Building Code of Australia 2012

BCA Report for Clause 94 Upgrade Hurstville Private Hospital 37 Gloucester Road Hurstville



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Hurstville Private Hospital 37 Gloucester Road Hurstville

Prepared for

Healthe Care

Prepared by

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The report is for the assessment of the existing Hurstville Private Hospital to assess compliance with the Building Code of Australia 2012 ("BCA") and in particular any recommended upgrade works that would be required as part of a Clause 94 assessment by the consent authority Hurstville City Council when a Development application for a major refurbishment and addition is lodged. This hospital is located at 37 Gloucester Road Hurstville in the southern suburbs of Sydney. The main entrance hospital is on the south western side of Gloucester Street with Pearl Street to the south east and Millett Street to the south west.

The consent authority will be The Department of Planning and Infrastructure NSW and the application is for a Major Project Development Application. The extent of changes proposed under the new Development Application will require The Department of Planning and Infrastructure NSW to consider an upgrade under Section 94 of the EP & A Regulations 2000. It is considered that the works should be undertaken to achieve an appropriate level of fire and life safety due to non-compliances in the following areas:

- a) C1 Fire Resistance and Stability.
- b) C2 Compartmentation and Separation.
- c) C3 Protection of Openings.
- d) D1 Provision for Escape.
- e) D2 Construction of Exits
- f) E1 Fire Fighting Equipment -
- g) E2 Smoke Hazard Management
- h) E4 Emergency Lighting, Exit Signs and Warning Systems.
- i) F3 Room Sizes.

The major change will be the installation of a sprinkler system throughout and upgrade of the fire hydrants. The fire walls and the penetrations will need attention as part of the works along with other changes.

It has been recommended a Fire Engineer be consulted with a view to gain concessions on the lift motor room, stair width, the stair discharges into the enclosed courtyard, landing size and swing of horizontal exits.

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1.0 Introduction

Property Description

The report is for the assessment of the existing Hurstville Private Hospital to assess compliance with the Building Code of Australia 2012 ("BCA") and in particular any recommended upgrade works that would be required as part of a Clause 94 assessment by the consent authority Hurstville City Council when a Development application for a major refurbishment and addition is lodged. This hospital is located at 37 Gloucester Road Hurstville in the southern suburbs of Sydney. The main entrance hospital is on the south western side of Gloucester Street with Pearl Street to the south east and Millett Street to the south west.

The report is prepared based on a visual inspection of the premises/review of the developed documentation and the information provided by the client and is intended for their use only. A separate letter for lodgement with the Development Application can be provided if required. Access was not available to the operating theatre compartment and two of the tenancies in the medical centre.

Reporting Team

The information contained within this report was prepared by Robert Briant, Accredited Certifier Grade A1 (BPB0048) from Davis Langdon.

Current Legislation

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979.

The provisions of Section 80A(11) of this act and Clause 98 of the Environmental Planning and Assessment Regulation 2000 require that the building work be carried out in accordance with the Building Code of Australia. The application of compliance with the particular version of the BCA is the date on which an application is made for a construction certificate.

Clause 94 of the EP & A Reg 2000 as part of the Section 79C (1) (a) (iv) of the Act the consent authority in determining a development application where:

(a) the proposed building work, together with any other building work completed or authorised within the previous 3 years, represents more than half the total volume of the building, as it was before any such work was commenced, measured over its roof and external walls, or

- (b) the measures contained in the building are inadequate:
 - (i) to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or
 - (ii) to restrict the spread of fire from the building to other buildings nearby,

In determining a development application to which this clause applies, a consent authority is to take into consideration whether it would be appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia.

Clause 143 of the Environmental Planning and Assessment Regulation 2000 requires a certifying authority must not issue a construction certificate for building work under a development consent that authorises a change of building use unless:

(a) the fire protection and structural capacity of the building will be appropriate to its new use, and

(b) the building will comply with such of the Category 1 fire safety provisions as are applicable to the new use,

Category 1 fire safety provisions are as follows:

Category 1 fire safety provision means the following provisions of the Building Code of Australia, namely, EP1.3 (fire hydrants), EP1.4 (sprinklers), EP1.6 (fire control centres), EP2.1 (smoke detection and alarms), EP2.2 (smoke hazard management) and EP3.2 (emergency lifts) in Volume One of that Code and P2.3.2 (smoke detection and alarms) in Volume Two of that Code.

An Order No. 6 under Section 121B the Environmental Planning and Assessment Act allows the Council to order the owner to do or refrain from doing such things as are specified in the order so as to ensure or promote adequate fire safety or fire safety awareness where:

a) Provisions for fire safety or fire safety awareness are not adequate to prevent fire, suppress fire or prevent the spread of fire or ensure or promote the safety of persons in the event of fire

(b) Maintenance or use of the premises constitutes a significant fire hazard

There are also rules in this legislation in relation to building works carried out without development or building approval but this is not addressed in this report.

Disability (Access to Premises — Buildings) Standards 2010

The Disability (Access to Premises — Buildings) Standards 2010 commenced on 1 May 2011. These take effect subject to subsection 31 (4) of the Disability Discrimination Act 1992. The objects of these Standards are:

(a) to ensure that dignified, equitable, cost-effective and reasonably achievable access to buildings, and facilities and services within buildings, is provided for people with a disability; and

(b) to give certainty to building certifiers, building developers and building managers that, if access to buildings is provided in accordance with these Standards, the provision of that access, to the extent covered by these Standards, will not be unlawful under the Act.

This Standards is to be applied to a new buildings (including Class 3, 5, 6, 7, 8, 9 or 10), a new part of a building (an extension to the building or a modified part of the building) and an affected part. An affected part is defined as:

(a) the principal pedestrian entrance of an existing building that contains a new part; and

(b) any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.

The Standards apply to the following persons to the extent that they are responsible for, or have control over, matters in the Access Code for a relevant building:

- (a) a building certifier;
- (b) a building developer (includes property developers, property owners, building designers, builders, project managers and property lessees);
- (c) a building manager (includes property owners, property lessees, property managers and operational staff).

2.0 Building Description

The Project

The existing hospital building known as Hurstville Private Hospital is located at 37 Gloucester Street Hurstville in the southern suburbs of Sydney. The site has been used as a hospital since 1924 with the last alteration being finished around 2009 resulting in a capacity of 85 beds. The building is up to four (4) storeys. The older floors are timber framed and newer floors reinforced concrete, walls are full brick with some lightweight construction and the roof being part tiles and part metal clad.

Our report is to assist Hurstville City Council in their consideration of the proposed Development Application that involves substantial alterations to the existing building and an addition to the southern end that is to result in an infill over the loading area and two (2) additional storeys.

Under Clause 94 of the EP & A Reg 2000 as part of their consideration of the DA Council must to take into consideration whether it would be appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia. The emphasis in this clause is to protect persons using the building, and to facilitate their egress from the building, in the event of fire, and to restrict the spread of fire from the building to other buildings nearby.

The report identifies non-compliances with the Building Code of Australia 2012 ("BCA") with a focus on the fire safety provisions being Parts C, D and E. The report recommends works to be done as part of the proposed development to ensure an acceptable level of safety is achieved. This report does not provide an assessment of the proposed building works.

Building Description

Building Use:	Health Care Building (Private Hospital & medical centre) & Carpark
Class of Occupancy:	9a & 7a
Type of Construction:	A
Rise in Storeys:	4 (6 proposed)*
Levels Contained:	4 (6 proposed)
Effective Height:	10.0m

* We have not been provided with elevations of the proposed building

Determination of the effective height for the building has been assessed on the basis that the lowest level where access from the building is provided and the topmost occupied floor of the building. The proposed effective height is determined as over 12.0m but less than 25.0m.

3.0 BCA Requirements

The following assessment will provide an overview of compliance with the BCA and identify issues that are likely to be required to be upgraded. There were tenancies in the Medical Centre and the operating theatres that were not able to be accessed.

C1 - Fire Resistance and Stability

The eastern portion of the building being two storeys would have been constructed to meet the equivalent of Type B Construction. The converted late Victorian house incorporated in the building will not meet all of the requirements of Type A Construction.

The south eastern wall of Level 1 of the existing maternity ward appears to be partially timber framed construction and also is not permitted in Type A Construction. There are numerous timber framed floors in this portion of the building which do not comply with the current requirements and the roof of the eastern portion will not meet the required fire rating requirements for a building with a rise in storeys of over 3.

These issues appear to have been considered not to require any upgrade as building as part of the last major additions to the south west. The installation of a sprinkler system throughout the building are to be recommended as part of the smoke hazard management system and general upgrade of the building will make up for these inadequacies.

The Fire Hazard Properties for new assemblies and wall, floor and ceiling linings will be required to comply with Specification C1.10 of the BCA. It is likely that the existing material will not have been tested to the current standard but the installation of sprinklers will compensate for possible deficiencies in the material that remains.

C2 – Compartmentation and Separation

Under Clause C2.2 of the BCA any non-patient care area is required to be a maximum floor area of 5,000m² and is to have a maximum volume of 30,000m³. These limits do not apply to a sprinkler protected carpark that is fire separated from the rest of the building. These limits are not exceeded in the current building.

Being a hospital there are additional limits placed on the size of compartment where patients are either treated or accommodated as detailed in the following table. The current building complies with these limits subject to the integrity of the walls and penetrations. The smoke reservoir in the northern section of the building at smoke doors is less than the 400mm (measured at 350 – 370mm) required. It may be possible to provide a perforated ceiling either side of the smoke doors to address this deficiency rather than raise the whole of the ceiling in these wards.

The fire rated plasterboard walls above the ceiling level have been damaged by the trades installing new penetrations. These are to be repaired and this work is to be included in the penetrations logbook.

The Medical Records room is located in the same fire compartment as the ultrasound. Clause C2.5 (a)(v) requires the Medical Records room to be fire separated by a wall with an FRL of 60/60/60.

The smoke doors do not swing in the direction of egress as required under Clause 3 of Specification C3.4. These are to be upgraded to double swing doors to comply.

Area considered	Type of separation required	Maximum floor area for each separated fire / smoke compartment	Fire rating / smoke separation requirements	Relevant BCA requirements
Non-patient care areas	Fire compartments	5000m ² (Type A)	120/120/120 (Type A)	Clause C2.2 and Specification C1.1
Patient care areas	Fire compartments	2000m ²	As for non-patient care areas	Clause C2.5 and specification C1.1
Ward areas >1000m ²	Fire Separated floor areas	1000m ²	60/60/60	Clause C2.5
	Smoke separated floor areas	500m ²	Smoke proof construction in accordance with specification C2.5	Clause C2.5 and specification C2.5
Ward areas <1000m ²	Fire and smoke separated floor areas	500m ²	60/60/60 smoke proof construction in accordance with specification C2.5	Clause C2.5 and specification C2.5
Treatment areas	Smoke separated floor areas	1000m ²	Smoke proof construction in accordance with specification C2.5	Clause C2.5 and specification C2.5
Kitchens (up to 30m ²), hyperbaric facility, storage of medical records (>10m ²) and laundries	Smoke separated floor area	-	60/60/60	Clause C2.5

Fire and smoke separation in class 9a health care buildings

C3 – Protection of Openings

The fire door adjacent to the ultra sound on Level 1 was chocked open and it is recommended this door be fitted with a magnetic hold open devices permitted under Clause C3.5 to allow its correct function. The office adjacent to the entrance to the operating theatre has had the fire door removed and this door is to be replaced.

