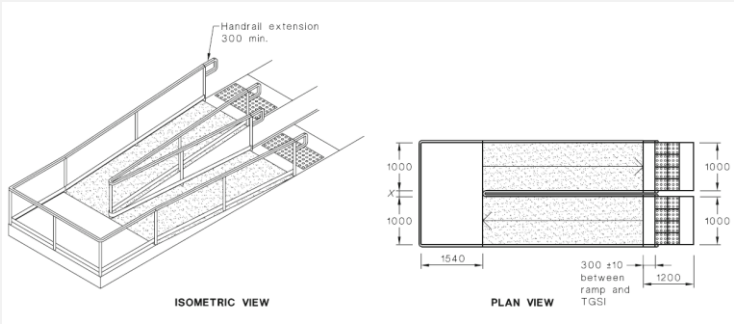
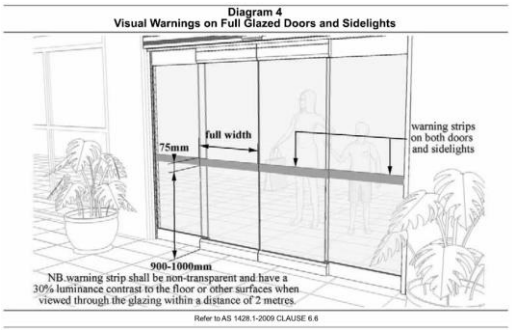


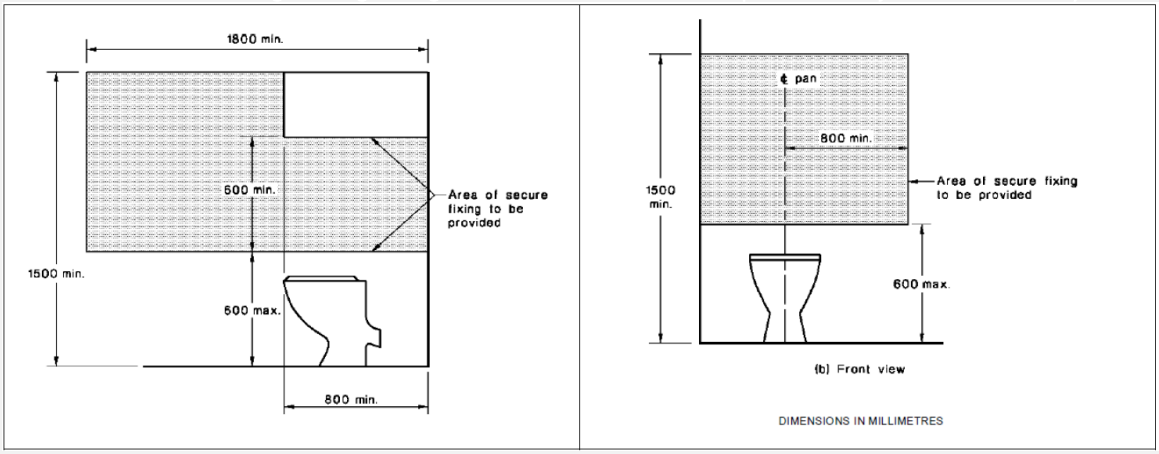
Figure 25C

D4D13 **(Previously D3.12)** Glazing on an Accessway	Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid and non-transparent contrasting line.	**Compliance Readily Achievable:** Details to be included at the Crown Certification Stage.
AS1428.1 Cl. 6.6 Visual Indicators on Glazing	The contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level. Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.  	**Compliance Readily Achievable:** Details to be included at the Crown Certification Stage.
Section E	**Services and Equipment**	
Part E3	**Lift installations**	

