FIRE SAFETY UPGRADE STRATEGY REPORT

220 Bentinck Street, BATHURST NSW 2795

Client:	St Stanislaus College
Reference:	23175
Revision:	02
Date:	11/08/2023

DAVIS GROUP

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This report represents the opinions of Davis Group Pty Ltd based on the facts and matters known at the time of preparation. Opinions, judgements and recommendations detailed in this report, which are based on our understanding and interpretation of current statutory and regulatory documents and should not be construed as legal opinions.

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REVISION HISTORY

DATE	REVISION	STATUS	AUTHOR
26/07/2023	01	Draft – for client review	JD
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EXECUTIVE SUMMARY

Davis Group has been engaged by St Stanislaus College to prepare a Fire Safety Strategy Upgrade Report for the purposes of Section 64 of the Environmental Planning and Assessment Regulation 2021.

Engagement involved a site inspection and assessment of the existing building against Section C, D1, D2, D3, E and G of the Building Code of Australia 2022 (BCA).

The purpose of this report is to document the assessment and make recommendations how the existing building can be brought into partial conformity with the BCA for the purpose of Section 64 of the Environmental Planning and Assessment Regulation 2021.

The report is intended to be submitted to Bathurst Regional Council as part of the development application.

The following is a summary of the key BCA compliance issues which require attention. It is important to note that these comments should be read in conjunction with the full BCA assessment contained in Section 4.

FIRE RESISTANCE		
CLAUSE	**PROVISION**	**COMMENT**
C2D2	Type of construction required	Upgrade Recommended/ Performance Solution
C3D3	General floor area and volume limitations	Upgrade Recommended
C3D8	Separation by fire walls	Upgrade Recommended/ Performance Solution
C3D10	Separation of classifications in different storeys	Upgrade Recommended/ Performance Solution
C4D3	Protection of openings in external walls	Performance Solution
C4D4	Separation of external walls and associated openings in different fire compartments	Upgrade Recommended
C4D6	Doorways in fire walls	Upgrade Recommended
C4D9	Openings in fire-isolated exits	Upgrade Recommended
C4D15	Openings for service installations	Upgrade Recommended
ACCESS AND EGRESS		
CLAUSE	**PROVISION**	**COMMENT**
D2D5	Exit travel distances	Performance Solution
D2D6	Distance between alternative exits	Performance Solution

D2D7	Height of exits, paths of travel to exits and doorways	Upgrade Recommended/ Performance Solution
D2D8	Width of exits and paths of travel to exits	Performance Solution
NSW D2D9	Width of doorways in exits or paths of travel to exits	Upgrade Recommended
D2D12	Travel via fire-isolated exits	Upgrade Recommended/ Performance Solution
D2D13	External stairways or ramps in lieu of fire-isolated exits	Upgrade Recommended/ Performance Solution
D2D14	Travel by non-fire-isolated stairways or ramps	Performance Solution
D2D15	Discharge from exits	Upgrade Recommended
D3D9	Enclosure of space under stairs and ramps	Upgrade Recommended
NSW D3D14	Goings and risers	Upgrade Recommended/ Performance Solution
D3D15	Landings	Upgrade Recommended/ Performance Solution
NSW D3D18	Height of barriers	Upgrade Recommended
D3D19	Openings in barriers	Upgrade Recommended
D3D20	Barrier climability	Upgrade Recommended
D3D22	Handrails	Upgrade Recommended
D3D25	Swinging doors	Upgrade Recommended
D3D26	Operation of latch	Upgrade Recommended/ Performance Solution
D3D28	Signs on doors	Upgrade Recommended
D3D29	Protection of openable windows	Upgrade Recommended
SERVICES AND EQUIPMENT		
CLAUSE	**PROVISION**	**COMMENT**
E1D2	Fire hydrants	Upgrade Recommended/ Performance Solution
E1D3	Fire hose reels	Upgrade Recommended
NSW E1D4	Sprinklers	Upgrade Recommended
E1D6	Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	Upgrade Recommended
E1D14	Portable fire extinguishers	Upgrade Recommended
E2D3	Smoke hazard management – general provisions	Performance Solution

E2D8	Buildings not more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building	Upgrade Recommended
E2D9	Buildings not more than 25 m in effective height: Class 5, 6, 7b, 8 and 9b buildings	Upgrade Recommended
NSW E2D16	Class 9b – assembly buildings: all	Upgrade Recommended
E4D2	Emergency lighting requirements	Upgrade Recommended
E4D5	Exit signs	Upgrade Recommended
E4D9	Emergency warning and intercom systems	Upgrade Recommended
ANCILLARY PROVISIONS		
CLAUSE	**PROVISION**	**COMMENT**
G6D1-G6D10	Occupiable outdoor areas	Upgrade Recommended

1. INTRODUCTION

1.1 BACKGROUND

Davis Group has been engaged by St Stanislaus College to prepare a Fire Safety Strategy Upgrade Report for the purposes of Section 64 of the Environmental Planning and Assessment Regulation 2021.

Engagement involved a site inspection and assessment of the existing building against Section C, D1, D2, D3, E and G of the Building Code of Australia 2022 (BCA).

1.2 PURPOSE OF REPORT

The purpose of this report is to document the assessment and make recommendations how the existing building can be brought into partial conformity with the BCA for the purpose of Section 64 of the Environmental Planning and Assessment Regulation 2021.

The report is intended to be submitted to Council as part of the development application.

1.3 DOCUMENTATION

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

- Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act)
- Environmental Planning and Assessment Regulation 2021 (EP&A Regulation)
- Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 (DC&FS Regulation)
- Building Code of Australia 2022 – Volume One (BCA)
- Sets of architectural plans reference 2499.19 Revision 01 prepared by Stanton Dahl Architects dated 06/02/2023
- Heritage impact Statement Revision 5 prepared by Umwelt (Australia) Pty Ltd dated 21 December 2022.
- Annual fire safety statement prepared by Jamie Wheeler dated January 2020 (AFSS)

1.4 LIMITATIONS AND EXCLUSIONS

This report does not include or imply that any assessment has been undertaken to address matters in relation to the following:

- Construction Safety Act, Disability Discrimination Act, Local Government Act and Work Health and Safety Act.
- Requirements of other Regulatory Authorities, including, but not limited to, Telstra, Sydney Water, Electricity Supply Authority, WorkCover, RTA or the like.
- Section J or any other part of the BCA not specifically noted.
- The design, maintenance or operation of any electrical, mechanical, hydraulic or fire services

This report does not incorporate a detailed assessment of the Australian Standards referenced in the BCA. Structural and services documentation have not been reviewed. This report considered matters of a significant nature and should not be considered an exhaustive list. This report does not relieve a Registered Certifier or Council of their statutory obligations under the any Act and they are to be satisfied that the proposal meets their requirements prior to approval. This report must not be used for the purpose of a design under the Design and Building Practitioners Act 2020. Davis Group Pty Ltd cannot guarantee acceptance of this report by the Council or the Fire Brigade.

2. DEVELOPMENT SUMMARY

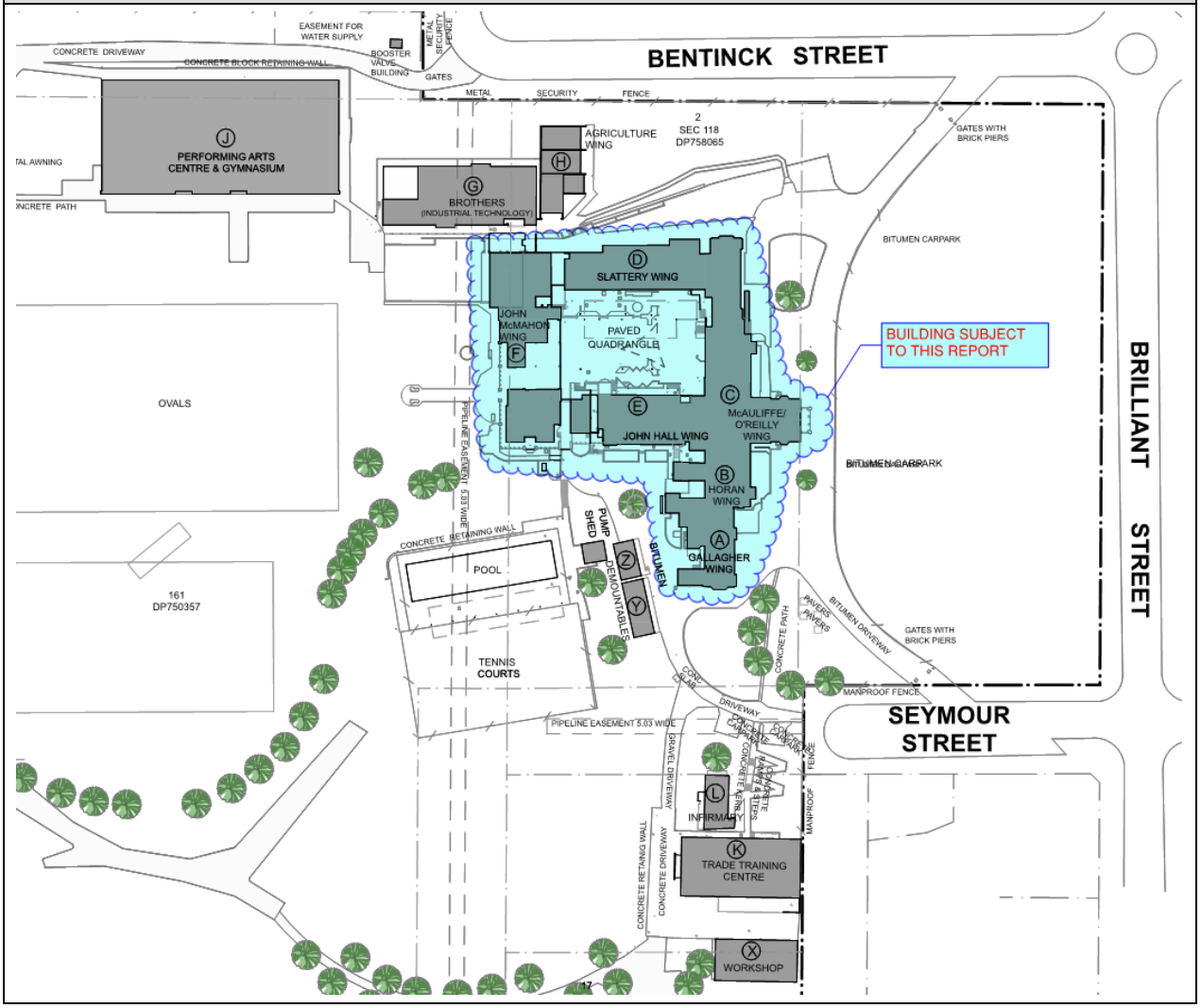
2.1 LOCATION

The subject building is located at 220 Bentinck Street, Bathurst. The property is bound by Brilliant Street and residential properties to the north-east, Havannah Street to the south-east, Bathurst Public School to the south, Government properties to the south-west and Bentinick Street to the north-west.

The site is located within the Local Government Area of Bathurst Regional Council.

The property contains multiple existing buildings, including the main college building that is constructed around the central courtyard. The main college building is the subject of this report and is highlighted on the site plan below.

SITE PLAN



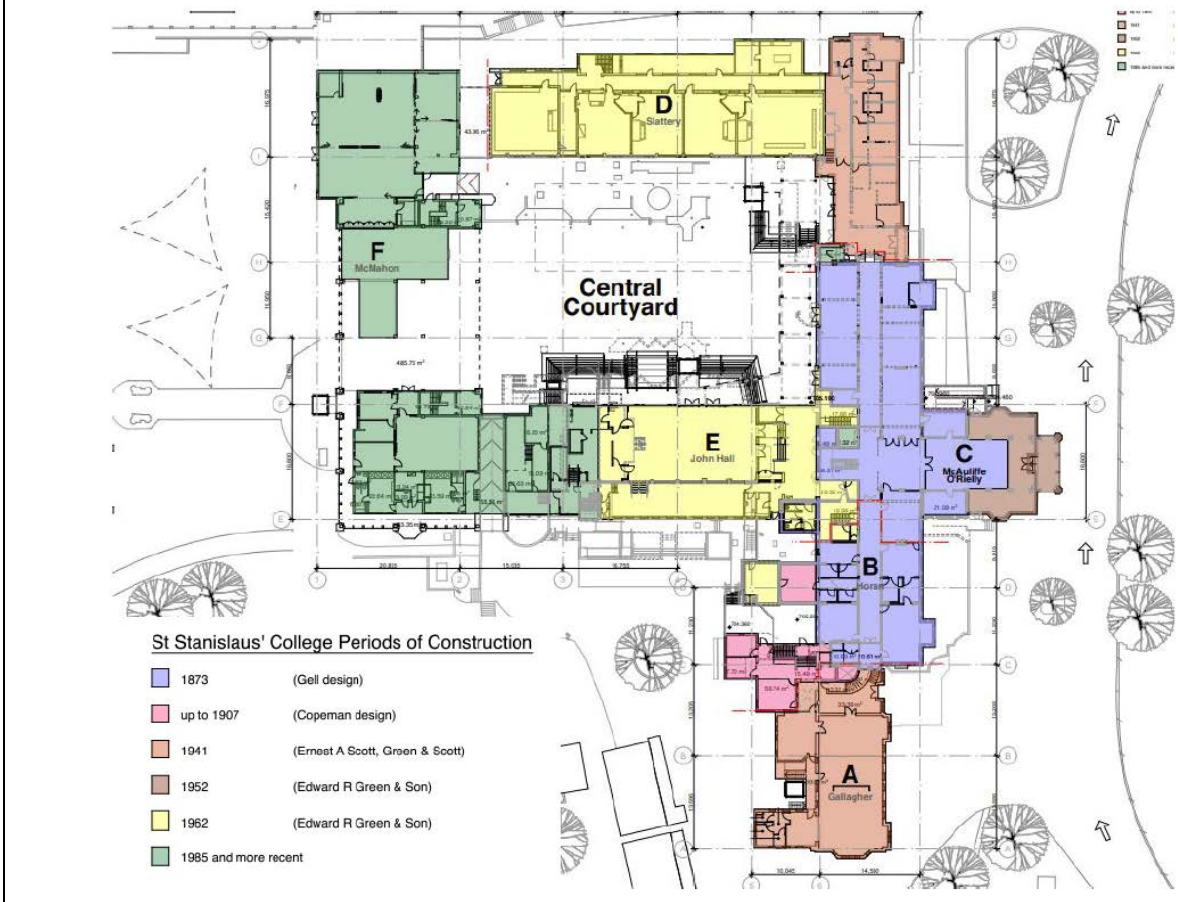
2.2 DESCRIPTION OF THE EXISTING BUILDING

The existing building has been subject to various alterations and additions that have been categorised into periods of construction by the design team as follows:

REFERENCE	DATE	DESCRIPTION
Lilac	1873	Gell design
Pink	Up to 1907	Copeman design
Light Brown	1941	Ernest A Scott, Green & Scott
Brown	1952	Edward R Green & Son
Yellow	1962	Edward R Green & Son
Green	1985 and more recent	

The different periods of construction are highlighted in the corresponding colours on the floor plan below.

PERIOD OF CONSTRUCTION PLAN



2.3 DESCRIPTION OF DEVELOPMENT

A development application (reference 10-2023-38-1) has been lodged to Bathurst Regional Council for partial demolition, alterations and additions to the existing educational facility.

2.4 PRINCIPAL BUILDING CHARACTERISTICS

The following is summary of the existing building characteristics for the purpose of the BCA.

BCA CLASSIFICATION	Class 3 – Boarding Class 5 – Administration offices Class 9b - School
RISE IN STOREYS	6
FLOOR AREA LIMITATIONS	8,000 m^2
VOLUME LIMITATIONS	48,000 m^3
TYPE OF CONSTRUCTION	Type A
CLIMATE ZONE	Zone 7
APPROXIMATE FLOOR AREA	Basement – 800 m^2 Ground – 5,000 m^2 Upper Ground – 500 m^2 First – 4,550 m^2 Second – 2,850 m^2 Total 13,700 m^2

2.5 PHASING OF UPGRADE WORKS

A single development application has been lodged for the proposed development, however, it is anticipated the works will occur over 5 phases.

It is expected multiple construction certificates and part occupation certificates will be issued throughout the course of the development. As such, it is recommended the upgrade works detailed in this report occur while the works are occurring that part of the building. For example, the upgrading works relevant to the part of the building in phase 1 should occur during the phase 1 development works.

Therefore, part occupation certificates can be issued for specific parts of the building, after the development and upgrading works have been completed in that part of the building.

This prevents a circumstance from arising where an occupation certificate cannot be issued for works that have been completed as part of phase 1 until the upgrading works in phase 5 have been completed.

Upgrade works that affect multiple phases should be completed as part of the phase to which the system is relevant. For example, in the case of the fire hydrant system, the upgrade works to the brigade booster assembly should be completed as part of phase 1

as the fire hydrant booster assembly is required to serve all parts of the building. However, upgrading specific fire hydrants in the building should occur when the development is occurring in that specific part of the building and fire hydrant coverage is required.

2.6 MINOR VARIATIONS TO RECOMMENDED UPGRADES

The recommended upgrades have been prepared based upon the existing building and proposed planning design, which is likely to be subject to further design detail throughout the construction documentation and construction certificate assessment.

The recommendations contained in this report are not intended to be read or interpreted as being fixed. The recommended upgrades have been toughly considered, however, the method of upgrading or standard of performance may vary as part of the relevant construction certificate application. This may be due to:

- requirements of Fire & Rescue NSW as part of the FEB process,
- future amendments to the BCA, which is typically updated in a 3 yearly cycle and some of the standards recommended in the report are likely to change over the course of the development from phase 1 to phase 5,
- unforeseen issues in concealed spaces or the like which could not have been foreseen without destructive testing,
- use of alternative construction methodologies that are permitted comply with the same requirements of the BCA,
- other conditions of consent such as heritage considerations or accessibility upgrading requirements under the Premises Standards.

It is not expected a revised upgrade report would or should be prepared if the same upgrading outcome is achieved in a manner that involves a minor variation to the specific recommendations contained in this report.

3. LEGISLATION

3.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT

Section 4.15(1)(a)(iv) of the Act requires the consent authority to take into consideration the provisions of the regulations (to the extent that they prescribe matters) in determining the development application.

3.2 ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION

Section 64 of the EP&A Regulation applies to the determination of a development application that involves the rebuilding or alteration of an existing building if:

(a) the proposed building work and previous building work together represent more than half of the total volume of the building, or

(b) the measures contained in the building are inadequate –

  (i) to protect persons using the building, if there is a fire, or

  (ii) to facilitate the safe egress of persons using the building from the building, if there is a fire, or

  (iii) to restrict the spread of fire from the building to other buildings nearby.

The consent authority has determined the measures contained in the existing building are inadequate. Therefore, the consent authority must consider whether it is appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia (BCA).

This report is intended to be submitted to Bathurst Regional Council to recommend strategies as to how the building is proposed to be brought into partial conformity with the current BCA.

It must be noted parts of the existing heritage building were constructed 150 years ago and it is not practical or possible to bring the building into total conformity with the current BCA.

4. BCA ASSESSMENT

The following is a detailed clause by clause assessment of the existing building against the relevant Deemed-to-Satisfy Provisions of Section C, D1, D2, D3, E and G of the BCA.

The following abbreviations have been used:

ABBREVIATION	MEANING
Not Relevant	The Deemed-to-Satisfy Provision is not considered relevant.
Noted	The relevant parts of the Deemed-to-Satisfy Provision have been noted and considered.
No Upgrade	The existing building is considered to provide a sufficient level of compliance and it is recommended that no upgrades to the current BCA occur.
Performance Solution	Compliance with the relevant Deemed-to-Satisfy Provision has not been achieved. It is recommended the building be upgraded to comply with the BCA via a Performance Solution.
Upgrade Recommended	The existing building does not comply with the relevant Deemed-to-Satisfy Provision of the current BCA. It is recommended the building be upgraded to comply with the Deemed-to-Satisfy Provisions of the current BCA.

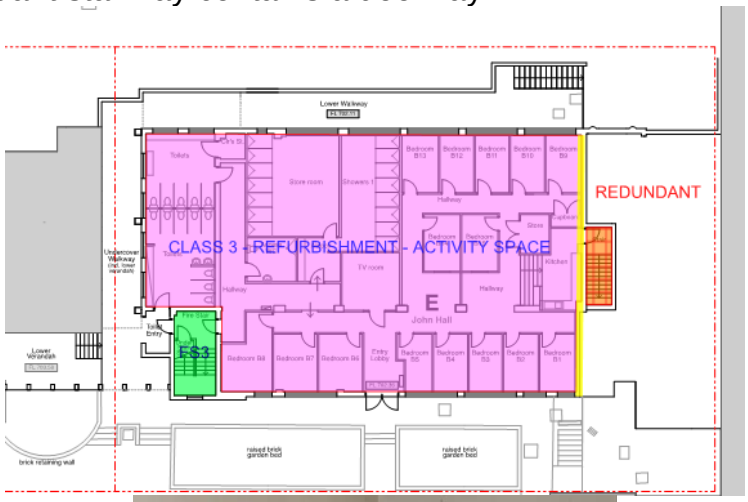
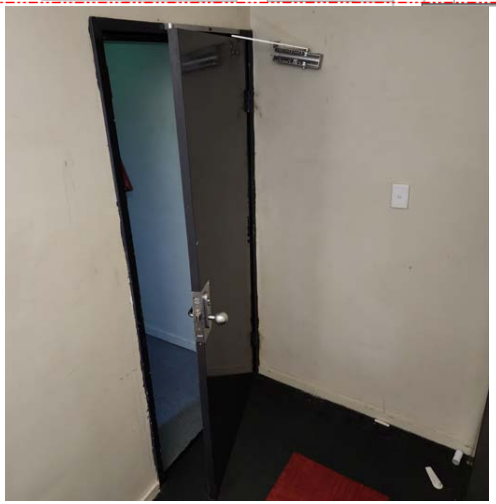
4.1 SECTION C: FIRE RESISTANCE

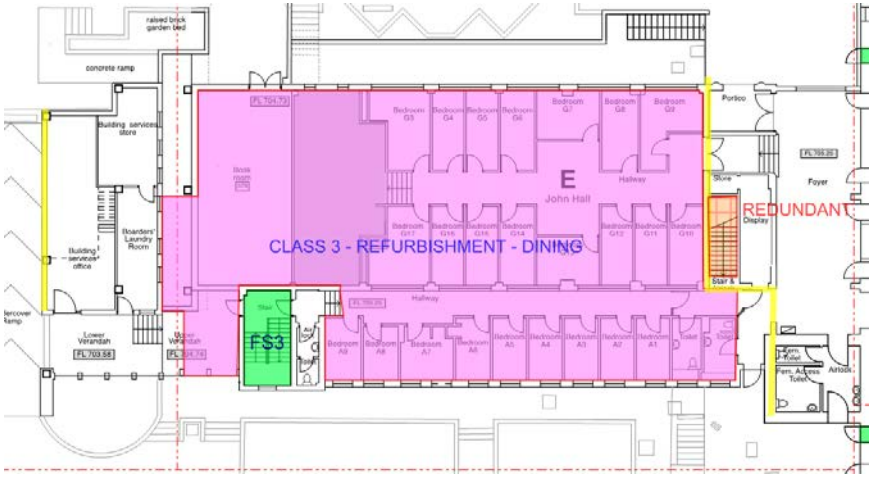
Section C of the BCA relates to fire resistance and stability, compartmentation and separation, and protection of openings.

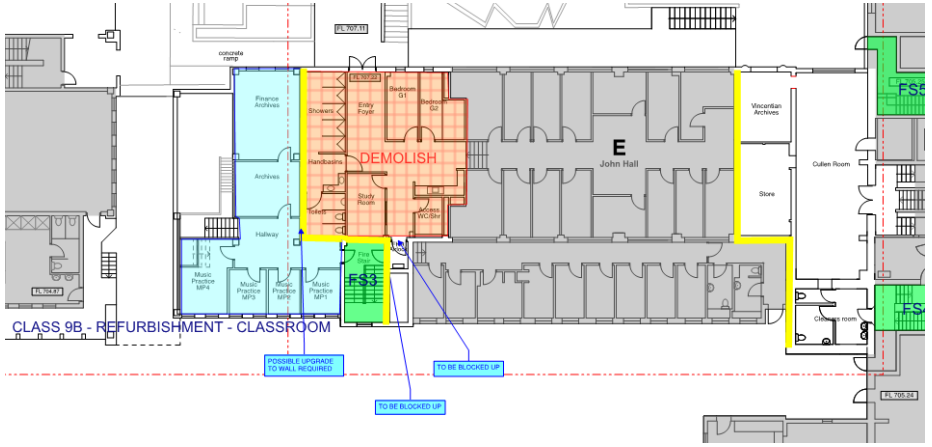
PART C1: FIRE RESISTANCE			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
-	-	This Part of the BCA contains the Objectives, Functional Statements, Performance Requirements and Verification Methods for Section C.	**Noted**
PART C2: FIRE RESISTANCE AND STABILITY			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
C2D1 [C1.0]	Deemed-to-Satisfy Provisions	-	**Noted**
C2D2 [C1.1]	Type of construction required	The existing building is required to be Type A construction and the proposed development does not result in a change to the required Type of construction. <u>Observations</u> During the site inspection, it was observed varying methods of construction and building elements with differing Fire-Resistance Levels (FRLs) have been used. This is due to the age of the building and multiple additions over a period of 150 years. Referring to the period of construction plan contained in Section 2.2 of this report, the area highlighted in green (post 1985) were generally observed to be consistent with modern construction methods used to achieved the FRLs required by Specification 5.	**Noted** **Noted**

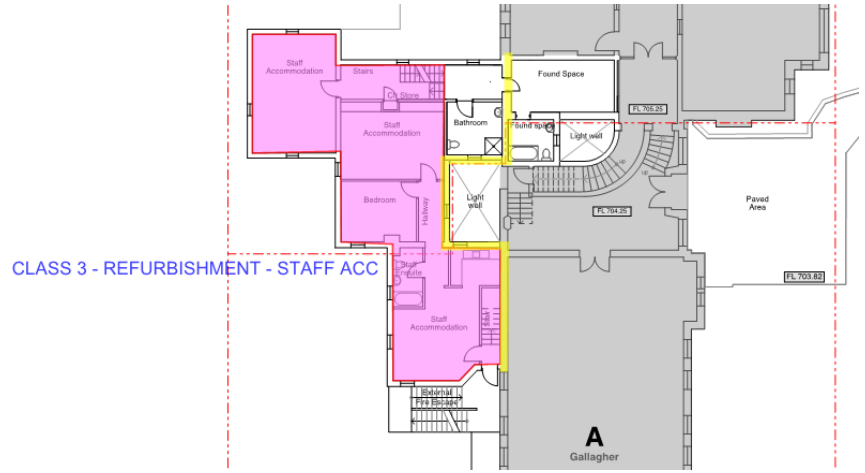
		The areas constructed in 1873, 1907, 1947 and 1952 were generally observed to have double-brick walls for the external walls, internal load bearing walls and fire stair shafts, with timber framed floors and ceilings. The area highlighted in yellow (1952) in Block D were observed to contain a combination of construction methods (double-brick walls, single skin brick wall, non-load-bearing timber internal walls and concrete slabs) that are consistent with modern day construction methods used to achieve the FRLs required by Specification 5. The area highlighted in yellow (1952) in Block E were observed to contain a combination of construction methods that are not consistent with modern day construction methods. This appears to be the result of historical re-developments and partial upgrades where some fire-resisting building elements, such as the fire wall have been upgraded but the timber floors have not. <u>Floors</u> It is recommended all floors (not only floors between classifications) throughout the building be upgraded using the details outlined in C3D10 of this report. This will result in a combination of no upgrades, physical work upgrades and a Performance Solution. <u>Fire walls for fire compartments</u> Refer to the comments in C3D8 of this report regarding the construction of fire walls. This will result in a combination of physical work upgrades and a Performance Solution.	**Upgrade Recommended/ Performance Solution** **Upgrade Recommended/ Performance Solution**

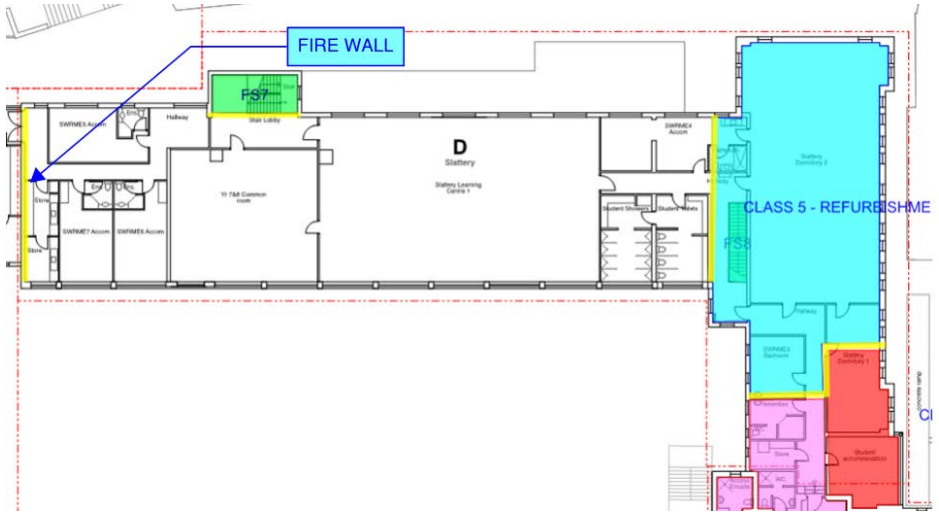
		<u>Roof</u> The existing roof covering is non-combustible. It is recommended the roof not be upgraded as a sprinkler system is proposed to be provided in accordance with S5C15. <u>Bounding construction - general</u> Each dormitory or part of the Class 3 building is proposed to be considered an individual unit, provided with bounding construction around the perimeter of the dormitory. This is a deviation from the traditional arrangement where each individual bedroom or suite is considered a sole-occupancy unit, due to the common boarding arrangements. It is recommended discussions occur with the Certifier – Fire Safety regarding the feasibility of a Performance Solution for this configuration of bounding construction to be provided. During the site inspection, limited access was available into the concealed roof space. The part of the roof space that was accessible in Block C indicated the existing masonry walls that may be used as bounding construction stop at the ceiling and do not extend to the underside of the roof covering. It is recommended a bounding construction on the Second Storey extend to the underside of the roof covering. The location of the recommended bounding construction has been marked up in yellow on the floor plans below for each storey. Please note this is only the recommended preliminary locations of the bounding construction and this may be subject to change during the construction certificate phase.	**No Upgrade** **Upgrade Recommended/ Performance Solution**

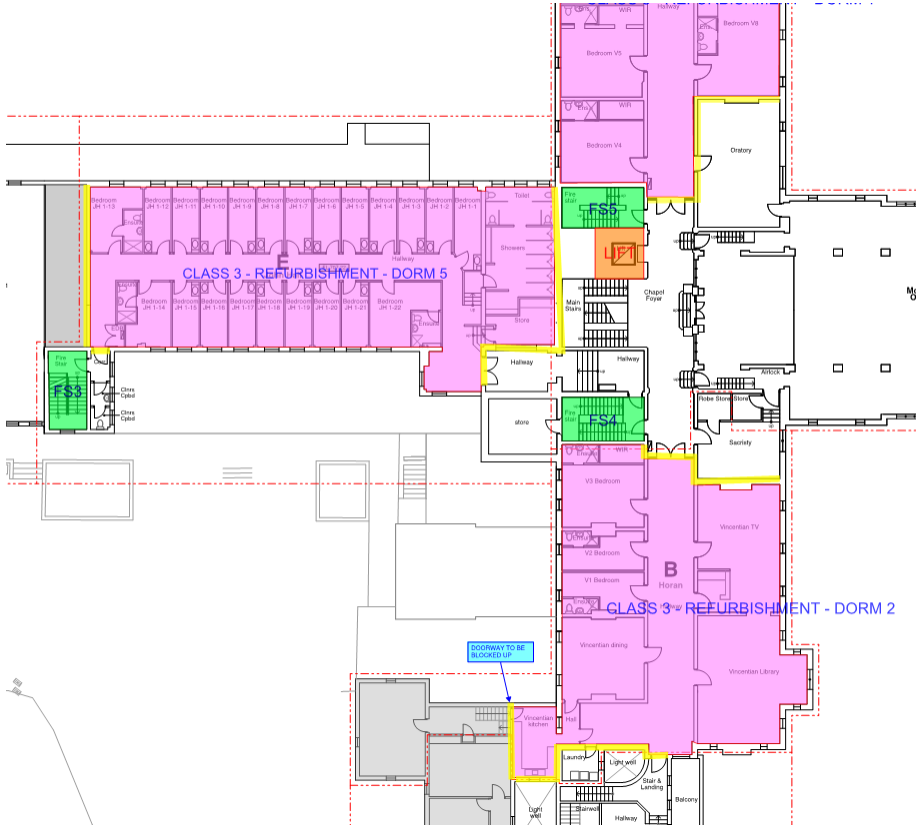
		<u>Bounding construction - Basement</u> The existing masonry wall located at the bottom of the redundant stairway contains a doorway.   It is recommended the existing doorway located at the bottom of the redundant stairway be blocked up to achieve an FRL of at least 90/90/90.	**Upgrade Recommended**

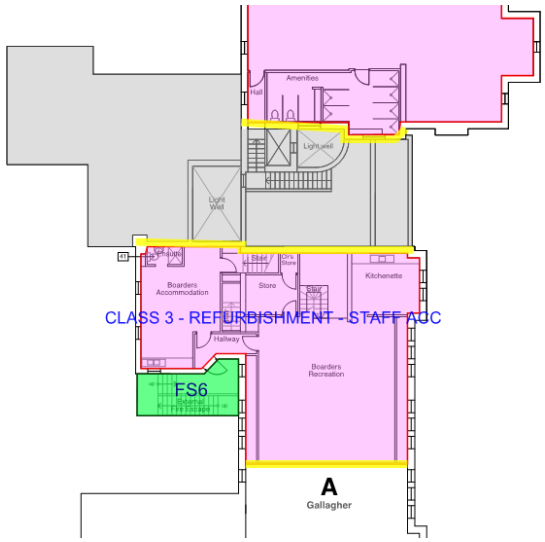
		<u>Bounding construction - Ground Storey – Block E</u> During the site inspection, it was observed a fire wall appears to have been partially constructed from the portico, across the landing and adjacent to the redundant stairway on the Ground Storey (right side on plan below).  It is recommended the wall be extended across the top of the redundant stairway, through the foyer hallway and the existing wall of the sanitary facilities be used as the bounding construction. The wall highlighted in yellow on the left side of the above plan is a double-brick wall that faces into the under croft ramp area. It is recommended no upgrades occur to this wall.	**Upgrade Recommended** **No Upgrade**

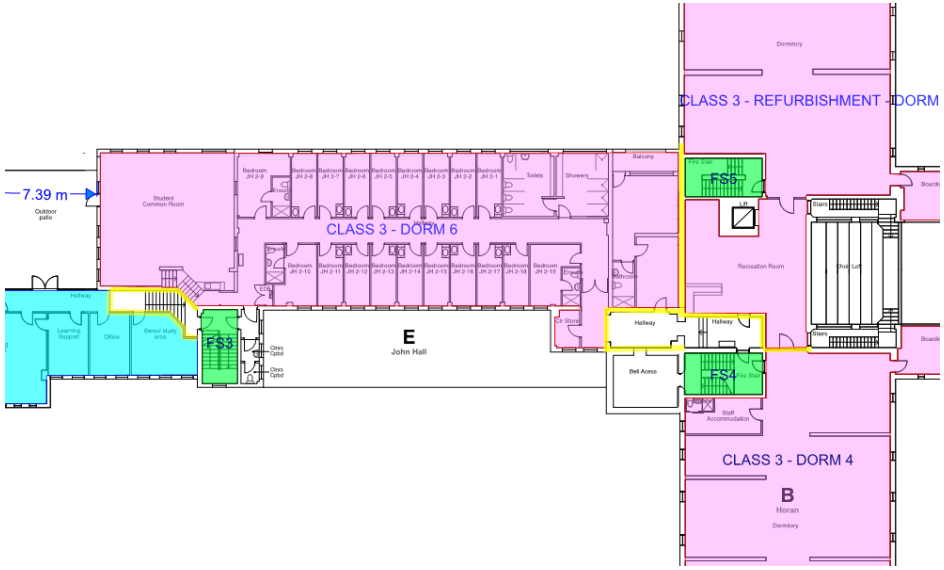
		<u>Bounding construction – Upper Ground Storey – Block E</u> Part of the existing Upper Ground Storey floor area is proposed to be demolished and the Class 3 dining area will have a raised ceiling, which results in mid-storey exposure to the Upper Ground Storey. The walls highlighted in yellow will become bounding construction.  The wall located between the Class 9b classroom and floor area to be demolished contains an opening (possibly an old doorway) in the masonry construction that does not appear to be of fire-resisting construction. Refer to the photograph below.  It is recommended the infill material be removed and the opening be upgraded to achieve an FRL of at least 90/90/90.	**Upgrade Recommended**

