METRO BUILDING CONSULTANCY

RESIDENTIAL FLAT BUILDING DEVELOPMENT
80 – 82 SHOWGROUND ROAD GOSFORD 2250

BUILDING CODE OF AUSTRALIA 2022
CONCEPT DESIGN REPORT
FEBRUARY 2025

Report prepared for	Land and Housing Corporation Department of Planning and Environment Level 18, 4 Parramatta Square 2 Darcy Street, Parramatta, NSW 2150
Report prepared by	Metro Building Consultancy Suite 21, Level 15175 Pitt Street Sydney 2000 Consultant: Paul Coorey
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METRO BUILDING CONSULTANCY

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DOCUMENT ACCEPTANCE

Company	Name	Signed	Date
Metro Building Consultancy	Sean Moore		07/02/2025

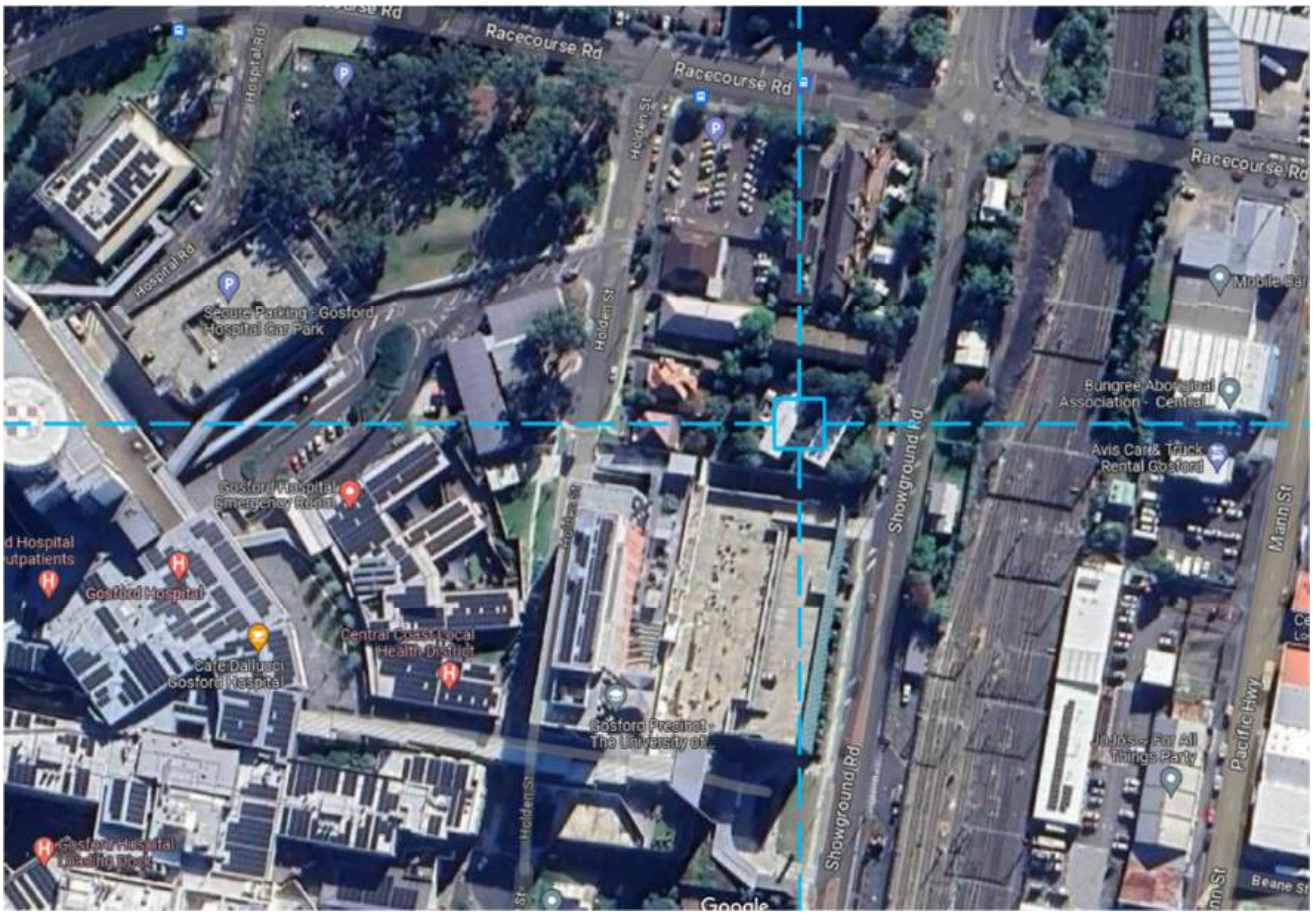
REVISION HISTORY

Description	Prepared by	Revision No.	Date
Concept Design BCA Report	Anthony Marelic/Paul Coorey	R01	17/11/2023
Concept Design/DA BCA Report	Paul Coorey	R02	09/12/2024
Concept Design/DA BCA Report	Paul Coorey	R03	07/02/2025

1.0 Introduction and Documentation

Land and Housing Corporation have requested Building Code of Australia advice in relation to the Residential Flat Building (RFB) development proposal to be located at 80 – 82 Showground Road Gosford 2250. The proposed development comprises a single building containing 26 units.

This is the second BCA report that MetroBC has produced for the LAHC RFB proposal at this location. The first report assessed 3 design options against the BCA. This report will assess a single design solution that has been put forward.



The information submitted to date has been reviewed for compliance with the deemed-to-satisfy provisions of Section C, D, E and F of the Building Code of Australia 2022 excluding Section B (Structure by Structural Engineer), Part D4 and Part G7 Liveable Housing Design (Disabled Access by Access Consultant), Part F7 (Sound Transmission & Insulation by Acoustic Engineer), Part G5 (Bushfire by Bushfire Consultant if applicable) and Section J (Energy Efficiency/BASIX by ESD Consultant).

The methodology is principally a desktop review of the drawings provided as listed in Appendix A. This report is for the exclusive use of Land and Housing Corporation and cannot be used for any other purpose without the prior permission of Metro Building Consultancy. The report is only valid in its entire form.

It is anticipated that NCC 2025 will be adopted by NSW on 1 May 2025. If your invitations to tender are issued after that day, BCA 2025 will apply to your proposal. Following are some items that have been identified as added/amended in BCA 2025. Please liaise with your consultants regarding any amendments, i.e sprinkler systems in car parks.

- Commercial building energy efficiency
- Carpark fire safety improvements
- Condensation mitigation
- Improving waterproofing and water shedding provisions
- Improving structural Performance Solutions
- Improving fire safety Performance Solutions
- Adequate toilets for women
- Improvements to plumbing provisions
- Apartment energy efficiency – centralised heated water systems
- Housing energy efficiency – thermal breaks
- Assisting future electrification and EV charging in homes
- Re-entry from fire-isolated exits
- Hybrid photoluminescent exit signs
- NCC Referenced documents
- Fire hazard properties
- Use of an Accredited Testing Laboratory
- Alternative referenced documents

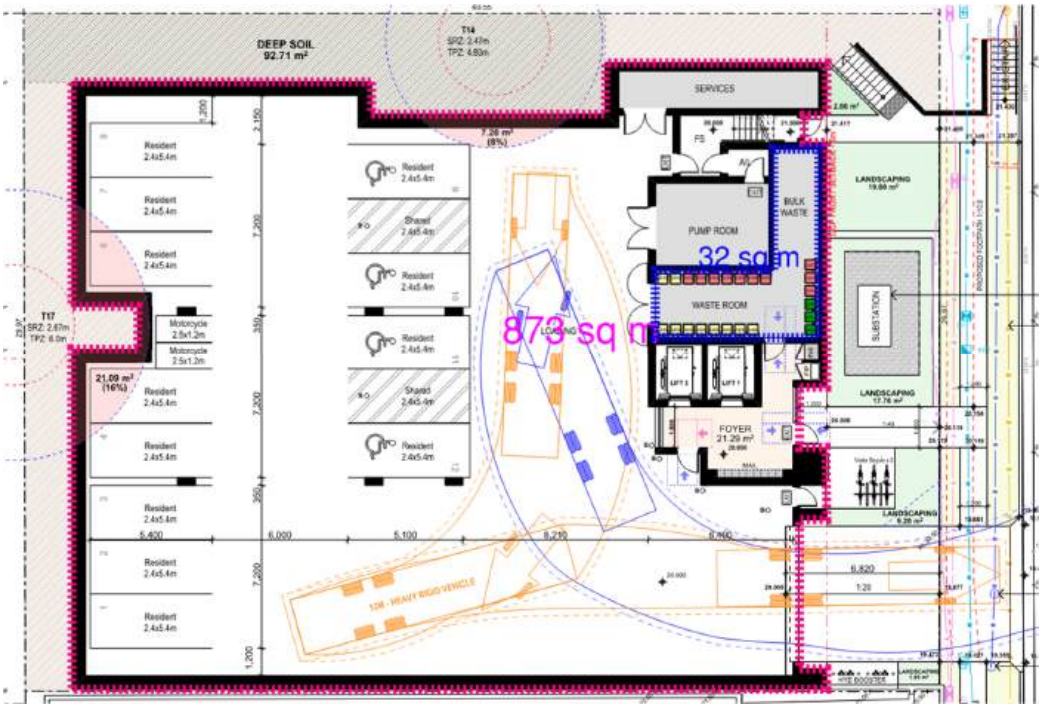
Documentation available and assessed
The architectural drawings provided by DTA Architects to Metro Building Consultancy on 19 November 2024, as referenced in Appendix A, have been assessed for compliance to the Building Code of Australia.

2.0 Use and class of building

The proposed buildings, as taken from the drawings provided, has the following characteristics:

Storey	Use	Classification	Approx. Area
Level 00 – Basement	Carparking, resident store, lobby (class 2), services, waste rooms	2, 7a	873m²
Level 01	Apartments	2	658m²
Level 02	Apartments	2	603m²
Level 03	Apartments	2	603m²
Level 04	Apartments	2	603m²
Level 05	Apartments	2	511m²

The waste storage area shown on the basement level measures approximately 32 m². This is less than 10% of the floor area of the basement, and therefore does not attract a 7b storage classification.



Rise in Storeys and Effective Height of the proposed building
BCA assessment of the rise in storeys of the building is 6, and as such, the building will be required to be sprinklered protected throughout in accordance with the requirements of BCA Clause E1D6, and Specification 18. This entails a sprinkler system complying with AS2118.1, FPAA101D, or FPAA101H throughout the entire building.

The effective height of the building is 18.2m

3.0 Construction and fire resistance ratings

Comments in relation to the general fire resisting construction requirements
The proposed RFB has classifications of 2 & 7a. The building has a rise in storeys of 6 and is required to comply with the Building Code of Australia's Type A construction requirements as seen in Appendix B.

Exposure to a fire source feature
A part of a building element is exposed to a fire-source feature if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that has an FRL of not less than 30/–/–.

Fire-source feature means—
(a) the far boundary of a road, river, lake or the like adjoining the allotment; or
(b) a side or rear boundary of the allotment; or
(c) an external wall of another building on the allotment which is not a Class 10 building.

Openings less than 3m from a side boundary in an external wall required to have an FRL are required to be protected in accordance with C4D5.

It is noted that a construction tolerance has been provided to the Southern apartment wall. If any opening in the external wall is less than 3m from the sided boundary, it will need protecting.

Fire protection for a support of another part
The BCA states that where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part, subject to must:

(i) have an FRL not less than that required by other provisions of this Specification; and

(ii) if located within the same fire compartment as the part it supports have an FRL in respect of structural adequacy the greater of that required—

(A) for the supporting part itself; and
(B) for the part it supports; and

(iii) be non-combustible—

(A) if required by other provisions of this Specification; or
(B) if the part it supports is required to be non-combustible.

The following building elements need not comply with the 'fire protection for a support of another part' requirements:

- An element providing lateral support to a concrete external wall that could collapse as complete panels (e.g. tilt-up and pre-cast concrete).
- A roof providing lateral support in a building of Type B construction.
- A column providing lateral support to a wall where the column is a steel column, other than one in a fire wall or common wall, in a building that contains only 1 storey.
- An element providing lateral support to a fire wall or fire-resisting wall, provided the wall is supported on both sides and failure of the element on one side does not affect the fire performance of the wall.

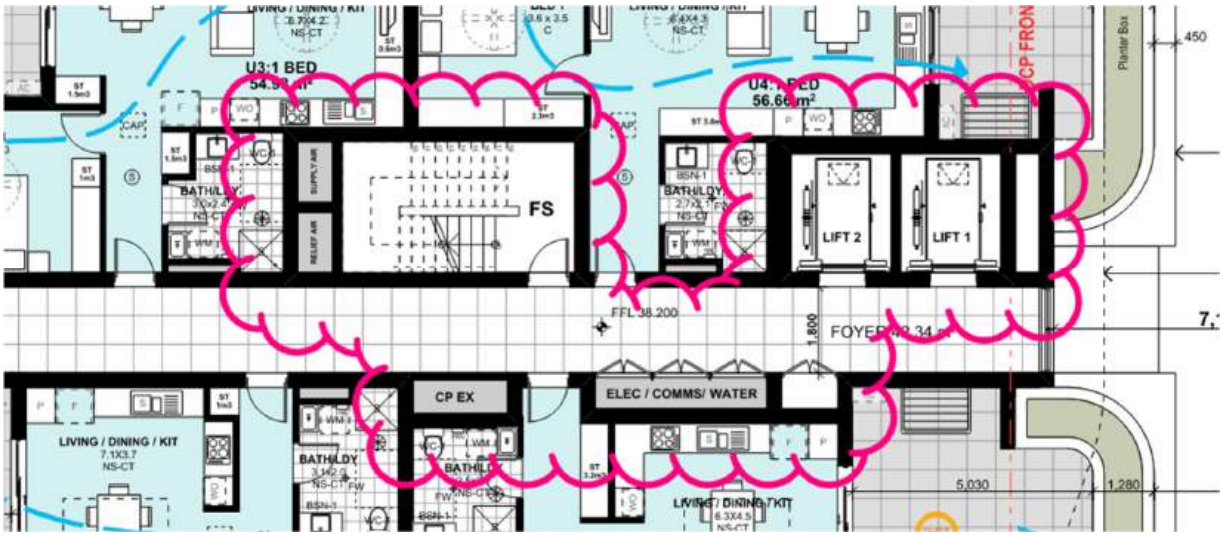
Method of attachment not to reduce the fire-resistance of building elements
The method of attaching or installing a finish, lining, ancillary element, or service installation to the building element must not reduce the fire-resistance of that element to below that required.

