METRO BUILDING CONSULTANCY

JINDABYNE POLICE STATION

BUILDING CODE OF AUSTRALIA 2019 AMENDMENT 1 REPORT

FEBRUARY 2021

Report prepared for	Group GSA L7 80 William St East Sydney NSW 2011 Attention: Oswaldo Marcelo & Janine Graves
Report prepared by	Metro Building Consultancy Suite 211, 12 Mount St, North Sydney NSW 2060 Consultant: Sean Moore Drafted: Rebecca Kilty
Report reference	20250R03
Job number	20250
Date	19 March 2021

METRO BUILDING CONSULTANCY

CONTENTS

DOCUMENT ACCEPTANCE

Company	Name	Signed	Date
Metro Building Consultancy	Alex Stefanovski		26/02/2021

REVISION HISTORY

Description	Prepared by	Revision No.	Date
BCA 2019 Amendment 1 Report (25% Design Review)	Rebecca Kilty	R01	20/11/2020
BCA 2019 Amendment 1 Report (50% design Review)	Rebecca Kilty	R02	26/02/2021
BCA 2019 Amendment 1 Report (DA Submission)	Rebecca Kilty	R03	19/03/2021

1.0 Scope of Report

Group GSA have requested Metro Building Consultancy to carry out a Building Code of Australia 2019 amendment 1 review of the design drawings for the proposed Jindabyne Police Station and to prepare a Building Code of Australia report commenting upon the compliance of the design.

The information submitted to date has been reviewed for compliance with the Deemed-to-Satisfy provisions of the Building Code of Australia 2019 amendment 1 excluding Section B structure, part G5 bushfire and Section J energy efficiency. This report is for the exclusive use of Group GSA 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.

2.0 Methodology

The methodology is principally the review of the drawings provided by Group GSA as listed in Appendix A.

3.0 BCA classification and building characteristics

Proposed Boat/Ski-Doo Garage Building

Level	Use	Classification	Approximate floor area
Ground Level	Vehicle parking/Storage	Class 7a & 7b	Approx. 120m^2

Proposed Police Station Building

Level	Use	Classification	Approximate floor area
Ground Level	Police Station	Class 5	Approx 346m^2
Level 1	Meal room, locker rooms & amenities	Class 5	Approx 208m^2

Proposed Police Accommodation Building

Level	Use	Classification	Approximate floor area
Ground Level	Accommodation	Class 3	Approx. 262m^2
Level 1	Accommodation	Class 3	Approx 189 m^2

Proposed Carports Building

Level	Use	Classification	Approximate floor area
Ground Level	Vehicle parking	Class 10a	Approx 120m^2

Rise in Storeys & Effective Height for each building

Building	Rise of Stories	Effective Height
Proposed Boat/Ski-Doo Garage Building	1	>12
Proposed Police Station Building	2	>12
Proposed Police Accommodation Building	2	>12
Proposed Carports Building	1	>12

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Type of Construction

The proposed boat/ski-Doo garage building is a class 7a & 7b building with a rise in stories of 1, the building is used for the storage of vehicles and is required to comply with the BCA Type C Construction requirements as detailed in Appendix B. The classification of this building may be considered a 10a when further design details have been provided.

The proposed police station building is a class 5 building with a rise in stories of 2, the building is required to comply with the BCA Type C construction requirements as detailed in Appendix B.

The proposed police accommodation building is a class 3 building with a rise in stories of 2 and is required to comply with the BCA for Type C Construction requirements as detailed in Appendix B

The proposed carports building is a class 10a building with a rise in stories of 1, the building is used for the parking vehicles and is required to comply with the BCA 3.7.2.5 of Volume 2 requirements as detailed throughout the report.