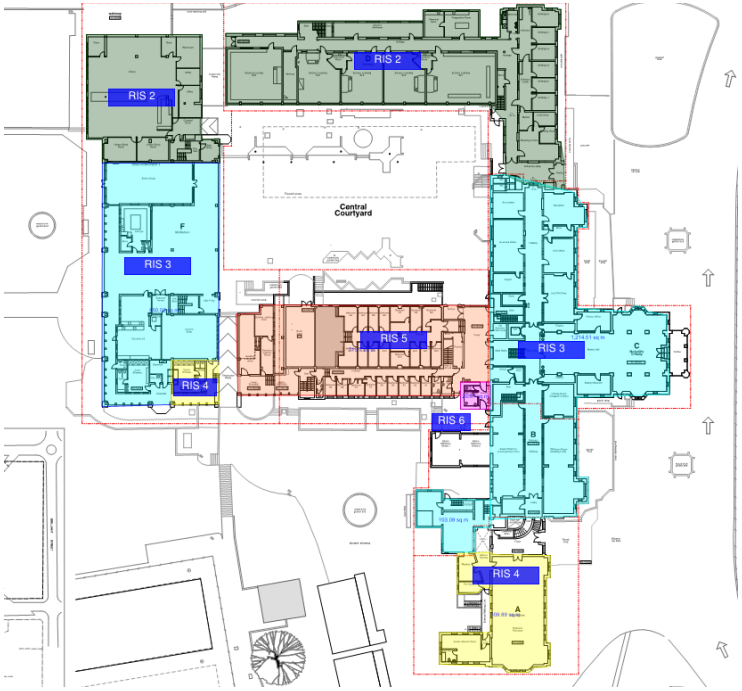
		<u>Bounding construction - Upper Ground Storey – Block A</u> During the site inspection, it was observed a double masonry wall had been constructed in the location marked up in yellow (possibly a previous part of an external wall).   It is recommended the doorway between the hallway and the found space be blocked up and discussions occur with the Certifier – Fire Safety regarding the feasibility of a Performance Solution for drenchers to be provided to the windows located in the light well.	**Upgrade Recommended/ Performance Solution**

		<u>Bounding construction - First Storey – Block D</u> The First Storey of Block D is partially used for the purpose of a dormitory. The western wall is marked up in yellow but proposed to be a fire wall as detailed in C3D8 of this report.  It is recommended the other areas highlighted in yellow be provided as bounding construction to the Class 3 parts of the building.	**Upgrade Recommended**

		Bounding construction - First Story – Block B, C and E  It is recommended the walls highlighted in yellow be provided as bounding construction to the Class 3 parts of the building.	**Upgrade Recommended**

		<u>Bounding construction - Second Storey – Block A and B</u> The Second Storey in Block A is a mezzanine styled storey that is proposed to be used for the purpose of staff accommodation. The southern wall is lightweight construction with windows, exposed to the proposed First Storey below.  It is recommended the walls highlighted in yellow are provided as bounding construction to the Class 3 parts. Whilst outside the scope of upgrades, bounding construction is also required to be provided at the top of the proposed stairway to the Second Storey of Block A. The required wall is not highlighted on the plan above.	**Upgrade Recommended**

		<u>Bounding construction - Second Storey – Block B, C and E</u> It is recommended the walls highlighted in yellow be provided as bounding construction to the Class 3 parts of the building and the proposed public corridors associated with the Class 3 parts. The wall adjacent to the light blue part of Block F is proposed to be bounding construction for a public corridor. However, it is also indicatively proposed to be a fire wall with a FRL of 120/120/120. Refer to the comments in C3D8 of this report. The fire wall has the higher FRL and the wall is required to achieve a FRL of 120/120/120.  	**Upgrade Recommended**

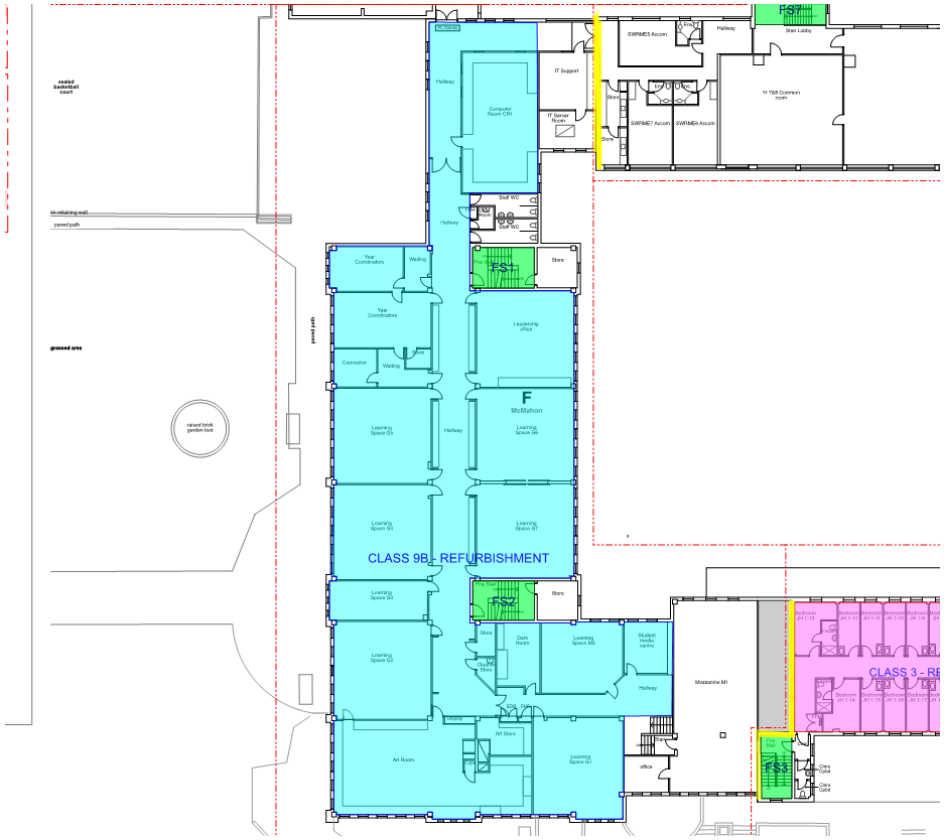
C2D3 [C1.2]	Calculation of rise in storeys	The existing building has a rise in storeys of 6 at the bell tower, which is the highest rise in storeys. A review of the rise in storeys for each individual room was not conducted as part of this report due to the size and complexity of the existing building. The internal floor levels are proposed to change as part of the proposed development, particularly in Block E. However, the proposed development does not increase the rise in storeys to more than 6. The following plan generally identifies the rise in storeys for the different parts of the existing building. The plan is only a general map and should not be relied upon or used to inform any other assessments. 	**Noted**

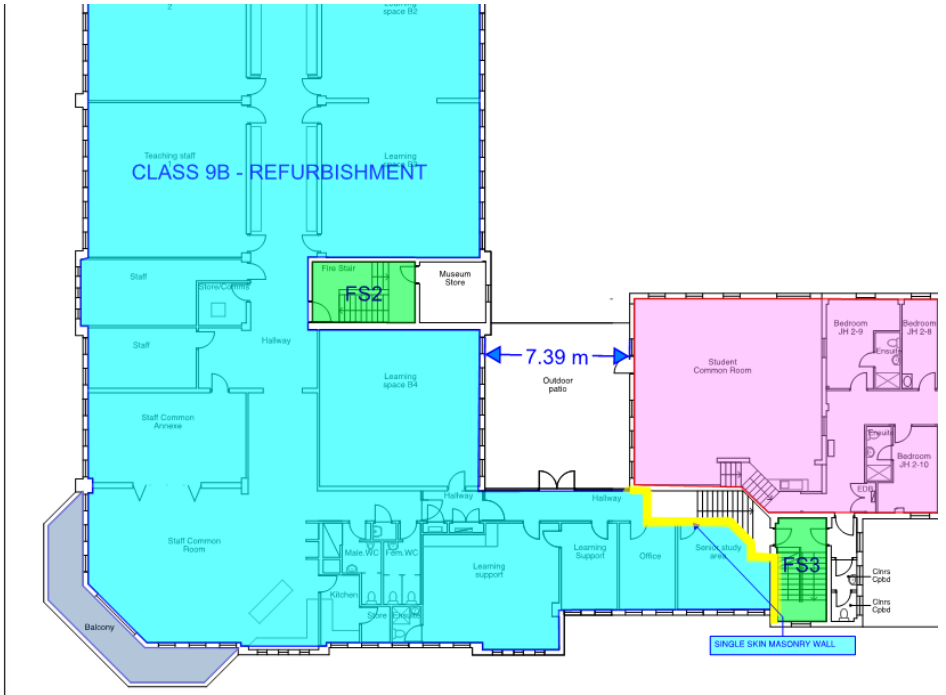
C2D4 [C1.3]	Buildings of multiple classification	The existing building is required to be of Type A construction.	**Noted**
C2D5 [C1.4]	Mixed types of construction	The existing building is only required to be of Type A construction.	**Noted**
C2D6 [C1.5]	Two storey Class 2, 3 or 9c buildings	The existing building has a rise in storeys of more than two.	**Not Relevant**
C2D7 [C1.6]	Class 4 parts of buildings	The existing building does not include a Class 4 part.	**Not Relevant**
C2D8 [C1.7]	Open spectator stands and indoor sports stadiums	The existing building does not include an open spectator stand or indoor sports stadium.	**Not Relevant**
C2D9 [C1.8]	Lightweight construction	During the site inspection, no lightweight fire-resisting construction was observed to construct a wall or as a covering to a steel column. The annual fire safety statement for the building does not list any lightweight fire-resisting construction as a fire safety measure used to construct a wall or as a covering to a steel column.	**Not Relevant**
C2D10 [C1.9]	Non-combustible building elements	During the site inspection, it was observed the external walls were generally constructed of masonry (double-brick). It is recommended no upgrades occur to the existing external walls due to the heritage value of the external walls. Where combustible building elements were observed to be contained in the walls such as the timber windows, decorate fretwork, timber louvers etc, the building elements were generally isolated.	**No Upgrade**
NSW C2D11 [C1.10]	Fire hazard properties	It is recommended no upgrades occur to the existing wall linings, ceiling linings, floor linings, attachments and ductwork etc due to the heritage value of the existing building fabric.	**No Upgrade**

C2D12 [C1.11]	Performance of external walls in fire	During the site inspection, no concrete external walls that could collapse as complete panels (eg. tilt-up and pre-cast concrete) were observed.	**Not Relevant**
C2D13 [C1.13]	Fire-protected timber: concession	During the site inspection, no timber protected timber was observed.	**Not Relevant**
C2D14 [C1.14]	Ancillary elements	During the site inspection, it was observed the external walls were generally constructed of masonry (double-brick). It is recommended no upgrades occur to the ancillary elements that are installed within, attached to or supported by the external walls due to the heritage value of the external walls.	**No Upgrade**
C2D15 [NEW]	Fixing of bonded laminated cladding panels	During the site inspection, no fixed bonded laminated cladding panels were observed on the external walls.	**Not Relevant**
PART C3: COMPARTMENTATION AND SEPARATION			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
C3D1 [C2.0]	Deemed-to-Satisfy Provisions	-	**Noted**
C3D2 [C2.1]	Application of part	C3D3, C3D4 and C3D5 do not apply to a carpark provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, an open-deck carpark or an open spectator stand. C3D13(1)(e) does not apply to a Class 8 electricity network substation.	**Noted**
C3D3 [C2.2]	General floor area and volume limitations	During the site inspection, it was observed the existing building appears to be a single fire compartment. However, historical attempts have been made to separate the building into different fire compartments, particularly Block F, parts of Block E and parts of Block D. Detailed calculations of the floor area and volume limitations for	**Upgrade Recommended**

		Type A construction have not been conducted as part of this assessment. The proposed works include alterations to the existing floor area and volume, in addition to use of a large Class 3 part, which is not subject to the floor area and volume limitations under Table C3D3. A high level review of the building has been conducted. The areas proposed to be Class 5 or 9b have conservatively been estimated to have a floor area of approximately 9,000 m^2, which exceeds maximum of 8,000 m^2. It is recommended Block F (which has a floor area of approximately 4,000 m^2 (including the under croft area on the Ground Storey) be setup as a separate fire compartment. Refer to the comments in C3D8 regarding the location and construction of fire walls.	
C3D4 [C2.3]	Large isolated buildings	The existing building is not a large-isolated building.	**Not Relevant**
C3D5 [C2.4]	Requirements for open space and vehicular access	The existing building is not a large-isolated building.	**Not Relevant**
NSW C3D6 [C2.5]	Class 9 buildings	The existing building does not include a Class 9a health-care, Class 9b early childhood centre or Class 9c part.	**Not Relevant**
C3D7 [C2.6]	Vertical separation of openings in external walls	It is recommended the existing building be provided with a sprinkler system that complies Specification 17. Refer to the comments in Part E1 of this report. As a sprinkler system is recommended, the requirements for vertical separation between storeys/ windows is not applicable to the building.	**Noted**

C3D8 [C2.7]	Separation by fire walls	It is recommended Block F be separated from the remainder of the building by fire walls that achieve a FRL of at least 120/120/120. The general location of the proposed walls are highlighted in yellow on the floor plans below, however, the exact location may be varied as the design progresses during the construction certificate phase. <u>Ground Storey</u>  The fire walls located near Block F and E, and Block F and D does not extend through the under croft area. It is recommended the windows in the wall of the library and the lack of fire wall adjacent to the library in these parts of the building be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety	**Upgrade Recommended/ Performance Solution**

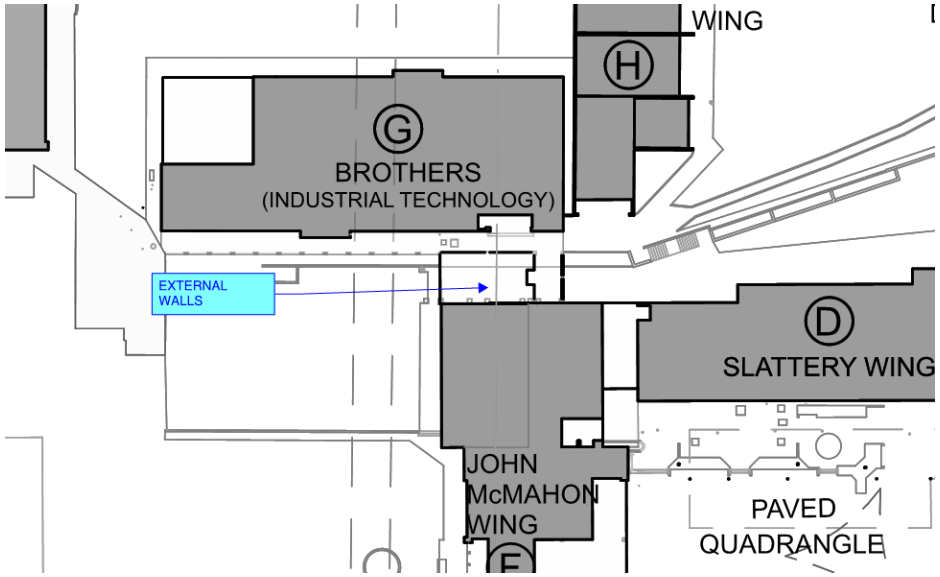
		First Storey The existing wall between Block D and F is a double masonry wall that is likely to achieve a FRL of 120/120/120. The fire wall between Block F and E is also a masonry double masonry wall that is likely to achieve a FRL of 120/120/120.  It is recommended the existing anticipated FRLs for the existing walls be confirmed by the structural engineer as part of the construction certificate application.	**Noted**

		<u>Second Storey</u> The existing wall between the hallway and staff rooms is a single skin masonry wall that is unlikely to achieve a FRL of at least 120/120/120.  It is recommended the existing wall be upgraded to achieve a FRL of at least 120/120/120. It is also recommended separation through the junction/ eaves of the hallway, outdoor patio, external walls and student common room be reviewed by a Certifier – Fire Safety	**Upgrade Recommended/ Performance Solution**
C3D9 [C2.8]	Separation of classifications in the same storey	-	**Noted**

C3D10 [C2.9]	Separation of classifications in different storeys	During the site inspection, it was observed the existing building is provided with varying methods of construction and differing FRLs achieved for floors between storeys. This is due to the age of the building and multiple additions over a period of 150 years. Destructive testing of the floors and ceiling was not conducted, however, general observations were made where access was available. <u>Observations</u> The floors in Block A were generally of timber construction. The floors in Block B were generally of timber construction with some ceilings lined with two layers of 16 mm fire-resisting plasterboard. The floors in Block C were a combination of timber and concrete slabs. The floors in Block D were generally concrete slabs, the floors in Block E were a combination of timber and concrete slabs and the floors in Block F were concrete slabs. <u>Concrete slabs</u> Where the existing building is provided with a concrete slab, it is recommended no further upgrade occur. <u>Timber floors – ceiling to be reconstructed</u> Where the underside of the floor (ceiling) is proposed to be removed and refurbished as part of the proposed works, and the floor is of timber construction, it is recommended the underside of the floor be lined with lightweight fire-resisting plasterboard (or similar) to achieve the FRL required for the use as detailed in Specification 5.	**Noted** **No Upgrade** **Upgrade Recommended**

		<u>Timber floors – ceilings to be preserved</u> Where the underside of the floor (ceiling) is proposed to be preserved for architectural, heritage or other concerns, it is recommended the floor FRL be reviewed in a holistic way by a Certifier – Fire Safety. It is recommended the floors be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety based upon the use, expected fuel loads, sprinkler system and size of the floor not provided with a FRL.	**Performance Solution**
C3D11 [C2.10]	Separation of lift shafts	The existing building contains a lift located in the main foyer. The lift connects 3 storeys, however, it is recommended the existing building be provided with a sprinkler system that complies with Specification 17. Refer to the comments in Part E1 of this report. As a sprinkler system is recommended, the lift is not required to be located in a fire-isolated shaft with walls that achieve the FRLs prescribed by Specification 5.	**Noted**
C3D12 [C2.11]	Stairways and lifts in one shaft	The existing building does not include a stairway and lift in the same shaft.	**Not Relevant**
C3D13 [C2.12]	Separation of equipment	During the site inspection, a boiler was observed in the basement of Block F. The boiler room was enclosed by masonry construction (concrete slab and brick walls). The existing concrete slab and masonry walls appear to be modern construction and are assumed to achieve an FRL of 120/120/120, although no destructive testing was conducted.	**No Upgrade**

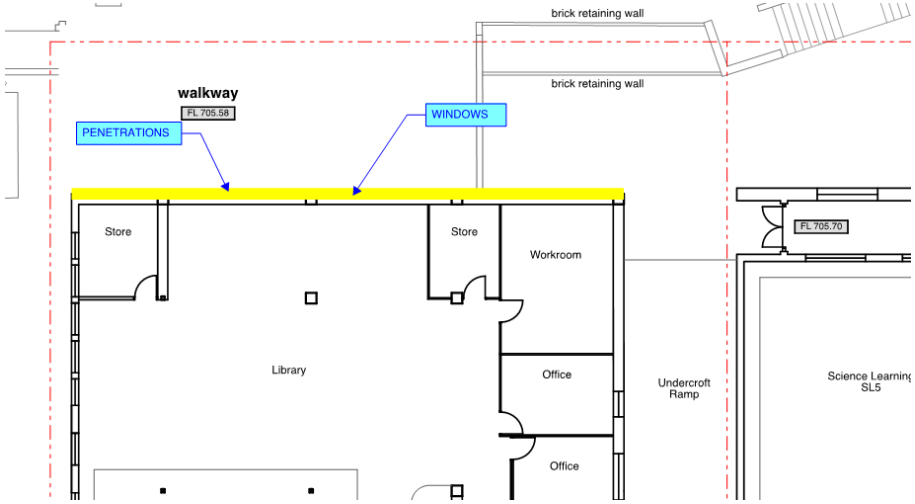
			
C3D14 [C2.13]	Electricity supply system	During the site inspection, no electrical substation or a main switchboard that is required to operate in emergency mode such as fire pumps, sprinkler pumps, emergency lifts, emergency warning and intercom system, control and indicating equipment, or smoke control etc was observed within the building. Equipment that will operate in emergency mode is required to be installed as part of the proposed development. The new equipment is required to comply with the current BCA (as in force at the time of the construction certificate application), however, there is no existing equipment to upgrade.	**Not Relevant**
C3D15 [C2.14]	Public corridors in Class 2 and 3 buildings	The existing public corridor from the proposed Class 3 part on the Second Storey of Block E (leading into FS3) is less than 40 m and the existing public corridor on the Second Storey, between Block C and Block E (leading into FS4) is less than 40 m. No upgrade is required. All other existing public corridors in the existing Class 3 parts of the building are proposed to be demolished and/ or refurbished. The building works in the refurbished areas of the building are required to comply with the current BCA (as in force at the time of the construction certificate application).	**No Upgrade**

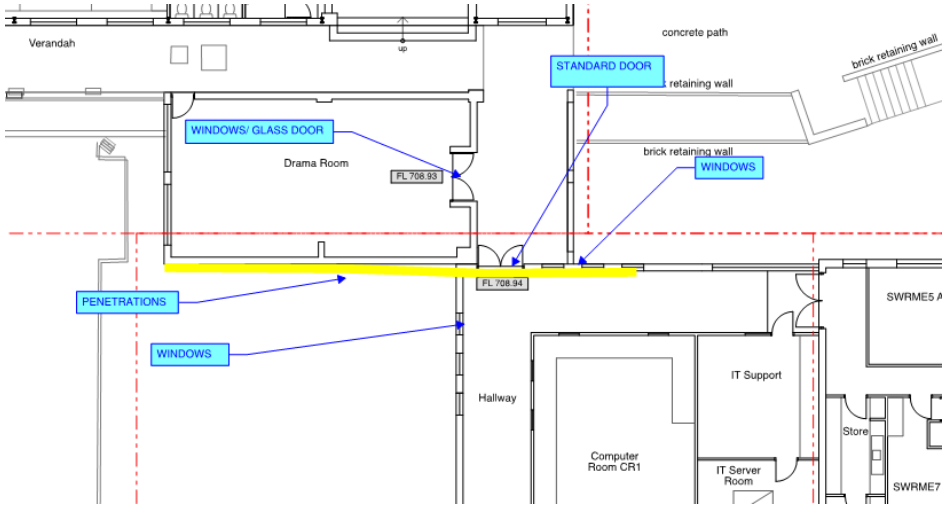
PART C4: PROPTECTION OF OPENINGS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
C4D1 [C3.0]	Deemed-to-Satisfy Provisions	The Deemed-to-Satisfy Provisions of this Part do not apply to joints between panels in external walls of pre-cast concrete panel construction if, in all cases they are not larger than necessary for the purpose.	**Noted**
C4D2 [C3.1]	Application of part	-	**Noted**
C4D3 [C3.2]	Protection of openings in external walls	During the site inspection, it was observed the fire-resisting external walls between Block F and the adjoining Drama Room/ Block G are not well defined. The area of discussion is identified on the site plan below.  The following marked-up photographs highlight the walls that appear to be the external walls providing fire separation between the buildings.	**Performance Solution**

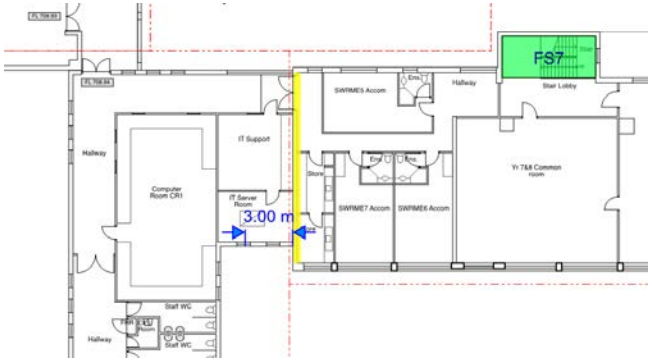
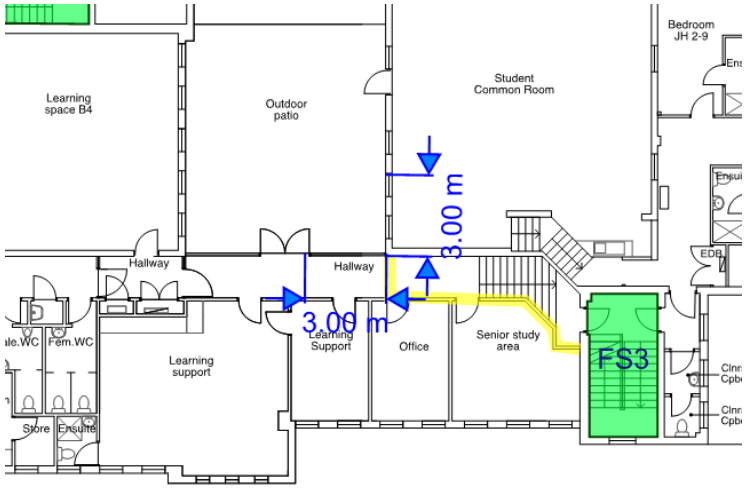
		External wall of First Storey Drama Room.  External wall of Ground Storey Library/ Walkway) 	

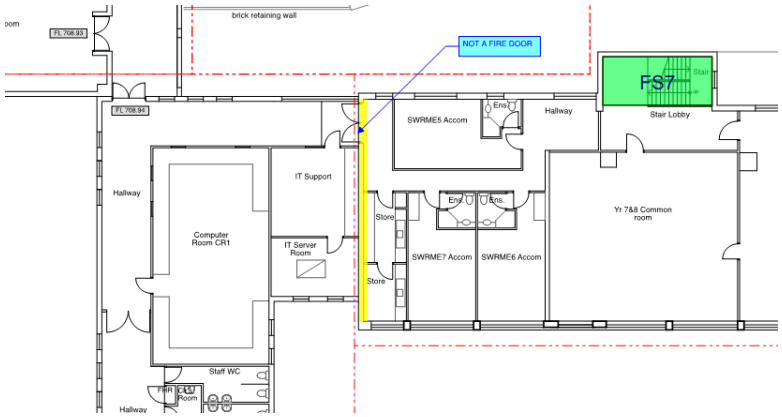
External walls of First Storey Block F and Drama Room

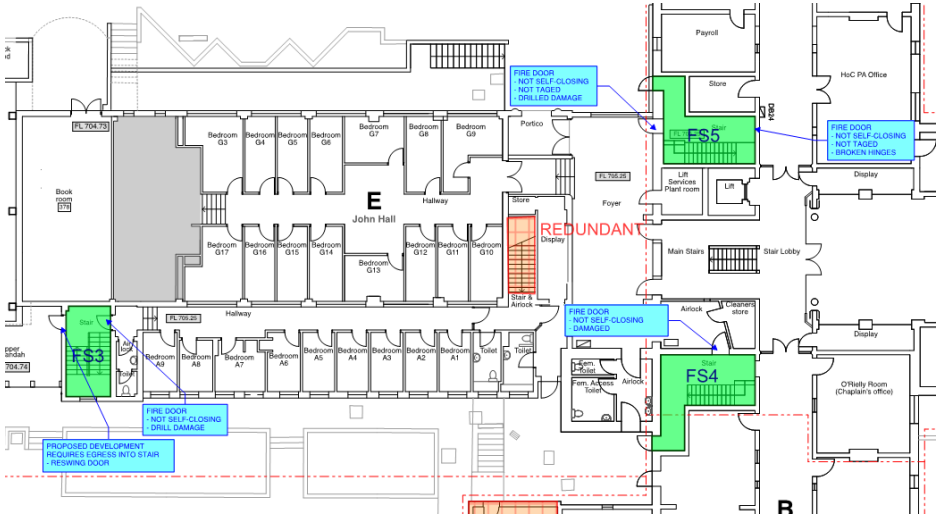
The following marked up floor plans show the location (in yellow) of where the external walls of the building are assumed to be located.



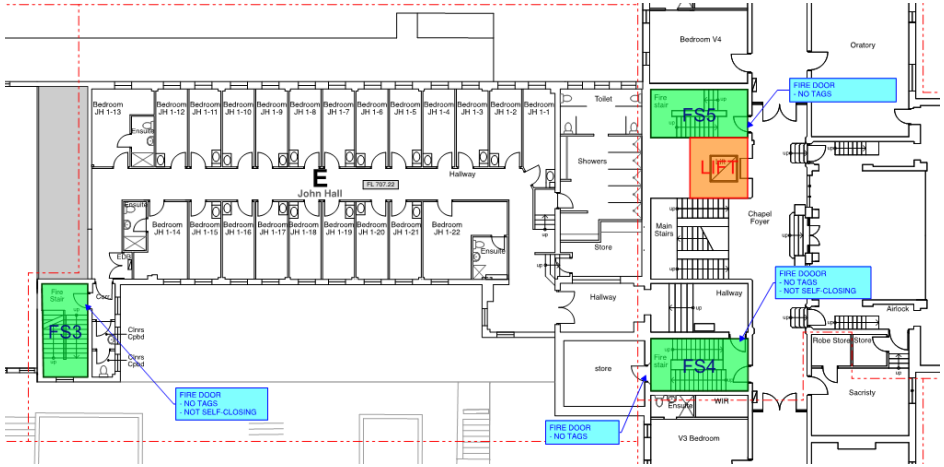
		 The external wall contains multiple unprotected penetrations, windows and non-fire-resisting doors, which is contrary to C4D3. It is recommended the configuration of the external walls and the openings be reviewed in a holistic manner by a Certifier – Fire Safety. It is recommended the external walls and openings be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	
C4D4 [C3.3]	Separation of external walls and associated openings in different fire compartments	The indicative location of the proposed fire walls to separate the building into two fire compartments are detailed in C3D8 of this report. As a result of the proposed locations, there are external walls associated with different parts of the building that are exposed to different fire compartments.	**Upgrade Recommended**

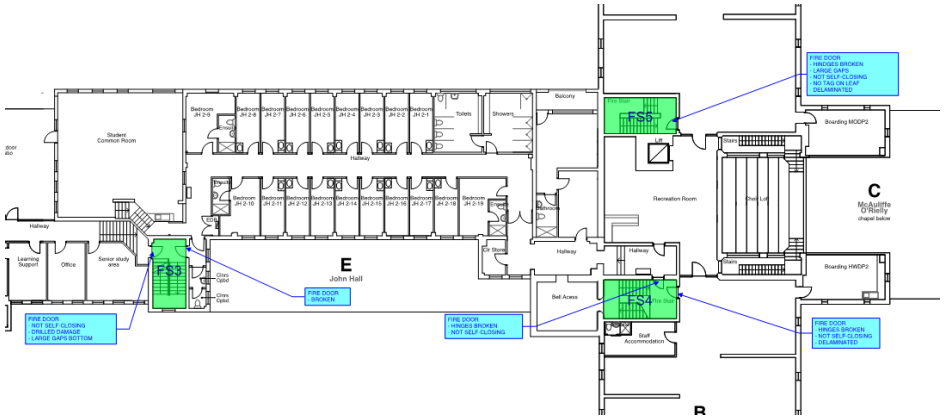
		<u>First Storey – Block F and D</u>  It is recommended the two windows located on the First Storey within 3 m of the external wall be permanently fixed in the closed position and provided with external wall-wetting sprinklers. <u>Second Storey – Block F and E</u>  It is recommended the windows and glazed walls located on the Second Storey be permanently fixed in the closed position and provided with external wall-wetting sprinklers.	

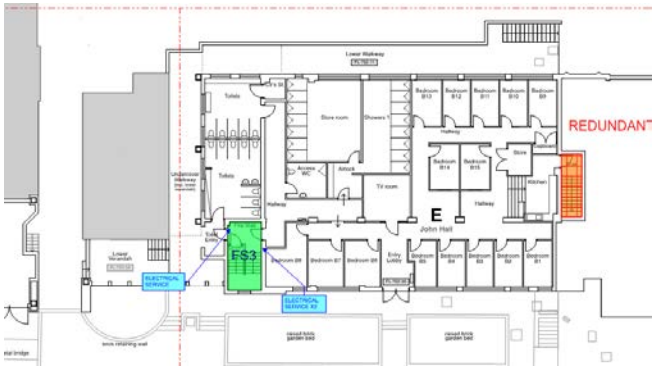
C4D5 [C3.4]	Acceptable methods of protection	-	**Noted**
C4D6 [C3.5]	Doorways in fire walls	The building is recommended to be provided with multiple fire walls, refer to the comments in C3D8 of this report. Noting that bounding construction to the Class 3 parts of the building are not fire walls. The indicative location of the fire wall between Block D and F includes an existing doorway that is not a fire door.   It is recommended the existing door be replaced with a self-closing fire door that achieve a FRL of -/120/30 to comply with C4D6.	**Upgrade Recommended**

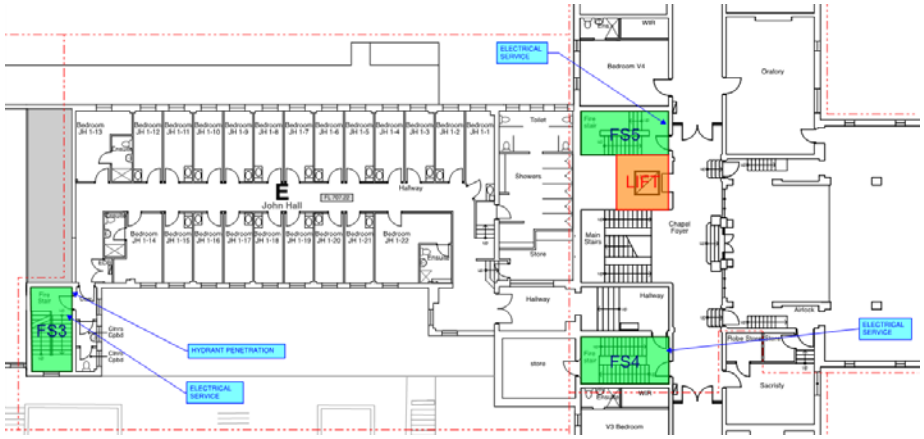
C4D7 [C3.6]	Sliding fire doors	The existing building does not contain a sliding fire door.	**Not Relevant**
C4D8 [C3.7]	Protection of doorways in horizontal exits	The existing building does not contain a horizontal exit.	**Not Relevant**
C4D9 [C3.8]	Openings in fire-isolated exits	The building contains three required fire-isolated exits identified as fire stairs 3, 4 and 5, with multiple non-compliant or damaged fire doors, which are discussed below. <u>Ground Storey – Fire stair 3, 4 and 5</u> The door to western side of fire stair 3 is currently acting as a point of discharge, however, due to the proposed development, it will be a point of entry into the fire stair. The door must be replaced with a -/60/30 fire door that swings in the direction of egress.  It is also recommended the damaged, not-self closing and untagged fire-doors to fire stairs 3, 4 and 5 be removed and replaced with new -/60/30 fire doors to comply with C4D9.	**Upgrade Recommended**

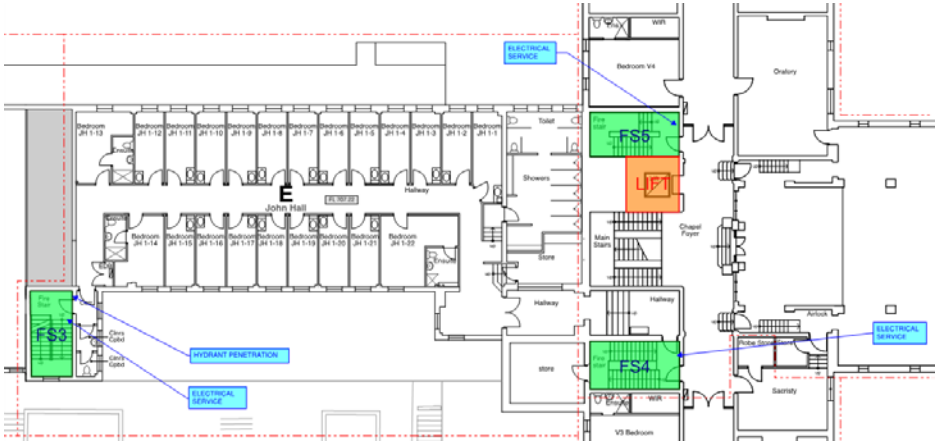
		<u>Upper Ground Storey – Fire stair 3 and 4</u> The fire doors in fire stairs 3 and 4 are damaged and contain excessive gaps. The entry into fire stair 3 (eastern side) is to be filled in as part of the proposed development.   It is recommended the damaged and untagged fire-doors to fire stairs 3 and 4 be removed and replaced with new -/60/30 fire doors to comply with C4D9. The entry into fire stair 3 (eastern side) be filled in with masonry construction to achieve a FRL of at least 120/120/120 to comply with Specification 5.	**Upgrade Recommended**

		First Storey – fire stair 3, 4 and 5 The fire doors in fire stairs 3, 4 5 are not self-closing or not tagged as fire doors.   It is recommended the damaged and untagged fire-doors to fire stairs 3, 4 and 5 be removed and replaced with new -/60/30 fire doors to comply with C4D9.	**Upgrade Recommended**

		<u>Second Storey – Fire stair 3, 4 and 5</u> The fire doors in fire stairs 3, 4 5 are not self-closing, not tagged as fire doors, contain excessive gaps or are significantly damaged/ broken.   It is recommended the damaged and untagged fire-doors to fire stairs 3, 4 and 5 be removed and replaced with new -/60/30 fire doors to comply with C4D9.	**Upgrade Recommended**

C4D10 [C3.9]	Service penetrations in fire-isolated exits	The building contains three required fire-isolated exits identified as fire stairs 3, 4 and 5. The exits contain multiple non-permitted services and unprotected penetrations, which are marked up on the floor plans below. <u>Basement – Fire stair 3</u>  It is recommended the non-permitted electrical services be removed and the penetrations repaired. <u>Ground Storey – Fire stair 3 and 4</u>  It is recommended the non-permitted electrical services be removed and the penetrations repaired.	**Upgrade Recommended**

		Upper Ground Storey – Fire stair 3 and 4  It is recommended the non-permitted electrical services be removed and unprotected penetrations be repaired. First Storey – Fire stair 3, 4 and 5  It is recommended the non-permitted electrical services be removed and unprotected penetrations be repaired.	