In the two areas where access was available to see the penetrations in the fire and smoke walls above the ceiling level various cable penetrations were not sealed. It is recommended a comprehensive review of all fire and smoke walls be undertaken and the penetration sealing is to be corrected. This inspection should be documented in a log book to ensure all future work is carried out correctly.

The lift landing doors are not specifically listed on the Annual Fire Safety Statement. Separate certification is to be provided for these doors.

D1 – Provision for Escape

The compartment at the southern end of maternity is used by patients but the second exit is not fire isolated. The stair provided discharges into the enclosed courtyard and requires re-entry to the building. Any rectification of this area would require major construction works so it would be best to have a Fire Engineer review this issue first.

Access to the southern stair of the medical centre is to be maintained to address travel distance on Level 1.

The use of a non-fire isolated exit to the Level 1 ultra sound room within the administration area will need to be addressed.

The fitouts of the existing tenancies on Level 1 of the Medical Centre have resulted in travel of over 20m to a point of choice. It is assumed this area has been considered non-patient care but this excessive travel is to be addressed by changes to partitions and this is to be included in the new works.

The eastern ground floor corridor is less than the required 1.8m width but this area is shown to be changed to a non-patient use so will become compliant. The southern star to the medical centre is only 970mm wide at the landing. It is suggested this be reviewed by the fire engineer.

The lift motor room to the maternity ward opens directly off the fire isolated stairway which is not permitted under Clause D1.7 of the BCA. A fire engineer may be able to address this with appropriate smoke seals to the door.

The south eastern fire isolated stair to the carpark discharges into the medical centre lobby. This is shown as being corrected as part of the proposed building works.

The fire isolated stairs from the medical centre discharge to a single step to Pearl Street which is not permitted under Clause D1.10 of the BCA. The ramp to the east can only be used if the glass at the entrance is protected by internal drenchers.

D2 – Construction of Exits

All electrical distribution boards are to be enclosed in non-combustible construction and doors are to be fitted with smoke seals under Clause D2.7 of the BCA. Most of these boards are enclosed in the required construction but will need smoke seals to be fitted.

Access to the Medical Records room is via a non-compliant stair and this is to be corrected.

The landings to the fire isolated stairs are less than the 1.6 x 2.7m required under Clause D2.14 of the BCA. It may be possible to move a stretcher down the stairs but this will need to be addressed by the Architect or Fire Engineer.

Most of the thresholds to the fire isolated stairs are over the 25mm required. This is not considered to be a major issue and is not required to be addressed at this time particularly as persons will have already travelled along the stairs.

The balustrades to the eastern stairs are under 1.0m high, gaps are over 125mm and no bottom rail is provided in the fire stairs. These should be corrected as part of the changes to the building.

No access was available to the western balcony area at either ground floor or Level 1 of the Medical Centre. A balustrade complying with Clause D2.16 of the BCA is to be provided unless this is only a roof space accessible

by maintenance staff only. The balustrade to the western side of the carpark does not comply but it is to be replaced as part of the proposed works.

Most of the external stairs and ramps do not have handrails and these should be provided.

The fail safe opening function of the auto doors at the main entrance on fire trip is to be confirmed.

The door from the lobby of the Medical Centre to the fire isolated passageway swings across the path of travel and does not comply with Clause D2.20 of the BCA as it could block egress. The door could be blocked off if the entrance doors to the Medical Centre will fail safe open on fire trip.

The horizontal exit doors (and smoke doors) do not swing in the direction of egress. Many of these doors should swing both ways so either the Fire Engineer should address this or the doors be altered to comply with Clause D2.20 of the BCA.

Many of the fire doors have latches above the 900mm to 1.1m range and these are to be altered to comply with Clause D2.21 of the BCA. The door knob to the kitchen and from the courtyard are to be replaced with lever action handles.

All fire and smoke doors are required to have the signage required under Clause D2.23 fitted. Offence signage should also be updated.

D3 – Access for People with Disabilities

There is an Access Consultant reviewing all aspects of access compliance and this has not been addressed as part of this report.

It is expected they will require changes to entrances, lifts, parking, signage, hearing augmentation, tactile indicators, glazing and sanitary facilities.

E1 – Fire Fighting Equipment

There currently are fire hydrants, fire hose reels and portable fire extinguishers provided in the building. The fire hydrants and fire hose reels do not comply with the current standards. To fully comply these systems would need to be totally redone with the hydrants in the fire stairs and the hose reels within 4.0m of the exits. It is considered that a reasonable level of upgrade will be to upgrade the hydrants and booster but allow the current locations to remain provided clearance and heights are achieved, and location diagrams are placed in the fire stairs.

Sprinklers may be used to comply with the smoke hazard management requirements under Table E2.2a of the BCA. These will also address possible deficiencies in construction, fire hazard properties and having the fire hydrants outside the fire stairs.

E2 – Smoke Hazard Management

All fire isolated stairs in a hospital building with a rise in storeys of more than two (2) are required to be provided with stair pressurisation. It is considered reasonable to allow the existing stairs in the eastern portion of the building to remain unpressurised. The existing stairs serving the western portion of the building are expected to be upgraded as part of the new works.

As the building has a rise in storeys of more than two (2) either zone smoke control or sprinklers are required to be provided. Sprinklers are to be provided as it is not considered possible to retrofit zone smoke control.

The building is required to be provided with an automatic smoke detection and alarm system that includes manual call points and is connected to a sound system and intercom system for emergency procedures (was EWIS). The current system of smoke detectors is not located at the spacing required under AS1670.1 and AS1905.1 (between 300mm and 1.5m from held open doors) and there are many detectors either too close to walls or air conditioning registers. It is possible that the existing fire panel cannot be extended to incorporate the new addition and the existing detectors will need to be replaced. Either way the spacing of detectors must be addressed as part of the proposed works.

The air handling systems other than in the critical treatment areas (operating theatres etc) must shutdown on fire trip. This function is to be confirmed.

E3 - Lift Installations

There is an emergency lift installed and listed on the Annual Fire Safety Statement. I is to be confirmed that this apples to the lift in the north east and one to the south. Disabled access is to be addressed by the access consultant.

E4 – Emergency Lighting, Exit Signs and Warning Systems

The emergency warning and intercommunication system installed will not comply with the current standard but can be retained provided the required sound levels are achieved.

There is insufficient directional signage in the eastern corridor but this area is to be altered as part of the current proposal so this will be addressed. The exit signage is a mixture of 'EXIT' and 'running man' signage but is considered that this can remain unaltered other than the exit signage in the clinic to the south east is over 2.7m and must be lowered.

F1 – Damp and Weatherproofing

Assessment under this part was not undertaken.

F2 – Sanitary and Other Facilities

It is assumed the number of facilities is adequate for the number of staff but this was not specifically reviewed as no figures were provided. As most rooms are provided with ensuites sufficient patient facilities appear to be provided but no plunge baths were found.

Facilities for persons with a disability do not comply but this will be addressed by the access consultant.

F3 – Room Sizes

Complies as constructed other than the physio / and medical records. Physio shown as changing to storage but medical records will not be able to comply if sprinklers are provided.

F4 - Light and Ventilation

Currently appears compliant. No changes are considered necessary.

Section J - Energy Efficiency

Compliance has not been considered but it is advised that any change in lighting or ventilation will be required to comply.

Documentation Assessed

This report is based on the following plans of the existing building prepared by The Health Science Planning Consultants (Project No.: 40-1076).

Description	Drawing No.	Revision	Date
Proposed Lower Basement Plan – Stage 1	DA031	С	23.07.12
Proposed Upper Basement Plan – Stage 1	DA032	F	23.07.12
Proposed Ground Floor Plan – Stage 1	DA033	F	23.07.12
Proposed Level 1 Plan – Stage 1	DA034	D	23.07.12
Proposed Level 2 Plan – Stage 1	DA035	С	23.07.12
Proposed Level 3 Plan – Stage 1	DA036	E	23.07.12
Proposed Level 4 Plan – Stage 1	DA037	D	23.07.12
Proposed Lower Basement Plan – Stage 1	DA031	С	23.07.12

A copy of the Annual Fire Safety Statement issued by Mick McGrath of D E Maintenance Pty Ltd dated 10 February 2012.

Upgrade Requirements

The more recent changes to the building were completed in 1994 and 2007.

The alterations and additions to the building will be the subject of a Development Application (DA) and consideration of an upgrade as required under Clause 94 of the EP & A Regs 2000. Whilst the obligation of the consent authority to take into consideration *whether it would be appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia* it is normal practice to lodge a BCA Report with any DA to assist the consent authority with this decision.

There is no change in use so an upgrade under Clause 143 of the EP & A Regs 2000 will not be required.

Our recommendations are based on our past experience of the required level of upgrade where such a report is submitted.

4.0 Essential Fire & Other Safety Measures

Below is a list of essential fire safety services that are required to be installed within the building.

All services are required to be inspected by a competent person for installation compliance to the relevant Australian Standard and the BCA and certified accordingly. This is required to be carried out on a yearly basis and in accordance with AS 1851.

Fire Safety Measure	Standard	BCA Clause(s)	Existing Fire Safety Measures *	Proposed Fire Safety Measures
Access panels, doors & hoppers to fire resisting shafts	AS 1530.4 – 2005	C3.13		
Automatic fail safe devices & door latching	-	C3.8, D2.21, Spec C3.4		
Automatic fire detection & alarm systems	Ord 70 Clause 27.4 AS 1670.1 – 2004 AS 1668.1 – 1998	Spec E2.2a		
Automatic fire suppression systems	AS 2118.1 – 1999	Spec E1.5		\boxtimes
Emergency lifts	AS 1735.2 AS 1735.2 – 2001	E3.4		
Emergency lighting	AS2293.1 AS 2293.1 – 2005	E4.2, E4.4		\boxtimes
Exit signs	AS2293.1 AS 2293.1 – 2005	E4.5, NSW E4.6 & E4.8		\boxtimes
Fire alarm monitoring system	AS 1670.3 – 2004 AS 4428.6 – 1997	Spec E2.2, Spec E1.5		
Fire dampers	AS 1668.1 – 1998	Spec E2.2a		\boxtimes
Fire doors	AS 1905.1 - 1990 Ord 70 Clause 22.6, 22.7 & 22.8 AS 1735.11 – 1986 AS 1905.1 – 2005	Spec C3.4, C3.10		
Fire hose reel systems	AS2441 – 1983 Ord 70 Clause 22.4 AS 2441 – 2005	E1.4		
Fire hydrant systems & Fire Mains	AS 2419.1 - 1994 Ord 70 Clause 27.1 & 27.3 AS 2419.1 - 2005	E1.3		
Fire seals (protecting openings in fire resisting components of the building)	AS 4072.1 – 2005 AS 1530.4 – 2005 AS 1038.15 – 1995	C3.12, C3.13, C3.15		
Lightweight construction	-	C1.8, Spec C1.8		\square
Mechanical air handling systems Auto shutdown Stair pressurisation Carpark exhaust 	AS/NZS 1668.1 – 1998 AS 1668.2 – 1991	E2.2, Spec E2.2a, Spec E2.2b		
Portable fire extinguishers & fire blankets	AS2444-1981 Ord 70 Clause 27.4.1 AS 2444 – 2001	- E1.6		
Smoke dampers	AS 1668.1 – 1998	C3.15, E2.2, Spec C2.5		
(Solid Core Doors)	Ord 70 Clause 22.9, 22.10 & 22.16	-		_
Smoke doors	-	Spec C3.4, C2.5, D2.6		\bowtie

Fire Safety Measure	Standard	BCA Clause(s)	Existing Fire Safety Measures *	Proposed Fire Safety Measures
(EWIS System)	AS2220	-	\boxtimes	
Sound systems and intercom systems	AS 1670.4 – 2004			
for emergency procedures	AS 4428.4 – 2004	E4.9		
Wall wetting sprinklers & drencher systems	Ord 70 Clause 22.4	-		
Warning and operational signs	-	C3.6, E3.3, D2.23 & Spec E1.8		

* The Annual Fire Safety Statement issued by Mick McGrath of D E Maintenance Pty Ltd dated 10 February 2012 has been used for these services

5.0 Conclusions

Based on our inspection of the building and review of information provided it is considered Hurstville Private Hospital does not meet the requirements of the current BCA. The extent of changes proposed under the new Development Application will require Hurstville City Council to consider an upgrade under Clause 94 of the EP & A Regulations 2000. It is considered that the works should be undertaken to achieve an appropriate level of fire and life safety.

