FIRE SAFETY COMPLIANCE MANAGEMENT
ABN: 45 117 969 258

FIRE SAFETY ASSESSMENT

Maitland Regional Art Gallery

Lot 1 DP581007

228-230 High Street

Maitland NSW 2320

Client :

Maitland City Council

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Prepared by: Richard Wallis

1 EXECUTIVE SUMMARY

This report includes details of the 2021 assessment of essential fire safety measures installed in or serving the Maitland Regional Art Gallery. Performance issues were identified for the automatic smoke detection and alarm system, emergency lights, exit signs, fire doors, fire hose reels, fire hydrants, fire seals and light weight construction (fire resisting). They must be addressed as per the associated recommendations prior to the next annual fire safety statement. Multiple non-conformances were also identified that should be actioned as they are departures from the design standard and may increase exposure to liability for the building owner.

The building incorporates elements of fire rated construction with associated fire safety measures such as fire doors, light weight construction (fire resisting) and fire seals however assessment of these measures is difficult with areas of the building not remotely compliant and no clear reason for the installation in other areas. This is further complicated where measures are not included on the fire safety schedule and there are no construction documents available to understand the relevant approval related decisions at the time of construction. The remaining issues identified are a mixture of ongoing maintenance and testing issues and those issues carried over from the design and construction when the designer's passed responsibility to respective installers and the builder who certified their own works.

Our assessment included an inspection in respect to Part 9 division 7 of the NSW Environmental Planning and Assessment Regulation 2000 (exits, paths of travel and required notices). This regulation has been modified and released as the NSW Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 - Part 15 which became effective as of 1st January 2022. At the time of our assessment no issues were identified that may constitute grounds for prosecution under the regulation).

A fire safety schedule for the building has been provided by Maitland Council. The schedule contains a number of errors and omissions including no year reference for the relevant edition of the Building Code of Australia, incorrect year references for the edition of the fire extinguisher standard and three measures not included being fire doors, lightweight construction (fire resisting) and warning and operation signs. The schedule also included two measures, (automatic failsafe devices and fire dampers) that could not be located and do not appear to have not been installed. We have prepared and attached a proposed fire safety schedule accordingly for consideration by council regulatory.

We were provided a copy of the last annual fire safety statement dated August 2021 with measures endorsed that clearly do not meet the nominated standards of performance. A number of measures from the fire safety schedule were not included and incorrect standards of performance were referenced for some measures. Endorsing annual fire safety statements that do not reflect the installed measures and correct standards of performance are a breach of the NSW EP&A Regulation and may mistakenly provide stakeholders and approval authorities with an elevated sense of comfort in the fire safety levels of the building.

Section 8 of this report contains the issues identified together with recommendations to address the issues. Those identified as ‘performance’ must be addressed. Those identified as 'non-conformance' are departures from the requirements of the standard of performance and should be addressed to achieve compliance with the relevant design standards. Council as the building owner should consider the likely implications in respect to community expectations and insurance in the event of a fire and failure of a system which does not meet recognised standards and or has not been properly maintained. Issues identified as 'Improvement' in green text are our suggestions to improve the level of fire safety beyond the minimum benchmark requirements of the day, or toward the current requirements.

For clarification on any aspect of this fire safety assessment please contact the undersigned on 0448 866207.

Yours faithfully
FIRE SAFETY
COMPLIANCE
MANAGEMENT

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Accredited Practitioner (fire safety) Assessor - F009401A
Director

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2 INTRODUCTION

Under the NSW Environmental Planning and Assessment Regulation it is the building owner's responsibility to provide to a principle certifying authority a fire safety certificate prior to occupying a new building or one subject to modifications. Thereafter the owner must provide an annual fire safety statement each year in accordance with part 9 of the regulation. This requirement applies to buildings subject to development applications for modification, extension or change of use since the early 1990's, or to buildings which have been the subject of a fire safety upgrade order from council.

The purpose of this report is to assess the fire safety measures serving the building. The assessment is made in relation to the design and installation standard of performance relevant to each measure. Maitland Council as owner of the building have requested additional recommendations to improve the level of fire safety beyond the minimum requirements.

3 SCOPE

The following scope relates to each individual building or site containing a number of buildings. The scope is as nominated by Maitland Council. We have added notes to clarify the scope where we are bound by relevant NSW Regulations and the associated accredited practitioner framework.

1. Initial high level Desktop review of the building(s), verifying the building classification, characteristics and floor area.
   - In-turn, determining the deemed to satisfy requirements relating to the type and extent of fire services (wet and dry) that are required for the building(s). Determine the relevant codes and standards that apply based on the time of construction or major additions/upgrades.
   - Develop a list of fire service testing / commissioning documentation required to assist with the assessment of the building fire systems for issue by MCC (if available).
2. Attendance at site to review the existing fire services, building specifics and verify findings from desktop review.

   Note: The inspection will include
   - *Review of the installed fire safety measures currently serving the building, including the relevant design drawings, as installed drawings, installation and operation manuals where available.*
   - *Verify the installed measures are being tested and maintained to achieve the operational requirements of the design and installation standard of performance.*
   - *Assess whether the measures are capable of performing to the design and installation standard of performance.*
   - *Inspect fire exits and paths of travel to exits as per Part 9 Division 7 of the NSW EP&A Regulation.*

3. Development and issue of a brief dot point report including the following:
   - Assessment of the existing fire systems and their compliance or non-compliance with the relevant codes and standards at the time of construction.
   - Recommendations regarding required upgrades / works to meet compliance with relevant codes and standards.
   - Recommendations relating to non-mandatory upgrades, i.e. the installation of hard wired smoke alarms within Class 9b buildings that do not require deemed to satisfy detection and alarm systems.
   - Recommendations or requirements for specific sites that may require additional system testing (commissioning/maintenance results, onsite pressure and flow testing, HWC statement of available pressure, etc).
   - Opinion of costs relating to required and non-mandatory fire system upgrades.

   Note: The report will include details of the status of the essential fire safety measures listed on the relevant fire safety schedules or as identified within the building. The details will be set-out as follows:
     - *Performance issues with recommendations that must be rectified before the annual fire safety statement can be endorsed.*
     - *Non-conformance issues with recommendations that are departures from the relevant design standards requiring action.*
     - *Improvement issues and recommendations to assist the owners in improving the level of fire safety to address building specific issues where we believe further consideration is required.*

   Note: We have allowed to prepare a proposed fire safety schedule where a fire safety schedule has not been generated, is not available or is incorrect.

4 ASSUMPTIONS & LIMITATIONS

The following assumptions and limitations apply to the assessment:

a) The assessment is limited to the information made available for review as per our request for information.

b) The building inspection was limited to areas visible and accessible on the day. Measures or components concealed within the building fabric or concealed underground are assumed to comply with the relevant requirements unless stated otherwise.

c) Concealed space inspections were confined to areas with accessible access panels in line with risk management procedures.

d) The scope of work does not include Bush Fire Risk Assessment, Planning for Bush Fire Protection, assessment of adequacy of the measures relevant to, or construction and design of the facility relating to bush fire prevention.

5 DETAILS

Assessment Organisation:	Fire Safety Compliance Management PO Box 5134 Kahibah NSW 2290 Ph: 02 49424588 Fax: 02 49424599 Email: richard@fscm.com.au
Assessor:	Richard Wallis Graduate Diploma in Fire Safety Engineering University of Western Sydney Accredited Practitioner (fire safety) Assessor - F009401A Mobile: 0448 866 207 Email: richard@fscm.com.au

6 BUILDING DESCRIPTION

Date of inspection: 22nd February 2022

Date of construction: Originally constructed as two separate buildings, circa 1910 and 1912 for use as a Technical College.