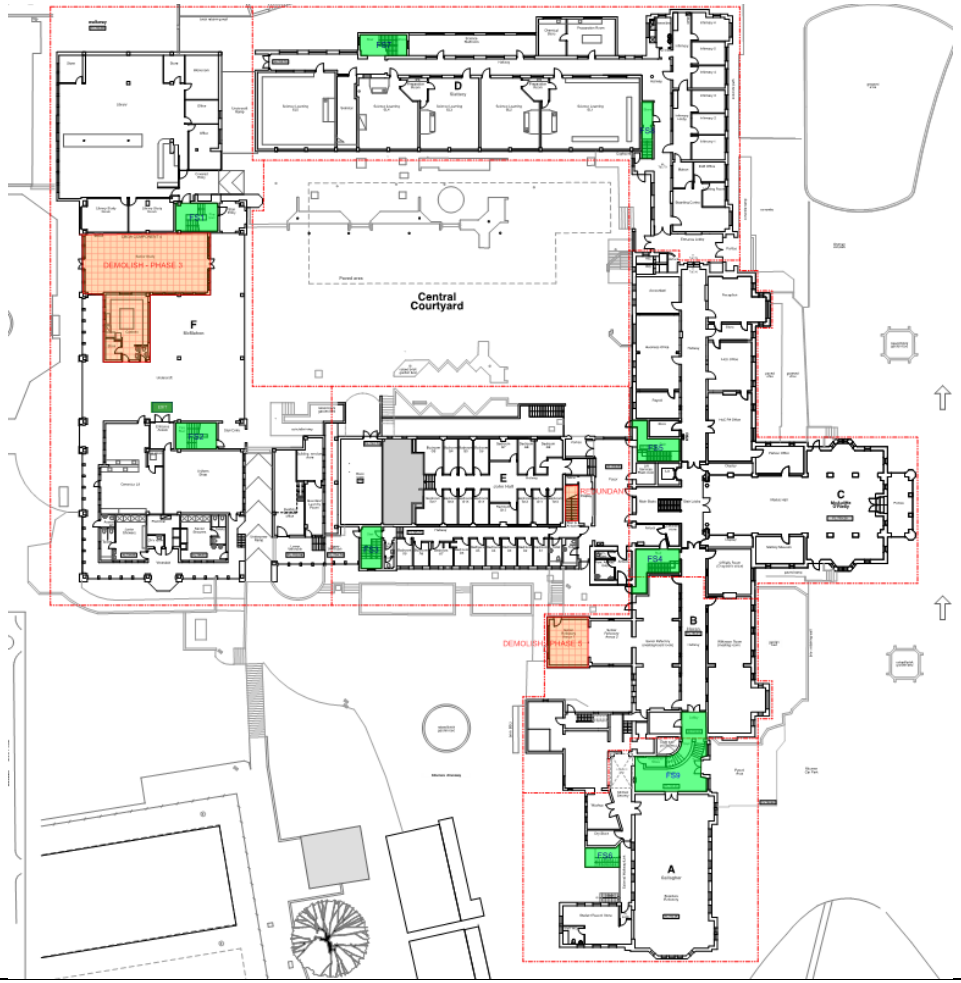
		Second Storey – Fire stair 3 and 5  It is recommended the non-permitted electrical services be removed and unprotected penetrations be repaired.	
C4D11 [C3.10]	Openings in fire-isolated lift shafts	The existing building does not contain a lift shaft that is required to be fire-isolated.	**Not Relevant**
NSW C4D12 [C3.11]	Bounding construction: Class 2 and 3 buildings and Class 4 parts	During the site inspection, no doorways or openings were observed through bounding construction in the Class 3 parts of the building. All new building works are required to comply with the BCA as in force at the time of the construction certificate application. However, for the purpose of providing further details, it is recommended any new doorways through bounding construction be a self-closing -/60/30 fire door.	**Noted**
C4D13 [C3.12]	Openings in floors and ceilings for services	During the site inspection, no fire-isolated shafts for services were observed.	**Not Relevant**
C4D14 [C3.13]	Openings in shafts	During the site inspection, no fire-isolated shafts for services were observed.	**Not Relevant**

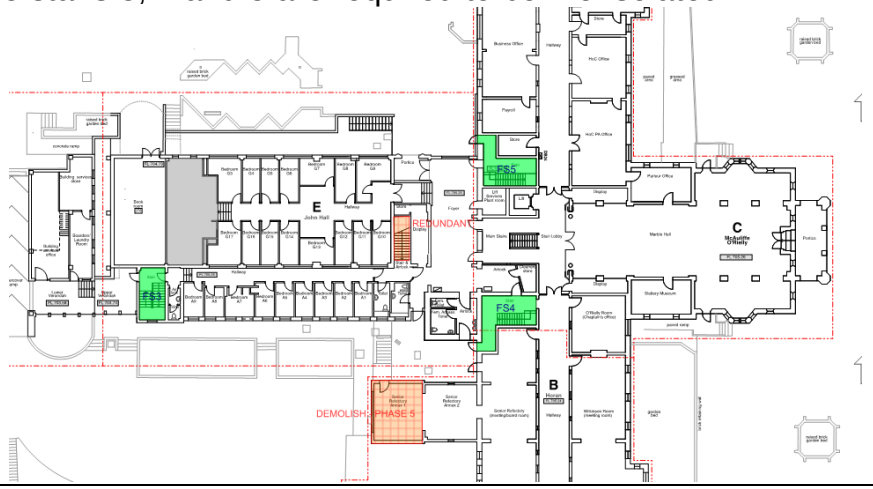
C4D15 [C3.15]	Openings for service installations	During the site inspection, it was observed there were multiple unprotected penetrations through fire-resisting construction that is required to have a FRL with respect to integrity or insulation. However, not every penetration was inspected, identified or catalogued. It is recommended a further audit of the existing penetrations (through the fire resisting construction) at each relevant construction phase to identify the services, confirm which services are redundant, which services are will remain and upgrade the existing penetrations that are proposed to remain to comply with C4D15.	**Upgrade Recommended**
C4D16 [C3.16]	Construction joints	During the site inspection, all construction joints between fire-resisting construction that were inspected were observed to be tightly sealed with mortar or a similar material. It is recommended no upgrades occur to the existing construction joints.	**No Upgrade**
C4D17 [C3.17]	Columns protected with lightweight construction to achieve an FRL	During the site inspection, no existing columns protected with lightweight fire-resisting construction to achieve a FRL were observed.	**Not Relevant**

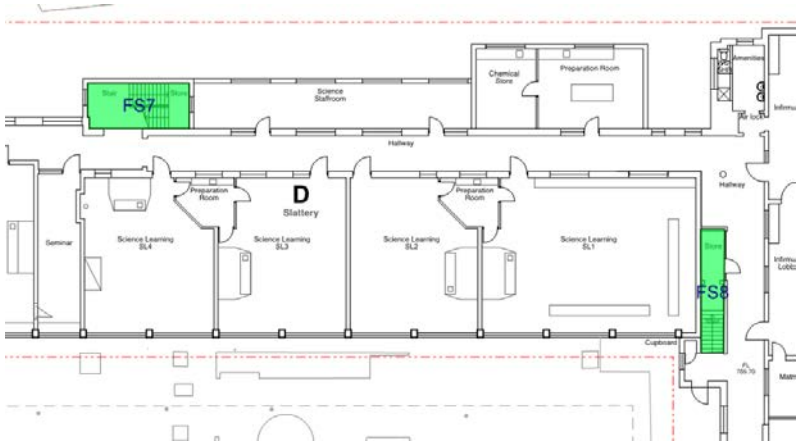
4.2 SECTION D: ACCESS AND EGRESS

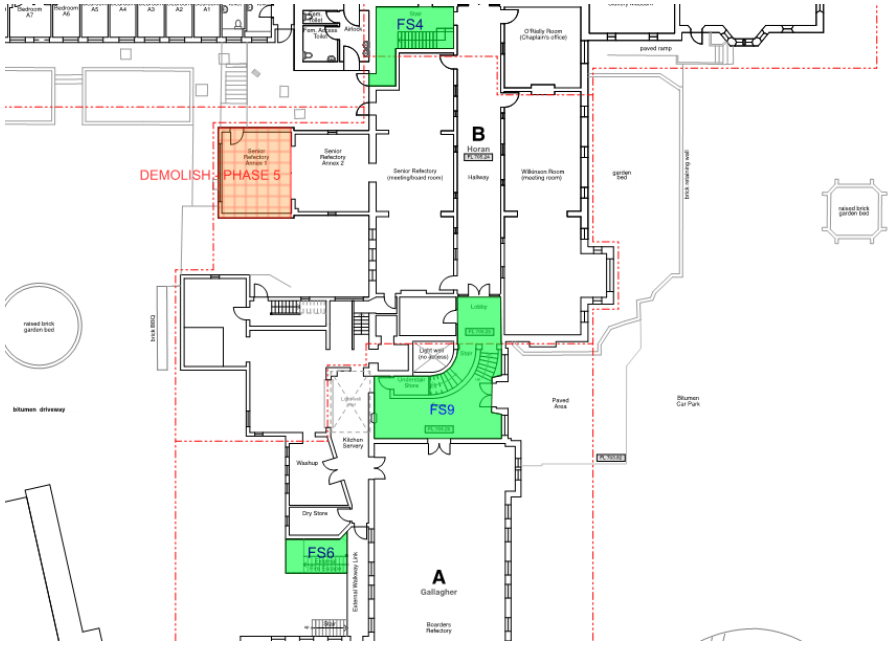
Section D of the BCA contains provisions relating to access and egress, provision for escape, construction of exits and access for people with a disability.

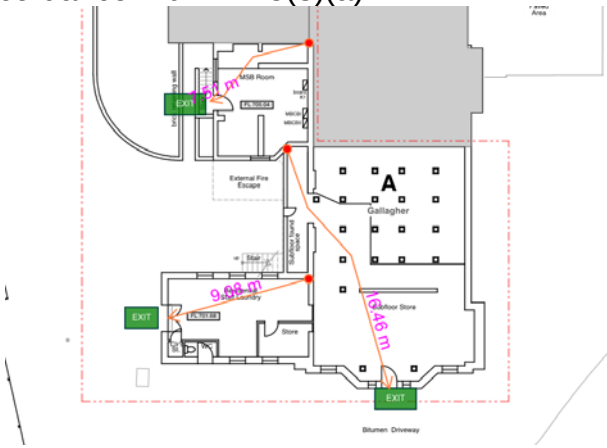
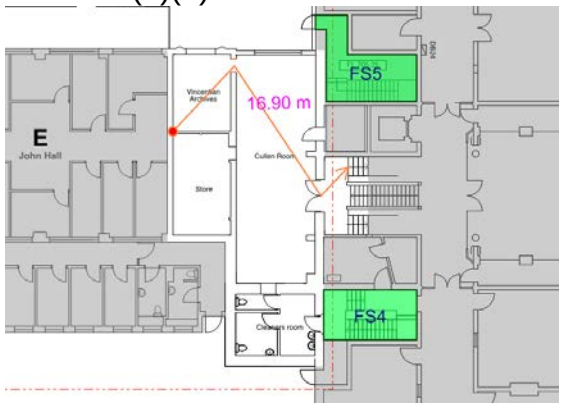
PART D1: ACCESS AND EGRESS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
-	-	This Part of the BCA contains the Objectives, Functional Statements, Performance Requirements and Verification Methods for Section D. The building does not rely upon a lift (in addition to the required exits), to assist occupants to evacuate a building safely in accordance with D1P7 of the BCA.	**Noted**
PART D2: PROVISION FOR ESCAPE			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
D2D1 [D1.0]	Deemed-to-Satisfy Provisions	-	**Noted**
D2D2 [D1.1]	Application of part	The Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of a sole-occupancy unit in the Class 3 part of the building.	**Noted**
D2D3 [D1.2]	Number of exits required	All part of the existing building are provided with access to at least two exits. However, the plant rooms, storerooms, electrical switch rooms etc that are located on the Basement Storey, and the storeroom identified as the Cullen Room on the Upper Ground Storey of Block C are provided with access to a single exit in accordance with NSW D2D3(4)(b). It is recommended no upgrades occur to the existing number of exits, noting additional exits are proposed as part of the	**No Upgrade**

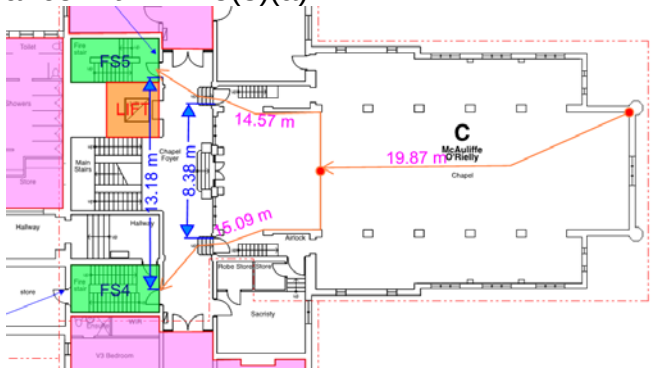
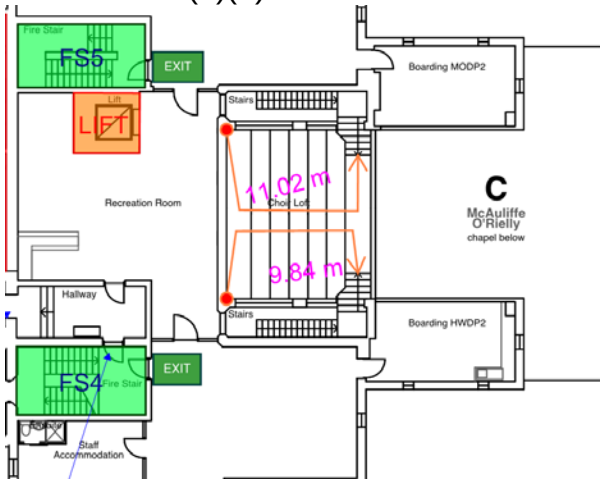
		development.	
D2D4 [D1.3]	When fire-isolated stairways and ramps are required	The location of the existing stairways serving as required exits throughout the building have been highlighted in green on the floor plans below. The first floor plan highlights the location of all stairways in green and the additional plans show the same stairways in closer detail for clarification.  	**Noted**

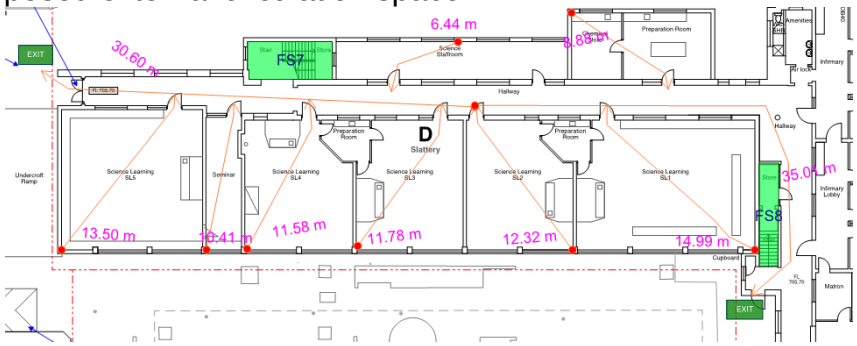
		<u>Fire stair 1 and 2</u> Fire stair 1 and 2 connect two storeys (Class 9b) and passes by the ground storey. The stairways are not required to be fire-isolated.  <u>Fire Stair 3, 4 and 5</u> Fire stairs 3, 4 and 5 are required to be fire-isolated.  	

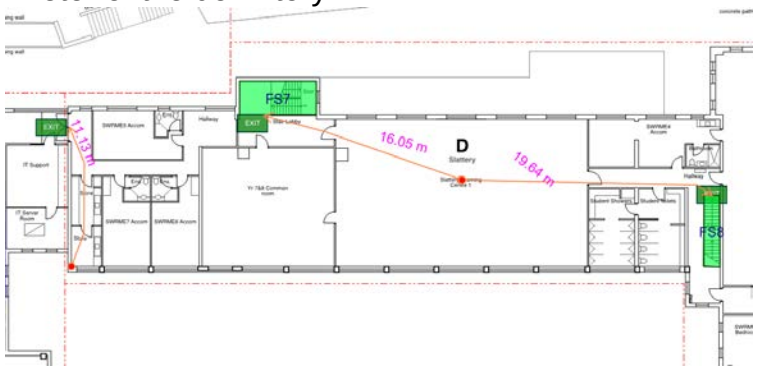
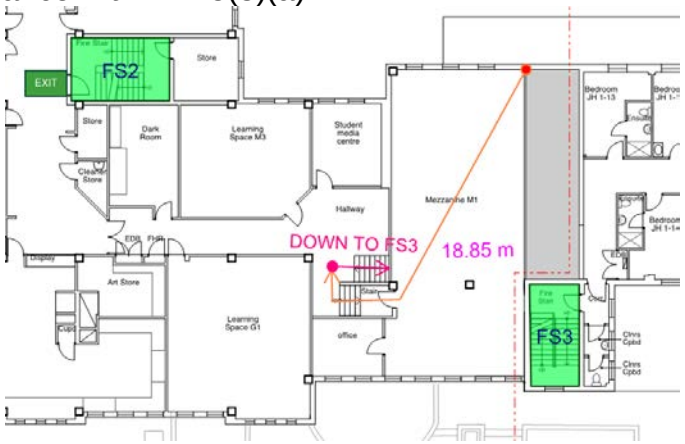
		<u>Fire stair 6</u> Fire stair 6 connects three storeys and passes by the basement (fourth storey). The fire stair is required to be fire-isolated. However, an external stairway may serve as a required exit in lieu of a fire-isolated exit as all storeys served by the stairway have an effective height of less than 25 m in accordance with D2D13. Refer to the comments in D2D13 of this report regarding upgrades to the existing external stairway.  <u>Fire stair 7 and 8</u> Fire stair 7 and 8 connect two storeys (Class 9b). The stairways are not required to be fire-isolated.  	

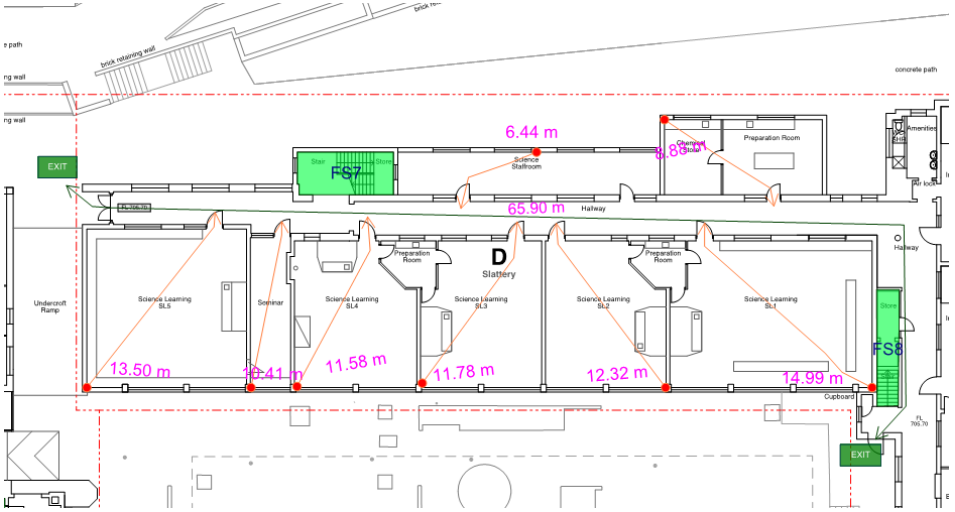
		<u>Fire stair 9</u> Fire stair 9 is proposed to connect two consecutive Class 3 storeys (First Storey and Second Storey) and a third storey (Ground Storey) of Class 5. The stairway is not required to be fire-isolated.  	
D2D5 [D1.4]	Exit travel distances	Travel distances to exits in parts of the building that are proposed to be refurbished have not been reviewed. The building works in the refurbished areas of the building are required to comply with the current BCA (as in force at the time of the construction certificate application). These matters are required to be assessed and reviewed as part of the construction certificate application. The travel distances from to an exit from the areas that are not proposed to be refurbished as part of this application have been reviewed.	**Noted**

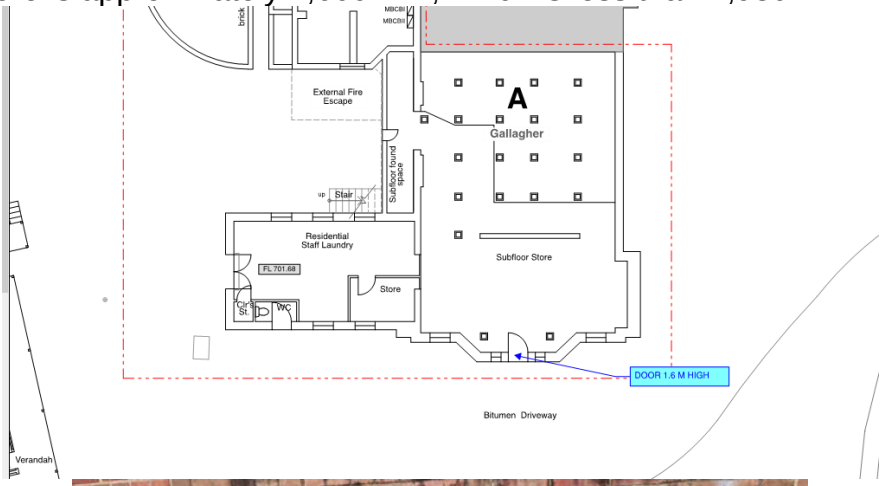
		<u>Block A – Basement</u> The travel distance to the single exit for each part does not exceed 20 m in accordance with D2D5(3)(a).  It is recommended no upgrades occur to the travel distance from within the Basement Storey.	**No Upgrade**
		<u>Block C – Upper Ground Storey</u> The travel distance to the single exit does not exceed 20 m in accordance with D2D5(3)(a).  It is recommended no upgrade occur to the travel distance from within Upper Ground Storey.	**No Upgrade**

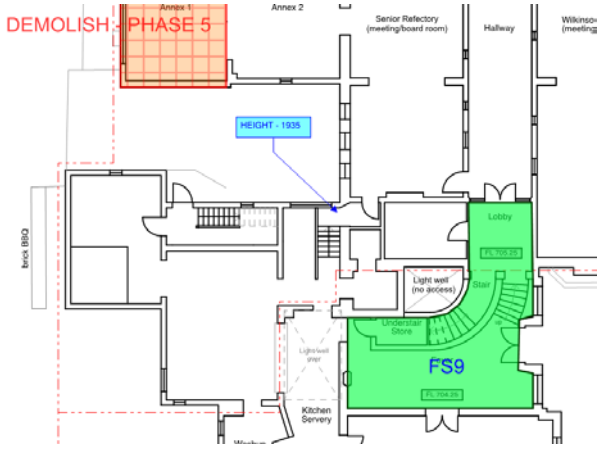
		<u>Block C – First Storey – Chapel</u> The travel distance to one of the two exits does not exceed 40 m in accordance with D2D5(3)(a).  It is recommended no upgrades occur to the travel distance from within the Chapel. <u>Block C – Second Storey – Choir Loft</u> The travel distance to one of the two exits does not exceed 20 m in accordance with D2D5(3)(a).  It is recommended no upgrades occur to the travel distances from the Choir Loft.	**No Upgrade** **No Upgrade**

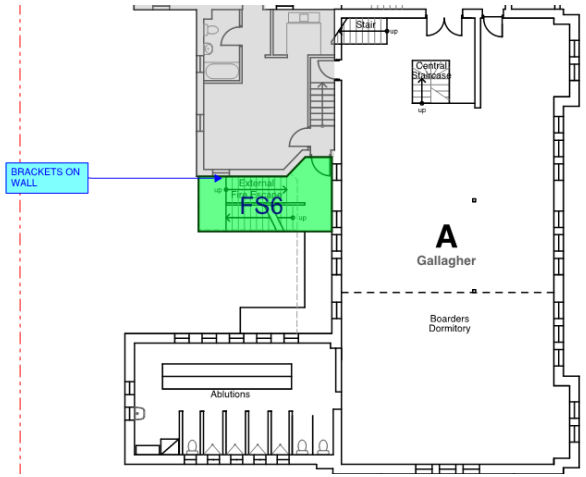
		Block D – Ground Storey The travel distance from the existing Science Learning SL2 room to an exit is approximately 43 m, which exceeds 40 m and is contrary to D2D5(3)(a). It is also noted the travel distance in Science Learning SL1 will exceed 40 m as a result of the proposed external circulation space.  It is recommended the extended travel distances to an exit be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. Block D – First Storey Due to the configuration of the space and lack of traditional sole-occupancy units (as mentioned in C2D2 of this report), the "entrance doorway" for each "bedroom" (area used to the exclusion of anyone else) is more than 6 m to an exit, which is a technical deviation from D2D5(1). However, the travel distances from any point on the First Storey of Block D do not exceed 20 m to an exit (subject to installation of bounding construction as mentioned in C2D2 of this report). It is understood each proposed dormitory is intended to function in a similar way, where the whole dormitory is considered as a sole-	**Performance Solution** **Performance Solution**

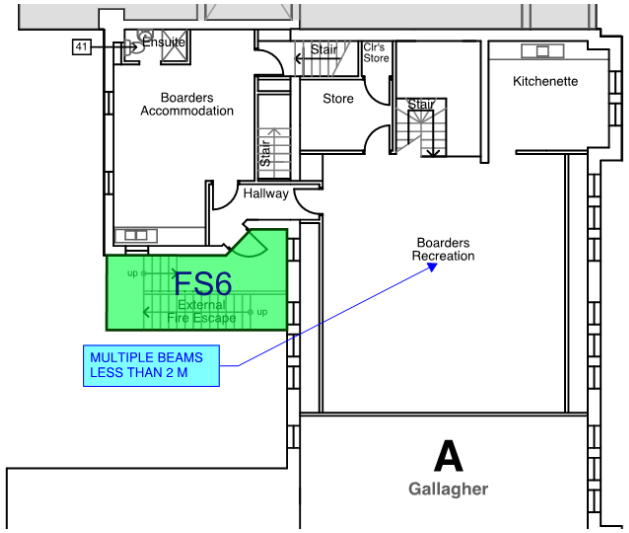
		occupancy unit and provided with bounding construction around the perimeter of the dormitory.  It is recommended the travel distances to an exit be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. <u>Block E – Upper Ground Storey – Mezzanine M1</u> The travel distance to one of the two exits does not exceed 40 m in accordance with D2D5(3)(a).  It is recommended no upgrades occur to the travel distances from Mezzanine M1.	**No Upgrade**

D2D6 [D1.5]	Distance between alternative exits	Travel distances between exits in parts of the building that are proposed to be refurbished have not been reviewed. The building works in the refurbished areas of the building are required to comply with the current BCA (as in force at the time of the construction certificate application). <u>Block D – Ground Storey</u> The distance between the existing alternative exits (measured through the point of choice) is approximately 66 m, which exceeds 60 m and is contrary to D2D6(c)(iii). It is also noted the travel distance will be extended to approximately 77 m as a result of the proposed external circulation space.  It is recommended the alternative distance between alternative exits be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

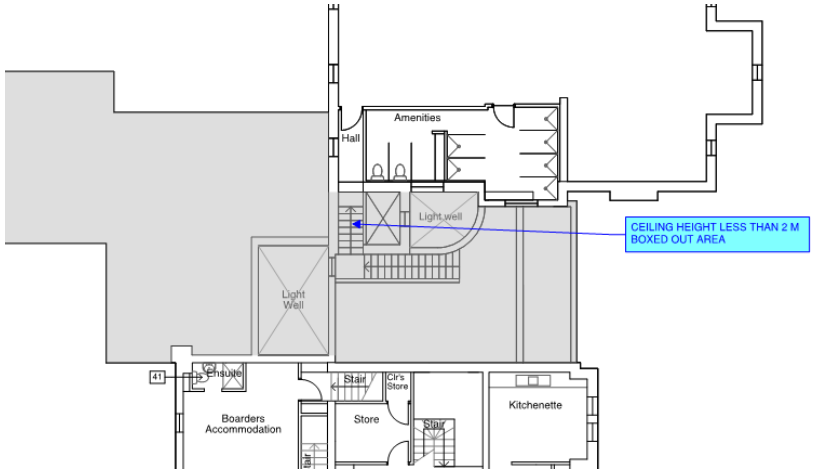
D2D7 [D1.6]	Height of exits, paths of travel to exits and doorways	<u>Block A – Basement</u> The existing unobstructed height of the doorway to the subfloor store is approximately 1,600 mm, which is less than 1,980 mm.   It is recommended no upgrades occur to the existing external doorway due to the heritage value of the external walls and the infrequent use of the subfloor space.	**No Upgrade**

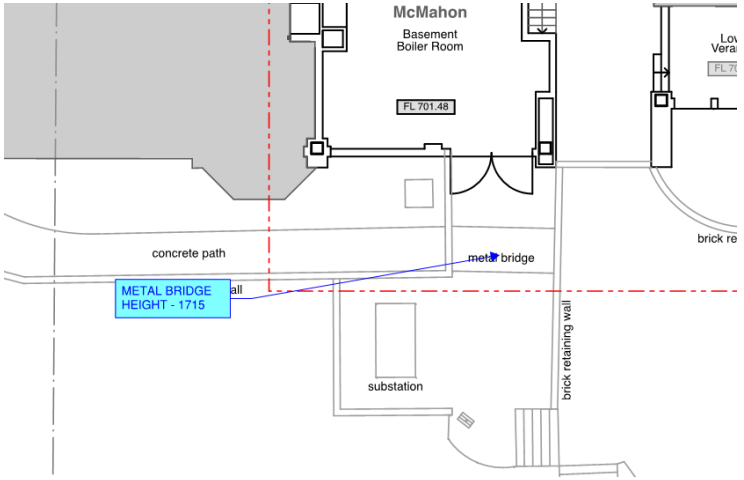
		Block A – Ground Storey (Internal) The existing internal pathway located between the senior refectory and kitchen area has an unobstructed height of 1,935 mm, in lieu of 2 m, which is contrary to D2D7.   It is recommended the reduced egress height be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

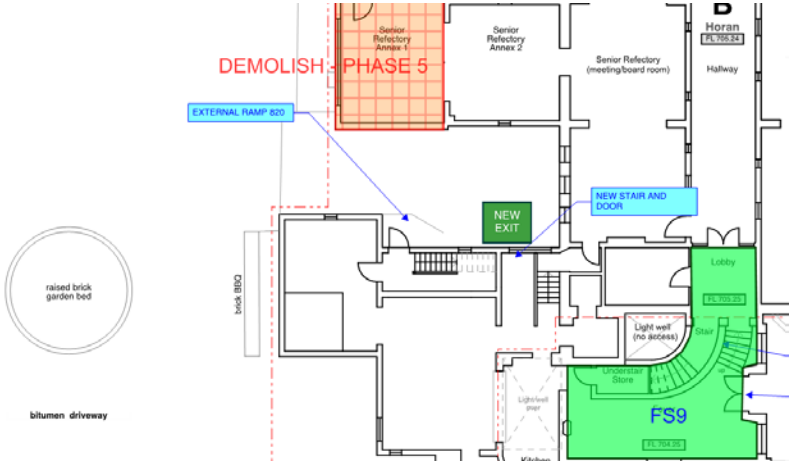
		<u>Block A – First Storey – Fire Stair 6</u> The path of travel on fire stair 6 neat the mid-landing on the First Storey is obstructed by two brackets attached to the external wall of the building. The brackets are located within 2 m (measured vertically above the stairway) and obstruct the height of the stairway, which is contrary to D2D7.   It is recommended the existing brackets attached to the external wall of the building (under the window) on the First Storey be removed to comply with D2D7.	**Upgrade Recommended**

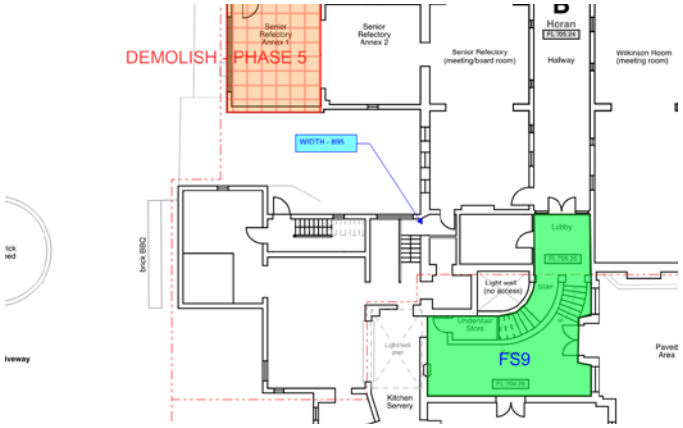
		<u>Block A – Second Storey – Boarders Recreation</u> The existing boarder's recreation space located on the Second Storey of Block A contains multiple metal beams that are located within 2 m of the finished floor, which is contrary to D2D7.  	**Upgrade Recommended**

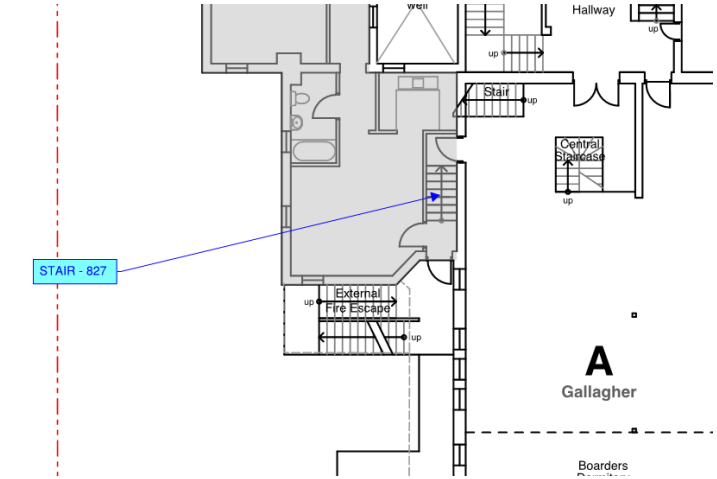
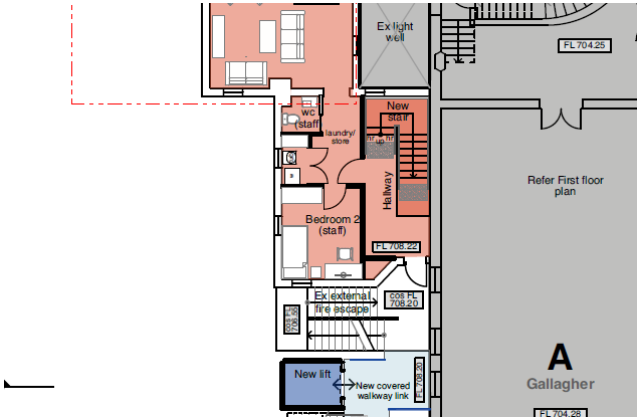
		 It is recommended discussions occur with the structural engineer to confirm if the existing steel beams can be removed and/ or altered to at least 2 m above the finished floor. <u>Block A – Second Storey – Boarders Recreation</u> Part of the boarders recreation contains a sloped ceiling that has a height (near the external wall, refer to photograph above) that is less than 2 m, which is contrary to D2D7. It is recommended the reduced egress height be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

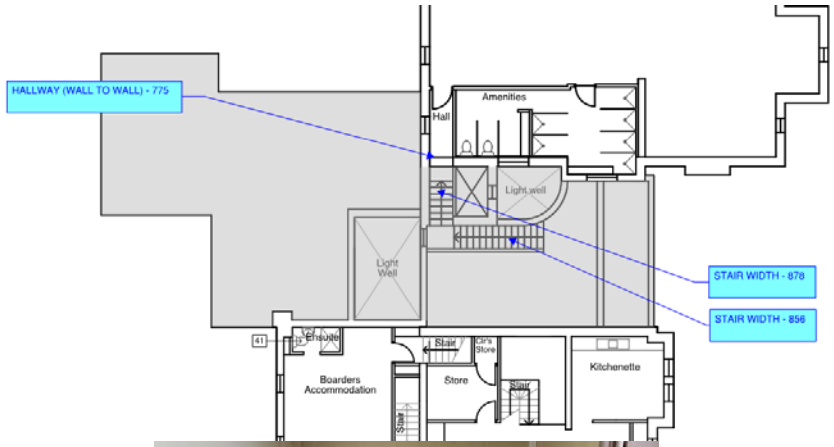
		<u>Block A – Second Storey – Fire Stair 9</u> The unobstructed height above the top flight of fire stair 9 located on the Secondary Storey is less than 2 m, which is contrary to D2D7.   It is recommended the non-required and damaged plasterboard box be removed to ensure the unobstructed height on the stairway is at least 2 m to comply with D2D7.	**Upgrade Recommended**