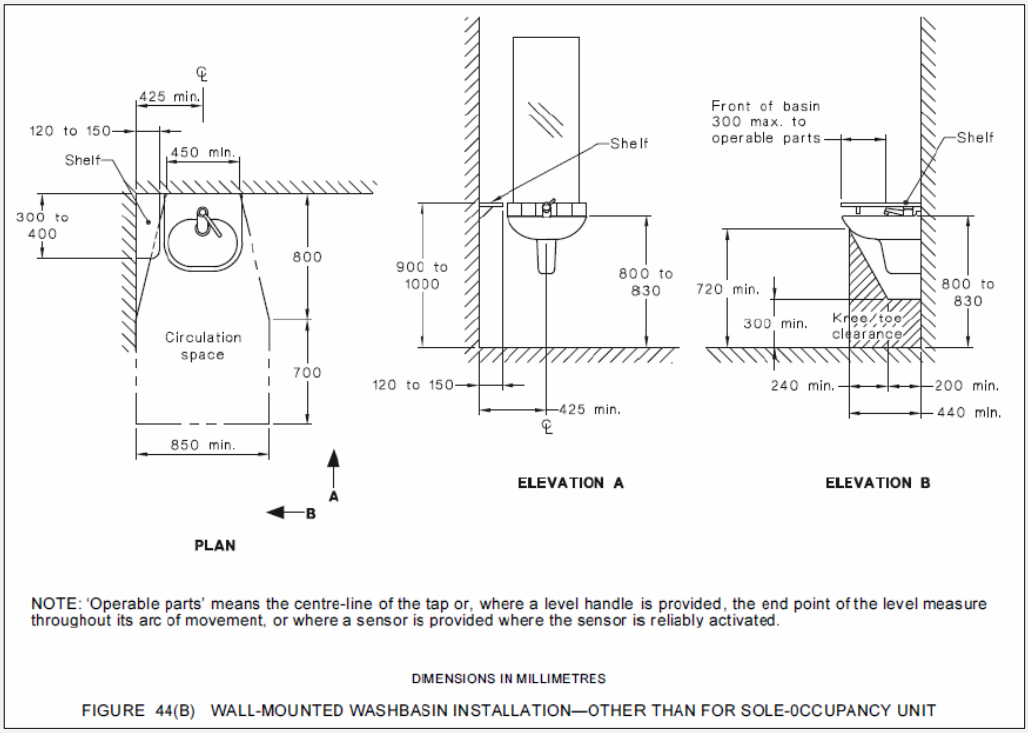
+ Clause	+ Reference	+ Comment
E3D7 **(Previously E3.6, Table E3.6a, Table E3.6b)** Passenger Lift types and their limitations	In an accessible building, every passenger lift must be one of the types identified in this clause, have accessible features in accordance with Table E3D8 and not rely on a constant pressure device for its operation if the lift car is fully enclosed.	**Compliance Readily Achievable:** Design statement to be provided at Crown Certification Stage.
Section E	**Health and Amenity**	
Part F4	**Sanitary and Other Facilities**	
F4D5 **(Previously F2.4)** Accessible Sanitary Facilities	Accessible unisex sanitary compartments must be provided, in accordance with F4D6 and unisex showers must be provided in accordance with Table F4D7, in buildings or parts that are required to be accessible.	**Further Information Required:** As per page 11-13 of attachment titled "231110 - DDA Markup (For Tender Drawings)", refer to the call-out comments the nominated areas are to be rectified.

+ Unisex Accessible WCs

+ Tap sets will need to be specified with lever of capstan handles in the accessible sanitary facilities.
+ Provision of wall strengthening for grab-rails will need to be provided adjacent to sanitary facilities.



+ The location and installation of washbasins must comply with the requirements of AS 1428.1-2009.