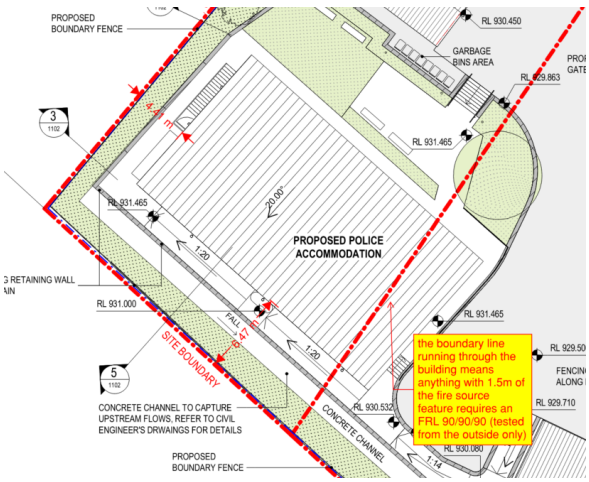
Exposure to fire source features

The BCA states that a building 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—
(i) has an FRL of not less than 30/–/–; and
(ii) is neither transparent nor translucent

> *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*

The external walls of the accommodation building that are proposed to be located 1.5m or more from a fire source feature are not required to be provided with a fire resistance level. The external walls of the accommodation building which are less than 1.5m from any fire source feature are required to be provided with a fire resistance level in accordance with Appendix B.

There is a boundary line which runs through the eastern side of the building. Whilst this is unlikely to cause a safety issue, it is still a technical non-compliance with the BCA. This can remain as a technical non-compliance and noted on the in the S6.28 Crown Works Certificate or alternatively can be resolved by consolidating the lots, or it can be addressed by a fire engineered alternative solution. See below mark-up of the external walls which are exposed to the boundary line



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The external walls of the Police Station building on the current design drawings are proposed to be located 3m or more from any fire source feature so therefore they are not required to be provided with a fire resistance level.

The external walls of the boat & Ski-doo building on the current design drawings are proposed to be located 3m or more from any fire source feature so therefore they are not required to be provided with a fire resistance level.

The carport building is a Class 10a building and in accordance with BCA 3.7.2.5 of Volume 2 the external walls are not required to have a fire rating provided that the building remains as its current design and is at least 1.8m from any building on the allotment that is not a Class 10a building.

Accommodation Building

The BCA considers the accommodation quarters to be a sole occupancy unit if the occupier will have exclusive use of the room while they occupy it:

> *Sole-occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—*
> *(a) a dwelling; or*
> *(b) a room or suite of rooms in a Class 3 building which includes sleeping facilities; or*
> *(c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or*
> *(d) a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.*

The accommodation. rooms are considered to be a sole occupancy unit and the walls bounding the rooms are required to have an FRL of not less than 60/60/60 and must extend:

- *to the underside of the floor next above if that floor has an FRL of at least 30/30/30 or a fire-protective covering on the underside of the floor; or*
- *to the underside of a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or*
- *to the underside of the roof covering if it is non-combustible, and except for roof battens with dimensions of 75mm x 50mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or*
- *450 mm above the roof covering if it is combustible*

Public corridor

Notwithstanding the requirements for a sole-occupancy unit, the BCA Type C Construction requirements include a provision that internal walls bounding public corridors, public lobbies and the like to a Class 3 part of the building are to have a fire resistance level of not less than 60/60/60. The BCA definition of a 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.*