		<u>Block F – External Bridge – Boiler Room</u> The unobstructed height under the metal bridge near the boiler room is 1,715 mm, in lieu of 2 m, which is contrary to D2D7.   It is recommended the existing unobstructed height under the bridge not be upgraded as the boiler room is used infrequently, the bridge is external to the building and the boiler room is only intended to be used by trained professionals.	**No Upgrade**

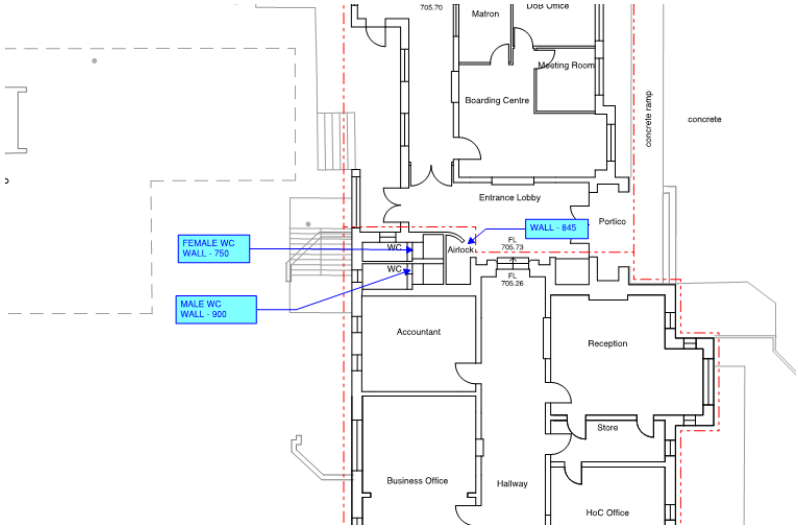
D2D8 [D1.6]	Width of exits and paths of travel to exits	<u>Block A – Ground Storey (External)</u> The existing external ramp located at the rear of the kitchen on the Ground Storey has an unobstructed width of 820 mm.   It is recommended the ramp not be upgraded as a new stairway, door and exit is proposed to be installed in an adjacent location and the existing ramp will not be serving as a part of a required exit.	**No Upgrade**

		<u>Block A – Ground Storey (Internal)</u> The existing internal pathway located between the senior refectory and kitchen area has an unobstructed width of 895 mm, in lieu of 1 m, which is contrary to D2D8(1)(a).   It is recommended the reduced egress width be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

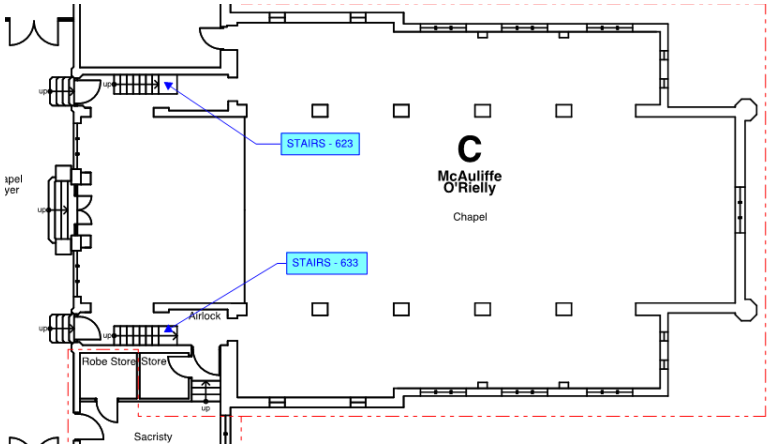
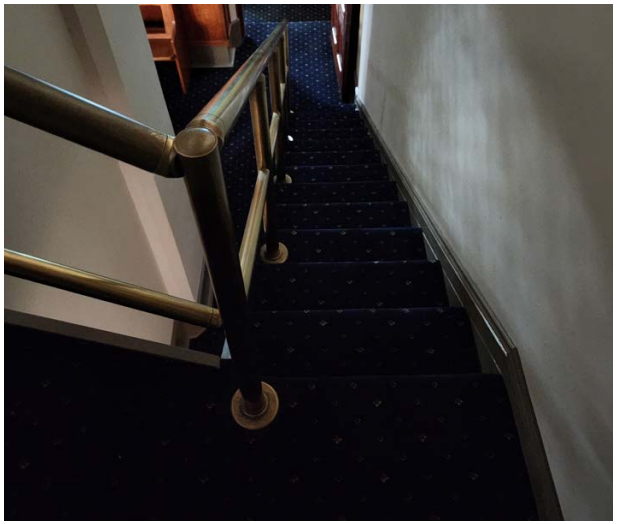
		<u>Block A – Upper Ground Storey – Stairway</u> The existing stairway located in the Upper Ground Storey of Block A has an unobstructed width of 827 mm, in lieu of 1 m, which is contrary to D2D8(1)(a).   No upgrade works are recommended as the existing stairway is proposed to be demolished and reconstructed as part of the refurbishment works.	**No Upgrade**

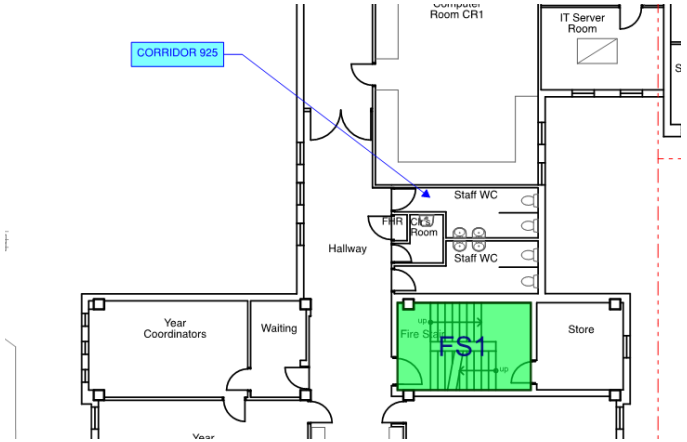
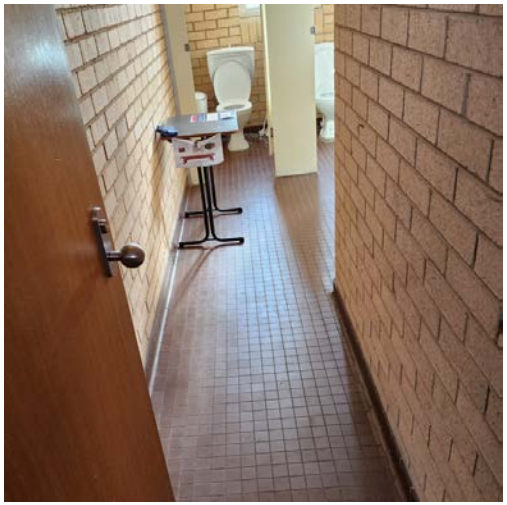
		<u>Block A – Second Storey – Fire Stair 9</u> The two flights of stairs serving the Second Storey in fire stair 9 has an unobstructed width vary between 878 mm and 856 mm, in lieu of 1 m, which is contrary to D2D8(1)(a). The associated hallway located at the top of the stairway has a width of 775 mm, in lieu of 1 m, which is contrary to D2D8(1)(a).  	**Performance Solution**

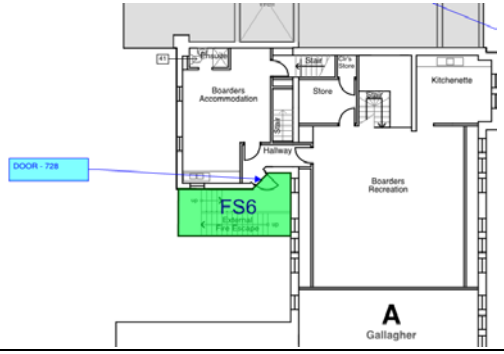
		  It is recommended the reduced egress width be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	

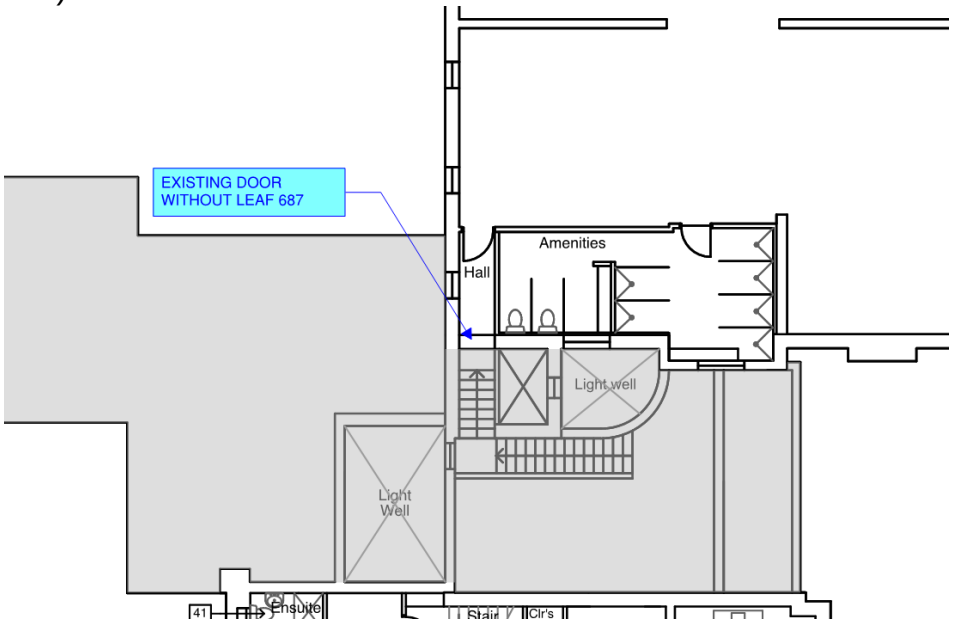
		Block D – Sanitary Compartments The unobstructed egress width from the sanitary facilities on the Ground Storey of Block D vary between 760 mm and 845 mm, in lieu of 1 m, which is contrary to D2D8(1)(a).  	**Performance Solution**

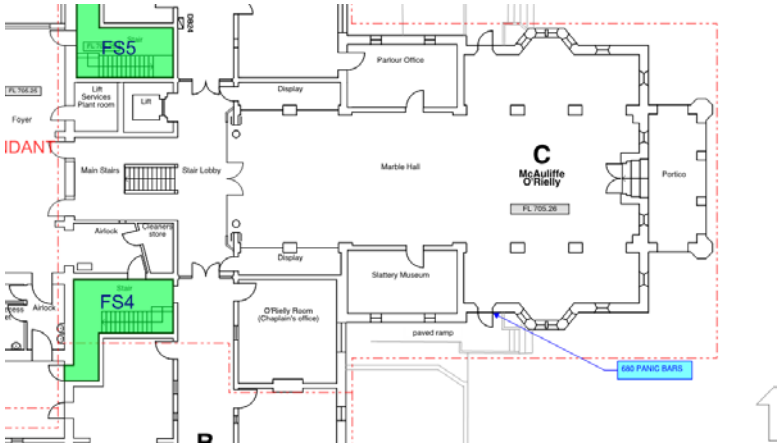
		  It is recommended the reduced egress width be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	

		<u>Block C – Second Storey – Choir Loft</u> The unobstructed egress width on the stairways from the choir loft on the Second Storey is 623 mm and 633 mm, in lieu of 1 m, which is contrary to D2D8(1)(a).   It is recommended the reduced egress width be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

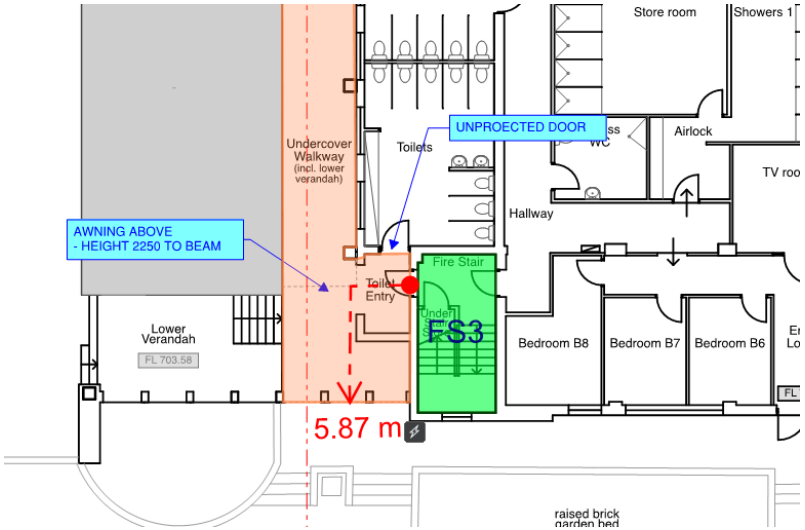
		<u>Block F – First Storey – Staff WC</u> The unobstructed egress width in the hallway from the staff WC on the Ground Storey of Block F is 925 mm, in lieu of 1 m, which is contrary to D2D8(1)(a).   It is recommended the reduced egress width be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

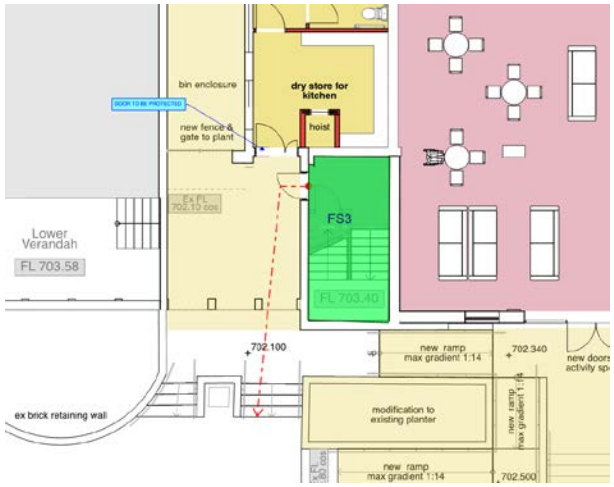
NSW D2D9 [D1.6]	Width of doorways in exits or paths of travel to exits	<u>Block A – First Storey – Fire Stair 6</u> The door located in the external wall to fire stair 6 on the First Storey has an unobstructed width of 729 mm, in lieu of 750 mm, which is contrary to NSW D2D9(f).  It is recommended the reduced egress width at the doorway be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. <u>Block A – Second Storey – Fire Stair 6</u> The door located in the external wall to fire stair 6 on the Second Storey has an unobstructed width of 728 mm, in lieu of 750 mm, which is contrary to NSW D2D9(f). This is due to the door being obstructed by the steel mesh screen.  	**Upgrade Recommended** **Upgrade Recommended**

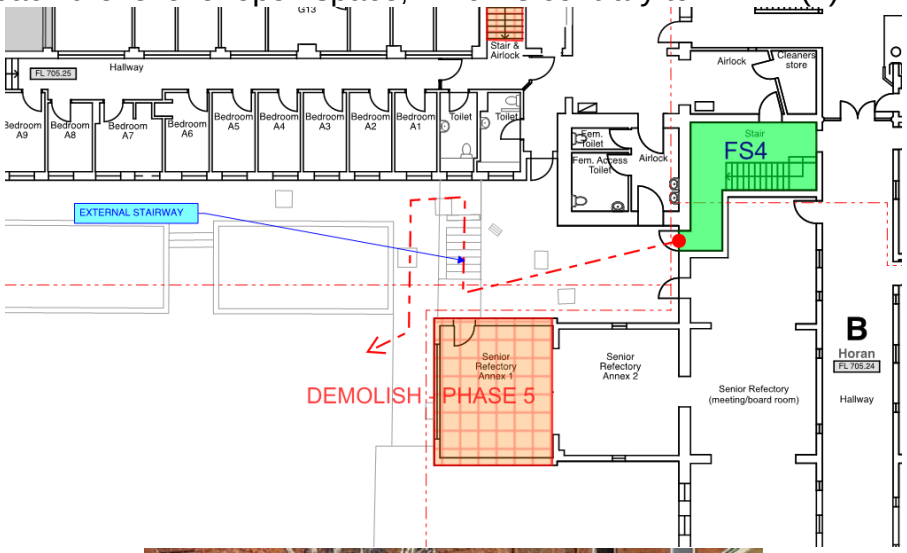
		It is recommended the steel mesh screen adjacent to the landing be altered to allow the door to completely swing open and provide an unobstructed width of 750 mm to comply with NSW D2D9(f). <u>Block C – Second Storey – Fire Stair 9</u> The existing doorway located at the top of fire stair 9 does not contain a door leaf. The proposed development includes construction of a new door leaf. The existing opening (without a leaf) has an unobstructed width of 687 mm.  It is recommended the proposed new fire-resisting doorway be provided with an unobstructed width of 750 mm to comply with NSW D2D9. Enquiries may be required with the structural engineer to ensure the works required to fix the doorway will retain the structural integrity of the existing wall.	**Upgrade Recommended**

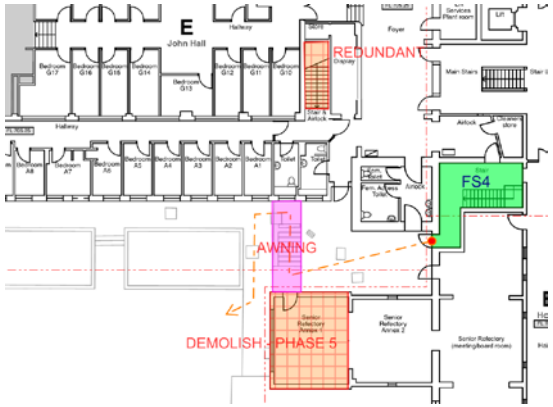
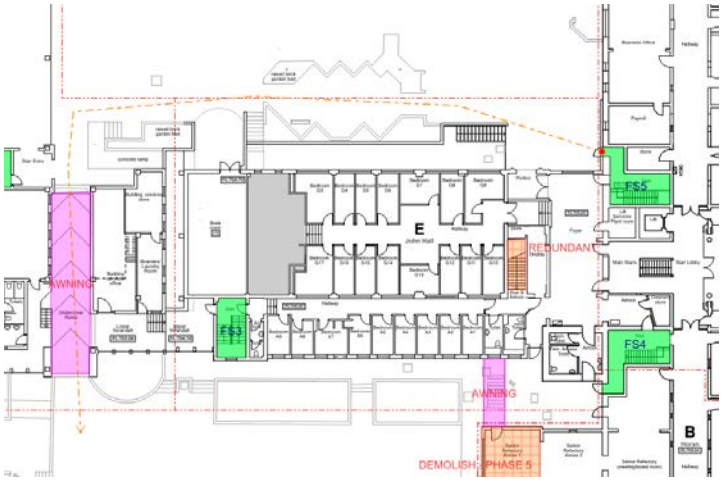
		Block C – Ground Storey The existing external doorway in the southern wall of the marble hall has been setup as an exit. The doorway has an unobstructed width of 680 mm, in lieu of 750 mm, which is contrary to NSW D2D9(f).   It is recommended the existing door not be used as an exit as it is not required by the BCA. It is recommended the existing exit signage be removed.	**Upgrade Recommended**

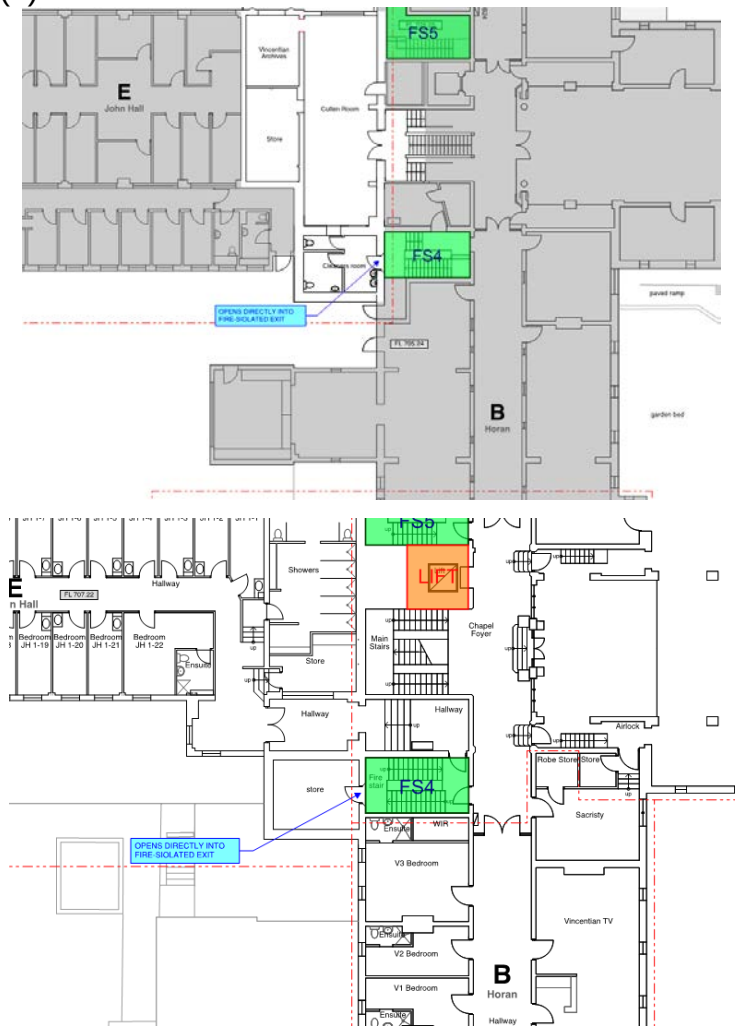
D2D10 [D1.6]	Exit width not to diminish in direction of travel	During the site inspection, it was observed the exit widths do not generally diminish in the direction of travel to an exit, road or open space.	**Noted**
D2D11 [D1.6]	Determination and measurement of exits and paths of travel to exits	-	**Noted**

D2D12 [D1.7]	Travel via fire-isolated exits	<u>Fire Stair 3 – Ground Storey - Discharge</u> Fire stair 3 currently has two points of discharge, being the Ground Storey and Basement. This is proposed to be rectified as part of the proposed development and the only point of discharge will be at the basement (lowest level). No further upgrade is recommended. <u>Fire Stair 3 – Basement - Discharge</u> The marked up floor plan shows the existing configuration for egress from fire stair 3. The discharge location is not open for at least 1/3 of the perimeter and does not have an unobstructed clear height throughout of at least 3 m. Additionally, the existing door to the toilets is not a self-closing fire door that achieves an FRL of at least -/60/30.  The following marked up floor plan shows the proposed configuration. The discharge location is not open for at least 1/3 of the perimeter and does not have an unobstructed clear height throughout of at least 3 m, which is contrary to D2D12(c).	**No Upgrade** **Upgrade Recommended/ Performance Solution**

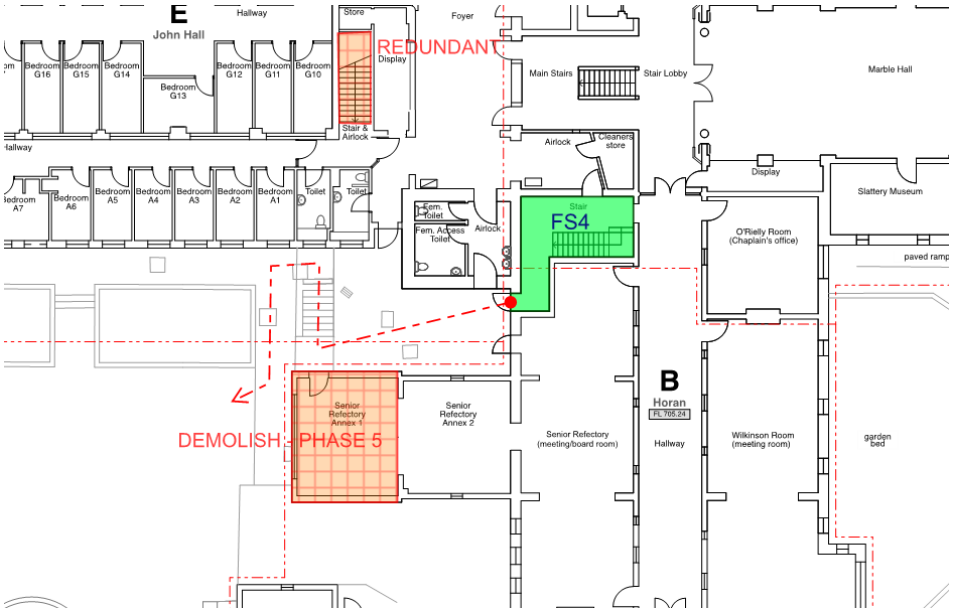
		  It is recommended the discharge location (into the awning) of fire stair 3 be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. It is also recommended the proposed door to the dry store for the kitchen achieve is a self-closing fire door that achieves an FRL of at least -/60-30 to comply with D2D12(3).	

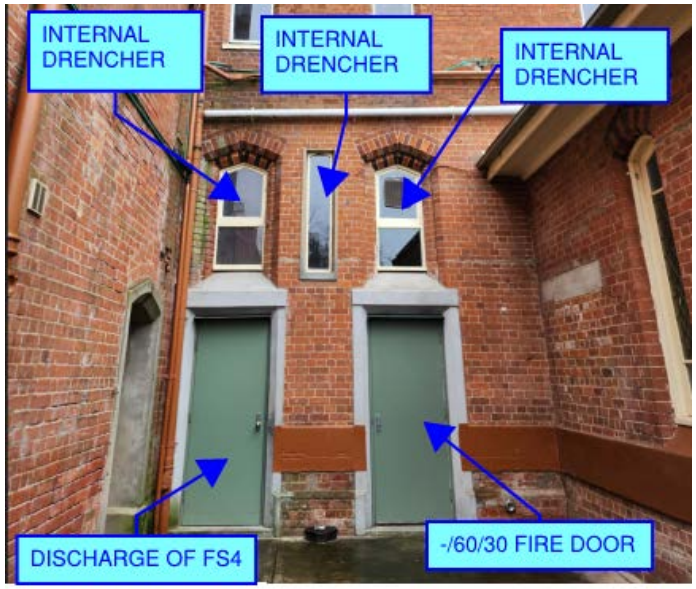
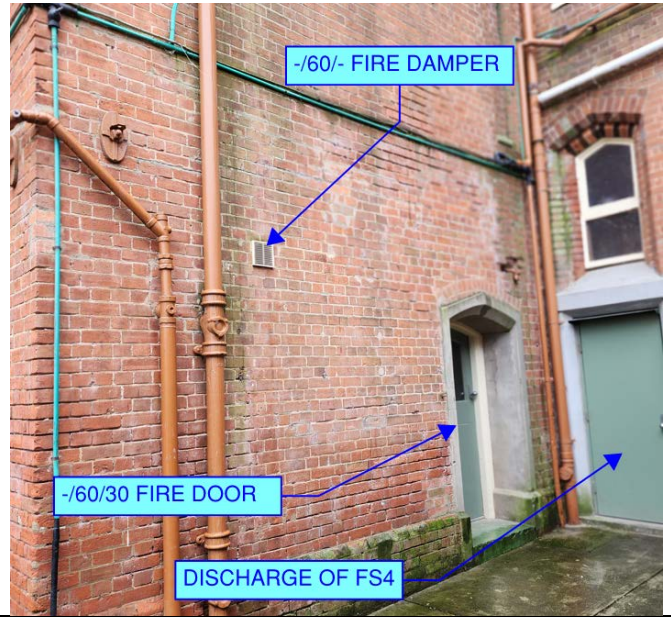
		Fire stair 3 and 4 – Additional External Stairs Fire stair 3 and 4 discharge to a level that requires the occupants to use an additional external non-fire-isolated flight of stairs to reach the level of open space, which is contrary to D2D12(2).   It is also recommended the use of additional external stairway by occupants of fire stair 3 and 4 be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

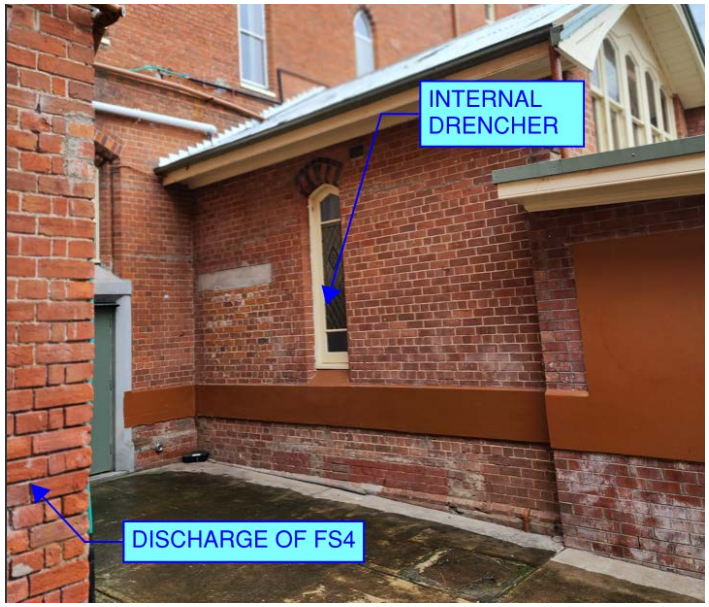
		Fire Stair 4 and 5 – Travel Under Awnings Occupants discharging from fire stair 4 and 5 are required to pass under external awnings before reaching the road, which is contrary to D2D12(2). The awnings are highlighted in purple on the plans below.   It is recommended occupants passing under the awnings be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

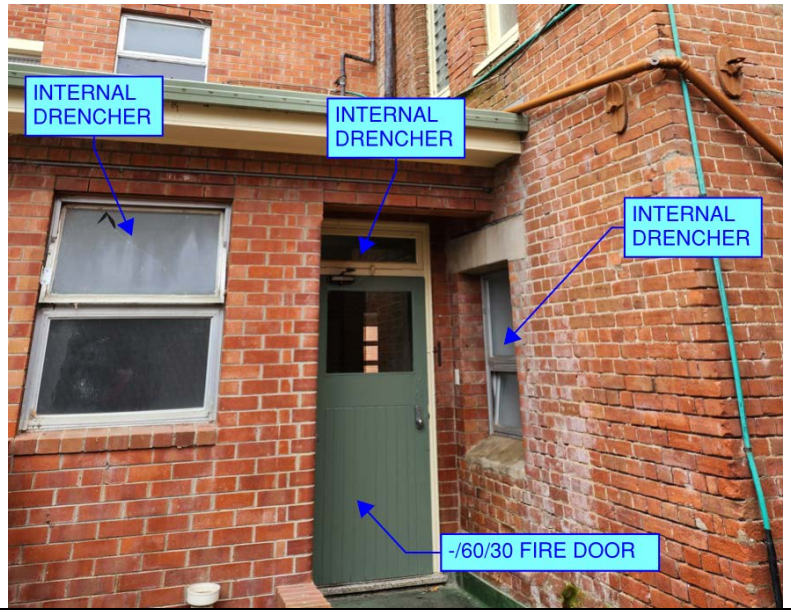
		<u>Fire Stair 4 – Rooms opening into the exit</u> Fire stair 4 contains store rooms that are accessed via doorways located on the mid-landings of the fire-isolated exit. The doorways open directly into the fire-isolated exits, which is contrary to D2D12(1). 	**Performance Solution**

		 It is recommended the rooms opening directly into the fire-isolated exits be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. <u>Fire Stair 4 – Rooms opening into the exit</u> Fire stair 4 contains rooms that are accessed via doorways located on the mid-landings of the fire-isolated exit. The doorways open directly into the fire-isolated exits, which result in three access doorways being provided into the fire stair at a single storey (including the mid landing). Refer to the marked-up floor plan above. It is recommended the number of rooms opening directly into the fire-isolated exits be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

		<u>Fire Stair 4 – Protection</u> Fire stair 4 discharges into a courtyard that contains multiple unprotected openings. The openings are located within 6 m (measured at right angles) and less than 3 m above the path of travel. The marked up floor plan shows the discharge location and path of travel to the open space.  The Senior Refectory is proposed to be demolished in Phase 5 and no upgrades are recommended to this part of the building. It is recommended the existing windows within 6 m (measured at right angles) up to a height of 3 m above the path of travel are permanently fixed in the closed position and protected with internal wall-wetting sprinklers to comply with D2D12(3), the air duct be protected by a -/60/- fire damper and the doors be protected by self-closing -/60/30 fire doors. The following marked up photographs show the recommended works.	**Upgrade Recommended**

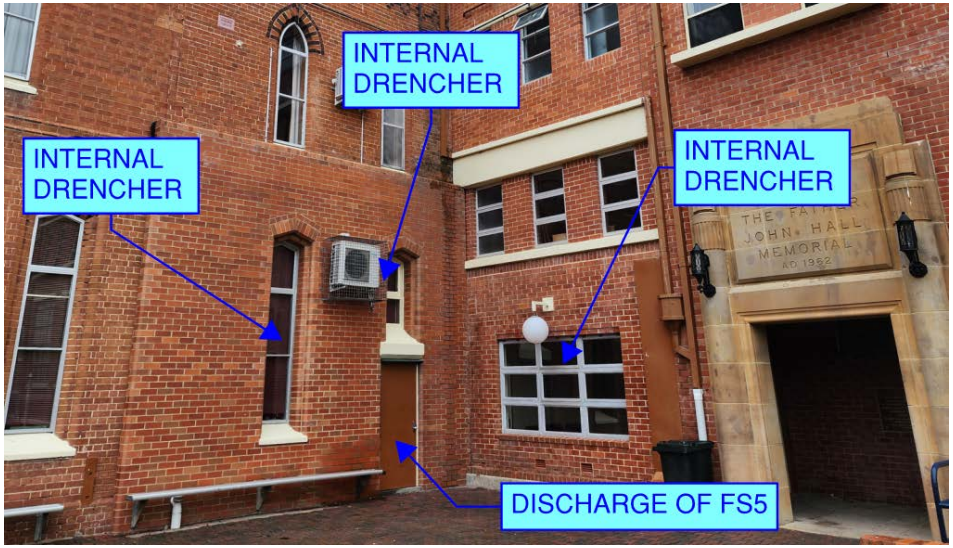
		 INTERNAL DRENCHER INTERNAL DRENCHER INTERNAL DRENCHER DISCHARGE OF FS4 -/60/30 FIRE DOOR  -/60/- FIRE DAMPER -/60/30 FIRE DOOR DISCHARGE OF FS4	


INTERNAL DRENCHER
DISCHARGE OF FS4

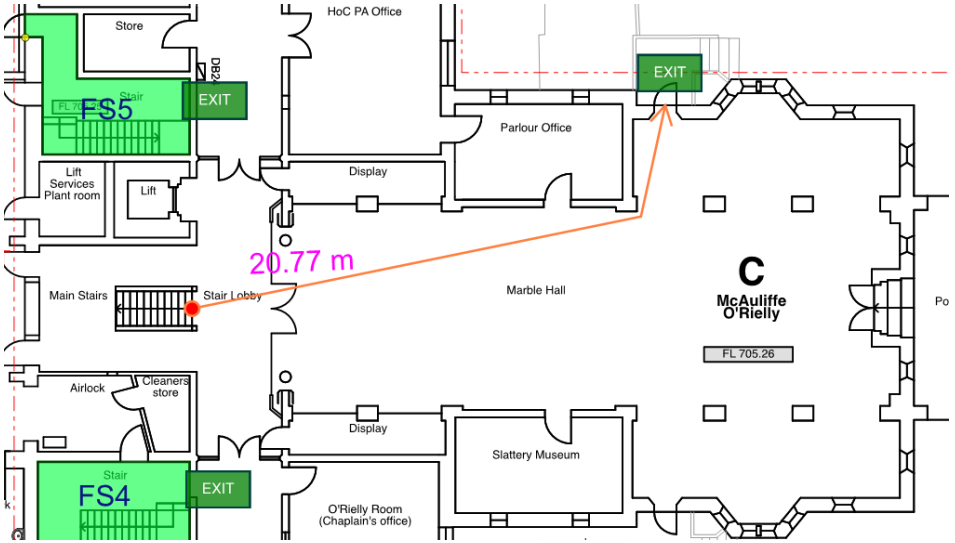

INTERNAL DRENCHER
INTERNAL DRENCHER
INTERNAL DRENCHER
-/60/30 FIRE DOOR

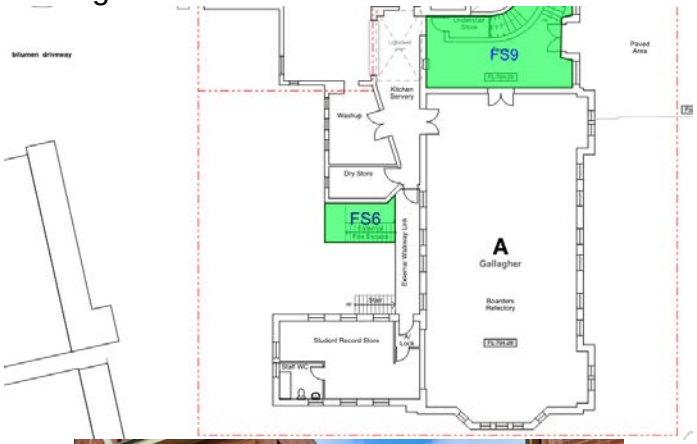
Fire Stair 5 – Protection

The discharge location of fire stair 5 requires occupants to walk past multiple unprotected windows, immediately after exiting the building, which is contrary to D2D12(3).