There are a number of issues that whilst they do not comply, the deficiency may be able to be addressed by the Fire Engineer as follows:

- 1. The lift motor room to the maternity ward opens directly off the fire isolated stairway.
- 2. The southern star to the medical centre is only 970mm wide at the landing.
- 3. The southern end of maternity is used by patients but the second exit is not fire isolated. The stair provided discharges into the enclosed courtyard and requires re-entry to the building.
- 4. The landings to the fire isolated stairs are less than the 1.6 x 2.7m required under Clause D2.14 of the BCA.
- 5. The horizontal exit doors (and smoke doors) do not swing in the direction of egress.

The issues that relate to construction, materials used and smoke hazard management will be required to be addressed and it is recommended that the installation of a sprinkler system will assist with this and permit concessions as detailed in Part 3.0 of this report.

Confirmation of compliance with issues such as compliance of the function of auto doors, lift landing doors, which lifts are emergency lifts, emergency warning and intercommunication systems will be required to be provided from the appropriate person.

Works required under Part 3.0 of this report will be able to be conditioned as part of the Development Consent.

6.0 Recommendations

Our assessment of Hurstville Private Hospital at 37 Gloucester Street Hurstville has compared the building to the requirements of the current BCA. The extent of changes proposed under the new Development Application will require Hurstville City Council to consider an upgrade under Clause 94 of the EP & A Regulations 2000. It is considered that the following works should be undertaken to achieve an appropriate level of fire and life safety:

- a) C1 Fire Resistance and Stability There are various portions of the eastern portion of the building that will not meet all of the requirements of Type A Construction. The installation of a sprinkler system throughout the building are to be recommended as part of the smoke hazard management system and general upgrade of the building will make up for these inadequacies.
- b) C2 Compartmentation and Separation The current building complies with these limits subject to the integrity of the walls and penetrations other than the following:
 - a. The smoke reservoir in the northern section of the building at smoke doors is less than the 400mm (measured at 350 370mm) required. It may be possible to provide a perforated ceiling either side of the smoke doors to address this deficiency rather than raise the whole of the ceiling in these wards.
 - b. The Medical Records room is located in the same fire compartment as the ultrasound. Clause C2.5 (a)(v) requires the Medical Records room to be fire separated by a wall with an FRL of 60/60/60.
 - c. The smoke doors do not swing in the direction of egress as required under Clause 3 of Specification C3.4. These are to be upgraded to double swing doors to comply.
- c) C3 Protection of Openings The following works are recommended to achieve compliance with this part of the BCA:
 - a. The fire door adjacent to the ultra sound on Level 1 is to be fitted with a magnetic hold open device.
 - b. The office adjacent to the entrance to the operating theatre has had the fire door removed and this door is to be replaced.
 - c. A comprehensive review of all fire and smoke walls be undertaken and the penetration sealing is to be corrected. This inspection should be documented in a log book to ensure all future work is carried out correctly.
 - d. The lift landing doors are to be inspected and certified as achieving an FRL of /60/ -.
- d) D1 Provision for Escape The following matters are required to be addressed for egress:
 - a. The compartment at the southern end of maternity is used by patients but the second exit is not fire isolated. The stair provided discharges into the enclosed courtyard and requires re-entry to the building. Any rectification of this area would require major construction works so it would be best to have a Fire Engineer review this issue first.
 - b. Access to the southern stair of the medical centre is to be maintained to address travel distance on Level 1.
 - c. The use of a non-fire isolated exit to the Level 1 ultra sound room within the administration area will need to be addressed. This may be done by moving the fire wall to where it was documented on the 2008 plans.
 - d. The fitouts of the existing tenancies on Level 1 of the Medical Centre have resulted in travel of over 20m to a point of choice. It is assumed this area has been considered non-patient care but

this excessive travel is to be addressed by changes to partitions or access through rooms part of other tenancies and this is to be included in the new works.

- e. The southern star to the medical centre is only 970mm wide at the landing. It is suggested this be reviewed by the fire engineer.
- f. The lift motor room to the maternity ward opens directly off the fire isolated stairway which is not permitted under Clause D1.7 of the BCA. A fire engineer may be able to address this with appropriate smoke seals to the door.
- g. The fire isolated stairs from the medical centre discharge to a single step to Pearl Street which is not permitted under Clause D1.10 of the BCA. The ramp to the east can only be used if the glass at the entrance is protected by internal drenchers.
- e) D2 Construction of Exits A number of issues with the construction of exits is to be addressed:
 - a. All electrical distribution boards are to be enclosed in non-combustible construction and doors are to be fitted with smoke seals.
 - b. Access to the Medical Records room is via a non-compliant stair and this is to be corrected.
 - c. The landings to the fire isolated stairs are less than the 1.6 x 2.7m required under Clause D2.14 of the BCA. It may be possible to move a stretcher down the stairs but this will need to be addressed by the Architect or Fire Engineer.
 - d. The balustrades to the eastern stairs are under 1.0m high, gaps are over 125mm and no bottom rail is provided in the fire stairs. These should be corrected as part of the changes to the building.
 - e. The external stairs and ramps are to be provided with handrails.
 - f. The fail safe opening function of the auto doors at the main entrance on fire trip is to be confirmed.
 - g. The door from the lobby of the Medical Centre to the fire isolated passageway swings across the path of travel and does not comply with Clause D2.20 of the BCA as it could block egress. The door could be blocked off if the entrance doors to the Medical Centre will fail safe open on fire trip.
 - h. The horizontal exit doors (and smoke doors) do not swing in the direction of egress. Many of these doors should swing both ways so either the Fire Engineer should address this or the doors be altered to comply with Clause D2.20 of the BCA.
 - i. Many of the fire doors have latches above the 900mm to 1.1m range and these are to be altered to comply with Clause D2.21 of the BCA. The door knob to the kitchen and from the courtyard are to be replaced with lever action handles.
 - j. All fire and smoke doors are required to have the signage required under Clause D2.23 fitted. Offence signage should also be updated.
- f) D3 Access for People with Disabilities There is an Access Consultant reviewing all aspects of access compliance and this has not been addressed as part of this report. It is expected they will require changes to entrances, lifts, parking, signage, hearing augmentation, tactile indicators, glazing and sanitary facilities.
- g) E1 Fire Fighting Equipment The fire hydrants and fire hose reels do not comply with the current standards. It is considered that a reasonable level of upgrade will be to upgrade the hydrants and booster but allow the current locations to remain provided clearance and heights are achieved, and location diagrams are placed in the fire stairs.

- h) E2 Smoke Hazard Management The following issues are to be addressed to provide the required smoke hazard management within the building:
 - a. The existing stairs serving the western portion of the building are required to be provided with stair pressurisation.
 - b. As the building has a rise in storeys of more than two (2) sprinklers are required to be provided.
 - c. The current system of smoke detectors is not located at the spacing required under AS1670.1 and AS1905.1 (between 300mm and 1.5m from held open doors) and there are many detectors either too close to walls or air conditioning registers. It is possible that the existing fire panel cannot be extended to incorporate the new addition and the existing detectors will need to be replaced. Either way the spacing of detectors must be addressed as part of the proposed works.
 - d. The air handling systems other than in the critical treatment areas (operating theatres etc) must shutdown on fire trip. This function is to be confirmed.
- i) E4 Emergency Lighting, Exit Signs and Warning Systems The emergency warning and intercommunication system installed will not comply with the current standard but can be retained provided the required sound levels are achieved. Confirmation is required to be provided.
- F3 Room Sizes The ceiling height in the medical records will be too low when sprinklers are installed. This should be addressed. Details of changes are required to be assessed.

Appendix A

BCA Provisions

Appendix A BCA Provisions

The following is a clause-by-clause assessment of the architectural drawings against the deemed-tosatisfy provisions of the BCA 2012.

Notes:

- ✓ The building complies with this clause.
- X The building does not comply with this clause.
- ? Further documentation required.
- **CR** Design statement (or other means) required from appropriate persons that the building will comply with this clause at the design stage & completion of the project.
- N/A This clause is not applicable to this project.
- **AS** Alternative Solution using Performance Requirements.
- **Noted** This clause is for information.

Section A: General Provisions

lcon	Clause	Reference	Comment
	A3	Classification of buildings and structures	
Noted		The classification of a building is determined by the purpose for which it is designed, constructed or adapted.	Class 9a (private hospital) & Class 7a (carpark)
	A3.3	Multiple classification	
Noted		 Each part must be classified separately: (a) Classified to the major use if not more than 10% of the floor area of the storey. (b) Plant rooms are classified as the same part. 	Applied as required.
	A4	PART A4 – UNITED BUILDINGS	
	A4.1	When buildings are united	
N/A		Two or more buildings adjoining each other form one united building if they are connected through openings in the walls dividing them and both buildings comply with the requirements of the BCA as though they are a single building.	This clause does not apply to this project.

