



BLACKETT
MAGUIRE+
GOLDSMITH

BCA & ACCESS ASSESSMENT REPORT

REF Amendment Submission

PROJECT:

Cowra Hospital Redevelopment

PREPARED FOR:



Health
Infrastructure

Revision: 3

Date: 14 December 2023

Project No.: 220802



Address

Suite 2.01,
22-36 Mountain St
Ultimo NSW 2007

Contact

Ph: 02 9211 7777
Fax: 02 9211 7774



EXECUTIVE SUMMARY

Blackett Maguire + Goldsmith have been engaged by Health Infrastructure to undertake a BCA and Accessibility Assessment of the Detailed Design for the redevelopment of Cowra Hospital.

1.1 BACKGROUND

The Cowra Hospital Redevelopment is located in the Central West region of NSW at 64 Liverpool Street, Cowra. The project will include full asset replacement of the existing health service's ageing buildings and infrastructure, providing a modern facility following the contemporary models of care and the ongoing needs of the local area.

1.2 PROJECT SCOPE

The proposed development of the Cowra Hospital includes construction of a new two-storey facility on the corner of Liverpool and Brisbane Streets, Cowra with on grade carparking on both street frontages.

The purpose of the Cowra Hospital project is to provide a modern health facility for the regional community.

The CSP includes the following requirements:

- + Emergency Department
- + General inpatient ward
- + Sub-acute inpatient unit
- + Peri-operative suite
- + Maternity and birthing services
- + Ambulatory care
- + Renal dialysis
- + Chemotherapy
- + Oral Health
- + Integrated outpatient and community clinic rooms and treatment spaces





TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
1.0 INTRODUCTION	4
1.1 BACKGROUND	4
1.2 OBJECTIVE OF REPORT	4
1.3 PROJECT TEAM	4
1.4 REFERENCED DOCUMENTATION	4
1.5 LIMITATIONS AND EXCLUSIONS	5
2.0 PROJECT OVERVIEW	6
2.1 DESCRIPTION OF DEVELOPMENT	6
2.2 BCA COMPLIANCE METHODOLOGY	6
2.3 ACCESS COMPLIANCE METHODOLOGY	6
2.4 PERFORMANCE SOLUTIONS	7
2.5 REPORT TERMINOLOGY	8
3.0 Building Characteristics	9
FIRE COMPARTMENT FLOOR AREA LIMITATIONS	10
DISTANCE TO FIRE SOURCE FEATURES	11
4.0 DETAILED PLAN BCA COMMENTS	11
4.1 SECTION B - STRUCTURE	11
4.2 SECTION C – FIRE RESISTANCE	11
4.3 PARTS D1 & D2 – PROVISION FOR ESCAPE AND CONSTRUCTION OF EXITS	18
4.4 ACCESSIBILITY	25
4.5 SECTION E – SERVICES AND EQUIPMENT	37
4.6 SECTION F – HEALTH AND AMENITY	39
4.7 SECTION J – ENERGY EFFICIENCY	41
5.0 Fire Engineering Brief	Error! Bookmark not defined.
6.0 PROJECT STAGING	41
7.0 CONCLUSION	42
APPENDIX A – TYPE B CONSTRUCTION	43

REPORT STATUS

DATE	REV	STATUS	AUTHOR	REVIEWED
20-02-23	0	Detailed Design –Issued for Client Review	DB	AC
28-02-23	1	Detailed Design –Issued for tender	DB	AC
02-03-23	2	Detailed Design –Issued for tender	DB	AC
14-12-23	3	Amended REF Submission	JM	DB

Prepared by:

James McNeill
Building Surveyor
Blackett Maguire + Goldsmith

Reviewed by:

David Blackett
Director
Blackett Maguire + Goldsmith
 NSW Registered Certifier – Building Surveyor (unrestricted) – BDC No.
 0032



1.0 INTRODUCTION

1.1 BACKGROUND

Blackett Maguire + Goldsmith have been engaged by Health Infrastructure to undertake a BCA and Accessibility Assessment of the Detailed Design options for the redevelopment of Cowra Hospital.

The Cowra Hospital Redevelopment is located in the Central West region of NSW at 64 Liverpool Street, Cowra. The project will include full asset replacement of the existing health service's ageing buildings and infrastructure, providing a modern facility following the contemporary models of care and the ongoing needs of the local area.

The current Cowra Hospital is in the town of Cowra on the banks of the Lachlan River within the Western NSW Local Health District (WNSWLHD). It has historically been a 24-bed inpatient health service with maternity ward, operating theatres, 24-hour emergency department, ambulatory care, oncology ward, x-ray and pathology departments. The Cowra District Health Service serves approx. 10,000 people from Cowra and surrounding towns. The nearest major rural referral hospitals within the Local Health District are located at Orange (1 hour), Dubbo (2.5 hours) and Bathurst (1.5 hours).

The proposed project is a new purpose-built facility that will improve the community's access to health services and deliver additional inpatient and community outpatient health services, reducing the need for residents to travel to the major rural referral hospitals to access some services.

The new Cowra Health Service proposes a two-storey facility at the rear of the site, with on grade carpark accessed from Liverpool Street with access to the ground floor emergency department, the facility will include inpatient unit, per-operative suite, maternity and birthing, ambulatory care, renal dialysis, chemotherapy, oral health, outpatient and community clinic rooms.

1.2 OBJECTIVE OF REPORT

The objective of this report is to:

- + Confirm that the referenced Detailed Design has been reviewed by an appropriately qualified Building Surveyor and Registered Certifier.
- + Outline the BCA and Access Compliance Strategy for the building and certification pathway for the project.
- + Identify BCA and Accessibility compliance matters that require further resolution.
- + Enable the Public Authority to satisfy its statutory obligations under Section 6.28 of the Environmental Planning and Assessment Act, 1979.
- + Identify the relevant essential fire safety measures that are applicable to the proposed development.

1.3 PROJECT TEAM

The following BM+G Team Members have contributed to this Report:

- + James McNeill – Report Preparation | Building Surveyor
- + David Blackett – Peer Review | Team Leader (Director) | NSW Registered Building Surveyor – Unrestricted.
- + Michael Potts – Peer Review (Associate Director) | NSW Registered Building Surveyor – Unrestricted, ACAA Member & Certificate IV in Access Consulting

1.4 REFERENCED DOCUMENTATION

The following documentation was relied upon when preparing this Report:

- + Building Code of Australia 2022
- + Guide to the Building Code of Australia 2022/2019 Amendment 1
- + Disability (Access to Premises – Buildings) Standards 2010
- + 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
- + Detailed Design (Addendum REF Submission) Drawings prepared by DJRD dated 12 December 2023 and 18 December 2023.



DRAWING No.	REVISION	DATE	DRAWING No.	REVISION	DATE
REF 00	D	12.12.2023	13734-DJRD-AR-REF-01	G	18.12.2023
13734-DJRD-AR-REF-10	E	12.12.2023	13734-DJRD-AR-REF-11	G	18.12.2023
13734-DJRD-AR-REF-12	G	18.12.2023	13734-DJRD-AR-REF-13	F	18.12.2023
13734-DJRD-AR-REF-20	E	12.12.2023	13734-DJRD-AR-REF-21	E	12.12.2023
13734-DJRD-AR-REF-22	E	12.12.2023	13734-DJRD-AR-REF-25	E	12.12.2023
13734-DJRD-AR-REF-26	E	12.12.2023	13734-DJRD-AR-REF-27	E	12.12.2023
13734-DJRD-AR-REF-50	E	12.12.2023	13734-DJRD-AR-REF-60	E	12.12.2023
13734-DJRD-AR-REF-70	B	12.12.2023			

1.5 LIMITATIONS AND EXCLUSIONS

The limitations of this report are as follows:

- + This report is based on a review of the referenced documents.
- + This report does not consider BCA Part G5 (Volume 1), specifically Clause G5D4 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.

The project team bush fire consultant will provide advice to the required extent for compliance with bush fire protection requirements.
- + 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.
- + This report does not constitute an assessment of BCA Clause B1D6 with respect to the construction of buildings in flood hazard areas. It is understood that a suitably qualified consultant will be engaged to provide advice 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 issues in relation to the following:
 - i. The design, maintenance or operation of any existing electrical, mechanical, hydraulic or fire protection services.
 - ii. Work Health and Safety Act and Regulations.
 - iii. Water, drainage, gas, telecommunications and electricity supply authority requirements.
- + No part of this document may be reproduced in any form or by any means without written permission from Blackett Maguire + Goldsmith Pty Ltd.
- + This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.



2.0 PROJECT OVERVIEW

2.1 DESCRIPTION OF DEVELOPMENT

The proposed development of the Cowra Hospital includes construction of a new two-storey facility on the corner of Liverpool and Brisbane Streets, Cowra with on grade carparking on both street frontages.

The purpose of the Cowra Hospital project is to provide a modern health facility for the regional community.

The CSP includes the following requirements:

- + Emergency Department
- + General inpatient ward
- + Sub-acute inpatient unit
- + Peri-operative suite
- + Maternity and birthing services
- + Ambulatory care
- + Renal dialysis
- + Chemotherapy
- + Oral Health
- + Integrated outpatient and community clinic rooms and treatment spaces

2.2 BCA COMPLIANCE METHODOLOGY

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 likely to be / has been lodged after 1 May 2023, this report assesses the design against compliance with the requirements of BCA 2022.

Under the current program, we understand the project will be subject to **BCA 2022** as elected to be adopted by the health Infrastructure.

2.3 ACCESS COMPLIANCE METHODOLOGY

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.

In addition to legislative requirements under the Access to Premises Standard and accessibility provisions under AS 1428.1 – 2009 and Volume 2 of the BCA, Appendix 2 contains additional advisory requirements provided to further increase equity and reduce the risk of a DDA complaint resultant of the works. The recent Sunshine Coast Hospital lawsuit has resulted in the requirement for a facility constructed to the minimum legislative requirements in terms of accessibility to be upgraded to comply with matters relating to the suite of AS 1428 standards in excess of AS 1428.1 – 2009 in order to provide equity for those with a disability. Further advice on these compliance matters will be provided during Detailed Design.

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 Dock
- + Clean and dirty utility rooms
- + Equipment stores



2.4 PERFORMANCE SOLUTIONS

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

This may relate to any matters of BCA compliance including fire and life safety (FER), amenity, accessibility and ESD.

The matters to be addressed in the FER are generally summarised below:-

BCA (DtS) Clause		Description
1.	C2D10	A performance solution is required to be prepared by a suitably qualified Fire to justify connecting joinery to an internal non-loadbearing fire wall at specific locations. Consequently, it is suggested that the internal joinery be installed in isolated areas.
2.	C2D14	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify the provision of external signage to the façade not strictly in accordance with BCA C2D14.
2.	C3D6	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify fire and smoke compartments in excess of that permitted for Ward and Treatment Areas.
3.	C4D4	A performance solution is required to be prepared by a suitably qualified Fire Engineer to rationalise the method of protecting exposure between adjacent fire compartments.
4.	Spec 5	A performance solution is required to be prepared by a suitably qualified Fire Engineer to rationalise the method of protecting the slab edge intersection with the external wall system.
5.	Spec 5	A performance solution is required to be prepared by a suitably qualified Fire Engineer for the following: <ul style="list-style-type: none"> + Penetration of steel members through fire rated lightweight walls. + Reduce FRL to structural steel below suspended floor slab.
7.	D2D5/D2D6	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify extended travel distances in patient care and non-patient care areas.
8.	D2D16	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify travel via horizontal exits leading to compartments with no vertical exit or exit to open space.
9.	D3D24	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify the following: <ul style="list-style-type: none"> + Sliding doors being located within patient care areas. + Required exit doors not swinging in the direction of egress.
10.	D3D25/Spec 12	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify doors swinging against the direction of egress in certain non-patient care low occupancy areas. To justify smoke leakage through dual swing doors.
11.	E1D4	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify matters relating to the provision of fire hose reel coverage.
12.	E1D4	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify the provision of fire extinguisher coverage in lieu of fire hose reel coverage to small rooms that are unable to be provided with coverage due to the compartment strategy.
13.	E1D5	A performance solution is required to be prepared by a suitably qualified Fire Engineer to justify Omission of sprinklers from electrical rooms & recessed in theatres.
14.	E2D3	A performance solution is required to be prepared by a suitably qualified Fire Engineer To limit the location of manual call points within mental health areas.
15.	E4D9	Omission of EWIS speakers from certain patient care rooms.
16.	Part F3	A Performance Solution is required to be obtained in relation to the departures from F3D5 with respect to wall cladding systems. A Façade Engineer is required to prepare the Performance Based Design Brief (PBDB) and Performance Solution Report.