2003 redevelopment and change of use to Museum for the two buildings. CC-03-2820

2009 Renovation and extension to create single linked Museum building. DA-06-3592, CC-08-415.

2010 Café fitout. DA-09-1264, CC-09-1265

	Occupancy Certificate: No details available
	Fire Safety Certificate: Dated 10th July 2009 for CC-08-415
	Fire Safety Schedule – Dated 16th September 2003 for CC-03-2820
	Fire Safety Schedule – Dated 7th July 2008 for CC-08-415
Building Code:	BCA2008 for 2008 major redevelopment approval CC-08-415
Rise in storey's:	Two
External walls:	Brick and steel clad with glazed panels.
Internal walls:	Brick / plasterboard clad stud frame
Floor on ground:	Concrete & timber boards on timber frame
Intermediate floors:	Concrete & timber boards on timber frame
Roof:	Steel clad, steel & timber, masonry tile clad timber framed
Fire & smoke compartments and construction:	The building is a single fire compartment. The external walls are located more than 3m from property boundaries, more than 6m from the far side of roads and more than 6m from other buildings on the site. The construction generally aligns with type C construction as defined under the Building Code of Australia for the two original technical college sections. The 2009 extension to link the original buildings includes concrete floor with fire sealed services to the 1st floor level that aligns with partial type B construction. There are a number of rooms or enclosures that incorporate fire rated construction including, the 1st floor boiler / pump room, the 1st floor main electrical switch room, the ground floor understair enclosure adjacent to the lift and the ground floor mechanical / electrical switchboard enclosure behind the reception desk.
Air handling:	Ducted air conditioning system and wall mounted split systems
Total floor area:	Approximately 2750sqm (ground 1500sqm, 1st 1250sqm)
Classification of use:	Class 9b – Assembly, Class 6 – Café / Retail / Dining.

7 FIRE SAFETY MEASURES AND STANDARDS OF PERFORMANCE

The following table (Table 1) lists the fire safety measures identified as serving the building at the time of our assessment. The standards of performance nominated are those applicable under the building code provisions at the time of relevant construction approvals or previous upgrades. Where measures are additional to the requirements of building code provisions we have added comments accordingly. Performance issues, non-conformances and improvement items are indicated in the comments column if identified for the relevant measure. Refer to section 8 for details of the assessment for each measure.

Table 1 – Fire safety measures currently installed or serving the building

Fire Safety Measure	Standard of Performance	Comments
Automatic smoke detection and alarm system	BCA2008 specification E2.2a clause 4 & AS1670.1 - 2004	Performance issues
Emergency lights	BCA2008 part E4.2, E4.4 & AS2293.1 - 2005	Performance issues Non-conformances
Exit signs	BCA2008 part E4.5, E4.6NSW, E4.8 & AS2293.1 - 2005	Performance issues Non-conformances
Fire blankets	AS2444-2001 (Café)	OK to endorse
Fire doors	BCA2008 part C3.4, D2.8 specification C3.4 & AS1905.1 - 2005	Performance issues Non-conformances Not included on fire safety schedule
Fire hose reels	BCA2008 part E1.4 & AS2441-2005	Performance issues Non-conformances
Fire hydrants	BCA2008 part E1.3 & AS2419.1-2005	Performance issues
Fire seals	BCA2008 part C3.15 & specification C3.15	Performance issues Non-conformances
Lightweight construction (fire resisting)	BCA2008 part C1.8 & specification C1.8 Manufacturers tested and approved systems (Under stair enclosure)	Performance issues Non-conformances Not included on fire safety schedule

Fire Safety Measure	Standard of Performance	Comments
Mechanical air handling systems	BCA2008 table E2.2b NSW (a) automatic shutdown	OK to endorse
Portable fire extinguishers	BCA2008 part E1.6 & AS2444 - 2001	OK to endorse Non-conformances
Warning & operation signs	BCA2008 part E3.3 (Warning against use of lifts in fire)	OK to endorse Not included on fire safety schedule
Paths of Travel	NSW EP&A Regulation Part 9 Division 7	OK to endorse Non-conformances

The following table (Table 2) includes the fire safety measures listed on the fire safety schedule for the 2009 extension and redevelopment project that have not been installed in the building. The measures cannot be included on an annual fire safety statement. We were unable to identify any locations that would require the measures under the relevant deemed to satisfy provisions of the BCA.

We recommend further investigation of the approval files to determine why they were listed but never installed.

Table 2 – Fire safety measures listed on the fire safety schedule not installed

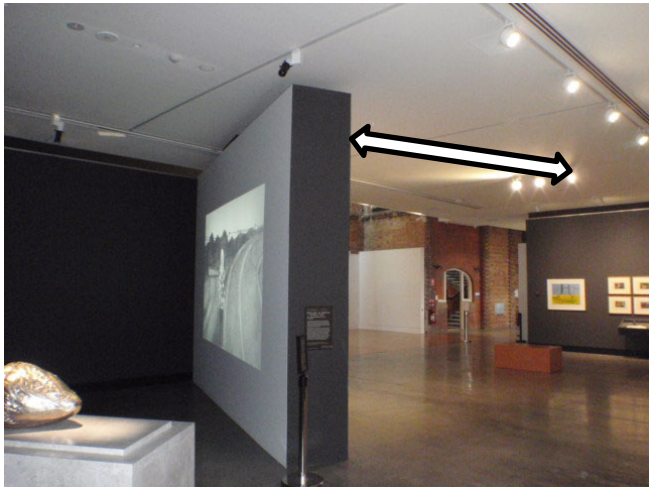
Fire Safety Measure	Standard of Performance	Comments
Automatic failsafe devices to doors	BCA clause D2.19 & D2.21.	Not installed. Can not be endorsed on an annual statement
Fire dampers	BCA clause C3.15, AS1668.1 – 1998 & AS1682.1&2 - 1990	Not installed. Cannot be endorsed on an annual statement

8 ISSUES AND RECOMMENDATIONS

Key: The relevant measure should not be endorsed by an accredited practitioner on the annual fire safety statement until the items marked 'Performance' in red text have been addressed.
Items marked 'Non-conformance' in purple text do not conform to the relevant design standard and should be addressed.
Items marked 'Improvement' in green text are recommendations to improve fire safety towards more current requirements and will not affect the signing of the annual fire safety statement.

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Automatic smoke detection and alarm system	1.1	Smoke detectors are located throughout all areas of the building with thermal detectors in the Café kitchen, staff kitchenette and rooms where the use is likely to cause spurious alarms. Additional manual call points are located adjacent to exit doors. The locations and spacing of the detectors are generally in line with a full AS1670.1 fire detection system. The provision of smoke detectors meets the minimum requirements nominated under BCA specification E2.2a clause 4 and exceeds the minimum requirements nominated under BCA specification E2.2a clause 5 for shutdown systems. The analogue addressable detectors and manual call points are connected to Notifier AFP-2800 fire indicator panel at the rear of the foyer with connection to fire monitoring via Romteck Grid alarm signalling equipment. Occupant warning speakers located throughout are connected to a tone generator with public address facility located in the fire indicator panel. An external strobe is provided outside to identify the designated building entry point. The smoke detection system was installed initially around the time of the 2003 redevelopment from technical college to Museum, then upgraded and extended during the 2009 modifications and extensions. The system includes interfacing at each of the mechanical services switch boards to affect a shutdown on activation. The installation aligns with the requirements of BCA2008 table E2.2b NSW & specification E2.2a clause 4 and clause 5 (to activate air handling system shutdown) corresponding to the time of smoke detection modification for the 2009 works.	Na	Information	-