Section B: Structural Provisions

lcon	Clause	Reference	Comment
	B1.0	Deemed to Satisfy Provisions	
Noted		(a) Where DTS compliance is achieved by complying with either -	Structural engineer's design must comply.
		(i) by complying with B1.1, B1.2 and B1.4; or	
		 (ii) for the earthquake component of the Performance Requirement by complying with B1.3 and B1.4 	
	B1.1	Resistance to actions	
CR		The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions, where—	Not assessed as part of this report.
		 (a) the most critical action effect on a building or structure is determined in accordance with B1.2 and the general design procedures contained in AS/NZS 1170.0; and 	
		(b) the resistance of a building or structure is determined in accordance with B1.4	
	B1.2	Determination of individual actions	1
CR		 The building or structure must resist loads determined in accordance with the following: (a) Dead and live load combinations: AS 1170.1 (b) Wind loads AS 1170.2 (c) Snow loads AS 1170.3 (d) Earthquake loads AS 1170.4 	Not assessed as part of this report.
	B1.3	Materials and forms of construction	
CR		The building or structure must resist earthquake loads determined in accordance with AS1170.3 (1993)	Not assessed as part of this report.
	B1.4	Materials and forms of construction	1
CR		New materials and forms of construction are to be designed to the following Australian Standards as applicable (NB: summary provided only): (a) AS 3700 (b) AS 3600 (c) AS 4100 (d) AS 1288 or AS 2047 (e) AS 1562.1	Not assessed as part of this report.
		(f) AS 1720.1 (g) AS 3660.1	

Section C: Fire Provisions

Part C1 – Fire Resistance and Stability

lcon	Clause	Reference	Comment
	C1.1	Type of construction	1
Noted		Type of Construction required is determined by the Table C1.1	Type A Construction required (see Spec C1.1).
	C.1.2	Calculation of rise in storeys	
Noted		The rise in storeys is the greatest number of storeys at any part of the external walls of the building above the finished ground next to that part.	RIS of 4 (proposed will be 6).
	C1.3	Building of multiple classification	1
Noted		The Type of construction required is determined on the basis that the classification of the top storey applies to all storeys.	Top storey Class 9a
	C1.4	Mixed types of construction	
Noted		Building may be of mixed Types of Construction where it is separated in accordance with C2.7	See Clause C2.7 for further detail.
	C1.5	Two storey Class 2 or 9c buildings	
N/A		Class 2 or 3 of two storeys may be Type C construction if each SOU has: Access to at least 2 exits; or Its own direct access to a road or open space.	This clause does not apply to this project.
	C1.6	Class 4 parts of a building	
N/A		Class 4 part of a building requires same FRL as that required by a Class 2 in similar circumstances.	This clause does not apply to this project.
	C1.7	Open spectator stands and indoor sports stadium	
N/A		May be of Type C construction if it contains only 1 tier and is of non-combustible material.	This clause does not apply to this project.
	C1.8	Lightweight construction	1
✓		Lightweight construction may be used if it is in compliance with Specification C1.8.	Lightweight construction has been used in the building and it assumed to be installed to manufacturers details but see C3 for penetrations.
	C1.10	Fire hazard properties	
Noted		Materials and assemblies used in the building must comply with the requirements of Specification C1.10. Floor materials – Critical Radiant Flux of not less than 2.2 Wall and Ceiling materials – Either Group 1 or 2 material If unsprinklered additional requirements apply, as well as lift finishes, and fire isolated exits have different requirements	See Spec C1.10

lcon	Clause	Reference	Comment	
	C1.11	Performance of external wall in fire		
N/A		In buildings of up to two storeys, any concrete external walls that could collapse as complete panels to comply with specification C1.11.	This clause does not apply to this project.	
	C1.12	Non-combustible materials		
Noted		 The following materials may be used where non- combustible materials are required: 1. Plasterboard. 2. Perforated gypsum. 3. Fibrous-plaster sheeting to AS 2185. 4. Fibre-reinforced cement sheeting. 5. Pre-finished metal sheeting. 6. Bonded laminated materials. 	This clause is for information only.	

Part C2 – Compartmentation and Separation

lcon	Clause	Reference	Comment
	C2.2	General floor area limitations	
✓		Table C2.2 limits the size of fire compartments to:- - Class 5, 9b or 9c Type A, 8,000 m ² & 48,000m ³ Type B, 5,500m ² & 33,000m ³ Type C, 3,000m ² & 18,000m ³	Floor areas provided show compliance for Type A Construction. See also Clause C2.5.
		 Class 6, 7, 8 or 9a (except patient care) Type A, 5,000 m² & 30,000 m³ Type B 3,500m² & 21,000m³ Type C, 2,000m² & 12,000m³ See Section 3,4 or 5 of Specification C1.1 for specific fire rating requirements (a brief table of FRL's is included in the appendix for information – detailed requirements in abovementioned section of the BCA) 	
	C2.3	Large isolated buildings	
N/A		A fire compartment may exceed that specified in Table C2.2. Buildings under of exceeding 18,000m ² in floor area to be provided with specific requirements Generally a sprinkler system complying with Specification E1.5 provided with a perimeter vehicular access complying with C2.4 (b) – additional measures may include a smoke exhaust system in accordance with Specification E2.2b or smoke-and- heat vents in accordance with Specification E2.2c.	This clause does not apply to this project.

lcon	Clause	Reference	Comment
N/A		A fire compartment may exceed that specified in Table C2.2, subject to:	This clause does not apply to this project.
		 Buildings does not exceed 18,000m² in floor area or 108,000m³ in volume, 	
		being class 7 or 8, not more than 2 storeys and having open space complying with C2.4(a) not less than 18m wide; <u>or</u>	
		being of class 5 to 9, sprinklered throughout, and having perimeter vehicle access complying with C2.4(b).	
N/A		 (b) Buildings exceeding 18,000m² in floor area or 108,000m³ in volume to be protected throughout with a sprinkler system complying with Specification E1.5, provided with a perimeter vehicular access complying with C2.4 (b) and has a smoke exhaust system in accordance with Specification E2.2b or smoke-and-heat vents in accordance with Specification E2.2b or smoke-and-heat vents in accordance with Specification E2.2c (Vents only allowable as an option if less than 12m ceiling height – otherwise exhaust system mandatory). Buildings closer than 6m are regarded as one building and collectively must comply with the above. 	This clause does not apply to this project.
	C2.4	Requirements for open spaces and vehicular acces	s
N/A		Requirements for open spaces and vehicular access capable of supporting emergency vehicles, 6m wide not more than 18m from the building. Part a – 18m wide open space without any buildings or obstructions whatsoever, and must also comply with part b of this section.	This clause does not apply to this project.
	C2.5	Class 9a & 9c buildings	1
•		 A Class 9a health care building must comply with the following: (i) Patient care areas must be divided into fire compartments not exceeding 2000 m². (ii) Ward areas— (A) where the floor area exceeds 1000 m², must be divided into floor areas not more than 1000 m² by walls with an FRL of not less than 60/60/60; and (B) where the floor area exceeds 500 m², must be divided into areas not more than 500 m² by smoke proof walls complying with Specification C2.5; and (C) where division of ward areas by fire-resisting walls under (i) or (ii)(A) is not required, any smoke proof wall 	Complies as constructed (see Part C3 for various issues with protection of openings). Smoke reservoirs at smoke doors less than 400mm (350 – 370mm).
		required under (ii)(B) must have an FRL of not less than $60/60/60$. (iii) Treatment areas must be divided into floor areas not more than 1000 m^2 by smoke-proof walls complying with Specification C2.5.	

lcon	Clause	Reference	Comment
		(iv) A fire compartment must be separated from the remainder of the building by fire walls and -	
		(A) in Type A construction—floors and roof or ceiling as required in Specification C1.1; and	
		(B) in Type B construction - floors with an FRL of not less than 120/120/120 and with the openings in external walls bounding patient care areas being vertically separated in accordance with the requirements of C2.6 as if the building were of Type A construction.	
		(v) The following ancillary use areas located within a patient care area must be separated from the remainder of the patient care area by walls with an FRL of not less than 60/60/60:	
		(A) A kitchen and related food preparation areas having a combined floor area of more than 30 m ² .	
		(B) A room containing a hyperbaric facility (pressure chamber).	
		(C) A room used predominantly for the storage of medical records having a floor area of more than 10 m ² .	
		(D) A laundry, where items of equipment are of the type that are potential fire sources (eg gas fire dryers).	
		(vi) A wall required by (v) to separate ancillary use areas from the remainder of the building must extend to the underside of $-$	
		(A) the floor above;	
		 (B) a non-combustible roof covering; or (C) a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes 	
	C2.6	Vertical separation of openings in external walls	
Noted		Only applicable to a building of Type A Construction, that is not sprinkler-protected. – no requirement is applicable for spandrel separation of a Sprinkler protected building. If not Sprinkler protected either 900mm vertical spandrel required, or 1m horizontal projecting spandrel – specific details in this clause of the BCA.	Separation not required as sprinklers are to be provided.
	C2.7	Separation by fire walls	
✓		A part of a building separated by firewall construction may be considered a separate building for the purposes of Parts C, D and E. (Must continue directly from on ground floor slab straight up through the building to top)	Fire walls that were inspected are constructed as required (see Part C3 for various issues with protection of openings).

lcon	Clause	Reference	Comment
	C2.8	Separation of classifications in the same storey	
✓		Firewalls are needed to separate different classifications, or the building must be built to the higher fire resistance level.	All to higher FRL.
	C2.9	Separation of classifications in different storeys	
✓		The separating floors must have an FRL not less than that required for the lower storey use.	Complies as constructed.
	C2.10	Separation of lift shafts	
✓		The lift is to be enclosed in a fire-isolated shaft if it connects more than two storeys or three storeys if provided with a sprinkler system.	Complies as constructed.
	C2.11	Stairs and lift in one shaft	
√		Not to be within the same shaft if either is required to be fire isolated.	Complies as constructed.
	C2.12	Separation of equipment	
✓		Equipment comprising lift motors and control plant, emergency generators or central smoke control plant; boilers or batteries are required to be separated from the remainder of the building by construction achieving a FRL of 120/120/120.	Complies as constructed.
	C2.13	Electricity supply system	
•		A substation located within a building or main switchboard, which sustains emergency equipment, must be separated from the remainder of the building by construction achieving a FRL of not less than 120/120/120.	Complies as constructed.
	C2.14	Public corridors in Class 2 & 3 buildings	
N/A		In a Class 3 building, a public corridor, if more than 40m in length, must be divided at intervals of not more than 40m with smoke-proof walls complying with Cl. 2 of Spec C2.5.	This clause does not apply to this project.