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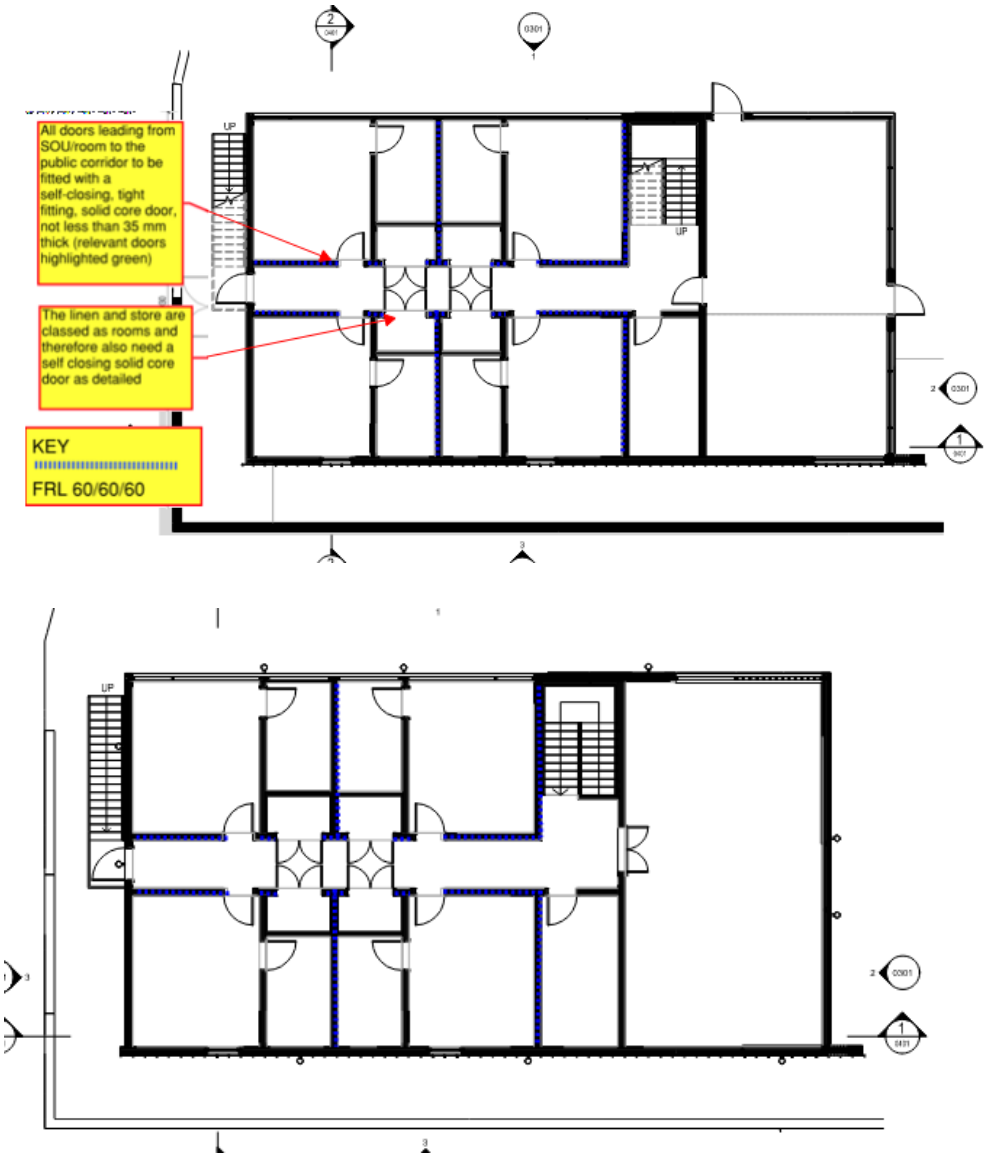


Lightweight construction

New lightweight construction in the Class 3, 5, 7a & 7b buildings that is required to have an FRL in accordance with the table shown in Appendix b of this report, must comply with Clause C1.8 and Specification C1.8 of the Building Code of Australia.

Fire Hazard Properties

The floor, wall and ceiling linings in the Class 3, 5, 7a & 7b are to comply with the requirements of Clause C1.10 and Specification C1.10 of the Building Code of Australia 2019 amendment 1. The laboratory test results for the various floor, wall and ceiling linings should be obtained and assessed for compliance prior to the issue of any S6.28 Crown Works Certificate, at this design stage it is recommended to consider the review of the proposed floor, wall and ceiling linings to prevent any future delay.

Fire Compartment Size

The maximum fire compartment size for a Class 5 Type C buildings are 3,000m^2 and 18,000m^3. The compartment size of the current design drawings does not exceed this limitation. It is recommended that the continued design modifications remain within these parameters for volume limitations.

The maximum fire compartment size for a Class 7a & 7b Type C building are 2,000m^2 and 12,000m^3. The compartment size of the current design drawings does not exceed this limitation. It is recommended that the continued design modifications remain within these parameters for volume limitations.