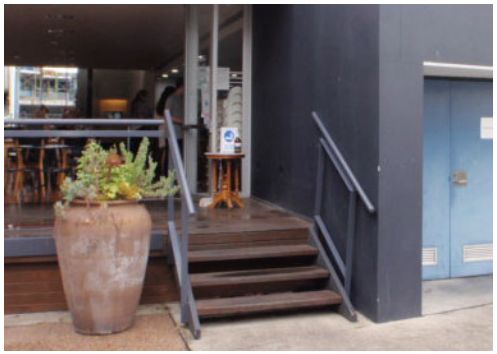
Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Automatic smoke detection and alarm system (cont'd)	1.2	1st floor main gallery space – The area has a system of suspended panels that are kept stacked at a central location then are moved out and positioned to subdivide the area into a series of bays. At the time of assessment one panel had been moved and an intermediate partition constructed to further subdivide the room such that the smoke detector locations did not comply being within 300mm of the partition on one side and exceeding 5m (9.5m) from the partition on the other side. The panels and partition wall extend within 300mm from the ceiling (100 to 150mm). The standard requires such elements to be considered as a wall and the detectors spaced accordingly. 	Modify the display panels and partitions such that the gap between the top and the underside of the ceiling is more than 300mm. This will provide the greatest degree of flexibility for the display space with no limitations on the positioning. OR Install additional smoke detectors to enable flexibility to subdivide the gallery area and maintain detector spacing as nominated in AS1670.1. This would likely require approximately 6 additional smoke detectors as a minimum combined with some guidelines and limitations on the placement of the partitions and panels. OR Remove the partition and relocate the panel wall such that the smoke detector spacing is not compromised. This would severely limit flexibility for the space and require strict procedures for ongoing positioning of the panel walls and use of the area.	Performance	5K 4K 0.2K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Automatic smoke detection and alarm system (cont'd)	1.3	Ground floor main gallery space –At the time of assessment a free standing partition wall had been constructed to subdivide the room such that the smoke detector locations did not comply exceeding 5m (8m) from the partition on the other side. The partition wall extends within 300mm from the ceiling. The standard requires such elements to be considered as a wall and the detectors spaced accordingly. 	Modify the display partition such that the gap between the top and the underside of the ceiling is more than 300mm. This will provide the greatest degree of flexibility for the display space with no limitations on the positioning. OR Install additional smoke detectors to enable flexibility to subdivide the gallery area and maintain detector spacing as nominated in AS1670.1. This would likely require approximately 2 additional smoke detectors as a minimum combined with some guidelines and limitations on the placement of the partitions and panels. OR Remove the partition or relocate it such that the smoke detector spacing is not compromised. This would severely limit flexibility for the space and require strict procedures for ongoing positioning of the partitions and use of the area.	Performance	1K 2K 0.1K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Automatic smoke detection and alarm system (cont'd)	1.4	Fire indicator panel – At the time of assessment two faults were evident on the system for the following devices. - Zone 5 L2D24 GF Kitchen store rm heat detector , - Zone 12 L2D26 External garbage rm smoke detector , We note the logbook noted that the garbage room detector was replaced only 4 weeks earlier. There may be problems with water ingress which requires further investigation	Investigate and repair the two faults indicated for the detectors.	Performance	0.8K
	1.5	Fire indicator panel - Maintenance records in the AS1851-2012 logbook reflect regular inspection testing and maintenance to AS1851. Monthly and yearly routines are recorded with the last yearly routine in July 2021. Two faults were identified with beam detectors on the ground floor that failed to operate. There is no record of whether the faults have been repaired.	Verify the correct testing procedure was adopted for the beam detectors. Investigate, retest and repair accordingly.	Performance	0.5 - 2K

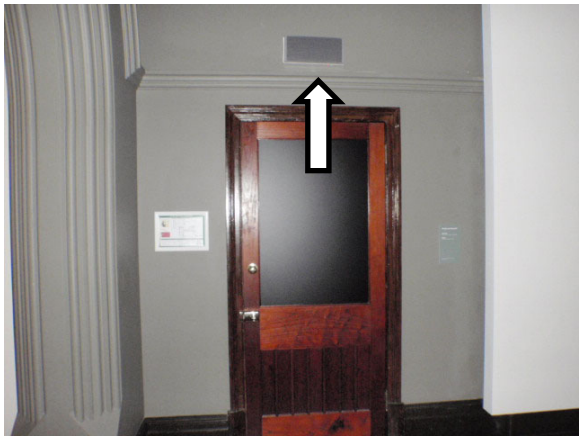
Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Emergency lights	2.1	Self-contained emergency lights are installed throughout the areas accessible to the public including the public toilets, the larger staff areas and all paths of travel to exits generally. The exit signs are relied upon to achieve the emergency lighting coverage in multiple areas as per the original design. The requirements can be achieved based on minimum D8 classification exit signs. The control arrangement includes test timer units for manual testing in the distribution boards accessible during assessment. The emergency lighting is supplied from multiple distribution boards located throughout the ground and 1st floor. Emergency lighting in the Café kitchen is supplied from the distribution board behind reception. The installation generally aligns with requirements of BCA2008 and AS2293.1-2005, corresponding to the date of the construction certificate for the 2009 extensions and modifications.	Na	Information	-
	2.2	Test records provided by AFG, reflect regular inspection testing and maintenance to AS2293.2. The last yearly routine was recorded in September 2021 and 6 monthly routine in December 2021. The records indicate no defects were identified during the test routines.	Na	Information	-
	2.3	Testing is not carried out in accordance with AS2293.2. The arrangement and control in relation to the normal lighting is not being checked as part of the yearly test routine under AS2293.2-2019 item 4.4 of Table A4. The control arrangement defects identified in this report have not been identified accordingly.	Contractor AFG must carry out all yearly tasks including verification of the arrangement and control of emergency lights / exit signs in relation to the normal lighting as per AS2293.2-2019 item 4.4 of Table A4.	Non-conformance	0K Already included in contracted standard.