Part C3 – Protection of Openings

lcon	Clause	Reference	Comment
	C3.2	Protection of opening in external walls	
Noted		Openings in the external walls are to be protected in accordance with C3.4 if:-	All walls with openings more than 3.0m of the side and
		- less than 3m to side or rear boundary	rear boundaries.
		- less than 6m from the far boundary of a road if not located at or near ground level	
		- less than 6m from another building on the same allotment.	
	C3.3	Separation of external walls and associated openin compartment	gs in different fire
✓		External walls of a different fire compartment to be separated by a fire wall of not less than FRL 60/60/60 or any openings must be protected in accordance with Clause C3.4 if within the distance set out in Table C3.3.	The internal corner on the eastern side of maternity has windows that are required to be protected.
	C3.4	Acceptable methods of protection	1
✓ 		Where exposed to be protected by external or internal drenchers (side of protection specified by relevant clause that calls up protection), fire doors, windows or shutters.	Drenchers used internally or externally (these are listed on the AFSS).
	C3.5	Doorways in fire walls	1
√/X		Doorways in a fire wall which are not part of a horizontal exit, must not exceed ½ the length of the fire wall, and: have the FRL required for the fire wall, and be self-closing or automatic-closing.	Generally complies as shown (but see Clause D2.20 re swing). Fire door has been removed from the office at the entrance to the operating theatres.
	C3.6	Sliding fire doors	
N/A		If utilised must fail safe in the closed position, be suitably signposted with an audible alarm, signage and directional arrow to indicate direction to slide door to open when in the closed position.	This clause does not apply to this project.
	C3.7	Doorways in horizontal exits	
~		To be suitably protected by fire doors with FRL of not less than that required for the fire wall, and be self- closing or automatic-closing. And must swing in the direction of travel (this may be both ways if so either two doors or a multi directional swing fire door is required)	Complies as shown (but see Clause D2.20 re swing).
	C3.8	Openings in fire isolated exits	
1		To be automatic magnamatic or self closing -/60/30 fire doors.	All doors inspected were tagged and self closed.

lcon	Clause	Reference	Comment
	C3.9	Service penetrations in fire isolated exits	
X		Fire exits must not be penetrated by services other than electrical wiring associated with lighting, stair pressurisation or the intercommunication system & hydrant system.	The lift motor room access is provided in the north eastern stair.
	C3.10	Openings in fire rated lift shafts	
?		 Doors to be - /60/ - fire doors to AS1735.11. Lift indicator panels to be backed by - /60/60 construction if exceeding 35,000mm² in area. 	Lift doors not separately listed on separately AFSS.
	C3.11	Bounding Construction; Class 2, 3 & 4 buildings	
N/A		 Doorway to each SOU to be protected; -/60/30 in Type A construction Self-closing, tight fitting, solid core door, not less than 35mm thick in Type B or C construction 	This clause does not apply to this project.
	C3.12	Openings in floors for services	
?		To be enclosed in a fire rated shaft with a FRL in accordance with Specification C1.1 or protected by Clause C3.15 of BCA	Certification required from appropriate persons that the existing penetrations comply.
	C3.13	Openings in shafts	
?		Openings in ventilating, pipe, garbage or other service shaft to be protected by:- -/60/30 fire doors / hoppers / access panel.	Certification required from appropriate persons that the existing openings comply.
	C3.15	Openings for service installations	
X		Electrical, plumbing mechanical ventilation shafts etc not to impair the FRL of rated members.	The two areas inspected have unprotected penetrations in the fire and smoke walls. Certification required from appropriate persons that the existing doors comply.

lcon	Clause	Reference	Comment
	3	Type A fire resisting construction	
x	3.1	The building is to be designed to comply with Table 3. Generally fire ratings are to be FRL of 120/120/120	There are a number of elements in the older portions of the hospital that do not meet the requirements of Type A Construction.

Specification C1.1 – Fire Resisting Construction

Specification C1.10 – Early Fire Hazard Indices

lcon	Clause	Reference	Comment
	3	Floor materials and floor coverings	
?		 A floor lining or floor covering must have— (a) a <u>critical radiant flux</u> not less than that listed in <u>Table 2</u>; and (b) in a building not protected by a sprinkler system complying with <u>Specification E1.5</u>, a maximum <u>smoke development rate</u> of 750 percent-minutes; and (c) a group number complying with <u>Clause 6(a)(ii)</u>, for any portion of the floor covering that is continued more than 150 mm up a wall. 	The existing floor finishes are unlikely to have been tested to the current standards due to their age. It is likely that these will be replaced in the redeveloped areas and that the installation of sprinklers will reduce the risk posed by the old materials.
	4	Wall and ceiling lining	
✓		A material used as a finish, surface, lining or attachment to a wall or ceiling must be a Group 1, 2 or 3 material used in accordance with Table 2 and for a building not protected by a sprinkler system complying with specification E1.5, have - a smoke growth rate of not more than 100; or an average specific extinction area less than 250m ² /kg.	Generally wall and ceiling linings appear to comply.
	5	Air-handling ductwork	
✓		A material used as a finish, surface, lining or attachment to a wall or ceiling must be a Group 1, 2 or 3 material used in accordance with Table 2 and for a building not protected by a sprinkler system complying with specification E1.5, have - a smoke growth rate of not more than 100; or an average specific extinction area less than 250m ² /kg.	Assume complies.
	6	Lift cars	
✓		In a lift car, the floor materials and floor coverings must have a Critical radiant heat flux not less than 2.2 and wall and ceiling linings must be a Group 1 or Group 2 material in accordance with Clause 4(b). Other materials used in the construction of lift cars must comply with AS 1735.2	Assume complies.
	NSW 7	Other materials	
N/A		Materials and assemblies in a Class 2 to 9 building not included in <u>Clauses 3</u> , <u>4</u> , <u>5</u> or <u>6</u> must not exceed the indices set out in <u>Table 4</u> .	Does not apply.

Section D: Access and Egress

Part D1 – Provision for Escape

lcon	Clause	Reference	Comment
	D1.2	Number of exits required	
✓/X		The number of exits is to be designed to satisfy performance standard DP4 of the BCA. A minimum of one exit is required from all buildings, and Two (2) exits for each storey are required for buildings over 25m, basement storeys or for class 9b of 6 storey or greater, buildings that exceed 50 persons, school buildings, class 9a patient care areas or class 9c sleeping areas, etc.	Each storey has two exits. The south eastern stair from maternity requires re-entry from the courtyard.
	D1.3	When fire isolated exits are required	
X		Every stair in a building must be fire isolated unless it does not connect or pass through more than 3 consecutive floors in a sprinkler protected building or 2 storeys in a non-sprinkler protected building. Class 9a & 9c buildings require stairs to be fire isolated. Those stairs not requiring fire isolating must discharge at a level of road or open space	Exits are fire isolated as required other than the southern compartment of maternity and Level 1 ultrasound using non-fire isolated stairs.
	D1.4	Exit travel distances	
X		No point on the floor must be more than 20m to an exit or a point in which travel in different directions to 2 exits is available, in which case, the maximum distance to 1 exit cannot exceed 40m. Open spectator stands — The distance of travel to an <u>exit</u> in a Class 9b building used as an <u>open</u> <u>spectator stand</u> must be not more than 60 m. Class 5 or 6 buildings with only one exit, and opening to road or street may have greater distance of up to 30m to that single exit.	Travel distances in the south western wing are to be reviewed as these exceed the distance to a point of choice. Much of this area is to be altered as part of the redevelopment so this must be addressed as part of the new works.
✓		Class 7 Car Park - No point on the floor must be more than 20m to an exit or a point in which travel in different directions to 2 exits is available, in which case, the maximum distance to 1 exit cannot exceed 40m.	Complies, but see Clause D1.7 in relation to the fire stair.

lcon	Clause	Reference	Comment
N/A		Class 2 and 3 buildings -(i) The entrance doorway of any sole occupancy unit must be not more than:	This clause does not apply to this project.
		 (A) 6m from an exit or from a point from which travel in different directions to 2 exits is available; or 	
		 (B) 20m from a single exit serving the storey at the level of egress to a road or open space; and 	
		(ii) No point on the floor of a room which is not in a sole occupancy unit must be more than 20m from an exit or from a point at which travel in different directions to 2 exits is available.	
	D1.5	Distance between alternative exits	
✓		To be no less than 9m or more than 45m in a Class 2, 3, and 9a, or 60m in all other classes, uniformly distributed with access to 2 exits if required and not converge so they become less than 6m apart.	Complies.
	D1.6	Dimensions of exits and paths of travel	
X		 (a) height – minimum 2m: doorways 1980mm (b) width 1m minimum or 1800mm where normally used for transportation of patients in beds. (c);(d) Width change based upon populations – generally for populations up to 100 persons require 1m of egress, up to 200 2m and then varies according to use over 200 person per floor / storey. (f) door width minimum 850mm [AS 1428], and in patient care areas 1200mm where corridor is less than 2.2m wide or 1070mm where corridor is 2.2m or greater. (g) not to diminish in direction of travel. Note: see also re number of exits for certain uses Clause D1.2 as may require additional exits no matter the population of the storey. 	Generally compliant but the eastern ground floor corridor is less than 1.8m wide (1400mm with the handrail and 1470mm without). The DA Plans show this area changing to consulting rooms so in the new configuration will be acceptable at the current width. The southern clinic fire stair is 970mm wide at the landing.
	D1.7	Travel by fire isolated stairs	
X		Must provide independent egress and discharge to road or open space or complying covered area.	Currently the southern fire isolated exit from the carpark discharges into the clinic lobby. The LMR opens off the eastern maternity stair.
	D1.8	External stairs or ramps in lieu of fire isolated exits	
N/A		 (a) An external stairway or ramp may serve as a required exit in lieu of a fire-isolated exit serving a storey below an effective height of 25 m, if the stairway or ramp is— (i) non-combustible throughout; and (ii) protected in accordance with (c) if it is within 6 m of, and exposed to any part of the external wall of the building it serves. 	This clause does not apply to this project.

lcon	Clause	Reference	Comment
N/A		 (b) For the purposes of this clause— (i) exposure under (a)(ii), is measured in accordance with <u>Clause 2.1 of Specification</u> <u>C1.1</u>, as if the <u>exit</u> was a building element and the <u>external wall</u> of the building was a <u>fire-source feature</u> to the <u>exit</u>, except that the FRL <u>required</u> in <u>Clause 2.1(a)(i)</u> must not be less than 60/60/60; and (ii) the plane formed at the construction edge or 	This clause does not apply to this project.
		 perimeter of an unenclosed building or part such as an <u>open-deck carpark</u>, <u>open</u> <u>spectator stand</u> or the like, is deemed to be an <u>external wall</u>; and (iii) openings in an <u>external wall</u> and openings under (<u>c</u>) and (<u>d</u>), are determined in accordance with <u>C3.1</u>. 	
		 accordance with <u>C3.1</u>. (c) The protection referred to in (a)(ii), must adequately protect occupants using the <u>exit</u> from exposure to a fire within the building, in accordance with one of the following methods: (i) The part of the <u>external wall</u> of the building to which the <u>exit</u> is exposed must have— (A) an FRL of not less than 60/60/60; and (B) no openings less than 3 m from the <u>exit</u> protected by a -/60/30 fire door in accordance with <u>C3.8(a)</u>); and (C) any opening 3 m or more but less than 6 m from the <u>exit</u>, protected in accordance with <u>C3.4</u>, and if wall wetting sprinklers are used, they are located internally. (ii) The <u>exit</u> must be protected from— (A) any part of the <u>external wall</u> of the building having an FRL of less than 60/60/60; and (B) any openings in the <u>external wall</u>, by the construction of a wall, roof, floor or other shielding element as appropriate in accordance with (d). (d) The wall, roof, floor or other shielding element <u>required</u> by (c)(ii) must— (i) have an FRL of not less than 60/60/60; and (ii) have no openings less than 3 m from the <u>external wall</u> of the building (except a doorway serving the <u>exit</u> protected by a -/60/30 fire door in accordance with <u>C3.8(a)</u>); and 	

lcon	Clause	Reference	Comment
	D1.9	Travel by non fire isolated stairs	
✓/X		 Travel by Non-Fire Isolated Stairs:- (c) The distance from any point on the floor to a point of egress not to exceed 80m. (e) The stairway not to discharge at a point more than: (i) 20m to an exit (ii) 40m to one of 2 exits. 	The admin stair discharges as required. The southern exit stair to maternity discharges to the courtyard (not an open space).
	D1.10	Discharge from exits	·
X		An exit must not be blocked nor be capable of being blocked at its point of discharge. Ramp to a grade of 1:8 is required to connect with open space.	The clinic exit to Pearl Street discharges to a single step (not a ramp).
	D1.11	Horizontal exits	
✓		May be counted as required exits if the path of travel from a fire compartment leads by one or more horizontal exits directly into another fire compartments which has at least one required exit which is not a horizontal exit. Cannot be utilised in some classes or areas of buildings details to be assessed to ensure compliance with specific clause	Complies other than doors swings (see Clause D2.20).
	D1.12	Non required stairs	
✓		May connect 2 levels in a non-sprinkler protected building. Within a sprinkler protected building may serve 3 storeys.	The south western stair from maternity is fire isolated on Level 1.
	D1.13	Number of persons accommodated	
Noted		To be in accordance with Table D1.13 of the BCA or count seats.	10 persons per m ² used in patient care areas and service areas.
	D1.16	Plant rooms and lift motor rooms: Concessions	
✓		 (a) Where a plant room or lift motor room has a floor area: (i) Not more than 100m² a ladder may be used in lieu of a stairway. (ii) More than 100m² but less than 200m² where two or more points of egress are provided a ladder may be used in lieu of a stairway from all but one of those points. (c) A ladder to the plant room is to comply with AS 1657 and the ladder to the lift motor room is to comply with AS 1735.2. 	May be used in various plant areas but access to roof top plant was not assessed.

