



FIRE SAFETY & BUILDING CODE OF AUSTRALIA ASSESSMENT REPORT

(NCC 2019 – Amendment 1)

41 ROCKLANDS ROAD, WOLLSTONECRAFT

Assessment based on the on-site audit inspections of Building Code Professionals Pty Limited on 5 October 2022 & 16 November 2022.

Fire Safety & Building Code of Australia (2019) Assessment Report	1	Final	Grant McGrath / 7.12.22	
DOC. NAME	REV.	DESCRIPTION	PREPARED / DATE	SIGNED

INTRODUCTION

1.1 General

The following Fire Safety and Building Code of Australia Assessment Report has been prepared for the Owners Corporation of Strata Plan 47991 for the existing residential building located at 41 Rocklands Road, Wollstonecraft in response to a Development Control Order (Fire Order) issued by North Sydney Council on 12 August 2022.

1.2 Purpose of the Report

The purpose of the report is to identify any areas of non-compliance with the deemed-to-satisfy provisions of Section C, Section D (excluding Part D3 – Access for People with a Disability) and Section E of the Building Code of Australia 2019 (Amendment 1) and to make recommendations for the upgrading of the buildings fire safety features to ensure that an adequate level of fire safety is provided to the occupants of the building in the event of a fire within the building.

All parties are to recognise that there will always be deficiencies in existing buildings when comparing them to buildings built to current building codes.

1.3 Report Basis

This report is based on:

- i. The Building Code of Australia 2019, inclusive of NSW variations.
- ii. The on-site audit inspections of the building undertaken by Grant McGrath on 5 October 2022 and 16 November 2022.

1.4 Exclusions

This report does not consider the following matters, except where specifically mentioned:

- The Disability Discrimination Act 1992 (Commonwealth).
- The requirements of other service providers (i.e. Ausgrid, Sydney Water, Jemena, NBN Co. ...etc.)
- Fire engineering analysis of any matter found not to meet with the deemed-to-satisfy provisions of the BCA.
- Volume 3 of the National Construction Code (Plumbing Code of Australia).
- Structural adequacy of the building and related matters.
- The fire resistance levels of building elements (unless otherwise stated).
- The operating capability of any existing services.
- Inaccessible spaces such as ceiling voids, riser shafts and the like.
- Health, amenity and energy efficiency issues covered under Sections F and J of the BCA.
- The flammability indices of any of the buildings floor, wall and ceiling elements and other assemblies.



BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART A1 - INTERPRETING THE NCC				
Interpreting the NCC	A1.0	Noted.	DTS	Noted. No recommendations.
BCA PART A2 - COMPLIANCE WITH THE NCC				
Compliance with the NCC	A2.0 – A2.4	Noted.	DTS	Noted. No recommendations.
BCA PART A3 - APPLICATION OF THE NCC IN STATES AND TERRITORIES				
State and Territory Compliance	A3.0	Noted.	DTS	Noted. No recommendations.
BCA PART A4 - NCC REFERENCED DOCUMENTS				
NCC Referenced Documents	A4.0 – A4.2	Noted.	DTS	Noted. No recommendations.
BCA PART A5 - DOCUMENTATION OF DESIGN AND CONSTRUCTION				
Documentation of Design and Construction	A5.0 – A5.6	Noted.	DTS	Noted. No recommendations.
BCA PART A6 - BUILDING CLASSIFICATION				
Determining a Building Classification	A6.0 – A6.11	BCA building classifications.	DTS	Class 2: Residential building (parts) Class 5: Office (part) Class 7a: Carpark (parts) Class 9b: Gymnasium (part) Class 10a: Outbuildings Class 10b: Swimming Pool & Spa Pool

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART A7 - UNITED BUILDINGS				
When Buildings are United	A7.0	BCA provisions applicable to buildings connected through openings in the external walls dividing them.	---	Not applicable.
Alterations in a United Building	A7.1	BCA requirements where buildings cease to be united buildings.	---	Not applicable.
BCA PART C1 - FIRE RESISTANCE & STABILITY				
Deemed to Satisfy Provisions	C1.0	Specifies DTS means to satisfy Performance Requirements CP1 to CP9.	---	Noted. No recommendations.
Type of Construction Required	C1.1 Table C1.1	This Clause stipulates the "Type of Construction" required based on a buildings "Rise in Storeys". Also see Clause C2.2 regarding maximum floor area limited requirements.	DTS	Type A construction.
Calculation of Rise in Storeys	C1.2	This Clause stipulates how you calculate a buildings "rise in storeys".	DTS	The building has a rise in storeys of eleven (11) with an effective height of greater than 25.0 metres (i.e. 27.7 metres).
Buildings of Multiple Classification	C1.3	In a building of multiple classifications, the Type of Construction required for the building is the most fire resisting type resulting from the application of Table C1.1 on the basis that the classification applying to the top storey applies to all storeys.	DTS	Noted. Type A construction required.
Mixed Types of Construction	C1.4	Allows mixed types of construction if parts are fire separated.	---	Not applicable.
Two Storey Class 2, 3 or 9c Buildings	C1.5	Gives concession for construction of certain residential buildings.	---	Not applicable.
Class 4 Parts of Building	C1.6	Specified FRLs and separation for Class 4 parts.	---	Not applicable.

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Open Spectator Stands and Indoor Sports Stadiums	C1.7	Requirement for construction of spectator stands and stadiums.	---	Not applicable.
Lightweight Construction	C1.8	This Clause stipulates that "lightweight" construction must comply with Specification C1.8 if used.	---	Not applicable.
Non-combustible Building Elements	C1.9	The Clause outlines where non-combustible materials are to be used in buildings.	DTS	Complies.
Fire Hazard Properties	C1.10	Clause C1.10 requires materials and assemblies to comply with Fire Hazard Properties as outlined in Specification C1.10.	DTS	<p>New Materials & Assemblies to Comply.</p> <p>The fire hazard properties of all new materials, assemblies, fixtures and linings are to comply with Specification C1.10 of the BCA.</p> <p>All new floor, wall and ceiling linings/coverings are to be documented to comply with Specification C1.10 of the BCA.</p> <p>General Notes:</p> <p><u>Note i: Where carpets and surface linings are proposed to be upgraded within the building (including within the residential units) those materials are to comply with Specification C1.10 of the BCA.</u></p> <p><u>Note ii: Typical new items to be assessed for compliance with this clause of the BCA are carpets, timber flooring, vinyl, linoleum, parquetry and wall & ceiling cladding materials...etc...).</u></p> <p><u>Note iii: No assessment has been made of the buildings existing fire hazard properties under this Fire Safety & BCA Assessment Report.</u></p>
Performance of External Walls in Fire	C1.11	Requirements for tilt up walls and fixings.	---	Not applicable.
---	C1.12	This clause has been deliberately left blank in the BCA.	---	---

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Fire-protected timber: Concession	C1.13	The clause outlines concessions for fire - protected timber in Class 2, 3 and 5 buildings.	---	Not applicable.
Ancillary Elements	C1.14	The Clause outlines permitted ancillary elements that may be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible.	---	Not applicable.
BCA PART C2 - COMPARTMENTATION & SEPARATION				
Deemed to Satisfy Provisions	C2.0	This Clause stipulates that the proposed development complies with BCA Section C Performance Requirements if the deem to satisfy provisions are met.	---	Noted. No recommendations.
Application of Part	C2.1	Fire compartment sizes and volumes do not apply to either a carpark provided with a sprinkler system, an open deck carpark or a spectator stand, or residential occupancies. All other classes of building to comply as required.	---	Noted. No recommendations.
General Floor Area & Volume Limitations	C2.2	This Clause stipulates the maximum floor areas and volumes for all classes of buildings and for each type of construction.	DTS	Complies. <u>Note i: This Clause is not applicable to the Class 2 residential building (parts).</u> <u>Note ii: This Clause is not applicable to sprinkler protected Class 7a carparking (parts).</u> (See Clause E1.5 below)
Large Isolated Buildings	C2.3	Fire compartments can exceed specified areas and volumes under certain open space, fire protection and vehicular access conditions.	---	Not applicable.
Requirements for Open Spaces & Vehicular Access	C2.4	Conditions applying to vehicular access are required by Clause C2.3.	---	Not applicable.

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Class 9a & Class 9c Buildings	C2.5	Additional fire and smoke compartmentation that is required for Class 9a Healthcare and 9c Aged Care buildings.	---	Not applicable.
Vertical Separation of Openings in External Walls	C2.6	This Clause stipulates how vertical separation can be achieved for buildings of Type A Construction.	DTS	Not applicable as the building is required to be protected throughout with an automatic sprinkler system, designed, installed and certified in accordance with Clause E1.5 and Specification E1.5 of the BCA and AS 2118.1-2017 <u>or</u> AS 2118.6 - 2012. (See Clause E1.5 below)
Separation by Fire Walls	C2.7	This clause stipulates how you achieve fire separation	DTS	Building to Comply. (See Clause C2.8 below)
Separation of Classifications in the Same Storey	C2.8	This clause stipulates how you can treat different classifications in the same storey	DTS and a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Non-Compliant. 1) The Level 2 Carpark (part) is separated from the adjoining Class 2 building (part) by masonry construction. The fire doors located in this bounding construction are to be certified by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/120/30 in accordance with AS 1905.1-2015 (or other their original installation standard). 2) The Level 3 Carpark (part) is separated from the adjoining Gymnasium / Swimming Pool (part) by masonry construction, however, the penetrations through these masonry walls have not been fire-stopped in accordance with Clause C3.15 and Specification C3.15 of the BCA. It is recommended that all services penetrations through the masonry walls that separate the Level 3 Carpark (part) from the adjoining Gymnasium / Swimming Pool (part) are to be fire-stopped in accordance with Clause C3.15 and Specification C3.15 of the BCA.