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Emergency lights (cont'd)	2.4	Distribution Boards - The control arrangement of emergency lights and exit signs were checked in a few sample locations with a number found to be non-compliant including; DBG1 - public toilets near the Café, DB Existing Main Office – 1st floor Rm A1.2, The emergency lights and exit signs are not automatically energised from their battery supply upon failure of the electrical supply to the final sub circuit supplying the normal lighting in the designated area. NOTE: Not all control arrangements at distribution boards were checked. The sample above indicates there are likely problems with the remaining control arrangements which must be tested and verified for all areas including the presence of test timer units.	Investigate the control arrangement for all emergency lighting and exit signs in every area from all distribution boards. Verify operation also complies via the test timer switches at each distribution board. Modify the entire control arrangement such that the emergency lights and exits signs are automatically energised from their battery supply upon failure of the electrical supply to the final sub circuit supplying the normal lighting in the designated area. The modification to be carried out to align AS2293.1-2005	Performance	3K – 8K
	2.5	Distribution Boards – A sample inspection indicated the circuit breakers controlling power to emergency / exit lighting at all distribution boards are not fitted with warning labels as required by clause 2.4 of AS2293.1 - 2005	Install warning labels as per clause 2.4 of AS2293.1 - 2005. WARNING : INTERRUPTING SUPPLY WILL DISCHARGE EMERGENCY LIGHTING BATTERIES. Labels are required on all circuit breakers which will cause emergency lights to operate on their emergency battery supply. This includes the test switch control circuit and monitored normal lighting circuits.	Non-conformance	0.5K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Emergency lights (cont'd)	2.6	External stairs connecting the ground floor exit doors to ground level have no emergency lighting. The stairs are considered as required stairs and must be provided direct illumination from an emergency light.   	Install a weatherproof emergency light to provide direct illumination of not less than 1 lux to the external stairs in accordance with AS2293.1. The emergency light is to be supplied from the DB controlling the normal lighting in the area and interfaced to both the normal lighting serving the area and the test timer unit.	Performance	2.5K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Emergency lights (cont'd)	2.7	External stairs connecting the 1st floor exit door to ground level has no emergency lighting. The stairs are considered as required stairs and must be provided direct illumination throughout from emergency lights. 	Install weatherproof emergency lights to provide direct illumination of not less than 1 lux throughout the external stairs in accordance with AS2293.1. The emergency light is to be supplied from the DB controlling the normal lighting in the area and interfaced to both the normal lighting serving the area and the test timer unit.	Performance	1.5K
Exit signs (illuminated)	3.1	Self-contained exit signs are installed above required exit doors with directional exit signs installed over corridors and door in the path of travel to exits. The control arrangement includes test timer units for manual testing in the distribution boards accessible during assessment The exit signs are supplied from multiple distribution boards located throughout the ground and 1st floor. The installation generally aligns with requirements of BCA2008 and AS2293.1-2005, corresponding to the date of the construction certificate for the 2009 extensions and modifications.	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Exit signs (illuminated) (cont'd)	3.2	Test records provided by AFG, reflect regular inspection testing and maintenance to AS2293.2. The last yearly routine was recorded in September 2021 and 6 monthly routine in December 2021. The records indicate no defects were identified during the test routines.	Na	Information	-
	3.3	Testing is not carried out in accordance with AS2293.2. The arrangement and control in relation to the normal lighting is not being checked as part of the yearly test routine under AS2293.2-2019 item 4.4 of Table A4. The control arrangement defects identified in this report have not been identified accordingly.	Contractor AFG must carry out all yearly tasks including verification of the arrangement and control of emergency lights / exit signs in relation to the normal lighting as per AS2293.2-2019 item 4.4 of Table A4.	Non-conformance	0K Already included in contracted standard.
	3.4	Distribution Boards - The control arrangement of emergency lights and exit signs were checked in a few sample locations with a number found to be non-compliant including; DBG1 - public toilets near the Café, DB Existing Main Office – 1st floor Rm A1.2, The emergency lights and exit signs are not automatically energised from their battery supply upon failure of the electrical supply to the final sub circuit supplying the normal lighting in the designated area. NOTE: Not all control arrangements at distribution boards were checked. The sample above indicates there are likely problems with the remaining control arrangements which must be tested and verified for all areas including the presence of test timer units.	Investigate the control arrangement for all emergency lighting and exit signs in every area from all distribution boards. Verify operation also complies via the test timer switches at each distribution board. Modify the entire control arrangement such that the emergency lights and exits signs are automatically energised from their battery supply upon failure of the electrical supply to the final sub circuit supplying the normal lighting in the designated area. The modification to be carried out to align AS2293.1-2005	Performance	Included in item 2.4

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Exit signs (illuminated) (cont'd)	3.5	Distribution Boards – A sample inspection indicated the circuit breakers controlling power to emergency / exit lighting at all distribution boards are not fitted with warning labels as required by clause 2.4 of AS2293.1 - 2005	Install warning labels as per clause 2.4 of AS2293.1 - 2005. WARNING : INTERRUPTING SUPPLY WILL DISCHARGE EMERGENCY LIGHTING BATTERIES. Labels are required on all circuit breakers which will cause emergency lights to operate on their emergency battery supply. This includes the test switch control circuit and monitored normal lighting circuits.	Non-conformance	Included in item 2.5
	3.6	Ground floor gallery High Street side - The door in the path of travel near the old stair has an illuminated exit sign which has been taped over. The corridor behind has been modified and closed off with a partition wall such that there is no path of travel to an exit. It is likely the tape will be removed by a well meaning service contractor creating egress issues. Exit signs must not be taped over or modified. Replacing the diffuser with one including a running man and arrow left would resolve the issue as the path of travel would comply without this door which has two latch operating devices. 	Replacing the diffuser with one including a running man and arrow left in accordance with AS2293.1.	Non-conformance	0.2K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Exit signs (illuminated) (cont'd)	3.7	Ground floor stair east end – The discharge door at the base of the original stair which is no longer a required stair for egress has an old style exit sign installed above a duct. The sign does not appear to have mains power and was not illuminated. The door was obstructed by stored items. 	Disconnect and remove the illuminated exit sign.	Non-conformance	0.4K
	3.8	Ground floor rear exit – The exit sign is installed too high above the plane of view at 3.8m above floor level. The sign should be installed immediately above the door or at a height of not more than 2.7m. 	Lower the exit sign to a position immediately above the door opening.	Non-conformance	0.6K

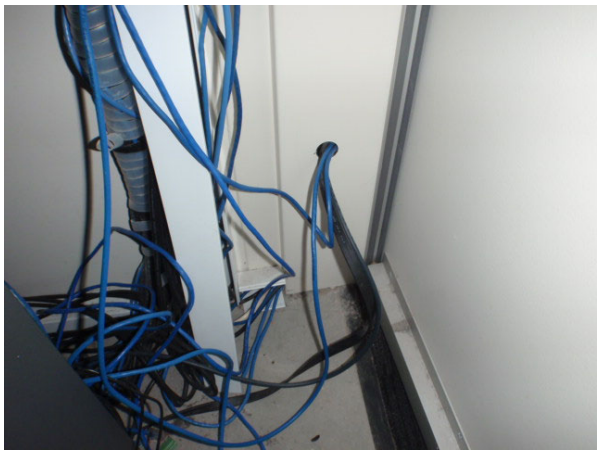
Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Exit signs (illuminated) (cont'd)	3.9	Ground main store room – The directional exit sign is installed too high above the plane of view at 3.8m above floor level. The sign should be installed between 2.0m and 2.7m above the floor level. 	Lower the directional exit sign to a position between 2.0m and 2.7m above the floor level.	Non-conformance	0.6K
	3.10	Ground & 1st floor heritage areas – The exit signs and directional exit signs are too high above the plane of view between 3.0m 3.9m above floor level. The sign should be installed between 2.0m and 2.7m above the floor level. It is possible some form of concession was applied by the authority for the areas with heritage doors. 	Review the installed height over all doors in the path of travel and over the exit doors in the heritage areas, to identify where the signs can be lowered to a position between 2.0m and 2.7m above the floor level.	Non-conformance	2K