Part D2 – Construction of Exits

lcon	Clause	Reference	Comment
	D2.2	Fire isolated stairs	
✓		Must be in a fire resisting shaft and be constructed of non-combustible materials and if there is local failure not cause structural damage or impair the fire resistance of the shaft.	Appears to comply.
	D2.3	Non fire isolated stairs	
✓		 Non fire isolated stairways must be constructed of either:- (a) reinforced or pre stressed concrete (b) 6mm thick steel (c) 44mm thick timber 	Complies as constructed.
	D2.4	Separation of rising and descending stairs flights	
✓		A required fire isolated stair cannot connect above and below ground flights unless separated by fire and smoke separation.	Complies as constructed.
	D2.5	Open access ramps and balconies	
N/A		 Open access ramp or balcony is provided to meet the requirements of smoke hazard management E2.2a, it must; (i) have ventilation openings to the outside air; & (ii) not be enclosed on its open sides above height of 1m. 	This clause does not apply to this project.
	D2.6	Smoke lobbies	1
N/A		 Smoke lobby required by D1.7 must; 1. have a floor area not less than 6sqm; and 2. be separated by walls impervious to smoke; and 3. be fitted with smoke doors; and 4. be pressurised if the exit is required to be. 	This clause does not apply to this project.
	D2.7	Installations in exits and paths of travel	
X		 (b) No openings to ducts conveying hot products of combustion permitted. (c) Gas or fuel services not permitted in required exits. (d) Electric or services equipment not permitted unless in a non-combustible and smoke sealed enclosure. 	Comply other than EDBs need smoke seals.
	D2.8	Enclosure of space beneath stairs	
✓		 (a) in a fire stair no cupboards are permitted under the stair (b) the space beneath the non-fire isolated stairs are not to be enclosed unless in 60/60/60 construction with - /60/30 fire doors. 	Enclosures separated as required (see Clause C3.9 in relation to the lift motor room off the eastern maternity stair).
	D2.9	Width of stairs	I
√		When a measurement taken the width is to be measured clear of all obstructions and the stair must extend a minimum 2.0m above nosings. (unless specified elsewhere to require a greater height)	Complies as constructed other than the southern clinic star (see Clause D1.6).

lcon	Clause	Reference	Comment
	D2.10	Pedestrian ramps	
✓		Pedestrian ramp to be installed in accordance with AS 1428.1, and not have a gradient steeper than 1:8, and be finished with a non-slip surface.	Complies as constructed as surface appears to be non- slip but may need to be retreated.
	D2.11	Fire-isolated passageways	
✓		To attain the same FRL as the fire isolated stair	Complies as constructed.
	D2.12	Roof as open space	
N/A		 If an exit discharges to a roof of a building, the roof must; 1. have an FRL 120/120/120; & 2. have roof lights or other openings within 3m of the path of travel. 	This clause does not apply to this project.
	D2.13	Treads and risers	
X		 (a) minimum 2 risers / maximum 18 in each flight (b) risers 115mm min 190 mm max - going 250mm min 355mm max - 2R+G 550mm min 700mm max. (c) goings and risers to be constant. (d) risers not to permit 125mm sphere to pass through (e) treads to be non slip (h) no stepped quarter landings 	Stair to the medical records room does not comply.
	D2.14	Landings	<u> </u>
X		Maximum gradient not to exceed 1:50 and be a minimum 750 long measured from the inside edge of the landing. To be 1.6m wide and 2.7m long for a hospital or to accommodate a stretcher turning 2.0m long and 600mm wide	No landing to the medical records room. All 180 ⁰ landings to fire isolated stairs are approx. 1.2m x 2.4m.
	D2.15	Thresholds	
<i>X</i>		No step or ramp at any point closer to the door than the width of the door leaf. Generally doors opening to outside are able to be provided with a maximum 25mm step for Class 9a patient care areas or 190mm in other areas.	Stair to medical records is within the swing and the thresholds at northern exits are over 25mm. Thresholds to fire isolated exits between 90mm to 170mm.
	D2.16	Balustrades	
X		A continuous balustrade or barrier must be provided along the side of any roof to which public access is provided, any stairway or ramp, any floor, corridor, hallway, balcony, veranda, mezzanine, access bridge or the like and along any side of any access path to a building if it is not bounded by a wall and the level above the floor or ground surface is more than 4m where it is possible to fall through an open window or 1m in any other case.	Balustrades eastern stairs are under 1.0m high, gaps are over 125mm and no bottom rail is provided in the fire stairs. No access was available to the western balcony.

lcon	Clause	Reference	Comment
	D2.17	Handrails	
X		Required along one side and on both sides of stairs over 2m in width, 865mm above nosings and be continuous. Provided in every passageway and corridor used by patients fixed 50mm clear of wall and where practicable be continuous for their full length.	Most external stairs and ramps do not have handrails. Handrails to the patient care areas have been provided.
	D2.18	Fixed platforms, walkways, stairways and ladders	
√		Treads, risers, handrails and balustrades in plant rooms etc must comply with AS 1657	Areas inspected comply.
	D2.19	Doorways and doors	
?		Must not be revolving door, roller shutter or tilt door. Can be fitted with a sliding door if it leads directly to open space and can be opened manually under a force of not more than 110N and be fitted with a fail- safe device if the door is power operated.	Auto doors at Main entrance to be confirmed as opening on fire trip.
		Must not be a sliding door in a patient care area of a Class 9a Health Care Building.	
	D2.20	Swinging doors	
X		Must not encroach more than 500mm into the required width of the stair or 100mm when fully open and swing in the direction of travel. Note: Smoke and horizontal exit doors must swing in the direction of egress – if multi exit required then the doors must swing in both directions.	Horizontal exit doors and smoke door swings are the wrong way or not both ways.
	D2.21	Operation of latch	
X		To be located 900mm to 1100mm above the floor and be openable with a single-handed downward action. Fail safe unlock is permitted as long as linked to the base building fire alarm system. Class 9b or POPE doors if to be secured must be provided with panic bars only (fail safe option does not comply).	Most fire door latching is over 1200mm (1250mm) above the floor. A door knob is used for re- entry from the courtyard.
	D2.22	Re-entry from fire-isolated exits	
CR		Every door in a fire stair must not be locked from inside the fire- isolated stairway to prevent re-entry to the storey or room it services for any stair that serves a storey over 25m in height or in a Class 9a Health Care Building. Specific details of compliance are defined in this clause of the BCA – the doors all must unlock on fire trip, if needed to be locked may be provided with alarm to allow re entry in a non-fire situation.	New latches on fire stair doors are to comply.

lcon	Clause	Reference	Comment
	D2.23	Signs on doors	
X		Fire and smoke door signage required to alert persons that blockage, obstruction or being chocked open is not allowable	There are various issues with either the size or missing door signage.

Part D3 – Access for People with Disabilities

lcon	Clause	Reference	Comment
	D3.1	General building access requirements	
Noted		To and within all other areas normally used by the occupants all areas normally used by the occupants	Noted full access required.
	D3.2	Access to buildings	1
?	D3.2	 Access to buildings (a) An accessway must be provided to a building required to be accessible— (i) from the main points of a pedestrian entry at the allotment boundary; and (ii) from another accessible building connected by a pedestrian link; and (iii) from any required accessible carparking space on the allotment. (b) In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and— (i) through not less than 50% of all pedestrian entrances including the principal pedestrian entrance which is not accessible must not be located more than 500 m², a pedestrian entrance which is not accessible must not be located more than 50 m from an accessible pedestrian entrance, except for pedestrian entrance consists of not more than 3 doorways — not less than 1 of those doorways must be accessible; and (ii) if a pedestrian entrance consists of not more than 3 doorways — not less than 50% of those doorways must be accessible. (d) For the purposes of (<u>C</u>)— (i) an accessible pedestrian entrance with multiple doorways is considered to be one pedestrian entrance where— (A) all doorways is considered to be the one pedestrian entrance where. (A) all doorway is considered to be the clear, unobstructed opening created by the opening of one or more door leaves (see Figure D3.2). 	It is understood an access consultant is reviewing all aspects of access compliance and this has not been addressed as part of this report.
		(e) Where a doorway on an <u>accessway</u> has multiple leaves, (except an automatic opening door) one of those leaves must have a clear opening width of not less than 850 mm in accordance with <u>AS</u> <u>1428.1</u> .	

lcon	Clause	Reference	Comment
	D3.3	Parts of buildings to be accessible	
Noted.		In a building <u>required</u> to be <u>accessible</u> —	To be addressed as part of
		(a) every ramp and stairway, except for ramps and stairways in areas exempted by <u>D3.4</u> , must comply with—	the access report.
		(i) for a ramp, except a <u>fire-isolated ramp</u> , clause 10 of <u>AS 1428.1;</u> and	
		 (ii) for a stairway, except a <u>fire-isolated stairway</u>, clause 11 of <u>AS 1428.1</u>; and 	
		 (iii) for a <u>fire-isolated stairway</u>, clause 11.1(f) and (g) of <u>AS 1428.1</u>; and 	
		(b) every passenger lift must comply with $\underline{E3.6}$; and	
		(c) <u>accessways</u> must have—	
		 (i) passing spaces complying with <u>AS 1428.1</u> at maximum 20 m intervals on those parts of an <u>accessway</u> where a direct line of sight is not available; and 	
		(ii) turning spaces complying with <u>AS 1428.1</u> —	
		(A) within 2 m of the end of <u>accessways</u> where it is not possible to continue travelling along the <u>accessway</u> , and	
		(B) at maximum 20 m intervals along the <u>accessway</u> ; and	
		 (d) an intersection of <u>accessways</u> satisfies the spatial requirements for a passing and turning space; and 	
		(e) a passing space may serve as a turning space; and	
		(f) a ramp complying with <u>AS 1428.1</u> or a passenger lift need not be provided to serve a <u>storey</u> or level other than the entrance <u>storey</u> in a Class 5, 6, 7b	
		(i) containing not more than 3 storeys: and	
		 (ii) with a <u>floor area</u> for each <u>storey</u>, excluding the entrance <u>storey</u>, of not more than 200 m²; and 	
		(g) clause 7.4.1(a) of <u>AS 1428.1</u> does not apply and is replaced with 'the pile height or pile thickness shall not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm'; and	
		(h) the carpet pile height or pile thickness dimension, carpet backing thickness dimension and their combined dimension shown in figure 8 of <u>AS</u> <u>1428.1</u> do not apply and are replaced with 11 mm, 4 mm and 15 mm respectively.	