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				<p>3) The Level 3 Carpark (part) is separated from the adjoining Class 2 building (part) by masonry construction, however, the existing doors opening in the external walls of the Carpark are to be upgraded as follows:</p> <p>a) The door located at the top of the "Disabled Access Ramp" (i.e. the fire door located opposite the external "Courtyard" of Unit 75) is to be certified by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/120/30 in accordance with AS 1905.1-2015 (or other their original installation standard). Where this is not the case, this door is to be replaced with a new self-closing, --/120/30 FRL fire door, selected and installed in accordance with AS 1905.1-2015; and</p> <p>b) The pair of doors located at the top of the stairway that provides access / egress to / from the Level 3 Carpark (i.e. the doors located opposite Unit 104 & Unit 105) are not fire doors. These doors are to be replaced with new self-closing, --/120/30 FRL fire doors, selected and installed in accordance with AS 1905.1-2015.</p> <p>4) The Gymnasium / Swimming Pool area is not separated from the adjoining Class 2 building (part) by fire walls having an FRL of not less than 180/180/180.</p> <p>It is recommended that a Performance Solution report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements CP2 and CP8 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p>

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				<p><u>General Note:</u></p> <p><u>Note: The fire walls separating the buildings classifications are of masonry construction. The determination of the FRL's of these building elements is beyond the scope of this Fire Safety & BCA Assessment report.</u></p>
Separation of Classifications in Different Storeys	C2.9	This Clause stipulates how you fire separate classifications in different storeys.	DTS and a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non-Compliant.</p> <p>The bounding glazed walls serving the Main Entry Lobby (i.e. the entry lobby located adjoining Unit 46) and the Level 4 Managers "Office" (including its associated sanitary facility) are not separated from the adjoining vehicular driveway and its associated vehicular opening into the Level 3 Carpark below by fire walls capable of achieving an FRL of not less than 120/120/120.</p> <p>It is recommended that a Performance Solution report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements CP2 and CP8 of the BCA. All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p> <p><u>General Note:</u></p> <p><u>Note: The floors separating the buildings storeys are of reinforced concrete construction. The determination of the FRL's of these building elements is beyond the scope of this Fire Safety & BCA Assessment report.</u></p>
Separation of Lift Shafts	C2.10	Lift shafts are required in Specification C1.1 (Type A Construction) to achieve an FRL as stated where lifts are not wholly within an atrium.	DTS	<p><u>Note: The determination of the lift shafts required fire resistance levels and structural integrity is beyond the scope of this Fire Safety & BCA Assessment Report.</u></p>

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Stairways & Lifts in One Shaft	C2.11	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	DTS	Complies.
Separation of Equipment	C2.12	Certain equipment (lift motors, lift control panels, emergency generators, central smoke control plant, boilers, and batteries) must be separated from the remainder of the building with construction achieving an FRL of not less than 120/120/120.	DTS	<p>Building to Comply.</p> <p>The buildings lift control rooms are separated from the remainder of the building by masonry construction. It is recommended that:</p> <p>a) The doors providing access into the buildings lift control rooms are to be certified by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/120/30 in accordance with AS 1905.1-2015 (or other their original installation standard). Where this is not the case, these doors are to be replaced with new self-closing, --/120/30 FRL fire doors, selected and installed in accordance with AS 1905.1-2015; and</p> <p>b) The fire dampers located in the bounding walls of the buildings lift control rooms are to be certified by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/120/30 in accordance with AS 1668.1-2015 (or other their original installation standard). Where this is not the case, these fire dampers are to be replaced with new --/120/30 FRL fire dampers, selected and installed in accordance with AS 1668.1-2015.</p>
Electricity Supply System	C2.13	<p>Certain electricity supply equipment must be protected with construction of not less than 120/120/120 FRL. Equipment includes:</p> <ul style="list-style-type: none"> ▪ Electricity substations. ▪ Main switchboards "which sustain emergency equipment operating in emergency mode". 	DTS	<p>Building to Comply.</p> <p>The buildings main electrical switchboards are separated from the remainder of the building by masonry construction. It is recommended that:</p> <p>a) The doors providing access into the buildings electrical switchrooms are to be certified by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than</p>

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		<ul style="list-style-type: none"> ▪ Electricity conductors that supply main switchboard. ▪ Switchboards must also be segregated (where applicable) 		<p>--/120/30 in accordance with AS 1905.1-2015 (or other their original installation standard). Where this is not the case, these doors are to be replaced with new self-closing, --/120/30 FRL fire doors, selected and installed in accordance with AS 1905.1-2015; and</p> <p>b) The services penetrating the bounding walls and floors of the electrical switchrooms are to be certified by an FPAS Accredited Fire Systems Certifier as being fire-stopped in accordance with Clauses C3.12, C3.15 and Specification C3.15 of the BCA.</p>
Public Corridors in Class 2 & 3 Buildings	C2.14	In a Class 2 or 3 building a public corridor, if more than 40 metres in length must be divided at intervals of not more than 40 metres with smoke proof walls complying with Clause 2 of Specification C2.5 of the BCA.	DTS	Complies.
BCA PART C3 - PROTECTION OF OPENINGS				
Deemed to Satisfy Provisions	C3.0	This Clause stipulates that the proposed development complies with BCA Section C Performance Requirements if the DTS provisions are met.	---	Noted. No recommendations.
Application of Part	C3.1	Exempts openings such as control joints, weep holes, non-combustible ventilators for sub floor or cavity ventilation, etc, are exempted from protection requirements.	---	Noted. No recommendations.
Protection of Openings in External Walls	C3.2	This Clause stipulates that openings less than 3 m from a side or rear boundary or 6 m from the far boundary of a road must be protected.	DTS and a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Non-Compliant. In buildings of this type, openings in an external wall (that is required to have a fire resistance level) must if situated less from a fire-source feature to which it is exposed than:

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				<p>i) 3.0 metres from a side or rear boundary of the allotment; or ii) 6.0 m from the far boundary of a road adjoining the allotment, if not located in a storey at or near ground level; or iii) 6.0 metres from another building on the allotment that is not a Class 10 building, must be protected in accordance with Clause C3.4 of the BCA, and if wall-wetting sprinklers are used, they are located externally and not occupy more than 1/3 of the area of the external wall of the storey in which it is located.</p> <p>Inspection of the building has revealed that the ventilation louvres that are located in the northern external wall of the Level 2 Carpark stand less than 3.0 metres (perpendicular) to the western side property boundary and is not protected externally in accordance with Clause C3.4 of the BCA.</p> <p>It is recommended that a Performance Solution Report is to be prepared by Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to allow compliance with the Performance Requirements CP2 and CP8 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p>
Separation of External Walls and Associated Openings in Different Fire Compartments	C3.3	Separation required between external openings in different fire compartments.	---	Not applicable.

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Acceptable Methods of Protection	C3.4	Acceptable methods of protecting openings in external walls.	DTS and a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Building to Comply. (See Clause C3.2 above)
Doorways in Fire Walls	C3.5	This stipulates how doorways in fire walls are to be constructed.	DTS	Building to Comply. (See Clause C2.8 above)
Sliding Fire Doors	C3.6	Installation requirements for sliding fire doors.	---	Not applicable.
Protection of Doorways in Horizontal Exits	C3.7	This stipulates how horizontal exits are to be protected.	DTS	Building to Comply. (See Clause C2.8 above)
Openings in Fire Isolated Exits	C3.8	Construction details of doorways leading into fire isolated exits.	DTS	<p>Building to Comply.</p> <p>1) Doorways that open into the buildings fire-isolated stairways and fire-isolated passageways are required to be protected with self-closing, --/60/30 FRL fire doors in accordance with Clause C3.8 of the BCA and AS 1905.1-2015.</p> <p>It is recommended that all entry doors into the buildings fire-isolated stairways and fire-isolated passageways are to be certified by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/60/30 in accordance with AS 1905.1-2015 (or other their original installation standard). Where this is not the case, any defective fire door is to be replaced with a new self-closing, --/60/30 FRL fire door, selected and installed in accordance with AS 1905.1-2015.</p> <p>2) The window located in the external walls of Bed 1 in Unit 51 is located less than 6.0 metres from the external glazed windows located in the adjoining fire-isolated stairway contrary to</p>

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				<p>Clause C3.8(b) of the BCA. In addition, the window located in the external walls of Bed 1 in Unit 83 is located less than 6.0 metres from the external glazed windows located in the adjoining fire-isolated stairway contrary to Clause C3.8(b) of the BCA.</p> <p>It is recommended that a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating compliance with Performance Requirement DP5 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p>
Service Penetrations in Fire Isolated Exits	C3.9	Services shall not be installed in fire isolated exits, except as permitted in this Clause.	DTS	<p>Non-Compliant.</p> <p>In buildings of this type, fire-isolated stairways and fire-isolated passageways must not be penetrated by any services other than -</p> <ul style="list-style-type: none"> a) electrical wiring permitted by D2.7(e) to be installed within the exit; or b) ducting associated with a pressurisation system if it - <ul style="list-style-type: none"> i) is constructed of material having an FRL of not less than --/120/60 where it passes through any other part of the building; and ii) does not open into any other part of the building; or c) water supply pipes for fire services. <p>Inspection of the building has revealed that the south-western fire-isolated stairway serving the Level 2 Carpark is penetrated by a single PVC drainage pipe that has not been separated from the stairway by construction achieving an FRL of --/120/120.</p>

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				It is recommended that the single PVC drainage pipe that penetrates the south-western fire-isolated stairway serving the Level 2 Carpark is to be separated from the fire-isolated stairway by construction achieving an FRL of --/120/120. This FRL is to be measured from inside the fire rated enclosure (both downwards and outwards to the fire-isolated stairway) - not vice-versa.
Openings in Fire Isolated Lift Shafts	C3.10	Construction details of doorways leading into fire isolated lift shafts and construction of lift indicator panels.	DTS	<p>Building to Comply.</p> <p>Lift shafts in buildings of this type are to be fitted with lift landing doors (on each level of the building) that are capable of achieving a fire resistance level --/60/-- in accordance with AS 1735.11-1986; and</p> <p>i) the lift landing doors are to be set to remain in the closed position except when discharging or receiving passengers; and</p> <p>ii) any openings into the lift shaft that has an opening area of greater than 35,000 mm² is to be backed by construction achieving a minimum FRL of --/60/60.</p> <p>Inspection has revealed that the lift landing doors are set to remain in the closed position (i.e. parked closed) as required, however, the fire rating of the lift landing doors could not be determined by our visual examination. In addition, the size of the openings into the lift shaft to accommodate the lift call buttons could not be determined by our visual examination.</p> <p>It is recommended that:</p> <p>1) All of the buildings lift landing doors are to be inspected and certified by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/60/-- in accordance with AS 1735.11-1986 (or other their original installation standard).</p>