Separation of equipment

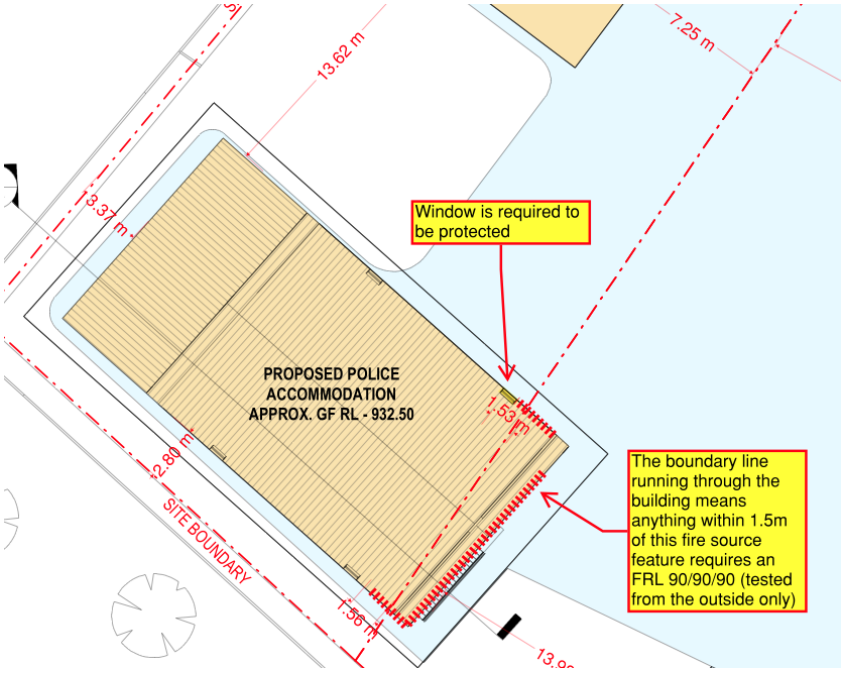
If a battery system is installed in any of the buildings that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more, they are required to be separated from any other part of the building by construction having an FRL of not less than 120/120/120. This does not apply to portable or stationery UPS's connected by plug and socket outlets.

A main switchboard located within any of the buildings which sustains emergency equipment operating in the emergency mode must be separated from any other part of the building by construction having an FRL of not less than 120/120/120. Emergency equipment includes but is not limited to control and indicating equipment i.e. a fire indicator panel.

At this early design stage this is for reference only. Smoke detection and alarm system is required in the Class 3 building only.

Protection of Openings in external walls

The window in the external wall on the north side of the accommodation building is within 3m of a fire source feature in an external wall that is required to have an FRL. The window is therefore required to be protected in accordance with BCA C3.4. The non-compliance has occurred due to a boundary line which runs through the building. Whilst this is unlikely to cause a safety issue, it is a technical non-compliance with the BCA. This can remain as a technical non-compliance or alternatively can be resolved by consolidating the lots, or it can be addressed by a fire engineered alternative solution. See below mark-up of the external walls which are exposed to the boundary line. See below mark-up of the window which is required to be protected.



If the window is to comply and be protected in accordance with the BCA 2019 amendment 1, it is required to be addressed using one of the following methods detailed in the extraction below from the BCA;

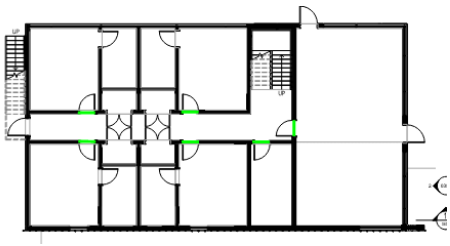
C3.4 Acceptable methods of protection
(a) Where protection is required, doorways, windows and other openings must be protected as follows:

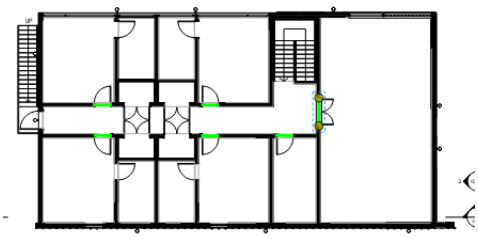
(i) Doorways—
(A) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or
(B) –/60/30 fire doors that are self-closing or automatic closing.
(ii) Windows—
(A) internal or external wall-wetting sprinklers as appropriate used with windows 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.
(iii) Other openings—
(A) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or
(B) construction having an FRL not less than –/60/–.
(b) Fire doors, fire windows and fire shutters must comply with Specification C3.4

Lift shaft
The proposed lift in the Police Station is not required to have a fire rated shaft.

