



Fire & Life Safety Upgrade Strategy

For DA Submission

Royal Mail Hotel

14 Foster Street, Lake Cargelligo, NSW, 2672

Client: Down The Track Youth Enterprises Limited

Fire Safety Engineers | Inclusive Accessibility Consultants | Building Code Consultants

Suite 6 | 113 Reservoir Street Surry Hills NSW 2010 t (02) 8399 3707
hello@dcpartnership.com.au www.dcpartnership.com.au ABN 72 896 582 485

EXECUTIVE SUMMARY

DC Partnership (Sydney) has been commissioned by Down The Track Youth Enterprises Limited to prepare a Fire & Life Safety Upgrade Strategy.

The strategy intends to address Clause 64 of the Environmental Planning and Assessment Regulation 2021, which has been triggered due to the proposed refurbishment works to the existing Royal Mail Hotel located at 14 Foster Street, Lake Cargelligo, NSW, 2672.

Tables 0.1 below summarises the departures from the Deemed-to-Satisfy (DTS) provisions of the BCA and the proposed Fire and Life Upgrade Strategy.

ITEM	DESCRIPTION OF PROBLEM	DTS PROVISION	EXTENT OF WORKS
PART C2 – FIRE RESISTANCE & STABILITY			
1.	Floors The intermediate floors have an unknown FRL. External walls The FRL of the external walls consisting of masonry construction are unknown.	Spec 5	Based upon the visual inspection undertaken the existing building appears to comply with the requirements of a Type B building - being loadbearing elements primarily of masonry construction. A non-invasive inspection revealed penetrations through timber floors these are to be addressed as part of the proposed works.
2.	Timber materials observed within or attached to external walls.	C2D10 & C2D14	Based on the findings of our site inspection, and given the heritage nature of the building the existing will be permitted to remain and Council accept.
3.	The fire hazard properties of the following internal linings, materials and assemblies within a Class 2 to 9 building must comply with Specification 7: - Floor linings and floor coverings. - Wall linings and ceiling linings. - Sarking-type materials. - Attachments to floors, ceilings, internal walls, common walls, fire walls and to internal linings of external walls. - Other materials including insulation materials other than sarking-type materials.	C2D11 & Spec 7	Existing timber flooring has been identified. It is recommended for Council to accept existing materials. All other floor linings to be replaced and comply.
PART C3 – COMPARTMENTATION & SEPARATION			
4.	Different classifications between storeys and on the same storey require fire separation.	C3D9 & C3D10	Existing timber flooring has been identified. It is recommended for Council to accept existing materials. Provide a ceiling with the incipient spread of fire to all floors separating the Class 6 areas below to the Class 3 above. The exception of this being the roof of dining room ceiling to be retained and to provide interconnected smoke alarms to within dining room and managers residence.

ITEM	DESCRIPTION OF PROBLEM	DTS PROVISION	EXTENT OF WORKS
PART C4 – PROTECTION OF OPENINGS			
5.	Fire rated wall between the Sole Occupancy Units (SOU's) and rooms not within an SOU in the hotel areas	C2D2, C4D12 & Spec 5	Provide a 35mm solid panel to fan lights above SOU doors fronting internal corridors Self-closing solid core doorsets to SOU's not fronting the open verandah's.
6.	No protection of services penetrating first-floor.	C4D15	Any penetrations through the flooring to be protected in accordance with C4D15 once new fire rated ceilings installed.
PART D2 – PROVISION OF ESCAPE			
7.	The following required travel distance are applicable to this building – - 20m from any point on the floor to an exit or a point of choice to at least two (2) exits from pub areas; and. - 40 m from any point on the floor to an exit, if more than one (1) exit is available from pub areas; and - 6m from an SOU to an exit or a point of choice to at least two (2) exits from hotel areas. Based on the findings of our site inspection, the existing extended travel distance were identified: - 11m to an exit from workers SOU on the first floor (most western room facing street)	D2D5 & D2D6	New works will afford egress through tea room on the first floor affording DtS travel distances.
8.	<u>Heritage internal stair</u> Stairway is not afforded with compliant handrails, balustrade, uneven risers, no nosing strips and is enclosed underneath to form storage. <u>External Stairways</u> External stairways not afforded compliant handrails, balustrade and due to the open nature not suitable for people with vision impairment.	D3D9, D3D14, D3D17, D3D18 & D3D22	Internal heritage stair is proposed to not be considered as a required stairway and to remain as is due to heritage constraints. New external stairways will be proposed as part of the new works to achieve compliance.
PART D3 – CONSTRUCTION OF EXITS			
9.	<u>External doors and doors along paths of travel</u> A door in a required exit, forming part of an exit or in a path of travel to an exit must be readily openable without a key from the side that faces a person seeking egress, by a single hand downward action on a single device located between 900mm and 1.1m from the floor. The lever must be such that the hand of the person who cannot grip will not slip from the handle during the operation of the latch and have clearance between the handle and the backplate or door face	D3D25 & D3D26	It is recommended that as part of the new works all door hardware be replaced to comply. Main entry doors observed swinging against direction of travel, will recommend hold-open devices be provided to these doors.

ITEM	DESCRIPTION OF PROBLEM	DTS PROVISION	EXTENT OF WORKS
	not less than 35mm and not more than 45mm.		
10.	Barriers to prevent falls must be provided along the side of a stairway or floor, verandah, deck, access bridge or the like if the trafficable surface is 1m or more above the surface beneath.	D3D17, D3D18, D3D19	Balustrades along first floor verandahs were observed to be less than 1m in height. Barriers along stairs contained openings more than 125mm. Barriers within these areas to be provided as compliant as part of scope of works.
PART E1 – FIRE FIGHTING EQUIPMENT			
11.	<u>Fire Hydrant</u> A fire hydrant system must be installed in accordance with AS 2419.1.	E1D2	Street hydrants were observed and confirmed by Council opposite the building. A coverage assessment has been undertaken by our office which confirms the hydrant is capable of providing coverage. At Construction Certificate stage, an hydraulic engineer is to confirm compliance.
12.	<u>Portable Fire Extinguishers</u> No extinguishers provided throughout.	E1D14	Portable fire extinguishers must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444. PFE's to be located within 10m of each SOU.
PART E2 – SMOKE HAZARD MANAGEMENT			
13.	<u>Smoke Alarm System</u> No smoke alarms observed within the building where required.	E2D9 & Spec 20	A smoke alarm system complying with S20C3 of the BCA to be provided to all SOU's and internal public areas.
PART E4 – VISABILITY IN AN EMERGENCY EXIT SIGNS & WARNING SYSTEMS			
14.	<u>Emergency Lighting & Directional / Exit Signs</u> No emergency lighting or exit lighting observed within the building.	E4D4-E4D8	Emergency lighting to be provided throughout to ensure that occupants are able find an exit in the event of an emergency. Exit/ directional lighting be provided throughout to ensure an exit/ directional sign can be seen anywhere on the floorplate. Currently none installed.

Table 0.1 – Compliance departures

CONTENTS

EXECUTIVE SUMMARY	2
1.0 INTRODUCTION	8
1.1 General	8
1.2 Purpose	8
1.3 Basis.....	9
1.4 Exclusions	9
1.5 Scope	9
1.6 Project team.....	10
2.0 PROJECT DESCRIPTION	11
2.1 Building Characteristics	11
2.2 Building Description	11
3.0 DOMINANT OCCUPANT CHARACTERISTICS	12
3.1 General	12
3.2 Physical Attributes and Level of Assistance	12
3.2 Mental Attributes	12
3.3 Specific Occupant Group	12
3.4 Evacuation Strategy	13
3.5 Disabled Evacuation	14
4.0 RELEVANT HAZARDS	15
4.1 Hazard Identification and Mitigation Measures.....	15
4.2 Specific Locations of Hazards and Protective Measures	15
5.0 FIRE STATISTICS	16
5.1 Fire Statistics for Building Types	16
5.1.1 Fires in Residential Buildings	16
5.2.1 Fires in Eating and Drinking Establishments	17
5.2 Dangerous Goods.....	19
5.3 Fire Behaviour.....	19
6.1 General Philosophy	20
6.2 FIRE RESISTANCE.....	21
6.2.1 Fire Resisting Construction (Spec 5)	21
6.2.2 Non-combustible building elements (C2D10).....	23
6.2.3 Fire Hazard Properties (C2D11)	24
6.2.4 Separation of classifications (C3D9 & C3D10)	24
6.2.5 Bounding Construction (C2D2, C4D12 & Spec 5.)	26

6.2.6	Penetrations through floors and walls requiring an FRL (C4D15)	28
6.3	ACCESS AND EGRESS	29
6.3.1	–Travel Distances (D2D5)	29
6.3.2	–Stairways (D3D9, D3D14, D3D17, D3D18 & D3D22)	31
6.3.3	–External Doors and doors along paths of travel (D3D25 & D3D26)	33
6.3.4	–Barriers to prevent falls (D3D17-D3D19)	34
6.4	SERVICES AND EQUIPMENT	36
6.4.1	Fire Hydrant System (E1D2)	36
6.4.2	Portable Fire Extinguishers (E1D3)	36
6.4.3	Smoke Hazard Management (E2D3)	38
6.4.4	Exit Signage and Emergency Lighting (E4)	38
6.0	SUMMARY OF FIRE AND LIFE SAFETY UPGRADE STRATEGY	39
6.1	Summary Of Measures	39
6.1.2	Fire Resistance	39
6.1.3	Access and Egress	39
6.1.4	Services and Equipment	40
6.2	Maintenance of Fire & Other Safety Measures	40
7.0	CONCLUSION	41
APPENDIX A1		42
A1	ASSUMPTIONS AND LIMITATIONS	42
A1.1	GENERAL ASSUMPTIONS	42
A1.2	LIMITATIONS	42
APPENDIX A2 PLANS OF PROPOSED WORKS		43
APPENDIX A3 MARK UP OF PROPOSED WORKS		44

Project: Royal Mail Hotel
Document Type: Fire & Life Safety Upgrade Strategy
Report Number: SYD225_224-2 (FSUS) LB

The following report register documents the development and issue of this and each subsequent report/s undertaken by DC Partnership.

The technical and intellectual content contained herein remain the property of DC Partnership and have been prepared and may only be used, for the development / building being the subject of this report.