2.5 REPORT TERMINOLOGY

BCA Completion Certificate – A non-statutory 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.

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 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 C1.1 and Specification C1.1, except as allowed for—

- (i) certain Class 2, 3 or 9c buildings in C1.5; and
- (ii) a Class 4 part of a building located on the top storey in C1.3(b); and
- (iii) open spectator stands and indoor sports stadiums in C1.7.

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.

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-

- (a) structural adequacy; and
- (b) integrity; and
- (c) 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.

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.

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.

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-

- (a) complying with the Deemed-to-Satisfy Provisions; or
- (b) formulating an Alternative Solution which-
 - (i) complies with the Performance Requirements; or
 - (ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
- (c) a combination of (a) and (b).

Professional Engineer means a person who is—

- + if legislation is applicable — a registered professional engineer in the relevant discipline who has appropriate experience and competence in the relevant field; or
- + if legislation is not applicable—
 - registered in the relevant discipline on the National Engineering Register (NER) of the Institution of Engineers Australia (which trades as 'Engineers Australia'); or
 - eligible to become registered on the Institution of Engineers Australia's NER and has appropriate experience and competence in the relevant field.

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

Rise in Storeys – The greatest number of storeys calculated in accordance with C1.2.

Sole Occupancy Unit – means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and can include a dwelling and/or office suite

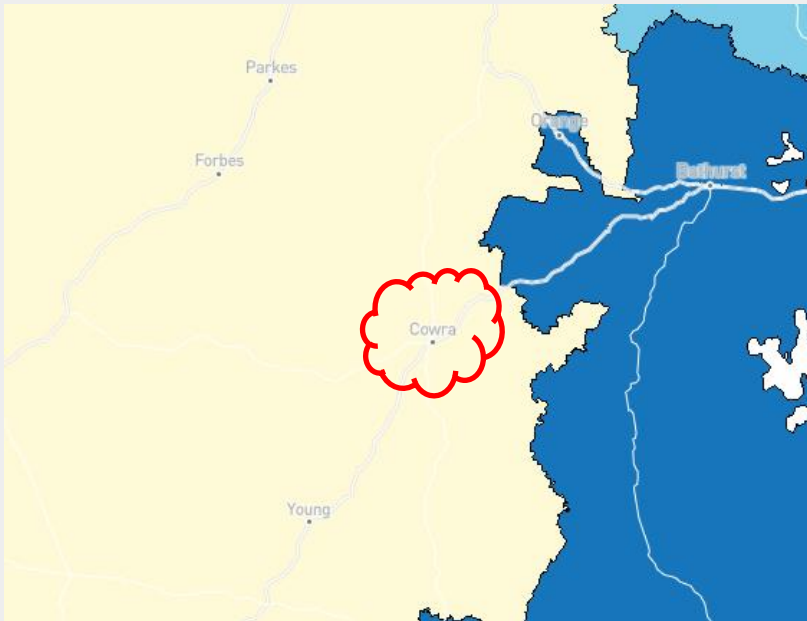
Treatment area - means an area within a patient care area such as an operating theatre and rooms used for recovery, minor procedures, resuscitation, intensive care and coronary care from which a patient may not be readily moved.

Ward Area - means that part of a patient care area for resident patients and may contain areas for accommodation, sleeping, associated living and nursing facilities.

3.0 BUILDING CHARACTERISTICS

Based on the documentation provided to date, the building is classified as follows:



+ BCA CLASSIFICATION:	Class 9a – Health Care Building
+ STOREYS CONTAINED:	Two (2)
+ IMPORTANCE LEVEL (STRUCTURAL):	IL 4
+ RISE IN STOREYS:	Two (2) <i>NOTE: RIS 2 has been calculated on the understanding the roof-top plant room will contain ONLY plant equipment, and will not contain any other uses including storage, UPS rooms or the like.</i>
+ TYPE OF CONSTRUCTION:	Type B Construction
+ EFFECTIVE HEIGHT:	Less than 12m
+ MAX. FIRE COMPARTMENT SIZE:	< 2000 m ²
+ FLOOR AREA:	Max 3,500m ² compartments for Class 9a Health Care buildings. <i>Note: 2,000m² compartments applies to all Patient Care Areas within the building.</i>
+ MAXIMUM VOLUME:	Max 21,000m ³ compartments for Class 9a Health Care buildings.
+ SPRINKLER PROTECTED THROUGHOUT:	Yes – The building is proposed to be protected throughout with an Automatic Fire Suppression System in accordance with AS 2118.1.
+ CLIMATE ZONE:	Zone 4 

FIRE COMPARTMENT FLOOR AREA LIMITATIONS

Maximum size of fire compartment is:

Classification		Type A	Type B	Type C
9a	Max. floor area	5,000m ²	3,500m ²	2,000m ²
	Max. volume	30,000m ³	21,000m ³	12,000m ³

- + Max 5,000m² compartments for Class 9a Health Care buildings (non patient care).
- + *Max: 2,000m² compartments applies to all Patient Care Areas within the building*
- + Max 30,000m³ compartments for Class 9a Health Care buildings.



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	Another building on the same allotment.	1.8m
East	Boundary	5.5m
West	Boundary	>6m
South	Boundary	>6m

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.

4.0 DETAILED PLAN BCA COMMENTS

We note the following BCA and Accessibility compliance matters with relation to proposed SD are capable of complying with the BCA.

Please note that this is not a full list of BCA / DDA clauses, they are the key requirements that relate to the proposed work and the below should be read in conjunction with the BCA and Access to Premises Standards.

4.1 SECTION B - STRUCTURE

B1

New building works are to comply with the structural provisions of the BCA 2019 / BCA2022 and referenced standards including AS 1170.

The Importance Level provisions of BCA (Section B) are to be acknowledged by the Structural Engineer & services engineers and addressed to the degree necessary.

Generally, and notwithstanding, the BCA encourages IL4 if the facility is the only hospital in the area.

We assume IL 4 will apply in relation to structural and services design requirements.

New building works to the existing building must be compliant with earthquake provisions of AS1170.4 – Earthquake Actions in Australia and DGN24.

Design Statement from a Professional Engineer to be provided confirming that the design achieves compliance with the following is required at the CC application, inclusive of reference to the following Australian Standards (where relevant):

AS 1170.0 – 2002 General Principles

AS 1170.1 – 2002, including certification for balustrading (dead and live loads)

AS 1170.2 – 2021, Wind loads

AS 1170.4 – 2007, Earthquake loads

AS 3700 – 2018, Masonry code

AS 3600 – 2018, Concrete code

AS 4100 – 2021, Steel Structures

AS 4600 – 2018, Cold formed steel.

AS 2047 – 2014, Windows in buildings

AS 1288 – 2021, Glass in buildings

4.2 SECTION C – FIRE RESISTANCE

C2D2

Type of Construction: As the building contains only one storey, Type B Construction applies to the building.

This is based on a Class 9a with rise in storey 2 (single storey)

The relevant FRLs as listed in Table(s) S5C21a-g of Specification 5 must be adhered to. Refer to **APPENDIX A**.

NOTE: RIS 2 has been calculated on the understanding the roof-top plant room will contain ONLY plant equipment, and will not contain any other uses including storage, UPS rooms or the like.

There is presently insufficient details on use and content of the roof top plant room



C2D10

Non-Combustible Building Elements: Documentation is required to be provided as relevant 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 provided for review. Any departures from non-combustibility or deemed non-combustible materials under this clause (C2D10(4-6)) will require approval.

Note that these works are subject to NSW HI DGN 32 and as such bonded laminate cladding is not permitted.

BUILDING ELEMENT	TYPE C 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 (if applicable – to be confirmed for DD stage)	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

C2D11

Early Fire Hazard Properties: The fire hazard properties of all new building materials and assemblies used in the development must comply with the requirements of C2D11 and all new floor materials, floor coverings, wall and ceiling lining materials must comply with Specification C2D11 – *Test reports of any floor or wall coverings required at Completion Certificate stage.*

C3D6

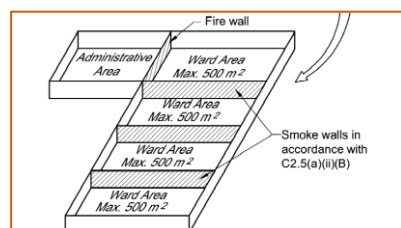
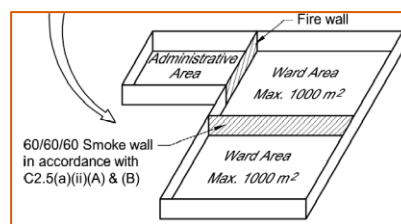
FIRE AND SMOKE COMPARTMENTS:

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.



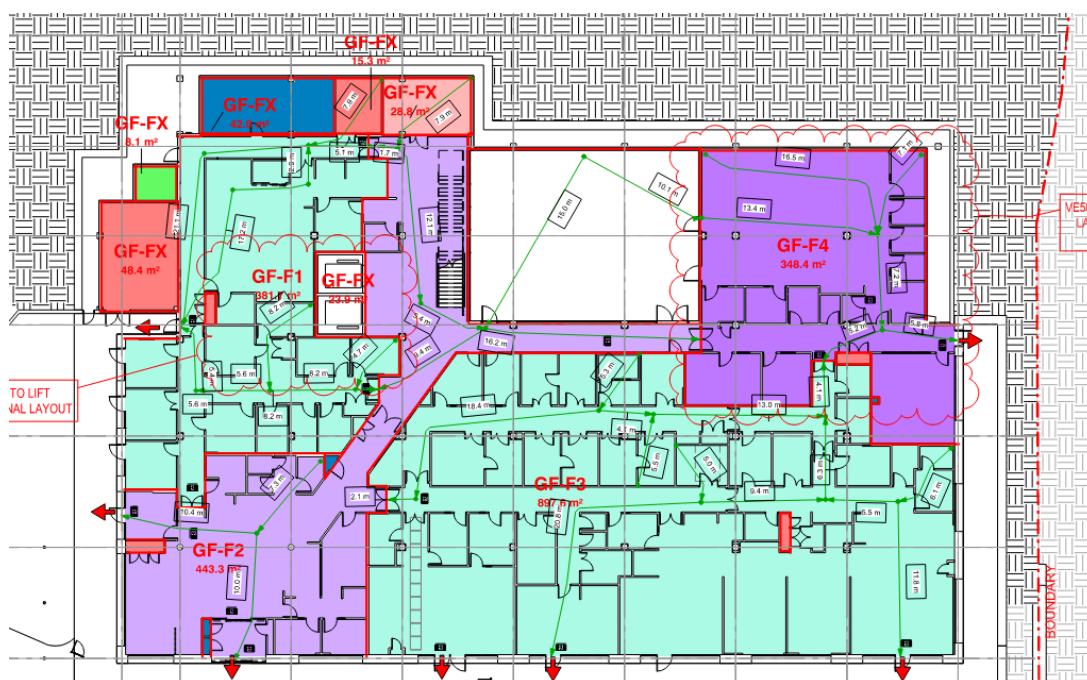
Fire walls are to comply with BCA C3D8. The building structure, including the steel roof structure, must be designed so as not to cross the fire walls.