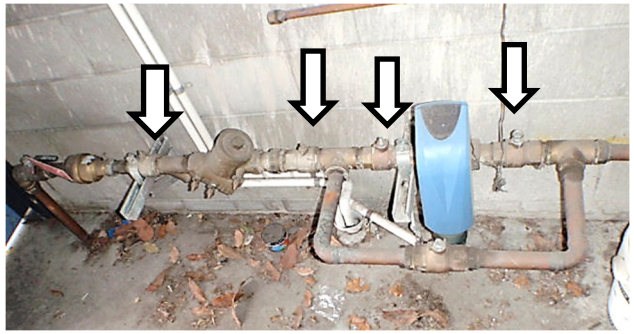
Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Exit signs (illuminated) (cont'd)	3.11	1st floor staff only room adjacent to the staff kitchenett – The running man exit decal is missing from the exit sign. 	Replace the missing running man exit decal	Performance	0.2K
Fire Blankets	4.1	Fire blankets are installed in the Cafe kitchen, the 1st floor staff kitchenette and the ground floor work room. Fire blankets are not a statutory fire safety measure and thereby are not normally included on the fire safety schedule. They are sometimes nominated as a condition for the fitout of commercial kitchens as appears to be the case in this instance where they were included on the fire safety schedule. This measure has been retained on our schedule as it was specifically identified on the relevant schedule attached to the construction certificate and the fire safety certificate.	Na	Information	-
	4.2	Maintenance tags on the fire blankets and records provided by AFG, reflect regular inspection testing and maintenance to AS1851. The last yearly routine was recorded in September 2021 and 6 monthly routine in December 2021. The records indicate no defects were identified during the test routines.	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire doors	5.1	The 1st floor main electrical switch room, adjacent pump room, ground floor under stair enclosure and distribution board enclosure behind the reception desk are fitted with fire rated doors and frames. At each location the frames are rated -/60/30, the doors -/120/30 and all are fitted with the original Australian Standard compliance tags consistent with the 2009 extensions. The enclosure walls and ceiling construction are consistent with fire rated systems with concrete blocks for the 1st floor rooms and fire rated plasterboard for the ground floor room & enclosure. Fire doors are not included on any fire safety schedules or the fire safety certificate issued for the 2009 extensions although the fire doors are a clear requirement of BCA part D2.8 for the under stair enclosure and may be required for the boiler room under BCA part C2.12 if the equipment within is considered a 'boiler'. We have assessed the fire doors against the requirements of BCA2008 and AS1905.1-2005 corresponding to the date of the construction certificate for the 2009 extensions and modifications	Na	Information	-
	5.2	The stair at the eastern end of building A has fire rated door frames with compliance tags that have been painted over. The doors have been replaced with non fire rated doors. This stair was no longer required to be fire rated or be considered as an exit when the 2009 extensions were carried out as additional exits and paths of travel were provided. The doors in question are not considered fire rated and do not need to be maintained as such.	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire doors (cont'd)	5.3	There is no program of regular inspection testing and maintenance in place for the fire doors in this building. There is no schedule available on site to detail the locations of fire doors. Pending the outcome of the fire door issues identified in this section consider implementing program of regular inspection testing and maintenance. Such a program should be implemented if the fire doors are to be retained and relied upon to meet either BCA or asset protection objectives.	Identify all fire door locations and prepare a schedule with details to enable verification of maintenance as per AS1851. Implement a program of regular inspection testing and maintenance of fire doors in accordance with AS1851. Note: This recommendation should be applied pending the outcome of the other recommendations for the identified fire door issues.	Performance	0.5K
	5.4	1st floor air conditioning pump room – Fire rated door assemblies are installed at the entry to the air conditioning pump and water heater room and the door connecting to the main electrical switch room. BCA part C2.12 requires rooms containing boilers to be separated by 2 hour fire resisting construction. The door assembly rating is limited to that of the frame which is -/60/30, so falls short of the requirements irrespective of the -/120/30 rating of the door. The BCA does not require the hot water / pump room to be fire separated unless it contains a boiler as per BCA part C2.12. There was no definition of a boiler in BCA2008. Current BCA includes a definition of a boiler with the following exclusion; *'excludes a fully flooded or pressurised system where water or other liquid is heated to a temperature lower than the normal atmospheric boiling point of the liquid'.* The unit may not meet the criteria of a boiler as defined in current BCA based on this exclusion. It was indicating a temperature of 75°C at the time of our inspection. The fire rated construction may be due to misinterpretation of the unit as a boiler, or it may have been as a voluntary measure to protect assets in the building. Further investigation is required to verify the hot water unit does not meet the definition of a boiler.	Investigate to verify whether the hot water unit labelled 'Boiler' meets the definition of a boiler as defined in the current BCA in the definition section. Investigate the approval files and design documentation to verify whether some form of concession was applied. Obtain an opinion from an accredited principle certifying authority on the inclusion on the fire safety schedule. Upgrade the construction and fire door assemblies to comply with AS1905.1 as per the principle certifying authority advice.	Non-conformance	1-5K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire doors (cont'd)	5.5	1st floor main electrical switch room – Fire rated door assemblies are installed at the entry to the room and the door connecting to adjacent air conditioning pump room. BCA part C2.13 requires main switch boards that sustain supply to emergency equipment operating in emergency mode be protected by 2 hour fire resisting construction. The door assembly rating is limited to that of the frame which is -/60/30, so falls short of the requirements irrespective of the -/120/30 rating of the door. The switch board does not maintain any of the nominated emergency equipment operation in emergency mode as per BCA part C2.13. There are no mains connected fire pumps or fans for smoke control. The fire indicator panel and associated warning system have back-up batteries to sustain operation in emergency mode as such can operate on loss of mains supply I suspect some confusion occurred around what was to be connected to the switchboard and the fire rated construction may have been due to misinterpretation, or it may have been as a voluntary measure to protect assets in the building.	Investigate the approval files and design documentation to verify no specific conditions of consent were imposed requiring fire rating of the room. Obtain an opinion from an accredited principle certifying authority on the inclusion on the fire safety schedule. Upgrade the construction and fire door assemblies to comply with AS1905.1 as per the principle certifying authority advice.	Non-conformance	1-5K
	5.6	Ground floor under stair enclosure – The storeroom adjacent to the lift extends under the required exit stair includes two fire rated door assemblies with -/60/30 rated frames and -/120/30 rated doors however issues with the construction prevent the door assemblies complying with the referenced standard AS1905.1. The door frames do not appear to be grouted or filled as the rear frame has only an internal lining exposing the frame. Both doors have combustible particle board sills where AS1905.1 requires the sill to be non-combustible. It is likely the fire doors were not included on the schedule and fire safety certificate due to the non-conformances.	Investigate the approval files and design documentation to verify whether some form of concession was applied. Obtain an opinion from an accredited principle certifying authority on the inclusion on the fire safety schedule. Upgrade the construction and fire door assemblies to comply with AS1905.1 as per the principle certifying authority advice.	Performance	1 – 15K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire doors (cont'd)	5.7	Ground floor distribution board enclosure behind reception – The fire rated assembly has multiple issues including a hole in the frame approximately 20mm diameter with data cables run into the cavity. There appears to be no backfilling in the frame. The pair of fire doors do not have the required self-closers. The assembly in its current condition can not meet the relevant performance requirements of the fire door standard. There are no provisions in BCA requiring such an enclosure to be fire rated and include fire rated doors. We suspect they have been installed mistakenly by the builder to meet the requirement for a non-combustible enclosure for the switch board as per BCA part D2.7. We have omitted this set of doors from the proposed schedule 	To prevent future confusion during assessments, place a sign / label on the fire door set advising the assembly is not required to comply as a fire rated assembly. The signs should be placed on the frame inside the enclosure close to the compliance tags.	Non-conformance	0.2K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire hose reels	6.1	Fire hose reels are located near exits in two locations on the ground floor and three locations on the 1st floor. The water supply is via the metered domestic supply located at the meter room / outside the Cafe. All areas of the building are within reach of a 4m stream issuing from the nozzle end of the fire hose reels. The installation generally aligns with requirements of BCA2008 and AS2441-2005, corresponding to the date of the construction certificate for the 2009 extensions and modifications	Na	Information	-
	6.2	1st floor main central stair and rear building internal stair – The fire hose reels are located more than the maximum 4m (5.1 and 5.8m) nominated in the standard from the top of the stairs which are defined as the exit. The locations may have been subject to heritage associated concessions as they are as identified in the approved hydraulic design from the 2009 redevelopment.	Na	Information	-
	6.3	The valves capable of isolating water supply to fire hose reels at the meter assembly and subsequent back flow devices are not locked open with the required warning signs. The main valve has been locked and labelled. The remaining valves have the handles removed, however they can be simply closed with a spanner. 	Lock open the subsidiary isolating valves at the backflow unit that are capable of isolating supply to the fire hose reels (4 in total). Install the required warning signs to comply with BCA part E1.4 and AS2441 on each of the 4 locked subsidiary valves The warning signs must be weather resistant with 8mm high upper case lettering, FIRE SERVICE VALVE - CLOSE ONLY TO SERVICE FIRE HOSE REELS.	Non conformance	0.6K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire hose reels (cont'd)	6.4	Café fire hose reel – At the time of inspection the enclosure was blocked by stored chairs and items, that had to be removed to open the enclosure door. The sign on the enclosure door is also undersized well below the minimum 50mm high lettering size required under the standard. 	Relocate all stored items and implement procedures to ensure Café staff do not store items that obstruct either the view of or access to the fire hose reel. Replace the undersized signs with one that has minimum 50mm high letters to read FIRE HOSE REEL	Performance	0.2K
	6.5	The maintenance tag on the hose reel and records provided by AFG, reflect regular inspection testing and maintenance to AS1851. The last yearly routine was recorded in September 2021 including flow test and 6 monthly routine in December 2021. The records indicate no defects were identified during the test routines.	Na	Information	-