Revision History:

OUR REFERENCE	REMARKS	ISSUE DATE
SYD225_224-1 (FSUS) LB	Draft Report Issued – For Review & Comment	14 August 2025
SYD225_224-2 (FSUS) LB	Report updated to incorporate final drawings and comments from design team for DA submission as final.	15 October 2025

1.0 INTRODUCTION

1.1 General

DC Partnership has been commissioned by Down The Track Youth Enterprises Limited to prepare a Fire & Life Safety Upgrade Strategy.

The strategy intends to address Clause 64 of the Environmental Planning and Assessment Regulation 2021, which has been triggered due to the proposed refurbishment works to the existing Royal Mail Hotel located at 14 Foster Street, Lake Cargelligo, NSW, 2672.

1.2 Purpose

The purpose of this report is to address Clause 64 of the Environmental Planning and Assessment Regulation 2021, by the following -

1. Assess compliance departures from the relevant prescriptive fire and life safety provisions of Section C, Section D and Section E of the current version of the Building Code of Australia; and
2. Provide an upgrade strategy for review and concurrence by the Consent Authority.

For identified compliance departures, either:

1. Suitable resolutions are proposed to obviate such compliance departures. Resolutions may include prescriptive or performance-based solutions; and/or
2. Where resolution of a compliance departure causes physical and/or practical constraints within the existing building; a recommendation to seek the discretion of the Consent Authority occurs.

This Fire and Life Safety Upgrade Strategy directly highlights matters for consideration under Clause 64 of the Environmental Planning and Assessment Regulation 20021 as requires consent authorities to consider whether the measures contained in the building are adequate to:

1. Protect persons using the building and to facilitate their egress from the building, in the event of a fire; or
2. To restrict the spread of fire from the building to other buildings nearby.

This strategy is not anticipated to achieve full compliance with BCA 2022 Amendment 2, considering the existing nature of the building. The intent of the report is to assist the Consent Authority's consideration and discretion in approving the proposed works as a Development Application, which relates to Clause 64 of the Environmental Planning and Assessment Regulation 2021 as to the level of fire and life safety upgrade required (if any).

Section 5 of this report identifies BCA compliance departures, in addition to providing suggested resolutions for each compliance departure. For certain compliance departures, it has been requested through supporting fire engineering assessments that the Consent Authority offers dispensations with respect to Clause 64 of the Environmental Planning & Assessment Regulation 2021.

1.3 Basis

The content of this report reflects and relies upon:

1. The principles and provisions of the Building Code of Australia 2022 Amendment 2 (BCA), including the New South Wales variations;
2. 'The Guidelines for Achieving Fire Safety When Recycling a Building' prepared by The Australian Uniform Building Regulations Co-ordinating Council and dated August 1992 (The Guidelines);
3. Site inspection undertaken on the 17th of July 2025;
4. Architectural plans prepared by BVN as follows –

SHEET NUMBER	SHEET NAME	REV	DATE	DESCRIPTION
DA-A01-XX-01	COVER SHEET & DRAWING LIST	4	15.10.25	Development Application
DA-A10-00-00	SITE PLAN & SITE ANALYSIS	5	15.10.25	Development Application
DA-B10-00-00	GA - GROUND FLOOR PROPOSED	5	15.10.25	Development Application
DA-B10-01-00	GA - FIRST FLOOR PROPOSED	5	15.10.25	Development Application
DA-B10-02-00	GA - ROOF PLAN PROPOSED	4	15.10.25	Development Application
DA-B21-00-00	GA - GROUND FLOOR DEMOLITION	6	15.10.25	Development Application
DA-B21-01-00	GA - FIRST FLOOR DEMOLITION	6	15.10.25	Development Application
DA-B21-02-00	GA - ROOF PLAN DEMOLITION	4	15.10.25	Development Application
DA-C10-XX-01	ELEVATIONS & SECTIONS SHEET 01 - PROPOSED	6	15.10.25	Development Application
DA-C10-XX-02	ELEVATIONS & SECTIONS SHEET 02 - PROPOSED	6	15.10.25	Development Application
DA-C10-XX-03	ELEVATIONS & SECTIONS SHEET 03 - PROPOSED	5	15.10.25	Development Application
DA-C10-XX-04	ELEVATIONS & SECTIONS SHEET 04 - PROPOSED	5	15.10.25	Development Application
DA-C21-XX-01	ELEVATIONS & SECTIONS SHEET 01 - DEMOLITION	5	15.10.25	Development Application
DA-C21-XX-02	ELEVATIONS & SECTIONS SHEET 02 - DEMOLITION	5	15.10.25	Development Application
DA-C21-XX-03	ELEVATIONS & SECTIONS SHEET 03 - DEMOLITION	4	15.10.25	Development Application
DA-C21-XX-04	ELEVATIONS & SECTIONS SHEET 04 - DEMOLITION	4	15.10.25	Development Application
DA-N10-XX-01	LANDSCAPE PLAN	4	15.10.25	Development Application
DA-N10-XX-02	STORMWATER CONCEPT PLAN	3	15.10.25	Development Application
DA-S10-XX-01	SCHEDULE OF FINISHES AND MATERIALS	4	15.10.25	Development Application

1.4 Exclusions

It is conveyed that this report shall not construed to infer that an assessment for compliance with the following has been undertaken:

1. Structural adequacy and fire ratings;
2. Mechanical, Hydraulic or Electrical services;
3. Operational capacity of existing fire services;
4. Access for people with a disability;
5. Any provisions of the BCA not specifically referenced within this report;
6. The individual requirements of service providers (i.e. telecommunication providers, electricity providers, Sydney Water and the like);
7. SafeWork requirements; and
8. Determining full compliance with the BCA.

1.5 Scope

This report does not assess the level of property protection, business interruption or environmental protection associated with the building. The assessment is limited to compliance with the Building Regulations, which is mainly concerned with life safety and protection of adjoining properties.

Problems related to fire safety of the building during construction, renovation or demolitions are excluded from the scope of this report.

This report does not address insurance issues. It is recommended that relevant insurers are advised of the contents of this report, so that insurance issues can be appropriately addressed between the building owner and/or operator and their insurer.

Matters related to Work Health and Safety or community protection are generally outside the scope of this report, except where directly relevant to the fire engineered solutions presented.

With regard to arson, the assessment is limited to a single ignition caused by an amateur attack of limited proportions. Arson associated with organised criminal or terrorist attacks or use of accelerants has not been considered.

The implementation of the recommendations of this report is the responsibility of others and outside the involvement of Design Confidence in this project.

1.6 Project team

The project team is currently as follows:

REPRESENTATIVE	ORGANISATION	ROLE
Brad Swanson	Arc Projects	Builder/ Client Representative
Valentina Colombo Chloe Naughton	BVN	Architect
Lauren Shutz	GBA Heritage	Heritage Consultant
Jennie Askin Declan Hilferty Warren	aSquare Planning P/L	Planning

Table 1.6 – Project team

2.0 PROJECT DESCRIPTION

2.1 Building Characteristics

The property is located within the Lachlan Shire Council local government area.

Table 2.1 below summarises BCA fundamentals applicable to the building.

CHARACTERISTICS	DESCRIPTION
Building Address	14 Foster Street, Lake Cargelligo
Building use classification	Class 2 (Hotel Accommodation) Class 6 (Pub)
Rise in storeys	2
Effective Height	<12m
DTS required Type of construction	Type B

Table 2.1 – BCA characteristics

2.2 Building Description

Table 2.2 below summarises the primary building elements of the building.

BUILDING ELEMENT	DESCRIPTION
Intermediate floors	Timber
External walls	Masonry
Internal walls	Brickwork/ Concrete
Stairways	Timber (internal) Steel (External)
Ceilings	Plasterboard/ Timber
Roof	Corrugated Iron

Table 2.2 – Building elements

3.0 DOMINANT OCCUPANT CHARACTERISTICS

3.1 General

The characteristics of occupants affect their ability to recognise and interpret a fire alarm or fire cues (smoke, flames, noise) in a fire emergency situation and also the ability to react and take appropriate actions to avoid injury or death. It is therefore necessary to consider the characteristics of the range of occupants that can be expected in the building.

Based on the function or use of the building, occupants within the building can be broadly classified into two (2) dominant groups and each group is described further in the tables below. These attributes are based on the expected attributes of the generalised occupant group and not on individuals.

3.2 Physical Attributes and Level of Assistance

It is considered that the mobility of the occupants shall represent the general population with the vast majority of occupants being able-bodied. Occupants with physical disabilities (permanent or temporary – injuries or persons in wheelchairs) that may affect their ability to evacuate can be present in the building. However, all occupants, including those with a disability, are expected to be capable of reaching an exit in a fire emergency without needing physical assistance.

It's assumed that there shall be appropriate management procedures to provide timely assistance for occupants with a disability to evacuate the building in an emergency situation.

3.2 Mental Attributes

Occupants may have some degree of mental disability that can have an adverse effect on the ability to implement decisions and their emergency behaviour. However, occupants are considered to possess the entire range of abilities to understand and interpret a fire alarm or other fire cues in a fire emergency situation.

All characteristics above are assumed to be valid for all expected occupant groups within the building, unless it is specifically noted otherwise in the tables below.

3.3 Specific Occupant Group

Table 3.3 (a) – Occupant Group: Staff

CHARACTERISTICS		DESCRIPTION
Occupants Group		Staff
Relevant Building Classification	Building	Class 3/ 6
State of Awareness		Staff within the building are expected to be awake and alert during the start of the fire.
Physical and Assistance	Attributes Level of	Physical attributes and level of assistance of the staff shall represent the general population with the vast majority of occupants being able-bodied. Therefore, the majority of the staff are not expected to require physical assistance to reach an exit. It is noted that a small portion of the staff may have disabilities that require physical assistance to evacuate the building. Assistance is expected to be offered to the occupants in need by nearby occupants.

CHARACTERISTICS	DESCRIPTION
	Staff are expected to be readily capable and available to assist other occupants to safely evacuate the building in an emergency.
Mental Attributes	The majority of staff are not expected to have mental disabilities. For the staff members with disabilities, nearby staff members are expected to assist as appropriate.
Familiarity	Staff are expected to be trained in emergency evacuation procedures. This may include training using fire extinguishers and/or fire hose reels for an initial attack on a fire, if safe to do so. Staff are also expected to understand the standard 'Evacuation' tone, have the ability to follow directions from voice-over commands received via an Intercom System and be able to follow exit signage. It is also expected that staff shall be familiar with the building and be able to determine the appropriate egress route in a fire emergency. This enables timely assistance for other less mobile occupants.