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

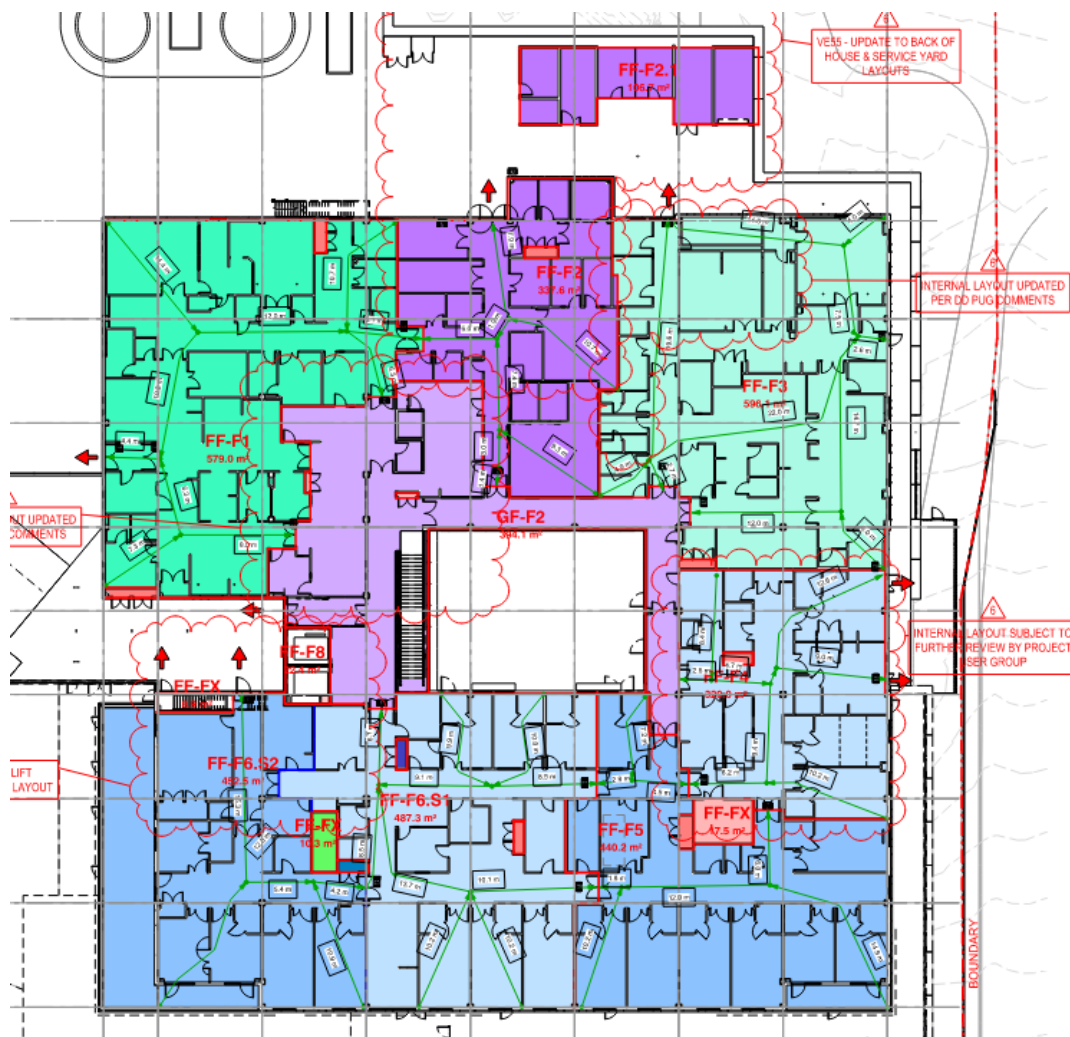
Compartmentation Strategy – Generally

The location of fire and smoke walls will need to consider two factors; separation of treatment areas, and the provision of horizontal exits (through the inclusion of 2-hour fire walls) to bring egress distances into compliance or towards the acceptable limits of fire engineering. Furthermore, consideration has been placed on future proofing the location of fire/smoke walls and the sizing of compartments.

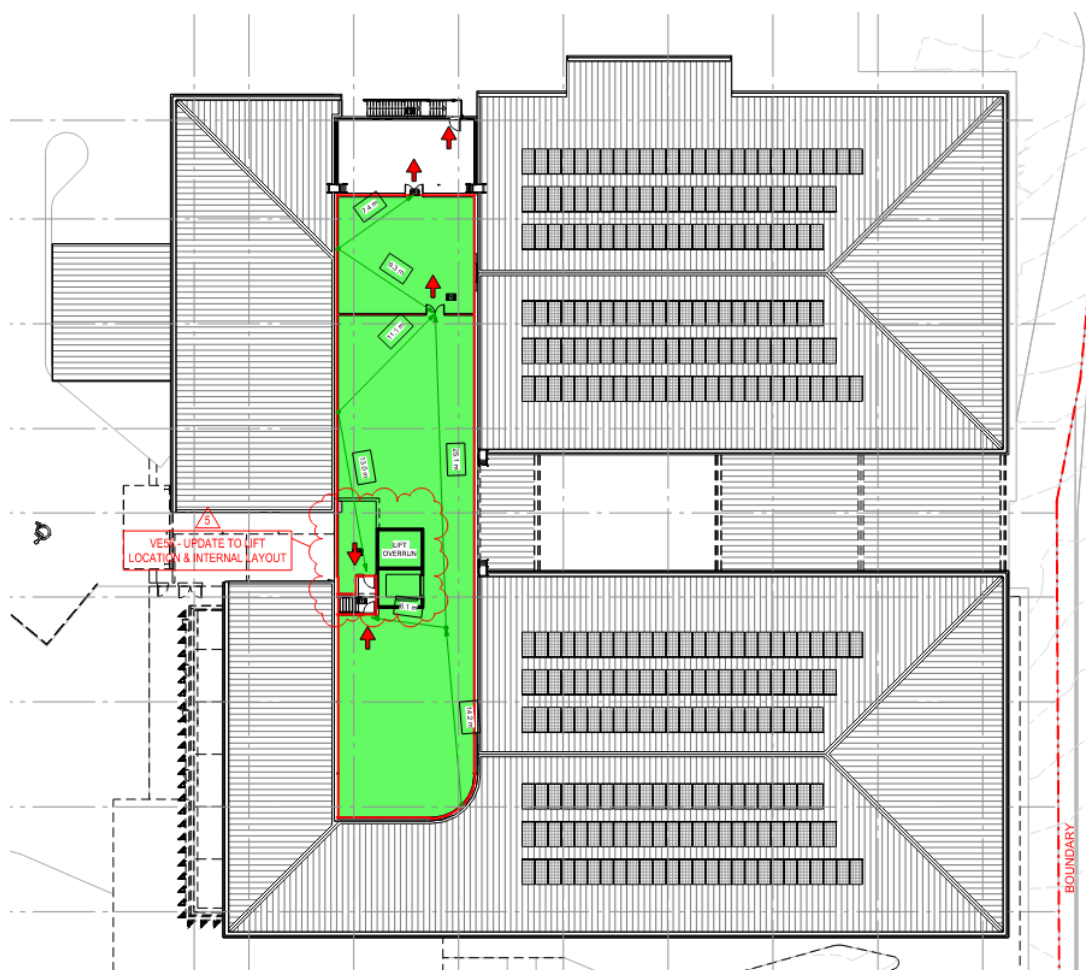
The proposed compartment strategy is below:



Ground Floor Compartment Plan



First Floor Compartment Plan



Plant Compartment Plan

- + 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).

C3D8

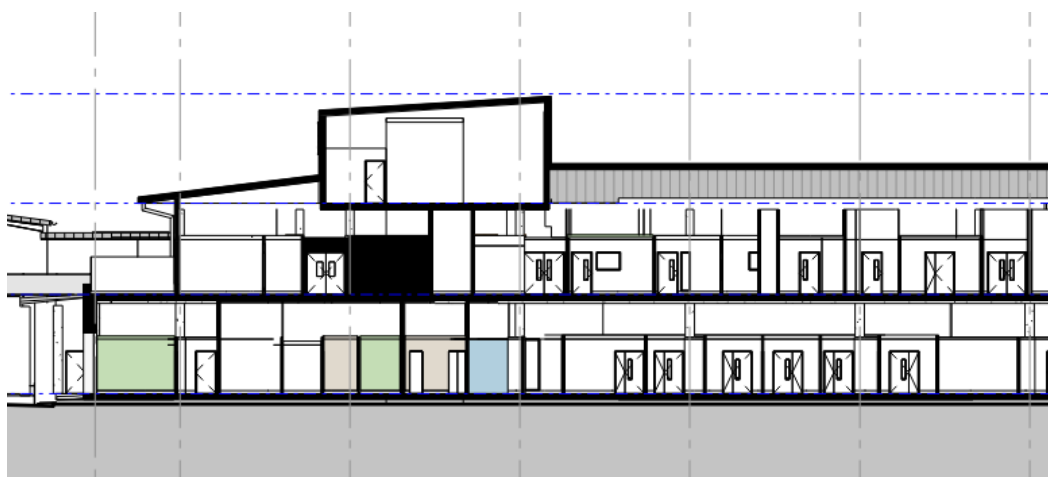
Separation by Fire Walls: Where fire walls are provided to separate buildings, the fire wall must:

- + Extend through all storeys and spaces in storeys that are common to that part and any adjoining part of the building,
- + Be carried through to the underside of the roof covering, and
- + Where the roof of one of the adjoining parts is lower than the roof over the other part, the fire wall must extend to the underside of-
 - (A) The covering of the higher roof, or not less than 6m above the covering of the lower roof; or
 - (B) The lower roof if it has an FRL not less than that of the fire wall and no openings closer than 3m to any wall above the lower roof; or
 - (C) The lower roof if its covering is non-combustible and the lower part has a sprinkler system complying with Specification E1D4.

The FER will address penetration of roof structure through the lightweight fire walls.



The roof top plant room is to maintain effective fire separation to L1 below, including roof void over L1.



Detailed design required for construction documentation stage, with the extent of effective fire separation likely to be addressed in the FER.

C3D13

Separation of Equipment as listed below must be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 (or that required by Spec 5, whichever is greater) and doorways being self-closing -/120/30 fire doors:

- + Lift 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; or
- + A battery or batteries installed in the building that have a voltage exceeding 12 volts and a capacity exceeding 200kWh.