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				<p>Where any of the existing lift landing doors are not capable of being certified by an FPAS Accredited Fire Systems Certifier, they are to be replaced with new lift landing doors capable of achieving an FRL of not less than --/60/-- in accordance with AS 1735.11-1986. These doors are to be set to remain in the closed position except when discharging or receiving passengers.</p> <p>2) Each of the lift landing control panels is to be removed to determine whether or not the openings into the lift shafts exceed 35,000 mm². If so, these openings are to be fire rated with materials achieving an FRL of not less than --/60/60.</p>
Bounding Construction Class 2, 3, & 4 Buildings	C3.11	Stipulates how to protect openings in bounding construction (residential building / parts).	DTS	<p>Building to Comply.</p> <p>1) In buildings of this type, doorways that open from a Class 2 residential sole occupancy unit to a public corridor are to be fitted with self-closing, --/60/30 fire doors, selected and installed in accordance with AS 1905.1-2015.</p> <p>It is recommended that all of the Class 2 residential sole occupancy unit entry fire doors are to be assessed by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/60/30 in accordance with AS 1905.1-2015 (or other their original installation standard). Where this is not the case, any defective fire door is to be replaced with a new self-closing, --/60/30 FRL fire door selected and installed in accordance with AS 1905.1-2015.</p> <p>2) In buildings of this type, doorways that open from a room (that is not within a Class 2 residential sole occupancy unit) to a public corridor are to be fitted with self-closing, --/60/30 fire doors, selected and installed in accordance with AS 1905.1-2015.</p>

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				<p>Inspection of the building has revealed that <u>not all</u> Garbage Rooms that open onto the Class 2 public corridors are fitted with self-closing, --/60/30 fire doors as required by Clause C3.11 of the BCA.</p> <p>It is recommended that all entry doors to the residential Garbage Room enclosures that open onto the adjoining Class 2 public corridors are to be assessed by an FPAS Accredited Fire Systems Certifier as being capable of achieving an FRL of not less than --/60/30 in accordance with AS 1905.1-2015 (or other their original installation standard). Where this is not the case, any defective fire door as well as any non fire-rated doors are to be replaced with new self-closing, --/60/30 FRL fire doors, selected and installed in accordance with AS 1905.1-2015.</p>
Openings in Floors & Ceilings for Services	C3.12	Services where passing through fire rated floors and/or walls shall be suitably protected to maintain the FRL of the building element(s) either by the introduction of fire rated shafts and/ or fire stopping / sealing at the penetration.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non-Compliant.</p> <p>Inspection has revealed that the building has numerous wall and floor services penetrations that have not been fire-stopped in accordance with Clause C3.15 of the BCA.</p> <p>It is recommended that:</p> <p>1) All services penetrations through the building are to be upgraded (as necessary) to ensure that they are "fire-stopped" in accordance with Clauses C3.12, C3.15 and Specification C3.15 of the BCA; or</p> <p>2) A Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating compliance with Performance Requirement CP8 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p>

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Openings in Shafts	C3.13	Any openings into fire rated service shafts shall be protected in accordance with this Clause.	DTS	Complies. Non-combustible garbage hoppers have been provided to the buildings garbage shafts as required.
---	C3.14	This clause deliberately left blank in the BCA.	---	---
Openings for Service Installations	C3.15	Services where passing through fire rated floor or walls shall be suitably protected to maintain the FRL of the building element(s).	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Non-Compliant. (See Clause C3.12 above)
Construction Joints	C3.16	Construction joints shall achieve the same FRL as the building component in which it is installed.	DTS	Building to Comply. It is recommended that the buildings construction joints are to be fire-stopped in a manner identical with a prototype tested system in accordance with AS1530.4 -2014 to achieve the required FRL.
Columns Protected with Lightweight Construction to achieve an FRL	C3.17	Any column protected with lightweight construction should maintain the fire integrity of a building element through which it passes.	---	Not applicable.
PART C - SPECIFICATION C1.1 - FIRE RESISTING CONSTRUCTION				
Exposure to Fire Source Features	Specification C1.1 Clause 2.1	This Clause stipulates when a building element is exposed to a fire source feature.	---	Noted. No recommendations.
Fire Protection for a Support of Another Part	Specification C1.1 Clause 2.2	The structural integrity of any part of a building required to have a particular FRL shall not be reduced or undermined by reason of it being supported by a part of the building that does not have at least the same FRL as the part it supports.	---	The fire resistance levels of the building elements have not been assessed under this Fire Safety & BCA report.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Lintels	Specification C1.1 Clause 2.3	Details where lintels over doorways or openings require an FRL.	---	The fire resistance levels of the building elements have not been assessed under this Fire Safety & BCA report.
Attachments not to impair fire resistance	Specification C1.1 Clause 2.4	This clause outlines how combustible elements can be attached to an element that is required to have an FRL.	DTS	Complies.
General Concessions	Specification C1.1 Clause 2.5	Outlines general FRL concessions that can be applied for various building components.	---	Noted. No recommendations.
Mezzanine Floors Concession	Specification C1.1 Clause 2.6	Stipulates that a mezzanine and its supports do not need to achieve a fire rating provided other measures are adopted.	---	Not applicable.
Enclosure of Shafts	Specification C1.1 Clause 2.7	This Clause stipulates how you enclose various shafts both at the top and the bottom.	DTS	Complies.
Carparks in Class 2 & 3 Buildings	Specification C1.1 Clause 2.8	This Clause allows for a concession to fire rating to carparks in Class 2 and 3 buildings.	---	Not applicable.
Residential Aged Care Building: Concession	Specification C1.1 Clause 2.9	Allows FRL concessions to sprinklered residential aged care buildings.	---	Not applicable.
Type A Fire Resisting Construction	Specification C1.1 Clause 3.1 – 3.10 & Table 3	This Clause and Table outline the Fire Resistance Levels of various building elements for Type A Construction.	---	The fire resistance levels of the building elements have not been assessed under this Fire Safety & BCA report.
Type B Fire Resisting Construction	Specification C1.1 Clauses 4.1 – 4.3	This Clause and Table outline the FRLs of various buildings elements for Type B construction.	---	Not applicable.
Type C Fire Resisting Construction	Specification C1.1 Clauses 5.1 – 5.2	This Clause and Table outlines the FRLs of various building elements for Type C construction.	---	Not applicable.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
PART C - SPECIFICATION C1.8 - STRUCTURE TESTS FOR LIGHTWEIGHT CONSTRUCTION				
Structural Tests for Lightweight Construction	Specification C1.8	This Specification describes the tests to be applied to & criteria to be satisfied by a wall system of lightweight construction that has an FRL.	---	Not applicable.
PART C - SPECIFICATION C1.10 - FIRE HAZARD PROPERTIES				
Fire Hazard Properties	Specification C1.10	This Specification sets out requirements in relation to the fire hazard properties of materials, linings, & surface finishes in buildings.	DTS	All new floor, wall and ceiling materials and other assemblies are to comply as required. (See Clause C1.10 above)
PART C - SPECIFICATION C1.11 - PERFORMANCE OF EXTERNAL WALLS IN FIRE				
Performance of External Walls in Fire	Specification C1.11	Design considerations for tilt up construction.	---	Not applicable.
PART C - SPECIFICATION C1.13 - CAVITY BARRIERS FOR FIRE-PROTECTED TIMBER				
Cavity Barriers for Fire-Protected Timber	Specification C1.13	Requirements for cavity barriers in fire-protected timber construction.	---	Not applicable.
PART C - SPECIFICATION C1.13a - FIRE-PROTECTED TIMBER				
Fire-protected Timber	Specification C1.13a	Requirements for fire-protected timber.	---	Not applicable.
PART C - SPECIFICATION C2.5 - SMOKE-PROOF WALLS IN HEALTH CARE & AGED CARE				
Smoke Proof-Walls in Health Care & Aged Care Buildings	Specification C2.5	Requirements for smoke-proof walls in Clause 9a and 9c buildings.	---	Not applicable.
PART C - SPECIFICATION C3.4 - FIRE DOORS, SMOKE DOORS, FIRE WINDOWS, & SHUTTERS				
Fire Doors, Smoke Doors, Fire Windows, & Shutters	Specification C3.4	This Specification sets out the requirements for the construction of fire doors, smoke doors, fire windows, and fire shutters.	DTS	Building to Comply.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
PART C - SPECIFICATION C3.15 - PENETRATION OF WALLS, FLOORS, & CEILINGS BY SERVICES				
Penetration of Walls, Floors, & Ceilings by Services	Specification C3.15	This Specification sets out prescribed materials and methods of installation for services that penetrate walls, and floors that are required to have an FRL.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Building to Comply. <i>(See Clauses C3.12 & C3.15 above)</i>
BCA PART D1 - PROVISION FOR ESCAPE				
Deem to Satisfy Provisions	D1.0	The Clause stipulates that the proposed development complies with Section D Performance Requirements of the BCA if the deem to satisfy provisions are met.	---	Noted. No recommendations.
Application of Part	D1.1	This Clause stipulates that Part D of the BCA does not apply to the internal parts of a sole occupancy unit in a Class 2, 3, or 4 building (or part).	DTS	Noted.
Number of Exits Required	D1.2	This Clause outlines the number of exits required from each part of the building.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Non-Compliant. In buildings having an effective height of greater than 25.0 metres, a minimum of two (2) exits are required from each storey of the building. Inspection of the building has revealed the following: a) The Class 2 residential building (parts) are only served by a single exit contrary to Clause D1.2(b)(i) of the BCA; and b) The Gymnasium and the Swimming Pool areas are only served by a single exit contrary to Clause D1.2(b)(i) of the BCA. It is recommended that a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements DP4 and EP2.2 of the BCA.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.
When Fire Isolated Exits are Required	D1.3	This Clause outlines when fire isolated exits are required in buildings.	DTS	Complies. (See also Clause D1.2 above)
Exit Travel Distances	D1.4	Travel distances to exits in various building types.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Non-Compliant. 1) The maximum exit travel distance from the Swimming Pool enclosure to "open space" exceeds 20.0 metres contrary to Clause D1.4(c)(i) of the BCA (i.e. measured as being approximately 35.0 metres). 2) The maximum exit travel distance within the Level 2 Carpark (part) exceeds 40.0 metres to the closest exit where alternative exits are available (i.e. measured as being approximately 46.5 metres). 3) The internal fire-isolated stairways as well as the internal non-fire-isolated stairways serving the building discharge to points outside the (internal) confines of the building, however, these locations are not considered to be "open space" as defined by the BCA for the following reasons: a) Some discharge points are not open to the sky (i.e. discharge is under another part of the building above). b) The paths of travel from the discharge points of the fire-isolated stairways as well as the non fire-isolated stairways require persons to pass by the external walls of the building and they are not be "adequately protected from fire" as required by the BCA definition of "open space"; and c) The paths of travel from the discharge points of the fire-isolated stairways as well as the