D3.4	Exemptions	
	The following areas are not required to be accessible:	To be addressed as part of the access report.
	(a) An area where access would be inappropriate because of the particular purpose for which the area is used.	
	(b) An area that would pose a health or safety risk for people with a disability.	
	(c) Any path of travel providing access only to an area exempted by (a) or (b).	
D3.5	Accessible car parking	
	Accessible carparking spaces—	To be addressed as part of
	 (a) subject to (b), must be provided in accordance with <u>Table D3.5</u> in— (i) a Class 7a building <u>required</u> to be <u>accessible</u>; and 	the access report. Height in the existing carpark may be an issue.
	 (ii) a carparking area on the same allotment as a building <u>required</u> to be <u>accessible</u>; and 	
	(b) need not be provided in a Class 7a building or a carparking area where a parking service is provided and direct access to any of the carparking spaces is not available to the public; and	
	(c) subject to (d), must comply with <u>AS/NZS 2890.6</u> ; and	
	(d) need not be designated where there is a total of not more than 5 carparking spaces, so as to restrict the use of the carparking space only for people with a disability.	
D3.6	Signage	
	In a building <u>required</u> to be <u>accessible</u> —	To be addressed as part of
	 (a) braille and tactile signage complying with <u>Specification D3.6</u> and incorporating the international symbol of access or deafness, as appropriate, in accordance with <u>AS 1428.1</u> must identify each— (i) sanitary facility, except a sanitary facility within a <u>sole-occupancy unit</u> in a Class 1b or Class 3 building; and (ii) space with a hearing augmentation system; and (b) signage including the international symbol for deafness in accordance with <u>AS 1428.1</u> must be provided within a room containing a hearing augmentation system identifying— (i) the type of hearing augmentation; and (ii) the area covered within the room; and (iii) if receivers are being used and where the receivers can be obtained; and 	the access report.
	D3.5	 accessible: (a) An area where access would be inappropriate because of the particular purpose for which the area is used. (b) An area that would pose a health or safety risk for people with a disability. (c) Any path of travel providing access only to an area exempted by (a) or (b). D3.5 Accessible car parking Accessible carparking spaces—

lcon	Clause	Reference	Comment
?		(c) signage in accordance with <u>AS 1428.1</u> must be provided for <u>accessible</u> unisex sanitary facilities to identify if the facility is suitable for left or right handed use; and (d) signage to identify an ambulant <u>accessible</u> sanitary facility in accordance with <u>AS 1428.1</u> must be located on the door of the facility; and	To be addressed as part of the access report.
		 (e) where a pedestrian entrance is not <u>accessible</u>, directional signage incorporating the international symbol of access, in accordance with <u>AS 1428.1</u> must be provided to direct a person to the location of the nearest <u>accessible</u> pedestrian entrance; and 	
		(f) where a bank of sanitary facilities is not provided with an accessible unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not accessible, to direct a person to the location of the nearest accessible unisex sanitary facility.	
	D3.7	Hearing augmentation	
?		Where an inbuilt amplification system other than an EWIS is provided a hearing augmentation system is to be provided in the following locations:-	To be addressed as part of the access report.
		- Conference room with a floor area greater than 100m ² ,	
		- Judicatory room,	
		 Ticket office, reception area where the public is 	
		screened from the service provider.	
	D3.8	Tactile indicators	
?		Required to public stairs and ramps in accordance with Section 1 and 2 of AS/NZS 1428.4.1	To be addressed as part of the access report.
	D3.9	Wheelchair seating spaces in Class 9b assembly be	uildings
N/A		Number and grouping must be provided in accordance with Table D3.9	This clause does not apply to this project.
	D3.10	Swimming pools	
N/A		 Not less than 1 means of entry /exit in accordance with Specification D3.10 to pool require to be accessible by Table 3.1 	This clause does not apply to this project.
		vonere perimeter more than 70m entry must be by ramp/aquatic wheelchair or zero depth entry	
	D3.11	Ramps	
?		 Series of connected ramps must not have a combined vertical rise of more than 3.6 m 	To be addressed as part of the access report.
		A landing for a step ramp must not overlap a landing for another step ramp or ramp	

lcon	Clause	Reference	Comment
	D3.10	Glazing on accessway	
?		On an accessway where this is no transom, all fully glazed doors sidelights and glazing capable of being mistaken for a doorway or opening must be clearly marked in accordance with As1428.1 (75 mm solid line between 900 mm and 1100 mm above the FFL)	To be addressed as part of the access report.

Section E: Services and Equipment

Part E1 – Fire Fighting Equipment

lcon	Clause	Reference	Comment
	E1.3	Hydrants	
X		 a) System to be provided to serve whole building:- (i) Floor area exceeds 500m² b) (i) Installed to AS 2419.1-2005 (iii) Pump set to AS 2419.1. 	The current hydrant system on AFSS is Ord 70 and must be upgrades to the current standard but consideration of location of the fittings outside the fire stairs due to landing sizes.
	E1.4	Hose reels	
X		 a) System to be provided to serve whole building:- (i) Where hydrants installed internally or to serve any fire compartment greater than 500m²: b) (i) Installed to AS 2441-2005 (iii) Hose to reach every part (iv) (A) Located externally or, (B) Within 4m of exit or, (C) Adjacent to hydrant (not within fire isolated exit). 	Generally not within 4.0m of exits but adjacent to fire hydrants. Changes to ground floor will need to be reviewed to ensure coverage.
	E1.5	Sprinklers	
?		System may be required to be provided to serve the entire building to AS 2118.1 and Spec E1.5 as applicable, see Table E1.5 for details when required	Currently there are no sprinklers installed. These are an option for smoke hazard management.
	E1.6	Portable fire extinguishers	
√		To be installed to Table E1.6 and AS 2444.	Current installations meet the intent of the BCA.
	E1.8	Fire control centres	
N/A		A fire control centre facility is required for a building that exceeds 18,000m ² in total floor space or where the building exceeds 25m effective height. A Building that exceeds 50m in height is required to be provided with a dedicated fire control room that complies with Spec E1.8	This clause does not apply to this project.

Part E2 – Smoke Hazard Management

lcon	Clause	Reference	Comment
	E2.2	General requirements	
X	E2.2a	One the following smoke hazard management strategies is required:- Automatic smoke exhausting to Spec E2.2b, or Automatic smoke and heat vents to Spec E2.2c, or Automatic smoke detection and alarm system to Spec E2.2a and AS 1670.1-2004, or Automatic sprinkler system to Spec E1.5 & AS 2118.1-1999.	Fire isolated stairs are to be pressurised. Sprinklers or zone smoke control is to be used. Smoke detectors and manual call points are required. A/C to shutdown if not part of smoke hazard management.
N/A	E2.2b	 All Class 9b Buildings are required to be provided with automatic shutdown. A licensed premises providing entertainment, must be provided with:- (a) in an auditorium Automatic smoke exhausting to Spec E2.2b, or Automatic smoke and heat vents to Spec E2.2c, or Automatic sprinkler system to Spec E1.5. (b) in all other cases One of the smoke hazard management measures listed under (a) above; or Automatic smoke detection and alarm system to Spec E2.2a. 	This clause does not apply to this project.
	E2.3	Provision for special hazards	
N/A		Additional smoke hazard management measures may be necessary due to the: a) Special characteristics of the building	This clause does not apply to this project.

Part E3 – Lift Installations

lcon	Clause	Reference	Comment
	E3.2	Stretcher facility in lifts	
1		 (a) Must be provided with: (i) at least 1 emergency lift required by E3.4 (ii) where emergency lift is not required, in at least 1 passenger lift in buildings over 12m. (b) Not less than 600mm wide and 2,000mm long x 1,400mm height. 	Clearance provided for a stretcher in the current lifts.
	E3.3	Warning against use of lift in fire	
✓		Warning signs are required at each lift landing located near every call button in accordance with Figure E3.3.	Complies as installed
	E3.4	Emergency lifts	
?		Required to buildings over 25m in effective height, or patient care areas of hospitals that do not have direct access to a road or open spaces complying with AS 1735.2.	The lifts to maternity and adjacent to the operating theatre are a compliant size and are on the AFSS.
	E3.6	Passenger Lifts	
?		 In an <u>accessible</u> building, every passenger lift must— (a) be one of the types identified in <u>Table E3.6a</u>, subject to the limitations on use specified in the Table; and 	All lifts do not comply with the but this is to be addressed in the access report.
		(b) have <u>accessible</u> features in accordance with <u>Table</u> E3.6b; and	
		(c) not rely on a constant pressure device for its operation if the lift car is fully enclosed.	
	E3.7	Fire service controls	
CR		All passenger lift cars require fire service controls in accordance with AS 1735.2	Design statement (or other means) required.

Icon Clause Reference Comment E4.2 Emergency lighting ? Required in every path of travel to an exit and any A system has been provided room having a floor area more than 100m² that does but lighting levels were not not open to a corridor or space with emergency checked. lighting and any room having a floor area in excess of 300m² required in every required non fire isolated stair. Emergency signage to be installed to AS 2293.1 E4.3 Measurement of distance Noted Distances other than vertical rise must be measured For information only. along the shortest path of travel whether by straight lines, curves or a combination of both. E4.4 Design and operation of exit signs For information only. Noted Every required exit sign must comply with AS 2293.1 E4.5 Exit signage ? Required above egress doors and doors from an A mixture of EXIT and enclosed stair to open space. Directorial signs 'running man' signs required to designate paths of travel. provided. To be reviewed as part of the refurbishment. Exit signage to be installed to AS 2293.1 E4.6 **Direction signs** ? Where an exit is not apparent, exit signs with A mixture of' EXIT' and directional arrows are required. 'running man' signs provided. To be reviewed as Class 9b POPE must have exit signs external to the part of the refurbishment. building to show the way to the road if not apparent when in the open space. E4.7 Class 2, 3 and 4 parts: Exemptions N/A E4.5 does not apply to-This clause does not apply to this project. 1. Class 2 building if the word "EXIT" is placed on the side of door remote from an exit, 2. An entrance door of a SOU in Class 2, 3 or 4. E4.8 Design and operation of exit signs Noted Every required exit sign must -For information only. (a) Comply with AS 2293.1; and Be clearly visible at all times when the building is (b) occupied. E4.9 Sound systems and intercom systems for emergency purposes 2 Sound systems and intercom systems for emergency An AS 2220 system is purposes required to comply with AS 1670.4-2004; installed with the panel at the Class 9b used as a school with RIS of more than Pearl Street entrance. It is 1. 3, or public Hall/POPE with floor area over likely that this will not be able 1,000m² or RIS of more than 2. to be integrated as part of the addition.