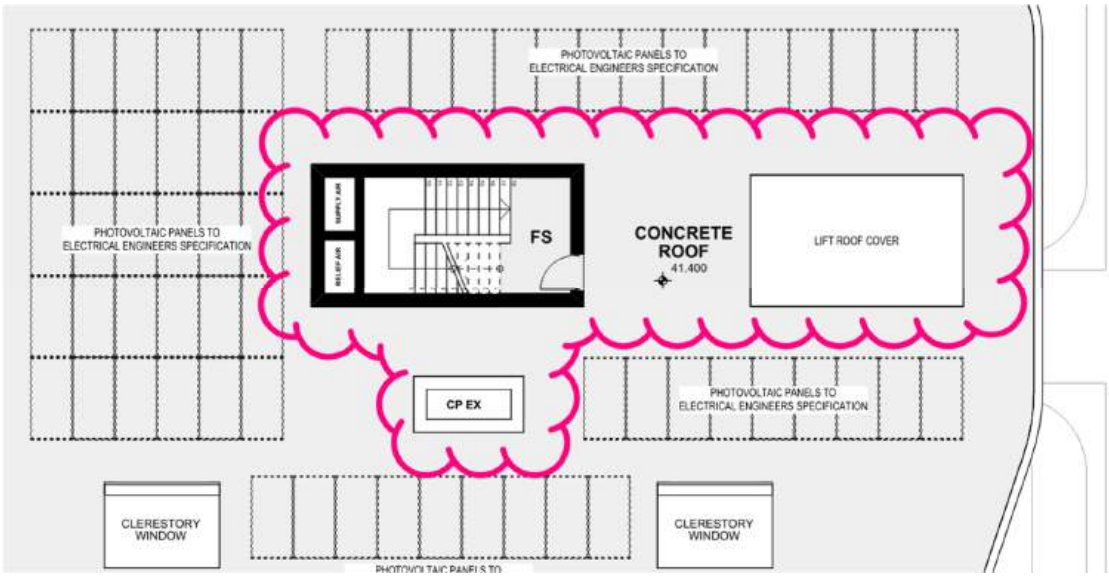
Enclosure of shafts
Shafts required to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building, except that these provisions need not apply to:

- the top of a shaft extending beyond the roof covering, other than one enclosing a fire-isolated stairway or ramp; or
- the bottom of a shaft if it is non-combustible and laid directly on the ground

This applies to fire stair shafts, lift shaft and any services shafts eg mechanical services shafts, they must be enclosed at the top with the same FRL as the walls of the shaft or extend above the roof. Note that where proposed, a garbage

chute shaft must be enclosed at its base (ie the garbage room) in construction that achieves an FRL of not less than -/90/90.





Lintels
A lintel must have the FRL required for the part of the building in which it is situated, unless it does not contribute to the support of a fire door, fire window or fire shutter, and –

(a) It spans an opening in
  (i) A wall of a building containing only one storey; or
  (ii) A non-loadbearing wall of a Class 2 or 3 building; or

(b) It spans an opening in masonry which is not more than 150mm thick and –
  (i) Not more than 3m wide if the masonry is non-loadbearing; or
  (ii) Not more than 1.8m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall

Compliance achievable – Structural Engineer to note the requirements where applicable.

Comments in relation to the Type A Construction requirements

Fire rating of external walls
The loadbearing parts of the external wall are required to be provided with the fire resistance level in the table in Appendix B.

The non loadbearing parts of the external wall less than 3m from the boundary are required to be provided with the fire resistance level in the table in Appendix B.

The basement level external wall is shown to be 98mm from the boundary? As such, any part of this wall not shielded from a fire source feature is required to have an FRL of 120/120/120. Shielding can be provided by being below ground level.

Structural engineer to confirm that the loadbearing walls and columns will achieve the required FRL as per Type A Construction table in Appendix B.

Internal fire rated walls
Any internal wall required to have an FRL with respect to integrity and insulation must extend to —

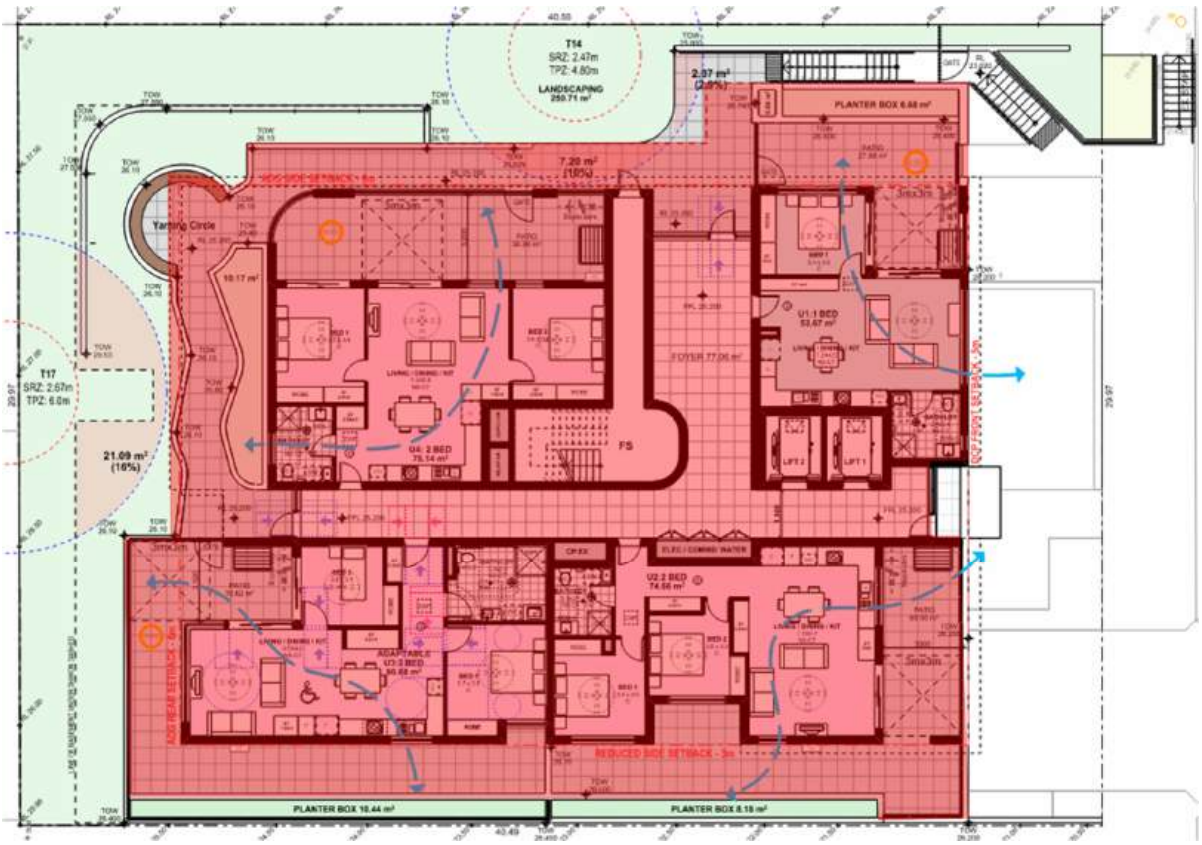
- the underside of the floor next above; or
- the underside of a fire rated roof; or
- if the roof is not required to be fire rated, the underside of the non-combustible roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or
- a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes.

Loadbearing walls
A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from concrete or masonry.

Floors
Note that a floor need not be fire rated if it is laid directly on the ground.

During design development provide a detail of how the fire rated floor slab separating storeys connects to the façade and creates the fire separation required between floors

- Floor between basement and apartments – FRL of 120/120/120 shown in red below
- Floor between apartment levels – FRL of 90/90/90 – shown in green below


T14
SRZ: 2.47m
TPZ: 4.80m
LANDSCAPING
250.71 m²
2.07 m²
(0.8%)
PLANTER BOX 6.68 m²
7.20 m²
(180)
Turning Circle
T17
SRZ: 2.67m
TPZ: 6.0m
21.09 m²
(16%)
U1:1 BED
53.67 m²
FOYER 77.06 m²
FS
U4: 2 BED
75.14 m²
U2:2 BED
74.66 m²
ADAPTABLE
U3:2 BED
80.68 m²
REDUCED SIDE SETBACK - 3m
PLANTER BOX 10.44 m²
PLANTER BOX 8.18 m²


ADG SIDE SETBACK - 6m
BALCONY
13.18 m²
BALCONY
9.96 m²
BALCONY
10.12 m²
LIVING / DINING / KIT
BED 1
U4:1 BED
51.48 m²
U3:1 BED
55.83 m²
U2:1 BED
56.22 m²
U1:1 BED
53.72 m²
FS
FOYER 45.17 m²
BALCONY
11.34 m²
ADAPTABLE
U5:2 BED
80.68 m²
ELEC / COMMS/ WATER
U6:2 BED
74.66 m²
BALCONY
21.86 m²
ADG REAR SETBACK - 6m
REDUCED SIDE SETBACK - 3m

Roof
The BCA states that the roof of a building of Type A Construction is not required to be provided with an FRL of 90/60/30 as long as its covering is non-combustible and the building:

(a) has a sprinkler system complying with Specification 17 installed throughout (other than a FPAA101D or FPAA101H system); or
(b) has a rise in storeys of 3 or less; or
(c) is of Class 2 or 3; or
(d) has an effective height of not more than 25 m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes

Non-combustible means—
(a) applied to a material — not deemed combustible as determined by AS 1530.1 — Combustibility Tests for Materials; and
(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible.

The proposed roof to the apartment levels does not need to have an FRL if the covering is non-combustible, as the building is a class 2 building.

Please confirm that:
1. The roof has construction that obtains a 90/60/30 FRL, or
2. the roof covering is non combustible, or
3. There is a sprinkler system complying with Spec 17 installed throughout, other than an FPAA 101D, or 101H, or
4. The ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes

If none of the DTS options above are implemented, please provide the roof with an FRL of a minimum 90/60/30.

Please note the previous requirement that the fire rated walls on the top level are required to extend to the underside of a fire rated roof or to the underside of the non-combustible roof covering.

Roof lights
Where proposed, roof lights or the like installed in the roof must—

(a) have an aggregate area of not more than 20% of the roof surface; and
(b) be not less than 3 m from—

(i) any boundary of the allotment other than the boundary with a road or public place; and

(ii) any part of the building which projects above the roof unless that part has the FRL required of a fire wall and any openings in that part of the wall for 6 m vertically above the roof light or the like are protected in accordance with C4D5; and
(iii) any roof light or the like in an adjoining sole-occupancy unit if the walls bounding the unit are required to have an FRL; and
(iv) any roof light or the like in an adjoining fire-separated section of the building; and

(c) if a ceiling with a *resistance to the incipient spread of fire* is *required*, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space

Internal walls & columns
For a building with an effective height of not more than 25 m and having a roof without an FRL in accordance with S5C15, in the storey immediately below that roof, internal columns other than those referred to in S5C11(1)(d) (ie external column apply also to those parts of an internal column that face and are within 1.5 m of a window) and internal walls other than fire walls and shaft walls may have an FRL 60/60/60 for Class 2 or 3 buildings.

Lightweight construction
Lightweight construction required to have an FRL must comply with BCA Clause C2D9 and BCA Specification 6

Non-combustible building elements
In a building required to be of Type A Construction, the following building elements and their components must be non-combustible –

- External walls and common walls, including all components incorporated within them including the façade covering, framing and insulation
- The flooring and floor framing of lift pits
- Non-loadbearing internal walls where they are required to be fire resisting

A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction.

A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification 5.

The external walls of the proposed building are required to be non-combustible i.e. be constructed of a material that is not deemed combustible by AS1530.1 1994 or has a CodeMark Certificate of Conformity confirming compliance to BCA CP2 and CP4. Provide details of the make up of the external walls for review in the design development stage. Architect and Structural Engineer to note for the selection of any external wall systems may not meet the Deemed-to-Satisfy provisions.

Architect and Structural Engineer to note for the selection of any external wall systems may not meet the Deemed-to-Satisfy provisions.

Fire Hazard Properties
The fire hazard properties of the following internal linings, materials and assemblies are to comply with the requirements of Clause specification 5 and Specification 5 of Building Code of Australia.

- Floor linings and floor coverings
- Wall linings and ceiling linings
- Air-handling ductwork
- Lift cars

Provide the laboratory test results for the fire hazard indices of the various floor, wall and ceiling finishes prior to the completion of the design development and prior to the issue of the Crown Works Certificate.

Ancillary elements
An ancillary element must not be fixed, installed, attached to or supported by the concealed internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following:

(a) An ancillary element that is non-combustible.
(b) A gutter, downpipe or other plumbing fixture or fitting.
(c) A flashing.
(d) A grate, grille or similar cover not more than 2 m2 in area associated with a building service.
(e) An electrical switch, socket-outlet, cover plate or the like.
(f) A light fitting.
(g) A required sign.
(h) A sign other than one provided under (a) or (g) that—
  (i) achieves a group number of 1 or 2; and
  (ii) does not extend beyond one storey; and
  (iii) does not extend beyond one fire compartment; and
  (iv) is separated vertically from other signs permitted under (h) by at least 2 storeys.
(i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that—
  (i) meets the relevant requirements of Table S7C7 as for an internal element; and
  (ii) serves a storey—
    (A) at ground level; or
    (B) immediately above a storey at ground level; and
  (iii) does not serve an exit, where it would render the exit unusable in a fire.
(j) A part of a security, intercom or announcement system.
(k) Wiring.
(l) Waterproofing material installed in accordance with AS 4654.2 and applied to an adjacent floor surface, including vertical upturn, or a roof surface.
(m) Collars, sleeves and insulation associated with service installations.
(n) Screens applied to vents, weepholes and gaps complying with AS 3959.

Confirm that the proposed awning hood over the main entrance to the building is non combustible.

Architect to note and ensure any attachments fixed, installed, attached to or supported by the concealed internal parts or external face of an external wall that is required to be non-combustible by means of AS1530.1 or CodeMark Certification.

Compartmentation – Basement carpark
The Building Code of Australia 2022 compartmentation requirements for the carpark must not exceed 5000m2. The size of the basement fire compartment does not exceed this maximum limit imposed by the BCA.

The BCA does not have a fire compartment limit for the apartments.

Vertical separation of openings in external walls (spandrels)
If in a building of Type A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450mm outside the lower opening (measured horizontally), the openings must be separated by –

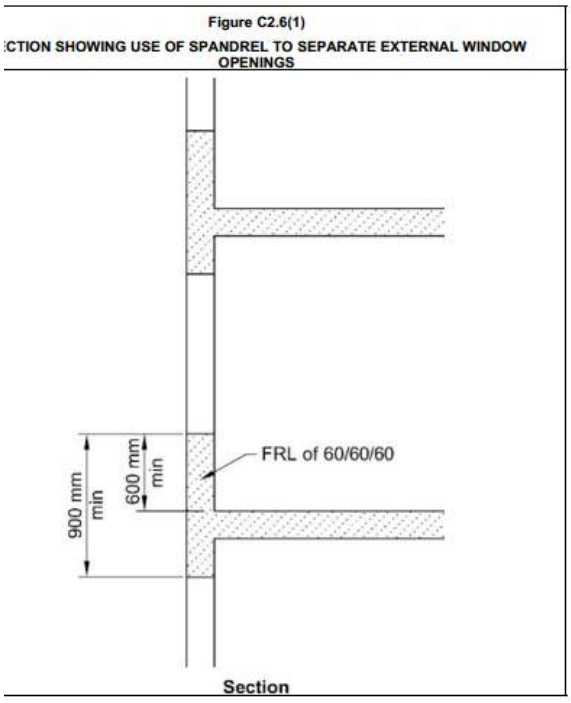
- A spandrel which –
    - Is not less than 900mm in height; and
    - Extends not less than 600mm above the upper surface of the intervening floor; and
    - Is of non-combustible material having an FRL of not less than 60/60/60

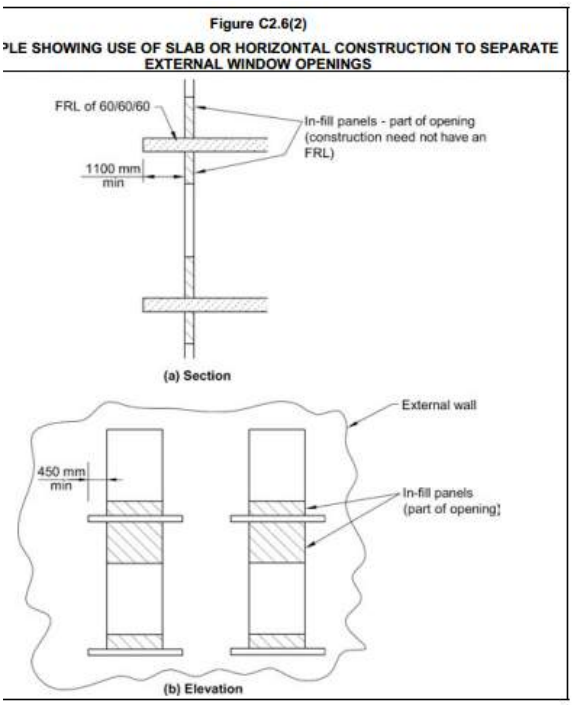
OR

- A slab or other horizontal construction that –
    - Projects outwards from the external face of the wall not less than 1100mm; and
    - Extends along the wall not less than 450mm beyond the openings concerned; and
    - Is non-combustible and has a FRL of not less than 60/60/60

Note that with all critical dimensions eg 1100mm deep spandrels, a construction tolerance should be added eg 1150mm

Only an AS 2118.1-2017 sprinkler system provides a concession for not having spandrels. If a FPAA101D or FPAA101H sprinkler system is proposed, then spandrels are still required to be provided.