Bounding Construction

The doorways to the Class 3 SOU's and any room leading onto the public corridor on Ground Floor and level 1 must be protected with a self – closing, tight fitting, solid core door not less than 35mm thick. See below door location marked in green


Ground


Lvl 1

Openings for service installations

In the Class 3 building any services which penetrate the fire rated construction (eg floors, walls & ceilings) are to be treated in accordance with Clause C3.15 of the Building Code of Australia 2019 amendment 1.

The floor of the Class 3 building is not required to have an FRL in accordance with the table as shown in Appendix B of this report for Type C construction, however if the SOU walls are designed to be separated using one of the following methods;

- *to the underside of the floor next above if that floor has an FRL of at least 30/30/30 or a fire-protective covering on the underside of the floor; or*
- *to the underside of a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or*
- *to the underside of the roof covering if it is non-combustible, and except for roof battens with dimensions of 75mm x 50mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or*
- *450 mm above the roof covering if it is combustible*

The any services which penetrate the walls, floors or ceilings in the Class 3 accommodation building will need to be protected with the same FRL as stated above.

4.0 Egress

Principles:

The Class 5, 7a & 7b buildings are required to comply with the following principles:

- The maximum distance of travel to a point from which travel in different directions to two exits is 20m, and the maximum distance to one of those exits must not be more than 40m from the starting point.
- The distance between alternate exits through the point of choice is not to exceed 60m.
- Exits that are required as alternative means of egress must be distributed as uniformly as practicable within or around the storey served and 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 must be not less than 2m except for doorways which may be reduced to not less than 1980mm.

- All paths of travel are to be a minimum of 1m in clear width.
- The unobstructed width of a doorway must be not less than 750mm, (850mm for disabled access, see section 5.0 of this report).
- Electricity meters, distribution boards and central telecommunications distribution boards or equipment installed in any corridor, hallway, lobby or the like leading to a required exit must be enclosed in non-combustible construction or a fire protective covering and have doorways or openings suitably sealed against smoke spreading from the enclosure.
- All doors are required to be free passage from the side that a person is seeking egress.

Comments

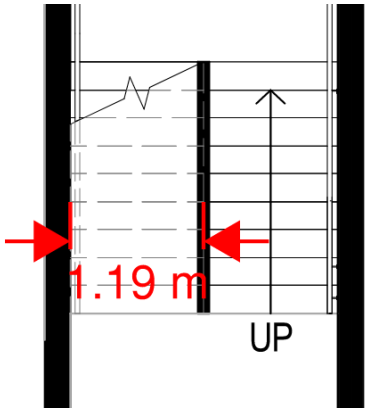
Dimensions of exits

The BCA states that the dimension of the path of travel leading to an exit must not be less than 1m.

The stair in the Police station building leading to from level 1 to ground is currently shown as 1.12m. The stair does not show the handrail measurements. It should be noted during the preparation of the design documents that a a 1m clearance between the handrails for the path of travel should be retained.

The stair in the accommodation building leading to from level 1 to ground is currently shown as 1.19m. The stair does not show the handrail measurements. It should be noted during the preparation of the design documents that a 1m clearance between the handrails for the path of travel should be retained.

Accommodation building internal stair



Travel by non-fire isolated stairways

The BCA states that a non-fire-isolated stairway or non-fire-isolated ramp serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided.

In the accommodation building the distance between the doorway of a room or sole-occupancy unit and the point of egress to a road or open space by way of a stairway or ramp that is not fire-isolated and is required to serve that room or sole-occupancy unit must not exceed 30m.