Separation of on-site fire pumps must comply with the requirements of AS 2419.1

C3D14

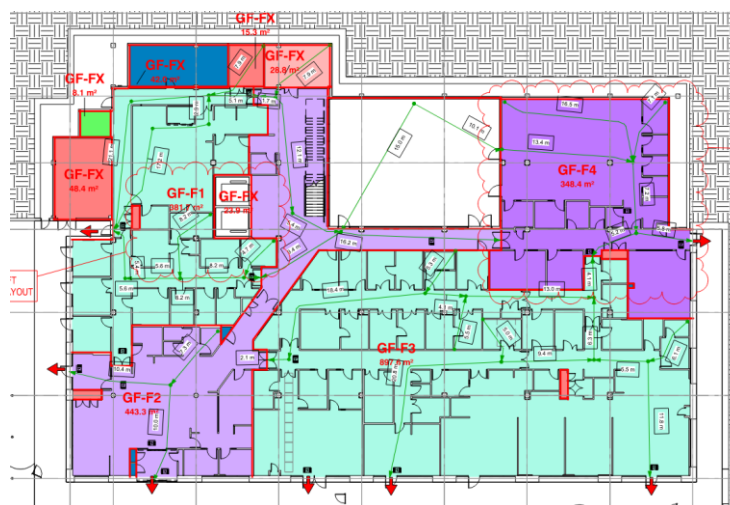
An electrical substation located within a building or a main switch room which sustains emergency equipment, must:

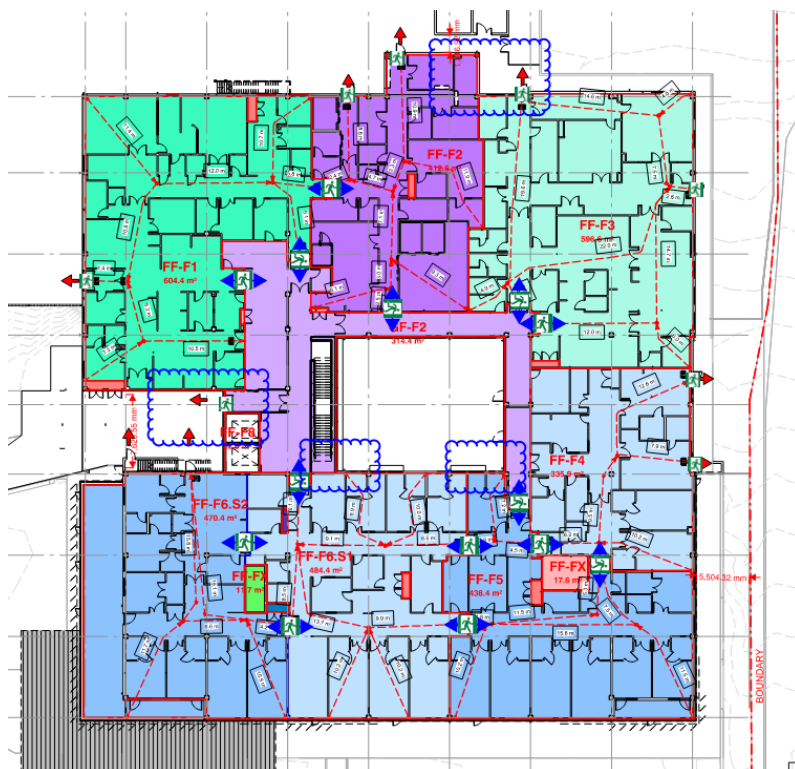
- + Be separated from the building by construction achieving an FRL of 120/120/120; and
- + Have any doorway protected with a self-closing fire door achieving an FRL of -/120/30.

Electrical conductors within a building must be protected in accordance with sub-clause (3)

C4D4

Separation of External Walls and Associated Openings in Different Fire Compartments: Exposure will occur between adjacent fire compartments in the design – see clouded parts below.





The FER will address each of these instances on basis FRL protection will be afforded to external wall and opening in one direction only.

C4D15

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 12

Fire Doors, Smoke Doors, Fire Windows and Shutters: This specification sets out requirements for the construction of fire doors, smoke doors, fire windows and fire shutters.

A fire engineered solution will be required 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.

To justify reasonable smoke leakage through pivot smoke doors. This solution should consider the fact that pivot doors cannot stop 100% smoke leakage.

Presently a number of fire/smoke doors swing against direction of egress. This is to be captured in the FER.

Spec 5

Type of Construction: Type B Construction applies to the building. The relevant FRLs as listed in Table 4 of Specification 5 must be adhered to. Refer to APPENDIX A.

Where building elements are exposed to adjacent separate buildings, they must achieve the FRL specified in Table 4 of Specification 5 for the respective distance. Locations where these FRLs cannot be accommodated must be identified for potential consideration under a fire engineered performance solution.

A fire engineered solution will be required to rationalise the slab edge fire-rating protection of the external wall system, noting it is often impractical to achieve effective fire separation at the slab edges from a buildability perspective – details to be confirmed for further assessment.

FER to address steel member penetrations through lightweight FRL walls.

FER to address relaxed FRLs to sub floor structural steel.

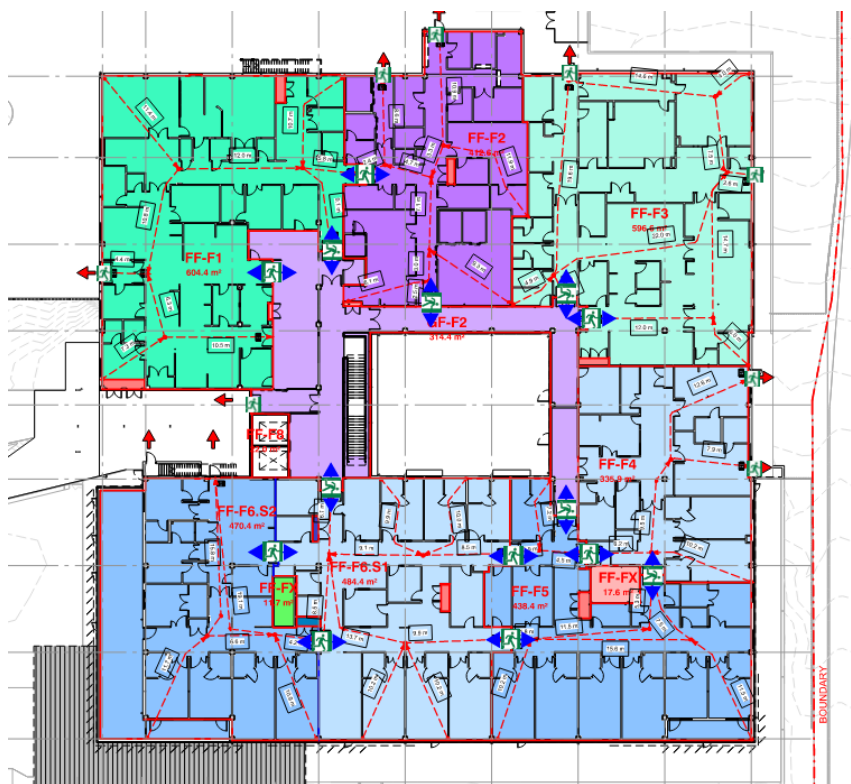
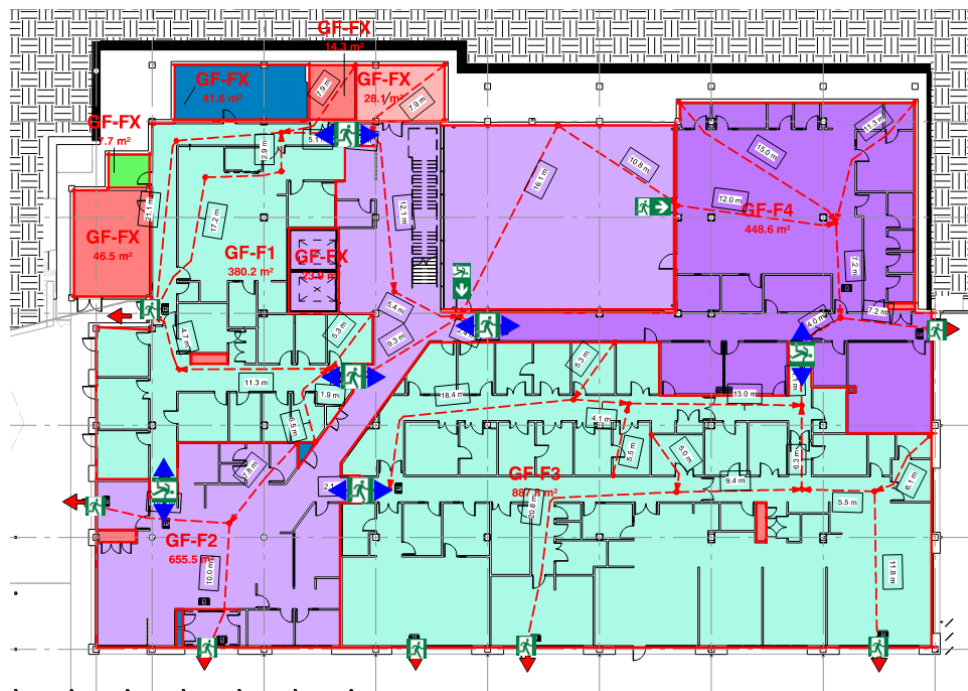


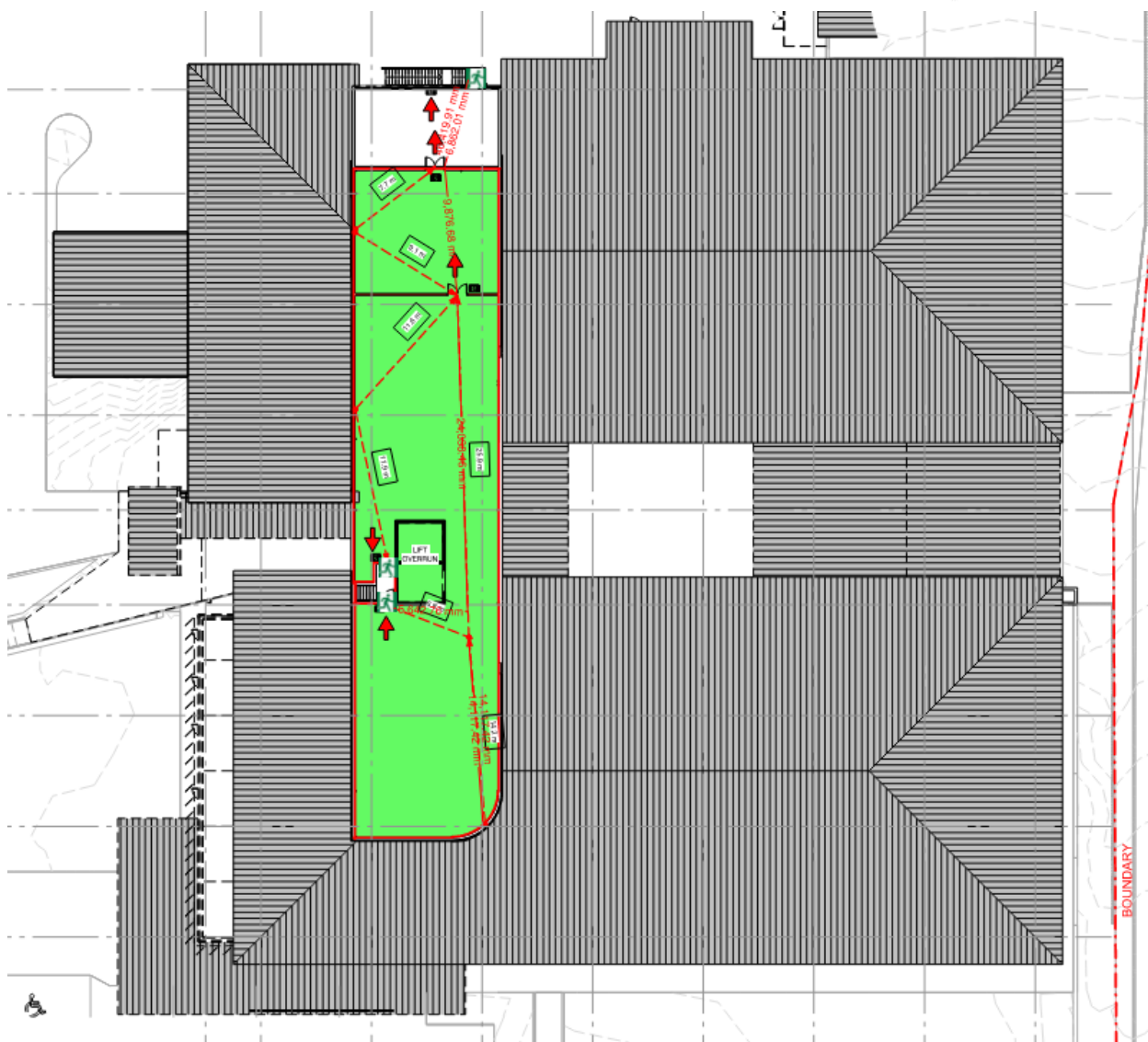
4.3 PARTS D1 & D2 – PROVISION FOR ESCAPE AND CONSTRUCTION OF EXITS

D2D3

Number of Exits Required: The storey is provided with two or more exits. This will be achieved with combination of exits on grade and horizontal exits.