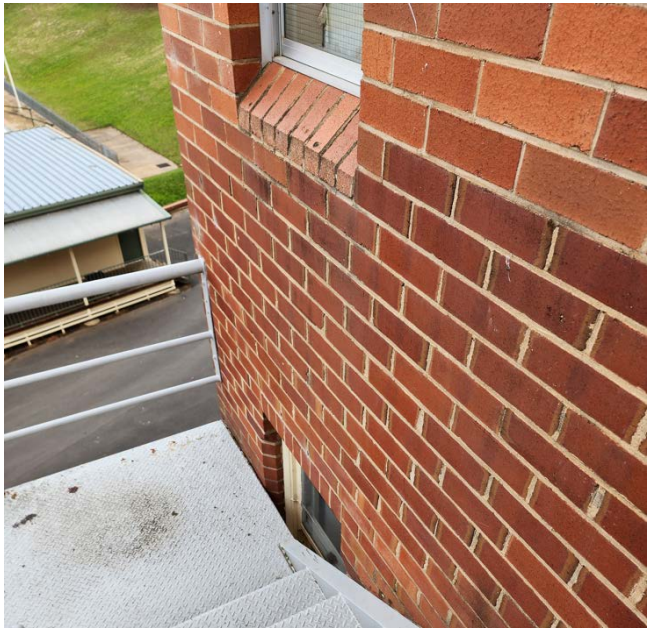
Upgrade Recommended

		It is recommended the existing windows within 6 m (measured at right angles), to a height of 3 m above the path of travel are permanently fixed in the closed position and protected with internal wall-wetting sprinklers to comply with D2D12(3). <u>Main Stairs – Block C</u> The main stairs serve as a required exit from the First Storey Chapel (due to the required minimum egress width). The non-fire-isolated stairway discharges into part of the building that is not only used for pedestrian movement and is located more than 20 m from the exit to the road/ open space, which is contrary to D2D12(2)(b).  It is recommended the discharge location of the main stairs (non-fire-isolated stairs) be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

D2D13 [D1.8]	External stairways or ramps in lieu of fire-isolated exits	<u>Block A - Fire Stair 6 - General</u> The existing building includes an external non-fire-isolated stairway serving as a required exit. The stairway is located in Block A and identified as fire stair 6. The stairway is constructed of a steel frame between the Second Storey and Ground Storey. The stairway then continues from the Ground Storey along a concrete pathway and down a masonry stairway to the ground.  	**Noted**

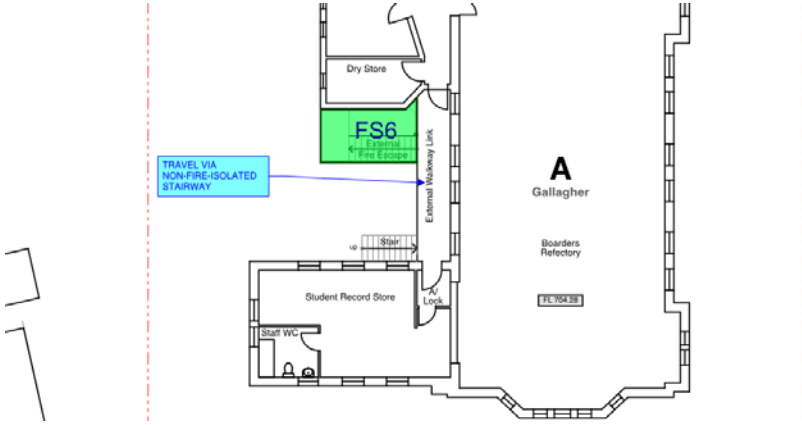
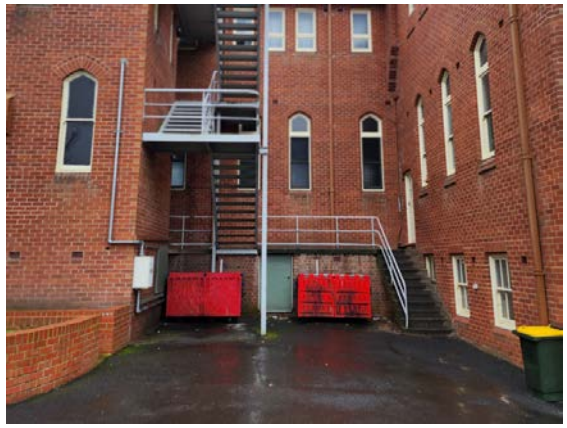
		Exposure - walls The stairway is located within 6 m of, and exposed to, parts of the external walls of the building it serves. The external walls are of masonry construction and likely to achieve a FRL of at least 60/60/60. It is recommended no upgrade occur to the existing masonry external walls of the building that are located within 6 m of fire stair 6. Exposure - roof The corrugated roof and skylights are unlikely to achieve a FRL of at least 60/60/60, which is contrary to D2D13(3).  It is recommended the existing roof and skylights be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. This is likely to rely upon the proposed sprinkler system.	**No Upgrade** **Performance Solution**

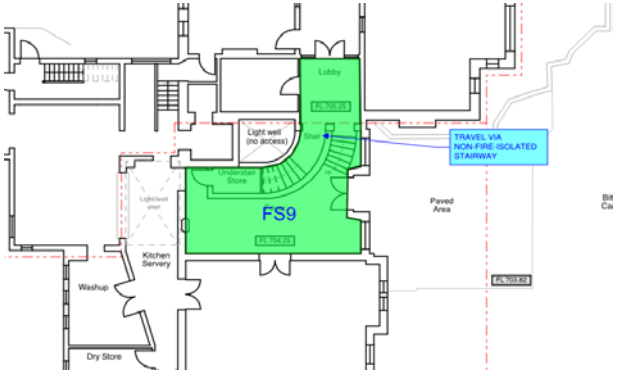
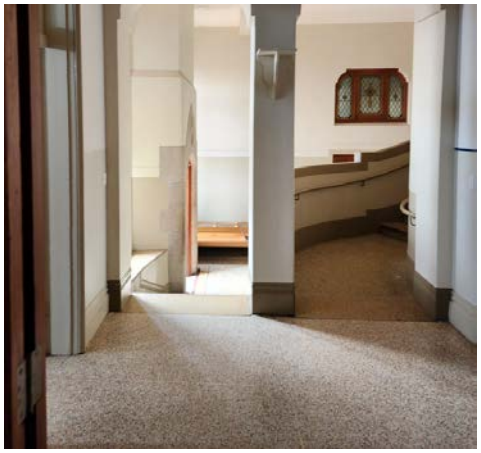
		Exposure - doorways There are multiple doorways opening leading onto the stairway that are not protected by a self-closing -/60/30 fire door. It is recommended all doorways located within 6 m of the stairway and pathway be upgraded to comply with D2D13(3). Exposure – windows and louvers There are multiple window and louvered openings in the external walls of the building that are located within both 3 m and 6 m of the stairway. Refer to the example photographs below, noting that a photograph of every window is not provided. 	**Upgrade Recommended** **Upgrade Recommended/ Performance Solution**

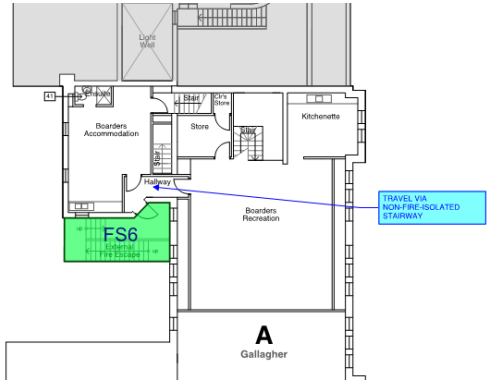
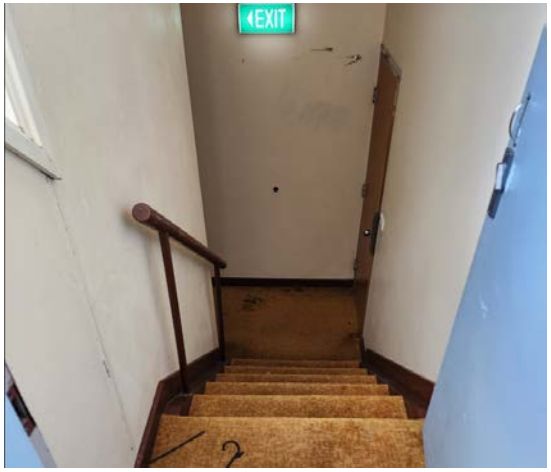


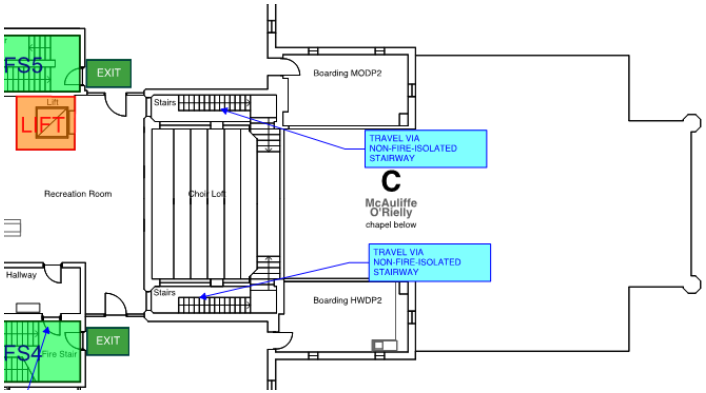
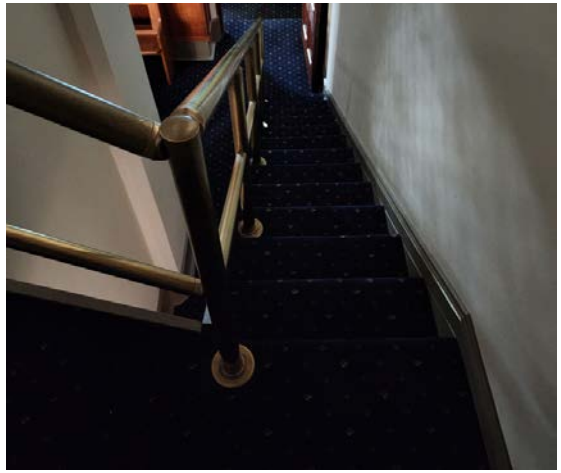
		 It is recommended the openings located more than 3 m, but less than 6 m from the stairway and pathway be fixed shut and protected with internal wall-wetting sprinklers to comply with D2D13(3). It is recommended the existing window openings located within 3 m be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. This is likely to rely upon the proposed sprinkler system and possibly radiant heat shields or internal wall wetting sprinklers.	

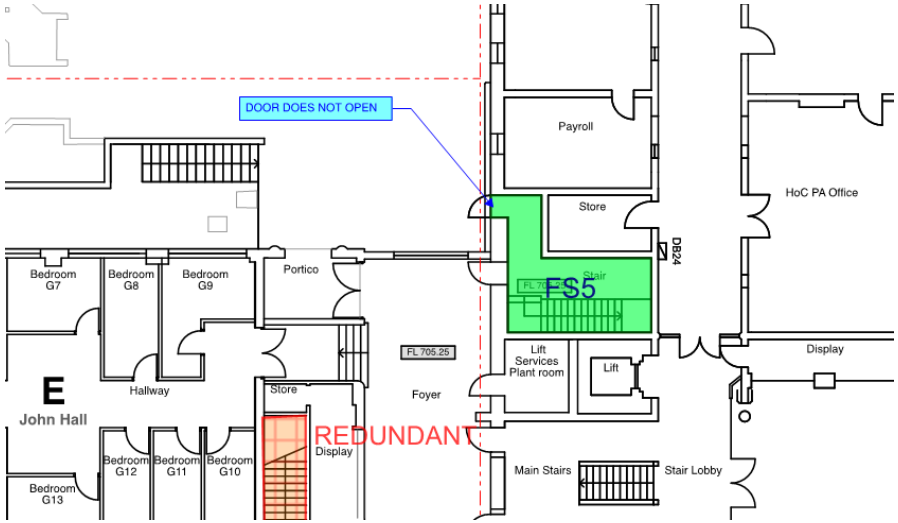
		<u>Exposure – opening</u> The external wall of the basement contains an opening protected by a timber sliding door that is exposed to the stairway and pathway. The timber door is currently painted green.  It is recommended the existing opening be blocked up with masonry construction to achieve a FRL of at least 60/60/60.	**Upgrade Recommended**
D2D14 [D1.9]	Travel by non-fire-isolated stairways or ramps	The existing building contains multiple internal non-fire-isolated stairways and an external that non-fire-isolated stairway that do not provide a continuous means of travel by their own flight and landing to the level at which egress to a road or open space is provided, which is contrary to D2D14(1). Each stairway is discussed below.	**Noted**

		<u>Block A – Ground Storey – Fire Stair 6</u> The existing external stairway (fire stair 6) contains a walkway that join the two stairs together at the Ground Storey. The stairway does not provide a continuous means of travel by its own flights and landings to the level at which egress to a road or open space is provided, which is contrary to D2D14(1).   It is recommended the existing non-fire-isolated stairway be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

		<u>Block A – Ground Storey/ First Storey – Fire Stair 9</u> The existing internal stairway (fire stair 9) contains multiple pathways that join the flights of stairs together. The pathways are not landings. The stairway does not provide a continuous means of travel by its own flights and landings to the level at which egress to a road or open space is provided, which is contrary to D2D14(1).   It is recommended the existing non-fire-isolated stairway be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

		<u>Block A – Second Storey – Boarders Recreation</u> The existing internal stairway serving the boarders recreation room in Block A on the Second Storey does not provide a continuous means of travel by its own flights and landings to the level at which egress to a road or open space is provided, which is contrary to D2D14(1).   It is recommended the existing non-fire-isolated stairway be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

		<u>Block C – Second Storey – Choir Loft</u> The existing stairways serving the choir loft on the Second Storey of Block C do not provide a continuous means of travel by its own flights and landings to the level at which egress to a road or open space is provided, which is contrary to D2D14(1).   It is recommended the existing non-fire-isolated stairways be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

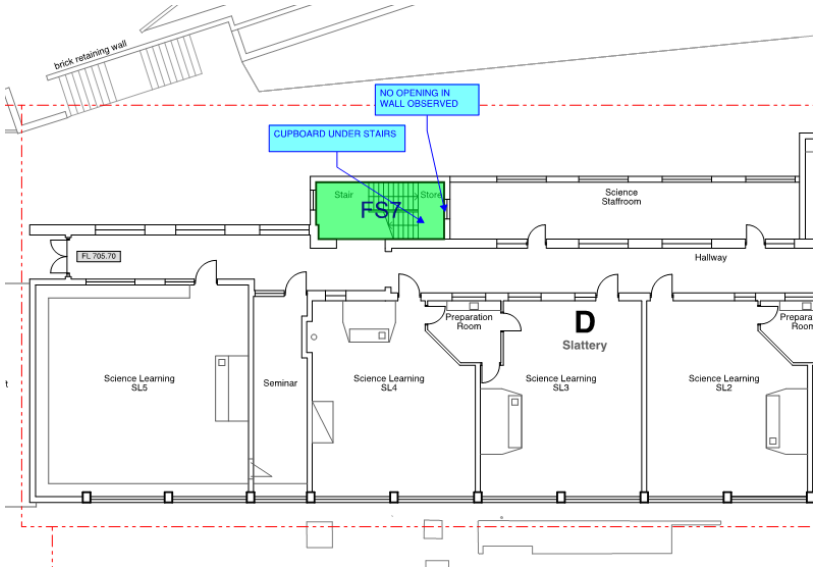
D2D15 [D1.10]	Discharge from exits	<u>Point of discharge</u> The point of discharge (external doorway) located at the ground storey in Block C – Fire Stair 5 was jammed shut and unable to be opened.  It is recommended the door be repaired and unblocked so it is operable from within the fire stair to comply with D2D15. <u>Ramps</u> Refer to the comments in D3D11 of this report regarding the external pedestrian ramps.	**Upgrade Recommended** **Noted**
D2D16 [D1.11]	Horizontal exits	The existing building does not include a horizontal exit.	**Not Relevant**
D2D17 [D1.12]	Non-required stairways, ramps or elevators	The existing building includes a non-required stairway located behind the kitchen in Block A. The stairway is proposed to be demolished as part of the development application. The existing building does not include any non-required stairways, ramps or escalators.	**Not Relevant**

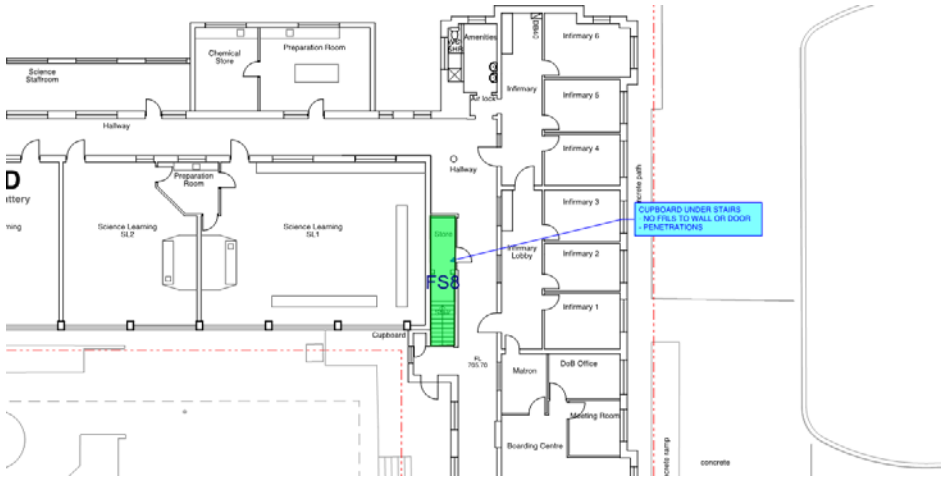
D2D18 [D1.13]	Number of persons accommodated	The proposed number of persons accommodated in each general area of the building has been calculated in accordance with D2D18. This calculation is a general approximation and has only been performed for the purpose of D2D18 in this report. The calculation is not a real-world representation of the maximum number of occupants that may be in the building or part of the building. The calculation is not intended or relied upon for any other purpose or by any other parties due to the approximate nature of the floor area and calculations. <u>Basement</u> Block A - laundry (5) + electrical/ subfloor (6) = 11 Block E - activity (157) + kitchen/ store (6) = 163 Block F – boiler room = 1 <u>Ground Storey</u> Block A/B – staff admin area = 28 Block C/D - library = 233 Block D – wellness centre = 15 Block D – classrooms = 235 Block E – kitchen (12) + boarding dining (291) = 303 Block F - STEAM hub = 197 Block F - food tech area = 80 <u>Upper Ground Storey</u> Block A - staff accommodation = 17 Block C – Cullen room = 5 Block E - free period room = 49	**Noted**

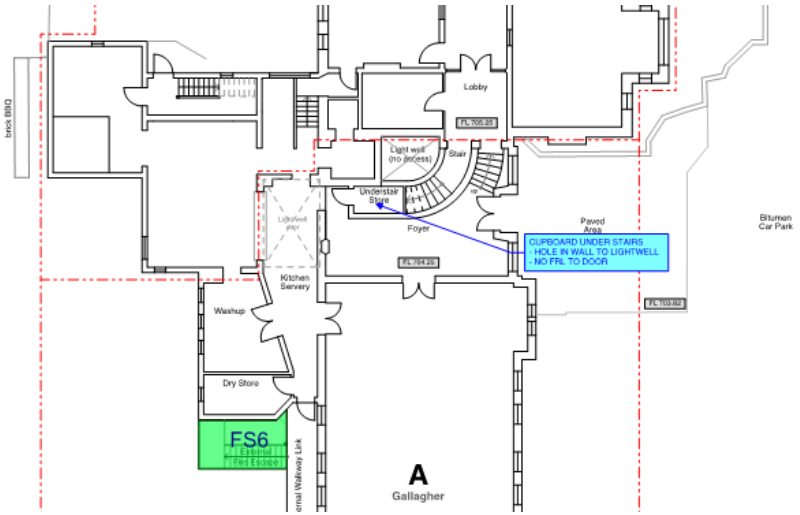
		<u>First Storey</u> Block A – staff study = 97 Block B – dormitory 2 = 17 Block C – chapel = 298 Block C – dormitory 1 = 16 Block D – staff accommodation = 1 Block D – offices = 21 Block D – Slattery = 62 Block E – dormitory 5 = 21 Block F – GLA inquiry hub = 416 <u>Second Storey</u> Block A – staff accommodation = 23 Block B – dormitory 4 = 20 Block C – dormitory 3 = 20 Block E – dormitory 6 = 26 Block F – GLA inquiry hub = 385	
D2D19 [D1.14]	Measurement of distances	-	**Noted**
D2D20 [D1.15]	Method of measurement	-	**Noted**
D2D21 [D1.16]	Plant rooms, lift machine rooms and electricity network substations: Concession	During the site inspection, no ladders were observed to provide egress from a plant room.	**Noted**
D2D22 [D1.17]	Access to lift pits	The existing building contains a lift in the main lobby of Block C. The lift pit was not inspected, however, access to the lift services is provided via the lift services plant room located behind the lift.	**Noted**
D2D23 [D1.18]	Egress from primary schools	The existing building does not include a primary school. Students expected to be in year 7 to 12.	**Not Relevant**

PART D3: CONSTRUCTION OF EXITS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
D3D1 [D2.0]	Deemed-to-Satisfy Provisions	-	**Noted**
NSW D3D2 [D2.1]	Application of part	-	**Noted**
D3D3 [D2.2]	Fire-isolated stairways and ramps	During the site inspection, it was observed all required fire-isolated stairways (including landings) were constructed of masonry.	**No Upgrade**
D3D4 [D2.3]	Non-fire-isolated stairways and ramps	During the site inspection, it was observed all required stairways were constructed of concrete or steel.	**No Upgrade**
D3D5 [D2.4]	Separation of rising and descending stair flights	The existing building does not include a rising fire-isolated exit stair flight that must be separated from the descending fire-isolated exits.	**Not Relevant**
D3D6 [D2.5]	Open access ramps and balconies	During the site inspection, no open access ramps or balconies were observed to be installed to meet the smoke hazard management requirements of E2D4 to E2D13.	**Not Relevant**
D3D7 [D2.6]	Smoke lobbies	The existing building does not include use of open access ramps or balconies to comply with the smoke hazard management requirements of E2D4.	**Not Relevant**
D3D8 [D2.7]	Installations in exits and paths of travel	During the site inspection, it was observed the existing building includes multiple electrical distribution boards, central telecommunications boards, electrical motors and the like. All services that were inspected were adequately protected in a metal (non-combustible) cupboard and suitability sealed against the spread of smoke.	**No Upgrade**

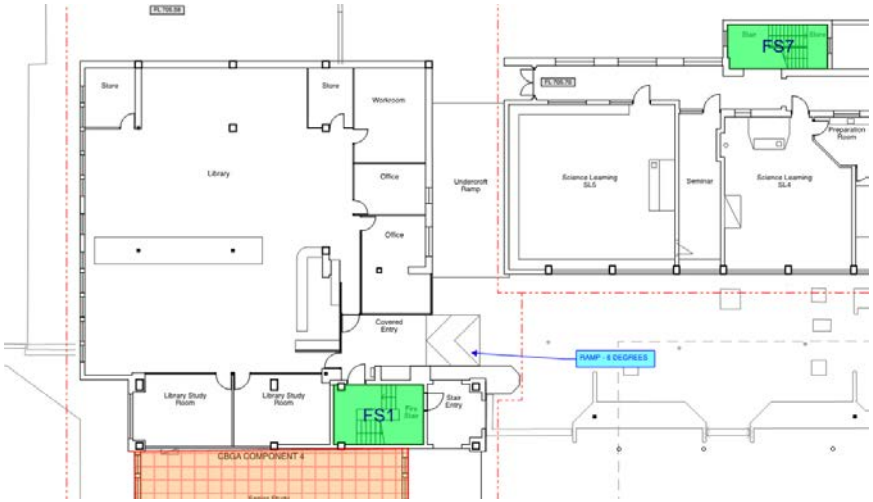
D3D9 [D2.8]	Enclosure of space under stairs and ramps	The existing building contains multiple spaces under stairs that have been enclosed to form cupboards and the like. <u>Block E - Basement – Fire Stair 3</u>   It is recommended the existing cupboard door at the bottom of fire stair 3 be removed so the space is not enclosed to comply with D3D9(1).	**Upgrade Recommended**

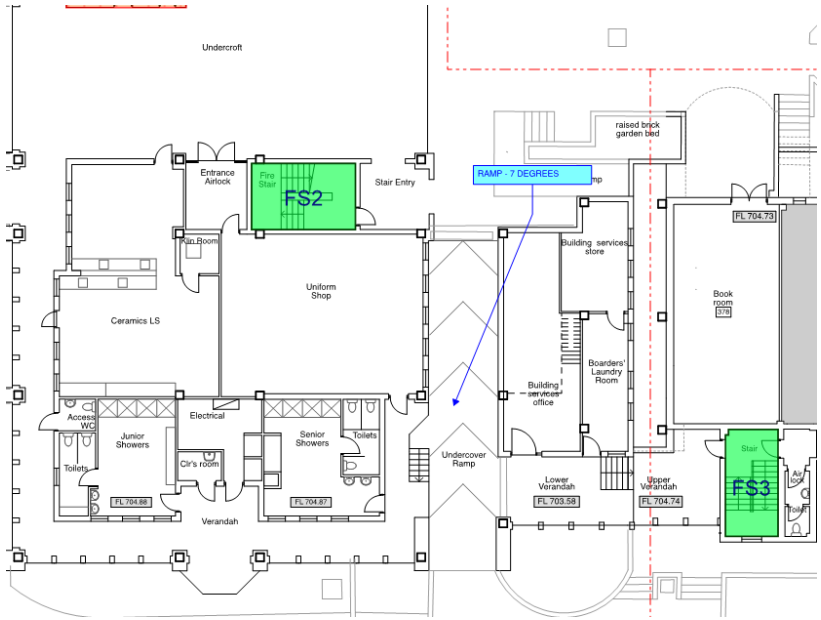
		Block D – Ground Storey – Fire Stair 7   It is recommended the existing cupboard under fire stair 7 be provided with a self-closing -/60/30 fire door to comply with D3D9(2)(b).	**Upgrade Recommended**

		Block D – Ground Storey – Fire Stair 8   It is recommended the existing lightweight (plasterboard) walls of the cupboard be replaced with walls that achieve an FRL of at least 60/60/60, the door be replaced with a self-closing -/60/30 fire door and the penetrations through the enclosing walls be protected to comply with D3D9(2).	**Upgrade Recommended**

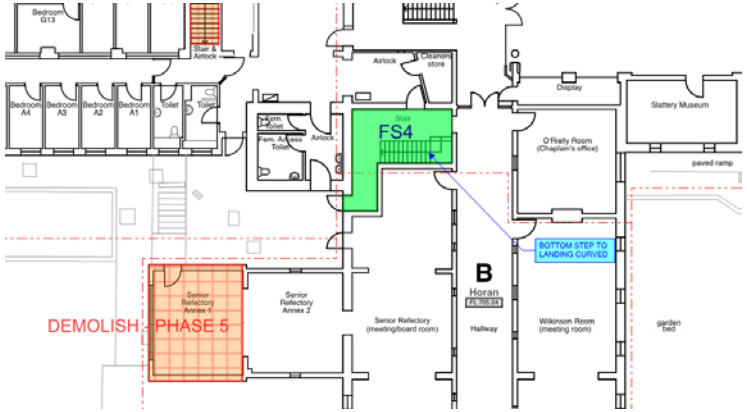
		Block A – Ground Storey – Fire Stair 9  	**Upgrade Recommended**

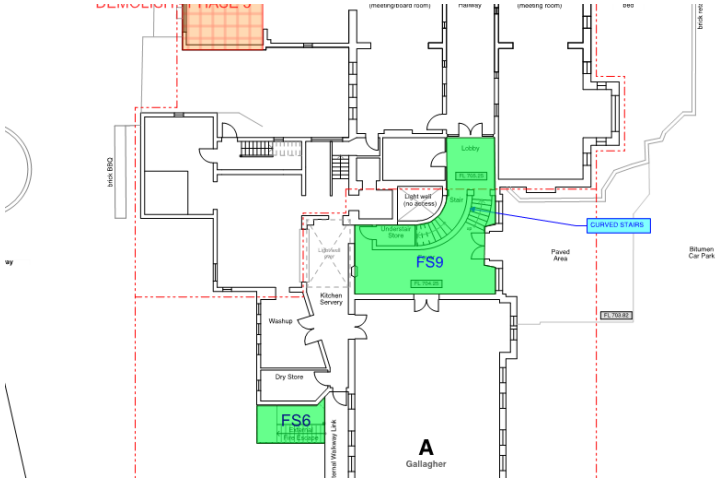
		 It is recommended the existing hole (appears to be opening into the light well) be blocked up to achieve a FRL of at least 60/60/60 and the door under fire stair 9 be replaced with a self-closing -/60/30 fire door to comply with D3D9(2).	
D3D10 [D2.9]	Width of required stairways and ramps	No existing stairways have been considered as having an egress width of more than 2 m.	**Not Relevant**
D3D11 [D2.10]	Pedestrian ramps	The existing building contains two ramps located near Block F that form part of the exit. The ramps have a gradient of 6 degrees and 7 degrees, which are not steeper than 1:8.	**No Upgrade**



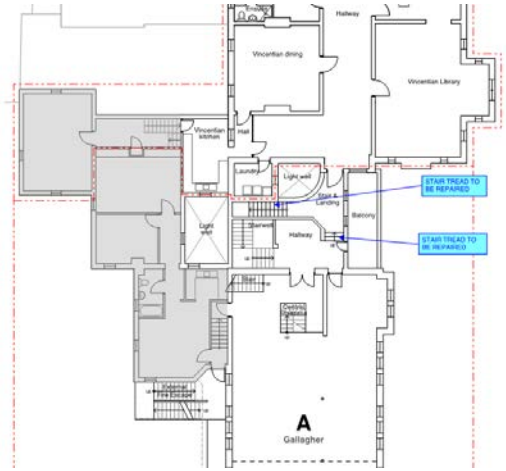


It is recommended the existing ramp are not upgraded.

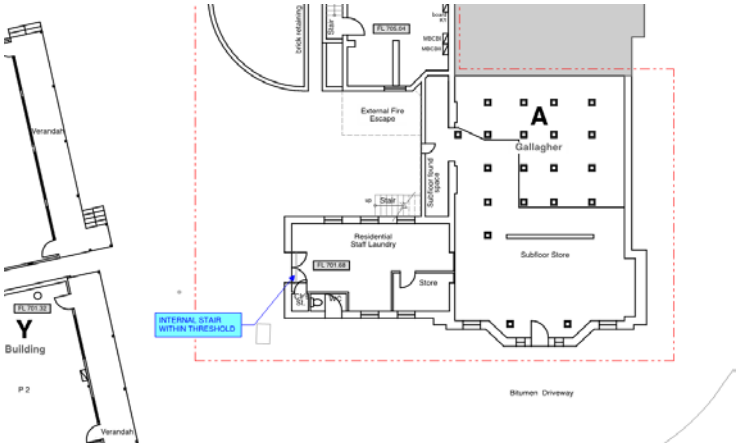
D3D12 [D2.11]	Fire-isolated passageways	The existing building contains two fire-isolated passageways, connecting fire stair 4 and fire stair 5 to open space at the ground storey. The fire-isolated passageways are constructed of masonry.	**No Upgrade**
D3D13 [D2.12]	Roof as open space	During the site inspection, no roof was observed to be relied upon for the purpose of open space.	**Not Relevant**
NSW D3D14 [D2.13]	Goings and risers	<u>Ground Storey – Fire Stair 4</u> The last step (before the quarter landing) in fire stair 4, on the Ground Storey is constructed on an angle, with a going dimension that is not consistent with the other treads in the flight.   It is recommended the last step be reconstructed to have a consistent going as the other treads in the flight to comply with NSW D3D14 and Table D3D14.	**Upgrade Recommended**

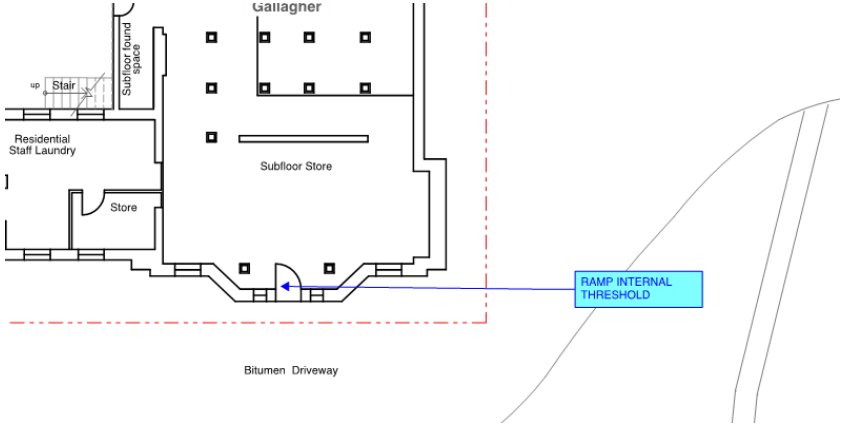
		<u>Ground Storey – Fire Stair 9</u> Two flights of stairs in fire stair 9, that are located on the Ground Storey, are provided with curved treads that result in the flight having inconsistent going dimensions, which is contrary to NSW D3D14 and Table D3D14.  	**Performance Solution**

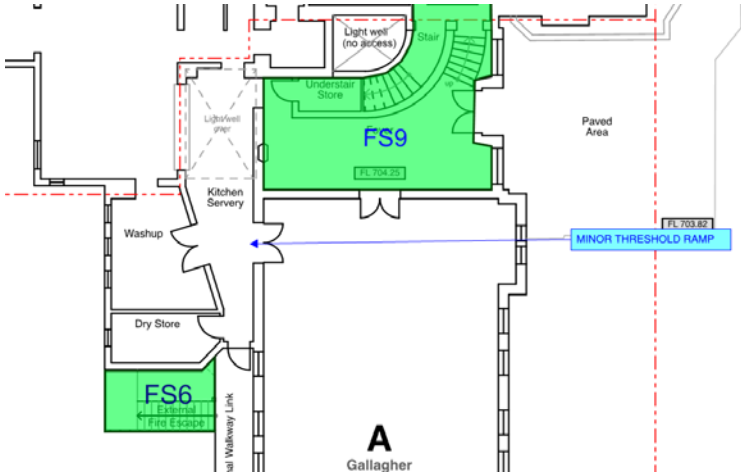
		 It is recommended the existing stairway geometry (goings) be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	

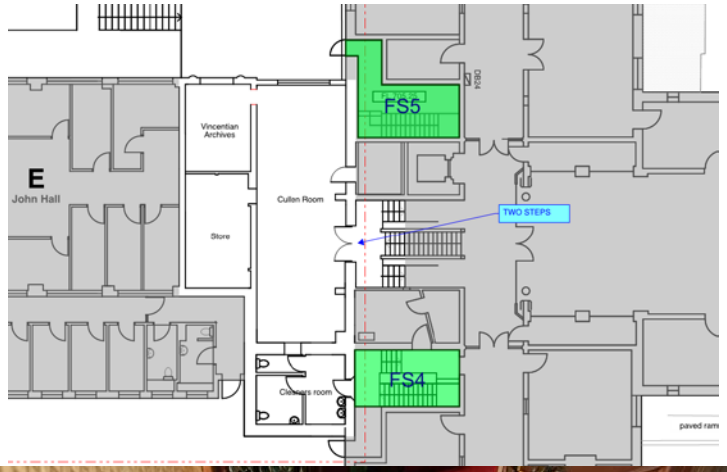
		<u>Second Storey – Fire stair 9</u> Multiple treads in fire stair 9 are broken and therefore not provided with a consistent going dimension, which is contrary to Table D3D14.   It is recommended the stairs be repaired to comply with NSW D3D14.	**Upgrade Recommended**

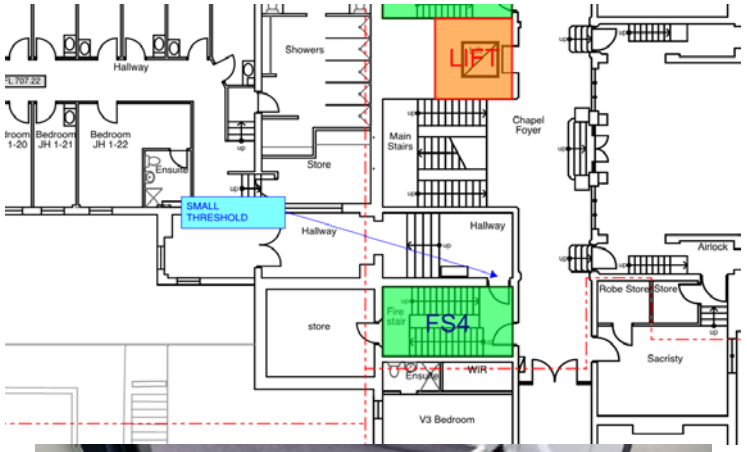
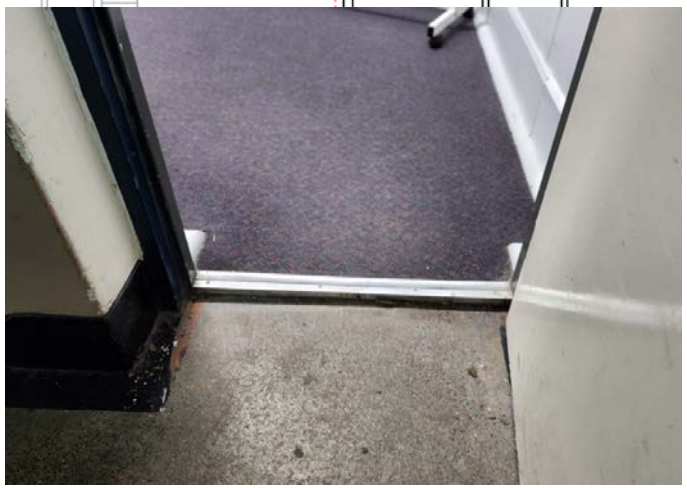
D3D15 [D2.14]	Landings	Dimensions During the site inspection, it was observed all landings were at least 750 mm in length (except for the matters discussed in D3D18 of this report). Slip-resistance Multiple external landings were observed to not have a slip-resistant surface or slip-resistant strip at the edge of the landing throughout the building, which is contrary to D3D15(a).  It is recommended all landing be provided with a slip-resistant strip at the edge of the landing to comply with D3D15 and Table D3D15.	**Noted** **Upgrade Recommended**