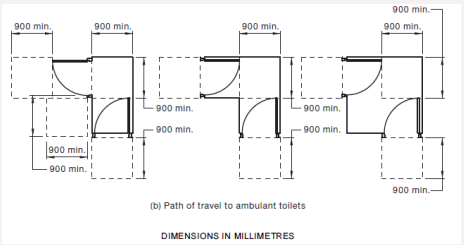
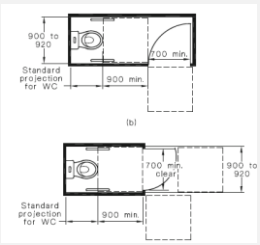
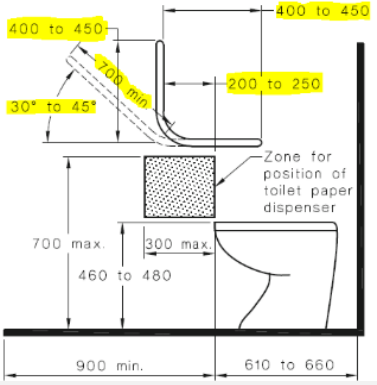


+ Checklist for Accessible WCs	
+ Entry Door	The detailing of the circulation at doorways shall comply with the provisions of Clause 13 of AS1428.1:2009
+ Entry Door	The luminance contrast provisions at the doorway shall comply with the provisions of Clause 13.1 of AS1428.1:2009
+ Force Required to Operate Door	The force required to operate the door if fitted with a door closer is a maximum of 20N. It is assumed that auto-doors will not be installed
+ Door Hardware	The position of door hardware is to be located between 900-1100mm AFFL.
+ WC Pan Circulation	1900×2300mm

+ Hand Basin Circulation	850×1500mm, the basin may encroach a maximum of 100 mm into the circulation space of the adjacent WC pan circulation
+ WC Pan Offset From Side Wall	450/460 mm
+ WC Pan Offset From Rear Wall	800±10 mm
+ WC Pan Backrest	To code requirements
+ WC Pan Toilet Seat	The toilet seat will need to be the full round type, securely fixed in position, be rated 250 KG and have a minimum limits contrast of 30% with the background pan, wall or floor against which it is viewed.
+ WC Pan Grab Rails	Grab rail to be mounted 800 mm above finish floor level, length of grab rail to be 1050 mm from rear wall, install 300mm grab rail to left-hand side of the WC pan. It is assumed that the walls to which the grab rails are fixed will have the required 1100N force rating wall reinforcement required by the standard
+ Hand Basin Mounting Height	Top of hand basin to be 800/830 mm above finish floor level
+ Hand Basin Clearances	The clearances around and under the hand basin need to comply with the provisions of clause 15.3 of AES 1428.1:2009. Specific attention is drawn to the plumbing installation where the required clearances under the hand basin necessitate special consideration of the bottle trap associated with the hand basin
+ Hand Basin Selection	The detailing of the hand basin requires the installation of a shelf unit. It may be possible to specify a hand basin that incorporates a shelf section thereby eliminating an additional component to be installed in the USAT
+ Hand Basin Mirror	The mirror is to be flush mounted on the wall above the sink the bottom of the mirror is to be no more than 900 mm above the finish floor level and the top of the mirror is to be a minimum of 1850 mm above the finish floor level
+ Hand Basin Tap	It is recommended that a lever hand basin tap be installed in lieu of the capstan type
+ Toilet Roll Holder	The position of the toilet roll holder is to be in accordance with code requirements
+ Coat Hooks	Coat hooks are to be installed 1200 to 1350 mm above finish floor level and not closer than 500 mm from an internal corner. The coat hook can be installed on the wall or on the back of the door
+ Soap Dispensers/Hand Towel	These items are to be able to be operated by one hand and shall be installed so that the tap or dispenser is not less than 900 and not more than 1100 mm above the finish floor level.
+ Braille Tactile Signage	The detailing of the Braille Tactile Signage will need to comply with the provision of NCC Clause D3.6 and NCC Specification D3.6. The location of the Braille Tactile sign is to be mounted on the latchside wall. The sign is to indicate the handing of the grabrails to the WC Pan. The following is an example of the type of information to be provided in the Braille Tactile Sign.