Table 3.3 (b) – Occupant Group: Patrons/ Hotel Guests

CHARACTERISTICS	DESCRIPTION
Occupants Group	Patrons/ Hotel Guests
Relevant Building Classification	Class 3/ 6
State of Awareness	Not all occupants are expected to be awake and alert at the start of a fire emergency as residents may be asleep during a fire event. Some occupants can be also under influence of alcohol, medication, illicit substances and smoking, which are shown to impair occupant's response to an alarm.
Physical Attributes	Physical attributes and level of assistance of the staff shall represent the general population with the vast majority of occupants being able-bodied. Therefore, the majority of the visitors are not expected to require physical assistance to reach an exit. It is noted that a small portion of the visitors may have disabilities that require physical assistance to evacuate the building. Assistance is expected to be offered to the occupants in need by nearby occupants.
Mental Attributes	Some visitors may be expected to have some degree of mental disability that may impact their decision in an emergency. However, it is expected that this type of visitors will be in company with another visitor which will assist them in occupant evacuation. Nonetheless, trained staff within the premise is expected to be capable to assist visitors in need of assistance.
Familiarity	Visitors may not be familiar with the surroundings but may be reasonably expected to be aware of the entry point/s they used to reach the subject area. It is expected that unfamiliar visitors within the premises are to be attended to by other occupants or staff that will have a high degree of familiarity to ensure that the visitors may exit the premises on time in an emergency. Regardless, the provision of exit signages throughout the building is expected to direct occupants to the exits in an evacuation.

3.4 Evacuation Strategy

Sufficient egress provisions shall be provided to allow safe occupant evacuation. It is considered that the mobility of the occupants shall represent the general population with the vast majority of occupants being able-bodied.

3.5 Disabled Evacuation

Visually and hearing-impaired occupants can also be present in the building. Nevertheless, the severity of such impairments is assumed not to hinder occupants from hearing and responding to a fire alarm.

The disability prevalence rate in Australia has remained relatively stable over time, with 18.3% of people reporting disability in 2015, and 18.5% in 2012 and 2009. In the 2015 survey, a person had disability if they report they have a limitation, restriction or impairment, which has lasted, or is likely to last, for at least six months and restricts everyday activities¹.

The majority (78.5%) of people with disability reported a physical condition, such as back problems, as their main long-term health condition. The other 21.5% reported mental and behavioural disorders. More than half of those with disability aged 15 to 64 years participated in the labour force (53.4%).

The overview of disability prevalence in Australian population in 2015 survey is summarised in Figure 3.3.

Core activities are communication, mobility and self-care. For core activity limitations, the Australian Bureau of Statistics Survey of Disability, Ageing and Carers (ABS SDAC) provides information on four levels of severity—profound limitation (people with the greatest need for help or who are unable to do an activity); severe limitation (people who sometimes need help and/or have difficulty); moderate limitation (people who need no help but have difficulty); mild limitation (people who need no help and have no difficulty, but use aids or have limitations)².

¹ Australian Bureau of Statistics, "Disability, Ageing and Careers, Australia Summary of Findings," 2018. Accessed via <https://www.abs.gov.au/statistics/health/disability/disability-ageing-and-carers-australia-summary-findings/latest-release>

² Australian Institute of Health and Welfare, "Disability: Glossary," Australia 2017. Accessed via <https://www.aihw.gov.au/reports-statistics/health-conditions-disability-deaths/disability/glossary>.

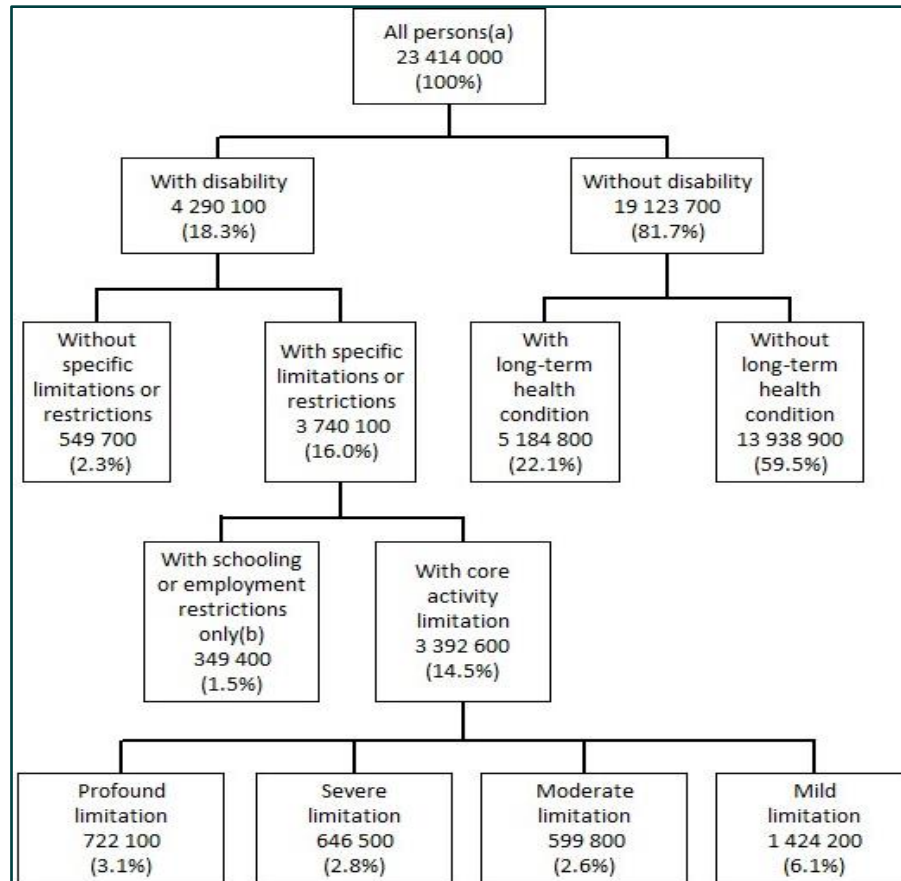


Figure 3.3 – Overview of disability in Australia in 2015

4.0 RELEVANT HAZARDS

4.1 Hazard Identification and Mitigation Measures

Hazards relevant to the specific non-compliance/s addressed herein this report are listed below. Other fire safety hazards are considered to be generally similar to hazards within a DtS compliant building of comparable characteristics.

4.2 Specific Locations of Hazards and Protective Measures

The following Table 4. outlines specific areas with the hazards and preventative measures that are to be considered.

Table 4.2 – Hazard Identification

AREA	HAZARDS IDENTIFIED	PREVENTATIVE AND PROTECTIVE MEASURES
Pub and residential areas	Ignition Sources: - Electrical faults - Kitchens - Equipment faults - Fuel Load:	Preventative Measures: - Presence of residents Protective Measures: - Automatic smoke alarm system - Fire hydrants

AREA	HAZARDS IDENTIFIED	PREVENTATIVE AND PROTECTIVE MEASURES
	- Chairs, tables - Sofa/couches, bedding, mattresses - Rubbish bins - Linings and coverings including curtains and blinds - Books, folders, paper, storage cabinets, cupboards - Computers, printers, electrical goods	

5.0 FIRE STATISTICS

5.1 Fire Statistics for Building Types

5.1.1 Fires in Residential Buildings

In the USA, between 2014-2018, a report published by the NFPA shows that an average of 353,100 structure fires in residential buildings were attended by fire departments. 2,620 civilian deaths and 11,030 civilian injuries were reported as casualties from the fire with \$7.2 billion in direct property damage. In addition, reported civilian deaths and injuries caused by home structure fires accounted for nearly three-quarters of all casualties, being 77% and 73% respectively.

Cooking and heating equipment, electrical distribution and lighting equipment, intentional fire and smoking materials were determined as the leading cause of the casualties as a result from home fires, as shown in Figure 5.1. Among all, cooking equipment appears to be the predominant cause of the aforementioned home fires and fire injuries. However, smoking materials caused the most home fire deaths, with the majority occurring in the living room or bedroom.

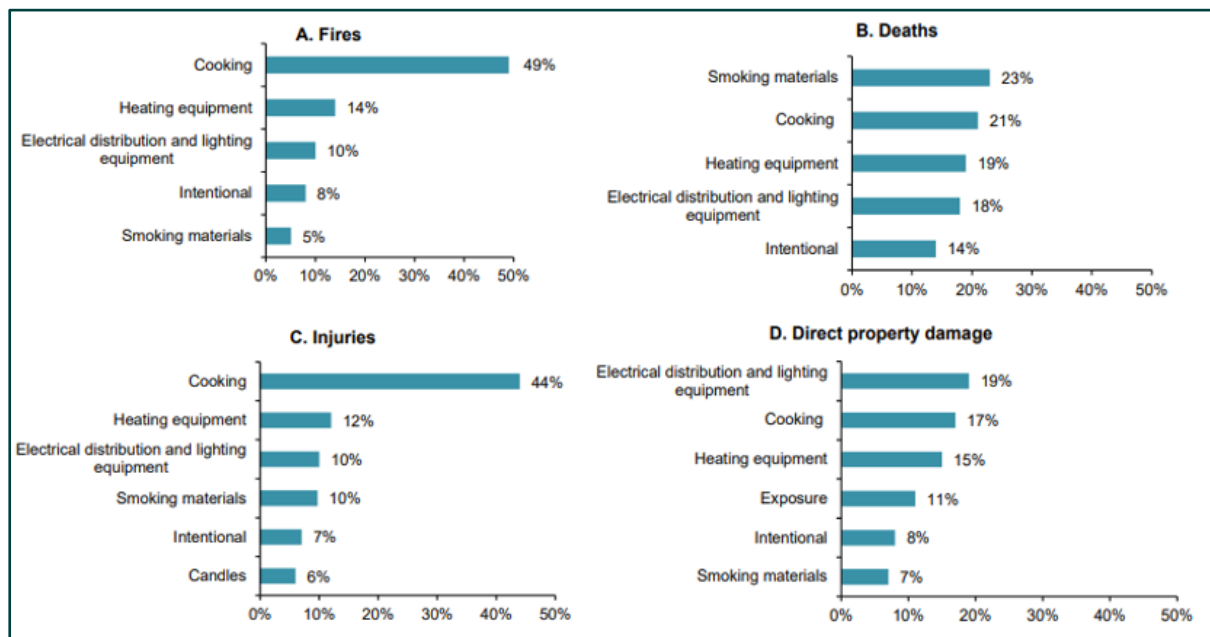


Figure 5.1.1 (a) – Leading causes of home structure fires

As indicated from the statistics in Figure 5., the majority of home fires occurred in the kitchen or cooking area where most cooking and heating equipment are present. In addition, roughly two-thirds of home fire-related deaths (65%) and injuries (69%) were caused by fires starting in just three rooms: living rooms, bedrooms, and kitchens.