The stair must also discharge at a point not more than:

(i) 15 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or
(ii) 30 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions

The current design complies with this part of the BCA, it should be taken into consideration as the design develops.

In the Police Station building the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80 m.

The stair must also be 20 m from the doorway providing egress to a road or open space (police access or prisoner release doors) or be 40 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions.

The current design complies with this part of the BCA, it should be taken into consideration as the design develops.

Services Cupboards

Electricity meters, distribution boards and central telecommunications distribution boards or equipment installed in any corridor, hallway, lobby or the like leading to a required exit must be enclosed in non-combustible construction or a fire protective covering and have doorways or openings suitably sealed against smoke spreading from the enclosure.

The doors to the services cupboard on level one in the Police Station building are required to comply with this requirement.

Further design details are required for the Ski-doo building to assess for compliance with this clause.

Enclosure of space under stairs and ramps
The current design does not show any details of the stairs in the Class 5 Police Station and the Class 3 accommodation building. If the either of the stairs are proposed to be enclosed they must comply with the following clause from the BCA 2019 amendment 1:

D2.8 Enclosure of space under stairs and ramps

(a) Fire-isolated stairways and ramps — If the space below a required fire-isolated stairway or fire-isolated ramp is within the fire-isolated shaft, it must not be enclosed to form a cupboard or similar enclosed space.

(b) Non fire-isolated stairways and ramps — The space below a required non fire-isolated stairway (including an external stairway) or non-fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless—
(i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and
(ii) any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door

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Stairs

The proposed stairs are required to be provided with risers and goings that have a constant dimension throughout the flight and with a handrail with a height of 900mm.

The risers to the stairs are not permitted to have any openings greater than 125mm.

The treads or nosing strips of the proposed new internal stairs must have a slip-resistance classification not less than P3 when tested in accordance with AS 4586 2013.

The treads or nosing strips of the proposed new external stairs must have 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.

The edge of any proposed landings or the nosing strips of the proposed new landings must have a slip-resistance classification not less than P4 when wet and P3 when dry when tested in accordance with AS 4586 2013.

Further design details of any proposed landing to be provided for review.

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.

Further design details of the internal and external floor RL's to be provided for review.

Balustrades

A balustrade with a minimum height of 1m (eg 1100mm) is required to be provided to protect a fall of more than 1m eg level 1 outdoor space, stair landings etc.

A balustrade with a minimum height of 856mm (eg 1100mm) is required to be provided to stairs to protect a fall of more than 1m eg all external stairs and landings etc.

All balustrades are required to not have any openings greater than 125mm and a construction tolerance should be added eg 100mm.

Handrails

If the Police station building is required to be accessible, handrails are required to be provided to both sides of the internal stairs leading to level one. Further design details are required to be provided for review and any external stairs, ramps or walkways.

If the common areas in the accommodation building are required to be accessible, handrails are required to be provided to both sides of the internal stairs leading to level one. Further design details are required to be provided for review and any external stairs, ramps or walkways.

Swinging door

The BCA states that all exit swing doors are required to swing outwards in the direction of egress.

In the Police Station building the required exits are currently; the police access door and the prisoner release door. This is required to be confirmed in the design documentation. If the entry door (currently swings inwards) is required

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to be a fire exit (one of the other doors cannot be used in the event of an emergency) then this door will also need to swing outwards.

See part G4.3 for the provision for external doors in alpine areas. If any of the fire doors are subject to the build-up of snow, then these doors need to comply with the provisions as set out in part G4.3 detailed in chapter 9 of this report.

Door hardware

The door hardware to all proposed swing and sliding doors 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.

The Police Station building is likely to be designed so that certain doors are required to be locked at all times. These doors are exempt under part D2.21 of the BCA providing that the operation of the building can comply with the following as extracted for the BCA 2019 amendment 1:

> *immediately unlocked by hand by a person or persons, specifically nominated by the owner, properly instructed as to the duties and responsibilities involved and available at all times when the building is lawfully occupied so that persons in the building or part may immediately escape if there is a fire.*

It should be noted that a letter will need to be provided stating that the police station building complies with this clause.