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>non fire-isolated stairways requires persons to pass under other parts of the building before reaching the footpath in Rocklands Road (i.e. not open to the sky and not connected directly to the roadway) as required by the BCA definition of "open space".</p> <p>It is recommended that a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements DP4 and EP2.2 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p> <p><u>General Note:</u></p> <p><u>Note: The BCA defines "open space" as a space on the allotment or roof or similar part of a building, adequately protected from fire, open to the sky and connected directly with a public road.</u></p>
Distances between Alternative Exits	D1.5	Distance between alternative exits to be a maximum of 45 m (Class 2, 3 buildings and Class 9a patient care areas) and 60 m (in all other cases)	DTS	Complies.
Dimensions of Exits and Paths of Travel to Exits	D1.6	This Clause details clear dimensions and widths of exits.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non-Compliant.</p> <p>The total aggregate exit widths of the required exits that discharge to the Level 3 and Level 4 "open space" is 20.0 metres.</p> <p>Inspection of the building has revealed that the total aggregate exits widths available on Level 4 to allow persons to reach Rocklands Road and the Pacific Highway (via "Mater Gardens) is only 3.0 metres (i.e. a shortfall of 17.0 linear metres).</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>It is recommended that a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements DP4 and EP2.2 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p> <p><u>General Note:</u> <u>Note: Minor non-compliances were observed with the 1.0 metre minimum clear opening widths of the buildings exits / public corridors contrary to Clause D1.6(b)(i) of the BCA, however, we make no recommendations in relation to these minor exit width / path of travel width non-compliances.</u></p>
Travel via Fire Isolated Exits	D1.7	This Clause details connection into and discharge from fire isolated stairs / passageways.	Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Building to Comply.</p> <p>1) Each fire-isolated stairway must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway –</p> <ul style="list-style-type: none"> i) to a road or open space; or ii) to a point in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3rds of its perimeter and from which an unimpeded path of travel, not further than 20.0 metres is available to a road or open space; or iii) into a covered area that adjoins a road or open space and is open for at least 1/3 of its perimeter and has an unobstructed clear height throughout, including the perimeter openings, of not less than 3.0 m and provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6.0 m.

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				<p>Inspection of the building has revealed the following:</p> <p>a) The covered area located between Unit 1 and Unit 3 that the fire-isolated stairway discharges into is not open for at least 1/3rd of its perimeter, has a clear opening height of less than 3.0 metres and a travel distance to "open space" exceeding 6.0 metres contrary to Clause D1.7(b)(iii) of the BCA.</p> <p>b) The covered area located between Unit 104, Unit 105 and Unit 106 and the adjoining Swimming Pool enclosure that the fire-isolated stairways discharge into has a clear opening height of less than 3.0 metres and a travel distance to "open space" exceeding 6.0 metres contrary to Clause D1.7(b)(iii) of the BCA.</p> <p>c) The covered area located between Unit 123, Unit 124 and Unit 125 and the adjoining Swimming Pool enclosure that the fire-isolated stairways discharge into has a clear opening height of less than 3.0 metres and a travel distance to "open space" exceeding 6.0 metres contrary to Clause D1.7(b)(iii) of the BCA.</p> <p>It is recommended that a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements DP4 and EP2.2 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p> <p>2) In buildings of this type, where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6.0 metres of any part of an external wall of the same building (measured horizontally at right angles to the path</p>

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				<p>of travel) that part of the wall must have -</p> <ul style="list-style-type: none"> i) an FRL of not less than 60/60/60; and ii) any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. <p>Inspection of the building has revealed that the discharge points of the buildings fire-isolated stairways necessitate persons to pass by and within 6.0 metres of unprotected openings in the buildings external walls contrary to Clause D1.7(c) of the BCA.</p> <p>It is recommended that a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements DP4 and EP2.2 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p>
External Stairways or Ramps in Lieu of Fire Isolated Exits	D1.8	Use of an external stair or ramp instead of a fire isolated stair.	---	Not applicable.
Travel by Non Fire Isolated Stairways or Ramps	D1.9	This Clause outlines how you can utilise an open stair for egress.	Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non-Compliant.</p> <p>In buildings of this type, a non fire-isolated stairway serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided.</p> <p>Inspection of the building has revealed that the three (3) x internal non fire-isolated stairways that discharge at the floor levels of <u>Units 142 & 143 + Units 149 & 150 + Units 156 & 157</u> do not provide a</p>

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				<p>continuous means of travel by their own flights and landings from every storey served to the level at which egress to a road or open space is provided contrary to Clause D1.9(a) of the BCA (i.e. the stair flights "switch-back" on each level).</p> <p>It is recommended that a Performance Solution Report is to be prepared by Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirements DP4 and EP2.2 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works</p>
Discharge from Exits	D1.10	Clear width and disposition of exit discharges.	DTS	<p>Building to Comply.</p> <p>An exit must not be blocked at the point of discharge and where necessary, suitable barriers (i.e. steel bollards) must be provided to prevent vehicles from blocking the exit <u>or</u> access to the exit.</p> <p>Inspection of the Level 1, Level 2 and Level 3 Carpark has revealed that access to the fire-isolated stairways and passageways may be blocked by parked vehicles as protective bollards have not been provided as required.</p> <p>It is recommended that two (2) x steel protective bollards are to be located in front of all fire-isolated stairway / fire-isolated passageway entry doorways where the exits are capable of being blocked by parked vehicles. These steel bollards are to be located not less than 1.0 metre from the door providing access into the fire-isolated stairway and are to be positioned no less than 1.0 metre apart.</p>
Horizontal Exits	D1.11	Use and construction of horizontal exits.	DTS	Complies.

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Non-Required Stairways, Ramps or Escalators	D1.12	Non required stairways, ramps and escalators use and permissible storeys connected.	---	Not applicable.
Number of Persons Accommodated	D1.13	Calculation of the number of occupants in each part of a building based on floor area.	DTS	<ul style="list-style-type: none"> ➤ Level 1 Carpark: < 200 persons. ➤ Level 2 Carpark: < 200 persons ➤ Level 3 Carpark: < 200 persons ➤ Swimming Pool: < 100 persons ➤ Gymnasium: < 100 persons <p><u>General Notes:</u></p> <p><u>Note i: The buildings required exits are capable of accommodating the buildings maximum population as required.</u></p> <p><u>Note ii: Not applicable to Class 2 building (parts).</u></p>
Measurement of Distances	D1.14	Details how distances are measured in relation to egress design.	---	Noted. No recommendations.
Method of Measurement	D1.15	Details how distances are measured in relation to egress design.	---	Noted. No recommendations.
Plant Rooms and Lift Motor Rooms: Concession	D1.16	Egress dispensations in relation to Plant Rooms and Lift Motor Rooms.	---	Not applicable.
Access to Lift Pits	D1.17	Access requirements to lift pits.	---	<i>Not assessed under this Fire Safety & BCA Assessment Report. Considered to be an Occupational Health & Safety issue only.</i>
BCA PART D2 - CONSTRUCTION OF EXITS				
Deem to Satisfy	D2.0	This Clause stipulates that the proposed development complies with Section D Performance Requirements of the BCA if the deem to satisfy provisions are met.	---	Noted. No recommendations.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Application of Part	D2.1	Except for Clauses D2.13, D2.14(a), D2.16, D2.17(d), D2.17(e), D2.18 and D2.24, the Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of a sole-occupancy unit in a Class2building or Class4 part of a building.	---	Noted.
Fire Isolated Stairways & Ramps	D2.2	Structural design of fire isolated stair shafts.	---	<i>Not assessed under this Fire Safety & BCA Assessment Report.</i>
Non Fire Isolated Stairways & Ramps	D2.3	This Clause stipulates how you must construct required open stairs where the rise in storeys of the building exceeds 2.	DTS	Complies.
Separation of Rising & Descending Stair Flights	D2.4	Fire isolated stairways must not connect storeys both above and below street level.	DTS	Complies.
Open Access Ramps & Balconies	D2.5	Construction of open access ramps and balconies in lieu of pressurised stairs.	---	Not applicable.
Smoke Lobbies	D2.6	Construction of smoke lobbies required by D1.7.	---	Not applicable.
Installations In Exits & Paths of Travel	D2.7	Outlines where service installations can be accessed and suitable separation to be incorporated.	DTS	<p>Building to Comply.</p> <p>Services or equipment (comprising electricity meters, distribution boards or ducts, central telecommunication distribution boards/ equipment or electrical motors or other motors serving equipment) that are installed in a path of travel to an exit, are to be enclosed in non-combustible construction with any access panel/door suitably smoke sealed against smoke spreading from the enclosure.</p> <p>Inspection of the building has revealed that the electrical services rooms / enclosures serving the building are not enclosed in non-combustible and smoke sealed construction in accordance with Clause D2.7(d) of the BCA.</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				It is recommended that all electrical services rooms / enclosures that open onto the buildings public corridors are to be enclosed in non-combustible and smoke sealed construction in accordance with Clause D2.7(d) of the BCA.
Enclosure of Space Under Stairs & Ramps	D2.8	This Clause highlights how you can store under an open stair. Storage under fire isolated stairs is not permissible.	DTS	Complies.
Width of Stairways	D2.9	This Clause stipulates how stair widths and heights are measured.	---	Noted.
Pedestrian Ramps	D2.10	Stipulates how a pedestrian ramp can serve as a required exit.	---	Not applicable.
Fire-Isolated Passageways	D2.11	Fire isolated passageways to have an FRL of 60/60/60 or that of the fire isolated stair from which is extends.	---	<i>The fire resistance levels of the building elements have not been assessed under this Fire Safety & BCA report.</i>
Roof as Open Space	D2.12	If the roof is considered "open space" then the slab must have an FRL of 120/120/120, and rooflights and the like must be located not less than 3 m from path of travel.	DTS	<p>Building to Comply.</p> <p>If an exit discharges to a roof of a building, the roof must -</p> <p>a) have an FRL of not less than 120/120/120; and</p> <p>b) not have any rooflights or other openings within three (3) metres of the path of travel of persons using the exit to reach a road or open space.</p> <p>Inspection of the building has revealed that the fire-isolated stairways discharge to the external roof of both Level 3 and Level 4 and it is recommended that any / all services openings through these roofs are to be protected (as necessary) in accordance with Clause D2.12(b) of the BCA.</p>