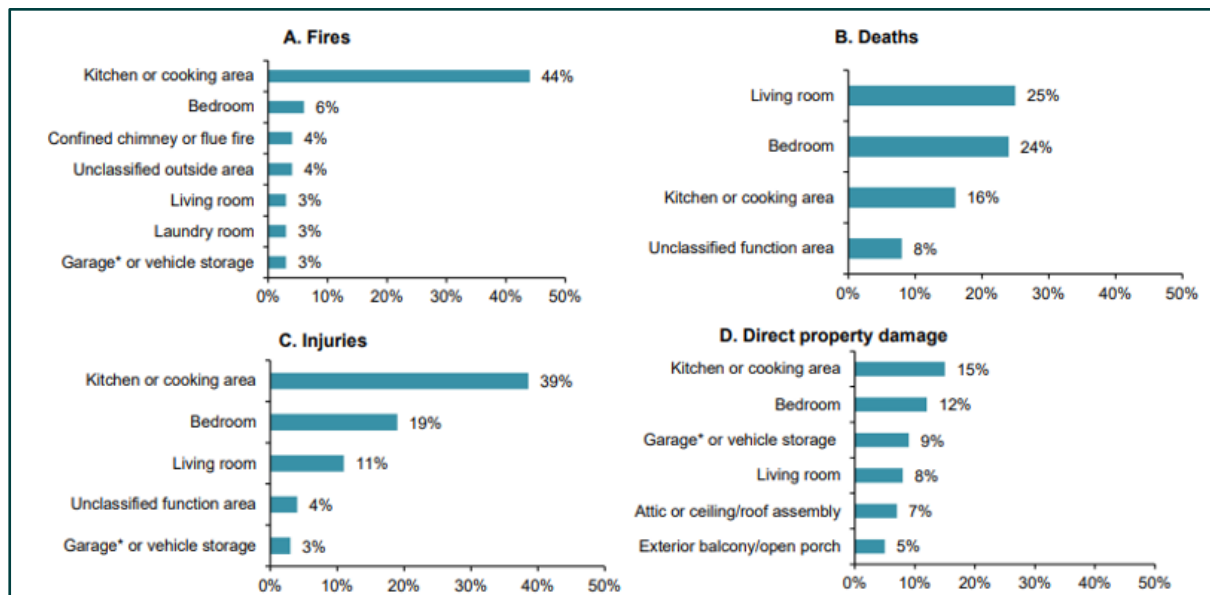


Figure 5.1.1 (b) – Leading areas of origin in home structure fires

Figure 5.1.1 indicates that most of the aforementioned injuries and deaths occurred to victim that were either asleep, physically disabled, or impaired by alcohol and accounts for more than 50% combined. These factors were contributed by occupants having reduced awareness and mobility during the time of the event.

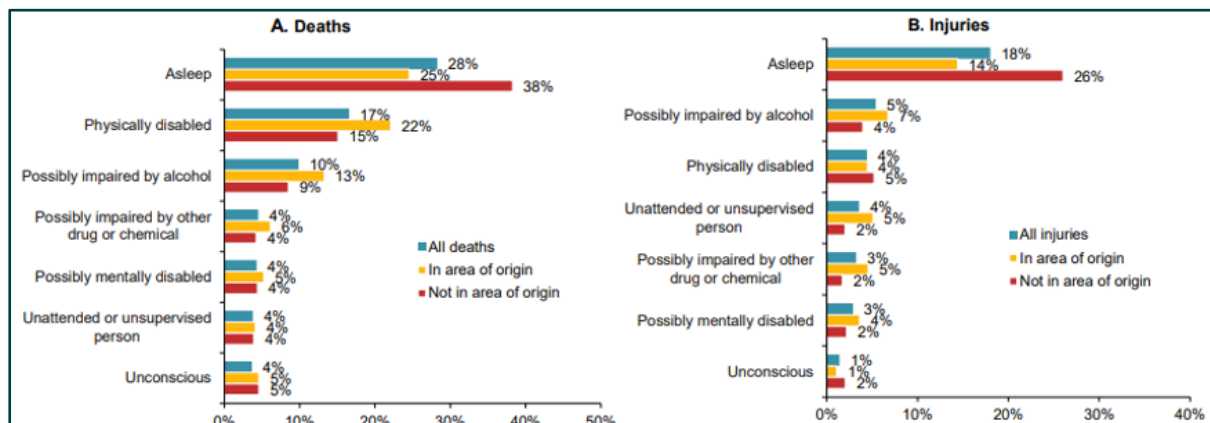


Figure 5.1.1 (c) – Home fire deaths and injuries by victim proximity and NFIRS human factors

5.2.1 Fires in Eating and Drinking Establishments

Statistics from overseas will be relied upon due to the relatively small number of fires in Australia. Generally, fire statistics in Australia were found to have similar trends to the USA fires.

In the US, between 2010-2014, the fire departments attended to an estimated average of 7,410 structure fires per year in eating and drinking establishments between 2010 and

2014. These fires caused average annual losses of three civilian deaths, 110 civilian injuries, and \$165 million in direct property damage each year.

No clear trends characterize fires in eating and drinking establishments by month of the year. These fires are somewhat more likely to occur on Fridays and the weekend. Fires occurrence are found to dominate period between midnight to 6 a.m., though overnight fires cause more property damage, on average, than those in the daytime.

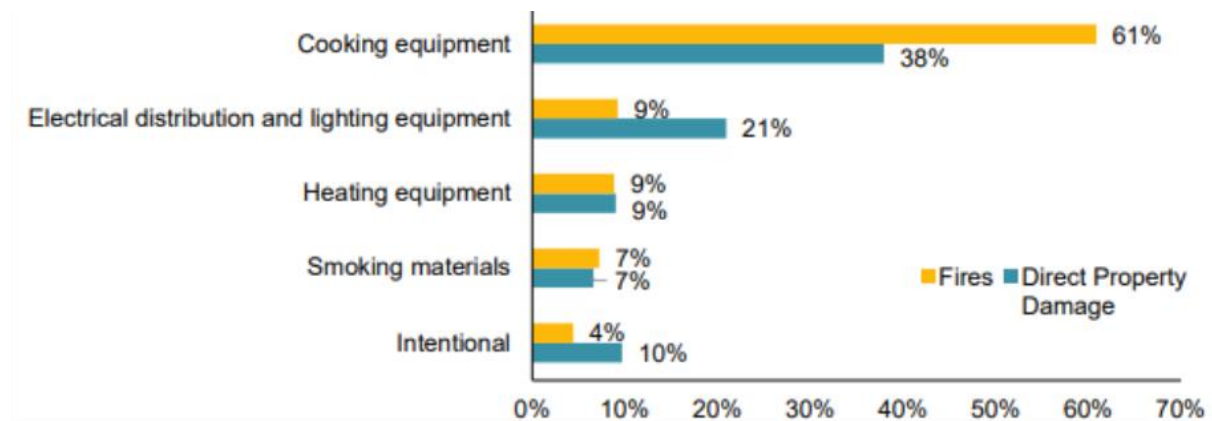


Figure 5.2.1 (a) – Structure fire in eating and drinking establishments by major cause

Cooking equipment is the leading cause of these fires in 61% of the total incidents, as shown in the figure above. Among all the fire reported, deep fryers were involved in at least one of five of these fires (21%) and ranges and cooktops were involved in 14%. Electrical distribution or lighting equipment accounted for 9% of fires, but 21% of direct property damage while heating equipment caused 9% of fires. Additionally, smoking materials caused 7% of fires and 7% of direct property damage.

It is worth noting that about one of every five fire (22%) in eating and drinking establishments had failed to maintain adequate cleanliness, as a result contributing to its ignition. Cooking materials especially food was identified as the leading ignition item.

Based on the origin of the fire, about 59% of these establishments originated in the kitchen or cooking area. This is reflected by the prevalence of cooking fire.

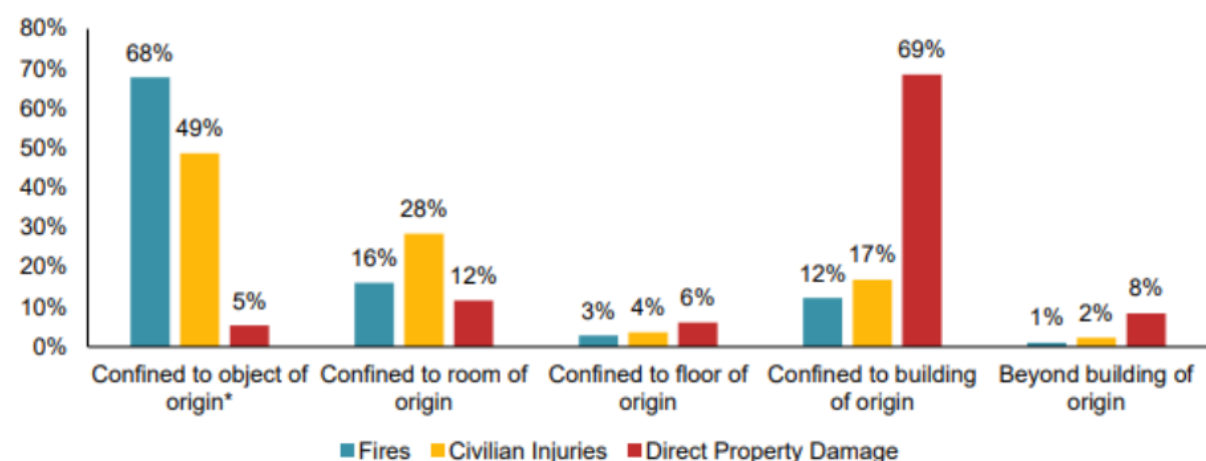


Figure 5.2.1 (b) - Structure fires in eating and drinking establishments by extent of flame damage

The figure above shows that regardless of the fire size, more than 90% of the fires stay relatively confined and do not spread beyond the building origin. Most of the property damage also limited in the origin given the low case of fire spreading to adjoining building.