Protection of Openable Windows

The BCA states that a window in the bedroom of a Class 3 building is required to be protected if the floor below the window is 2m or more to the surface beneath, unless the window is installed 1.7m above the floor beneath. The windows in the accommodation building must be protected by one of the following methods as extracted for the BCA 2019 amendment 1;

> *The openable portion of the window must be protected with—*
> *(A) a device capable of restricting the window opening; or*
> *(B) a screen with secure fittings.*
> *(ii) A device or screen required by (i) must—*
> *(A) not permit a 125 mm sphere to pass through the window opening or screen; and*
> *(B) resist an outward horizontal action of 250 N against the—*
> *(aa) window restrained by a device; or*
> *(bb) screen protecting the opening; and*
> *(C) have a child resistant release mechanism if the screen or device is able to be removed, unlocked or Overridden*

Where the fall below the window increases to 4m or more to the surface below, the requirements are as per the extract shown below from BCA 2019 amendment 1.

> *A barrier with a height not less than 865 mm above the floor is required to an openable window—*
> *(i) in addition to window protection, when a child resistant release mechanism is required by (b)(ii)(C); and*
> *(ii) where the floor below the window is 4 m or more above the surface beneath if the window is not covered by (a).*
> *(d) A barrier covered by (c) except for (e) must not—*
> *(i) permit a 125 mm sphere to pass through it; and*
> *(ii) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing*

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Further details of the proposed accommodation building are required to be provided to review compliance with this part of the BCA.

5.0 Disabled Access

See separate access report for full details.

6.0 Services and Equipment

Fire Hydrants

Boat/Ski-Doo Garage Building

The proposed floor area is less than 500m^2, therefore the building is not required to be protected by hydrant coverage in accordance with the Building Code of Australia 2019 amendment 1 and AS2419.1 2005.

Police Station Building
The proposed floor area is more than 500m^2, therefore the building is required to be protected by hydrant coverage in accordance with the Building Code of Australia 2019 amendment 1 and AS2419.1 2005. Details are required to be provided for review.

If street hydrant is to be used for coverage please provide the pressure and flow test results confirming that they comply with AS2419.1 2005.

Proposed Police Accommodation Building
The proposed floor area is less than 500m^2, therefore the building is not required to be protected by hydrant coverage in accordance with the Building Code of Australia 2019 amendment 1 and AS2419.1 2005.

Proposed Carports Building
Fire hydrant coverage is not required to be provided for the Class 10a building.

Fire Hose Reels

This requirement only applies to the Class 7a & 7b building; however, the proposed floor area is less than 500m^2, therefore the building is not required to be protected by fire hose reel coverage in accordance with the Building Code of Australia 2019 amendment 1 and AS2441 2005.

Portable fire extinguishers

The following buildings are required to be protected by portable fire extinguishers in accordance with the Building Code of Australia 2019 amendment 1 and AS2444 2001:

- The Class 5 Police Station
- The Common areas of the Class 3 accommodation building
- The Class 7a & 7b Vehicle storage shed

Smoke Detection System

The Building Code of Australia 2019 amendment 1 requires an automatic smoke detection and alarm system complying with BCA Specification E2.2a to be provided to the Class 3 accommodation building.

BCA Specification E2.2a provides the option of having smoke alarms complying with AS 3786 2014 that are powered from the consumers mains source or an AS1670.1 2018 smoke detection system.

If an AS1670.1 2018 system is chosen it will require the installation of a fire indicator panel and the MSB will be required to be fire separated from the remainder of the building by walls with an FRL of 120/120/120.

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Emergency lighting and exit signs

From the current design drawings, the proposed floor area in the Police station building on the ground floor is more than 300m^2 and therefore is required to be provided with exit signs and emergency in accordance with the Building Code of Australia 2019 amendment 1 and AS2293.1 2018. The stair leading from level 1 to ground floor is also required to be provided with emergency lighting and exit signs.

The Class 3 accommodation building is required to have emergency lighting and exit signs installed in the corridors in accordance with Building Code of Australia 2019 amendment 1 and AS2293.1 2018

All buildings are required to comply with the requirements for emergency lighting detailed in chapter 9 of this report for construction in alpine areas.