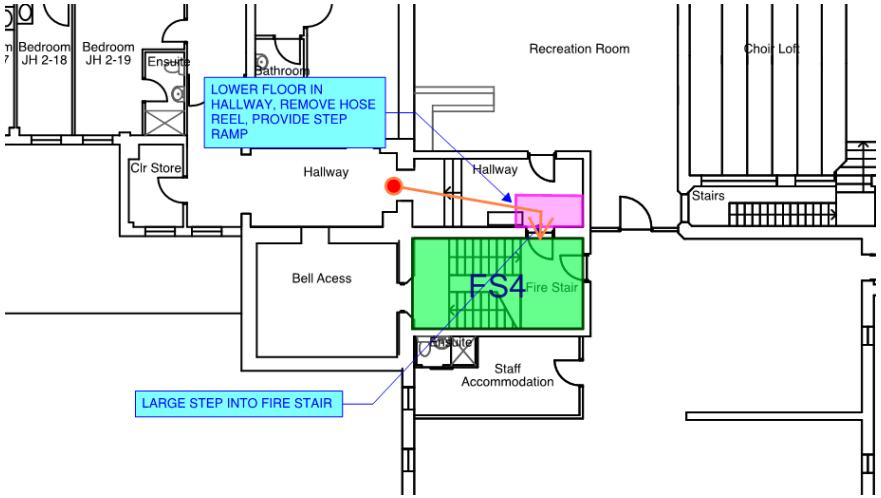
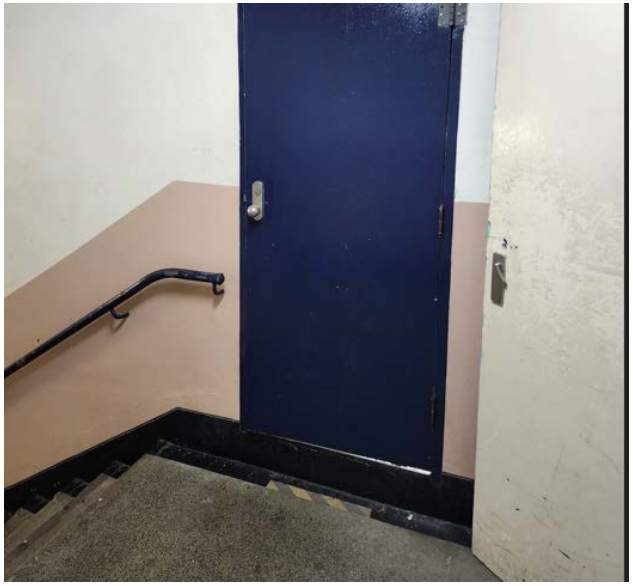
NSW D3D16 [D2.15]	Thresholds	<u>Block A – Basement – Staff Laundry</u> The door providing access to the basement staff laundry room contains two internal steps within the width of door leaf (ie. the door opens over the stair).   It is recommended a new internal landing and stairway be constructed so the door does not open over the internal stair to comply with NSW D3D16.	**Upgrade Recommended**

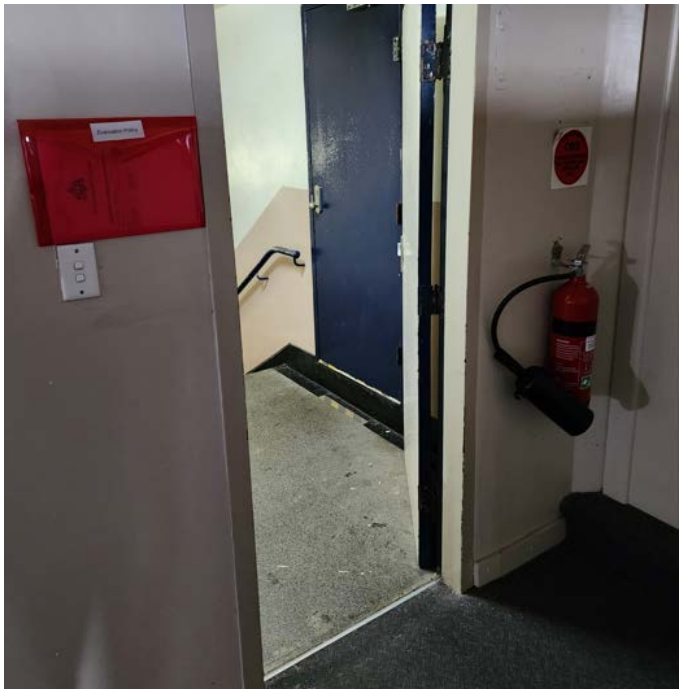
		Block A – Basement – Subfloor Store The door providing access to the basement subfloor store contains an internal ramp within the width of door leaf.   It is recommended no upgrades occur to the existing ramp as the subfloor store is used infrequently and is provided with a ramp that has a small landing located immediately inside the doorway.	**No Upgrade**

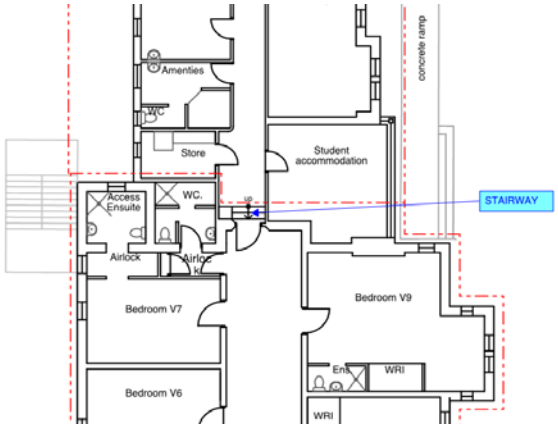
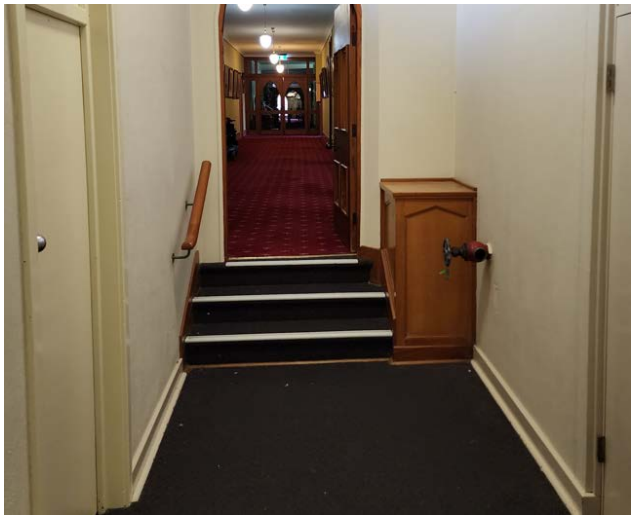
		<u>Block A – Ground Storey – Kitchen Servery</u> The internal door located between the kitchen servery and boarder's refectory contains a minor threshold ramp due to the different floor materials.   The proposed development includes works to the area and results in the finished floor level in both areas both being RL 704.30 to comply with NSW D3D16.	**Noted**

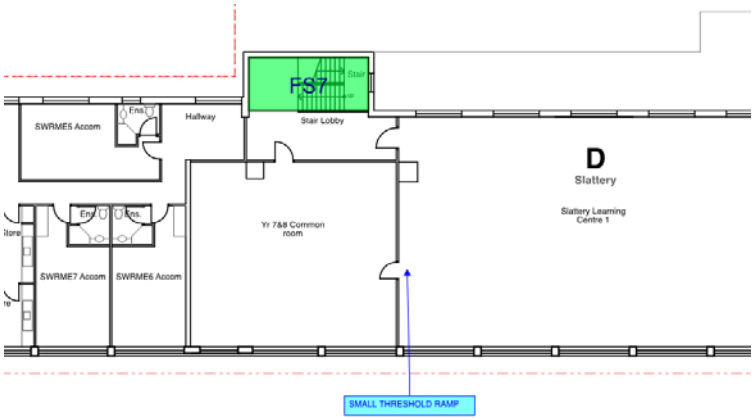
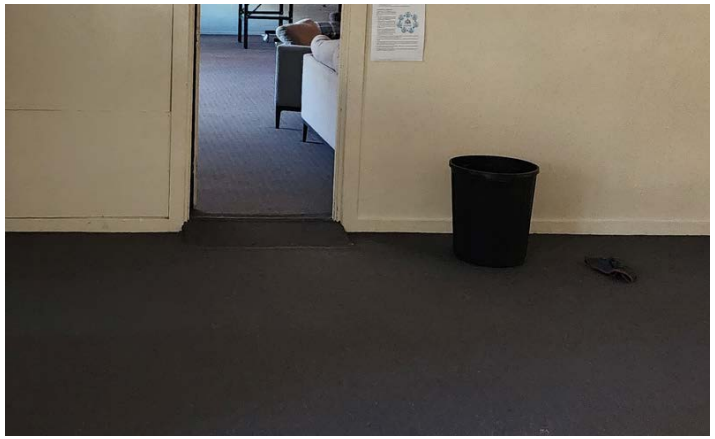
		<u>Block C – Upper Ground Storey – Cullen Room</u> The internal door located on the mid-landing of the foyer stairway, into the Cullen room contains two steps within the width of the door leaf.   It is recommended no upgrades occur to the existing stairs or doorway as it forms part of the main stairway. The main stairway and surrounding area is proposed to be retained without modification due to the heritage value and significance.	**No Upgrade**

		Block C – First Storey – Fire Stair 4 The doorway leading into fire stair 4 from the hallway on the First Storey contains a small step into the fire-isolated shaft, which is contrary to NSW D3D16.   It is recommended the step be upgraded with a threshold ramp and Performance Solution to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety.	**Performance Solution**

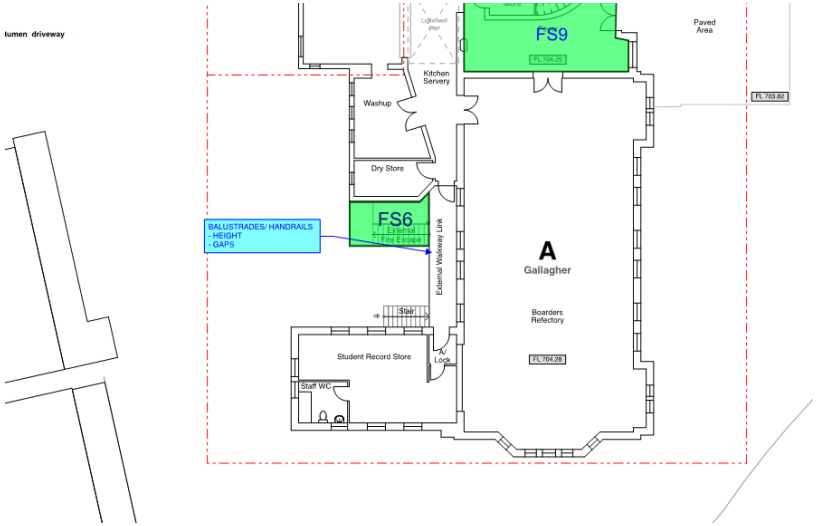
		Block C – Second Storey – Fire Stair 4 The doorway leading into fire stair 4 on the Second Storey contains a step inside the fire-isolated shaft, which is contrary to NSW D3D16.  	**Upgrade Recommended**

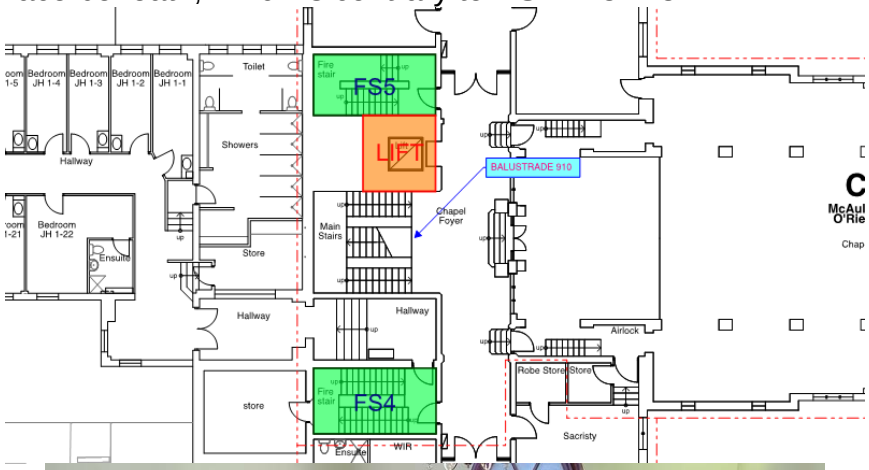
		 It is recommended the finished floor level in the hallway (approximately marked up in purple on the plan above) be lowered by approximately 190 mm to align with the finished floor level inside fire stair 4. It is also recommended the redundant fire hose reel be removed to make room for construction of a step ramp, as a stairway cannot contain a single riser. Finally, it is recommended the existing fire door leading into the fire stair be demolished, the opening realigned to new finished floor levels and a new fire door set installed away from the steps to ensure no part of its swing encroaches more than 500 mm into the required width of the landings. Refer to comments in D3D25.	

		<u>Block D – First Storey – Hallway</u> The stairway located in the hallway on the First Storey of Block D is located adjacent to the doorway. This stairway appears to be located at the historical construction joint between Block C and D.   It is recommended a new landing be constructed in the location of the existing stairway (at RL710.09) and a new stairway be constructed at the end of the landing to comply with NSW D3D19.	**Upgrade Recommended**

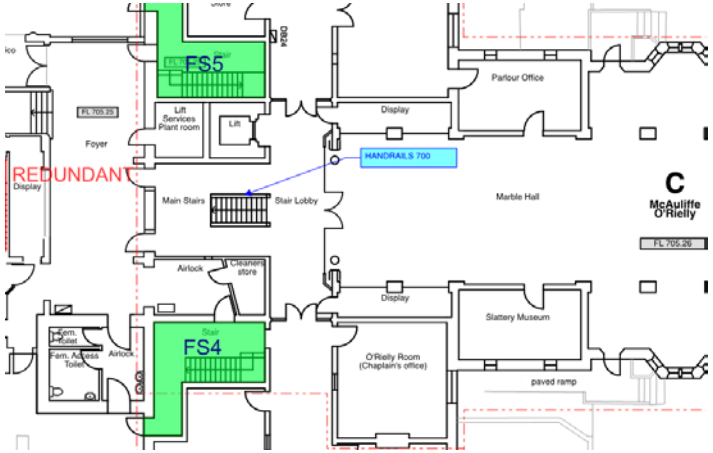
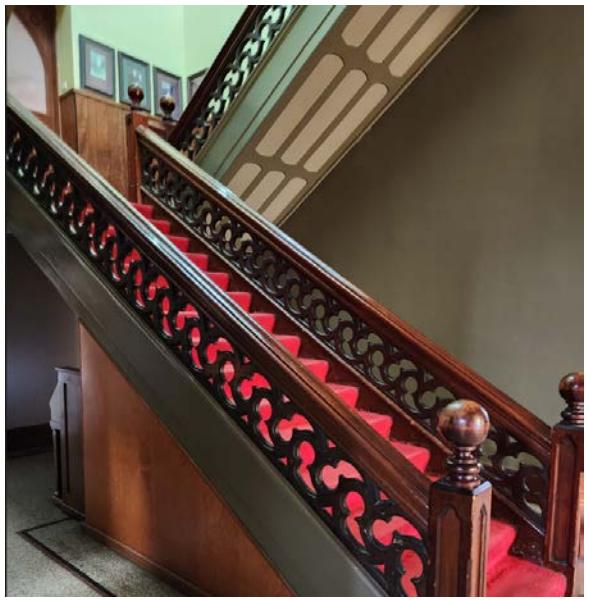
		<u>Block D – First Storey – Slattery Learning Centre 1</u> The doorway between the Slattery Learning Centre 1 and Year 7&8 Common Room contains a small threshold ramp adjacent to the door.   It is recommended no upgrades occur to the existing ramp as it is a minor threshold ramp and is not located in a required path of travel to an exit.	**No Upgrade**

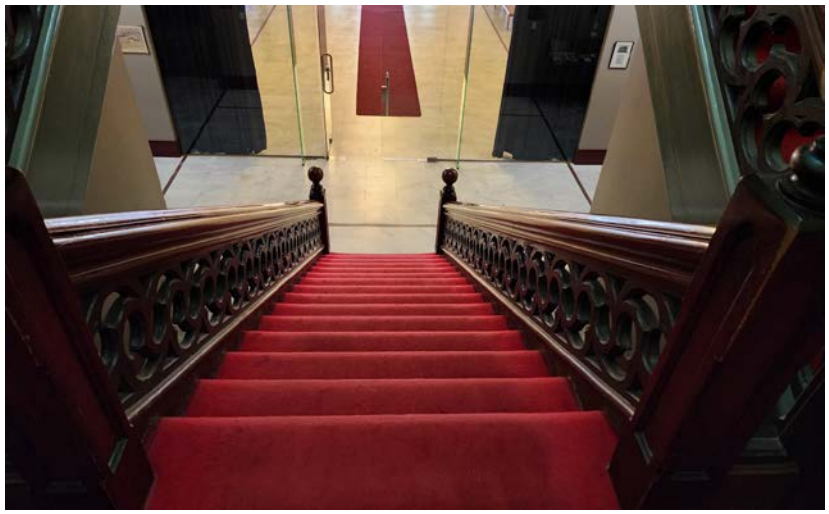
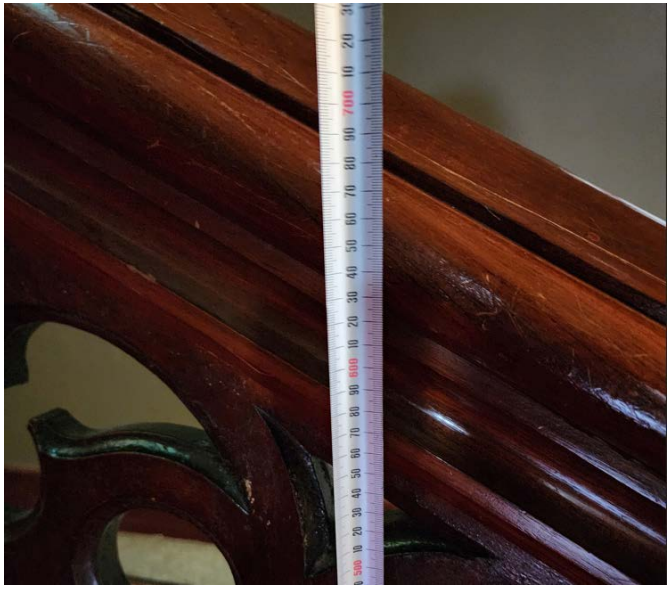
D3D17 [D2.16]	Barriers to prevent falls	The existing building is provided with barriers to prevent falls with varying levels of compliance. Refer to the comments in NSW D3D18, D3D19 and D3D20 regarding the recommended upgrades for the existing barriers that are not proposed to be demolished as part of the development application.	**Noted**

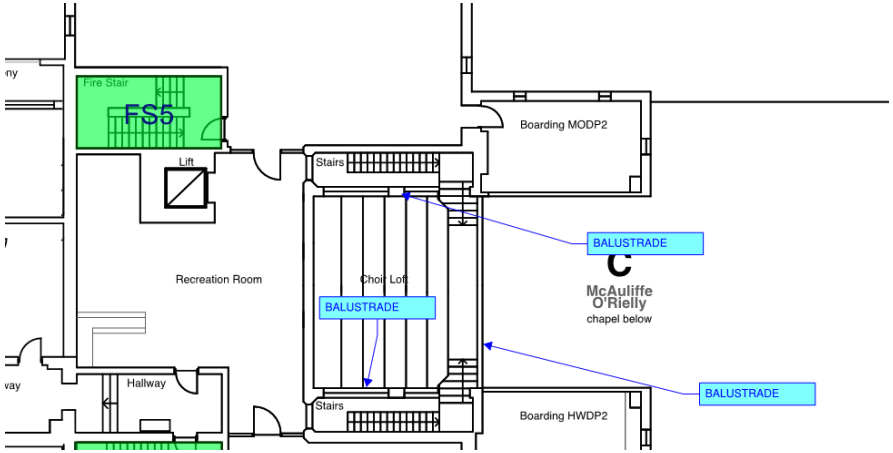
NSW D3D18 [D2.16]	Height of barriers	<u>Block A – Fire Stair 6</u> The heights of the balustrades to prevent falls located adjacent to fire stair 6 are less than 1 m, which is contrary to NSW D3D18.   It is recommended the existing barriers are replaced and upgraded to comply with NSW D3D18.	**Upgrade Recommended**

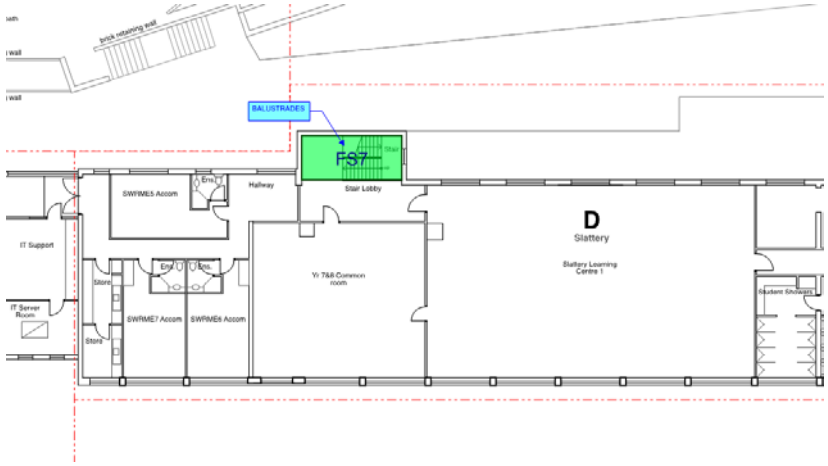
		<u>Block C - Main Stairway</u> The main stairway has an ornate heritage timber barrier to prevent falls on the First Storey. The height of the barrier is approximately 910 mm and the trafficable surface is more than 1 m above the surface beneath, which is contrary to NSW D3D18.  	**No Upgrade**

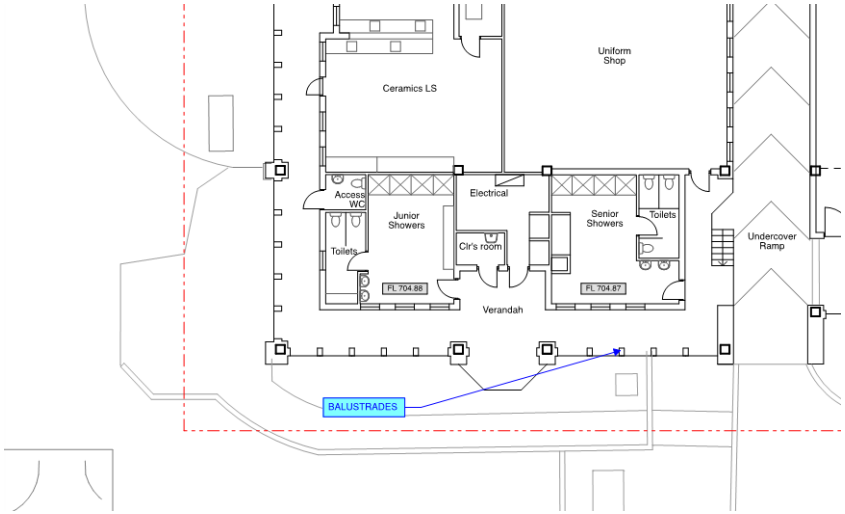
		 It is recommended no upgrades occur to the existing barrier to the first storey due to the heritage value and significance of the stairway. The mid-landing is already provided with a barrier on the inside edge (less than 500 mm in length) that has a height of more than 865 mm in accordance with D3D18(1)(b). 	

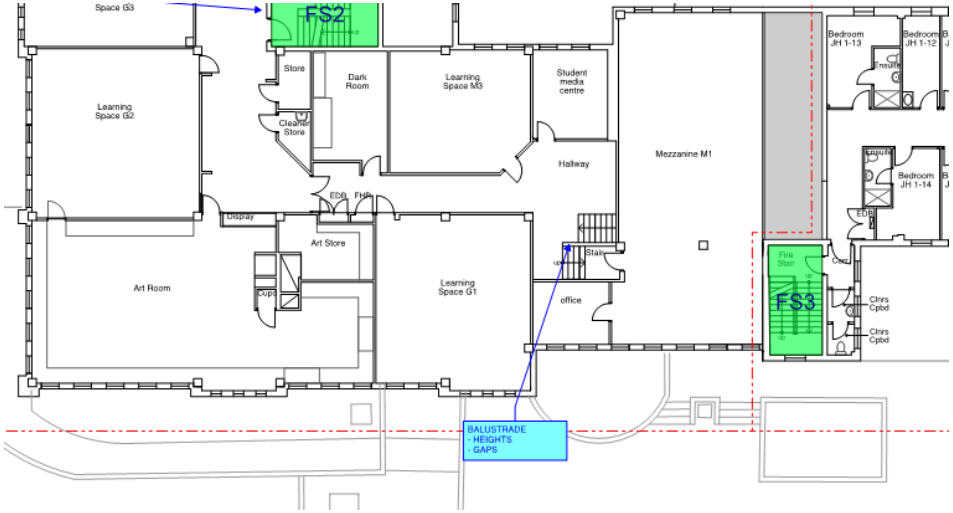
		The main stairs, located in the stair lobby are also provided with handrails that have a height of approximately 700 mm, which is less than 865 mm and contrary to NSW D3D18(1).  	**No Upgrade**

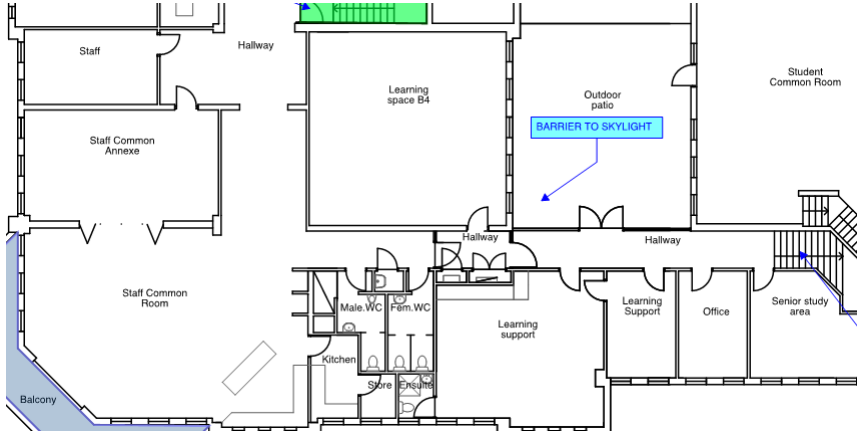
		  It is recommended no upgrades occur to the existing stairway due to the heritage value and significance of the stairway.	

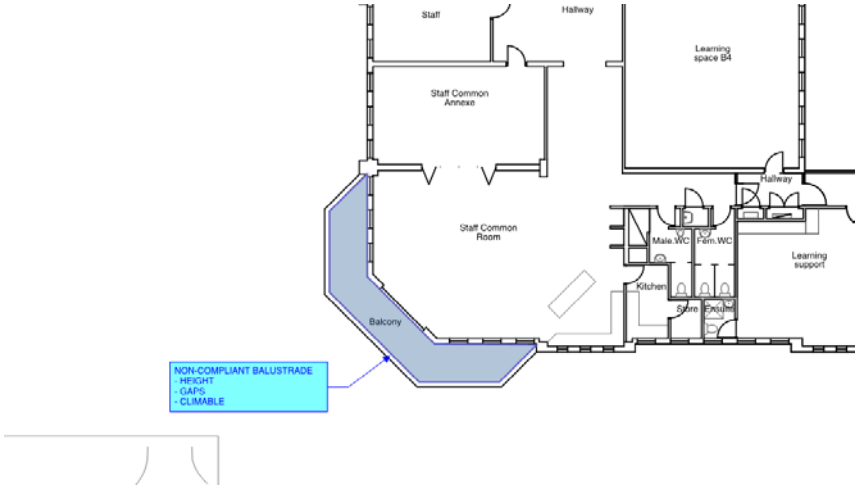
		Block C – Second Storey – Choir Loft The barriers to prevent falls located on the front and sides of the choir loft have a height of less than 1 m.   It is recommended the existing barriers are altered and upgraded to have a height of at least 1 m to comply with NSW D3D18.	**Upgrade Recommended**

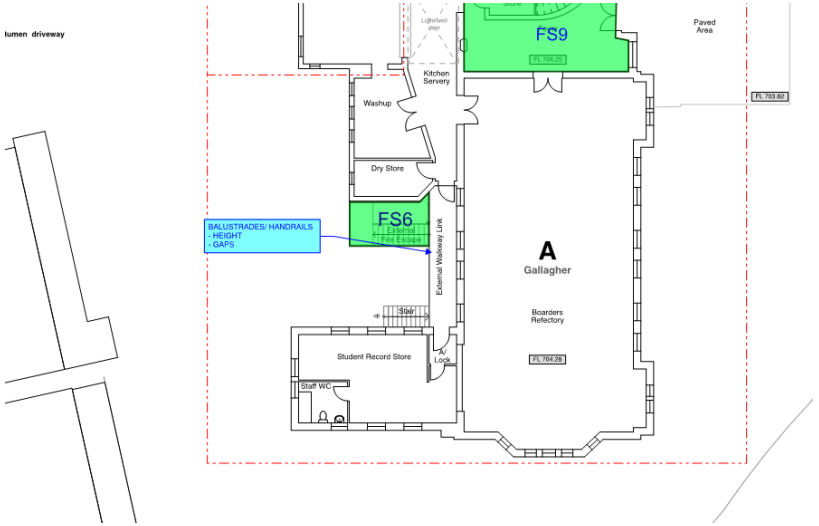
		Block D – First Storey – Fire Stair 7 The barriers to prevent falls located on and adjacent to the top of fire stair 7 have a height of approximately 840 mm, which is less than 1 m.   It is recommended the barriers to prevent falls be upgraded and replaced to comply with NSW D3D18.	**Upgrade Recommended**

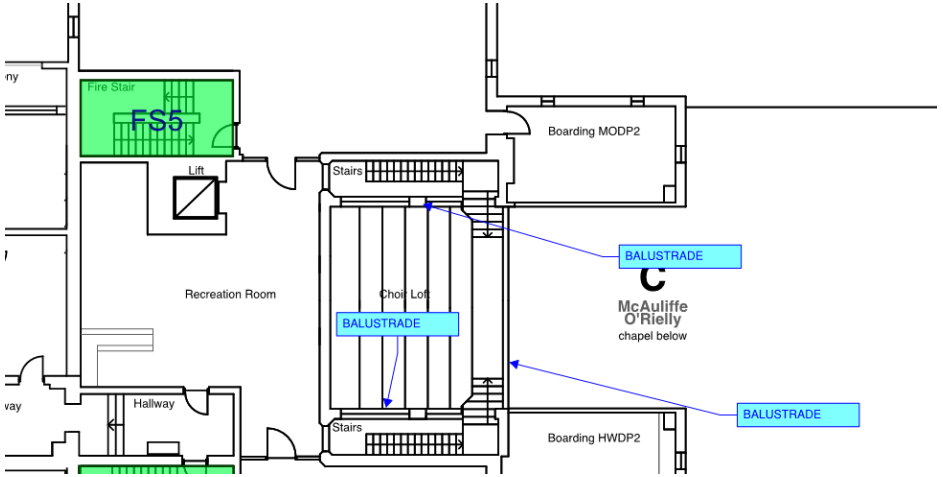
		Block F – Ground Storey - External The external verandah located on the Ground Storey of Block F has a trafficable surface that is more than 1 m above the surface beneath and has a balustrade that has a height of less than 1 m.   It is recommended the barrier be replaced and upgraded to comply with NSW D3D18.	**Upgrade Recommended**

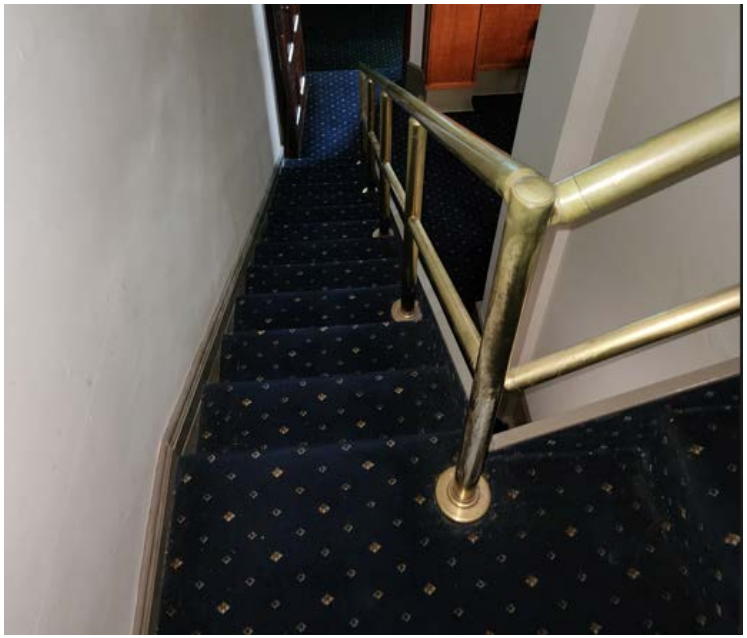
		Block F – First Storey – Internal Stair The barrier located adjacent to the internal stair located on the First Storey of Block F has a height of less than 1 m.   It is recommended the barrier be replaced and upgraded to comply with NSW D3D18.	**Upgrade Recommended**

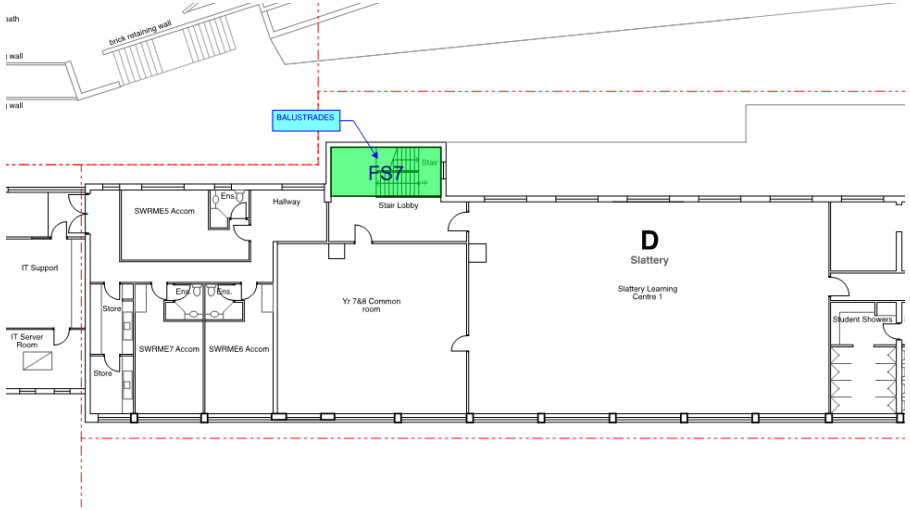
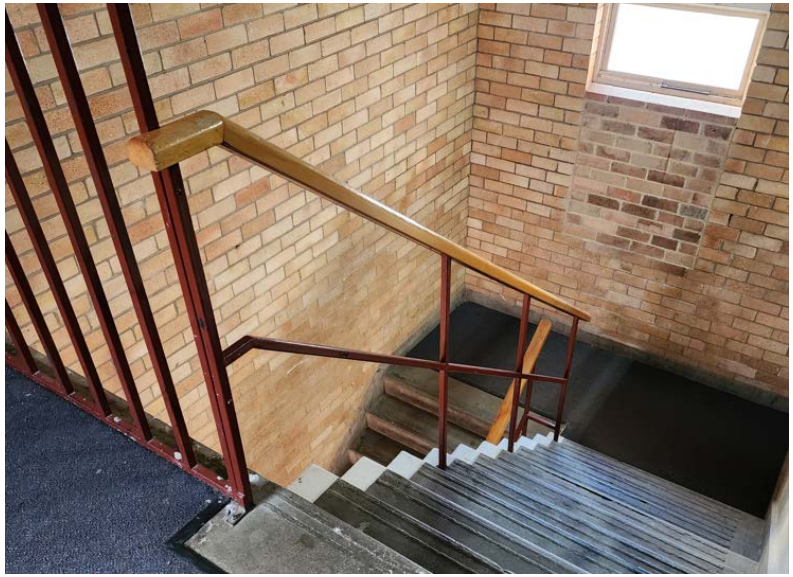
		<u>Block F – Outdoor Patio</u> The barrier located adjacent to the skylight located in the outdoor patio area has a height of less than 1 m.   It is recommended the barrier be replaced and upgraded to comply with NSW D3D18.	**Upgrade Recommended**

		<u>Block F – Second Storey - Balcony</u> The Second Storey of Block F includes an external balcony that is provided with a barrier to prevent falls that has a height of less than 1 m.   It is recommended the existing barrier be upgraded to comply with NSW D3D18.	**Upgrade Recommended**

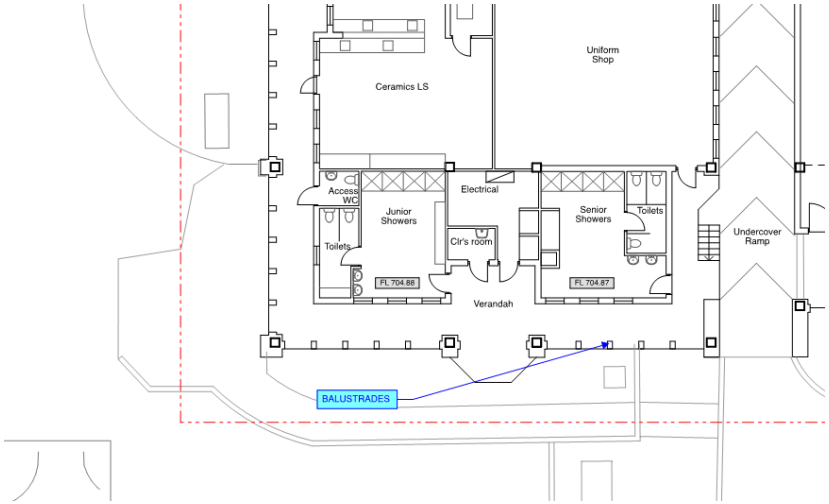
D3D19 [D2.16]	Openings in barriers	<u>Block A – Fire Stair 6</u> The barriers to prevent falls located adjacent to fire stair 6 contain gaps in excess of 125 mm.   It is recommended the existing barriers are replaced and upgraded to comply with D3D19.	**Upgrade Recommended**

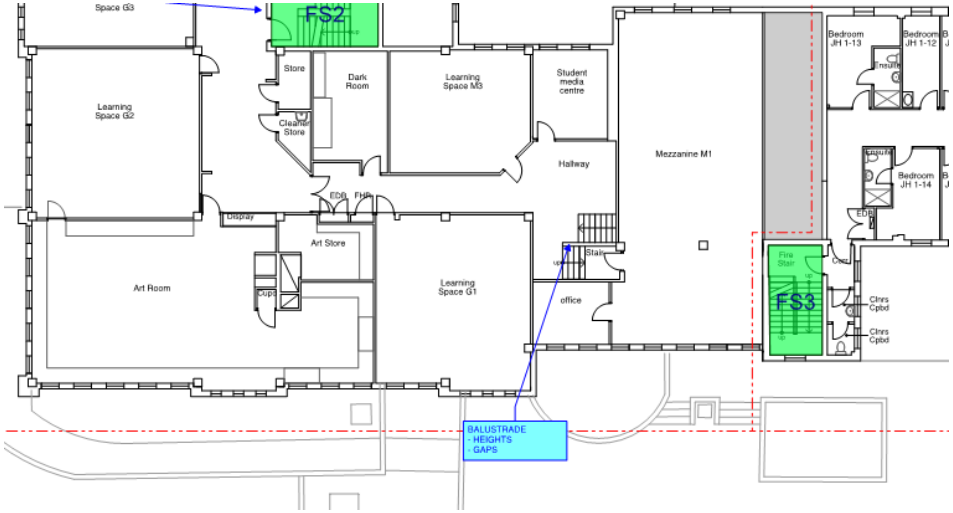
		<u>Block C – Second Storey – Choir Loft</u> The barriers to prevent falls located along the front, side and stairway of the choir loft contain gaps in excess of 125 mm.  	**Upgrade Recommended**

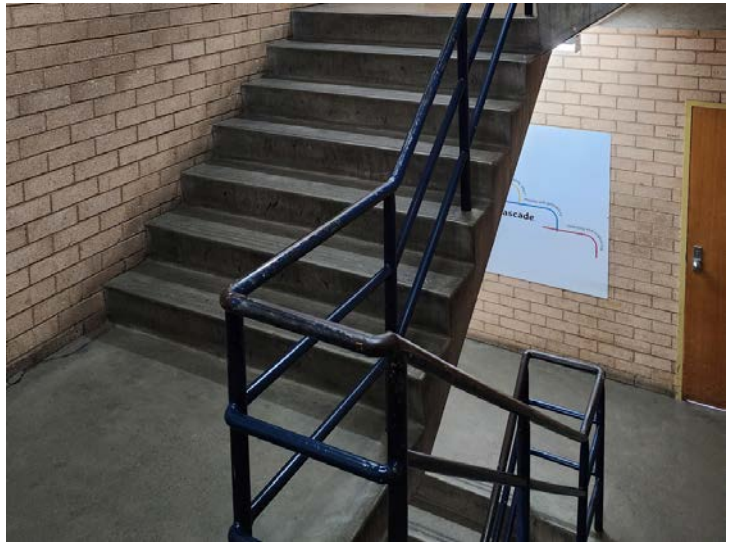
		  It is recommended the existing barriers to altered and upgraded to comply with D3D19.	