Nominated exits is as per below: -





D2D5 / D2D6

Travel Distances: Egress from the building will rely on a combination of exit doors (on grade) 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.
- + Travel distances between alternative exits are permitted to extend to 60m between alternative exits in non-patient care areas. Travel distances in patient care areas are permitted to extend to 45m between alternative exits.

Travel distances are generally compliant, with the exception of below minor exceeded distances to point of choice – these scenarios are to be addressed in the FER: -



D2D4 /
D2D12
/
D2D14
/
D2D17

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). In a required exit or path of travel to an exit there is concession for the unobstructed width of a doorway to be reduced to 850mm min in lieu of 1m, and the unobstructed height for an exit doorway can be reduced to 1,980mm min.

The unobstructed **width of doorways** in patient care areas where patients are normally transported in beds is dependent on the width of the corridor in which the doorway provides access to or from. If the corridor is less than 2.2m, the doorway must achieve >1200mm. If 2.2m wide or greater, the doorway must achieve >1070mm. Doorways forming horizontal exits must achieve no less than 1250mm.

Corridors in a Class 9a health-care facility corridors must achieve **minimum** 1.8m in corridors normally used for the transportation of patients in beds. If this is not achieved it is to be captured in the updated FER or design modified.

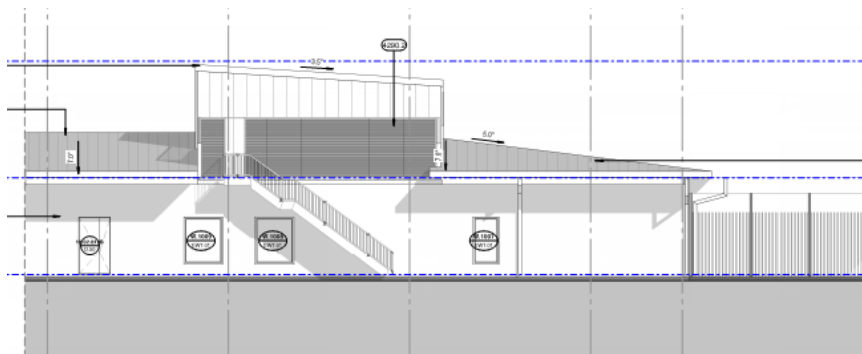
All fire doors nominated as horizontal exits must achieve a clear open width not less than 1250mm

Discharge from Exits: If an exit discharges to open space that is at a different level than the public road in which it is connected to, the path of travel to the road must be via a ramp having a gradient not steeper than 1:8, or not steeper than 1:14 if required to be accessible. The discharge point of exits must be located as far away from one another as reasonably practical

Discharge from any exit door cannot pass back under the building.

D2D13

External Egress Stairway: The northern and southern end external stairways serving the roof top plant room is located on the northern façade & western recessed walls of the building. It is understood there is no fire separation proposed between the building and the stairway, hence this design is to be addressed in the FER.



D2D15

Discharge from Exits: If an exit discharges to open space that is at a different level than the public road in which it is connected to, the path of travel to the road must be via a ramp having a gradient not steeper than 1:8, or not steeper than 1:14 if required to be accessible. The discharge point of exits must be located as far away from one another as reasonably practical.

D2D16

Horizontal Exits: based on the revised design and changes to compliant walls, the provision of HEs is compliant on basis all fire doors used as HEs 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.

D2D21 Plant Rooms, Lift Machine Rooms and Electricity Network Substations - Concession: A ladder may be used in lieu of a stairway to provide egress from a plant room of not more than 100m² or all but one point of egress from a plant room of not more than 200m². A ladder used for this purpose must comply with AS 1657.

D3D8 Installations in Exits and Paths of Travel: Any new or altered electricity and communications cupboards located within a nominated egress paths within the proposed building will be required to be suitably smoke sealed and enclosed in non-combustible construction in accordance with D3D8(4).

**D3D14/
D3D15
/
D3D17
D3D21
/
D3D22** Stairways:

- + 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	P2 or R9
<i>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.</i>	



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 must not permit a 125mm sphere to pass through any opening.
Balustrades used in the external stairway is required to have balusters at maximum 125mm spacing.
- + 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.

Handrails:

- + Handrails must be located on both sides of all stairways and ramps except for fire-isolated stairs.
- + Handrails must be provided on at least one side of all corridors or passageways normally used by patients. Handrails must be continuous in length where practical

D3D24
/
D3D25
/
D3D26

Doors and latching: All egress doorways must swing in the direction of egress and 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.

We understand a fire engineered performance solution will be proposed to justify certain fire/smoke doors not swinging in the direction of egress due to operational requirements. In these instances, doors shall swing in the primary direction of egress.

D3D25
/ Spec
12

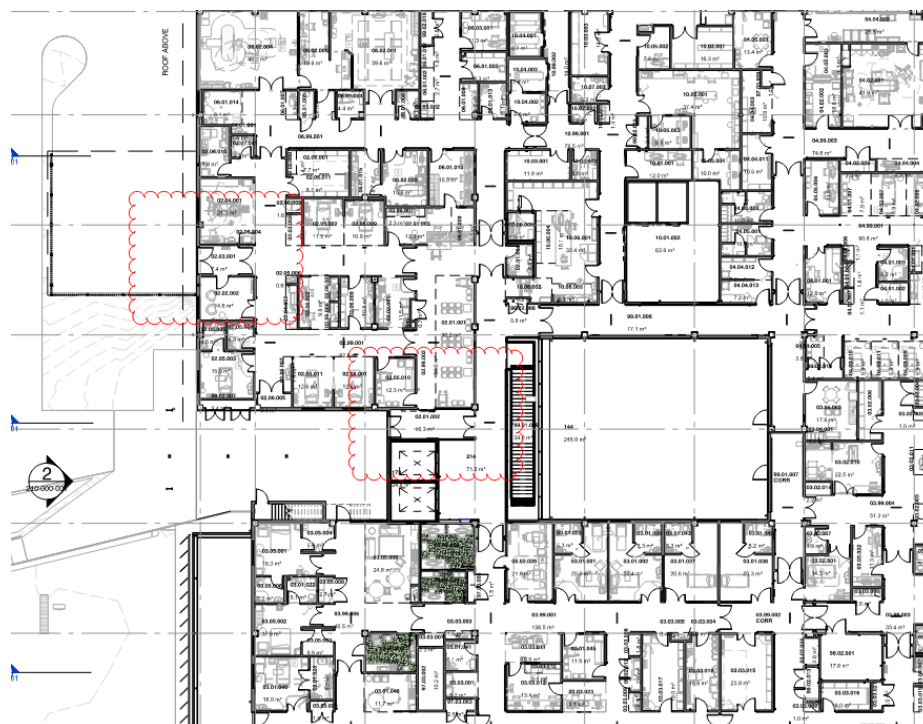
Swinging Doors: Fire doors (serving as horizontal exits) and smoke doors are required to swing in the direction of egress. There will be situations where egress will be required from both directions. We recommend that fire and smoke doors are provided as dual swing pivot doors as an alternative to addressing 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.



D3D28

Signs on Doors

All **self-closing** fire and/or smoke doors located within fire and smoke walls throughout the building together with the fire doors providing access to the external stairways are to be provided with signage that states:

**FIRE SAFETY DOOR
DO NOT OBSTRUCT
DO NOT KEEP OPEN**

All **automatic closing** fire and/or smoke doors located within fire and smoke walls throughout the building together with automatic closing fire doors leading to the external stairways are to be provided with signage that states:

**FIRE SAFETY DOOR
DO NOT OBSTRUCT**

The doors discharging from the fire isolated stairways are to be provided with signage as follows (on both sides of the doorways):

**FIRE SAFETY DOOR
DO NOT OBSTRUCT**

The doors discharging to the external stairways provided in lieu of fire isolated stairways are to be provided with the following additional signage installed on the wall on the latch side of the door.

OFFENCES RELATING TO FIRE EXITS

It is an offence under the Environmental Planning and Assessment Act 1979

- (a) to place anything in or near this fire exit that may obstruct persons moving to and from the exit; or
- (b) to interfere with or obstruct the operation of any fire doors; or
- (c) to remove, damage or otherwise interfere with this notice.

The DtS Provisions requires Braille signage for egress systems from the building. In this instance the following is required to be provided: -

- + Identify each door required by **E4D5** (door to be provided with exit signs) to be provided with an exit sign and state –
 - a. **“Exit”**; and



- b. **“Level”** followed by the floor number

Signs identifying a door required by E4D5 to be provided with an exit sign must be located:

- i. On the side that faces a person seeking egress; and
- ii. On the wall on the latch side of the door with the leading edge of the sign located between 50mm and 300mm from the architrave; and
- iii. Where (ii) is not possible, the sign may be placed on the door itself.

The provision of Braille and tactile exit signage with the message, *for example*. **“Exit - Level 1”** assists people with vision impairment to orientate themselves in case of an emergency situation and to find an exit and evacuate the area in a safe and equitable manner.

Signage Specification: -

The signage is to be: -

- + Located between 1200-1600mm above FFL
- + Signs with single lines of characters are to have the line of the tactile characters between 1250mm-1350mm above FFL
- + Signage tactile characters must be raised or embossed to a height between 1mm-1.5mm
- + Upper case letter to be between 20mm-55mm

Signage is to be contrasting & is to comply with BCA Specification 15.

Signage Locations:

The Braille & tactile egress signage is to be located adjacent or on (see above) each door that: -

- + Provides direct egress into a fire isolated stairway
- + Provides direct discharge from the storey into a passageway or lobby (airlock) associated with the fire isolated stairway
- + Provide direct discharge from a fire isolated stairway to open space (discharge door)
- + Horizontal exit doors providing egress into an adjoining fire compartment

The below signage is an example of what will be required: -





4.4 ACCESSIBILITY

Part D4

Access for People with a Disability: All access is required to comply with AS 1428.1-2009. Access must be provided to all areas normally used by the occupants. This applies to staff and patients alike.

Certain areas may be exempted from compliance with the accessibility requirements under this part. This applies to areas 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 persons with a disability, or
- + Any path of travel providing access only to an area exempted by the above.

An accessway must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances. However, noting we recommend all pedestrian entrances function as accessible entrances.

With such health precincts, it is often impractical to achieve access for people with disabilities from the allotment (street) boundary.

In such instances it is often feasible to justify relaxing accessibility from the allotment boundary, noting this would be addressed in a performance-based solution.

A performance solution will be prepared to justify no accessibility from the street boundary due to levels.

Any exemption or performance solution will need to be validated by a letter from the LHD as the design develops.

The following specific comments are also noted:

- + Gradients of external areas will need to be reviewed to ensure accessways meet the requirements of AS 1428.1 – 2009.