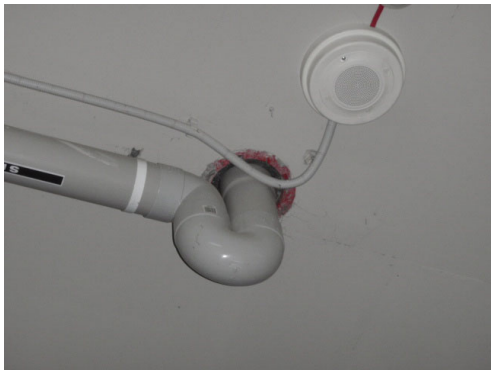
Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire hydrants	7.1	There are no fire hydrants installed on site. Fire hydrants are located in the road along High Street and in the path along James Street. According to the hydraulic design from 2009 each are connected to 150mm diameter street mains. Under the provisions of BCA and AS2419.1 street hydrants can be used to achieve compliance if they meet coverage and flow/pressure requirements. This measure is included on the fire safety schedule and the fire safety certificate from the 2009 extensions. We have assessed the street hydrants against the requirements of BCA2008 and AS2419.1-2005, corresponding to the date of the construction certificate for the 2009 extensions and modifications	Na	Information	-
	7.2	Our review of hydrant coverage from the street hydrants indicates the coverage requirements are not met for a number of areas of the 1st floor including the following: • Building B 1st floor staff only room at the north east end. • Centre Building 1st floor AC plant, pump & switch rooms. • Building A 1st floor southeast end staff room A1.2 Our assessment is based on the fire appliance being stationed no closer than 10m to the building and the 60m hose extending not less than 1m into each room before applying the 10m hose stream.	Verify the extent of shortfall laying out a 60m length of cord along the hose path including the outside edges of the stairs to verify the identified shortfall from the fire appliance locations in line with the provisions of AS2419.1. If the shortfall is confirmed a hydrant system will either need to be designed and installed on site to achieve coverage, or a performance solution developed to enable an additional length of hose to be used to achieve coverage.	Performance	0.5 – 40K-
	7.3	Adequacy of the street main to meet the flow and pressure requirements is unknown. AS2419.1 - 2005 nominates a flow of 20L/s with a pressure of not less than 150kPa for a 2 storey class 9 building with fire compartment size between 1000m² and 5000m².	Obtain a statement of available pressure for the street hydrants located in High Street and James Street to verify they are capable of providing not less than 20L/s @ a pressure not less than 150kPa	Performance	0.4K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire seals	8.1	Fire seals are required around services penetrating fire rated elements of construction to maintain the integrity of the fire rated element. The location of fire rated elements at the art gallery is questionable. The presence of fire rated doors and fire rated plasterboard in numerous locations are indicative of fire rated construction however general lack of compliance with BCA provisions and the omission of these measures from the fire safety schedule raise questions of what elements were required to be fire rated under construction approvals. There is evidence of fire rated construction and or fire seals in the following locations: • 1st floor main electrical switch room walls floor & ceiling, • 1st floor pump room walls floor & ceiling • Ground floor under stair enclosure walls & ceiling • Ground floor distribution board enclosure behind reception walls • Intermediate concrete floor of the 2009 extended area specifically the services below the pump room and electrical switch room We have assessed the fire seals against the requirements of BCA2008 part C3.15 corresponding to the date of the construction certificate for the 2009 extensions and modifications	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire seals (cont'd)	8.2	Ground floor under stair enclosure – The storeroom adjacent to the lift extends under the required exit stair includes fire rated plasterboard lining on the stud frame. There are several service penetrations in the wall and ceiling including power points and lights. Removal of the electrical services including the power point and light would be required to verify if the services have in fact been fire sealed.	Remove the power point and light to determine whether the service penetrations have been fire sealed in accordance with a tested system as per BCA part C3.15. Investigate the approval files and design documentation to verify whether some form of concession was applied. Obtain an opinion from an accredited principle certifying authority. Upgrade the fire sealing to comply with a tested system as per BCA part C3.15, the above mentioned investigations and as per the principle certifying authority advice	Performance	1 – 3K
	8.3	Ground floor distribution board enclosure behind reception – The walls are constructed of fire rated plasterboard with numerous penetrations sealed however a number have not been sealed. There are no provisions in BCA requiring such an enclosure to be fire rated and include fire seals. We suspect the construction has been employed mistakenly by the builder to meet the requirement for a non-combustible enclosure for the switch board as per BCA part D2.7. We have omitted the fire seals for this area.	To prevent future confusion during assessments, place a sign / label on the walls advising the enclosure is not required to comply as a fire rated construction and only requires non-combustible construction with smoke seals. The signs should be placed on each wall inside the enclosure.	Non-conformance	0.2K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire seals (cont'd)	8.4	1st floor air conditioning pump room – The walls are constructed of concrete blocks and incorporate fire rated door assemblies consistent with achieving a fire rating. There are multiple service penetrations and holes in the internal walls that have not been fire sealed. The BCA does not require the hot water / pump room to be fire separated unless it contains a boiler as per BCA part C2.12. There was no definition of a boiler in BCA2008. Current BCA includes a definition of a boiler with the following exclusion; *'excludes a fully flooded or pressurised system where water or other liquid is heated to a temperature lower than the normal atmospheric boiling point of the liquid'.* The unit may not meet the criteria of a boiler as defined in current BCA based on this exclusion. It was indicating a temperature of 75°C at the time of our inspection. The fire rated construction may be due to misinterpretation of the unit as a boiler, or it may have been as a voluntary measure to protect assets in the building. Further investigation is required to verify the hot water unit does not meet the definition of a boiler.	Investigate to verify whether the hot water unit labelled 'Boiler' meets the definition of a boiler as defined in the current BCA in the definition section. Investigate the approval files and design documentation to verify whether some form of concession was applied. Obtain an opinion from an accredited principle certifying authority Fire seal the penetrations and holes in the walls as per the principle certifying authority advice.	Non-conformance	1-5K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire seals (cont'd)	8.5	1st floor main electrical switch room – The walls are constructed of concrete blocks and incorporate fire rated door assemblies consistent with achieving a fire rating. There are multiple service penetrations and holes in the internal walls that have not been fire sealed combined with some evidence of fire sealing. The switch board does not maintain any of the nominated emergency equipment operation in emergency mode as per BCA part C2.13. There are no mains connected fire pumps or fans for smoke control. The fire indicator panel and associated warning system have back-up batteries to sustain operation in emergency mode as such can operate on loss of mains supply I suspect some confusion occurred around what was to be connected to the switchboard and the fire rated construction may have been due to misinterpretation, or it may have been as a voluntary measure to protect assets in the building.	Investigate the approval files and design documentation to verify no specific conditions of consent were imposed requiring fire rating of the room. Obtain an opinion from an accredited principle certifying authority. Fire seal the penetrations and holes in the walls as per the principle certifying authority advice.	Non-conformance	1-5K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Fire seals (cont'd)	8.6	1st floor of the 2009 extension – The intermediate floor between ground level and the 1st floor is constructed of concrete with multiple PVC storm water and floor waste service penetrations below the pump room and switch room that are fitted with either cast in fire collars or retrofitted fire collars. BCA specification C1.1 clause 4.1(i) nominates a floor separating storeys for a class 9b building of type B construction should achieve a 30/30/30 fire rating The fire sealing of the penetrations is consistent with this provision. Access is limited for some of the collars fitted close to the external walls visible from below in the loading dock area.  	Investigate the approval files and design documentation to verify the floor is required to be fire rated with fire seals fitted. Obtain an opinion from an accredited principle certifying authority. Using access equipment to reach the penetrations carry out a close inspection to verify the retrofitted collars are complete around the circumference of each pipe and have not been cut down or modified to fit outside of the manufacturers tested system. Verify the fixings are correctly installed in line with the manufacturers tested system.	Performance	1-5K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Lightweight construction (fire resisting)	9.1	Light weight construction in the form of fire rated plasterboard has been employed in multiple locations in the building. Whether this form of construction was required as part of the approval to meet the building codes is questionable due to a general lack of compliance with BCA provisions and the omission of these measures from the fire safety schedule. There is evidence of lightweight construction (fire resisting) in the following locations: • Ground floor under stair enclosure walls & ceiling • Ground floor distribution board enclosure behind reception walls We have assessed the lightweight construction (fire resisting) against the requirements of BCA2008 part C1.8 corresponding to the date of the construction certificate for the 2009 extensions and modifications.	Na	Information	-
	9.2	Ground floor distribution board enclosure behind reception – The walls are constructed of fire rated plasterboard. There are no provisions in BCA requiring such an enclosure to be fire rated and include lightweight construction (fire resisting). We suspect the construction has been employed mistakenly by the builder to meet the requirement for a non-combustible enclosure for the switch board as per BCA part D2.7. We have consideration of lightweight construction (fire resisting) for this enclosure.	To prevent future confusion during assessments, place a sign / label on the walls advising the enclosure is not required to comply as fire rated construction and only requires non-combustible construction with smoke seals. The signs should be placed on each wall inside the enclosure.	Non-conformance	0.2K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Lightweight construction (fire resisting) (cont'd)	9.3	Ground floor under stair enclosure – The storeroom adjacent to the lift extends under the required exit stair includes fire rated plasterboard lining on the stud frame. The fire rated plasterboard is visible adjacent to the inner fire rated door from the unlined side. A lack of documentation on the manufacturer tested system and the omission of the measure from the fire safety schedule means it has likely not been installed in a compliant manner. CSR plasterboard systems require 2 layers of 16mm fyrchek where studs are lined on one side only to achieve the required -/60/60 fire rating nominated for understair enclosures in BCA part D2.8. Removal of electrical services such as a power point and light would be required to verify if 2 layers have in fact been installed. The walls must extend to a non-combustible floor, however combustible particle board floors are used. It is likely this measure was not included on the schedule and fire safety certificate due to non-conformances.	Remove the power point and light to determine whether 2 layers of 16mm fire rated plasterboard have been installed. Investigate the approval files and design documentation to verify whether some form of concession was applied. Obtain an opinion from an accredited principle certifying authority on the inclusion on the fire safety schedule. Modify the construction to match a manufacturers tested system as per the principle certifying authority advice and investigations around the electrical services as detailed above.	Performance	1 – 15K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Mechanical air handling systems	10.1	The building contains multiple mechanical air handling systems, including ducted air conditioning, ducted kitchen exhaust, ducted minor exhaust systems and wall mount split system air conditioners. Ducted air conditioning systems serve the collections store, admin offices, gallery areas, foyer reception area and the café. Their control arrangement includes shutdown on general fire trip which aligns with the requirements of the deemed to satisfy provisions of the Building Code of Australia. Wall mount split air conditioners serving single rooms that do not exceed 1000L/s in the remaining areas have no fire mode operation and are permitted to remaining running in fire mode. The kitchen and toilet exhaust fans have no fire mode operation and may continue to run in fire mode. A functional testing schedule has been developed detailing the operation of all items in fire mode. We have assessed the mechanical air handling against the requirements of BCA2008 table E2.2b NSW (a) automatic shutdown, corresponding to the date of the construction certificate for the 2009 extensions and modifications.	Na	Information	-
	10.2	The mechanical air handling fire mode operation was tested during function interface testing carried out in May 2021. The test records indicate no outstanding defects that prevent the measure being endorsed.	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Portable fire extinguishers	11.1	There are 9 x 2A/3A rated water, 1 x 3A40BE & 1 x 6A80BE rated powder, 1 x 1A4F rated wet chemical and 12 x 5BE rated CO2 extinguishers installed. Under BCA part E1.6 extinguishers are not required for class 'A' fires (wood, paper, plastics, textiles) in buildings provided with fire hose reels. The Café kitchen includes required wet chemical extinguisher for class F fire risks associated with cooking oils & fats. The building does not have any emergency services switchboards which require class A(E) extinguishers and there are no class B flammable liquid risks as defined under BCA. The requirements are effectively achieved by the fire hose reels and the wet chemical extinguisher with the remaining water, dry powder and CO2 extinguishers considered supplementary. We have assessed the fire extinguishers against BCA2008 part E1.6 corresponding to the date of the construction certificate for the 2009 extensions and modifications.	Na	Information	-
	11.2	Maintenance tags on the fire extinguishers and records provided by AFG, reflect regular inspection testing and maintenance to AS1851. The last yearly routine was recorded in September 2021 and 6 monthly routine in December 2021. The records indicate no defects remain outstanding after the test routines.	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Portable fire extinguishers (cont'd)	11.3	Building B – A number of extinguishers have location pictograms well below the minimum 2m height nominated in the extinguisher standard. They are mostly installed in unsuitable locations below windows. The extinguishers in these instances are considered supplementary however where installed they should be located such that the signs can meet the requirements nominated under AS2444. 	Review and relocate extinguishers and associated signs such that the locations signs can be installed at the required 2m height above floor level.	Non conformance	1K
Warning & operation signs	12.1	The building is fitted with a lift for disabled access to the 1st floor. The building code part E3.3 requires warning signs regarding the use of lifts in fire be installed at each lift control panel/lift call point. The required signs were in place at each call point at the time of our assessment. We have assessed the warning and operation signs against BCA2008 part E3.3 corresponding to the date of the construction certificate for the 2009 extensions and modifications.	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Paths of travel	13.1	Six external door openings are marked with exit signs that serve as required exits from the ground floor. All doors swing in the direction of egress and are fitted with a push bar operated latches. Egress from the 1st floor is via three internal stairs and one external stair. The door to the external stair swings in the direction of travel and is fitted with a push bar operated latch. The doors in the path of travel to exits are generally swinging doors fitted with lever operated latches. The automatic sliding doors at the main entry and the rear of the foyer are provided for access but are not considered egress doors. Six of the exits discharge into the site side and rear which is enclosed by a fence with lockable gates that are secured with padlocks when the building is not occupied.	Na	Information	-
	13.2	Building A east stair - The internal stair and discharge door at the have not been considered as exits. The entry door on each level is locked and the stair is used as a storeroom. The former discharge door at the ground level was obstructed at the time of assessment, the door latch has not been upgraded and the old exit sign has been disconnected. The stair and discharge were no longer required as exits when the 2009 extensions created additional exits and paths of travel. 	Na	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Paths of travel (cont'd)	13.3	1st floor Gallery exit path – At the time of assessment the path of travel to the marked exit was obstructed by a bollard and tape barrier spanning the entire opening. The gallery was full of people with a major exhibition underway. It is an offence to obstruct an exit or path of travel to an exit, even a simple tape barrier may prevent people using the exit or create confusion and affect an evacuation. The manager was advised of the issue at the time and removed the tape to provide a clear path of travel. 	Tape barriers or any form of barrier must not be used to obstruct paths of travel or access to exits except when works are being conducted and the areas are closed to occupants. At such times consideration of adequate egress must be made for those working in the area.	Information	-