In the detail design documents, provide confirmation/tested system details stating that the southern elevation wall cladding MC2, and any support structure, achieves the required spandrel FRL of 60/60/60. Confirm that the openings protected by a horizontal spandrel are set back a minimum distance of 450mm and that they have a minimum depth of 1100mm.

The MC2 sections of the external wall are also required to be non combustible in addition to complying with the BCA weatherproofing requirements.

Provide confirmation that all masonry spandrels achieve the same required 60/60/60 FRL.

Or confirm that the building will be supplied with sprinkler system complying with AS2118.1 2017.

Spandrels are required to all openings located above another or within 450m of it unless the building is provided with a sprinkler system that complies with BCA Specification 17 and AS2118.1 2017.

A full assessment of the compliance of the spandrel panels will be carried out upon receipt of the developed design drawings and prior to the issue of the Crown Works Certificate.

For the purposes of C3D7, window or other opening means that part of the external wall of a building that does not have an FRL of 60/60/60 or greater.

Separation of lift shaft
Any lift connecting more than 2 storeys (or more than 3 if the building is sprinkler protected) must be separated from the remainder of the building by enclosure of the shaft which has the relevant FRL's prescribed by Specification 5. The lift shafts are required to be provided with a 2-hour fire resistance level.

As the lifts connect 6 storeys (carpark and 5 storeys of apartments) the lift shafts are required to have a FRL of 120/120/120.

Separation of Equipment
Equipment must be separated from the remainder of the building if that equipment comprises of –

- Lift motors and lift control panels; or
- Emergency generators used to sustain emergency equipment operating in the emergency mode; or
- Central smoke control plant; or
- Boilers; or
- A battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more

Any rooms containing any abovementioned equipment must be separated from the remainder of the builder via 120/120/120 fire rated construction and any doorway protected with a self-closing fire door having an FRL of not less than -/120/30.

Boiler means a vessel or an arrangement of vessels and interconnecting parts, wherein steam or other vapour is generated, or water or other liquid is heated at a pressure above that of the atmosphere, by the application of fire, the products of combustion, electrical power, or similar high temperature means, and—
(a) includes superheaters, reheaters, economisers, *boiler* piping, supports, mountings, valves, gauges, fittings, controls, the *boiler* settings and directly associated equipment; but
(b) excludes a fully flooded or pressurised system where water or other liquid is heated to a temperature lower than the normal atmospheric boiling temperature of the liquid.

Battery system means one or more chemical cells connected in series, parallel or a combination of the two for the purpose of electrical energy storage.

Electricity supply equipment
If the main switchboard sustains emergency equipment operating in the emergency mode it must be separated by construction having an FRL of not less than 120/120/120 and have any door protected with a self-closing fire door having an FRL of not less than -/120/30.

Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated form non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear.

Note that emergency equipment includes but is not limited to the following –

- Fire hydrant booster pumps
- Pumps for automatic sprinkler systems, water spray, chemical fluid suppression systems or the like
- Pumps for fire hose reels where such pumps and fire hose reels form the sole means of fire protection in the building
- Air handling system designed to exhaust and control the spread of fire and smoke
- Emergency lifts
- Control and indicating equipment
- Emergency warning and intercom systems

Lift motor room
Any lift motor room must be fire separated from the remainder of the building by construction with an FRL of not less than 120/120/120. The construction between the lift shaft and the lift motor room need only have an FRL of not less than 120/-/-.

Protection of openings in external walls
Openings in an external wall that is required to have an FRL must –

(a) If the distance between the opening and the fire source feature to which it is exposed is less than –

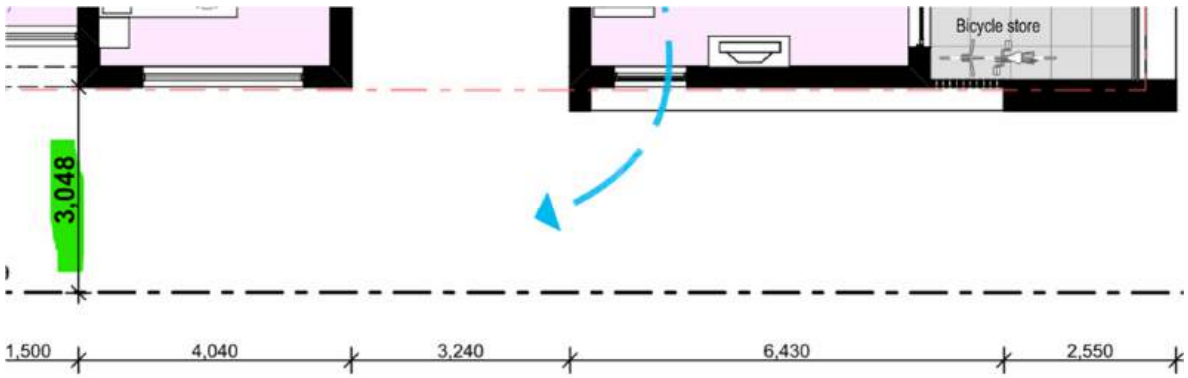
(i) 3m from a side or rear boundary of the allotment; or

(ii) 6m from the far boundary of a road, river or lake or the like adjoining the allotment, if not located in a storey at or near ground level; or
(iii) 6m from another building on the allotment that is not Class 10

Be protected in accordance with BCA Clause specification 12 and if wall -wetting sprinklers are used, they are located externally.

Any openings within the below southern external wall are required to be protected in accordance with BCA Specification 12 (see clause below) if the distance from the wall to the boundary is less than 3m.

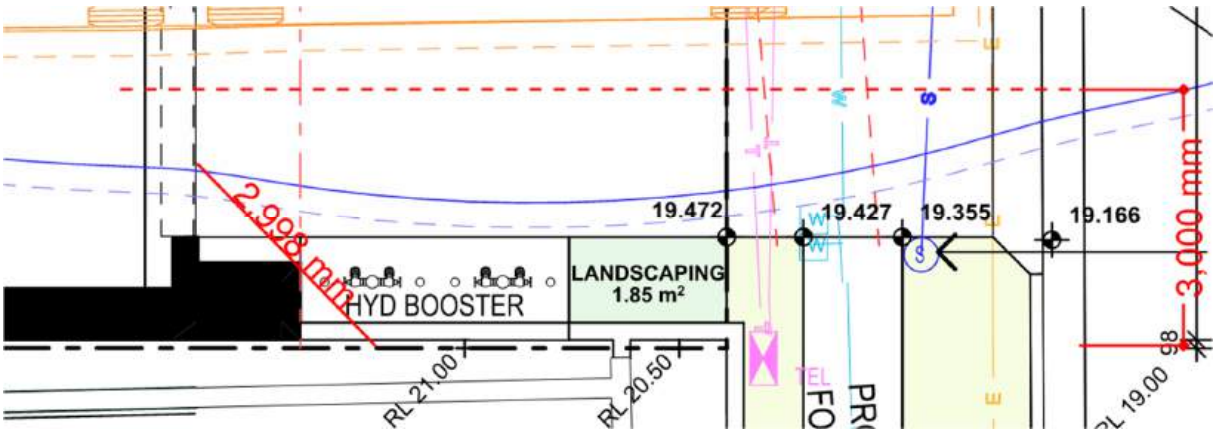
Metro notes that a construction tolerance has been added to the Southern external wall, to keep the openings in that wall 3m or more from southern boundary, which is a fire source feature.



The carpark opening is shown to be within 3m of the boundary, but the opening is being shielded by a ‘blade’ section of masonry that is in addition to the external wall of the 7a carpark.

The BCA allows the shielding of a part of the building, in this case the carpark opening, by another part of the building that has an FRL of 30/-/-. Please confirm that any horizontal line measuring less than 3m between the external wall opening, and the boundary, is shielded by construction that has an FRL of at least 30/-/-.

Confirm that the thickness of masonry that is shielding the opening from the boundary is adequate to provide the required 30/-/- shielding.



Acceptable methods of protection
Where protection is required, doorways, windows and other openings must be protected as follows –

(a) Doorways –

a. Internal or external wall-wetting sprinklers as appropriate used with windows that are self-closing or automatic closing; or
b. -/60/30 fire doors that are self-closing or automatic closing

(b) Windows

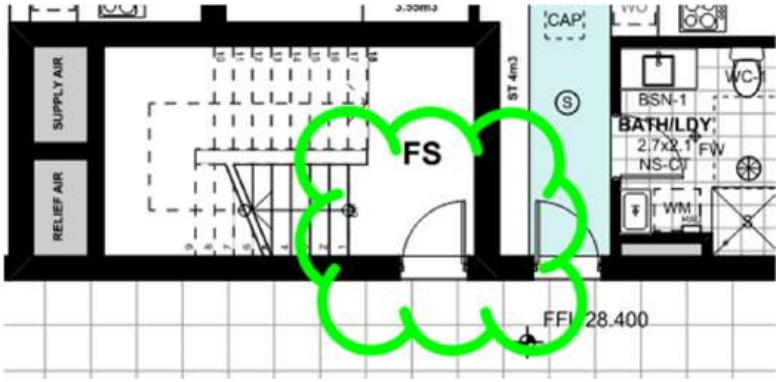
a. Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or
b. -/60/- fire windows that are automatic closing or permanently fixed in the closed position; or
c. -/60/- automatic closing fire shutters

(c) Other openings –

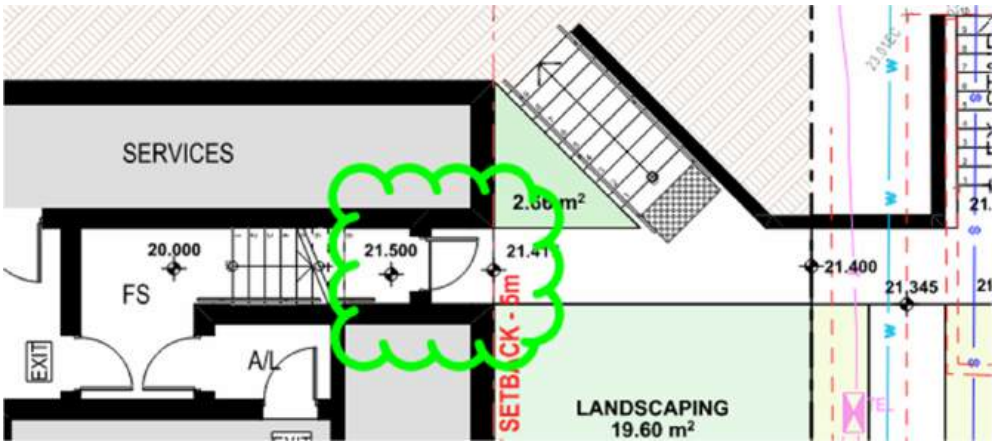
a. Excluding voids – internal or external wall-wetting sprinkler, as appropriate; or
b. Construction having an FRL not less than -/60/-

(d) Fire doors, fire windows and fire shutters must comply with Specification 12.

Openings in fire-isolated exits
Doorways that open to fire-isolated stairways, and are not doorways opening to a road or open space, must be protected by -/60/30 fire doors that are self-closing, or automatic-closing.



Please see further in this report for fire rating requirements for the door leading out of the basement fire stairs.



A window in an external wall of a fire-isolated stairway must be protected in accordance with specification 12 if it is within 6m of, and exposed to, a window or other opening in a wall of the same building, other than in the same fire-isolated enclosure.

Service penetrations in fire-isolated exits
If fire-isolated exits are provided they must not be penetrated by any services other than:

(a) Electrical wiring permitted by BCA Clause D2.7(e) to be installed within the exit; or

(b) Ducting associated with a pressurisation system if it

a. Is constructed of material having an FRL of not less than -/120/60 where it passes through any other part of the building; and
b. Does not open into any other part of the building

(c) Water supply pipes for fire services

Openings in fire-isolated lift shafts
The doorways and indicator panels to the lifts are required to comply with the following requirements.

- Doorways — If a lift shaft is required to be fire-isolated, an entrance doorway to that shaft must be protected by -/60/– fire doors that

(i) comply with AS 1735.11; and
(ii) are set to remain closed except when discharging or receiving passengers, goods or vehicles.

- Lift indicator panels — A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than –/60/60 if it exceeds 35 000 mm2 in area.

Bounding construction: Class 2 buildings
The doorways to the class 2 sole occupancy units are required to comply with the following requirements.

(a) A doorway in a Class 2 building must be protected if it provides access from a sole-occupancy unit to –

(i) A public corridor, public lobby, or the like; or
(ii) A room not within a sole-occupancy unit; or
(iii) The landing of an internal non fire-isolated stairway that serves as a required exit; or
(iv) Another sole-occupancy unit

(b) A doorway in a Class 2 building must be protected if it provides access from a room not within a sole-occupancy unit to –

(i) A public corridor, public lobby or the like; or
(ii) The landing of an internal non-fire-isolated stairway that serves as a required exit.

(c) Protection for a doorway must be at least a self-closing -/60/30 fire door

Public corridor means an enclosed corridor, hallway or the like which—

(a) serves as a means of egress from 2 or more sole-occupancy units to a required exit from the storey concerned; or
(b) is required to be provided as a means of egress from any part of a storey to a required exit.

(d) Other openings in internal walls which are required to have an FRL with respect to integrity and insulation must not reduce the fire resisting performance of the wall

(e) In a Class 2 building where a path of travel to an exit does not provide a person seeking egress with a choice of travel in different directions to alternative exits and is along an open balcony, landing or the like and passes an external wall of –

(i) Another sole-occupancy unit; or
(ii) A room not within a sole-occupancy unit

Then that external wall must –

(iii) Be constructed of concrete or masonry, or be lined internally with a fire-protective covering; and
(iv) Have any doorway fitted with a self-closing, tight-fitting solid core door not less than 35mm thick; and
(v) Have any windows or other openings –

A. Protected internally in accordance with BCA Clause SPECIFICATION 12; or
B. Located at least 1.5m above the floor of the balcony, landing or the like

The walls of the apartments and any openings in the are required to be protected if they are along an open balcony, landing or the like.

Openings in floors and ceilings for services
Where a service passes through a floor that is required to have an FRL with respect to integrity and insulation the service must be protected by a shaft or in accordance with BCA Clause C4D15 and Specification 13.

Opening in shafts
An opening in a wall providing access to a ventilating, pipe, garbage, or other service shaft must be protected by a self-closing -/60/30 fire door or hopper, or an access panel having an FRL of not less than -/60/30 or if it is a garbage shaft a door or hopper that is non-combustible.

This applies to any proposed garbage chute and electrical and communication services cupboards on each floor if they are housed in a shaft.