D4D3

Access to Buildings: An accessway must be provided to a building required to be accessible from:

- + The main points of a pedestrian entry at the allotment boundary.
- + Another accessible building connected by a pedestrian link.
- + Any required accessible car parking space on the allotment.

An accessway must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances.

General Note

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

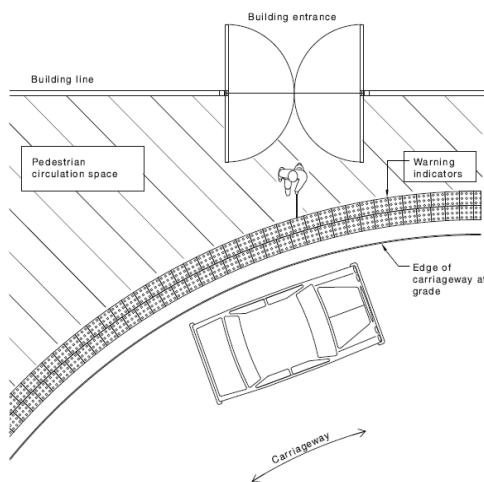


Figure 25(A)

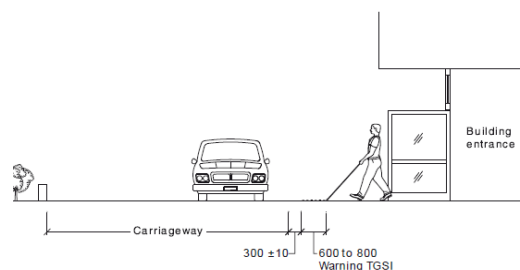


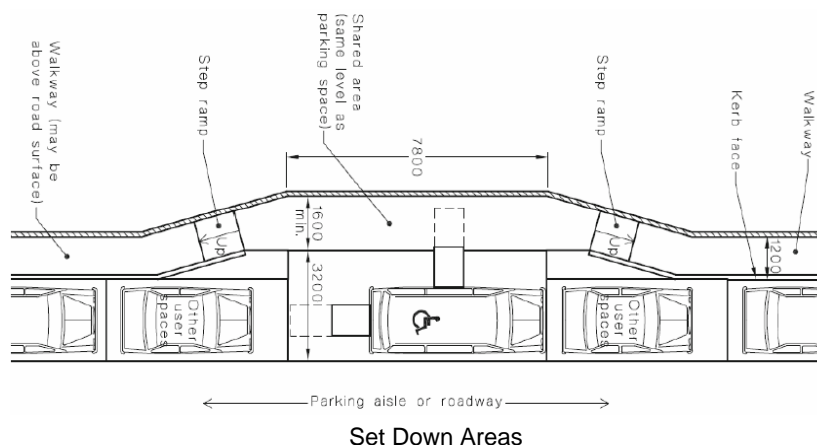
Figure 25(A)



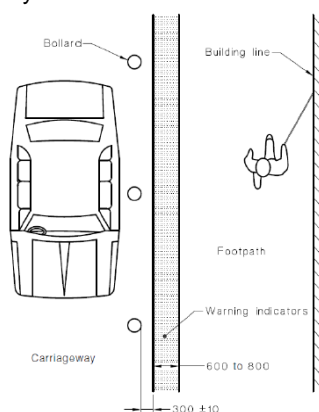
AS1428.4.1 Cl.2.5 - Set Down Areas:

For public drop off / setdown areas within the level 2 undercroft, 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.



If the level 2 undercroft 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 tactile / bollards

D4D4 & D4D5

Parts of Buildings to be Accessible:

Every ramp and stairway (except for ramps or stairways exempt from compliance under D4D5) must comply with:

- + For a ramp, Clause 10 of AS 1428.1 – 2009.
- + For a stairway, Clause 11 of AS 1428.1 – 2009.
- + For a fire-isolated stairway, Clause 11.1(f) and (g) of AS 1428.1 – 2009.

Exemptions: Areas (including paths of travel to and from) where access for the disabled would be inappropriate or otherwise posing a risk to health and safety are exempt from complying as accessible. This will be further developed during detailed design, however noting accessibility requirements differ depending on the hospitals operational requirements. For Cowra, we suggest the following locations may be worthy of concession:-

- Storerooms
- Coolroom



- Plant spaces including main switchroom, DAS, UPS, Comms etc.
- Kitchen
- Utility rooms
- Staff stations in clinical areas

The LHD needs to be on board with suggested or proposed concessions, as this is governed by operational demand, not BCA requirement.

Additional points to note:-

1. Public facing reception counters – suggest 850mm high with knee clearance on public side and preferably on the staff side
2. If drop-off bays or waiting bays are provided then an accessible drop-off/waiting bay must be designated and provided
3. TGSIs between building entry and carpark if on same grade
4. If an area can readily be made accessible it should be an accessible area, not exempt
5. Performance solution: to provide an alternative space to the small quiet rooms in the workstation area
6. Ensure changerooms (for patients or staff) are accessible or there is an accessible option

If EOT facilities are provided there must be an equal accessible facility – WC, shower and lockers

General Note

AS1428.1 Cl. 6.3 - Widths of paths

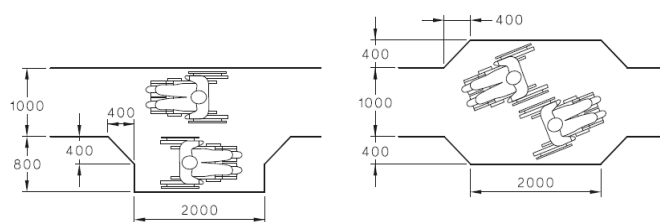
Unless otherwise specified (such as at doors, curved ramps and similar), the minimum unobstructed width of a continuous accessible path of travel shall be 1000 mm and the following shall not intrude into the minimum unobstructed width of a continuous accessible path of travel:

- + 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.

We note that the Class 9a provisions under the BCA generally require paths of travel and doorways to be wider than the requirements of AS1428.1.

AS1428.1 Cl. 6.4 - Passing Space

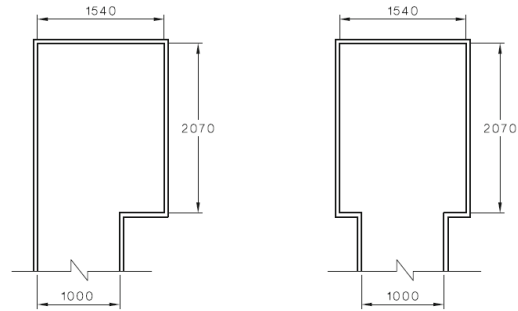
Accessways must have passing spaces complying with AS 1428.1 at maximum 20m intervals on those parts of an accessway where a direct line of sight is not available.



DIMENSIONS IN MILLIMETRES

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 corridor

AS1428.1 Cl. 7 - Floor Transition/s

Tolerances for Abutment of Surfaces:

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:

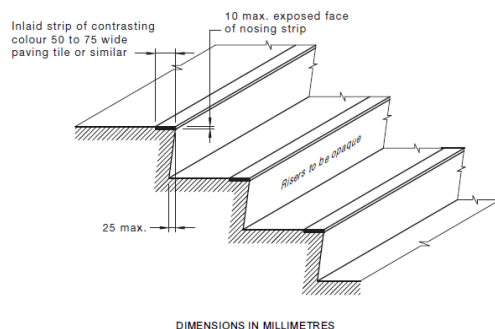
Grates shall comply with the following:

- + 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.

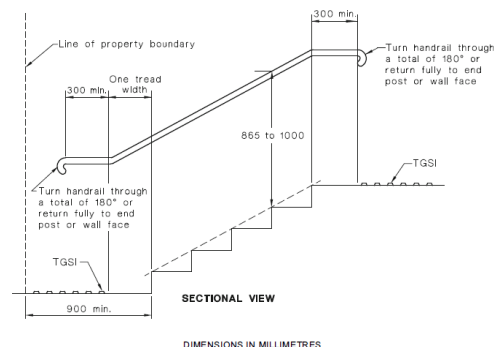
NOTE: Where slotted openings are less than 8 mm, the length of the slots may continue across the width of paths of travel.

AS1428.1 Cl. 11.1 - Stairway Construction (modified / new fire isolated stairways)

- + Where the intersection is at an internal corridor, the stair shall be set back so that handrails or TGS in to the path of travel.
- + 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 up to a maximum 25 mm.
- + Stair nosing profiles shall—
 - (i) have a sharp intersection;
 - (ii) be rounded up to 5 mm radius; or
 - (iii) be chamfered up to 5 mm x 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 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 on 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 it shall not extend down the riser more than 10 mm.
- + TGSIs shall be installed in accordance with AS 1428.4.1.



Example of Compliant Nosing Strip Detail

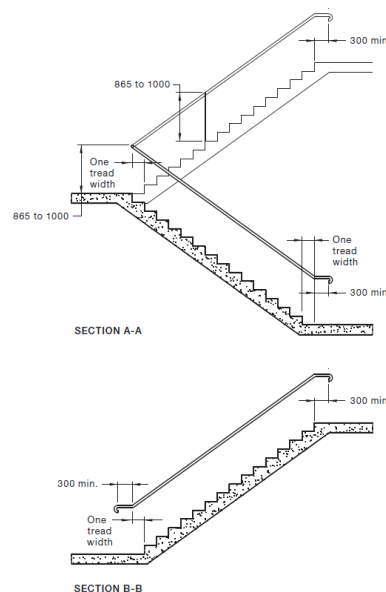
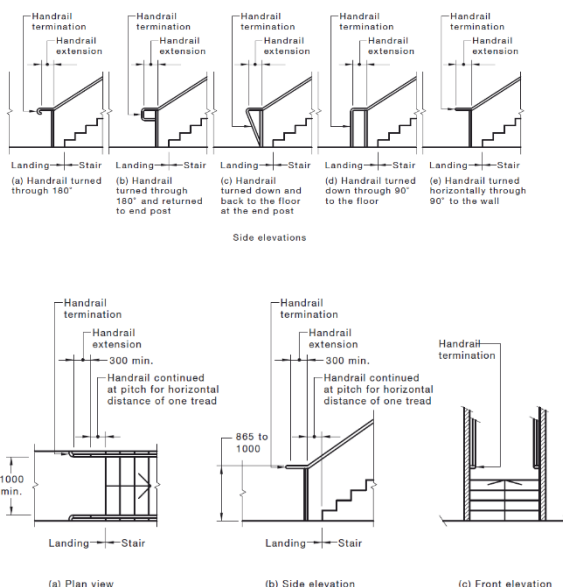


Example of Compliant Stairway Design

AS1428.1 Cl. 11.2 - Stairway Handrails (modified / new fire isolated stairways)

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.
- + Where a handrail terminates at the bottom of a flight of stairs, the handrail shall extend at least one tread deep 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.



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 2 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.
- + Handrails shall be securely fixed and rigid, and their ends shall be turned through a total of 180°, or to the ground returned fully to 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—

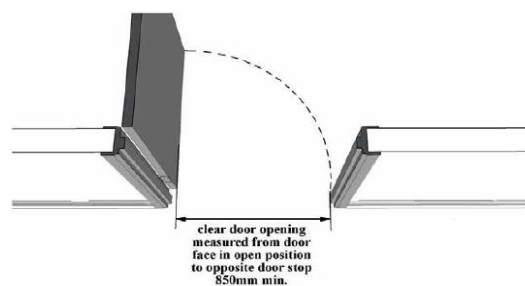
- + door leaf and door jamb;
- + door leaf and adjacent wall;
- + architrave and wall;
- + door leaf and architrave; or
- + door jamb and adjacent wall.

The minimum width of the area of luminance contrast shall be 50 mm.