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Goings & Risers	D2.13	This Clause stipulates construction of stair treads and risers.	DTS	Minor non-compliances were observed with the goings and risers of the buildings required stairways contrary to Clause D2.13 of the BCA, however, we make no recommendations in relation to these minor stairway dimension non-compliances.
Landings	D2.14	This Clause stipulates construction of landings.	DTS	<p>Non-Compliant.</p> <p>The building's stairways are not provided with non-skid finishes at the stair nosings and landings as required by this clause of the BCA.</p> <p>It is recommended that all of the buildings stairways are to be fitted with non-skid finishes to the stairway nosings and landings in accordance Clauses D2.13 and D2.14 of the BCA.</p>
Thresholds	D2.15	This Clause stipulates construction of thresholds to doorways.	DTS	Minor non-compliances were observed with the threshold of some doorways, however, we make no recommendations in relation to these minor threshold non-compliances.
Barriers to Prevent Falls	D2.16	Details of height and construction of balustrades to voids, stairs, balconies, etc.	DTS	<p>Non-Compliant.</p> <p>The BCA requires balustrades/barriers to be provided along the side of any roof to which public access is provided, any stairway, any floor, corridor, hallway balcony, verandah, mezzanine, access bridge (or the like) if:</p> <ul style="list-style-type: none"> i) it is not bounded by a wall; and ii) its level is more than 4.0 metres above a surface where it is possible to fall through an operable window, or iii) 1.0 metre in any other case. <p>Inspection has revealed that the existing balustrades and handrails serving the building fail to comply with Clauses D2.16 and D2.17 of the BCA.</p>

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				<p>It is recommended that all stairways throughout the building are to be provided with compliant balustrades and handrails (as necessary) to ensure full compliance with Clauses D2.16 and D2.17 of the BCA and the structural requirements of AS/NZS 1170.1-2002.</p> <p><u>General Note:</u></p> <p><u>Note: The existing balustrades / barriers serving the external balconies and beneath internal windows of the residential sole occupancy units have not been assessed under this Fire Safety & BCA Assessment Report.</u></p>
Handrails	D2.17	Details where handrails need to be incorporated along stairways.	DTS	Non-Compliant. (See Clause D2.16 above)
Fixed Platforms, Walkways, Stairways, & Ladders	D2.18	Details compliance with AS 1657 in respect to walkways, stairways and ladders serving machinery rooms, boiler houses, lift motor rooms, plant rooms, and the like.	---	Not applicable.
Doorways & Doors	D2.19	Details how doors serving as required exits are to operate.	DTS	<p>Building to Comply.</p> <p>It is recommended that:</p> <p>1) The glazed power operated sliding door that providing access / egress to / from the Level 4 Main Entry Lobby (i.e. the lobby located between Unit 46 and the Managers "Office") is to be certified by an FPAS Accredited Fire Systems Certifier as being capable of complying with Clause D2.19(b)(iv)(A) of the BCA; and</p> <p>2) The glazed power operated sliding door that providing access / egress to / from the Level 4 Main Entry Lobby (i.e. the lobby located between Unit 46 and the Managers "Office") is to be interconnected to the buildings automatic fire detection and alarm system and the automatic sprinkler system in accordance with Clause</p>