Openings for service installations
All services penetrations within fire rated walls, floors and ceilings are to be treated in accordance with Clause C4D15 of the Building Code of Australia 2022.

4.0 Egress

Principles
The buildings egress is required to be designed to ensure compliance with the following minimum general requirements. Concession are available dependant on the type of sprinkler system installed. Please see after the following bullet points for sprinkler systems and available concessions:

- The maximum distance between alternative exits serving the apartment levels is 45m.
- The entrance doorway of any sole-occupancy unit must be not more than 6m from an exit or from a point from which travel in different directions to 2 exits is available or 20m from a single exit serving the storey at the level of egress to a road or open space.
- No point in the building, which is not an apartment, must be more than 20m from an exit or from a point at which travel in different directions to two exits is available, in which case the maximum distance to one of those exits must not exceed 40m.
- The maximum distance between alternative exits serving the basement carpark is 60m.
- Exits that are required as alternative means of egress must be distributed as uniformly as practicable within or around the storey served.
- The discharge point of alternative exits must be located as far apart as practical.
- Exits that are required as alternative means of egress must be not less than 9m apart.
- Exits that are required as alternative means of egress must be located so that alternative paths of travel do not converge such that they become less than 6m apart.
- The unobstructed height throughout an exit (eg fire stair) must be not less than 2m except for doorways which may be reduced to not less than 1980mm.
- The unobstructed widths of each path of travel to an exit must be not less than 1m except for doorways which may be reduced to not less than 750mm. (Please see the requirements for disabled access below.)
- Each stair must provide independent egress from each storey served and discharge directly to a road or open space or into a covered area that adjoins a road or open space.
- The doors to the electrical, data and communication services cupboards must have a non-combustible lining and be smoke separated from the lobby. The cupboards must be smoke separated from the corridor so that there is no connection between the cupboard and any false ceiling over the lobby.
- The construction and discharge of exits, landings, thresholds, balustrades and handrails are required to comply the requirements of the BCA.
- Exit doors (not apartment entry doors) are required to swing in the direction of travel and should be free passage from the side that a person is seeking egress.
- All exit doorways must have level thresholds on either side of the doorway or be provided with a threshold ramp.
- Handrails in the stairs are required to be designed and constructed to comply with clause 12 of AS 1428.1 2009.

Concessions
The BCA offers different DTS concessions for different types of sprinkler system installed into the Class 2 building. Please see Appendix C for a full list of concessions pertaining to sprinkler system compliance with AS2118.1 2017, AS2218.4 2012, FPAA101D, & FPAA101H systems:

Some of the main concessions associated with these different systems are listed below:

1. **AS 2118.1 2017 or 2118.4 2012 as applicable**

- Increased travel distance from SOU door to an exit from 6m to 12m
- Fire door FRL concession for SOU and fire stair from -/60/30 to -/30/30
- Increased maximum distance between alternative exits from 45m to 60m
- Hydrant concessions – please seek advice from services consultants
- Spandrel exemption
- Maximum travel distance at the level of egress to road or open space from 20m to 30m

2. **FPAA101D except for residential care buildings**

- Increased travel distance from SOU door to an exit from 6m to 12m
- Increased maximum distance between alternative exits from 45m to 60m
- Hydrant concessions – please seek advice from services consultants
- Maximum travel distance at the level of egress to road or open space from 20m to 30m

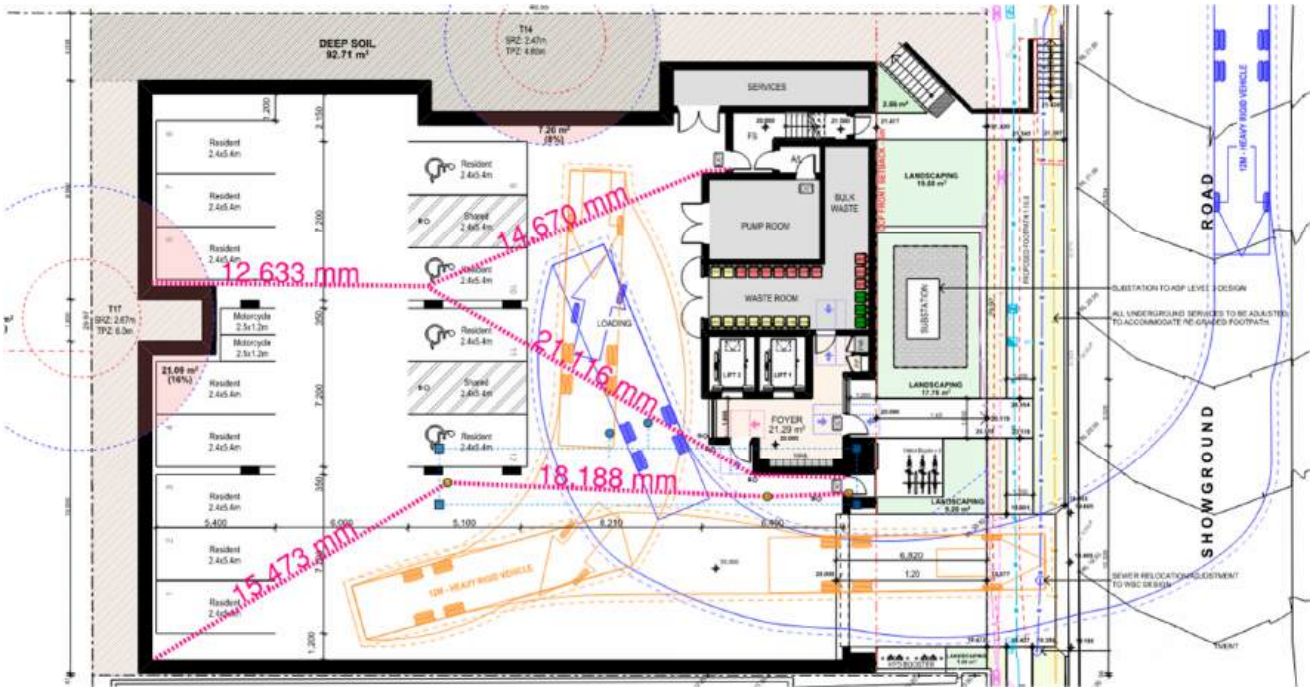
3. **FPAA101H except for residential care buildings**

- Increased travel distance from SOU door to an exit from 6m to 12m
- Increased maximum distance between alternative exits from 45m to 60m
- Maximum travel distance at the level of egress to road or open space from 20m to 30m

Number of exits
Basements — In addition to any horizontal exit, not less than 2 exits must be provided from any storey if egress from that storey involves a vertical rise within the building of more than 1.5 m, unless—

(i) the floor area of the storey is not more than 50 m2; and
(ii) the distance of travel from any point on the floor to a single exit is not more than 20 m.

Egress from the basement requires two exits, as the BCA travel distances requirements necessitate the provision of two exits. See further for spacing of these exits, as they need to be distributed as uniformly as practicable, and currently are not.



When fire-isolated stairways and ramps are required
In a Class 2 building every stairway serving as a required exit must be fire isolated unless it connects, passes through or passes by not more than 3 consecutive storeys and one extra storey may be added if it is only for the accommodation of motor vehicles or for other ancillary purposes.

Fire stairs are proposed as the stairs pass through 5 consecutive storeys in the class 2 part of the building (Ground floor to level 5).

In a Class 7 part of a building (ie carpark) every stairway serving as a required exit must be fire-isolated unless it connects, passes through or passes by not more than 2 consecutive storeys with one extra storey being included if the building is sprinkler protected.

One extra storey of any classification may be included the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having an FRL of -60/60 if non-loadbearing or 90/90/90 if loadbearing and no opening that could permit the passage of fire or smoke.

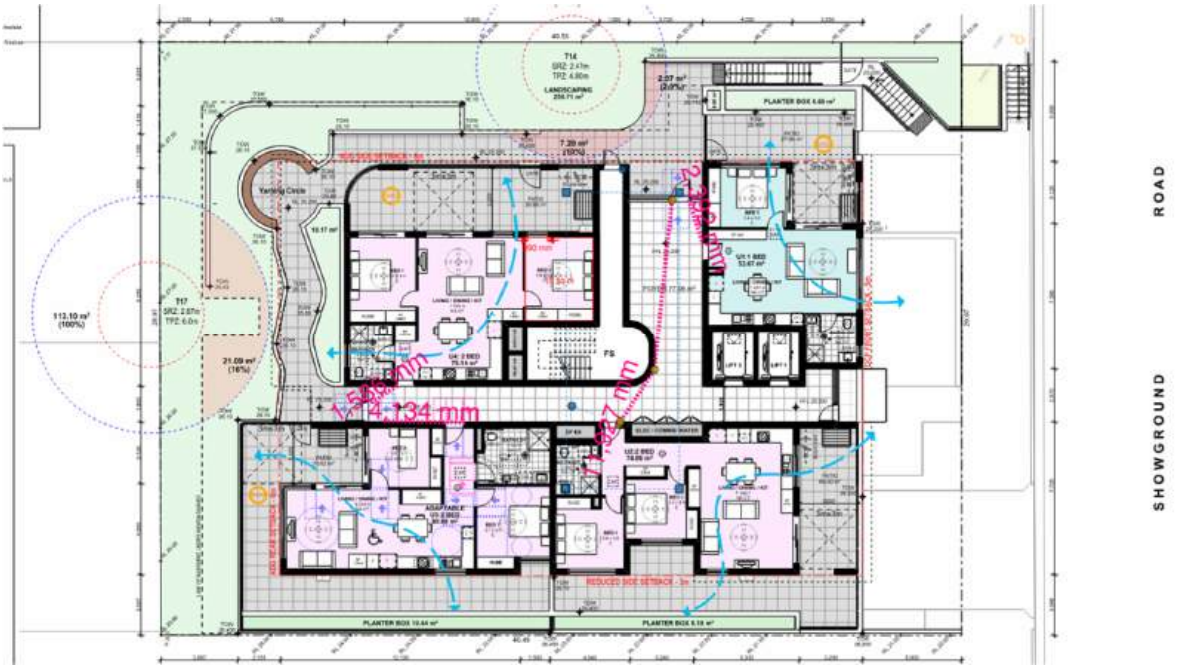
Travel distances
The entrance doorway of any sole-occupancy unit must be not more than 6m from an exit or from a point from which travel in different directions to 2 exits is available or 20m from a single exit serving the storey at the level of egress to a road or open space, unless a concession is attracted that permits 12m travel distance to an SOU to an exit, or 12m to a point of choice to two alternative exits.

Please provide details of sprinkler protection in the detailed design drawings and services design documents.

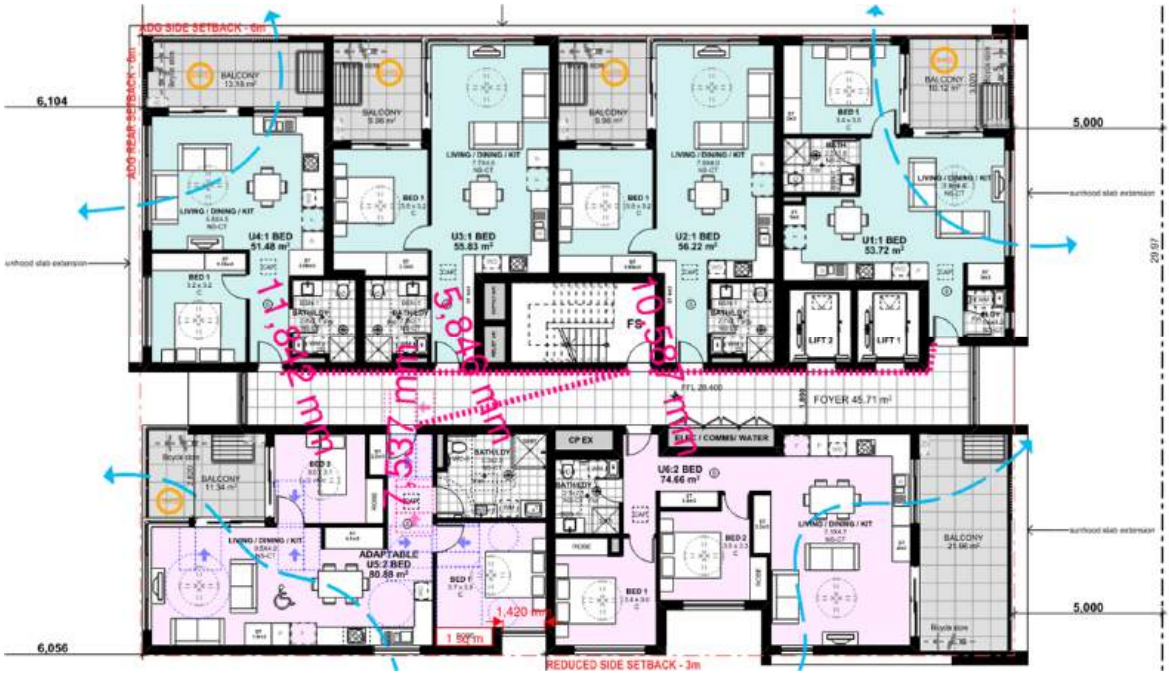
No point in the building, which is not an apartment, must be more than 20m from an exit or from a point at which travel in different directions to two exits is available, in which case the maximum distance to one of those exits must not exceed 40m.

The maximum distance between alternative exits serving the basement carpark is 60m.

On the ground floor, unit 2 exceeds the 6m travel distance to a required exit, an will need the Specification 18, 12m travel sprinkler concession for compliance.

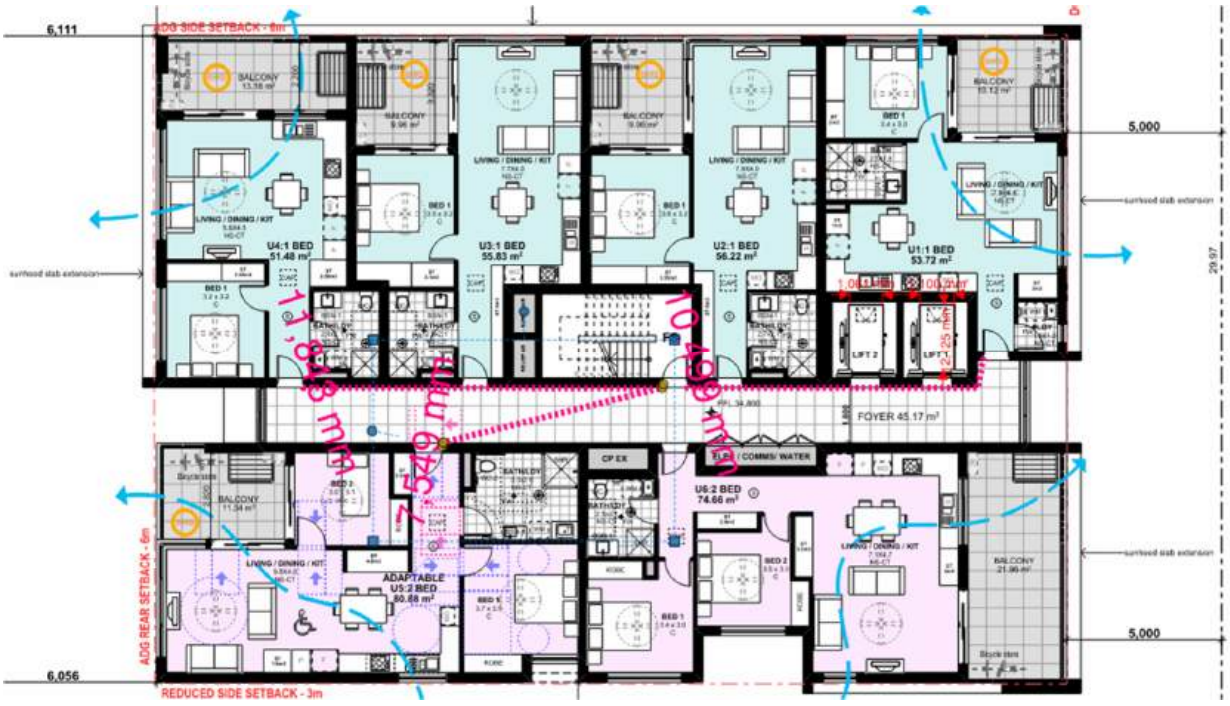


On the Level 01, units 1, 4, & 5 exceed the 6m travel distance to a required exit, an will need the Specification 18, 12m travel sprinkler concession for compliance, or a fire engineered performance solution.