5.2 Dangerous Goods

Dangerous goods are not expected on site but where they are, they shall be stored in accordance with the Regulatory Authority requirements.

5.3 Fire Behaviour

All fires will be assumed to have started as a small fire and progressively becoming more intense following a t-squared growth rate.

6.0 FIRE AND LIFE SAFETY UPGRADES

6.1 General Philosophy

The philosophy of the strategy is to provide an adequate level of life safety for evacuating occupants, tenants, and safeguard against the spread of fire, although not specifically in accordance with the DTS Provisions or Performance Requirements of the BCA. The aim is to improve the level of life safety to an acceptable level, whilst at the same time having regard to the nature of the building.

It should be stressed that the aim is not necessarily to comply with the DTS provisions or Performance provisions contained within the BCA but to provide an adequate level of life safety to an appropriate level based on the following documents:

1. Developed by the Australian Uniform Building Regulations Co-ordinating Council, The Guidelines for achieving fire safety when recycling a building - August 1992 (The Guidelines) were designed with the objective of assisting in the process of ensuring the level of fire safety within a recycled building is congruent with that of the overall level of fire protection afforded to occupants for a new building by the BCA.

The Guidelines state:

That it should not automatically be a cause for concern if a recycled building exhibits a level of fire safety somewhat lower or different from that which would arise from a full application of all BCA requirements.

Furthermore, the Guidelines noted that a building which is recycled by following the Guidelines should meet the objectives of the BCA. It should be noted that the objectives of the BCA are higher than the objectives of an Order pursuant to Division 9.3 Section 9.34 of the Environmental Planning and Assessment Act 1979 (formerly Section 121(b)).

2. Developed by South Sydney City Council (amalgamated with City of Sydney), The Guidelines for the fire-upgrading of Residential Flat Buildings dated November 1993 (The Guidelines) were designed to assist with the fire-upgrading of residential flat buildings and serve as starting point for discussion between building owners and Council.

The Guideline states:

The primary objective of the guideline is to provide acceptable alternatives to full compliance with the building regulations without necessarily reducing the level of fire safety afforded to occupants of the building.

6.2 FIRE RESISTANCE

6.2.1 Fire Resisting Construction (Spec 5)

Problem

As detailed within Table 0.1 above, issues with the existing fire-resistant construction of the building have been identified due to a lack of information on the existing construction.

Intent

The intent of fire resisting construction pursuant to Clause 64 of the Environmental Planning and Assessment Regulation 2021, which differs from the intent of the BCA is to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

Background

The following issues relating to fire resistant construction of existing building elements has been identified -

1. The FRL of the external walls consisting of double brick are unknown;
2. The FRL of the internal loadbearing walls consisting of masonry brickwork are unknown;
3. The FRL of timber floors is assumed to be nil.



Figure 6.2.1(a) External masonry walls to rear kitchen and managers quarters.

Assessment

Floors

It is understood all intermediate floors including the roof level are constructed of timber and it will be proposed that where required a fire rated lining will be applied, which will be discussed later in this report. .

A non-invasive inspection revealed all penetrations though the slab caused by access hatches etc. These are to be addressed as part of the proposed works.

External walls

For the building elements with an unknown FRL, a literature review was undertaken in relation to those elements and the findings are as follows -

The external walls are taken as consisting of a standard brickwork. Such construction is taken as achieving an FRL from both sides, which is required for Type B construction.

In this regard, Austral Bricks indicate that their standard series brick consisting of typical brick dimensions achieve an FRL of 240/240/120 (un-rendered)



STANDARD SERIES	
Size	230x110x76
Weight - kg	3
Brick Wall Density - kg/m ² (with mortar)	177.5
Units per Square Metre	48.5
Fire Resistance Levels, FRL (mins) #	
Structural Adequacy	240
Integrity	240
Insulation Unrendered	120

Figure 6.2.1 (b) – FRL of brick

As the walls are not rendered on both sides, the FRL for insulation would be 120 min.

The above FRL provided by Austral Bricks is indicated as achieving a greater FRL than that required for the subject walls in this instance.

As part of the proposed works, a structural engineer should also review the existing construction and provide further information on the existing FRL's where possible.

Summary

The assessment undertaken above demonstrates that the existing and proposed measures are adequate to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

6.2.2 Non-combustible building elements (C2D10)

Problem

The combustibility of the external wall components is unknown and some isolated timber elements observed attached to or contained within external walls.

Intent

The intent of non-combustible building elements pursuant to Clause 64 of the Environmental Planning and Assessment Regulation 2021, which differs from the intent of the BCA is to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

Background

The combustibility of the internal parts of the external wall is unknown and some timber elements were observed onsite.

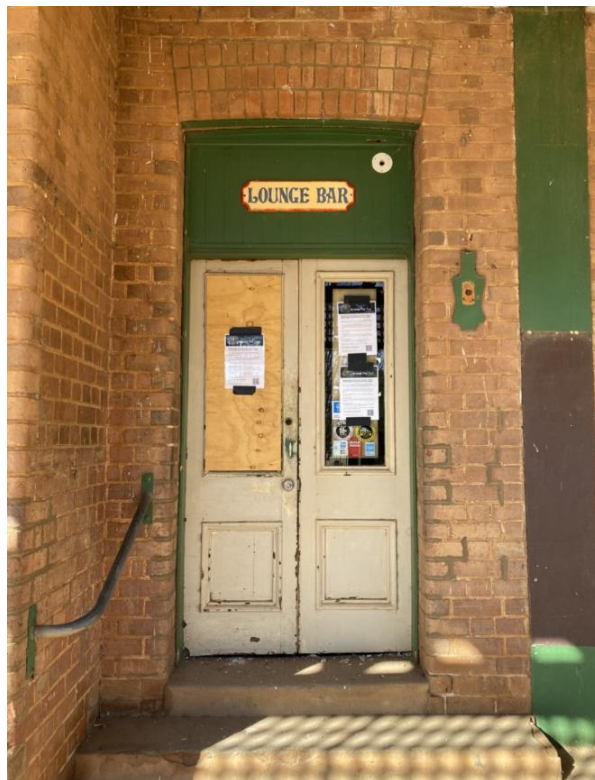


Figure 6.2.2 (a) Timber door detail.

Assessment

The external walls are understood to be constructed of at least 2 layers of brick which is deemed non-combustible. Where the timber elements are located, are located in isolated areas. Furthermore, it is understood they would have heritage significance to the façade. The risk of fire spread in the building's façade is therefore considered negligible.

Summary

The assessment undertaken above demonstrates that the current measures are adequate to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

6.2.3 Fire Hazard Properties (C2D11)

Problem

As detailed within Table 0.1 above, the fire hazard properties of materials/linings are unknown.

Intent

The intent of fire hazard properties pursuant to Clause 94 of the Environmental Planning and Assessment Regulation 2000, which differs from the intent of the BCA is to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

Background

The fire hazard properties of the floor linings / coverings, and wall and ceiling linings are unknown within the existing building.

Assessment

Table 3 of The Guidelines permits that generally, existing materials may remain except where located within a fire-isolated exit, which the building does not contain.³

Summary

The assessment undertaken above demonstrates that the current measures are adequate to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

6.2.4 Separation of classifications (C3D9 & C3D10)

Problem

The first floor separating the Class 6 and Class 3 areas within the building is not provided with either of the following in accordance with Specification C1.1 of the BCA:

- (i) Be constructed so that it is at least of the standard achieved by a floor/ ceiling system incorporating a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or
- (ii) Have an FRL of at least 30/30/30; or
- (iii) Have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the floor is combustible or of metal.

Intent

The intent of limiting spread of fire pursuant to Clause 64 of the Environmental Planning and Assessment Regulation 2000, which differs from the intent of the BCA is to restrict the spread of fire from one storey to another.

³ Australian Uniform Building Regulations Co-ordinating Council, The Guidelines for Achieving Fire Safety When Recycling a Building, 1992

The intent of requiring the floor to have fire protection should⁴;

- provide people with an environment which, during a fire, will minimise the risk of them suffering illness or injury;
- provide people with an evacuation route which will minimise the risk of them suffering illness or injury while escaping a fire;
- facilitate the role of emergency services personnel, such as fire brigade, if it becomes necessary for them to undertake such operations as fire-fighting and search and rescue; and
- not have a structural failure during a fire that results in damage to another building, allotment or road.

Background

The floor separating the Class 6 and Class 3 areas within the building is to:

- (i) Be constructed so that it is at least of the standard achieved by a floor/ ceiling system incorporating a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or
- (ii) Have an FRL of at least 30/30/30; or
- (iii) Have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the floor is combustible or of metal.

The above is not achieved with the existing flooring being typically timber floor joists lined on the underside with standard grade plasterboard or timber veneer with floorboards on the floor of the first floor.



Figure 6.2.4 Timber floor separating storey's when viewed from the first floor.

⁴ National Construction Code Series 2019 Amendment 1, Guide to BCA Volume One, Australian Building Codes Board, 2020

Assessment

Based off the objectives outlined in the BCA guide, the intent of this assessment will be to create conditions which would safeguard people from illness or injury due to a fire, and to facilitate a safe environment in which to evacuate the building to minimise potential harm.

As part of the proposed works it is proposed to line the underside of a number of ground floor ceilings below the Class 3 areas with a lightweight material which will have a resistance to the incipient spread of fire of 60 minutes.

The exception of this being the roof of dining room ceiling to be retained and to provide interconnected smoke alarms to within dining room and managers residence.

A mark-up of these works it outlined in **Appendix A3**.

6.2.5 Bounding Construction (C2D2, C4D12 & Spec 5.)

Problem

Throughout the residential portion of the building, insufficient bounding construction is provided. The following issues were noted:

- (i) Not all doorways opening onto an internal corridor are adequately protected with self-closing minimum 35mm solid core doors; and
- (ii) Some walls to SOU's and rooms adjoining corridors contained glazing, in the form of fan lights; and
- (iii) Bounding construction on the top storeys does not continue to the underside of the roof covering, or to a ceiling with the incipient spread of fire of 60 minutes.

Intent

The intent of limiting spread of fire pursuant to Clause 64 of the Environmental Planning and Assessment Regulation 2000, which differs from the intent of the BCA is to restrict the spread of fire within the building.