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Swinging Doors	D2.20	Swing Doors serving as required exits must swing in the direction of travel, unless it serves a building or part less than 200 m ² .	DTS or a Performance Solution Report by Registered Design Practitioner – (Fire Safety Engineering)	<p>D2.19(b)(iv)(B) of the BCA. This door is to fail-safe in the open position in the event of power failure or on general fire alarm activation.</p> <p>Non-Compliant.</p> <p>Inspection of the building has revealed that the main entry doors providing access / egress to / from the floor levels of <u>Units 142 & 143 + Units 149 & 150 + Units 156 & 157</u> do not swing in the direction of egress from the building as required by Clause D2.20(b) of the BCA.</p> <p>It is recommended that:</p> <ol style="list-style-type: none"> 1) The main entry doors providing access / egress to / from the floor levels of <u>Units 142 & 143 + Units 149 & 150 + Units 156 & 157</u> are to be modified to ensure that they swing in the direction of egress from the building; or 2) A Performance Solution Report is to be prepared by Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirement DP4 of the BCA. <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p>
Operation of Latch	D2.21	This Clause details hardware / operating requirements for doors in a required exit, forming part of a required exit or in the path of travel to a required exit.	DTS	<p>Non-Compliant.</p> <p>The BCA requires that all exit doors and doors in the path of travel to an exit are to be fitted with single handed action (downward) door hardware positioned at a height of between 900 mm – 1100 mm above finished floor level.</p> <p>Inspection of the buildings exit doors (including the doors in the path of travel to the buildings exits) has revealed that the doors are fitted with non-compliant hardware (i.e. knob type hardware) that may hinder the safe evacuation</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>of persons from the building in the event of fire or other emergency.</p> <p>It is recommended that all required exit doors and the doors in the path of travel to the buildings exits, are to be fitted with complying lever type door hardware in accordance with Clause D2.21 of the BCA.</p>
Re-entry from Fire Isolated Exits	D2.22	Stipulates whether you can lock a fire stair entry door from the inside.	DTS	<p>Complies.</p> <p>The doors in the buildings fire-isolated stairways are not locked from the inside as required by this clause of the BCA.</p>
Signs on Doors	D2.23	Appropriate signage is required to exit doors opening to fire isolated passageways, and stairways.	DTS	<p>Non-Compliant.</p> <p>The building is not provided with signage to the fire doors providing access to and egress from the fire-isolated stairways / fire-isolated passageways as required by this clause of the BCA.</p> <p>It is recommended that all fire doors providing access into and egress from the buildings fire-isolated stairway / fire-isolated passageways are to be provided with the signage in accordance with Clause D2.23 of the BCA and Clause 108 of the <i>Environmental Planning and Assessment (Development Certification & Fire Safety) Regulation 2021</i>.</p>
Protection of Openable Windows	D2.24	This Clause requires protection of window opening.	DTS	<p><i>Not assessed under this Fire Safety & BCA Assessment Report as it is considered to be a child protection issue not a fire safety issue.</i></p>
Timber stairways: Concession	D2.25	This Clause provides concessions for fire-isolated stairways and passageways constructed from fire-protected timbers.	---	Not applicable.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART E1 - FIRE FIGHTING EQUIPMENT				
Deemed to Satisfy Provisions	E1.0	This Clause stipulates that the proposed development complies with Section E Performance Requirements of the BCA if the Deemed to Satisfy Provisions are met.	---	Noted. No recommendations.
---	E1.1	This clause has been deliberately left blank in the BCA.	---	---
---	E1.2	This clause has been deliberately left blank in the BCA.	---	---
Hydrants	E1.3	This Clause stipulates when fire hydrants are required.	DTS and a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non-Compliant.</p> <p>Buildings of this type are required to be served by a fire hydrant system in accordance with Clause E1.3 of the BCA and AS 2419.1-2005.</p> <p>Inspection has revealed that a fire hydrant system has been provided to serve the building, however, the following non-compliances with AS 2419.1-2005 have been noted:</p> <p>a) The external hydrant booster facility fails to comply with the configuration, positioning and fire separation requirements of AS 2419.1-2005.</p> <p>b) The copper fire hydrant piping (part) located within the building has been identified as Type D copper and is not capable of withstanding the required boost and test pressures in accordance with AS 2419.1-2005.</p> <p>c) The pipe supports located throughout the building are not capable of achieving an FRL of 60/--/-- as required by AS 2419.1-2005.</p> <p>d) The fire hydrant landing valves are located outside the fire-isolated stairways contrary to AS 2419.1-2005.</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>e) The fire hydrant landing valves located within buildings non fire-isolated stairways are not located on all levels and are positioned greater than 4.0 metres from a required exit contrary to AS 2419.1-2005.</p> <p>f) The fire hydrant pump room is not connected directly with a road or open space as required by AS 2419.1-2005.</p> <p>g) Not all parts of the building are provided with compliant fire hydrant coverage as required by AS 2419.1-2005.</p> <p>h) The fire hydrant landing valves are not fitted with a (forged type) Storz valve adaptors suitable for use by FRNSW as required by AS 2419.1-2005.</p> <p>It is recommended that the buildings existing fire hydrant system is to be upgraded to ensure full compliance with Clause E1.3 of the BCA and AS 2419.1-2005. Where a fire pump is required to be installed to serve the fire hydrant system, a fire pump room is to be provided within the building in accordance with Clause 6.4.1 and Clause 6.4.2 of AS 2419.1-2005.</p> <p>The fire hydrant system is to be designed and certified by a Registered Design Practitioner – Fire Services (Hydrant and Fire Hose Reels) at both the design stage and on completion of all fire hydrant system upgrading works.</p> <p><u>General Note:</u></p> <p><u>Note: Where the upgraded fire hydrant system is not capable of achieving compliance with the deemed-to-satisfy provisions of AS 2419.1-2005, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating compliance with Performance Requirement E1.3 of the BCA.</u></p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.
Fire Hose Reels	E1.4	This Clause stipulates when fire hose reels are required.	DTS	<p>Non-Compliant.</p> <p>Buildings of this type are required to be served by a fire hose reel system (excluding the Class 2 building part) in accordance with Clause E1.4 of the BCA and AS 2441-2005.</p> <p>Inspection has revealed that the existing fire hose reel system serving the building fails to comply with the requirements of Clause E1.4 of the BCA and AS 2441-2005 as follows:</p> <p>a) The fire hose reels are not all located within 4.0 metres of the buildings required exits.</p> <p>b) The fire hose reels located within the common areas of the building are required to pass through the buildings fire compartment fire doors contrary to E1.4(f) of the BCA.</p> <p>It is recommended that the existing fire hose reel system serving the building is to be upgraded to ensure full compliance with Clause E1.4 of the BCA and AS 2441-2005.</p> <p>Where a fire pump is required to be installed to serve the fire hose reel system, a fire pump room is to be provided within the building in accordance with Clause 6.4.1 and Clause 6.4.2 of AS 2419.1-2005.</p> <p>The fire hose reel system is to be designed and certified by a Registered Design Practitioner – Fire Services (Hydrant and Fire Hose Reels) at both the design stage and on completion of all fire hose reel system upgrading works.</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p><u>General Note:</u></p> <p><u>Note: The exemption under Clause E1.4(a) of the BCA permitting the deletion of the fire hose reel serving currently serving the Class 2 residential building (part) can only be granted by North Sydney Council as at the time of construction this fire hose reel was required to be installed.</u></p>
Sprinklers	E1.5 & Table E1.5	This Clause stipulates when sprinklers are required.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non-Compliant.</p> <p>The BCA requires that buildings having an effective height of greater than 25.0 metres are required to be provided with a sprinkler system throughout in accordance with Clause E1.5 and Specification E1.5 of the BCA and AS 2118.1-2017 or AS 2118.6-2012.</p> <p>As this building has an effective height of greater than 25.0 metres, it is required to be provided with an automatic sprinkler system in accordance with Clause E1.5 and Specification E1.5 of the BCA.</p> <p>Inspection of the building has revealed that it <u>is not</u> provided with a sprinkler system as required.</p> <p>It is recommended that an automatic sprinkler system is to be installed throughout all parts of the building in accordance Clause E1.5 and Specification E1.5 of the BCA and AS 2118.1-2017 or AS 2118.6-2012.</p> <p>The sprinkler system is to be designed and certified by a Registered Design Practitioner – Fire Services (Sprinklers) at both the design stage and on completion of all sprinkler system upgrading works.</p> <p><u>General Notes:</u></p> <p><u>Note i: Where the sprinkler system is not capable of achieving compliance with the deemed-to-satisfy provisions Specification E1.5 of the BCA or AS 2118.1-2017 or AS 2118.6-2012, a Performance Solution Report is to be prepared by</u></p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p><u>a Registered Design Practitioner – (Fire Safety Engineering) demonstrating compliance with Performance Requirement EP1.4 of the BCA.</u></p> <p><u>Note ii: Direct access is required to be provided to the sprinkler isolation valves (for use by FRNSW) in accordance with Clause 6 of Specification E1.5 of the BCA.</u></p>
Portable Fire Extinguishers	E1.6 & Table E1.6	This Clause stipulates where extinguishers need to be installed.	DTS	<p>Building to Comply.</p> <p>The BCA requires that buildings of this type are to be served by portable fire extinguishers throughout in accordance with Clause E1.6, Table E1.6 of the BCA and AS 2441-2001.</p> <p>It is recommended that portable fire extinguishers are to be provided throughout the building in accordance with Clause E1.6 and Table E1.6 of the BCA and AS 2444-2001.</p>
---	E1.7	This clause deliberately left blank in the BCA.	---	---
Fire Control Centres	E1.8	This Clause stipulates when a fire control centre is required.	DTS	<p>Non Compliant.</p> <p>Buildings having an effective height of greater than 25.0 metres are required to be provided with a fire control room in accordance with Specification E1.8 of the BCA.</p> <p>Inspection of the building has revealed that the building is not provided with a fire control room.</p> <p>It is recommended that:</p> <ol style="list-style-type: none"> 1) The building is to be provided with a fire control room in accordance with Specification E1.8 of the BCA; or 2) A Performance Solution Report is to be prepared by Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirement EP1.6 of the BCA.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.
Fire Precautions during Construction	E1.9	Fire services must be provided and be operational during the construction phase in accordance with Clause E1.9.	---	Not applicable.
Provision for Special Hazards	E1.10	Outlines where special provisions are required certain hazards.	---	Not applicable. No known special fire hazards.
BCA PART E1 - SPECIFICATIONS				
Fire Sprinkler Systems	Specification E1.5 & Specification E1.5a	These Specifications sets out requirements for the design and installation of fire sprinkler systems.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Building to Comply. (See Clause E1.5 above)
Fire Control Centres	Specification E1.8	This Specification describes the construction & content of required Fire Control Centres or Rooms.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	Building to Comply. (See Clause E1.8 above)
BCA PART E2 - SMOKE HAZARD MANAGEMENT				
Deemed to Satisfy Provisions	E2.0	This Clause stipulates that the proposed development complies with Section E Performance Requirements of the BCA if the Deemed to Satisfy Provisions are met.	---	Noted. No recommendations.
Application of Part	E2.1	Stipulates where Smoke Hazard Management provisions do not apply.	---	Noted. No recommendations.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
General Requirements	E2.2, Table E2.2a & E2.2b	Details how compliance is achieved with both Smoke Hazard Management Provisions including treatment of systems that may not be part of the overall Smoke Hazard Management System.	DTS	<p>Non-Compliant.</p> <p>1) General Air Handling Systems.</p> <p>Inspection of the building has revealed that the general mechanical air handling systems throughout the building are (in some cases) not provided with fire dampers in accordance with AS 1668.1-2015.</p> <p>It is recommended that:</p> <p>1) The general mechanical air handling systems serving the building are to be inspected by a Registered Design Practitioner – (Mechanical Engineering) and a report prepared detailing all works considered necessary to ensure full compliance with AS 1668.2-2012 and AS 1668.1-2015. All works listed in the report of the Registered Design Practitioner – (Mechanical Engineering) are to be carried out to the building general air handling systems and a certificate of compliance issued by the Registered Mechanical Engineer on completion.</p> <p>2) Automatic Fire Detection & Alarm System</p> <p>The BCA requires that buildings of this type are to be provided with an automatic fire detection and alarm system in accordance with Clauses 3, 4 and 7 of Specification E2.2a of the BCA.</p> <p>Inspection of the building has revealed that the existing automatic fire detection and alarm system fails to comply with Clause E2.2 and Specification E2.2a of the BCA.</p> <p>It is recommended that the buildings existing automatic fire detection and alarm system is to be decommissioned and that a new automatic fire detection and alarm system is to be installed to serve the whole building in accordance with Clauses 3, 4 and 7 of Specification E2.2a of the BCA, AS 1670.1-2018 and AS 3786-2014.</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>3) Stair Pressurisation Systems</p> <p>The BCA requires that buildings having an effective height of greater than 25.0 metres are to be provided with automatic stair pressurisation in accordance with Table E2.2 of the BCA and AS 1668.1-2015.</p> <p>Inspection of the building has revealed that the internal fire-isolated stairways / fire-isolated passageways serving the residential towers are not provided with air pressurisation systems as required by Clause E2.2 of the BCA and AS 1668.1-2015.</p> <p>It is recommended that:</p> <p>A) The buildings fire isolated stairways (<u>excluding those fire-isolated stairways serving the Level 1, Level 2 & Level 3 Carparking levels only</u>) are to be upgraded to ensure that they are provided with automatic air pressurisation in accordance with Clause E2.2 of the BCA and AS 1668.1-2015; or</p> <p>B) A Performance Solution Report is to be prepared by Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirement EP2.2 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p> <p>4) Carpark's Air-Handling Systems</p> <p>In buildings of this type, enclosed carparks are required to be served by mechanical air-handling systems in accordance with AS 1668.2-2012. In addition, these mechanical air-handling systems are required to be provided with fan controls and system operational requirements in accordance with Table E2.2a of the BCA and Clause 5.5 of AS 1668.1-2015.</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>Inspection of the building has revealed that the Level 1, Level 2 and Level 3 Carpark (parts) are provided with mechanical air handling systems of unknown operational capacity. In addition, these systems are not provided with fan controls and system operational requirements in accordance with Clause 5.5 of AS 1668.1-2015.</p> <p>It is recommended that:</p> <p>a) The mechanical air handling systems serving the Level 1, Level 2 and Level 3 Carpark (parts) are to be inspected by a Registered Design Practitioner – (Mechanical Engineering) and a report prepared detailing all works considered necessary to ensure full compliance with AS 1668.2-2012 and AS 1668.1-2015. All works listed in the report of the Registered Design Practitioner – (Mechanical Engineering) are to be carried out to the Carpark’s mechanical air handling systems and a certificate of compliance issued by the Registered Mechanical Engineer on completion; and</p> <p>b) Fan controls are to be installed on the buildings required fire indicator panel (or other a separate FFCP located adjoining the FIP) in accordance with Clause 5.5 of AS 1668.1-2015.</p> <p><u>General Notes:</u></p> <p><u>Note: The buildings required AS 2118.1-2017 or AS 2118.6-2012 automatic sprinkler system is to be connected to an ASE (Automatic Signalling Equipment) in accordance with Clause 3.3 of AS 2118.1-2017. In addition, the sprinkler system is to be interconnected to the required Building Occupant Warning System (BOWS) that is to sound throughout the whole building in accordance with Clause 8 of Specification E1.5 of the BCA.</u></p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART E2 - SPECIFICATIONS				
Smoke Detection & Alarm Systems	Specification E2.2a	This Specification outlines the design of various smoke detection and alarm systems.	DTS	Building to Comply. (See Clause E2.2 above).
Smoke Exhaust Systems	Specification E2.2b	This Specification highlights the requirements for mechanical smoke exhaust and zone smoke control systems.	---	Not applicable.
Smoke & Heat Vents	Specification E2.2c	Details use and construction of smoke and heat vents.	---	Not applicable.
BCA PART E3 - LIFT INSTALLATIONS				
Lift Installations	E3.0 – E3.10	These Clauses detail construction and design of lift installations.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non Compliant.</p> <p>Buildings having an effective height of greater than 25.0 metres are required to be served by an emergency / stretcher lift in accordance with Clauses E3.2 and E3.4 of the BCA.</p> <p>The building <u>is not</u> served by emergency / stretcher lifts as required by Clauses E3.2 and E3.4 of the BCA.</p> <p>It is recommended that:</p> <p>1) The building is to be provided with emergency / stretcher lifts as required by Clauses E3.2 and E3.4 of the BCA; or</p> <p>2) A Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted (if any) to ensure compliance with Performance Requirement EP3.1 and EP3.2 of the BCA.</p> <p><u>General Note:</u></p> <p><u>Note: Warning signage is provided to all lifts as required by Clause E3.3 of the BCA.</u></p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART E4 - VISIBILITY IN AN EMERGENCY, EXIT SIGNS & WARNING SYSTEMS				
Deemed to Satisfy Provisions	E4.0	Specifies DTS means to satisfy performance requirements E4.1 to E4.9.	---	Noted. No recommendations.
Emergency Lighting	E4.2 – E4.4	Design and installation requirements for emergency lighting.	DTS	<p>Non-Compliant.</p> <p>Buildings of this type are required to be provided with a system of emergency lighting in accordance with Clauses E4.2 and E4.4 of the BCA and AS/NZS 2293.1-2018.</p> <p>Inspection of the building has revealed that the emergency lighting installed throughout the building fails to comply with the requirements of these clauses of BCA and AS/NZS 2293.1-2018.</p> <p>It is recommended that the buildings existing emergency lighting systems are to be upgraded to ensure full compliance with Clauses E4.2 and E4.4 of the BCA and AS/NZS 2293.1-2018.</p>
Exit Lighting	E4.5 – E4.8	Design and installation requirements for exit lighting.	DTS	<p>Non-Compliant.</p> <p>Buildings of this type are required to be provided with exit and directional exit signage in accordance with Clauses E4.5, E4.6, E4.7 and E4.8 of the BCA and AS/NZS 2293.1-2018.</p> <p>Inspection of the building has revealed that the exit signage installed throughout the building fails to comply with the requirements of these clauses of BCA and AS/NZS 2293.1-2018.</p> <p>It is recommended that the buildings existing exit sign system is to be upgraded to ensure compliance with Clauses E4.5, E4.6, E4.7 and E4.8 of the BCA and AS/NZS 2293.1-2018.</p>