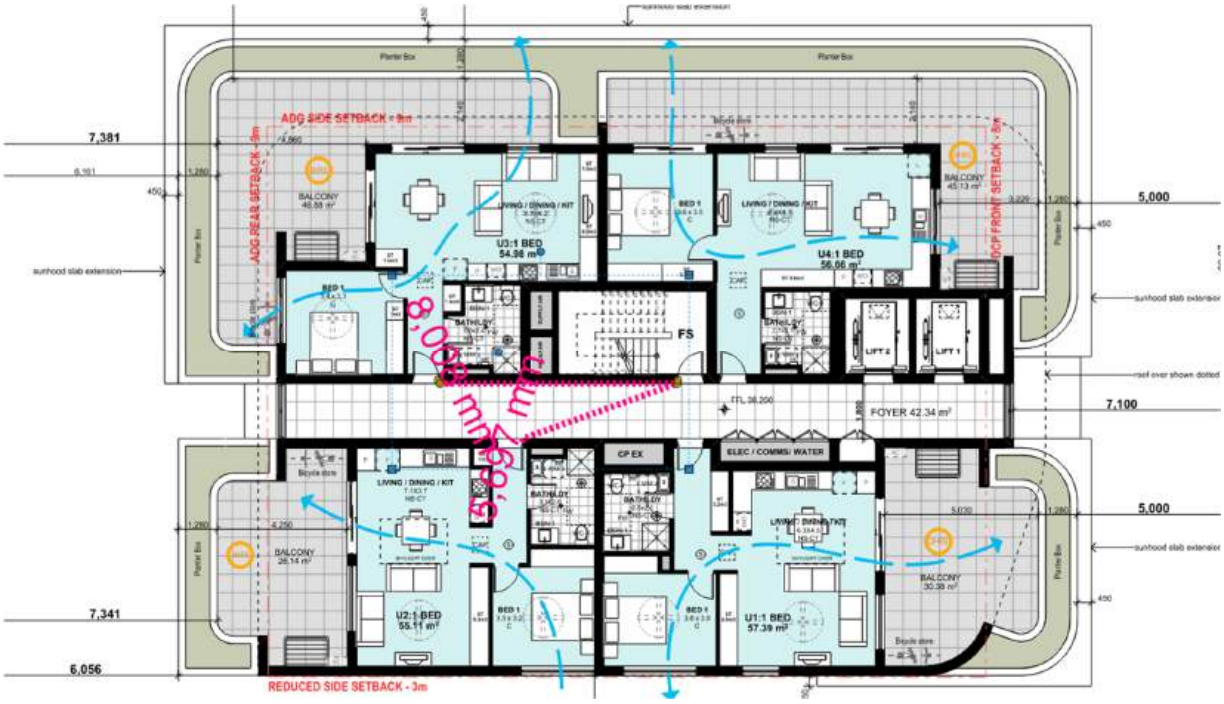


On the Level 02, units 1, 4, & 5 exceed the 6m travel distance to a required exit, and will need the Specification 18, 12m travel sprinkler concession for compliance, or a fire engineered performance solution.

On the Level 03, units 1, 4, & 5 exceed the 6m travel distance to a required exit, and will need the Specification 18, 12m travel sprinkler concession for compliance, or a fire engineered performance solution.



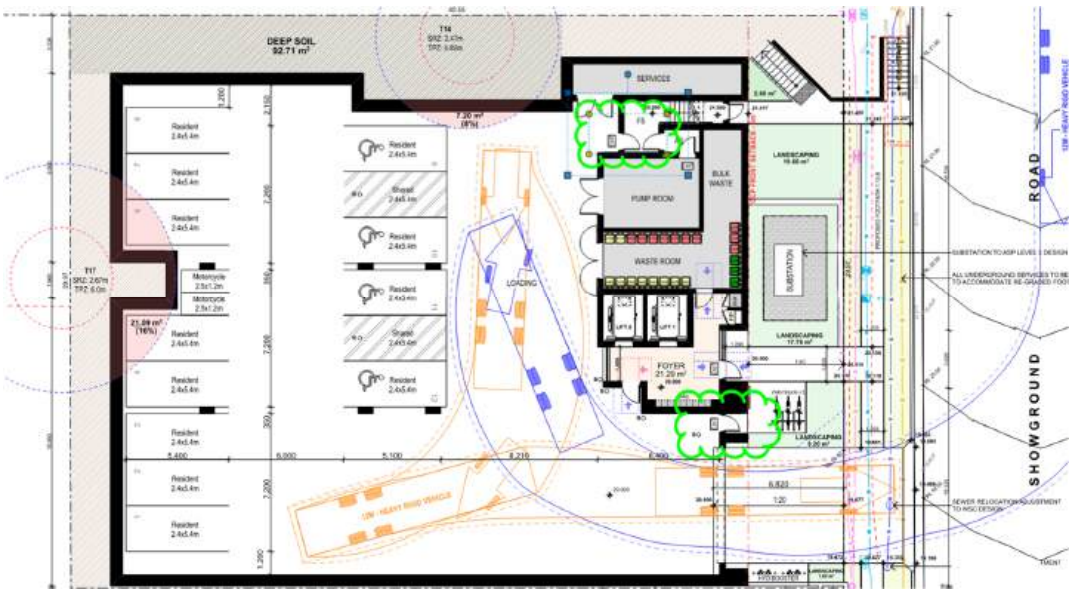
On the Level 03, units 1, 4, & 5 exceed the 6m travel distance to a required exit, and will need the Specification 18, 12m travel sprinkler concession for compliance, or a fire engineered performance solution.



Distance between alternative exits
Exits that are required as alternative means of egress must be -

- distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and
- not less than 9 m apart, and
- not more than 45 m apart in a Class 2 building, and
- not more than 60m apart in a Class 7a part of the building, and
- located so that alternative paths of travel do not converge such that they become less than 6 m apart.

The location of the alternative required exits from the basement are not distributed as uniformly as practicable within or around the storey served, as they are all located on the Eastern side of the building. The current design may be considered under a fire engineered performance solution.



Dimensions of exits
In a required exit or path of travel to an exit –

- The unobstructed height throughout must be not less than 2m, except the unobstructed height of any doorway may be reduced to not less than 1980mm; and
- The unobstructed width of each exit or path of travel to an exit, except for doorways must not be less than 1m.

Travel via fire-isolated exits
A doorway from a room must not open directly into a stairway that is required to be fire-isolated unless it is from –

- A public corridor, public lobby or the like
- A sole-occupancy unit occupying all of a storey
- A sanitary compartment, airlock or the like

Each fire-isolated stairway must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway –

- to a point—

  (i) 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 ⅔ of its perimeter; and
  (ii) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or

- into a covered area that—

  (A) adjoins a road or open space; and
  (B) is open for at least 1/3 of its perimeter; and
  (C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3m and
  (D) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m.

Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have –

- An FRL of not less than 60/60/60; and
- Any openings protected internally in accordance with specification 12,

For a distance of 3m above or below, as appropriate, the level of the path of travel, or for the height if the wall, whichever is lesser.

Comments in relation to the fire stair discharge options
The fire stair discharge from the ground floor necessitates passing within 6m of the external wall as well as the potential location of the foyer entry door to the ground floor from the external stair. Details of how compliance will be met is required.

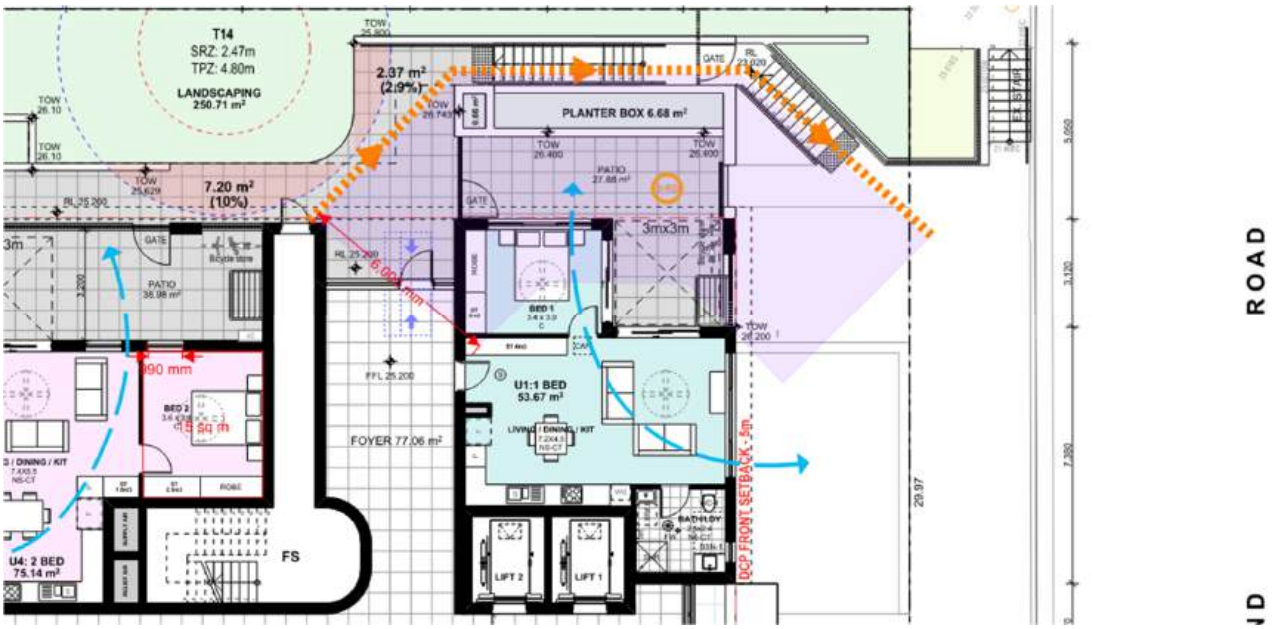
The BCA DTS requirements allow:

Doorways
- Internal or external wall wetting sprinkers used with automatic closing windows or self closing doors
- -/60/30 self closing fire doors

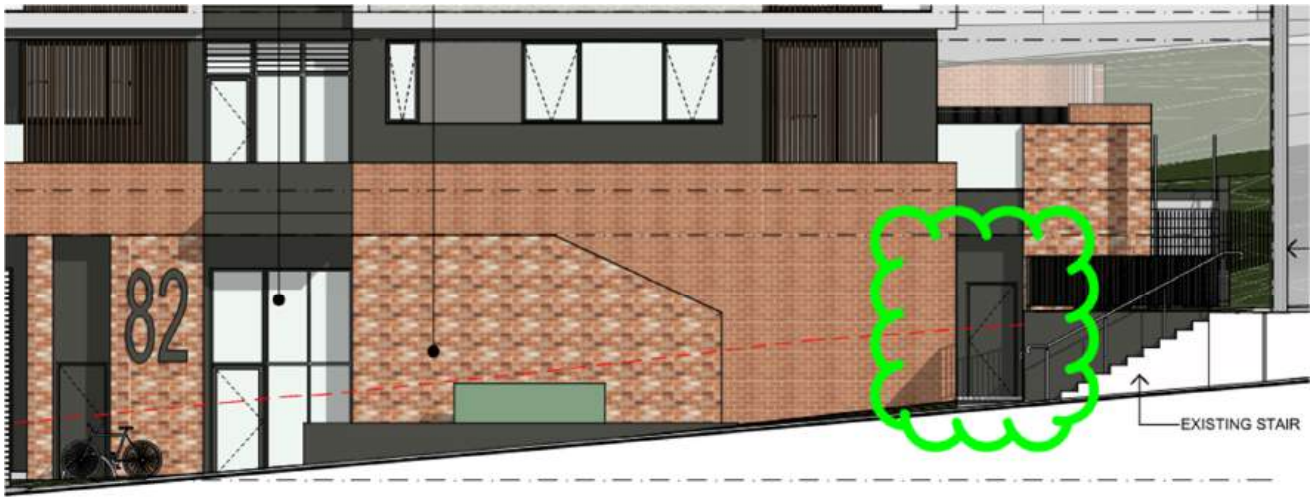
Windows:
- Internal or external wall wetting sprinklers used with windows that are self closing or fixed closed
- -/60/- fire windows
- -/60/- automatic closing fire shutters

Other openings:

- Excluding voids – internal or external wall wetting sprinklers, or construction with an FRL of -/60/-



The basement fire stair door that discharges to the street is captured in this 6m and requires a -/60/30 fire door.



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Discharge from exits
The BCA states that an exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it.

Where the required exit leads to open space, the path of travel to the road must have an unobstructed width throughout of not less than 1m.

Where the exits discharges to open space which is at a different level than the public road to which it is connected, the path of travel to the road must be by a ramp or other incline having a gradient not steeper then 1:8 at any part, or not steeper than 1:14 if required to be accessible.

Fire-isolated stairways
A stairway (including any landings) that is required to be within a fire-resisting shaft must be constructed of non-combustible materials so that if there is a local failure it will not cause structural damage to, or impair the fire-resistance of the shaft.

Non-fire-isolated stairways and ramps
In a building having a rise in storeys of more than 2, required stairs (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to fire-isolated stairways requirements above, or only of reinforced or prestressed concrete, steel in no part less than 6 mm thick or timber that—

(i) has a finished thickness of not less than 44 mm; and
(ii) has an average density of not less than 800 kg/m3 at a moisture content of 12%; and
(iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.

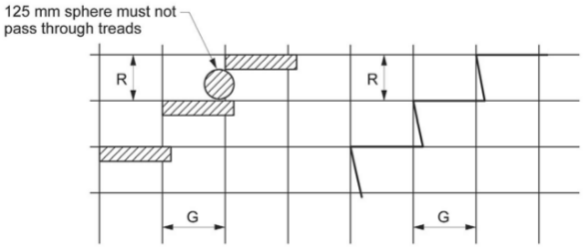
Installation in paths of travel
Electrical, comms or mechanical distribution boards installed along a path of travel to an exit are required to be enclosed by non-combustible construction or a fire protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.

Enclosure of space under stairs and ramps
Fire-isolated stairways – if the space below a required fire-isolated stairway is within the fire-isolated shaft, it must not be enclosed to form a cupboard or similar enclosed space.

Stairs
The proposed stairs are required to be provided with risers and goings that have a constant dimension throughout the flight and that comply with the formula 2R+G = 550-700. Risers shall not permit any openings greater than 124mm to pass through the treads.

Compliance readily achievable and to be documented in the next phase of design. Architect to note and provide details of the stairs for further assessment.

Stairway location	Riser (R)	Going (G) Note 3	Quantity (2R+G)
Public	Max: 190 mm Min: 115 mm	Max: 355 mm Min: 250 mm	Max: 700 mm Min: 550 mm
Private Note 1	Max: 190 mm Min: 115 mm	Max: 355 mm Min: 240 mm	Max: 700 mm Min: 550 mm



The treads and landings in the internal stairs (if dry) must have a surface with a slip-resistance classification not less than P3 or R10 when tested in accordance with AS 4586 2013 or a nosing strip or landing edge strip with a slip-resistance classification not less than P3 when tested in accordance with AS 4586 2013.