The objective of requiring internal walls to extend to a barrier is to stop or limit the spread of fire over the top of the wall⁵.

Background

Under current requirements bounding construction it to be provided to all SOU's and rooms adjoining public corridors.

The assessment hereunder will demonstrate that the proposed fire resisting construction for the walls and doorways is adequate, to the degree necessary, to prevent the spread of

⁵ National Construction Code Series 2022 Amendment 2, Guide to BCA Volume One, Australian Building Codes Board, 2025

fire for an acceptable duration that will not hinder the safe and timely evacuation of building occupants.



Figure 6.2.5 Infilled fan light not achieving an FRL above the doorway to an SOU along with a doorset that does not comply with C3D12

Assessment

The Sole Occupancy Units and any rooms adjoining the residential corridors are to be provided with the following:

- (i) Doorways adequately protected with self-closing 35mm solid core doors; and
- (ii) Provide an infill of a solid fibre cement or timber being minimum 35mm thick behind the fanlights (within the SOU's); and
- (iii) On the top floor, for all walls separating SOU's and rooms not within SOU's all masonry is to be extended to the underside of the roof covering. Alternatively provide a ceiling throughout the residential areas achieving a minimum 60 minutes protection against the incipient spread of fire.

It should be noted that reference to doorways to SOU's only applies to the SOU's directly leading to internal corridors and does not apply to SOU's doors and windows that open directly onto the external balconies.

Reference is to be made to Appendix A3 outlining scope of these works.

The above is consistent with a DTS compliant building.

Summary

The assessment undertaken above demonstrates that the proposed measures are adequate to restrict the spread of fire within the building.

6.2.6 Penetrations through floors and walls requiring an FRL (C4D15)

Problem

Throughout the building, no protection of services penetrating floors or walls requiring an FRL was observed.

Intent

The intent of limiting spread of fire pursuant to Clause 64 of the Environmental Planning and Assessment Regulation 2000, which differs from the intent of the BCA is to restrict the spread of fire within the building.

The objective of protecting penetrations is to stop or limit the spread between storeys or between SOU's⁶.

Background

Under current requirements any penetration of services through a floor or wall requires protection in accordance with C4D15 or to be contained within a fire rated shaft.



Figure 6.2.6 Observed onsite a hole where services pass through a bounding wall within the roof cavity

⁶ National Construction Code Series 2022 Amendment 2, Guide to BCA Volume One, Australian Building Codes Board, 2025

The assessment hereunder will demonstrate that the proposed protection of penetrations between walls and floors is adequate, to the degree necessary, to prevent the spread of fire for an acceptable duration that will not hinder the safe and timely evacuation of building occupants.

Assessment

As part of the works it is proposed to address the services penetrating any walls or floors requiring an FRL. Based off the site inspection this occurs predominantly within the roof cavity of the top floor between SOU's and rooms not within SOU's.

Any wiring, plumbing or mechanical service through bounding walls or through the ceiling between ground and first floor are to be protected in accordance with C4D15 and the manufacturers specifications.

The above is consistent with a DTS compliant building.

Summary

The assessment undertaken above demonstrates that the proposed measures are adequate to restrict the spread of fire within the building.

6.3 ACCESS AND EGRESS

6.3.1 –Travel Distances (D2D5)

Problem

As detailed within Table 0.1 above, inadequate travel distances are achieved within the Class 3 areas of the building being approximately 11m to an exit in lieu of 6m.

Intent

The intent of travel distances pursuant to Part 2 of Schedule 5 of the Environmental Planning and Assessment Act 1979, which differs from the intent of the BCA is to ensure or promote the safety of persons in the event of fire.

Background

The following deficiencies were identified within the Class 3 area of the building–

- (i) The furthest Sole Occupancy Unit (SOU) being workers accommodation 4 to the non-fire isolated heritage stairway on the first floor was noted as being approximately 11m in lieu of 6m.

Clause D2D5 of the BCA requires in a Class 3 building with no sprinkler protection travel distances from the entrance doorway of an SOU must not be more than 6m to an exit or from a point of choice in which two exits are available.

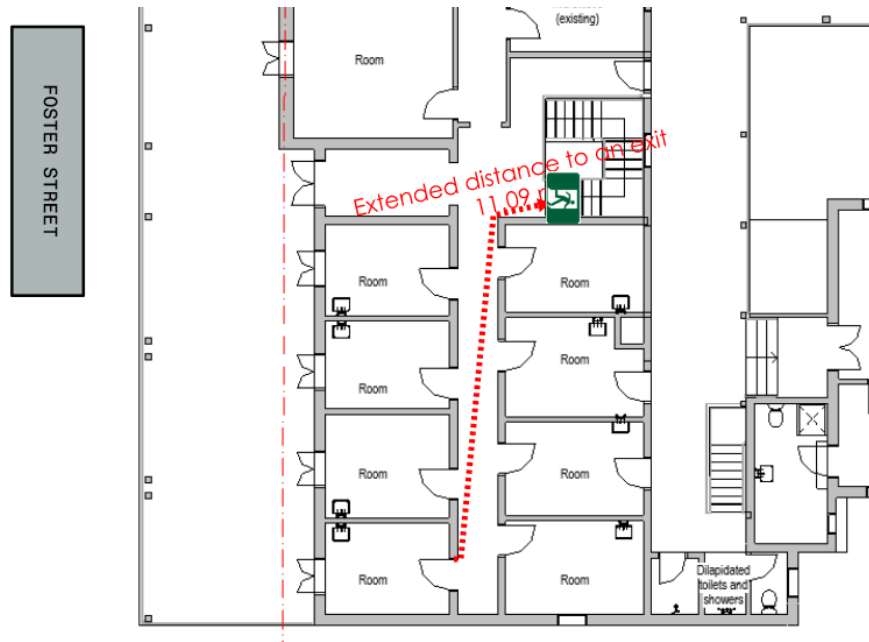


Figure 6.3.1 Existing floor plan showing excessive travel distance from furthest SOU on the first floor.

Assessment

As part of the proposed works the heritage internal stair will not be utilised for egress and reliance will be placed on the two external stairways. By introducing these two external stairs travel distances from the Class 3 area will be DtS in that a point of choice will be no more than 6m from any entrance door of an SOU within the building.

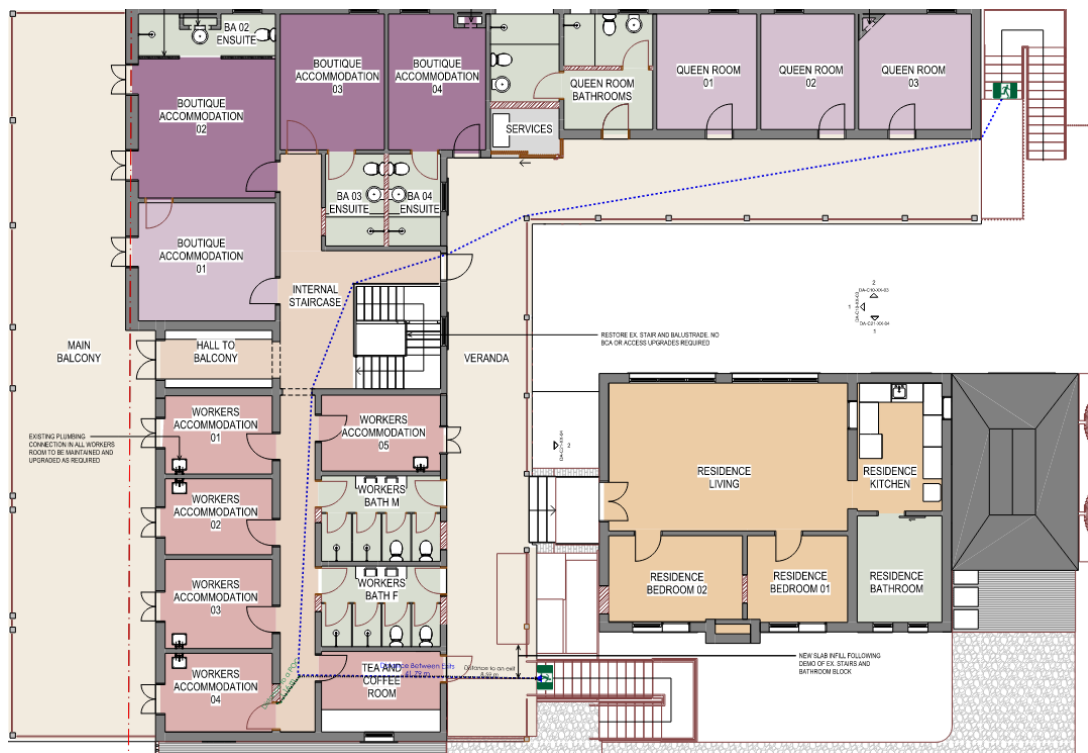


Figure 2 Proposed floor plan with new external egress stairs proposed and nil reliance on heritage stair.

The above is consistent with a DTS compliant building.

The above analysis demonstrates that the subject stairway configuration, will safeguard occupants from the effects of smoke and fire and facilitate safe evacuation from the building in a timely manner given occupants will egress the building with DTS travel distances.

Summary

The assessment undertaken above demonstrates that the travel distances within the building are adequate to ensure or promote the safety of persons in the event of fire.

6.3.2 –Stairways (D3D9, D3D14, D3D17, D3D18 & D3D22)

Problem

As detailed within Table 0.1 above, the existing internal and external stairways have a number of compliance issues with respect to the BCA.

Heritage internal stair

Stairway is not afforded with compliant handrails, balustrade, uneven risers, no nosing strips and is enclosed underneath to form storage.

External Stairways

External stairways not afforded with 1m clear width, compliant handrails, balustrade and due to the open nature not suitable for people with vision impairment.

Intent

The intent of required stairways pursuant to Part 2 of Schedule 5 of the Environmental Planning and Assessment Act 1979, which differs from the intent of the BCA is to ensure or promote the safety of persons in the event of fire.

Background

The following deficiencies were identified within the existing internal and external stairways with respect to the BCA as follows-

Heritage internal stair

Stairway is not afforded with compliant handrails, balustrade, uneven risers, no nosing strips and is enclosed underneath to form storage.

External Stairways

External stairways not afforded compliant handrails, balustrade and due to the open nature not suitable for people with vision impairment.



Figure 6.3.2 Existing internal stairway and one of the external stairs.