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Early Warning & Intercommunication System (EWIS)	E4.9	This Clause details where an EWIS system is required.	DTS or a Performance Solution Report by a Registered Design Practitioner – (Fire Safety Engineering)	<p>Non Compliant.</p> <p>Buildings having an effective height of greater than 25.0 metres are required to be provided with an Early Warning & Intercommunication System (EWIS) in accordance with AS 1670.4-2018.</p> <p>Inspection has revealed that the building is not provided with an Early Warning & Intercommunication System (EWIS) in accordance with Clause E4.9 of the BCA and AS 1670.4-2018.</p> <p>It is recommended that:</p> <p>1) The building is to be provided with an Early Warning & Intercommunication System (EWIS) in accordance with Clause E4.9 of the BCA and AS 1670.4-2018; or</p> <p>2) A Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering) demonstrating the methods to be adopted to ensure compliance with Performance Requirement EP4.3 of the BCA.</p> <p>All recommendations (if any) of the Fire Safety Engineer are to be incorporated into the overall fire safety upgrading works.</p>

ADDITIONAL FIRE SAFETY CONSIDERATIONS

It is **recommended** that:

1) The buildings electrical system(s) are to be assessed and certified by a licensed electrician as complying with AS/NZS 3017 - 2007 and AS/NZS 3000 - 2018.

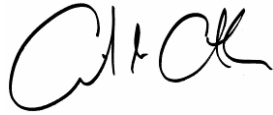
The electrical certification shall verify (but be not limited to) that:

- (a) A visual examination of the buildings electrical systems has been carried out in accordance with AS/NZS 3000-2018 and AS/NZS 3017-2007; and
- (b) An insulation resistance test has been carried out in accordance with AS/NZS 3000-2018; and
- (c) Circuit protection has been examined and found to be satisfactory in accordance with AS/NZS 3000-2018.

2) The buildings gas systems are to be assessed and certified by a licensed gas fitter in accordance with AS/NZS 5601.1-2013 and all applicable rules of the gas supply authority.

BCA Clause Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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Existing Fire Safety Measures: 41 Rocklands Road, Wollstonecraft

ESSENTIAL FIRE SAFETY MEASURE	STANDARD OF PERFORMANCE
Access Panels, Doors, Hoppers to Fire-Resisting Shafts	Clause 22.12 Ordinance 70
Emergency Lighting	Clause 55.12 Ordinance 70
Exit Signs	Clause 24.29 Ordinance 70
Fire Dampers	Clause 63.4 Ordinance 70
Fire Doors	Clauses 21.1, 22.6, 22.7, 22.9 & 55.51(2) Ordinance 70 & AS 1905.1
Fire Hose Reel Systems	Clause 27.2 Ordinance 70
Fire Hydrant System	Clauses 27.1 & 27.3 Ordinance 70
Fire Seals Protecting Openings in Fire-Resisting Building Elements	Clause 22.11 Ordinance 70
Lift Landing Doors	Clause 22.8 Ordinance 70 & AS 1735
Mechanical Air Handling Systems	Clauses 22.13 & 55.7 Ordinance 70
Portable Fire Extinguishers	Clause 27.41 Ordinance 70
Fire Safety Notices (Offences)	Environmental Planning & Assessment Act 1979
Warning & Operational Signs (Lifts)	Clause 55.11 Ordinance 70

Proposed Fire Safety Measures: 41 Rocklands Road, Wollstonecraft

ESSENTIAL FIRE SAFETY MEASURE	STANDARD OF PERFORMANCE
Automatic Fail-Safe Devices	Clauses D2.19(b)(iv) BCA 2019 (Amend.1)
Automatic Fire Detection & Alarm Systems	Clause E2.2 & Clauses 3, 4 & 7 of Specification E2.2a BCA 2019 (Amend.1), AS 3786-2014 (Amend. 1 & 2) & AS 1670.1-2018 (as applicable)
Automatic Signalling Equipment	AS 2118.1-2017 (Amend.1), AS 1670.3-2018 & AS 4428.6-2018
Automatic Sprinkler Systems	Clause E1.5 & Specification E1.5 BCA 2019 (Amend.1) & AS 2118.1-2017 (Amend.1) <u>or</u> AS 2118.6-2012
Emergency Lifts	Clause E3.4 BCA 2019 (Amend.1) or a Performance Solution Report by a Registered Design Practitioner (Fire Safety Engineering)
Emergency Lighting	Clauses E4.2 & E4.4 BCA 2019 (Amend.1) & AS/NZS 2293.1-2018
Emergency Warning and Intercommunication Systems (EWIS)	Clause E4.9 BCA 2019 (Amend.1) & AS 1670.4-2018 or a Performance Solution Report by a Registered Design Practitioner (Fire Safety Engineering)
Exit Signs	Clause E4.5, E4.6, E4.7 & E4.8 BCA 2019 (Amend.1) & AS/NZS 2293.1-2018
Fire Control Centres & Rooms	Clause E1.8 & Specification E1.8 BCA 2019 (Amend.1) or a Performance Solution Report by a Registered Design Practitioner (Fire Safety Engineering)
Fire Dampers	Clause C3.15(b) BCA 2019 (Amend.1) & AS 1668.1-2015 (Amend.1)
Fire Doors	Clause C2.12, C2.13, C3.5, C3.8 & C3.11 & Specification C3.4 BCA 2019 (Amend.1) & AS 1905.1-2015 (Amend.1)
Fire Hose Reel Systems	Clause E1.4 BCA 2019 (Amend.1) & AS 2441-2005 (Amend.1),
Fire Hydrant System	Clause E1.3 BCA 2019 (Amend.1) & AS 2419.1-2005 (Amend.1)
Fire Seals Protecting Openings in Fire-Resisting Building Elements	Clauses C3.12, C3.15 & Specification C3.15 BCA 2019 (Amend.1) or a Performance Solution Report by a Registered Design Practitioner (Fire Safety Engineering)
Lift Landing Doors	Clause C3.10 BCA 2019 (Amend.1) & AS 1735.11-1986
Mechanical Air Handling Systems	Clause E2.2 & NSW Table E2.2a BCA 2019 (Amend.1), AS 1668.2-2012 & AS 1668.1-2015 (Amend.1)
Mechanical Ventilation Fire Trip (Carpark Supply Fan Only)	Table E2.2a BCA 2019 (Amend.1) & Clause 5.5 of AS 1668.1-2015 (Amend.1)
Smoke Clearance Fans (Carpark Only)	Table E2.2a BCA 2019 (Amend.1) & Clause 5.5 of AS 1668.1-2015
Portable Fire Extinguishers	Clause E1.6 BCA 2019 (Amend.1) & AS 2444-2001
Smoke Doors	Clause D2.7(d) BCA 2019 (Amend.1)
Stair Pressurisation Systems	Clause E2.2 & NSW Table E2.2a BCA 2019 (Amend.1), AS 1668.2-2012 & AS 1668.1-2015 (Amend.1) or a Performance Solution Report by a Registered Design Practitioner (Fire Safety Engineering)
Wall-Wetting Sprinkler / Drencher System	Clause D1.7(c) BCA 2019 (Amend.1) & AS 2118.1-2017 (Amend.1) or a Performance Solution Report by a Registered Design Practitioner (Fire Safety Engineering)
Warning & Operational Signs	Clauses D2.23 & E3.3 BCA 2019 (Amend.1)
Fire Safety Notices (Offences)	Clause 108 <i>Environmental Planning & Assessment (Development Certification & Fire Safety) Regulation 2021</i>
Performance Solution Report(s)	TBA

Timetable for the Proposed Fire Safety Upgrading Works:

The proposed timetable for undertaking the recommended fire safety upgrading works in the abovementioned building has been spread over a three (3) year period and is the time frame that is requested when the fire order is issued by North Sydney Council.