Part E4 – Emergency Lighting, Exit and Warning Systems

Section F: Health and Amenity

Part F1 – General

lcon	Clause	Reference	Comment
	F1.1	Stormwater Drainage	
1		Stormwater drainage must comply to AS 3500.3.2	Assume complies.
	F1.5	Roof Covering	
✓		Roof covering must comply with required Australian Standard.	Assume complies.
	F1.6	Sarking	
✓		Sarking used for weather proofing of roofs must comply with AS/NZS 4200.	Assume complies.
	F1.7	Water Proofing of Wet Areas in Buildings	
✓		Water proofing of wet areas within a building to comply with AS 3740.	Assume complies.
	F1.9	Damp-proofing	
✓		Damp-proofing where required to be installed in accordance with AS/NZS 2904 or AS 3660.1	Assume complies.
	F1.10	Damp-proofing of Floors on the Ground	
✓		Damp-proofing where required to be installed in accordance with AS 2870	Assume complies.
	F1.11	Provision of Floor Wastes	
N/A		In a Class 2, 3 or 4 part of a building, the floor of each bathroom and laundry located at any level above a sole-occupancy unit or public space must be graded to permit drainage to a floor waste.	This clause does not apply to this project.
	F1.12	Sub-floor Ventilation	
✓		The sub-floor space between a suspended floor of a building and the ground must be in accordance with the requirements of this clause.	Assume complies.
	F1.13	Glazed assemblies	
✓		Glazed assemblies in an external wall to comply with AS 2047 requirements for resistance to water penetration	Assume complies.

Part F2 – Sanitary and Other Facilities

lcon	Clause	Reference	Comment
	F2.1	Facilities in residential buildings	
N/A		 Minimum facilities required in Class 2 buildings: Within each sole occupancy unit- (a) a kitchen sink and facilities for the preparation and cooking of food; and (b) a bath or shower; and (c) closet pan and washbasin. 	This clause does not apply to this project.
N/A		 Laundry facilities, either- (a) in each sole occupancy unit (i) clothes washing facilities, comprising at least one washtub and space for a washing machine; and (ii) clothes drying facilities comprising: (A) clothes line or hoist with not less than 7.5m of line; or (B) space for one heat-operated drying cabinet or appliance in the same room as the clothes washing facilities. 	This clause does not apply to this project.
N/A		Facilities for employees- If the building contains more than 10 sole occupancy units, or a group of Class 2 buildings on the one allotment contains, in total, more than 10 sole occupancy units – a closet pan and washbasin in a compartment or room at or near ground level and accessible to employees without entering a sole occupancy unit.	This clause does not apply to this project.
	F2.1/3	Sanitary facilities in Class 3-9 buildings	
?		The number of sanitary facilities must be based upon the number of person accommodated calculated in accordance with D1.13 See Table F2.3 for details of number of toilets, washbasins and Urinals required.	Full details are required including patient and staff numbers. No baths found in the wards. Showers at 1 per 8 patients
	F2.4	Facilities for persons with disabilities	1
X		 Must be provided in accordance with Table F2.4(a) Each bank of toilets must be provided with an ambulant facility if more than 1 pan for each sex Accessible compartment to contain pan, wash basin, shelf or benchtop and means for the disposal of sanitary towels 	Accessible sanitary facilities to comply with AS1428.1 – 2009 and ambulant facilities are required. To be addressed in the access consultants report.

Part Table F2.3

		Max Number Served by								
Class of Building	User	Clo	set Fix	tures	Urinal(s)		Washbasins			
		1	2	Each Extra	1	2	Each Extra	1	2	Each Extra
3, 5, 6 and 9 other than schools	Employee Males Females	20 15	40 30	20 15	25	50	50	30 30	60 60	30 30
Ob an art an an	Participant Males Females	20 10	40 20	20 10	10	20	10	10 10	20 20	10 10
90 – sports venues or the like*	Spectators Males Females	250 15	500 60	500 60/1 70	100	100	100	150 60	150 200	150 150
9a – health care building	Patients Males Females	-	16 16	8 8	-	-	-	8 8	16 16	8 8
9b - public halls, function rooms or the like	Employees Males Females	100 25	300 50	200 50	50	100	50	50 50	200 150	200 200
7 and 8	Employees Males Females	20 15	40 30	20 15	25	50	50	20 20	40 40	20 20
6	Patrons Males Females	100 25	300 50	200 50	50	100	50	50 50	200 150	200 200
5 and 7	Employees Males Females	20 15	40 30	20 15	25	50	50	30 30	60 60	30 30

*0 Theatres and sporting venues must be provided with one shower for each 10 participants.

lcon	Clause	Reference	Comment	
	F2.5	Construction of sanitary compartments		
?		Where clear space between closet pan and doorway is less than 1.2m, doors must open outwards, slide or be readily removable from outside.	Not all facilities assessed as part of the audit.	
	F2.7	Microbial (legionella) control		
?		Hot water, warm water and cooling water systems in a building other than a system serving only a single sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building must be installed in accordance with AS/NZS 3666.1.	Assume complies.	
	F2.8	Waste management		
1		In a Class 9a a slop hopper or other device must be provided on any storey containing ward areas or bedrooms and a flushing apparatus, tap and grating	Required facilities have been provided.	

Part F3 – Room Sizes

lcon	Clause	Reference	Comment
	F3.1	Height of Rooms	
✓/X		 (b) in a Class 5, 6, 7 or 8 building— (i) except as allowed in (ii) and (f) — 2.4 m; and (ii) a corridor, passageway, or the like — 2.1 m; and (c) in a Class 9a <u>health-care building</u>— (i) a <u>patient care area</u> — 2.4 m; and (ii) an operating theatre or delivery room — 3 m; and (iii) a treatment room, clinic, waiting room, passageway, corridor, or the like — 2.4 m; 	Complies as constructed other than the physio / and medical records. Physio shown as changing to storage.

Part F4 – Provision of Natural Light

lcon	Clause	Reference	Comment
	F4.1	Provision of Natural Light	
✓		Class 2 buildings and Class 4 parts – to all habitable rooms. Class 9a and 9c buildings — to all rooms used for sleeping purposes.	Complies as constructed.
	F4.4	Artificial Lighting	
✓		Required to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. Artificial lighting system is to comply with AS 1680.0	Assume complies.
		Note : See also Section J for details of energy efficiency of lighting required.	
	F4.5	Ventilation of Rooms	
1		A mechanical ventilation or air conditioning system complying with AS 1668.2 is required.	Assume complies.
		Note : See also Section J for details of energy efficiency of Ventilation / Mechanical Ventilation/Air-conditioning required.	
	F4.11	Car Parks	
✓		Every <u>storey</u> of a <u>carpark</u> , except an <u>open-deck</u> <u>carpark</u> , must have—	Assume complies.
		a system of ventilation complying with AS 1668.2; or	
		an adequate system of permanent natural ventilation.	
	F4.12	Kitchen local exhaust ventilation	1
1		Commercial kitchen must be provided with a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2 (depending on input).	Assume complies.

lcon	Clause	Reference	Comment
	F5.3	Sound Insulation of floors between units	
N/A		A floor separating sole occupancy units must have an $R_{\rm W}$ (sound reduction index) not less than 45.	This clause does not apply to this project.
	F5.4	Sound Insulation of walls between units	
N/A		A wall must have an R_W not less than 45 if it separates:	This clause does not apply to this project.
		(a) sole occupancy units; or	
		 (b) a sole occupancy unit from a plant room, lift shaft, stairway, public corridor, hallway or the like. 	
	F5.5	Walls between a bathroom, sanitary compartment, habitable room in adjoining unit	laundry or kitchen and a
N/A		Walls must have:	This clause does not apply to
		(i) an R_W of not less than 50; and	this project.
		(ii) provide a satisfactory level of insulation against impact sound; and	
		(iii) not incorporate a duct which reduces the R _w of the wall to less than 50.	

Part F5 – Sound Transmission and Insulation – Residential Facilities Only

Section G: Ancillary Provisions

Part G1 – Minor Structures and Components

lcon	Clause	Reference	Comment
	NSW G1.101	Provision for Cleaning of Windows	
?		Provision is to be made for the cleaning of windows either within the building or to the OH&S Act 2000 for any windows three (3) or more above the ground.	Not assessed as part of the inspection.

Appendix B

Fire Resistance Provisions

Appendix B Fire Resistance Provisions

Table 3 – Type A Construction: FRL of Building Elements

	Class of Building – FRL (in minutes) Structural Adequacy/Integrity/Insulation						
Building Element	Class 2, 3 or 4 part	Class 5, 9 or 7 (car park)	Class 6	Class 7 (other than carpark) or 8			
<i>External Wall</i> (including any column and other building element incorporated therein) or other external building element, where the distance from and fire-source feature to which it is exposed is: For Loadbearing Parts:							
Less than 1.5m	90/90/60	120/120/120	180/180/180	240/240/240			
1.5m to less than 3m	90/60/60	120/90/90	180/180/120	240/240/180			
3m or more	90/60/30	120/60/30	180/120/90	240/180/90			
For Non-Loadbearing Parts:							
less than 1.5m	- /90/90	- /120/120	-/180/180	-/240/240			
1.5m to less than 3m	- /60/60	- /90/90	-/180/120	-/240/180			
3m or more	- / - / -	-/-/-	-/-/-	-/-/-			
<i>External Column</i> not incorporated in which it is exposed is:	n an external wall	, where the distance	e from any fire so	ource feature to			
Less than 3m	90/-/-	120/-/-	180/-/-	240/-/-			
3m or more	-/-/-	-/-/-	-/-/-	-/-/-			
Common Walls and Fire Walls:							
	90/90/90	120/120/120	180/180/180	240/240/240			
Internal Walls – Fire Resisting lift ar	nd stair shafts:						
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120			
Non-Loadbearing	- /90/90	- /120/120	-/120/120	-/120/120			
Bounding Public Corridors public lo	bbies and the like	e :					
Loadbearing	90/90/90	120/ - / -	180/ - / -	240/-/-			
Non-Loadbearing	- /60/60	-/-/-	-/-/-	-/-/-			
Between or Bounding Sole Occupation	ncy Units:						
Loadbearing	90/90/90	120/ - / -	180/ - / -	240/-/-			
Non-Loadbearing	- /60/60	-/-/-	- / - / -	- / - / -			
`Ventilating, pipe, garbage and like shafts not used for the discharge of hot products of combustion:							
Loadbearing	90/90/90	120/90/90	180/120/120	240/120/120			
Non-Loadbearing	- /90/90	- /90/90	- /120/120	- /120/120			
Other Loadbearing Internal Walls,	Internal Beams,	Trusses and Colu	imns:				
	90/ - / -	120/ - / -	180/-/-	240/-/-			
Floors:	90/90/90	120/120/120	180/180/180	240/240/240			
Roofs:	90/60/30	120/60/30	180/60/30	240/90/60			