The treads and landings in the external stairs must have a surface with a slip-resistance classification not less than P4 or R11 when tested in accordance with AS 4586 2013 or a nosing strip or landing edge strip with a slip-resistance classification not less than P4 when tested in accordance with AS 4586 2013.

Landings
Landings are required to have a maximum gradient of 1:50 and must be not less than 750mm long, and where this involves a change in direction, the length is measured 500mm from the inside edge of the landing.

Landings must have a surface with a slip-resistance classification not less than that listed in D3D15 when tested in accordance with AS 4586 or a strip at the edge of the landing with a strip at the edge of the landing with a slip-resistance classification not less than that listed in D3D15 when tested in accordance with AS 4586, where the edge leads to a flight below.

Door thresholds
The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless it is provided with a threshold ramp or step ramp in accordance with AS1428.1 2009.

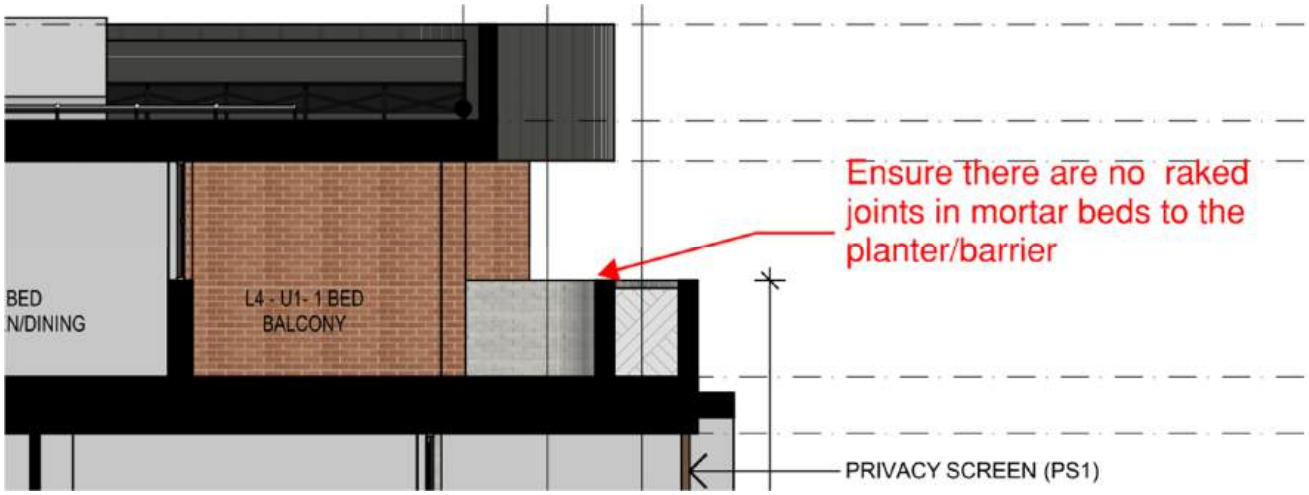
The doorways from the building to the outside must not have a step in the door threshold. Any level change must be made up by a ramp complying with AS1428.1 2009.

Barriers to prevent falls
A continuous barrier must be provided along the side of a stairway, ramp, floor, corridor, hallway, balcony, deck, veranda or the like where the trafficable surface is 1m or more above the surface beneath.

Barrier heights must be a minimum of 865mm high along all stair flights and shall not have any openings larger than 124mm throughout the barrier.

Barrier heights must be a minimum 1m high along all walkways and balconies on Levels 1 and 2 and shall not have any openings larger than 124mm throughout the barrier.

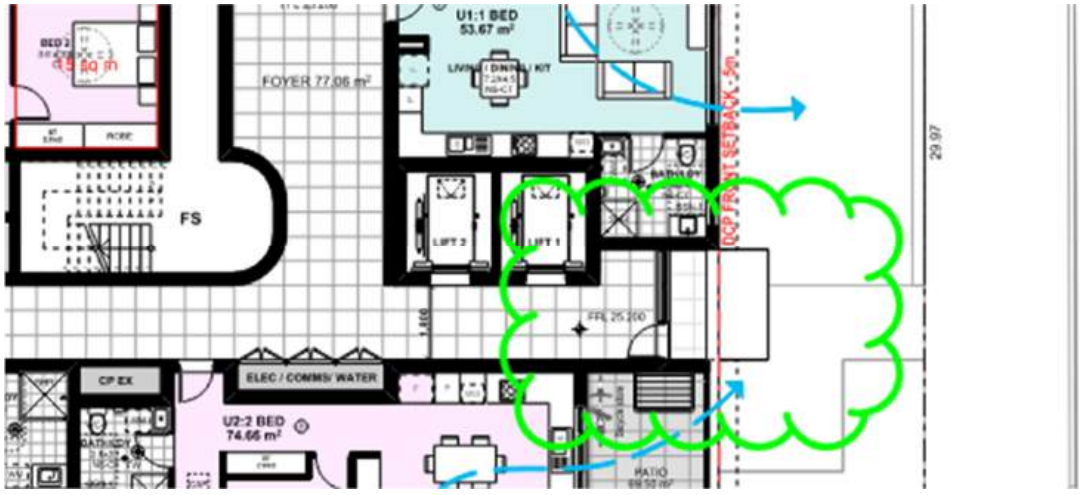
All balustrades to walkways and balconies that are located 4m or more above the ground below must have no horizontal or near horizontal elements between 150 mm and 760 mm above the floor.

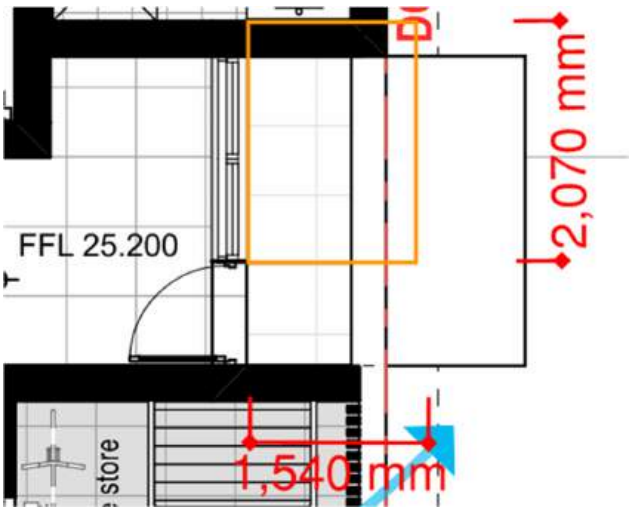


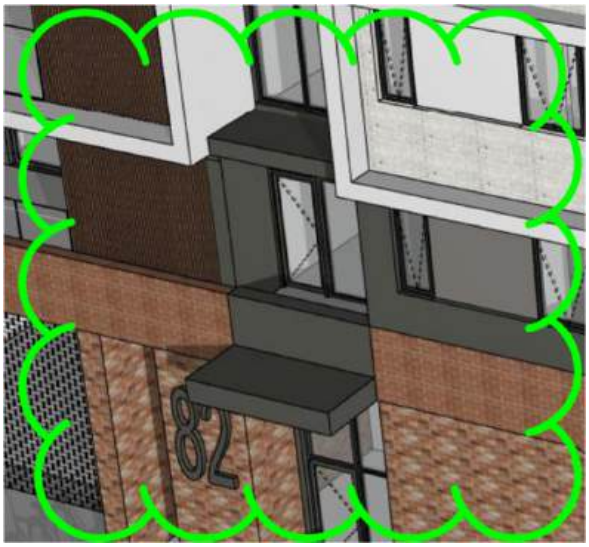
The Juliet style balcony on the Ground level Eastern street frontage is a common area, and requires access to it.

Access requirements include:

- An 850mm clear doorway opening
- A minimum 1540mm x 2070 space to turn around in, in addition to the circulation space at the door.







Handrails
All stairs and ramps are required to be provided with handrails with a minimum height of 865mm.

As the stairs serving the apartment are to be used as communication stairs by the residents they must be designed and constructed to fully comply with AS4128.1 2009.

This requires handrails to be provided to both sides of the stairs. The handrails must be fixed at a height between 865 – 1000mm measured above the nosings of stair treads and the floor surface of ramp, landing, or the like and be continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold.

If the stairs serving the basement carpark are to be used as communication stairs by the residents they must be designed and constructed to comply with Clause 12 of AS4128.1 2009.

Exit door swing
Exit doors are required to swing in the direction of travel.

Operation of Latch
The door hardware to all proposed doors (except the doors to or within the apartments) must be readily openable without a key from the side that faces a person seeking egress by:

- a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch and have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45mm or
- a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor.

Signs on doors
The door into the fire-isolated exit are required to state the following.

FIRE SAFETY DOOR
DO NOT OBSTRUCT
DO NOT KEEP OPEN

The door discharging from the fire-isolated exit is required to state the following and this sign is required to both sides of the doorway.

FIRE SAFETY DOOR – DO NOT OBSTRUCT

Protection of openable windows
A window opening must be provided with protection, if the floor below the window is 2 m or more above the surface beneath a bedroom in a Class 2 building.

Where the lowest level of the window opening is less than 1.7 m above the floor, the window opening must comply with the following:

- The openable portion of the window must be protected with—
  - a device capable of restricting the window opening; or
  - a screen with secure fittings.
- the device or screen must—
  - not permit a 125 mm sphere to pass through the window opening or screen; and
  - resist an outward horizontal action of 250 N against the—
    - window restrained by a device; or
    - screen protecting the opening; and
  - have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden.

A barrier with a height not less than 865 mm above the floor is required to have a child resistant release mechanism in addition to window protection. The window barrier must not permit openings greater than 124mm and not have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor to facilitate climbing.

5.0 Services and Equipment

The following is a status of the services and equipment required to be provided to the building.

Fire Hydrants
Fire hydrant coverage in accordance with BCA Clause E1D2 and AS2419.1 2021 must be provided to the building as the floor area is greater than 500m2.

All points of the floor to be within 40m of an internal hydrant.

Internal fire hydrants shall be located within the fire stairs.
The fire hydrant booster if remote from the building is required to be at the boundary of the site and be within sight of the main entrance of the building, adjacent to the principal vehicular access to the site and as the building will be sprinkler protected it may be within 10 m from the external wall of any building served.

7.6.1 Sprinkler-protected buildings

The protection requirements of Clauses 7.6.2 and 7.6.3 need not be applied, where a sprinkler system is installed throughout a building in accordance with AS 2118.1 , AS 2118.4 , AS 2118.6 , FPAA101D or FPAA101H.

Fire hydrant pump room
Fire hydrant pumprooms located within a building shall have –

(a) A door opening to a road or open space, or a door opening to a fire-isolated passage or stair which leads to a road or open space; and

(b) Except where the building is sprinkler protected in accordance with AS2118.1, enclosing walls with an FRL not less than that prescribed by the BCA for a firewall for the particular building classification served by the fire hydrant system.

Note that if a AS 2118.1 or FPAA101H sprinkler system is proposed then the pump room doesn't need to be fire rated. If a FPAA101D sprinkler system is proposed, then the room is required to be 2-hour fire rated. Please confirm the type of sprinkler system proposed.

Pump room complies pending sprinkler specification.

Fire Hose-Reels
Fire hose-reels coverage in accordance with the BCA Clause E1D3 and AS 2441-2005 must be provided to the basement carpark level, they are not required to the apartment levels.

Fire hose reels must be provided to serve only the storey they are located. In achieving system coverage, fire hose reels must be located adjacent to the internal fire hydrant. Fire hose reels must also be located within 4m of the exit and located so that they will not need to pass through doorways fitted with fire and smoke doors.

Sprinklers
Sprinkler protection is required to be provided to a Class 2 building throughout the whole building, including any part of another class, if any part of the building has a rise in storeys of 4 or more and an effective height of **not more than 25m.**

As the rise in storeys is calculated to be 6, the building is required to be sprinkler protected.

Sprinkler alarm valves must be in a secure room or enclosure which has direct egress to a road or open Space. This is to be documented on the plans prior to the application of the DA.

Confirmation of whether an AS 2118.1-2017 system or FPAA101D or FPAA101H system will be installed.

Sprinkler alarm valve has not been shown on the plans. It is required to open to the outside. It is required to open to the road or open space and must comply with BCA Specification S17C6. The sprinkler alarm valve is not permitted to be located in the proposed basement pump room as the room does not open to the outside.

Portable Fire Extinguishers
Fire extinguishers in accordance with BCA Clause E1D14 and AS 2444 2001 must be provided to the building.

Portable fire extinguishers that are required to be provided in a Class 2 building must be—

(i) an ABE type fire extinguisher; and
(ii) a minimum size of 2.5 kg; and
(iii) distributed outside a sole-occupancy unit—
(A) to serve only the storey at which they are located; and
(B) so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m.

Smoke Hazard Management – Smoke Detection and Alarm System
The smoke hazard management requirements are stated below.

General requirements

- An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2D4 to E2D20 and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must –

  - Be designed and installed to operate as a smoke control system in accordance with AS1668.1; or

- Incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and
- Be arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with Clause 7.5 of AS1670.1; and
- For the purposes of this provision, each sole-occupancy unit in a Class 2 is treated as a separate fire compartment

- Miscellaneous air-handling systems covered by Sections 5 and 6 of AS 1668.1 serving more than one fire compartment (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard.

Class 2 buildings

- Must be provided with an automatic smoke detection and alarm system complying with BCA Specification 20, i.e. a smoke alarm system complying with AS 3786 – 2014 or a smoke detection system complying with AS 1670 – 2018.

Class 7a parts

A Class 7a building, including a basement, provided with a mechanical ventilation system in accordance with AS 1668.2, must comply with clause 5.5 of AS 1668.1.

The building must be provided with an automatic smoke detection and alarm system complying with one of the following:

- A smoke detection system complying with BCA Specification 20 and AS1670.1 2018 through the whole building with alarms installed in public corridors and other internal public spaces installed in accordance with the requirements for smoke detectors in AS1670; or
- A combination of a smoke alarm system complying with BCA Specification 20 and AS3786 2014 within apartments smoke detection system complying with AS1670.1 2018 in areas not within the apartments.

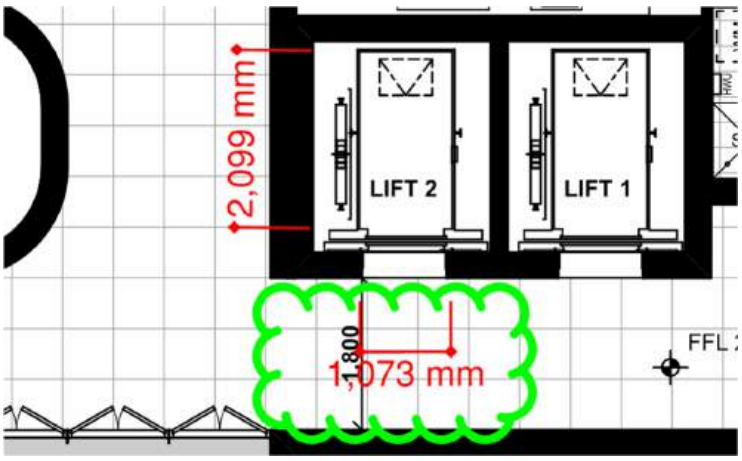
A building occupant warning system is required to be installed as per the requirements of BCA Specification 20.
Fire Services Consultant to confirm the proposed smoke detection system for the building.

Passenger lift

The lifts are to be accessible and comply with the requirements of AS1735.12 1999 and BCA Clause E3.6.