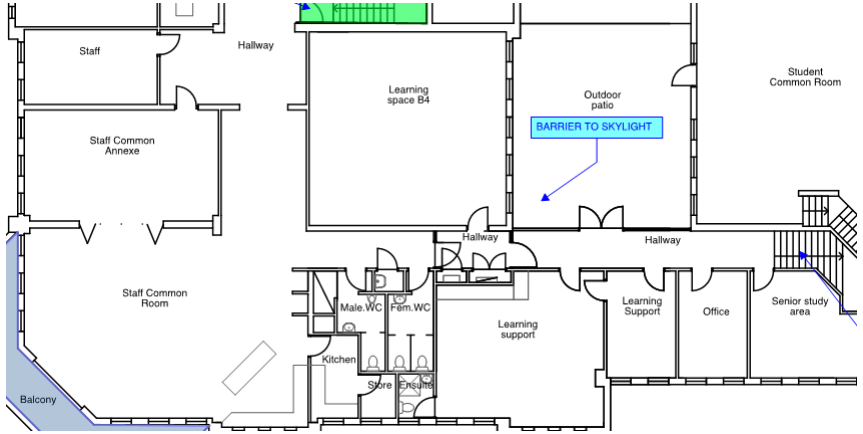
		<u>Block D – First Storey – FS7</u> The barriers to prevent falls located on and adjacent to the top of fire stair 7 contain gaps that exceed 125 mm.  	**Upgrade Recommended**

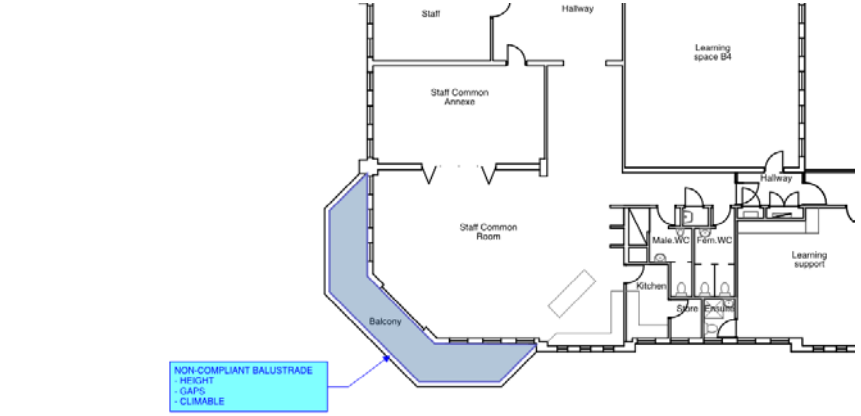
		  It is recommended the barriers to prevent falls be upgraded and replaced to comply with D3D19.	

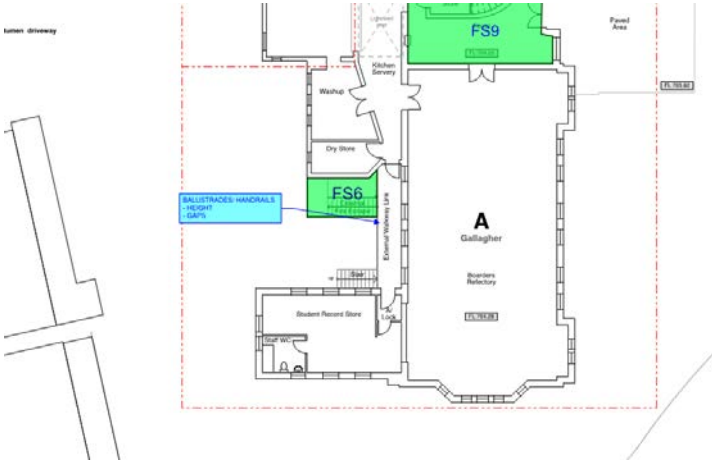
		Block F – Ground Storey - External The external verandah and stair located on the Ground Storey of Block F has a trafficable surface that is more than 1 m above the surface beneath with gaps more than 125 mm.   It is recommended the barrier be replaced and upgraded to comply with D3D19.	**Upgrade Recommended**

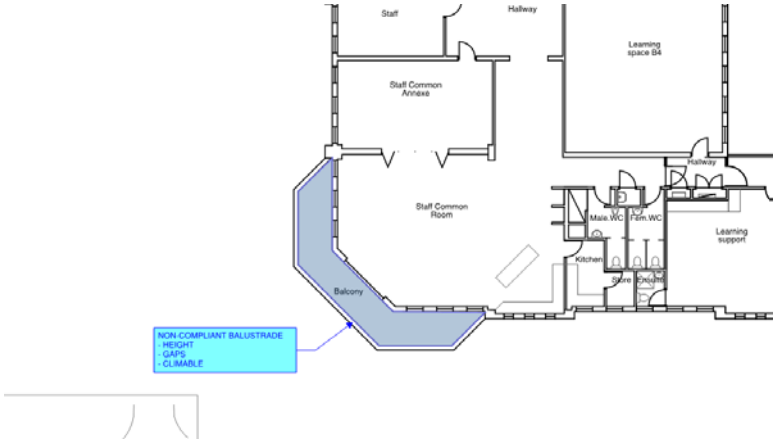
		Block F – First Storey – Internal Stair The barrier located adjacent to the internal stair located on the First Storey of Block F contains gaps in excess of 125 mm.   It is recommended the barrier be replaced and upgraded to comply with D3D19.	**Upgrade Recommended**

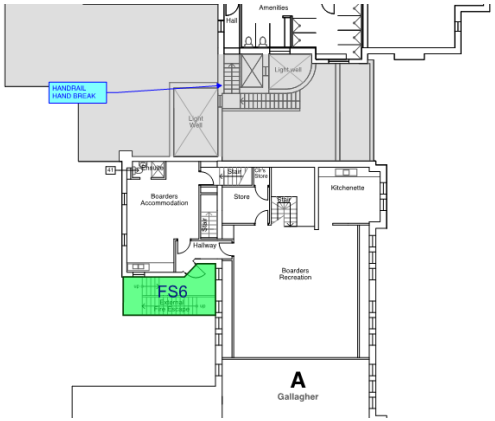
		<u>Block F - Fire Stair 1 and 2</u> Fire stairs 1 and 2 are not required to be fire-isolated. The barriers to prevent falls contain gaps that exceed 125 mm.   It is recommended the barriers to prevent falls be upgraded and replaced to comply with D3D19.	**Upgrade Recommended**

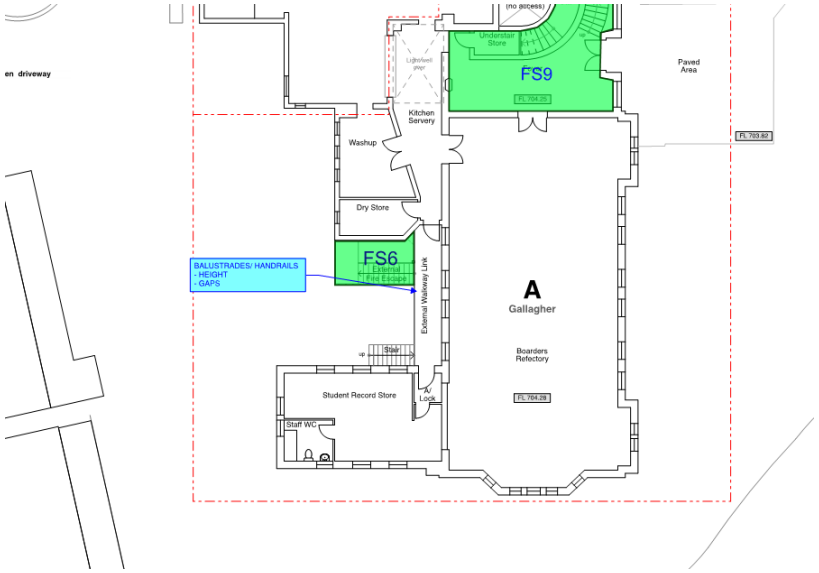
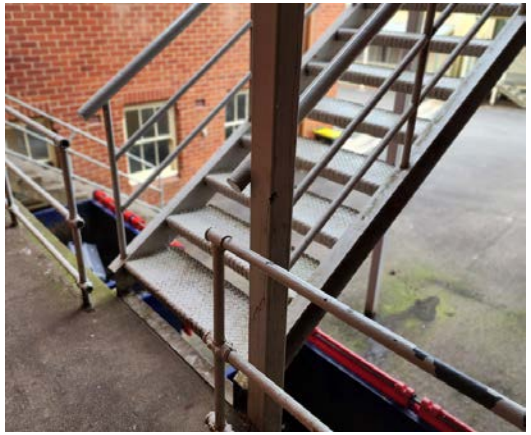
		<u>Block F – Outdoor Patio</u> The barrier located adjacent to the skylight on the outdoor patio area contains gaps in excess of 125 mm.   It is recommended the barrier be replaced and upgraded to comply with D3D19.	**Upgrade Recommended**

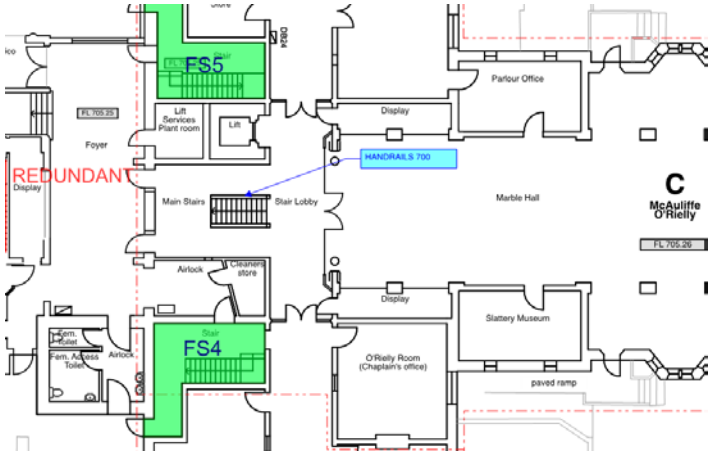
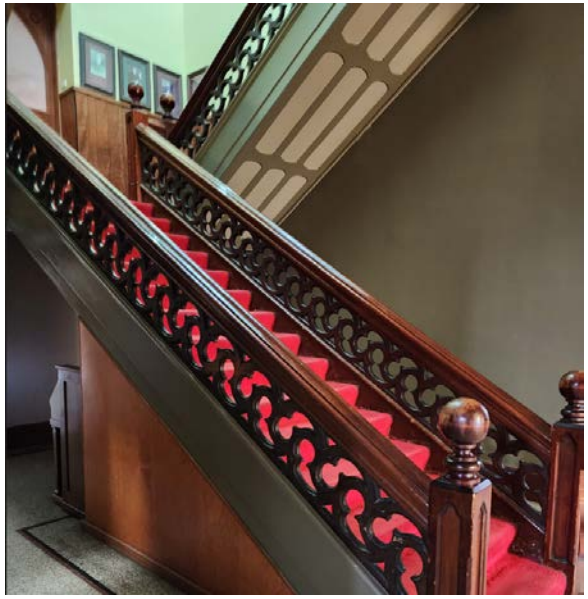
		<u>Block F – Second Storey - Balcony</u> The Second Storey of Block F includes an external balcony that is provided with a barrier that contains gaps in excess of 125 mm.   It is recommended the existing barrier be upgraded to comply with D3D19.	**Upgrade Recommended**

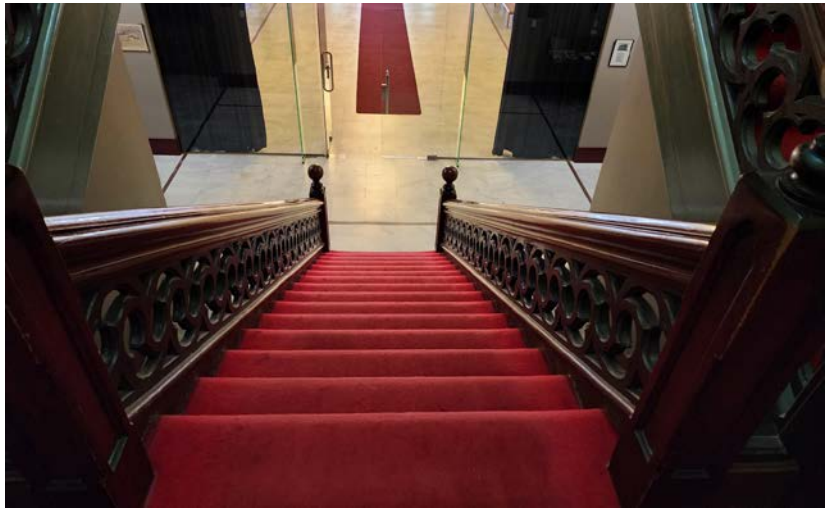
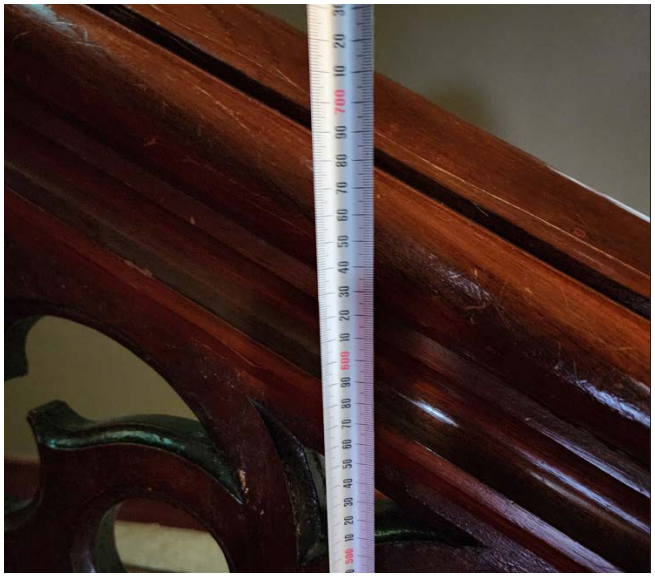
D3D20 [D2.16]	Barrier climbability	<u>Block A – Fire Stair 6</u> The barriers to prevent falls located adjacent to the top of fire stair 6 are more than 4 m above the surface beneath and include a horizontal surface between 150 mm and 760 mm above the landing that facilities climbing.   It is recommended the existing barriers are replaced and upgraded to comply with D3D20.	**Upgrade Recommended**

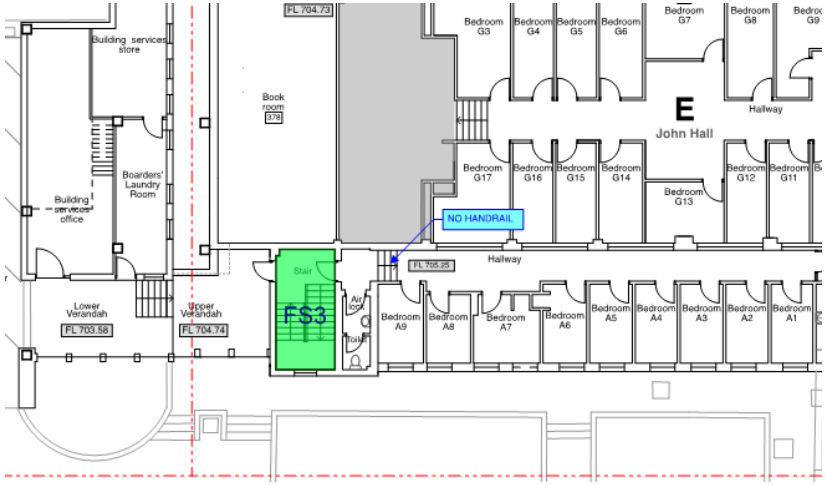
		<u>Block F – Second Storey Balcony</u> The Second Storey of Block F includes an external balcony that is provided with a barrier to prevent falls. The barrier includes a horizontal surface between 150 mm and 760 mm above the floor that facilities climbing.   It is recommended the existing barrier be upgraded to comply with D3D20.	**Upgrade Recommended**
D3D21 [D2.16]	Wire barriers	No existing wire balustrades were observed during the site inspection.	**Not Relevant**

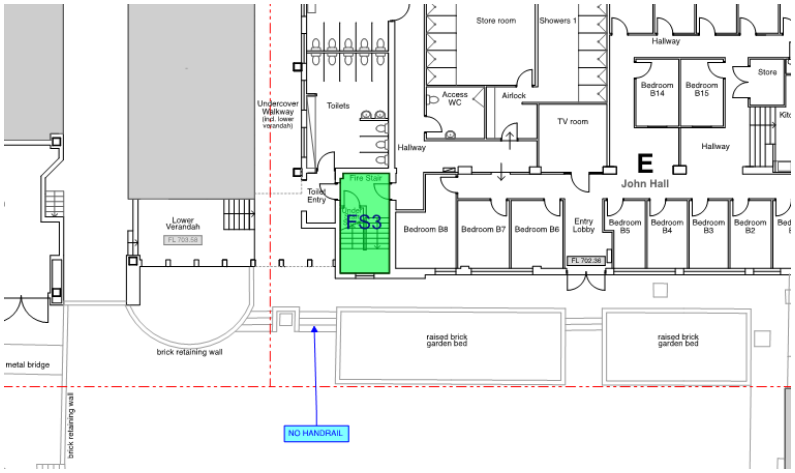
D3D22 [D2.17]	Handrails	<u>Block A – Second Storey – Fire Stair 9</u> The top flight of fire stair 9 that provides egress from the Second Storey (near the light well) includes with a handrail that requires an occupant to break their grip. The break is due to an internal column.   It is recommended part of the column be notched out to enable a handrail to be provided to comply with D3D22(1)(e), subject to consultation with the structural engineer and heritage consultant. Noting, the stairway is already provided with an egress width of less than 1 m and providing a handrail around the column would further reduce the egress width.	**Upgrade Recommended**

		<u>Block A – Ground Storey - Fire Stair 6</u> The handrail adjacent to fire stair 6 is provided with a handrail that requires an occupant to break their grip at the landing at the Ground Storey landing.   It is recommended the handrail is replaced and upgraded to comply with D3D22(1)(e).	**Upgrade Recommended**

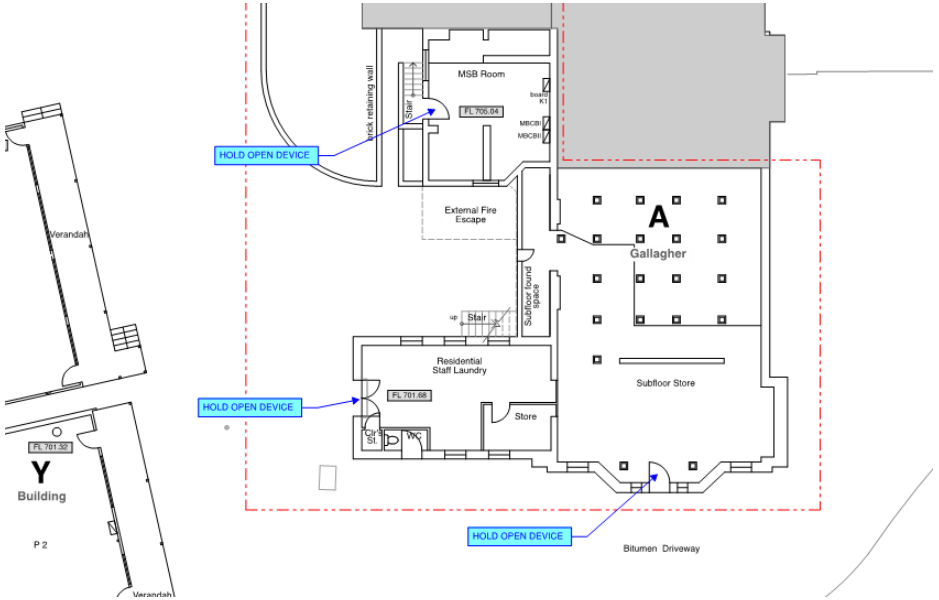
		<u>Block C – Ground Storey - Main Stairs</u> The main stairs, located in the stair lobby are provided with handrails that have a height of approximately 700 mm, which is contrary to D2D22(1).  	**No Upgrade**

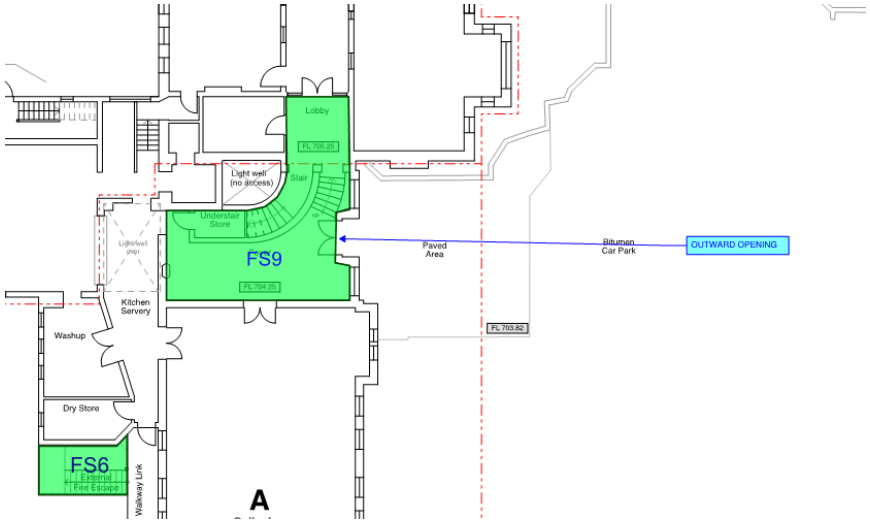
		  It is recommended no upgrades occur to the existing stairway due to the heritage value and significance of the stairway.	

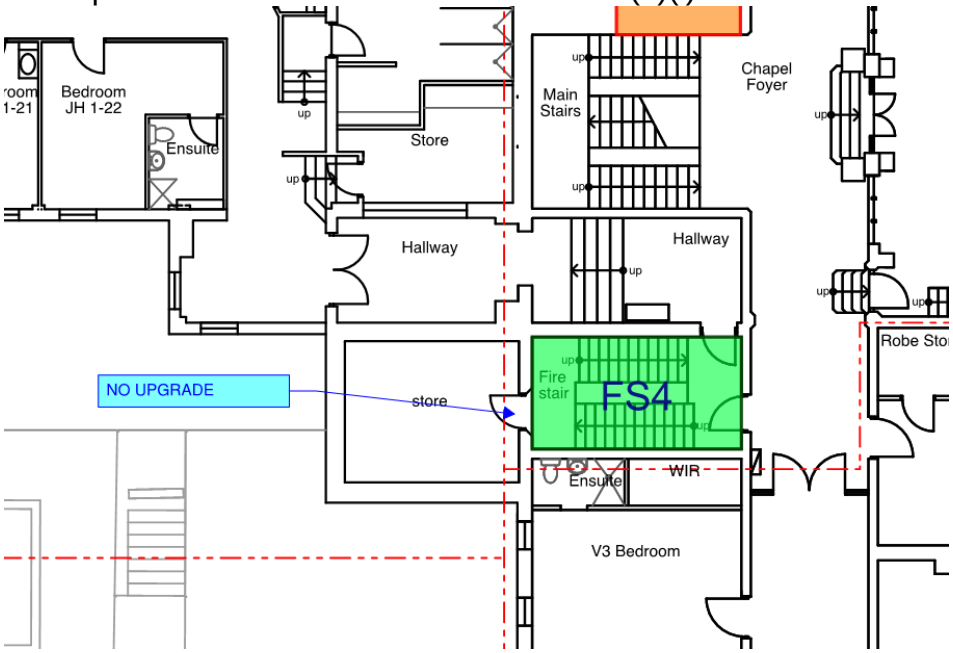
		Block E – Ground Storey The internal stairway located near fire stair 3 on the Ground Storey of Block F is not provided with a handrail.   It is recommended a handrail be provided in accordance with D3D22.	**Upgrade Recommended**

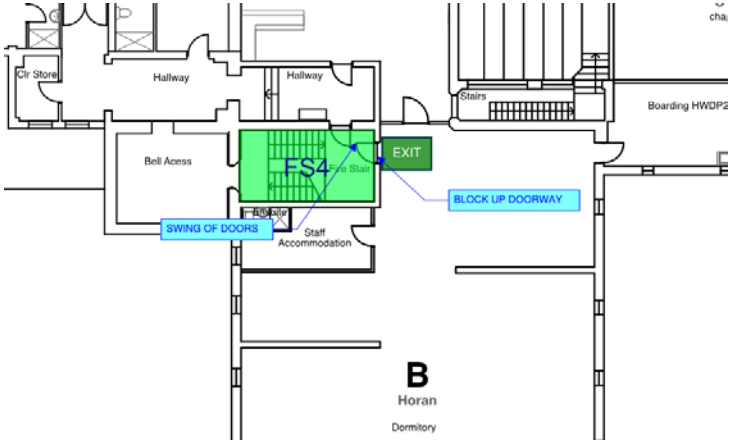
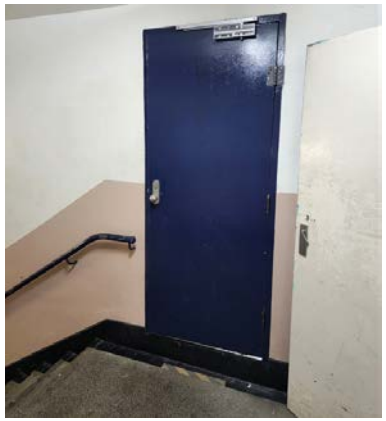
		<u>Block E – External Stair</u> The external stairway located at the basement level (near fire stair 3), that connects fire stair 3 to the road/ open space is not provided with a handrail.   It is recommended a handrail be provided in accordance with D3D22.	**Upgrade Recommended**

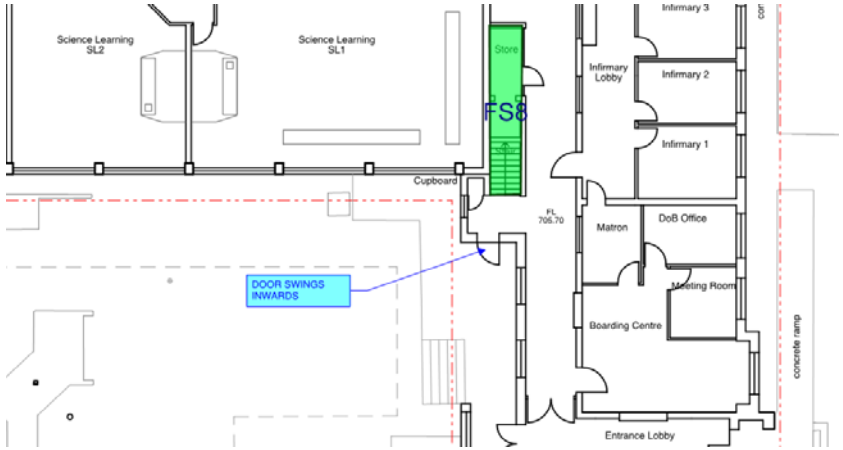
D3D23 [D2.18]	Fixed platforms, walkways, stairways and ladders	The existing building includes walkways, stairways, platforms and ladders for the purpose of accessing maintenance areas and the bell tower. It is recommended no upgrades occur to the existing fixtures as they are not intended to be used by students or the public. The existing fixtures are only intended to be used by professionals who have been provided with the relevant training and site induction.	**No Upgrades**
D3D24 [D2.19]	Doorways and doors	The existing building contains a roller-shutter located in the under croft area on the Ground Storey of Block F.  It is recommended no upgrade occur to the roller-shutter as it is proposed to be demolished as part of the development.	**No Upgrade**

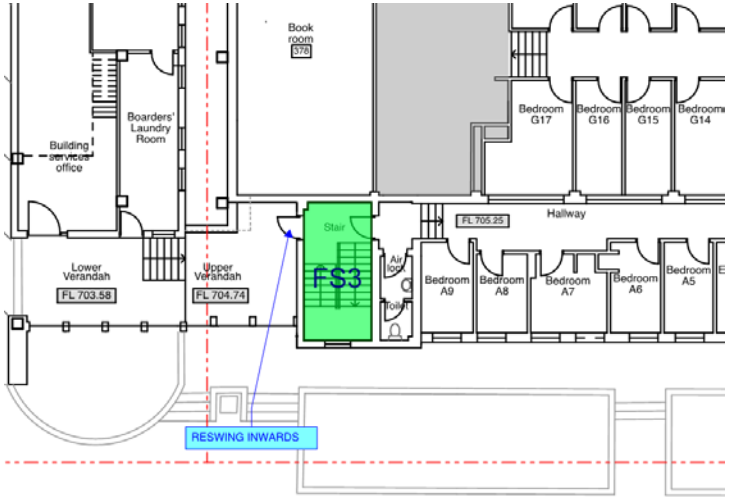
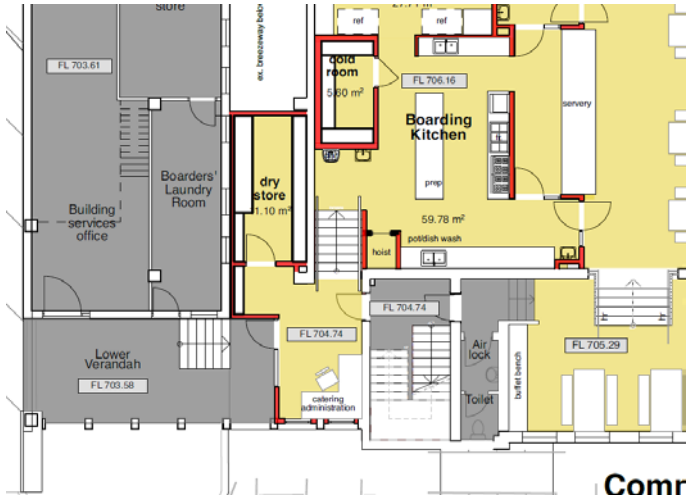
D3D25 [D2.20]	Swinging doors	<u>Block A - Basement</u> The existing building contains multiple doors (from the MSB room, staff laundry and subfloor store) that swing against the direction of egress (inwards). Each doorway serves as the only required exit from that part of the building and each room has a floor area of less than 200 m^2.  It is recommended each inward opening door be fitted with a device for holding it in the open position (eg. magnetic door catch) to comply with D3D25(1)(b)(i).	**Upgrade Recommended**

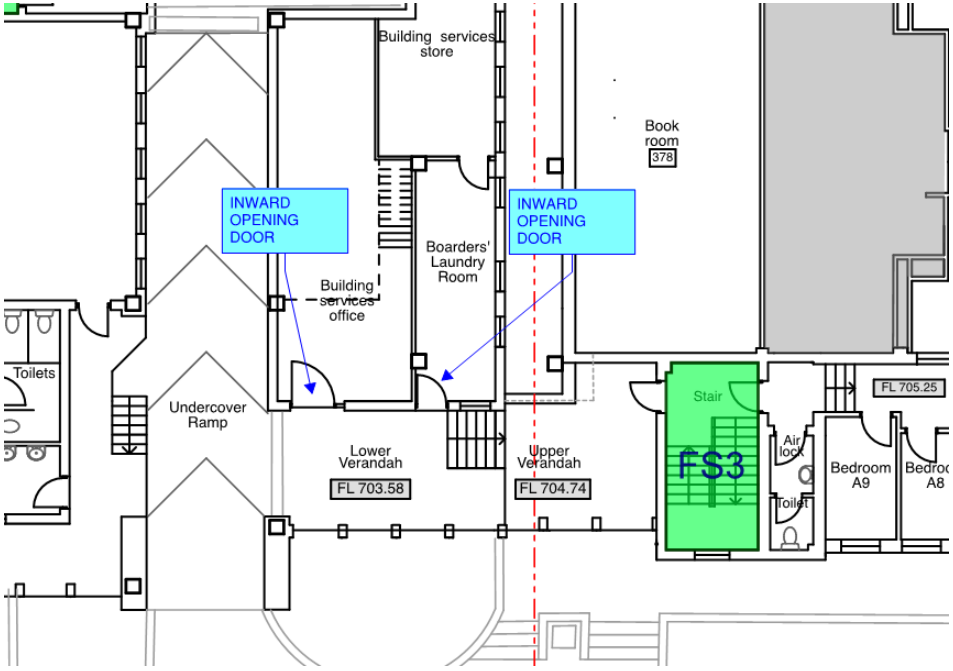
		<u>Block A – Ground Storey – Fire Stair 9</u> Although the floor plans show the existing external doorway at the bottom of fire stair 9 swinging inwards, it was observed during the site inspection that the doorway currently swings outwards (in the direction egress).  	**Noted**