YEAR 1 - UPGRADING WORKS

Construct a new fire control room in accordance with Clause E1.8 and Specification E1.8 of the BCA. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

1) Installation of an automatic fire detection and alarm system throughout the whole building in accordance with Clauses 3, 4 & 7 of Specification E2.2a of the BCA.

Note i: The fire indicator panel (FIP) is to include fan controls for the carpark air handling systems as required by Clause 5.5 of AS 1668.1-2015.

Note ii: The fire indicator panel (FIP) is to include for the incorporation of an ASE for connection to a FRNSW approved third party fire alarm system monitoring services provider for interconnection to the sprinkler system alarm valves.

Note iii: Smoke detector probes are to be installed in the carpark supply air intakes in accordance with Clause 5.5 of AS 1668.1-2015.

2) Installation of a fail-safe "fire-trip" to the main entry automatic sliding door that provides access / egress to / from the footpath in Rocklands Road. The "fire-trip" is to be activated by the automatic fire detection & alarm system as well as the automatic sprinkler system.

3) Installation of a EWIS throughout the whole building in accordance with Clause E4.9 of the BCA & AS 1670.4-2018. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

1) Installation of a new emergency lighting system throughout the building in accordance with Clauses E4.2 & E4.4 of the BCA and AS/NZS 2293.1-2018.

2) Installation of a new illuminated exit and directional exit signs throughout the building in accordance with Clauses E4.5, E4.6 and E4.8 of the BCA and AS/NZS 2293.1-2018.

Install portable fire extinguishers throughout the building in accordance with Clause E1.6 of the BCA and AS 2444-2001.

A Performance Solution report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineer). The final scope of work has yet to be determined).

Note: Any recommendations made by the Registered Design Practitioner – (Fire Safety Engineering) are to be carried out to the building as part of the Year 2 & Year 3 upgrading works.

Obtain a Sydney Water flow and pressure statement for the nearest street main.

Registered Design Practitioner – (Fire Hydrant & Fire Hose Reel) to prepare design documentation detailing all works considered necessary to ensure a compliant fire hydrant system and fire hose reel system in accordance with Clauses E1.3 & E1.4 of the BCA, AS 2419.1-2005 & AS 2441-2005.

Registered Design Practitioner – (Sprinklers) to prepare design documentation detailing all works considered necessary to ensure a compliant automatic sprinkler system to Clause E1.5 & Specification E1.5 of the BCA.

Inspection and report on the buildings electrical systems is to be undertaken by a licensed electrician in accordance with AS/NZS 3017-2018 and AS/NZS 3000-2018.

Inspection and report on the buildings gas systems is to be undertaken by a licensed gas fitter in accordance with AS/NZS 5601-2013 and all applicable rules of the gas supply authority.

1) Prepare 1:100 scaled architectural floor plans of the existing building (by a registered Architect or other a suitably qualified and experienced draftsman) to assist with the final measurement of exit travel distances and the preparation of services design documentation.

2) Building Code Professionals to provide final exit travel distance calculations to North Sydney Council and the Fire Safety Engineer.

FPAS Accredited Fire Systems Certifier to undertake an inspection and report on the buildings fire doors.

1) Registered Design Practitioner – (Mechanical Engineering) to report on the buildings general mechanical air handling systems.

2) Registered Design Practitioner – (Mechanical Engineering) to report on the buildings Level 1, Level 2 & Level 3 Carpark mechanical air handling systems.

FPAS Accredited Fire Systems Certifier to inspect and certify the existing lift landing doors.

FPAS Accredited Fire Systems Certifier to undertake an inspection and report on the building's services penetrations.

YEAR 2 - UPGRADING WORKS

Install steel bollards to the Basement Level Carpark.

Upgrade any/all defective fire doors as reported by the FPAS Accredited Fire Systems Certifier as required by Clauses C2.12, C2.13, C3.5, C3.8 & C3.11 of the BCA & AS 1905.1-2015 (or other their original installation standard).

Install a pair of fire doors in the external wall opening of the Level 3 carpark that is positioned directly opposite Unit 104 & Unit 105. These doors are to be outward opening and are to be selected and installed in accordance with AS 1905.1-2015.

Upgrade the buildings fire hydrant system and fire hose reel system to Clauses E1.3 & E1.4 of the BCA & AS 2419.1-2005 & AS 2441-2005.

Commence the installation of the new automatic sprinkler system throughout the whole building in accordance with Clause E1.5 and Specification E1.5 of the BCA & AS 2118.1-2107 or AS 2118.6-2012.

1) Install stair pressurisation systems to all tower fire-isolated stairways and associated passageways in accordance with Clause E2.2 & Table E2.2a of the BCA & AS 1668.1-2015. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

2) Upgrade the buildings general air handling system as recommended by the Registered Design Practitioner – (Mechanical Engineering).

3) Upgrade the mechanical air handling systems serving the Level 1, Level 2 & Level 3 Carpark as recommended by the Registered Design Practitioner – (Mechanical Engineering).

Commence all required works as listed in the Fire Engineering Report of the Registered Design Practitioner – (Fire Safety Engineering) based on the Year 1 Performance Solution Report.

Carry out all recommendations listed in the electrical inspection report of the licenced electrician (based on the Year 1 inspection report).

Electrical certification is to be issued by a licensed electrician verify (but be not limited to) that:

a) A visual examination of the buildings electrical system has been carried out in accordance with AS/NZS 3000-2018 and AS/NZS 3017-2007; and

b) An insulation resistance test has been carried out in accordance with AS/NZS 3000-2018; and

Circuit protection has been examined and found to be satisfactory in accordance with AS/NZS 3000-2018.

Carry out all recommendations listed in the gas inspection report of the licenced gas fitter (based on the Year 1 inspection report). Certification is to be issued by the licensed gas fitter stating that the buildings gas systems comply with all relevant requirements of the gas supply authority.

YEAR 3 UPGRADING WORKS

Complete the installation of the new automatic sprinkler system throughout the whole building in accordance with Clause E1.5 and Specification E1.5 of the BCA & AS 2118.1-2107 or AS 2118.6-2012.

Complete all required works as listed in the Fire Engineering Report of the Registered Design Practitioner – (Fire Safety Engineering) based on the Year 1 Performance Solution Report.

Upgrade all common area balustrades and handrails serving the building in accordance with Clauses D2.16 & D2.17 of the BCA. Structural certification is to be issued for the upgraded balustrades and handrails by a professional Structural Engineer (NER) stating compliance with AS/NZS 1170.1-2002.

Install non-skid nosings to the common area internal and external stairways serving the building in accordance with Clauses D2.13 and D2.14 of the BCA.

Upgrade all exit door hardware in accordance with Clause D2.21 of the BCA.

1) Install signage to all fire-isolated stairway / fire-isolated passageway doors in accordance with Clause D2.23 of the BCA.

2) Install "OFFENCES" signage on the walls outside all fire-isolated stairways / fire-isolated passageways in accordance with Clause 108 of the *Environmental Planning & Assessment (Development Certification & Fire Safety) Regulation 2021*.

"Fire stop" all services penetrations and construction joints throughout the building in accordance with the report of the FPAS Accredited Fire Systems Certifier & Clauses C3.12, C3.15, C3.16 & Specification C3.15 of the BCA. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

Upgrade all electrical services enclosures that open onto a path of travel to the buildings required exits in accordance with Clause D2.7(b) of the BCA.

Upgrade the ventilation louvre opening that is located in the external wall of the Level 2 Carpark that stands closer than 3.0 metres (perpendicular) to the western side property boundary in accordance with Clause C3.4 of the BCA. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

Enclose the PVC piping located within the south-western Level 2 fire-isolated stairway with construction capable of achieving an FRL of not less than -/120/120.

Re-swing all final exit doors (as necessary) that serve as the main entry / exit doors to / from the three (3) storey walk-up units to ensure that they swing in the direction of egress from the building. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

Separate the Level 4 Main Entry Lobby as well as the Managers "Office" (and associated sanitary facility) from the adjoining vehicular driveway with construction capable of achieving an FRL of not less than 120/120/120. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

Fire separate the Gymnasium / Swimming Pool area from the adjoining Class 2 building (part) by fire walls having an FRL of not less than 180/180/180. Alternatively, a Performance Solution Report is to be prepared by a Registered Design Practitioner – (Fire Safety Engineering).

Install P4 non-skid nosings to the building's internal and external stairways in accordance with Clauses D2.13 and D2.14 of the BCA and AS 4586-2013.


CONCLUSION

In summary, it is considered that the adoption of the **recommendations** in this report will result in enhanced fire and life safety commensurate with the age and nature of the subject building.

In addition, given the nature, complexity and expected cost of the fire safety upgrading works recommended in this report, it is respectfully requested that North Sydney Council allow a minimum of three (3) years to undertake these works, subject to the timetable above being adhered to by the Owners Corporation. A fire order time period of less than three (3) years would be considered to be unreasonable in the circumstances.

If you have any questions in relation to the above matters, please do not hesitate to contact the undersigned on 1300 884 627 or 0488 000 777.

Yours faithfully



GRANT MCGRATH

B.App.Sci (Env. Health) MAIBS

Senior Building Compliance Consultant - Director

Building Code Professionals Pty Limited