Handrails complying with AS1735.12 1999 must be provided to both lifts.

All lifts that travel not more than 12m must have a lift floor dimensions of not less than 1100 mm wide x 1400 mm deep.



All lifts that travel more than 12m must have a lift floor dimensions of not less than 1400 mm wide x 1600 mm deep.

All lift doors must have a clear opening width of not less than 900mm.

Any passenger lift must not rely on a constant pressure device for its operation if the lift car is fully enclosed.

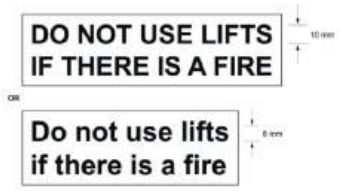
All lifts must have a passenger protection system, lighting and lift car and landing control buttons that comply with AS1735.12 1999.

All lifts serving more than 2 levels must be provided with:

- automatic audible information within the lift car to identify the level each time the car stops; and
- audible and visual indication at each lift landing to indicate the arrival of the lift car; and
- audible information and audible indication *required* by (a) and (b) is to be provided in a range of between 20–80 dB(A) at a maximum frequency of 1 500 Hz

Emergency hands-free communication, including a button that alerts a call centre of a problem and a light to signal that the call has been received must be provided to all lifts.

Warning signs must be displayed where it can be readily seen near every passenger lift complying with Figure E3.3 as shown below.



Provide further lift drawings for assessment prior to the issue of the relevant Building Approval.

Fire service Controls

Where lifts serve any storey above an effective height of 12m, a fire service recall control switch or a lift car fire service drive control switch must be provided in accordance with BCA Clause E3D9 or E3D12. Compliance readily achievable where required and to be documented in the vertical transport design documentation prior to the relevant Building Approval.

Emergency lighting
Emergency lighting in accordance with BCA Clause E4D2 and AS 2293.1 2005 is to be provided –

- In every fire isolated stairway
- In every storey of a Class 7 building where the storey has a floor area more than 300m^2 –
- In every passageway, corridor, hallway or the like that forms the path of travel to an exit
  - In any room having a floor area more than 100m^2 that does not open to a corridor or space that has emergency lighting or to a road or open space
  - In any room having a floor are more than 300m^2

- In every passageway, corridor, hallway, or the like, having a length of more than 6 m from the entrance doorway of any sole-occupancy unit in a Class 2 building to the nearest doorway opening directly to:

  - a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; or
  - an external stairway serving instead of a fire-isolated stairway; or
  - an external balcony leading to a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; or
  - a road or open space; and
- In every required non fire isolated stairway

Exit signs
An exit sign must be clearly visible to persons approaching the exit, and must be installed on, above or adjacent to each—

(a) door providing direct egress from a storey to—

(i) an enclosed stairway, passageway or ramp serving as a required exit; and

(b) door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space; and
(c) horizontal exit; and
(d) door serving as, or forming part of, a required exit in a storey required to be provided with emergency lighting in accordance with E4D2.

Where an exit sign is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.

Note that exits signs do not apply to a Class 2 building in which every door referred to is clearly and legibly labelled on the side remote from the exit or balcony with the word “EXIT” in capital letters 25 mm high in a colour contrasting with

that of the background or by some other suitable method. Additionally, exit signs are not required at the entrance door of a sole-occupancy unit in a Class 2 building.

6.0 Health and Amenity

Roof and Wall cladding
External wall cladding must comply with one or a combination of the following:

(a)Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700.
(b)Autoclaved aerated concrete: AS 5146.3.
(c)Metal wall cladding: AS 1562.1.

Where an external lightweight wall cladding is proposed it is required to have a CodeMark Certificate of Conformity confirming compliance to BCA F3P1.
External waterproofing membranes
A roof, balcony, podium, or similar horizontal surface part of a building must be provided with a waterproofing membrane that complies with AS4654.1, and is designed and installed in accordance with AS4654.2.

Light and ventilation
All habitable rooms in a Class 2 building are to be provided with natural light.

Natural light can come from glazed panels or openings (windows), or roof lights.

Window light transmitting area – 10% of the floor area. Roof lights – 3% of the floor area.

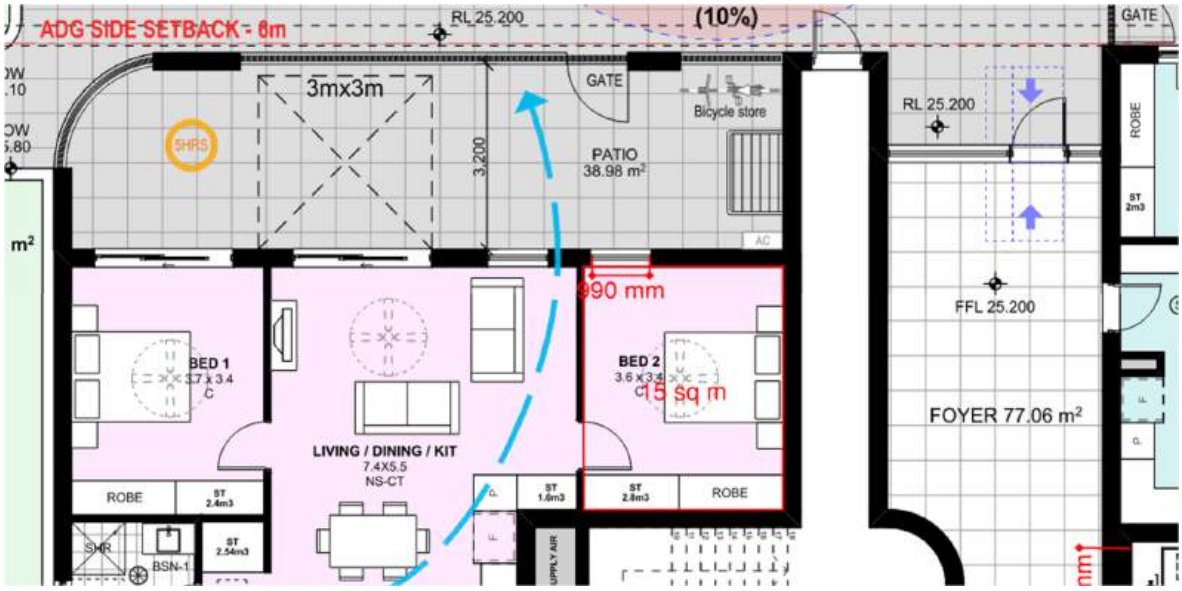
The light can come from a combination of the above, or can be borrowed from an adjoining room in the same SOU.

Metro is concerned that the window serving Bed 2 in Unit 4 on the ground floor does not meet these requirements, due to:

- the concrete floor slab extending over the window
- The masonry fence bounding the patio
- The slat fencing used in conjunction with the masonry

Also, please confirm that the roof lights serving Unit 1 on level 4 meets the 3% requirement for the living/dining /Kitchen.

Please note that if design changes are required to meet BCA compliance after the DA has been approved then a s4.55 modification to the DA approved drawings may be required.



Stormwater drainage
All stormwater drainage is required to comply with AS/NZS 3500.3 2021

External above ground membranes
Waterproofing membranes for external above ground use must comply with AS 4654.1 and AS 4654.2.

Roof coverings
Where a concrete roof is proposed, it is required to have an external waterproofing membrane complying with BCA Clause F1D5.

Where a metal roof is proposed, it is required to comply with AS 1562.1.

Sarking
Sarking-type material used for weatherproofing of roofs and walls must comply with AS/NZS 4200.1 and AS 4200.2.

Waterproofing of wet areas
Building elements in bathroom or shower room, a sink compartment, a laundry or sanitary compartment must—
(i) be *water resistant* or *waterproof* in accordance with BCA S26C1; and
(ii) comply with AS 3740 2021.

Damp-proofing
Moisture from the ground must be prevented from reaching—
(i) the lowest floor timbers and the walls above the lowest floor joists; and
(ii) the walls above the damp-proof course; and
(iii) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders.

Where a damp-proof course is provided, it must consist of—
(i) a material that complies with AS/NZS 2904 1995; or
(ii) impervious sheet material in accordance with AS 3660.1 2000 or 2014.

Damp-proofing of floors on the ground
If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870 2011, except damp-proofing need not be provided if—

(a) weatherproofing is not *required*; or
(b) the floor is the base of a stair, lift or similar *shaft* which is adequately drained by gravitation or mechanical means.

Exposed Joints
Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must—
(a) be protected in accordance with Section 2.9 of AS 4654.2; and
(b) not be located beneath or run through a planter box, water feature or similar part of the building.

Floor wastes
In a Class 2 building a bathroom or laundry located at any level above a sole-occupancy unit or public space must have a floor waste and the floor graded to the floor waste to permit drainage of water.

Subfloor Ventilation
Subfloor spaces must be provided with openings in external walls and internal subfloor walls in accordance with BCA Table F1D8 for the climatic zones given in BCA Figure F1D8 and have clearance between the ground surface and the underside of the lowest horizontal member in the subfloor in accordance with BCA Table F1D8.

Glazed assemblies
The following glazed assemblies in an external wall, must comply with AS 2047 2014 requirements for resistance to water penetration:

- Windows.
- Sliding and swinging glazed doors with a frame, including french and bi-fold doors with a frame.
- Adjustable louvres.
- Window walls with one piece framing

Sanitary and other facilities in residential buildings
Each apartment must be provided with the following facilities:

- a kitchen sink and facilities for the preparation and cooking of food,
- a bath or shower,
- a closet pan and washbasin,
- clothes washing facilities, comprising a washtub and space for a washing machine,
- clothes drying facilities comprising clothesline or hoist with not less than 7.5 m of line or space for one heat-operated drying cabinet or appliance in the same room as the clothes washing facilities.
- or a separate laundry for each 4 apartments can also be provided in lieu of individual facilities. Note: a kitchen sink or washbasin cannot be considered as a laundry washtub.

Where accessible toilets are provided they are required to comply with the requirements of AS1428.1 2009. Details are to be provided for our review prior to the issue of the Crown Works Certificate.

Room Sizes
The BCA states that the height of rooms and other spaces must be not less than in a Class 2 building:

(i) a kitchen, laundry, or the like — 2.1 m; and
(ii) a corridor, passageway or the like — 2.1 m; and
(iii) a habitable room excluding a kitchen — 2.4 m

Habitable room means a room used for normal domestic activities, and—
(a) includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, **study**, playroom, family room, home theatre and sunroom; but
(b) excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

All areas within the other parts of the building (i.e. the basement carpark) are required to have a ceiling height of at least 2.4m and 2.1m in car parking areas, corridors, passageways or the like.

The architect is required to determine if the SEPP 65 requirement for room heights within all apartments to be a minimum of 2.7m is applicable.

The architect is required to include any ceiling height requirements of the applicable planning legislation.

Any mechanical or services bulkheads impeding the ceiling heights are to be shown in the developed design drawings.

Artificial light
All areas not provided with natural light must be provided with artificial lighting complying with AS/NZS 1680.0 2009.

Ventilation
All habitable rooms (eg bedrooms, living room, dining rooms, studies etc) and other areas of the building occupied by a person for any purpose must be provided with natural ventilation complying with BCA Clause F6D7 and F6D8 or mechanical ventilation complying with AS 1668.2 2012.

Note that if ventilation is provided by operable windows and their openings are restricted to comply with the balustrade provisions the amount of air that they provided should be calculated based on the reduced size of the openings.

Carpark Ventilation
The carpark must have a system of mechanical ventilation complying with AS 1668.2 2012.

Sound transmission

All walls, floors and services must comply with Part F7 and Specification 28 of the BCA.

Provide the acoustic report for review.

Occupiable outdoor area
These provisions do not apply to an occupiable outdoor area with an area less than 10m2 ie a balcony less than 10m2.

The BCA states that a lining, material or assembly in an occupiable outdoor area must comply with the BCA fire hazard indices requirements of BCA Clause specification 5 as for an internal element.

The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with specification 5:

(i) Average specific extinction area.

(ii) Smoke-Developed Index.
(iii) Smoke development rate.
(iv) Smoke growth rate index (SMOGRARC).

Occupiable outdoor area means a space on a roof, balcony or similar part of a building—
(a) that is open to the sky; and
(b) to which access is provided, other than access only for maintenance; and
(c) that is not open space or directly connected with open space

Provide the fire hazard indices for any linings in the proposed balconies.

7.0 Condensation Management

External wall construction
(1) Where a pliable building membrane is installed in an external wall, it must—
(a)comply with AS 4200.1; and
(b)be installed in accordance with AS 4200.2; and
(c)be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building.
(2) Where a pliable building membrane, sarking-type material or insulation layer is installed on the exterior side of the primary insulation layer of an external wall it must have a vapour permeance of not less than—
(a) in climate zones 4 and 5, 0.143 µg/N.s; and
(b) in climate zones 6, 7 and 8, 1.14 µg/N.s.
(3) Except for single skin masonry and single skin concrete, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity.

Exhaust Systems
(1) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of—
(a)25 L/s for a bathroom or sanitary compartment; and
(b) 40 L/s for a kitchen or laundry.
(2) Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment or laundry must discharge directly or via a shaft or duct to outdoor air.
(3) Where space for a clothes drying appliance is provided in accordance with F4D2(1)(b), space must also be provided for ducting from the clothes drying appliance to outdoor air.
(4) (3) does not apply if a condensing-type clothes drying appliance is installed.

(5) An exhaust system that is not run continuously and is serving a bathroom or sanitary compartment that is not ventilated in accordance with F6D7 must—
(a) be interlocked with the room's light switch; and
(b) include a run-on timer so that the exhaust system continues to operate for 10 minutes after the light switch is turned off.
(6) Except for rooms that are ventilated in accordance with F6D7, a room with space for ducting a clothes drying appliance to outdoor air in accordance with (3) must be provided with make-up air in accordance with AS 1668.2

A range hood installed in a kitchen must comply with F8D4(2) (directly or via a shaft or duct to outdoor air).

Ventilation of roof spaces
(1) In climate zones 6, 7 and 8, a roof must have a roof space that is located—

(i) immediately above the primary insulation layer; or
(ii) immediately above sarking with a vapour permeance of not less than 1.14 µg/N.s, which is immediately above the primary insulation layer; or
(v) immediately above ceiling insulation which meets the requirements of J3D7(3) and J3D7(4); and
(b) has a height of not less than 20 mm; and

is either ventilated to outdoor air through evenly distributed openings in accordance with Table F8D5; or located immediately underneath roof tiles of an unsarked tiled roof.

(2) The requirements of (1) do not apply to a—
(a)concrete roof; or
(b) roof that is made of structural insulated panels; or
(c) roof that is subject to Bushfire Attack Level FZ requirements in accordance with AS 3959

8.0 Liveable Housing Design

Part G7 of the BCA does not apply in NSW as livable housing design requirements do not apply to sole occupancy units in a Class 2 building in NSW.

10.0 Energy Efficiency

All works must comply with the BCA Section J and BASIX requirements. Please provide a Section J Report for review

Please note that BCA 2022 states the following in relation to facilities for electric vehicle charging equipment.