+ Ambulant WCs

+ Checklist for Ambulant WCs	
+ Entry Door	The entry doorway is to achieve a clear width of no less than 750mm.
+ Door Hardware	+ Shall be provided with an in-use indicator and a bolt or catch. + Where a snip catch is used, the snib-handle shall have a minimum length of 45mm from the centre of the spindle.

	+ In an emergency, the latch mechanism shall be openable from the outside.
+ Internal Dimensions	Width between internal walls is to achieve between 900 – 920mm. A 900x900 clear area must be provided in front of the toilet pan, fixtures (including door swing) cannot encroach on this distance, except for grab rails.  
+ Grab Rails	Grab rails are to be located on either side of the toilet pan and must be located between 800 – 810mm above finished floor level. + Grab rail length and up-turn to be in accordance with Figure 53(A) of AS 1428.1 – 2009. + Grab rails shall have an outside diameter of 30 – 40mm. + Exposed edges and corners of grab rails shall have a radius of not less than 5mm.  + The fastenings and the materials and construction of grab rails shall be able to withstand a force of 1100 N applied at any position. + Clearance between the grab rail and the adjacent wall shall be between 50 – 60mm.
+ Toilet Roll Holder	The position of the toilet roll holder is to be in accordance with code requirements
+ Coat Hook	A coat hook shall be provided within the sanitary compartment at a height between 1350mm to 1500mm from the floor.
+ Braille Tactile Signage	The detailing of the Braille Tactile Signage will need to comply with the provision of NCC Clause D3.6 and NCC Specification D3.6. The location of the Braille Tactile sign is to be mounted on the latch-side wall. Signage content is to comply with the requirements of Clause 8 of AS 1428.1 – 2009.

5.2 Access to Premises Standard

+ Clause	+ Reference	+ Comment
BCA Part D4	New and altered parts of the existing building will be required to comply with Part D**4** of the BCA and AS 1428.1-2009 throughout.	The proposed works consist of a new ASB building, where there are new and altered parts of an existing building it will be required to comply with Part D4 of the BCA and AS 1428.1-2009 throughout.
Access to Premises Standard 2010	The existing parts of the hospital Buildings 1, 3 & 4 will be assessed against the 'affected part' provisions of the Access to Premises Standard 2010 – Affected Part is an assessment of existing accessibility provisions from the point of principal entrance of the existing building to the location of the new works. This may require an upgrade of the affected part (which is the pathway/corridor/lift access from the main entry to the areas of refurbished works). We require confirmation where existing lifts or sanitary facilities will be relied upon so an assessment can be undertaken in accordance with the Premises Standard.	The proposed works consist of a new ASB building, where there are new and altered parts of an existing building it will be required to comply with Part D4 of the BCA and AS 1428.1-2009 throughout.

6.0 Conclusion

This report contains a high level assessment of the SD referenced architectural documentation for the proposed new ASB and services yard at Moree Hospital against the deemed-to-satisfy provisions of the Building Code of Australia 2022 and the Disability (Access to Premises – Building) Standards 2010.

Arising from the assessment, key compliance issues have been identified that require further resolution, either by way of fire engineered Performance Solutions or plan amendments as the design develops.

Notwithstanding the above, it is considered that the proposed development can readily achieve compliance with the BCA subject to resolution of the matters identified in this report.

Appendices

+ Appendix 1 – References Tables

Table 1: Non-Combustibility Requirements

+ Building Element	+ Type A & B Construction
External wall	Non-combustible
Common wall	Non-combustible
Floor and floor framing of lift pit	Non-combustible
All loadbearing internal walls (including those of shafts)	Concrete, masonry or fire-protected timber
Loadbearing fire walls	Concrete, masonry or fire-protected timber
Non-loadbearing internal walls required to be fire-resistant	Non-combustible
Non-loadbearing lift, ventilating, pipe, garbage and the like shafts which do not discharge hot products of combustion.	Non-combustible (subject to conditions outlined in C2D10)