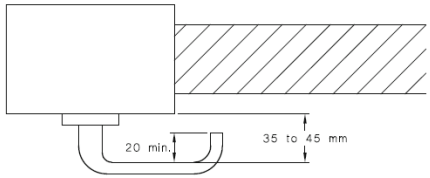
		Block C – Storeroom doors into Fire Stair 4 The doors from the two rooms located off fire stair 4 serve an area of less than 200 m^2 and are the only means of egress from that part of the building. The storerooms are not subject to the concession under D3D25(1)(b)(ii) that allows the door to not be provided with a hold-open device. Therefore, the door is required to be provided with a hold open device in accordance with D3D25(b)(i).  As the door is required to be a fire-resisting door, it must be self-closing. However, it is redundant to have a self-closing fire door fitted with a hold-open device. Accordingly, it is recommended the existing doors from the store rooms opening into fire stair 4 (that swings against the direction of egress) not be upgraded or required to be fitted with a hold-open device.	**No Upgrade**

		<u>Block C – First Storey – Fire Stair 4</u> Fire stair 4 contains two door doors on the Second Storey that open onto the landing. The doors share a swinging arc and cannot be opened at the same time. Additionally, the swinging door adjacent to the stairway encroaches into the required width of egress by more than 500 mm, which is contrary to D3D25(1)(a).   It is recommended the doorway located adjacent to the stairs be re-located, refer to the comments in NSW D3D16. It is also recommended the additional doorway be blocked up to achieve a FRL of at least 120/120/120.	**Upgrade Recommended**

		<u>Block D – Ground Storey – Fire Stair 8</u> The existing external doorway located at the bottom of fire stair 8 currently swings inwards (against the direction egress), which is contrary to D3D25.   It is recommended the existing door be rehung to swing in the direction of egress to comply with D3D25.	**Upgrade Recommended**

		<u>Block E – Ground Storey - Fire Stair 3</u> The proposed development includes converting the discharge door on the Ground Storey of fire stair 3 into an entry door.   It is recommended the existing door be replaced and re-hung to swing in the direction of egress (into the fire stair) to comply with D3D25.	**Upgrade Recommended**

		Block E – Ground Storey – Boarding Laundry/ Services The existing doors in the laundry and building services area both swing against the direction of egress (inwards). Each doorway serves as the only required exit from that part of the building and each room has a floor area of less than 200 m^2.  It is recommended each inward opening door be fitted with a device for holding it in the open position (eg. magnetic door catch) to comply with D3D25(1)(b)(i).	**Upgrade Recommended**

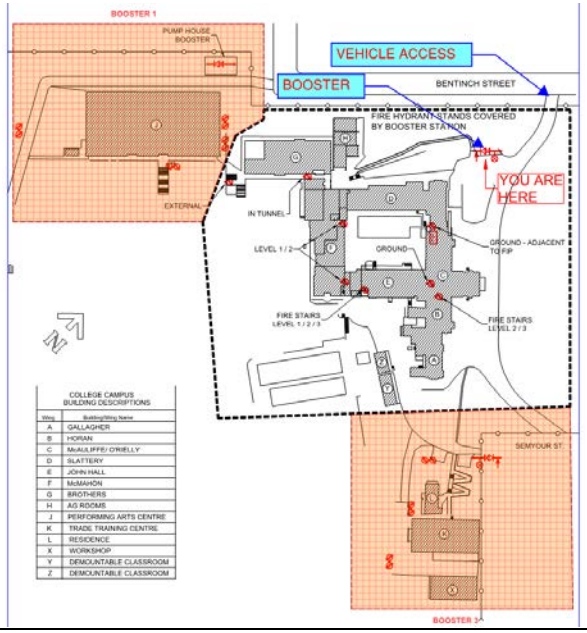
D3D26 [D2.21]	Operation of latch	The existing building contains multiple tulip (twist) style door handles, doors with two handles, patio style bolts, deadlocks and screen doors. Where in keeping with the requirements of the heritage consultants requirements, it is recommended all existing side-hung doors serving as an exit, forming part of a required exit or in the pathway to a required exit be provided with a lever style handle located between 900 mm and 1.1 m from the floor in accordance with D3D26. The following is example of a compliant handle.  (a) Isometric view  (b) Plan view Where required to be maintained for heritage conservation purposes, all other locks and latching mechanisms should be disengaged or a Performance Solution developed where operational tulip (twist) style handles are to be retained as means to provide egress. These requirements should be read in conjunction with any requirements of the access consultant.	**Upgrade Recommended/ Performance Solution**
D3D27 [D2.22]	Re-entry from fire-isolated exits	The existing building does not include a Class 9a health-care, Class 9b early childhood centre or Class 9c part. The building does not have an effective height of more than 25 m.	**Not Relevant**

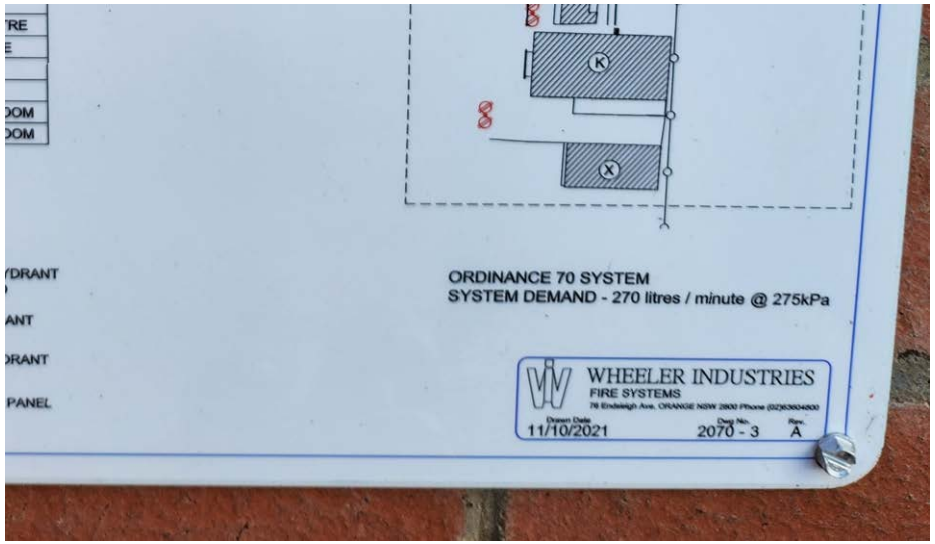
D3D28 [D2.23]	Signs on doors	The existing building contains multiple fire-isolated exits. No warning signage is provided on the doors accessing the fire-isolated exit or discharging from the exit throughout the building. Refer to the example photograph below.  It is recommended the self-closing fire doors entering the fire-isolated exits be provided with signage that states “DO NOT OBSTRUCT DO NOT KEEP OPEN FIRE SAFETY DOOR” and the doors discharging from the exit be provided with signage that states “FIRE SAFTY DOOR – DO NOT OBSTRUCT” to comply with D3D28.	**Upgrade Recommended**

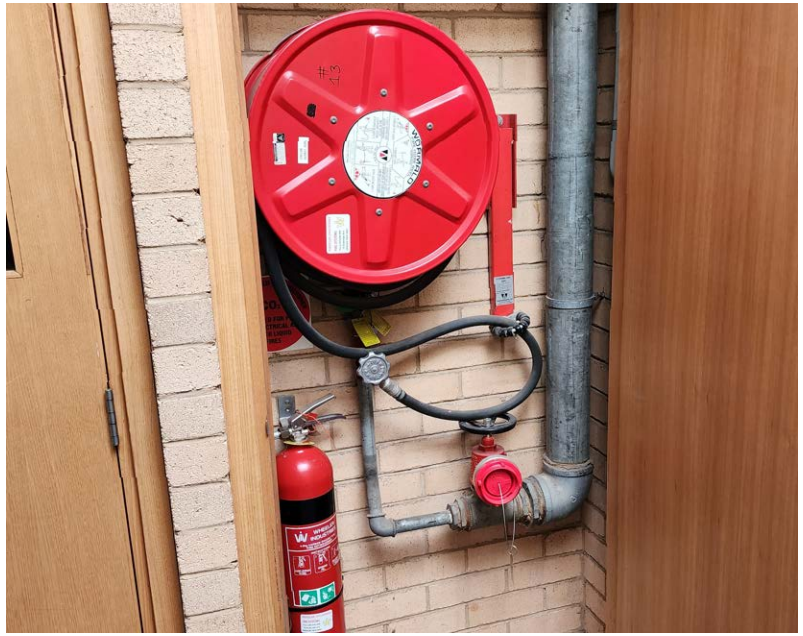
D3D29 [D2.24]	Protection of openable windows	The existing openable windows in the proposed Class 3 parts of the building are not provided with protection and the surface beneath is more than 2 m above the finished floor. It is recommended the existing openable windows that will be located in the Class 3 parts of the building be protected to prevent falls and comply with D3D29.	**Upgrade Recommended**
D3D30 [D2.25]	Timber stairways: Concession	The existing fire-isolated exits do not contain any timber treads, risers, landings or associated framework within the fire-isolated stairway or passageway.	**Not Relevant**
NSW D3D31	Doors in paths of travel to an entertainment venue	The existing building does not include an entertainment venue. An entertainment venue is defined to mean a building used as a cinema, theatre or concert hall or an indoor sports stadium.	**Not Relevant**

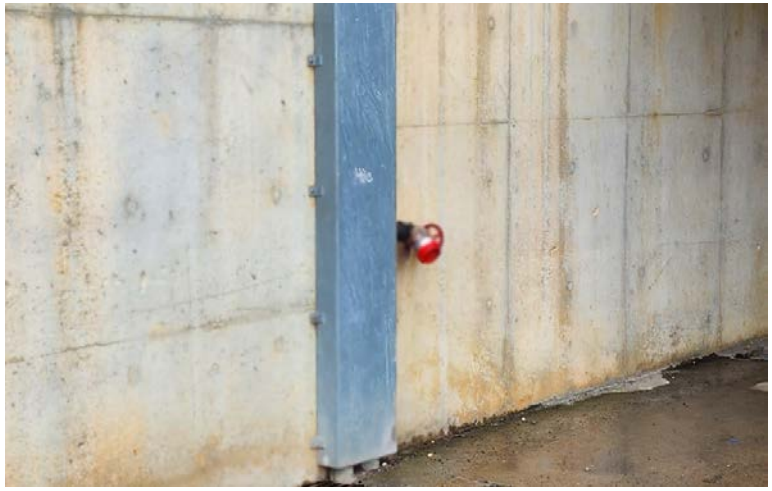
4.3 SECTION E: SERVICES AND EQUIPMENT

Section E of the BCA contains provisions relating to fire fighting equipment, smoke hazard management, lift installations and visibility in an emergency, exit signs and warning systems.

PART E1: FIRE FIGHTING EQUIPMENT			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
E1D1 [E1.0]	Deemed-to-Satisfy Provisions	-	**Noted**
E1D2 [E1.3]	Fire hydrants	<u>Existing arrangement</u> The site contains three fire hydrant systems, each with an independent fire brigade booster assembly. The building subject to this DA is protected by the fire brigade booster assembly that is located near the main vehicular access from Bentinch Street. The fire brigade booster assembly serves existing internal and external fire hydrants. 	**Noted**

		<u>Standard of Performance</u> The AFSS indicates the existing minimum standard of performance for the fire hydrant system is AS 2419.1-2002. A review of the historical standards indicates AS 2419.1-2002 is not a published Australian Standard and was not adopted by the BCA. This appears to be an error in the fire safety schedule and AFSS. The fire hydrant block plan located near the fire brigade booster assembly indicates the minimum standard of performance for the system is Ordinance 70.  Observations made during the site inspection indicate the fire brigade booster assembly has been configured to AS 2419.1-1994, whereas the hydrants appear to have been installed to Ordinance 70. This conclusion is based on the location (generally outside of the fire stairs), number of external single valve hydrants, and configuration of valves. Refer to the example photographs below.	**Upgrade Recommended**

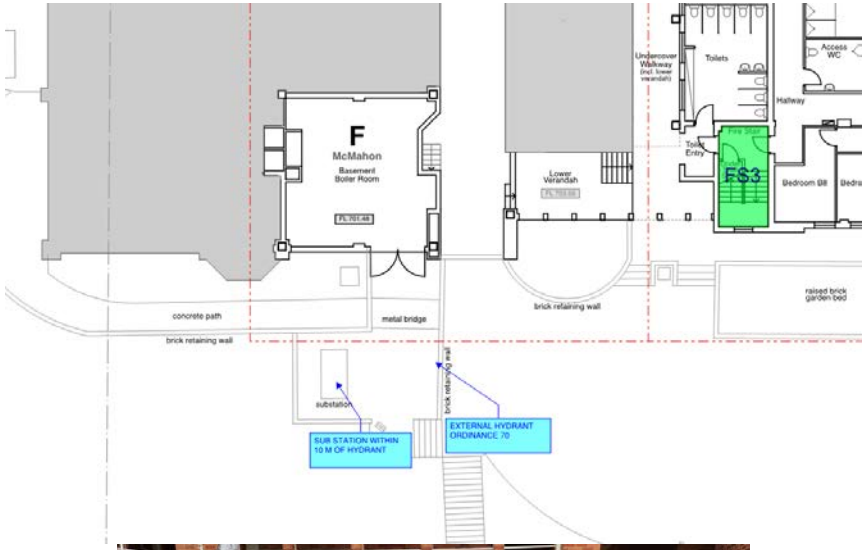


It is recommended the existing hydrant system be upgraded to comply with E1D2 and AS 2419.1-2021. Discussions with the incumbent fire contractor indicate a hydrostatic test has been conducted and the existing pipework is able to withstand the system pressures required by AS 2419.1-2021.

The full final design will be subject to a full review by a hydraulic engineer. However, our preliminary review indicates this is likely to include the existing pipework being retained and upgrade works to the existing hydrant valves (such as the location, configuration, hand wheels, clearances), flows/ pressures, fire brigade booster assembly and signage.

Some of the significant matters are discussed below, however, during the site inspection, multiple other minor issues were observed with specific valves, such as valves facing into the ground, no clearance around hand wheels, hydrants located more than 4 m from an exit and a lack of clearance provided for hose connections.

		<u>Fire brigade booster assembly</u> As internal fire hydrants are installed, a fire brigade booster assembly is required. The fire brigade booster assembly is located remote from the building and is within sight of the principal pedestrian entrance to the building. However, the fire hydrant booster assembly is not adjacent to the site boundary at the principal vehicle access, which is contrary to Clause 7.3.1(c) of AS 2419.1-2021. Additionally, the booster is located adjacent to car parking spaces and obstructed by a drainage culvert, which is contrary to Clause 3.2.2.2 and 7.3.3 of AS 2419.1-2021. It is recommended the existing hydrant booster be relocated to be adjacent to the principal vehicle access and reconstructed to comply with AS 2419.1-2021. <u>Multiple booster assemblies</u> There are multiple buildings located on the site, however, a single fire brigade booster assembly is not provided to serve all of the buildings. Additionally, a separate booster is not provided for each building, which is contrary to 7.3.4 of AS 2419.1-2021. Given the existing configuration of the fire hydrant system, it is recommended the three fire brigade booster assemblies be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. This is likely to include updated block plans and way finding signage.	**Upgrade Recommended** **Performance Solution**

		<u>Block F - External hydrant</u> The external fire hydrant located near the basement boiler room under Block F is located within 10 m of an electrical substation.   It is recommended the existing external fire hydrant be re-located to be at least 10 m from any high voltage electrical equipment to comply with 3.5.3.1(b)(ii) of AS 2419.1-2021.	**Upgrade Recommended**

E1D3 [E1.4]	Fire hose reels	<u>Requirement for fire hose reel system</u> A fire hose reel system is not required to be provided in the Class 3 (boarding) parts of the building, Class 5 (office) parts of the building, or the classrooms/ associated corridors in accordance with E1D3(1). A fire hose reel system must be provided to protect the Class 9b parts of the building that are not classrooms or corridors associated with classrooms, due to internal fire hydrants being installed. <u>Areas of protection</u> Fire hose reel coverage is required to be provided throughout the following areas: - Block C/D - Ground Storey – library - Block A - Ground Storey– staff hub - Block A - First Storey – staff study - Block C – First Storey – chapel - Block C – Second Storey – choir loft <u>Standard of performance</u> It is recommended fire hose reel protection be provided to comply with AS 2441-2005 (Amendment 1) and E1D3.	**Upgrade Recommended**
NSW E1D4 [E1.5]	Sprinklers	The existing building is required to be provided with a sprinkler system complying with Specification 17 and Specification 18 (as applicable). However, it is recommended a Specification 17/ AS 2118.1-2017 (Amendment 2) sprinkler system be installed in consultation with the fire engineer due to the proposed Performance Solutions.	**Upgrade Recommended**

E1D5 [E1.5]	Where sprinklers are required: all classifications	The existing building has an effective height of less than 25 m.	**Not Relevant**
E1D6 [E1.5]	Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	The existing building is a multi-classified building that contains a Class 3 part with a rise in storeys of 4 or more. Therefore, sprinkler are required to be provided throughout the whole building. It is recommended a sprinkler system a Specification 17/ AS 2118.1-2017 (Amendment 2) sprinkler system be installed throughout the building. Specifications of the sprinkler system should be determined in consultation with the fire engineer due to the proposed Performance Solution.	**Upgrade Recommended**
E1D7 [E1.5]	Where sprinklers are required: Class 3 building used as a residential care building	No information has been provided to indicate the existing building will be used as a Class 3 residential care building.	**Not Relevant**
E1D8 [E1.5]	Where sprinklers are required: Class 6 building	The existing building does not include a Class 6 part.	**Not Relevant**
E1D9 [E1.5]	Where sprinklers are required: Class 7a building, other than an open-deck carpark	The existing building does not include a Class 7a part.	**Not Relevant**
E1D10 [E1.5]	Where sprinklers are required: Class 9a health-care building used as a residential care building, Class 9c buildings	The existing building does not include a Class 9a or 9c part.	**Not Relevant**

E1D11 [E1.5]	Where sprinklers are required: Class 9b buildings	The existing building does not Class 9b early childhood centre and does not include a stage area or backstage area.	**Not Relevant**
E1D12 [E1.5]	Where sprinklers are required: additional requirements	The existing building is not a large isolated building and does not include an atrium.	**Not Relevant**
E1D13 [E1.5]	Where sprinklers are required: occupancies of excessive hazard	No information has been provided to indicate the existing building is an occupancy of excessive hazard.	**Not Relevant**
E1D14 [E1.6]	Portable fire extinguishers	The AFSS indicates the existing building is provided with portable fire extinguishers complying with AS 2444-2001. During the site inspection, it was observed portable fire extinguishers were not attached to the wall (sitting on the ground), not provided with signage and were generally lacking coverage throughout the building. It is recommended portable fire extinguishers be provided throughout the building in accordance with AS 2444-2001 and E1D14.	**Upgrade Recommended**
E1D15 [E1.8]	Fire control centres	The existing building does not have an effective height of more than 25 m and the total floor area is less than 18,000 m^2.	**Not Relevant**
E1D16 [E1.9]	Fire precautions during construction	During construction, not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times.	**Noted**
E1D17 [E1.10]	Provision for special hazards	No information has been provided to indicate the existing building would be considered a special hazard.	**Not Relevant**

PART E2: SMOKE HAZARD MANAGEMENT			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
E2D1 [E2.0]	Deemed-to-Satisfy Provisions	-	**Noted**
E2D2 [E2.1]	Application of requirements	The Deemed-to-Satisfy Provisions of this Part do not apply to an open-deck carpark, an open spectator standard, or a Class 8 electricity network substation with a floor area not more than 200m^2, located within a multi-classified building. The smoke exhaust and smoke-and-heat vent provisions of this Part do not apply to any area not used by occupants for an extended period of time such as a storeroom with a floor area less than 30 m^2, sanitary compartment, plant room or the like	**Noted**
E2D3 [E2.2]	General requirements	The existing building is proposed to be provided with an air-handling system that will recycle air from one fire compartment to another fire compartment, noting for the purpose of this clause, each sole-occupancy unit in a Class 3 dormitory is treated as a separate fire compartment. It is recommended a full review of the existing air-handling system, and proposed air-handling systems occur. It is also recommended the air handling systems be upgraded to comply with the Performance Requirements of the BCA via a Performance Solution prepared by a Certifier – Fire Safety. This is required to consider each Class 3 dormitory as a “fire compartment” in lieu of each sole occupancy unit given the boarding arrangement of each occupier. As part of the trial design for the Performance Solution, it is also recommended that smoke dampers be provided where the air-handling ducts penetration any elements separating the fire-resisting construction of the fire compartments.	**Performance Solution**

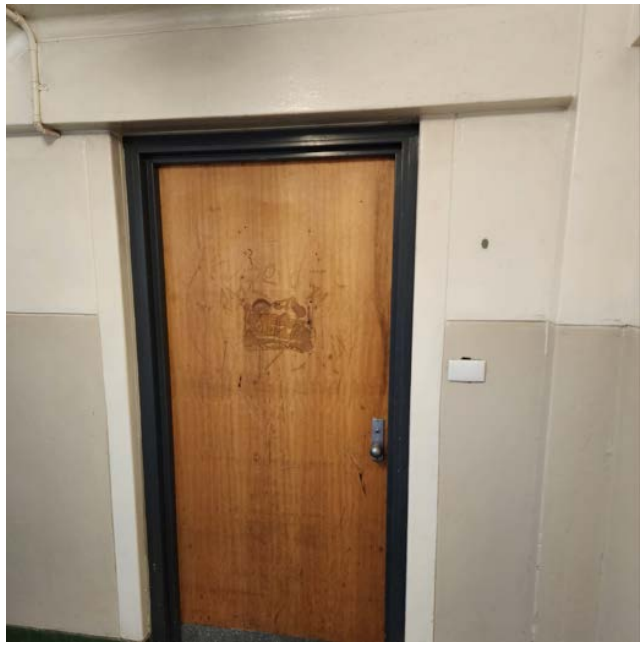
E2D4 [E2.2]	Fire-isolated exits	The existing building includes three fire-isolated stairways (fire stairs 3, 4 and 5) that will serve the Class 3 parts of the building that are not used as a residential care building.	**Not Relevant**
E2D5 [E2.2]	Buildings more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building	The existing building does not have an effective height of more than 25 m.	**Not Relevant**
E2D6 [E2.2]	Buildings more than 25 m in effective height: Class 5, 6, 7b, 8 or 9b buildings	The existing building does not have an effective height of more than 25 m.	**Not Relevant**
E2D7 [E2.2]	Buildings more than 25 m in effective height: Class 9a buildings	The existing building does not have an effective height of more than 25 m.	**Not Relevant**
E2D8 [E2.2]	Buildings not more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building	The proposed development results in three fire-isolated exits (fire stairs 3, 4 and 5) serving the Class 3 parts and other classifications. It is recommended the existing detection system be upgraded so the whole building be provided with an automatic smoke detection and alarm system that complies with Specification 20 and AS 1670.1-2018 (Amendment 1) It is also recommended the whole building be provided with a sprinkler system that complies with Specification 17. Refer to the comments in NSW E1D4 and E1D6 of this report.	**Upgrade Recommended**
E2D9 [E2.2]	Buildings not more than 25 m in effective height: Class 5, 6, 7b,	The existing building contains a school part and has a rise in storeys of more than 2.	**Upgrade Recommended**

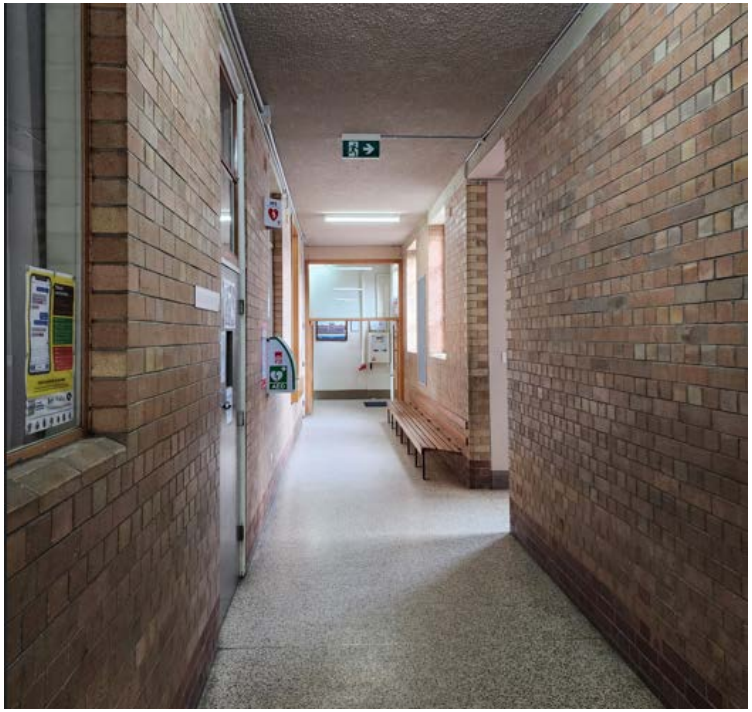
	8 and 9b buildings	It is recommended the whole building be provided with a sprinkler system that complies with Specification 17. Refer to the comments in NSW E1D4, E1D6 and E2D8 of this report.	
NSW E2D10 [E2.2]	Buildings not more than 25 m in effective height: large isolated buildings subject to C3D4	The existing building is not a large-isolated building.	**Not Relevant**
E2D11 [E2.2]	Buildings not more than 25 m in effective height: Class 9a and 9c buildings	The existing building does not include a Class 9a or 9c part.	**Not Relevant**
E2D12 [E2.2]	Class 7a buildings	The existing building does not include a Class 7a part.	**Not Relevant**
E2D13 [E2.2]	Basements (other than Class 7a buildings)	The existing building does not include a basement that is not counted in the rise in storeys. The storey identified as a basement on the architectural plans is counted in the rise in storeys in accordance with C2D3.	**Not Relevant**
E2D14 [E2.2]	Class 6 buildings – in fire compartments more than 2000 m^2: Class 6 building (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	The existing building does not include a Class 6 part.	**Not Relevant**
E2D15 [E2.2]	Class 6 buildings – in fire compartments more than 2000 m2:	The existing building does not include a Class 6 part.	**Not Relevant**

	Class 6 building (containing an enclosed common walkway or mall)		
NSW E2D16 [E2.2]	Class 9b – assembly buildings: all	<u>Automatic shutdown of air-handling systems</u> Part of the existing building is used as a school and is provided with an air-handling system (other than non-ducted individual room units with a capacity not more than 1000 L/s) that does not form part of the smoke hazard management system. It is recommended the abovementioned air-handling system be provided with automatic shutdown on activation of the required automatic smoke detection and alarm system and sprinkler system to comply with NSW2D16(a). <u>Basement</u> The existing Basement Storey is counted in the rise in storeys. <u>Stage</u> During the site inspection, no stage with a floor area of more than 50 m^2 or flying scenery was observed.	**Upgrade Recommended** **Not Relevant** **Not Relevant**
NSW E2D17 [E2.2]	Class 9b – assembly buildings: night clubs, discotheques and the like	The existing building does not include a night club, discotheque or the like	**Not Relevant**
NSW E2D18 [E2.2]	Class 9b – assembly buildings: exhibition halls, museums and art galleries	The existing building does not include a Class 9b exhibition hall, museum or art gallery.	**Not Relevant**
NSW E2D19	Class 9b – assembly buildings: other assembly buildings	Churches and places used for religious worship (the chapel) and school classrooms are exempt from these provisions.	**Not Relevant**

[E2.2]	(not listed in NSW E2D16 to E2D18)		
NSW E2D20 [E2.2]	Class 9b assembly buildings: other assembly buildings (not listed in E2D16 to E2D19)	This clause has deliberately been left blank. E2D20 does not apply in NSW. This clause is deleted from the BCA in NSW, as requirements for Class 9b – Assembly buildings in NSW are covered under NSW E2D16 to NSW E2D19.	**Noted**
E2D21 [E2.3]	Provision for special hazards	No information has been provided to indicate the existing building is a special smoke hazard due to special characteristics, function, materials or mix of classifications.	**Not Relevant**
PART E3: LIFT INSTALLATIONS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
E3D1 [E3.0]	Deemed-to-Satisfy Provisions	-	**Noted**
E3D2 [E3.1]	Lift installations	The existing building includes a lift in the main foyer of Block C. The lift connects three storeys and is not an emergency lift. The lift is provided with warning signage against the use of the lift during a fire at each landing.  The proposed development includes the installation of multiple lifts throughout the building. It is recommended no further upgrades occur to the existing lift.	**No Upgrade**

PART E4: VISABILITY IN AN EMERGENCY, EXIT SIGNS AND WARNING SYSTEMS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
E4D1 [E4.0]	Deemed-to-Satisfy Provisions	-	**Noted**
E4D2 [E4.2]	Emergency lighting requirements	The AFSS indicates the existing building is not provided with an emergency lighting system. During the site inspection, some emergency lighting was observed, primarily in Block F and the fire-isolated exits. The emergency lighting was generally installed in the wrong location or not capable of performing. There was a general lack of emergency lighting observed throughout the remainder of the building. It is recommended a new emergency lighting system be provided throughout the whole building in accordance with AS 2293.1-2018 (Amendment 1) and E4D2.	**Upgrade Recommended**
E4D3 [E4.3]	Measurement of distance	Distances, other than vertical rise, must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	**Noted**
E4D4 [E4.4]	Design and operation of emergency lighting	Refer to the comments in E4D2 of this report.	**Noted**
E4D5 [E4.5]	Exit signs	The AFSS indicates the existing building is not provided with any exit signs or directional exit signs. During the site inspection, some exit signage was observed. The standard of performance varied from Ordinance 70 to AS 2293.1-2005. Most exit signs was observed to be damaged, missing, installed more than 2.7 m above the finished floor or not capable of performing. Refer to photographs of examples below.	**Upgrade Recommended**

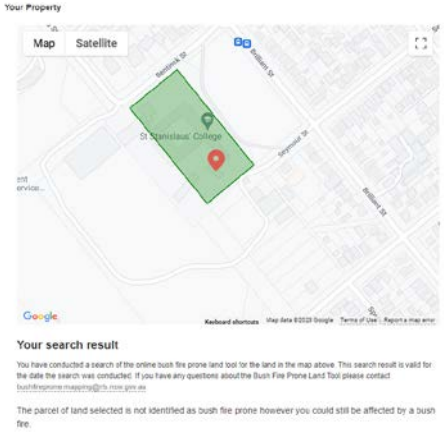
		 It is recommended new exit signs and directional exit signs be installed throughout the whole building in accordance with AS 2293.1-2018 (Amendment 1), E4D5 and NSW E4D6.	
NSW E4D6 [E4.6]	Direction signs	Refer to comments in E4D5 of this report.	**Noted**
E4D7 [E4.7]	Class 2 and 3 buildings and Class 4 parts: exemptions	E4D5 does not apply to the entrance door of a sole-occupancy unit in the Class 3 parts of the building.	**Noted**
E4D8 [E4.8]	Design and operation of exit signs	Refer to comments in E4D5 of this report.	**Noted**

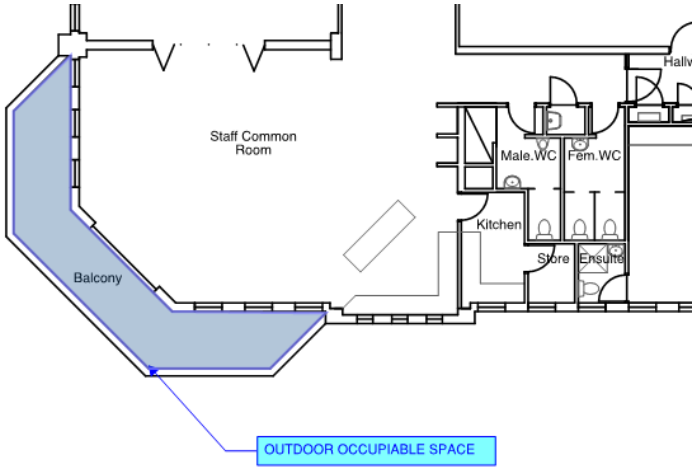
E4D9 [E4.9]	Emergency warning and intercom systems	The AFSS indicates the existing building is not provided with an emergency warning and intercom system. During the site inspection, no emergency warning and intercom system was observed at the fire indicator panel. It has also been confirmed with the incumbent fire safety contractor for the building there is no emergency warning and intercom system provided throughout the building. **I**t is recommended an emergency warning and intercom system complying with AS 1670.4-2018 be provided throughout the building to comply with E4D9.	**Upgrade Recommended**

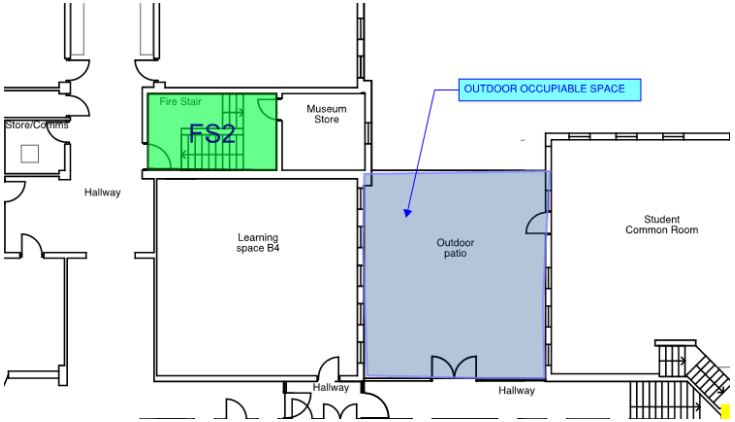
4.4 SECTION G: ANCILLARY PROVISIONS

Section G of the BCA contains provisions relating to minor structures and components, boilers, pressure vessels, heating appliances, fireplaces and flues, atrium construction, alpine areas, bushfire prone areas, occupiable outdoor areas and livable housing design.

PART G1: MINOR STRUCTURES AND COMPONENTS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
NSW G1D1 [G1.0]	Deemed-to-Satisfy Provisions	There is no Deemed-to-Satisfy Provision for G1P1.	**Noted**
G1D2 [G1.1]	Swimming pools	The swimming pool barrier is outside the scope of this assessment.	**Not Relevant**
G1D3 [G1.2]	Refrigerated chambers, strong-rooms and vaults	The existing refrigerated chamber (cool room) located on the Ground Storey of the kitchen is proposed to be demolished and the area refurbished into a meeting room as part of the proposed development.	**Not Relevant**
G1D4 [G1.3]	Outdoor play spaces	The existing building does not include a Class 9b early childhood centre.	**Not Relevant**
NSW G1D5 [NSW G1.101]	Provision for cleaning windows	The provision for cleaning windows is outside the scope of this assessment.	**Not Relevant**
PART G2: BOILERS, PRESSURE VESSELS, HEATING APPLIANCES, FIREPLACES, CHIMNEYS AND FLUES			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
G2D1 [G2.0]	Deemed-to-Satisfy Provisions	The existing building includes a boiler located in the Basement of Block F. No upgrades are recommended to the existing boiler.	**No Upgrade**

PART G3: ATRIUM CONSTRUCTION			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
G3D1 [G3.1]	Application of Part	The existing building does not include an atrium.	**Not Relevant**
PART G4: CONSTRUCTION IN ALPINE AREAS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
G4D1 [G4.0]	Deemed-to-Satisfy provisions	-	**Noted**
G4D2 [G4.1]	Application of Part	The existing building is not located in an alpine area, Bathurst has an elevation of approximately 650 m.	**Not Relevant**
PART G5: CONSTRUCTION IN BUSHFIRE PRONE AREAS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
G5D1 [G5.0]	Deemed-to-Satisfy provisions	-	**Noted**
NSW G5D2 [NSW G5.1]	Application of Part	The NSW Rural Fire Services website indicates the existing building is not located in a bushfire prone area. 	**Not Relevant**

PART G6: OCCUPIABLE OUTDOOR AREAS			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
G6D1-G6D10 [G6.1-G6.10]	Application of Part	The existing building contains two outdoor occupiable areas located on the Second Storey of Block F. <u>Balcony</u> The following marked-up floor plan shows the location of the existing balcony off the staff common room. The balcony is not provided with any emergency lighting, exit signage or warning system and sprinkler system.  It is recommended the balcony area be provided with emergency lighting, exit signage, emergency warning intercom system and a sprinkler system as recommended in Part E1 and E4 of this report.	**Upgrade Recommended**

		<u>Outdoor Patio</u> The following marked-up floor plan shows the location of the existing outdoor patio.   It is recommended the combustible shade sail be removed, and the area be provided with emergency lighting, exit signage, emergency warning intercom system and a sprinkler system as recommended in Part E1 and Part E4 of this report.	

PART G7: LIVABLE HOUSING DESIGN			
CLAUSE	**PROVISION**	**COMMENTS**	**STATUS**
NSW G7 [NEW]	Livable housing design	This Part has deliberately been left blank. Part G7 does not apply in NSW.	**Not Relevant**