AS1428.1 Cl. 13.2 / 13.3 - Doorways

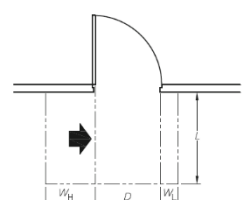
The minimum width of an accessible doorway must have a *clear opening* width of not less than 850mm in accordance with AS1428.1. Where double doors are provided, at least one leaf must have a clear unobstructed width of 850mm.

We note that the Class 9a provisions under the BCA generally require paths of travel and doorways to be wider than requirements of AS1428.1.



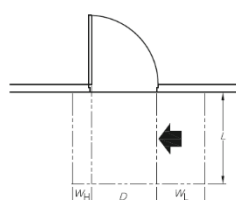
Clear Unobstructed Width of Doorway

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. See below required doorway circulation space for swinging and sliding doors.



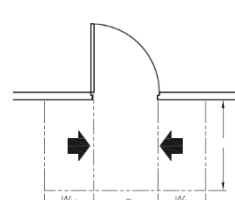
Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1220	560	340
900	1185	510	340
950	1160	460	340
1000	1140	410	340

(a) Hinge-side approach, door opens away from user



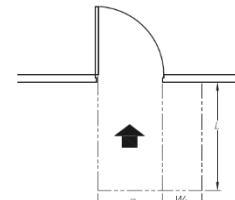
Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1240	240	660
900	1210	190	660
950	1175	140	660
1000	1155	90	660

(b) Latch-side approach, door opens away from user



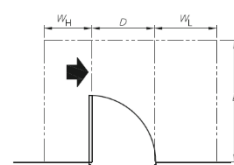
Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1240	560	660
900	1210	510	660
950	1175	460	660
1000	1155	410	660

(c) Either side approach, door opens away from user



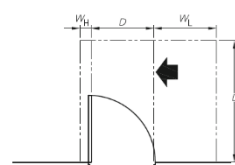
Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1450	0	510
900	1450	0	510
950	1450	0	510
1000	1450	0	510

(d) Front approach, door opens away from user



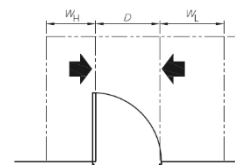
Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1670	660	900
900	1670	610	900
950	1670	560	900
1000	1670	510	900

(e) Hinge-side approach, door opens towards user



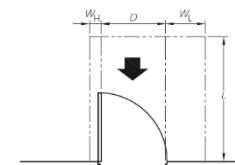
Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1670	110	900
900	1670	110	900
950	1670	110	900
1000	1670	110	900

(f) Latch-side approach, door opens towards user



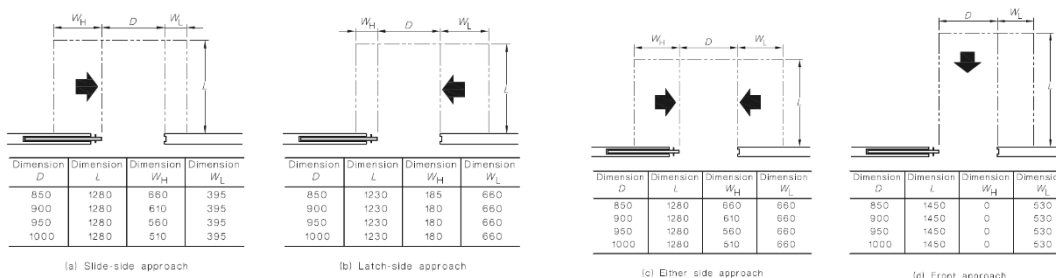
Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1670	660	900
900	1670	610	900
950	1670	560	900
1000	1670	510	900

(g) Either side approach, door opens towards user



Dimension D	Dimension L	Dimension W _H	Dimension W _L
850	1450	110	530
900	1450	110	530
950	1450	110	530
1000	1450	110	530

(h) Front approach, door opens towards user



D4D6

Accessible Parking: Accessible car parking spaces must comply with the requirements of AS 2890.6 – 2009. The provision of spaces is to be in accordance with the following table:

Class of building to which the carpark or car parking area is associated:		Number of accessible car parking spaces required:
Class 9a	Hospital (non-outpatient area) –	1 space for every 100 car parking spaces or part thereof.
	Hospital (outpatient area) –	
	(a) Up to 1000 car parking spaces and	1 space for every 50 car parking spaces or part thereof.
	(b) For each additional 100 car parking spaces or part thereof in excess of 1000 car parking spaces	1 space.

D4D7

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:

General Note

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 15.

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 –



Exit Level 1

EXIT LEVEL 1

Exit
Level 2

EXIT LEVEL 2

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.



D4D8

Hearing Augmentation: A hearing augmentation system must be provided where an inbuilt amplification system, other than one used only for emergency warning is installed in a meeting room, or a reception area where the public is screened from the service provider.

General Note

The below symbol shall be provided on a sign in ultramarine blue in accordance with clause 5.1 of AS 1428.5-2010



D4D9

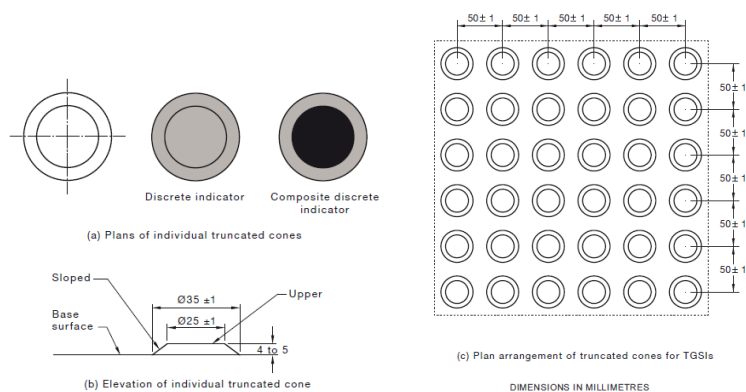
Tactile Indicators: Tactile Ground Surface Indicators (TGSIs) must be provided to:

- + 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-
 - a) An overhead obstruction <2m above floor level; and
 - b) 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.

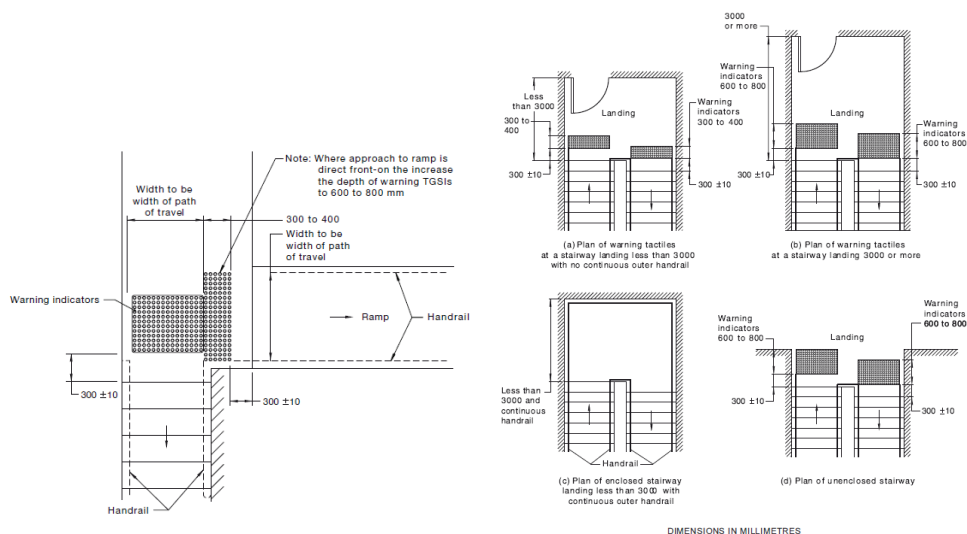
Tactile indicators are required to be designed in accordance with AS 1428.4.1-2009.

General Note

AS1428.4.1 Cl.2.2.3 – Placement



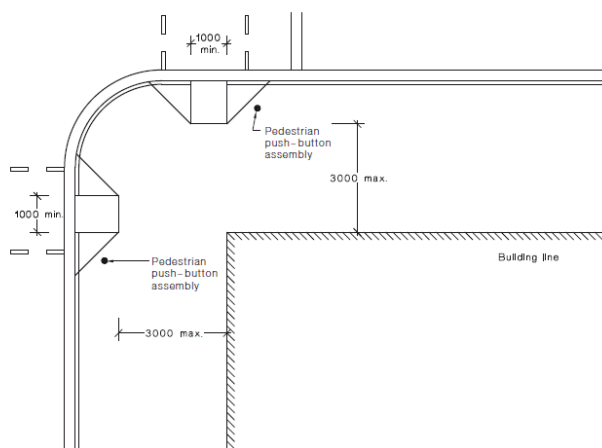
AS1428.4.1 Cl.2.4 – Stairways



AS1428.4.1 C3 - Kerb Ramps

TGSI's are not 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



Note: When the kerb ramp is the only crossing entry point, and the top of the ramp is within 3000 of the building line, and the kerb ramp is aligned with the building line and in the direction of travel across the carriageway, and the gradient of the kerb ramp is between 1 in 8 and 1 in 8.5, TGSIs are not required on the face of kerb ramp.

DIMENSIONS IN MILLIMETRES



Tactiles are required when a kerb ramp where the gradient is shallower than 1 in 8.5.

D4D12

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

General Note

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.

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

AS1428.1 Cl. 10.3 - Ramps

Ramps to comply with the following:

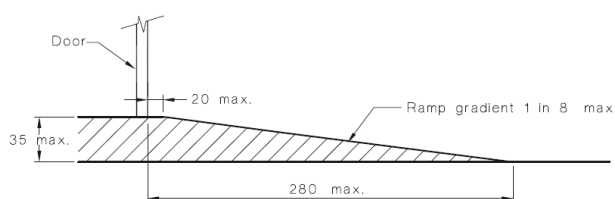
- + Maximum gradient of a ramp exceeding 1900mm shall be 1 in 14.
- + The gradient of a ramp shall be constant throughout its length.
- + Ramps shall be provided with landings:
 - (a) For ramp gradients of 1 in 14, at intervals not greater than 9m.
 - (b) For ramp gradients steeper than 1 in 20, at intervals not greater than 15m.
 - (c) 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 in to paths of travel.

Ramps and intermediate landings shall have kerbs or kerb rails on either side.

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.



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.

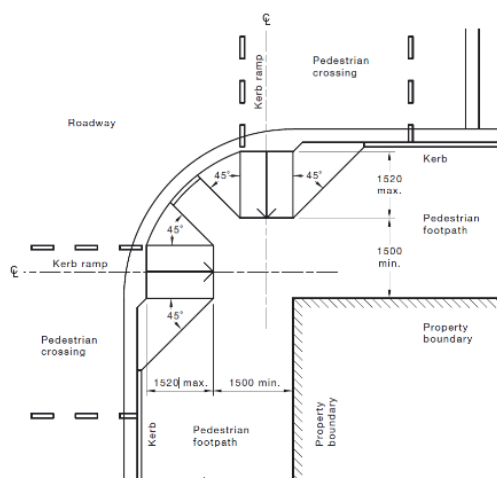
Otherwise, it shall be protected by a suitable barrier, such as—

- + 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.

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



Refer to Clause 10.7 of AS 1428.1 - 2009 for the full requirements for Kerb Ramps.

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:

- + 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)**.

Step ramps

- + 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)**.

Kerb ramps

The length of landings at kerb ramps shall be not less than 1200 mm in the direction of travel.