Table 2: Fire Hazard Properties Requirements – Floor Linings

+ Table S7C3 of Specification 7 Critical Radiant Flux or Floor Linings and Floor Coverings			
+ Class of Building	Building Not Fitted with a Sprinkler System	Building Fitted with a Sprinkler System (other than a FPAA101D or FPAA10H System)	Fire-isolated Exits and Fire Control Rooms
Class 9a – Patient care areas.	4.5 kW/m2	2.2 kW/m2	4.5 kW/m2
Class 9a – Areas other than patient care areas.	2.2 kW/m2	1.2 kW/m2	4.5 kW/m2

Table 3: Fire Hazard Properties Requirements – Wall and Ceiling Linings

+ Table S7C4 of Specification 7 – Wall and Ceiling Lining Materials (Materials Groups Permitted)				
Class of Building	Fire-isolated Exits and Fire Control Rooms	Public Corridors	Special Areas	Other Areas
Class 9a, Sprinklered	Walls: 1 Ceilings: 1	Walls: 1, 2 Ceilings: 1, 2	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3

Table 5: Fire-Resisting Construction – Type B Construction

TYPE B CONSTRUCTION: FRL OF BUILDING ELEMENTS				
+ Building Element	+ Class of Building - FRL: (in minutes) Structural adequacy/integrity/insulation			
	2, 3 or 4 part	**5, 7a or 9**	**6**	**7b or 8**
EXTERNAL WALL – (Including any column and other building element incorporated within it) or other external building element, where the distance from any fire-source feature to which it is exposed is:				
For loadbearing parts:				
Less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3m	90/60/30	120/90/60	180/120/90	240/180/120
3 to less than 9m	90/30/30	120/30/30	180/90/60	240/90/60
9 to less than 18m	90/30/-	120/30/-	180/60/-	240/60/-
18m or more	–/–/–	–/–/–	–/–/–	–/–/–
For non-loadbearing parts:				
less than 1.5m	–/90/90	–/120/120	–/180/180	–/240/240
1.5 to less than 3m	–/60/30	–/90/60	–/180/90	–/180/120
3m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN - Not incorporated in an external wall				
For loadbearing columns:				
Less than 18m	90/–/–	120/–/–	180/–/–	240/–/–
18m or more	–/–/–	–/–/–	–/–/–	–/–/–
Non-loadbearing columns:	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS	90/90/90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS				
Fire-resisting lift and stair shafts				
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120s
Non-loadbearing	–/90/90	–/120/120	–/120/120	–/120/120
Bounding public corridors, public lobbies and the like:				
Loadbearing	60/60/60	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units:				
Loadbearing	60/60/60	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/60/60	–/–/–	–/–/–	–/–/–
OTHER LOADBEARING INTERNAL WALLS AND COLUMNS	60/–/—	120/–/–	180/–/–	240/–/–
ROOFS	60/–/—	–/–/–	180/–/–	240/–/–

Notes:

1. Any wall required to have an FRL with respect to integrity and insulation must extend to the underside of the floor next above if that floor has an FRL of at least 30/30/30; or the underside of a ceiling with a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or the underside of a non-combustible roof covering; or 400mm above the roof covering if it is combustible.
2. Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must typically achieve the same FRL. Where that part is also required to be non-combustible, the supporting part must also be non-combustible.
3. The method of attaching or installing a finish, lining, ancillary element, or service installation to a building must not reduce the fire-resistance of that element to below that required.
4. A loadbearing internal wall and a loadbearing fire wall must be constructed from concrete, masonry, or a combination of the two.
5. In the storey immediately below the roof, internal columns and internal walls other than fire walls and shaft walls need not comply with S5C21.
6. Any lightweight construction in a fire wall or an internal wall required to have an FRL is to comply with Specification 6.
7. Non-loadbearing parts of an external wall that are more than 18m from a fire source feature need not be fire rated.