Assessment

As part of the proposed works the heritage internal stair will not be utilised for egress and will be treated as a non required stairway. Reliance will be placed on two new external stairways which will replace the existing non-compliant steel stairways.

By introducing these two new external stairs travel distances from the Class 3 area will be DtS without reliance on the internal stairway. Therefore, the non-compliances noted on the internal stair relating to egress are not considered a risk to the safety of occupants in the event of a fire. Due to the heritage constraints of the stairway no works to the stair are proposed.

The above analysis demonstrates that the subject stairway configuration, will safeguard occupants from the effects of smoke and fire and facilitate safe evacuation from the building in a timely manner given occupants will egress the building with DtS travel distances without reliance on the internal stairway.

Table 3 of The Guidelines permits that generally, existing treads and risers may remain and hence the consistency along the flights is permissible in this instance. However, as part of the works, the treads of the flights of the heritage stair shall be provided with a slip-resistance surface or slip-resistance nosing strip as required by D3D14(1)(e) of the BCA.

Summary

The assessment undertaken above demonstrates that the egress within the building is adequate to ensure or promote the safety of persons in the event of fire.

6.3.3 –External Doors and doors along paths of travel (D3D25 & D3D26)

Problem

As detailed within Table 0.1 above, inadequate door hardware has been identified and some doors swing against the direction of egress.

Intent

The intent of operative latches pursuant to Part 2 of Schedule 5 of the Environmental Planning and Assessment Act 1979, which differs from the intent of the BCA is to ensure or promote the safety of persons in the event of fire.

Background

The following deficiencies were identified at the doors in the path of travel to and/or forming part of the required exits–

- (i) A number of doorways contain older style door hardware and not the required 'D' style levers and are not mounted at a compliant height,
- (ii) Two of the exit doors leading to Foster Street were identified as swinging against the direction of egress.



Figure 6.3.3 Example of cylindrical door hardware to be replaced.

Assessment

Door hardware is to be rectified so as to be operable by a single hand downward action on a single device 'D handle' which is located 900mm and 1,100mm from the floor in accordance with Clause D2.21 of the BCA. This minimises the risk that a door may obstruct a person evacuating.

The above is consistent with a DTS compliant building.

In terms of the swing of the doorways, given the heritage nature of the building and location being on the front boundary, re-swinging these doors is not achievable, so it is proposed that these doors on the front faced be fitted with hold-open devices.

Summary

The assessment undertaken above demonstrates that the proposed upgrade works as recommended in the assessment are adequate to ensure or promote the safety of persons in the event of fire.

6.3.4 –Barriers to prevent falls (D3D17-D3D19)

Problem

As detailed within Table 0.1 above, inadequate barriers to prevent falls (balustrades) within stairways has been identified. The current balustrades along the first-floor balconies are less than 1m in height and some openings more than 125mm. It was also observed the heritage stair barrier was below 1m in height.

Intent

The intent of stairways pursuant to Part 2 of Schedule 5 of the Environmental Planning and Assessment Act 1979, which differs from the intent of the BCA is to ensure or promote the safety of persons in the event of fire.

Background

The following deficiencies were identified within the heritage stairway serving as a non required stairway–

- (i) The internal stairway contains balustrades at the top landing which are less than 1m in height and along flights of stairs less than 865mm above the nosing line and are not in accordance with D3D17-D3D19 of the BCA.

The following deficiencies were identified along all external balconies –

- (i) The balustrades along the balconies did not achieve 1m in height; and
- (ii) Contained openings more than 125mm.



Figure 6.3.4 External balcony barrier.

Assessment

As part of the proposed works it is proposed to modify all balustrades along the external façade so that they are more than 1m in height and contain no openings more than 125mm.

Table 3 of the guidelines permits balustrades and handrails to remain if their height is not less than 750mm above the nosing's of the stair treads or 800mm above the floor surface of the landing, corridor or hallway or the like.

Based off the site inspection of the heritage internal stairway, the existing balustrades along the flight and landings would be capable of complying with the above, hence the existing is considered an appropriate dispensation under Table 3 of the guide.

Summary

The assessment undertaken above demonstrates that the proposed upgrade works as recommended in the assessment are adequate to ensure or promote the safety of persons in the event of fire.

6.4 SERVICES AND EQUIPMENT

6.4.1 Fire Hydrant System (E1D2)

Problem

A fire hydrant system has not been provided to serve the building.

Intent

The intent of providing a hydrant system pursuant to Part 2 of Schedule 5 of the Environmental Planning and Assessment Act 1979, which differs from the intent of the BCA, is to suppress fire and ensure or promote the safety of persons in the event of fire.

Background

The building is over 500m² and is required to be provided with a fire hydrant system. There is currently no fire hydrant system installed or referenced on the Annual Fire Safety Statement.

Assessment

Based off correspondence with Council and information from the builder, there is a street Hydrant located within 25m of the building.

Based off Council advice the street Hydrant achieves a flow of 18L/sec and a water main static pressure of 300kPa. Based off this, an assumption has been made that compliance with AS2419.1-2021 is achievable.

As part of the proposed works, an Hydraulic Engineer is to review the street hydrant and provide a statement to the Certifier that the street Hydrant complies with E1D2 of the BCA and AS2419.1-2021.

Summary

The assessment undertaken above demonstrates that the proposed upgrade works as recommended in the assessment are adequate to facilitate the needs of the fire brigade.

6.4.2 Portable Fire Extinguishers (E1D3)

Problem

Portable fire extinguishers to cover Class AE, B and F fire risks are not installed throughout the building.

Fire extinguishers observed onsite, however did not contain maintenance tags or records and were not mounted in compliant locations.



Figure 6.4.2 Extinguisher not mounted on wall and not in a compliant location.

Intent

The intent is to facilitate fire attack by the occupants.

Background

Observations made during the course of the inspection revealed that the portable fire extinguishers provided may not be maintained at a sufficient level. It was noted however that signage and mounting brackets for the portable fire extinguishers were not provided.

Assessment

As part of the works, portable fire extinguishers are to be installed throughout the building so as to comply with E1D3 of the BCA and AS2444-2001.

The above is consistent with a DTS compliant building.

Summary

The assessment undertaken above demonstrates that the proposed measures to protect persons using the building and to facilitate their egress from the building, in the event of fire

6.4.3 Smoke Hazard Management (E2D3)

Problem

No smoke alarms have been provided throughout the building.

Intent

The intent of smoke alarm system pursuant to Clause 64 of the Environmental Planning and Assessment Regulation 2021, which differs from the intent of the BCA is to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

Background

No smoke alarm or detection system has been installed within the building.

Assessment

As part of the proposed works , the building is to be provided with an automatic smoke detection system complying with S20C3 of BCA Specification 20.

6.4.4 Exit Signage and Emergency Lighting (E4)

Problem

No exit signage or emergency lighting was found within the building.

Intent

The intent of providing exit signage and emergency lighting pursuant to Part 2 of Schedule 5 of the Environmental Planning and Assessment Act 1979, which differs from the intent of the BCA is to protect persons using the building and to facilitate their egress from the building, in the event of a fire.

Background

The building has not been provided with emergency lighting and exit signage in accordance with Part E4 of the BCA and AS2293.1-2018.

Assessment

As part of the proposed works, emergency lighting and exits signs complying with AS2293.1-2018 is to be installed in every fire stairway, passageway, corridor or the like that is in the path of travel to an exit.

6.0 SUMMARY OF FIRE AND LIFE SAFETY UPGRADE STRATEGY

6.1 Summary Of Measures

Section 6 serves as a summary of work required for the BCA & fire safety upgrade strategy which is related to the existing condition and the BCA 2022 compliance departures which currently exist within the building.

6.1.2 Fire Resistance

Table 6.1.2 summarises the measures that are to be implemented.

ITEM	FIRE SAFETY MEASURE	DESCRIPTION OF MEASURE
1.	Floors and External Walls	Penetrations through timber floors these are to be protected in accordance with C4D13 and manufacturers specifications. No works proposed to external walls.
2.	Separation of classifications	Provide a ceiling with the incipient spread of fire to all floors separating the Class 6 areas below to the Class 3 above. Option to line roof of dining room and kitchen or alternatively provide interconnected smoke alarms to within dining room and kitchen and managers residence.
3.	Bounding construction to SOU's	Provide a 35mm solid panel to fan lights above SOU doors fronting internal corridors. Self-closing solid core 35mm thick doorsets to SOU's fronting internal corridors.

Table 6.1.2 – Measures

6.1.3 Access and Egress

Table 6.1.3 summarises the measures that are to be implemented.

ITEM	FIRE SAFETY MEASURE	DESCRIPTION OF MEASURE
1.	Travel distances	New works will afford egress through tearoom affording DtS travel distances.
2.	Stairways	Internal stair is to not be considered as a required stairway and to remain as is due to heritage constraints. New external stairways will be proposed as part of the new works.
3.	Doors and door hardware	All door hardware be replaced to comply. Entry doors along Foster Street observed swinging against direction of travel, hold-open devices be provided to these doors.
4.	Balustrades	Balustrades along first floor verandahs were observed to be less than 1m in height. Barriers along stairs contained openings more than 125mm. Barriers within these areas to be provided as compliant as part of scope of works.

Table 6.1.3 – Measures

6.1.4 Services and Equipment

Table 6.1.4 summarises the measures that are to be implemented.

ITEM	FIRE SAFETY MEASURE	DESCRIPTION OF MEASURE
1.	Fire Hydrants	Street hydrants were observed and confirmed by Council opposite the building. A coverage assessment has been undertaken by our office which confirms the hydrant is capable of providing coverage. At Construction Certificate stage, an hydraulic engineer is to confirm compliance.
2.	Portable Extinguishers	Fire Portable fire extinguishers must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444. PFE's to be located within 10m of each SOU.
3.	Smoke Alarms	A smoke alarm system complying with S20C3 of the BCA to be provided to all SOU's and internal public areas.
4.	Exit and Emergency Lighting	Emergency lighting to be provided throughout to ensure that occupants are able find an exit in the event of an emergency. Exit/ directional lighting be provided throughout to ensure an exit/ directional sign can be seen anywhere on the floorplate. Currently none installed.

Table 6.1.4 – Measures

6.2 Maintenance of Fire & Other Safety Measures

It should be noted that the maintenance of fire and other safety systems is a mandatory requirement for building owners under the provisions of the Environmental Planning and Assessment Act 1979 and the Environmental Planning and Assessment Regulation 2021.