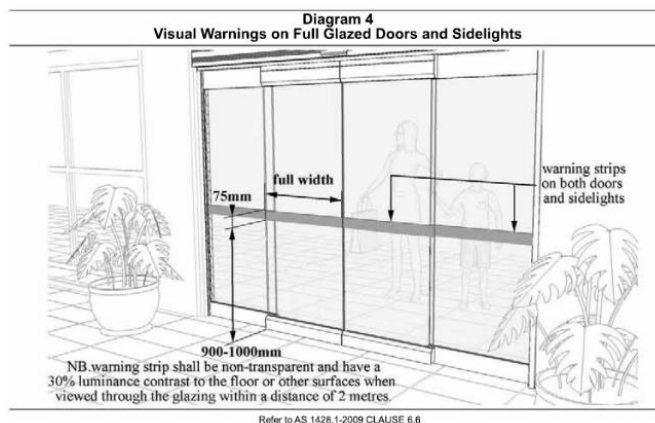
Where a 'T' junction occurs, the kerb ramp landing shall be a minimum of 1500 × 2000 mm, as shown in **Figure 24(B)**.

Where a single change in direction is required, the ramp landings shall be a minimum of 1500 mm × 1500 mm.

**D4D13**

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. 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.





4.5 SECTION E – SERVICES AND EQUIPMENT

E1D2	<p><u>Fire Hydrants:</u> Fire hydrant coverage is required to be provided to the building in accordance with AS 2419.1 – 2021.</p> <p>Having regard to the DTS requirements, the Booster is required to be located:-</p> <ul style="list-style-type: none">• at the front boundary of the site and in line of sight to main entry• adjacent to the principal vehicular entrance to the site• not less than 10m from any gas or electrical equipment• ensure tanks and booster assembly setback from all buildings served as required <p>Other considerations:-</p> <ul style="list-style-type: none">• positioned for best functionality on site, noting we can assess under a performance based report• consideration to future proofing of the site, i.e. additional buildings to be erected that will be served from same booster assembly• tanks to be positioned to facilitate brigade access and hard suction hose connections - including not impeded by parking spaces etc. Temporary strategies will be in place between the stage 1 and 2 works to ensure functional brigade access.• booster assembly to be positioned within the site must enable brigade appliance setup without impeding other emergency vehicle movements. Consider implication of shared roadway obstructions if appliances are connected by hard suction hoses.• brigade appliance will only manoeuvre forward direction, cannot allow for reverse or multiple-point turns within the site. <p>The location of the proposed booster was tabled to FRNSW for its concurrence, noting it is within the site. From all accounts, the location is considered feasible and had adequate brigade access, however final concurrence from FRNSW is required when the FER is lodged.</p> <p>The booster location is to be referenced in the FER.</p>
E1D3	<p><u>Fire Hose Reels:</u> Fire hose reel coverage is required to be provided to the building in accordance with AS2441-2005.</p>
E1D4	<p><u>Automatic Sprinkler System:</u> Will be installed throughout the new building. Omission of any sprinklers from electrical enclosures will need to be addressed in the FER.</p>
E1D14	<p><u>Fire Extinguishers:</u> To be provided and designed in accordance with AS 2444-2001.</p>
E2D3 / E2D11/ NSW E2D16	<p><u>Smoke Hazard Management:</u> The following provisions are required:</p> <ul style="list-style-type: none">+ An AS 2118.1 – 2017 Sprinkler System is to be installed throughout.+ An AS 1670.1 – 2018 Fire Detection and Alarm System is to be installed throughout the CSB.+ Any ducted mechanical air handling systems, or non-ducted systems exceeding a capacity of 1000L/s, must shut down on activation of smoke detection.
E4D2-E4D8	<p><u>Emergency lighting and exits signs:</u> Emergency lighting and exit signage to be installed in accordance with AS 2293.1-2018.</p>
E4D9	<p><u>Sound Systems and Intercom Systems for Emergency Purposes:</u> An AS 1670.4-2018 Sound System and Intercom System for Emergency Purposes is required to be provided to the building.</p>



The below table is a summary of the fire safety measures required for the new building, based on the documentation provided to date:-

Statutory Fire Safety Measure	Design / Installation Standard
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 & BCA Spec 23 AS 1670.1 – 2018
Automatic Fire Suppression Systems	BCA 2022 Spec. 17 & BCA Spec 18 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 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, C4D7, C4D8 & C4D12 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 C4D7, D3D28, D4D7, E4D4 & I4D14. AS 1905.1 – 2015 & Section 108 of the EP&A (DCFS) Regulation 2021



4.6 SECTION F – HEALTH AND AMENITY

F3P1

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

- + unhealthy or dangerous conditions, or loss of amenity for occupants; and
- + undue dampness or deterioration of building elements.

Note: There are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls.

This matter will need to be addressed as a Performance Solution via a façade engineer during Design Development.

F4P3

Sanitary facilities: Sanitary facilities are only required to be provided in accordance with the requirements for a Class 9a healthcare facility, and employees of a Class 9 building. Sanitary facilities are only required to be counted for patients and staff (i.e. not visitors).

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 patents

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 need for wheelchair accessible unisex WC in the public waiting zones.

Staff

The LHD has confirmed a total of 110 staff is expected during the daytime shift. We appreciate this number will reduce during evening shafts, however based on day shift, the minimum number of amenities are required for staff across the facility:-

Building classification		Class 9a - health-care buildings				
			Required sanitary facilities			
Gender	Design Occupancy	User Group	Closet Pans	Urinals	Washbasins	Showers
Male	55	employees	3	3	2	NA
Female	55	employees	4	NA	2	NA



From a BCA perspective, being the *minimum* statutory requirements, the above is all that is needed to comply for staff facilities. BCA minimum requirements does not focus on distribution for general 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:

- + 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

F4P4

Accessible Sanitary Facilities: Unisex Accessible WCs (Accessible WC) must be provided in accordance with the following:

- + 1 on every storey containing sanitary compartments; and
- + Where a storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks.
- + Within each bank of male and female sanitary facilities, an ambulant sanitary compartment must be provided for each sex for use by a person with an ambulant disability.

Where two or more Accessible WCs are provided, the number of left and right-handed mirror image facilities must be provided as evenly as possible.

**Part
F5**

Room Heights: The ceiling height in a Class 9a building must be no less than; 2.4m in patient care areas, 3m in an operating theatre or delivery room and 2.4m in a treatment room, clinic, waiting room, passageway, corridor, or the like. Sanitary compartments, air-locks, tea preparation areas, store rooms and garages must achieve no less than 2.1m. Commercial kitchens must achieve 2.4m.

The floor to ceiling height above a stairway, ramp, landing or the like must achieve no less than 2m when measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing, or the like.

F6D2

Natural Lighting: Natural lighting must be provided to all rooms used for sleeping purposes in a Class 9a building. Windows providing natural light. A window which is required for the purposes of providing natural light must be located no less than 3m from an allotment boundary, a wall of the same building, or a wall of another building on the same allotment.

F6D6

Ventilation of Rooms: Any room occupied by a person for any purpose must be provided with natural ventilation complying with this clause, or a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS 3666.1.



4.7 SECTION J – ENERGY EFFICIENCY

Part J1

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

- + J1: Building Fabric
- + J2: External Glazing
- + J3: Building Sealing
- + J5: Air-conditioning and ventilation systems
- + J6: Artificial lighting and power
- + J7: Hot water supply
- + J8: Access for maintenance

The architect, mechanical, electrical, and hydraulic engineers are to incorporate details demonstrating compliance with the above provisions (as applicable to their respective disciplines).

In relation to use of roof top solar panels, the FER will need to acknowledge and there will need to be manual override to turn off at MSB and the main FIP in the trial design.

5.0 PROJECT STAGING

It is understood the project delivery is to be staged in accordance with the following:-

Part 4	Design Development	FEB 2023
Part 5	Contract Documentation	JULY 2023 (MS2)**
Part 6	Tender Evaluate and Award	MAY 2023
Part 7	Contract Administration	APR 2023 (MS1)
	Contract Administration	DEC 2024 (MS2)
	Contract Administration	AUG 2025 (MS3)***
Part 8	Commissioning and Handover	FEB 2025 (MS2)
Part 9	Post Completion Warranty Period	AUG 2026 (MS3)

*Milestone 1: Completion of Early Works

**Milestone 2: Completion of New Hospital

***Milestone 3: Demolition of old hospital and completion of south car park and landscaping

The scheme includes staged demolition and construction of buildings on the site. Once the new hospital is erected patients, staff and operations will be decanted from the existing to the new building.

The existing hospital will be demolished. We understand demolition of the existing building may occur within 18 months after completion of the new hospital.

Until such time that all current operations are decanted and the existing hospital is demolished, there will be a number of compliance issues relating to the new Cowra Hospital. These items include:-

- + Impacts on egress from existing buildings and also from new-build (prior to demolition of existing)
- + Fire separation between existing buildings and the new-build (prior to demolition of existing)
- + FRNSW accessibility to fire services
- + Accessibility for public and patients in terms of access for people with disabilities
- + Temporary fire system disruptions to existing facilities to be managed during construction of new hospital.

As a result of the project staging, it will be necessary to develop temporary fire safety strategies to address the above issues. These temporary strategies will be discussed and formulated with all stakeholders during design finalisation and after onboarding of contractor.



6.0 CONCLUSION

Detailed design compliance is readily achievable with the Building Code of Australia and Access to Premises Standards via a combination of Deemed-to-Satisfy solutions and Performance Solutions, demonstrating compliance with the Performance Requirements subject to ongoing design development and BCA / DDA advice.



APPENDIX A – TYPE B CONSTRUCTION

TYPE B – Class 9a Hospital

Building element	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	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 <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 30	120/ 90/ 60	180/120/ 90	240/180/120
3 to less than 9 m	90/ 30/ 30	120/ 30/ 30	180/ 90/ 60	240/ 90/ 60
9 to less than 18 m	90/ 30/—	120/ 30/—	180/ 60/—	240/ 60/—
18 m or more	—/—/—	—/—/—	—/—/—	—/—/—
For non- <i>loadbearing</i> parts—				
less than 1.5 m	—/ 90/ 90	—/120/120	—/180/180	—/240/240
1.5 to less than 3 m	—/ 60/ 30	—/ 90/ 60	—/120/ 90	—/180/120
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> columns—				
less than 18 m	90/—/—	120/—/—	180/—/—	240/—/—
18 m or more	—/—/—	—/—/—	—/—/—	—/—/—
For non- <i>loadbearing</i> columns—				
For non- <i>loadbearing</i> columns—	—/—/—	—/—/—	—/—/—	—/—/—
COMMON WALLS and FIRE WALLS—	90/ 90 / 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
<i>Fire-resisting</i> lift and stair <i>shafts</i> —				
<i>Loadbearing</i>	90/ 90/ 90	120/120/120	180/120/120	240/120/120
<i>Fire-resisting</i> stair <i>shafts</i> —				
Non- <i>loadbearing</i>	—/ 90/ 90	—/120/120	—/120/120	—/120/120
Bounding <i>public corridors</i> , public lobbies and the like—				
<i>Loadbearing</i>	60/ 60/ 60	120/—/—	180/—/—	240/—/—
Non- <i>loadbearing</i>	—/ 60/ 60	—/—/—	—/—/—	—/—/—
Between or bounding <i>sole-occupancy units</i> —				
<i>Loadbearing</i>	60/ 60/ 60	120/—/—	180/—/—	240/—/—
Non- <i>loadbearing</i>	—/ 60/ 60	—/—/—	—/—/—	—/—/—
OTHER LOADBEARING INTERNAL WALLS and COLUMNS—	60/—/—	120/—/—	180/—/—	240/—/—
ROOFS	—/—/—	—/—/—	—/—/—	—/—/—