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Paths of travel (cont'd)	13.4	The perimeter fence that encloses the entire site includes vehicular access and two other personnel access gates. All are fitted with padlocks to secure the site when it is not occupied. Any occupants that may evacuate to the enclosed area would not be able to reach the road or open space without a key. The site is arranged such that during an emergency, occupants can assemble at a point within the site located in excess of 30m clear of the building (often considered open space). Recent advice provided during an egress seminar is that any barrier to egress between the building exit doors and public road would not be considered as being 'connected directly' and may therefore provide grounds for prosecution. This is a grey area with varying opinions held by Principle Certifying Authorities who are responsible for issuing construction certificates and subsequent occupancy certificates. Such grey areas may not be resolved until challenged in court.	We recommend modifying personnel gates to remove the padlock facility and install a complying lever operated latch, suitable for external use that complies with Building Code of Australia part D2.21. The device must be operable at all times without the use of a key, from the side facing a person seeking egress. To maintain security and prevent people reaching through the bars of the gate, a barrier will need to be fitted appropriately. Such a barriers may be of Perspex sheet or perforated metal sheet fixed to the gate.	Non-conformance	4K
	13.5	Ground floor distribution board enclosure behind reception – The construction for the switch board DBG1 enclosure does not meet the requirements BCA part D2.7d. The walls are of non-combustible construction and the door fitted with smoke seals however the smoke seal is missing from the centre of the doors and the doors do not include the fire-protective covering referred to as flash sheeting. The cable tray and cabling penetration above the door has not been smoke sealed.	Fit a centre smoke seal to the meeting stiles of the pair of doors and sheet the inside face of the doors with steel sheet in accordance with BCA part D2.7d. Smoke seal the cable penetrations in the block wall above the door with non-combustible products.	Non-conformance	1.5K