J9D4 Facilities for electric vehicle charging equipment
(1) Subject to (2), a carpark associated with a Class 2, 3, 5, 6, 7b, 8 or 9 building must be provided with electrical distribution boards dedicated to electric vehicle charging—
(a) in accordance with Table J9D4 in each storey of the carpark; and

(b) labelled to indicate use for electric vehicle charging equipment.
(2) Electrical distribution boards dedicated to serving electric vehicle charging in a carpark must—
(a) be fitted with a charging control system with the ability to manage and schedule charging of electric vehicles in response to total building demand; and
(b) when associated with a Class 2 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 11:00 pm to 7:00 am daily; and
(c) when associated with a Class 5 to 9 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 9:00 am to 5:00 pm daily; and
(d) when associated with a Class 3 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 48 kWh from 11:00 pm to 7:00 am daily; and
(e) be sized to support the future installation of a 7 kW (32 A) type 2 electric vehicle charger in—
(i) 100% of the car parking spaces associated with a Class 2 building; or
(ii) 10% of car parking spaces associated with a Class 5 or 6 building; or
(iii) 20% of car parking spaces associated with a Class 3, 7b, 8 or 9 building; and

(f) contain space of at least 36 mm width of DIN rail per outgoing circuit for individual sub-circuit electricity metering to record electricity use of electric vehicle charging equipment; and
(g) be labelled to indicate the use of the space required by (f) is for the future installation of metering equipment.

11.0 Provision for cleaning windows

A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.

Note this is satisfied where –

(i) the windows can be cleaned wholly from within the building; or
(ii) provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under the Act.

12.0 Performance solutions / fire engineering

Any part of the design that does not comply with the deemed to satisfy requirements of the BCA are required to be addressed in a performance solution report prior to the issue of the Crown Works Certificate.

13.0 Conclusion

The building's design details provided to date has been assessed in respect to the deemed to satisfy provisions of the deemed-to-satisfy provisions of Section C, D, E and F of the Building Code of Australia 2022 excluding Section B (Structure by Structural Engineer), Part D4 and Part G7 Liveable Housing Design (Disabled Access by Access Consultant), Part F7 (Sound Transmission & Insulation by Acoustic Engineer), Part G5 (Bushfire by Bushfire Consultant if applicable) and Section J (Energy Efficiency/BASIX by ESD Consultant).

The design is at a point where the design can be further developed with regards to BCA compliance however further reviews are required prior to the issue of the Crown Works Certificate.

METRO BUILDING CONSULTANCY

APPENDIX A – DRAWINGS REVIEWED

Architectural drawings prepared by DTA Architects

	Drawing Name	Drawing Number	Revision	Date
1.	Cover Page	1 OF 34	P3	13/09/2024
2.	Development Data	2 OF 34	P3	13/09/2024
3.	Demolition Plan	4 OF 34	P3	13/09/2024
4.	Site Analysis Plan	5 OF 34	P3	13/09/2024
5.	Basement Floor Plan	6 OF 34	P3	13/09/2024
6.	Ground Floor - Floor Plan	7 OF 34	P3	13/09/2024
7.	Level 01 - Floor Plan	8 OF 34	P3	13/09/2024
8.	Level 02 - Floor Plan	9 OF 34	P3	13/09/2024
9.	Level 03 - Floor Plan	10 OF 34	P3	13/09/2024
10.	Level 04 - Floor Plan	11 OF 34	P3	13/09/2024
11.	Roof Plan	12 OF 34	P3	13/09/2024
12.	Streetscape / East Elevation	13 OF 34	P3	13/09/2024
13.	North Elevation	14 OF 34	P3	13/09/2024
14.	South Elevation	15 OF 34	P3	13/09/2024
15.	West Elevation	16 OF 34	P3	13/09/2024
16.	Sections	17 OF 34	P3	13/09/2024
17.	Sections	18 OF 34	P3	13/09/2024
18.	Sections	19 OF 34	P3	13/09/2024
19.	Gross Floor Area Calculations	20 OF 34	P3	13/09/2024
20.	Landscaping Calculation	21 OF 34	P3	13/09/2024
21.	Cross Ventilation Calculations	22 OF 34	P3	13/09/2024
22.	Solar Access	23 OF 34	P3	13/09/2024
23.	Solar Access - View From Sun	24 OF 34	P3	13/09/2024
24.	Shadow Diagrams	25 OF 34	P3	13/09/2024
25.	Shadow Diagrams	26 OF 34	P3	13/09/2024
26.	Shadow Diagrams	27 OF 34	P3	13/09/2024
27.	Perspectives	28 OF 34	P3	13/09/2024
28.	Perspectives	29 OF 34	P3	13/09/2024
29.	Perspectives	30 OF 34	P3	13/09/2024
30.	Perspectives	31 OF 34	P3	13/09/2024
31.	Perspectives	32 OF 34	P3	13/09/2024
32.	Perspectives	33 OF 34	P3	13/09/2024
33.	Height Plane	34 OF 34	P2	13/09/2024

APPENDIX B – TYPE A CONSTRUCTION REQUIREMENTS

The following are the fire rating requirements for the new building.

Table S5C11a: Type A construction: FRL of loadbearing parts of external walls

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy/ Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/60/60	120/90/90	180/180/120	240/240/180
3 m or more	90/60/30	120/60/30	180/120/90	240/180/90

Table S5C11b: Type A construction: FRL of non-loadbearing parts of external walls

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	–/90/90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/60/60	–/90/90	–/180/120	–/240/180
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C11c: Type A construction: FRL of external columns not incorporated in an external wall

Column type	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing	90/–/–	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C11d: Type A construction: FRL of common walls and fire walls

Wall type	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or non-*loadbearing*	90/90/90	120/120/120	180/180/180	240/240/240

Table S5C11e: Type A construction: FRL of loadbearing internal walls

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair *shafts*	90/90/90	120/120/120	180/120/120	240/120/120
Bounding *public corridors*, public lobbies and the like	90/90/90	120/–/–	180/–/–	240/–/–
Between or bounding *sole-occupancy units*	90/90/90	120/–/–	180/–/–	240/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion	90/90/90	120/90/90	180/120/120	240/120/120

Table S5C11f: Type A construction: FRL of non-loadbearing internal walls

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair *shafts*	–/90/90	–/120/120	–120/120	–/120/120
Bounding *public corridors*, public lobbies and the like	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*	–/60/60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion	–/90/90	–/90/90	–/120/120	–/120/120

Table S5C11g: Type A construction: FRL of other building elements not covered by Tables S5C11a to S5C11f

Building element	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Other *loadbearing* internal walls, internal beams, trusses and columns	90/–/–	120/–/–	180/–/–	240/–/–
Floors	90/90/90	120/120/120	180/180/180	240/240/240
Roofs	90/60/30	120/60/30	180/60/30	240/90/60

APPENDIX C SPRINKLER CONCESSIONS SPECIFICATION 18

AS 2118.1 2017 or 2118.4 2012 as applicable

(a) The FRL for *self-closing* fire doors, as *required* by C4D9 and C4D12, may be reduced to not less than –/30/30.

(b) The FRL for—

(i) all non-*loadbearing internal walls* and *shafts* constructed of *fire-protected timber*, as *required* by Specification 5 to have FRLs greater than –/60/60, may be reduced to –/60/60 and service penetrations through non-*loadbearing internal walls* and *shafts* constructed of *fire-protected timber*, *required* by C4D15, may be reduced to not less than –/60/15; and

(ii) all other non-*loadbearing internal walls*, as *required* by Specification 5, may be reduced to –/45/45 and the FRL for service penetrations through non-*loadbearing internal walls* and *shafts*, as *required* by C4D15, may be reduced to –/45/15.

(c) The FRL for *fire-isolated stairways* enclosed with non-*loadbearing* construction, as *required* by D2D4, may be reduced to –/45/45.

(d) Except in a *residential care building*, the maximum distance of travel, as *required* by D2D5(1)(a)(i), may be increased from 6 m to 12 m.

(e) The maximum distance of travel from a single *exit* serving the *storey* at the level of egress to a road or *open space*, as *required* by D2D5(1)(a)(ii), may be increased from 20 m to 30 m.

(f) The maximum distance between alternative *exits*, as *required* by D2D6(c)(i), may be increased from 45 m to 60 m.

(g) Internal fire hydrants in accordance with E1D2 are not *required* where—

(i) the building is served by external fire hydrants that provide compliant coverage installed in accordance with E1D2, except that in a *residential care building* the nozzle at the end of the length of hose need only reach the entry door of any *sole-occupancy unit* to be considered as covering the area within the *sole-occupancy unit*; or

(ii) a dry fire hydrant system that otherwise complies with AS 2419.1 is installed in the building and—

(A) each fire hydrant head is located in accordance with E1D2 and fitted with a blank end cap or plug; and

(B) the pipework is installed in accordance with E1D2 (as for a *required* fire main) except that it need not be connected to a water supply; and

(C) a hydrant booster inlet connection is provided in accordance with E1D2; and

(D) an external street or feed hydrant capable of providing the *required* system flow is located within 60 m of the hydrant booster connection.

(h) An emergency warning and intercom system need not be provided in a *residential care building* in accordance with E4D9 if a warning system with an override public address facility is installed in accordance with Specification 23.

FPAA101D except for residential care buildings

(a) Window openings need not be protected in accordance with C4D12(8) provided the room served by the window is sprinkler protected.

(b) The FRL for—

(i) service penetrations through non-*loadbearing internal walls* and *shafts*, as *required* by C4D15, may be reduced to –/60/15; and

(ii) non-*loadbearing fire-resisting* lift and stair *shafts*, as *required* by Specification 5, may be reduced to –/60/60.

(c) The maximum distance of travel, as *required* by D2D5(1)(a)(i), may be increased from 6 m to 12 m.

(d) The maximum distance of travel from a single *exit* serving the *storey* at the level of egress to a road or *open space*, as *required* by D2D5(1)(a)(ii), may be increased from 20 m to 30 m.

(e) The maximum distance between alternative *exits*, as *required* by D2D6(c)(i), may be increased from 45 m to 60 m.

(f) Internal fire hydrants in accordance with E1D2 are not *required* where—

(i) the building is served by external fire hydrants that provide compliant coverage installed in accordance with E1D2; or

(ii) a dry fire hydrant system that otherwise complies with AS 2419.1 is installed in the building except—

(A) the system pipework is not connected to the water supply; and

(B) an on-site fire pumpset is not *required*; and

(C) the minimum fire hydrant outlet flow of 6 L/s may be achieved when boosted by a *fire brigade* pumping appliance; and

(D) the minimum pipe sizes specified in AS 2419.1 do not apply.

(g) Where a dry fire hydrant system is installed for the purposes of (f)—

(i) each fire hydrant head must be located in accordance with E1D2 and fitted with a blank end cap or plug; and

(ii) a hydrant booster inlet connection must be provided in accordance with E1D2; and

(iii) an external street or feed hydrant capable of providing the *required* system flow must be located within 60 m of the hydrant booster connection.

FPAA101H except for residential care buildings

(a) Window openings need not be protected in accordance with C4D12(8) provided the room served by the window is sprinkler protected.

(b) The FRL for—

(i) service penetrations through non-*loadbearing internal walls* and *shafts*, as *required* by C4D15, may be reduced to –/60/15; and

(ii) non-*loadbearing fire-resisting* lift and stair *shafts*, as *required* by Specification 5, may be reduced to –/60/60.

(c) The maximum distance of travel, as *required* by D2D5(1)(a)(i), may be increased from 6 m to 12 m.

(d) The maximum distance of travel from a single *exit* serving the *storey* at the level of egress to a road or *open space*, as *required* by D2D5(1)(a)(ii), may be increased from 20 m to 30 m.

(e) The maximum distance between alternative *exits*, as *required* by D2D6(c)(i), may be increased from 45 m to 60 m.

METRO BUILDING CONSULTANCY

13 February 2025

Land and Housing Corporation
Department of Planning and Environment
Level 18, 4 Parramatta Square
2 Darcy Street, Parramatta, NSW 2150

Residential Flat Building – 80 – 82 Showground Road, Gosford NSW 2250
Building Code of Australia 2022 Capability Statement

Land and Housing Corporation have requested Building Code of Australia 2022 advice in relation to the BCA compliance of the concept design for General Housing, Residential Apartment Development at 80 – 82 Showground Road, Gosford. This concept design is documented in the Architectural drawings prepared by DTA Architects, dated 13/12/24.

The information submitted to date has been reviewed for compliance with the Deemed-to-Satisfy provisions of the Building Code of Australia excluding Section B structure, Part F3 roof and wall cladding, Part F7 sound transmission & insulation, & Section J energy efficiency.

Note that the design is not finalised, and design compliance against the deemed-to-satisfy provisions or the Performance Requirements of these parts of the Building Code of Australia 2022 is yet to be completed. The design will be reviewed again during the design development phase and prior to the issue of any Crown Works Certificate. Also note that if the date of the invitation for tenders to carry out this Crown building is after 01st May 2025, it is likely that the pending BCA 2025 will apply to the project and subsequent BCA reviews will have to be against the BCA 2025 requirements.

The proposed building, as taken from the drawings provided, has the following characteristics:

Storey	Use	Class
Level 00 - Basement	Carparking, resident store, lobby (class 2), services, waste rooms	2, 7a
Level 01	Apartments	2
Level 02	Apartments	2
Level 03	Apartments	2
Level 04	Apartments	2
Level 05	Apartments	2

Rise in Storeys & Effective Height:

The proposed building will have a rise in storeys of 6.
The effective height of the proposed building is to be 18.2 m.

Type of Construction:

The building is required to comply with the BCA Type A Construction requirements.

Access & Egress

The design will have to comply with the access and egress requirements of Building Code of Australia 2022. Compliance is fully achievable either with the deemed to satisfy or performance requirements (eg fire engineering) of the BCA prior to the issue of the Crown Works Certificate(s).

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Services

The building is expected to be provided with the following fire safety measures, as per the requirements of Building Code of Australia 2022:

No	Fire Safety Measure	Standard of Performance
1.	Automatic fail safe devices	BCA 2022 Clause C3D15 & BCA Specification 12 Clause C4(d)(ii)
2.	Automatic fire detection and alarm systems	BCA 2022 Clause E2D5, NSW E2D16, BCA Specification 20, AS1670.1-2018
3.	Automatic fire suppression systems	BCA 2022 Clause E1D4, E1D5, E1D6, BCA Specification 17, AS2118.1 2017
4.	Emergency lighting	BCA 2022 Clause E4D2, E4D3, E4D4, AS/NZS2293.1-2018
5.	Exit signs	BCA 2022 Clause E4D5, E4D6, E4D8, AS/NZS2293.1-2018
6.	Fire doors	BCA 2022 Clause C4D9, C4D12, AS1905.1-2015
7.	Fire hose reel systems	BCA 2022 Clause E1D3, AS2441 2005
8.	Fire hydrant systems	BCA 2022 Clause E1D2, AS2419.1 2021
9.	Fire seals protecting openings in fire-resisting components of the building	BCA 2022 Clause C4D13, C4D15, AS1530.4-2014
10.	Lightweight construction	BCA 2022 Clause C2D9, BCA Specification 6
11.	Portable fire extinguishers	BCA 2022 Clause E1D14, AS 2444-2001
12.	Smoke alarms and heat alarms	BCA 2022 Clause E2D5, NSW E2D16, BCA Specification 20, AS1670.1-2018
13.	Smoke detectors and heat detectors	BCA 2022 Clause E2D5, NSW E2D16, BCA Specification 20, AS1670.1-2018
14.	Warning and operational signs	BCA 2022 Clause D3D28, E3D4

Conclusion

Metro Building Consultancy has reviewed the proposed plans and sees no reason why a Crown Works Certificate cannot be issued upon completion of the design drawings.

As stated previously areas of the design are still being finalised and design compliance against the deemed-to-satisfy provisions or the Performance Requirements of these parts of the Building Code of Australia 2022 is yet to be completed. The design will be reviewed again during the design development phase and prior to the issue of any Crown Works Certificate.

If you have any questions in relation to the above, please do not hesitate to contact this office.

Regards

Sean Moore
Metro Building Consultancy
NSW Fair Trading – Building Surveyor – Unrestricted – BDC0764