Where damage has been caused to a fire safety system so that it no longer functions as designed, a reactive maintenance regime shall be introduced to start to fix the system within two hours following the system being damaged and qualified installers being called, as per industry standard.

7.0 CONCLUSION

This Fire and Life Safety Upgrade Strategy highlights issues for consideration under Clause 64 of the EP&A Regulation 2021, as requires consent authorities to consider whether the measures contained in the building are adequate to:

- (i) Protect persons using the building and to facilitate their egress from the building, in the event of a fire; or
- (ii) To restrict the spread of fire from the building to other buildings nearby.

The consent authority is requested to review and offer concurrence (or otherwise) with this fire and life safety upgrade strategy.

Report By



Lindsay Beard

Principal | Building Codes

For DC Partnership

Authorised By



Luke Sheehy

Managing Director

For DC Partnership

APPENDIX A1

A1 ASSUMPTIONS AND LIMITATIONS

The general assumptions underlying the assessment are identified below. In addition, any detailed assumptions used as inputs to the analysis, are listed below. Assumptions may include simplifications of building performance or human behaviour based on engineering judgement or accepted approaches, which are necessary to enable the issues in question to be rationally addressed. The assumptions are reported so that users of the report are made aware of them and their applicability can be reviewed.

Limitations are defined as boundaries to the applicability of the results or the assessment. Given the unique and variable nature of deliberate fire scenarios (i.e. arson), the assumptions and limitations related specifically to arson events have been not been considered as part of this report.

The conclusions of this report may not be valid if any of the assumptions are incorrect. Similarly, any limitations which are not complied with may invalidate the conclusions of this report.

A1.1 GENERAL ASSUMPTIONS

Any change to the building design or use may mean that the assumptions are not valid, in which case the report is to be reviewed by a suitably qualified Building Surveyor. The conclusions of this report may not be valid if the assumptions are incorrect.

The following assumptions have been made in this report:

1. All fire safety aspects of the development which are not addressed within this report comply with the DTS provisions of the BCA, unless otherwise noted; and
2. The assessment and analysis are based on the assumption that the development is complete and operational; and
3. All fire safety systems and management strategies will be maintained in accordance with relevant Building Regulations and Australian Standards, and any particular requirements of this report; and
4. Any significant changes to the design drawings and/or specifications will be referred to the relevant Building Surveyor for review prior to acceptance; and
5. It is assumed that the design drawings and specifications supplied and upon which this assessment is based, as detailed within this report, are accurate with respect to the final as-built condition of the facility. No liability is taken for the accuracy of the supplied documentation, which forms the basis of this assessment.

A1.2 LIMITATIONS

Any limitations which are not complied with may invalidate the conclusions of this report, and hence are to be referred to a suitably qualified Building Surveyor for review:

1. Any change in the building, occupant characteristics or fuel conditions outside the parameters of this report may invalidate the conclusions of this report; and
2. The conclusions of this report may not apply if all requirements are not fully implemented as described in this report.

APPENDIX A2 PLANS OF PROPOSED WORKS

SHEET NUMBER	SHEET NAME	REV	DATE	DESCRIPTION
DA-A01-XX-01	COVER SHEET & DRAWING LIST	4	15.10.25	Development Application
DA-A10-00-00	SITE PLAN & SITE ANALYSIS	5	15.10.25	Development Application
DA-B10-00-00	GA - GROUND FLOOR PROPOSED	5	15.10.25	Development Application
DA-B10-01-00	GA - FIRST FLOOR PROPOSED	5	15.10.25	Development Application
DA-B10-02-00	GA - ROOF PLAN PROPOSED	4	15.10.25	Development Application
DA-B21-00-00	GA - GROUND FLOOR DEMOLITION	6	15.10.25	Development Application
DA-B21-01-00	GA - FIRST FLOOR DEMOLITION	6	15.10.25	Development Application
DA-B21-02-00	GA - ROOF PLAN DEMOLITION	4	15.10.25	Development Application
DA-C10-XX-01	ELEVATIONS & SECTIONS SHEET 01 - PROPOSED	6	15.10.25	Development Application
DA-C10-XX-02	ELEVATIONS & SECTIONS SHEET 02 - PROPOSED	6	15.10.25	Development Application
DA-C10-XX-03	ELEVATIONS & SECTIONS SHEET 03 - PROPOSED	5	15.10.25	Development Application
DA-C10-XX-04	ELEVATIONS & SECTIONS SHEET 04 - PROPOSED	5	15.10.25	Development Application
DA-C21-XX-01	ELEVATIONS & SECTIONS SHEET 01 - DEMOLITION	5	15.10.25	Development Application
DA-C21-XX-02	ELEVATIONS & SECTIONS SHEET 02 - DEMOLITION	5	15.10.25	Development Application
DA-C21-XX-03	ELEVATIONS & SECTIONS SHEET 03 - DEMOLITION	4	15.10.25	Development Application
DA-C21-XX-04	ELEVATIONS & SECTIONS SHEET 04 - DEMOLITION	4	15.10.25	Development Application
DA-N10-XX-01	LANDSCAPE PLAN	4	15.10.25	Development Application
DA-N10-XX-02	STORMWATER CONCEPT PLAN	3	15.10.25	Development Application
DA-S10-XX-01	SCHEDULE OF FINISHES AND MATERIALS	4	15.10.25	Development Application

APPENDIX A3 MARK UP OF PROPOSED WORKS

GENERAL NOTES

- IF DISCREPANCIES ARE FOUND, THEY ARE TO BE BROUGHT TO THE ATTENTION OF THE PRINCIPAL CONTRACTOR AND THE ARCHITECT IMMEDIATELY. COORDINATION PRIOR TO DEMOLITION ON SITE. ALL STRUCTURAL ELEMENTS ARE SHOWN INDICATIVELY ONLY.
- ALL STRUCTURAL ELEMENTS ARE TO THE DESIGN OF THE RECONSTRUCTION OF THE STRUCTURAL ENGINEER, INCLUDING ALL FLR REQUIREMENTS TO STRUCTURE.
- ALL NEW MASONRY CONSTRUCTION IS TO BE DESIGNED IN ACCORDANCE WITH HAS S700 & COMPLY WITH CLAUSE 10.1 OF BS EN 12601.
- ALL MATERIALS THAT MAKE UP THE EXTERNAL WALLS (FOR NEW CONSTRUCTION) ARE TO BE TESTED TO AS 1500.1 AS BEING NON-COMBUSTIBLE OR BE CLASSIFIED TO BS EN 12601, CL 12.
- ALL LANDSCAPE SHOWN IN DRAWING IS TO BE RESTORED AS REQUIRED AND PAINTED

BUILDING SURVEY NOTE

INFORMATION RELATING TO THE EXISTING SITE AND BUILDING SUCH AS BOUNDARIES, LEVELS, BUILDING FABRIC, SITE FEATURES AND THE LIKE HAVE BEEN BASED ON SURVEYED INFORMATION PROVIDED BY GEODESY SURVEY GROUP.

ALL NEEDS TO BE VERIFIED ON SITE.

THE MEASURED SURVEY OF EXISTING STRUCTURE AND FABRIC IS ON-GOING. NON-STRUCTURAL ITEMS TO BE REMOVED WHERE CLASHES WITH NEW FINISHES ZONES ARE IDENTIFIED. ON-SITE CONDITIONS ARE TO BE REVIEWED PRIOR TO COMMENCEMENT OF WORK TO MINIMISE UNNECESSARY DEMOLITION OF EXISTING STRUCTURE.

REFERENCE

- REFER TO DEMOLITION PLANS AND ELEVATIONS FOR DEMO WORKS
- REFER TO SCHEDULE OF FINISHES AND MATERIAL DA-S10-XX-01 AND ELEVATIONS FOR ALL MATERIALS AND FINISHES CODES
- THE MINOR WORKS LISTED BELOW HAVE BEEN APPROVED TO BE UNDERTAKEN UNDER CLAUSE 5-10(3) OF THE LACHLAN LOCAL ENVIRONMENTAL PLAN 2013. THESE REFER TO:
- INTERNAL MAINTENANCE WORKS TO ENTRY, RECEPTION, LOBBY, CAFE, DINING ROOM, MAIN STAIRCASE, ACCOMMODATION ROOMS, ELECTRICAL AND LIGHTING UPGRADES
 - THOSE TO:
 - EXTERNAL MAINTENANCE WORKS TO EXISTING WINDOWS AND DOORS, FRONT DECK, BALCONY, ROOF.

LEGEND

-  EXISTING WALLS
 PROPOSED WALLS
 PROPOSED ELEMENTS

LEVEL TYPES

- FFL: FINISHED FLOOR LEVEL
SFL: SLAB FINISH LEVEL
TOW: TOP OF WALL

ROOM TYPES

- | |
|-----------------------|
| CONCIERGE/LOBBY |
| FOH CAFE AND FOOD |
| DINING ROOM |
| HOTEL ROOM 01 |
| HOTEL ROOM 02 |
| HOTEL ROOM 03 |
| STAFF ROOM |
| RESIDENCE |
| CIRCULATION |
| EXTERNAL COVERED AREA |
| AMENITIES |
| BOH |
| STORAGE |
| SERVICES |

ALL DRAWINGS TO BE PRINTED IN COLOUR

Ceiling Retained

Ceiling removed, fire rated lining installed if required, new ceiling to visually match existing installed

No upgrades required

Existing ceilings to be removed, fire rated lining installed, and new ceiling to be installed to suit updated layout

Ceilings to be retained; fire rating upgrades to be achieved from within roof cavity, accessed from new ceiling to adj bathrooms

New fire rated ceiling installed below existing

Existing ceilings to be removed, fire rated lining installed, and replacement ceiling to be reinstalled to visually match existing

Existing ceiling retained, fire rating can be achieved within roof space

Existing ceilings retained. Walls to be extended to meet underside of roof sheeting. Extent of walls to be extended is as per DCP fire report. Access to extend walls will be from within roof space with existing ceilings retained in situ.

Ceilings to be retained

DC Partnership

Suite 6 | 113 Reservoir Street, Surry Hills NSW 2010

ABN: 72 896 582 485

T: 02 8399 3707

E: hello@dcpartnership.com.au

W: www.dcpartnership.com.au

This document is and shall remain the property of DC Partnership. The technical and intellectual content contained herein may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission.

Unauthorised use of this document in any form whatsoever is prohibited.