+ Appendix 2 – Fire Safety Schedule

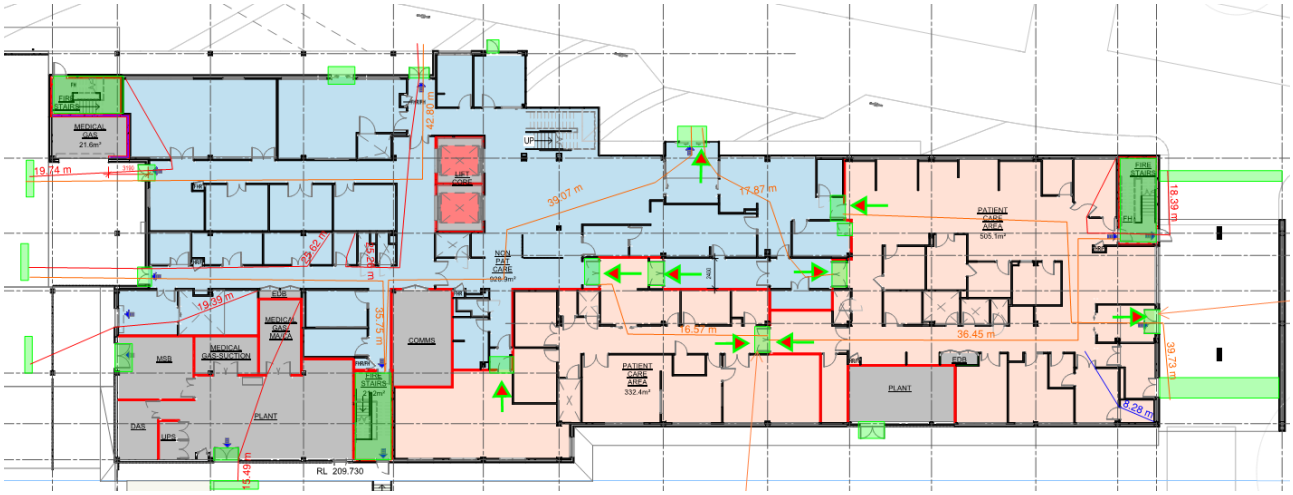
The following table is a list of the required fire safety measures within the building. These measures may be subject to further change pending the outcomes of the final Fire Safety Engineering Review to confirm the works are permissible and do not contradict the base building Performance Solutions.