Measure	Ref	Issues / Information	Recommendations	Key	$ Estimate
Paths of travel (cont'd)	13.6	Ground floor distribution board enclosure in gallery space - The construction for the switch board enclosure that includes DBA and mech switch board located adjacent to the stair & lift area does not meet the requirements BCA part D2.7d. The walls are of non-combustible construction but do not extend full height above the adjacent ceiling and there is no ceiling inside the enclosure. The doors are fitted with smoke seals however the smoke seal is missing from the centre of the doors and the doors do not include the fire-protective covering referred to as flash sheeting.	Install a plasterboard ceiling or extend all the walls to the underside of the slab above and seal all service penetrations with non-combustible material. Fit a centre smoke seal to the meeting stiles of the pair of doors and sheet the inside face of the doors with steel sheet in accordance with BCA part D2.7d.	Non-conformance	5K
	13.7	Ground floor under stair enclosure – The storeroom adjacent to the lift extends under the required exit stair but includes only partial enclosure by fire rated construction. The second fire rated door at the back of the storeroom opens to an area below the stairs that is enclosed but does not include fire rated constructed. It was used for storage at the time of our assessment. The enclosure of this space without fire rated construction does not comply with BCA part D2.8(b). 	Investigate the approval files and design documentation to verify whether some form of concession was applied. Obtain an opinion from an accredited principle certifying authority whether the fire rated linings and construction must extend through this area. Upgrade the construction fire rated linings and construction to comply with BCA part D2.8(b) as per the principle certifying authority advice.	Non-conformance	10K

9 REFERENCED DOCUMENTS

Document Title	Author	Publisher
NSW Environmental Planning & Assessment Regulation 2000	NSW State Government	NSW State Government
Building Code of Australia (BCA) volume 1	Australian Building Codes Board	Australian Building Codes Board
AS1670.1-2004 Fire detection, warning, control and intercom systems – System design, installation and commissioning. Part 1 Fire	Standards Committee	Standards Australia
AS1851 – 2012 Routine service of fire protection systems and equipment	Standards Committee	Standards Australia
AS1905.1 – 2005 Construction and installation of fire doors	Standards Committee	Standards Australia
AS2293.1 – 2005 Emergency evacuation lighting in buildings. Part 1: Design and installation	Standards Committee	Standards Australia
AS2293.2 – 2019 Emergency escape lighting and exit signs for buildings - Inspection and maintenance	Standards Committee	Standards Australia
AS2419.1 – 2005 Fire hydrant installations. Part 1: System design installation and commissioning	Standards Committee	Standards Australia
AS2441 – 2005 Installation of fire hose reels	Standards Committee	Standards Australia
AS2444 – 2001 Portable fire extinguishers and fire blankets selection and location	Standards Committee	Standards Australia

10 DOCUMENT REVISION TABLE

Revision Reference	Details	Date	By
Revision A	1st Issue for comment	23/02/2022	Richard Wallis
Revision B	2nd Issue for comment – Revised to reference current BCA definition of Boiler.	03/03/2022	Richard Wallis

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Fire Safety Schedule

Issued in accordance with Division 1 of Part 9 of the Environmental Planning & Assessment Regulations 2000

Proposed Fire Safety Measure	Minimum Standard Of Design
Automatic Fire Detection & Alarm System (as requested in client scope)	BCA Spec E2.2a & AS1670 - 2004.
Automatic Fail Safe Devices to Doors	BCA Clause D2.19 & D2.21.
Emergency Lighting	BCA Clause E4.2, E4.4 & AS 2293.1 – 2005.
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8 & AS2293.1-2005.
Fire Blankets (Café)	AS3504-1995 & AS2444 – 1995.
Fire Hose Reels	BCA Clause E1.4 & AS2441 – 2005.
Fire Hydrant System	Clause E1.3 & AS2419.1 – 2005.
Fire Seals	BCA Clause C3.15 & AS1530.4 – 1997.
Mechanical Air Handling System (automatic shutdown)	BCA Clause E2.2, AS/NZS 1668.1 – 1998 & AS1668.2 – 1991.
Paths of Travel	EP&A Reg 2000 Clause 186.
Portable Fire Extinguishers	BCA Clause E1.6 & AS2444 – 1995.
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 1998 & AS 1682.1 & 2 – 1990.

Notes: This schedule specifies the fire safety measures (both current and proposed) that should be implemented in the building premises.
Existing Fire Safety Measures are those that are currently implemented in the building.
Proposed Fire Safety Measures are those required to be (or proposed) to be implemented in the building.
Any existing fire safety schedule is superseded by this fire safety schedule.
As soon as practicable after a Final Fire Safety Certificate is issued, the owner of the building must forward a copy of the Final Fire Safety Certificate (together with a copy of this schedule) to the Commissioner of the New South Wales Fire Brigade.

CC 08-415

100 %

FIRE SAFETY SCHEDULE (proposed)

Maitland Regional Art Gallery
Lot 1 DP581007
228-230 High Street
Maitland NSW 2320

Class 6 - Café / retail / dining & Class 9b – Assembly building

Fire safety measures currently installed or serving the building

Measure	**Standard of Performance**
Automatic smoke detection and alarm system	BCA2008 specification E2.2a clause 4 & AS1670.1 - 2004
Emergency lights	BCA2008 part E4.2, E4.4 & AS2293.1 - 2005
Exit signs	BCA2008 part E4.5, E4.6NSW, E4.8 & AS2293.1 - 2005
Fire blankets	AS2444-2001 (Café)
Fire doors	BCA2008 part C3.4, D2.8 specification C3.4 & AS1905.1 - 2005
Fire hose reels	BCA2008 part E1.4 & AS2441-2005
Fire hydrants	BCA2008 part E1.3 & AS2419.1-2005
Fire seals	BCA2008 part C3.15 & specification C3.15
Lightweight construction (fire resisting)	BCA2008 part C1.8 & specification C1.8 Manufacturers tested and approved systems (Under stair enclosure)
Mechanical air handling systems	BCA2008 table E2.2b NSW (a) automatic shutdown
Portable fire extinguishers	BCA2008 part E1.6 & AS2444 - 2001
Warning & operation signs	BCA2008 part E3.3 (Warning against use of lifts in fire)