Table 7: Fire Safety Schedule

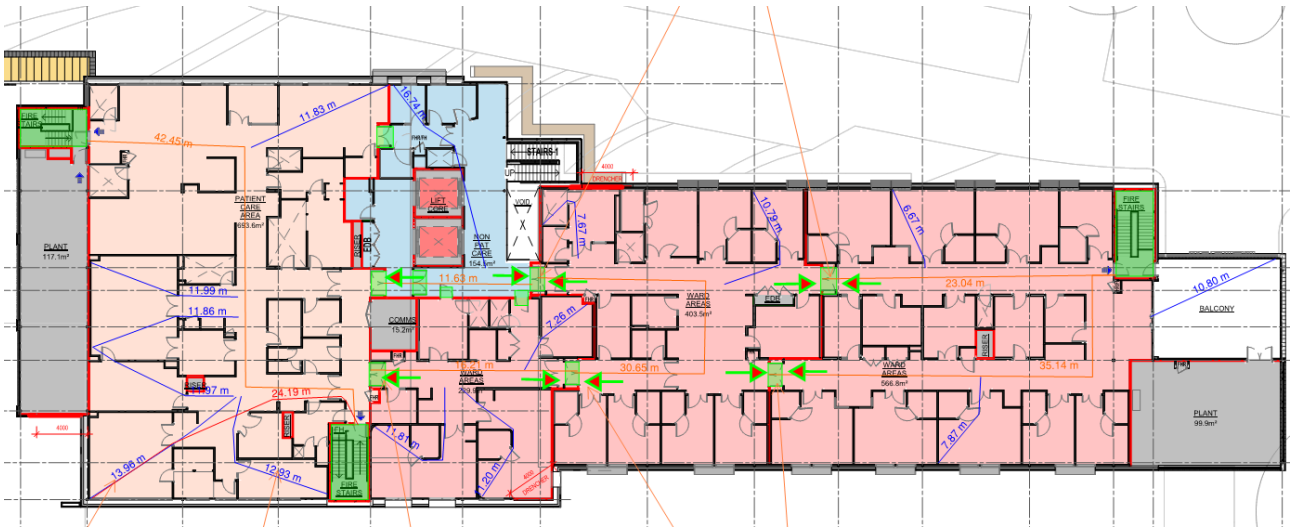
+ Statutory Fire Safety Measure	+ Design/Installatin Standard	+ Proposed
Access Panels, Doors & Hoppers	BCA 2022 Clause C4D14 AS 1530.4 – 2014 and Manufacturer's Specifications	✓
Alarm Signalling Equipment	AS 1670.3 – 2018	✓
Automatic Fail Safe Devices	BCA 2022 Clause D3D26	✓
Automatic Fire Detection & Alarm System	BCA 2022 Spec. 20 AS 1670.1 – 2018	✓
Automatic Fire Suppression Systems	BCA 2022 Spec. 17 AS 2118.1 – 2017	✓
Building Occupant Warning System activated by the Sprinkler System	BCA 2022 Spec. 17 Clause 8 and / or Clause 3.22 of AS 1670.1 – 2018	✓
Emergency Lifts	BCA 2022 Clause E3D5 AS 1735.2 – 2001	✓
Emergency Lighting	BCA 2022 Clause E4D2 & E4D4 AS 2293.1 – 2018	✓
Emergency Evacuation Plan	AS 3745 - 2010	✓
Emergency Warning Intercom System (EWIS)	BCA 2022 E4D9, S31C19 of BCA Spec G3.8 AS1670.4 - 2018	✓
Exit Signs	BCA 2022 Clauses E4D5, NSW E4D6 & E4D8 AS 2293.1 – 2018	✓
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001	✓
Fire Dampers	BCA 2022 Clause C4D15 AS 1668.1 – 2015 & AS 1682.1 & 2 – 2015 and Manufacturer's Specification	✓
Fire Doors	BCA 2022 Clause C3D13, C3D14, C4D3, C4D5, C4D6 & C4D8 AS 1905.1 – 2015 and Manufacturer's Specification	✓
Fire Hose Reels	BCA 2022 Clause E1D3 AS 2441 – 2005	✓
Fire Hydrant Systems	BCA 2022 Clause E1D2 AS 2419.1 – 2021	✓
Fire Seals	BCA 2022 Clause C4D15, AS 1530.4 – 2014 & AS 4072.1 – 2014 and Manufacturer's Specification	✓
Lightweight Construction	BCA 2022 Clause C2D9	✓

	AS 1530.4 – 2014 and Manufacturer's Specification	
Mechanical Air Handling Systems (Automatic Shutdown)	BCA 2022 Clause E2D3 AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012	✓
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444 – 2001	✓
Required Exit Doors (Power Operated)	BCA 2022 Clause D3D24(2)	✓
Smoke Dampers	BCA 2022 Spec 11 AS/NZS 1668.1 – 2015	✓
Smoke Doors	BCA 2022 Spec 11 & 12	✓
Stand-by Power Systems	BCA 2022 Spec 31 AS 3000 – 2018	✓
Wall-Wetting Sprinklers	BCA 2022 Clause C4D5 AS 2118.2 – 2010	✓
Warning & Operational Signs	BCA 2022 Clause, D3D28, D4D7 & E3D4 AS 1905.1 – 2015 & Section 108 of the EP&A (DCFS) Regulation 2021	✓
Fire Engineered Performance Solutions relating to: 1.	BCA 2022 Performance Requirements … Fire Safety Engineering Report prepared by … Report No. … Revision … dated …	✓

+ Appendix 3 – Locations of Exits



Ground Floor



First Floor