Warning signs

The call buttons in the lift in the police station must be provided with warning signage stating DO NOT USE LIFT IF THERE IS A FIRE.

7.0 Health and Amenity

Damp & weatherproofing

The external walls of the proposed building are required to comply with BCA Performance Requirement FP1.4. Where a cladding is proposed it is required to have a CodeMark Certificate of Conformity confirming compliance to BCA FP1.4.

Stormwater drainage

The stormwater drainage must comply with AS/NZS 3500.3 2018.

Roof coverings

The metal sheet roofing must comply with AS 1562.1 1992.

Sarking

Sarking-type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 21994.

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 Table F1.7; and
(ii) comply with AS 3740 2010.

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.

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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.*

Subfloor ventilation

Subfloor spaces must be provided with openings in *external walls* and internal subfloor walls in accordance with BCA Table F1.12 for the climatic zones given in BCA Figure F1.12 and have clearance between the ground surface and the underside of the lowest horizontal member in the subfloor in accordance with BCA Table F1.12.

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

The SOU's are required to 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 in the same room for a washing machine, (a kitchen sink or washbasin must not be counted as a laundry washtub),*
- *a clothes line or hoist, or space for a heat-operated drying cabinet or similar appliance for the exclusive use of the occupants.*

Provide details confirming the compliance with these requirements and if a shared dryer is provided it can be noted as a noncompliance on the S109R Crown Works Certificate or an alternative solution can be provided.

Toilets

The proposed vehicle storage buildings are not required to be provided with toilets.

The toilets in the accommodation building have been provided to each individual SOU which complies with the provisions of the BCA.

The toilets which have been provided to the Police Station can cater for a maximum population of 25 males and 25 females.

Ceiling Heights

All ceilings must be at a minimum height of 2.4m. The ceiling height in the corridors, toilets and storerooms must be a minimum height of 2.1m.

Natural light

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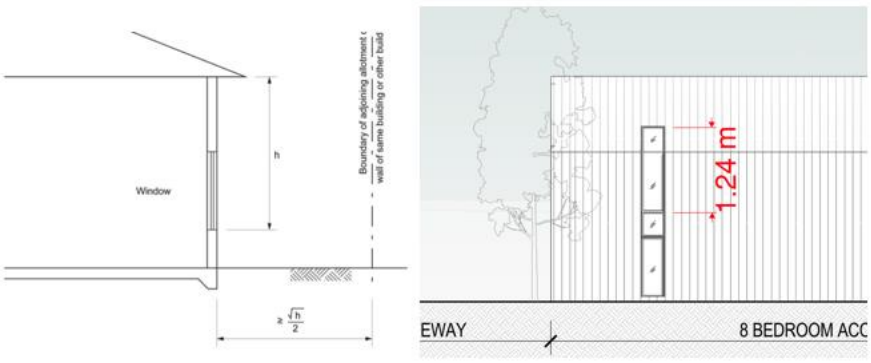
Natural light must be provided in:

(b) Class 3 buildings — to all bedrooms and dormitories.

(a) Required natural light must be provided by—
(i) windows, excluding roof lights, that—
(A) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room; and
(B) are open to the sky or face a court or other space open to the sky or an open veranda, carport or the like; or
(ii) roof lights, that—
(A) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 3% of the floor area of the room; and
(B) are open to the sky; or
(iii) a proportional combination of windows and roof lights required by (i) and (ii) Light

F4.2Methods and extent of natural light
(b) Except in a Class 9c aged care building, in a Class 2, 3 or 9 building or Class 4 part of a building a required window
that faces a boundary of an adjoining allotment or a wall of the same building or another building on the allotment
must not be less than a horizontal distance from that boundary or wall that is the greater of—
(i) generally — 1 m; and
(ii) in a patient care area or other room used for sleeping purposes in a Class 9a building — 3 m; and
(iii) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill.



Light

Artificial lighting must be provided to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, other circulation spaces and paths of egress. The artificial lighting system must comply with AS/NZS 1680.0 2009.

Ventilation

Natural or mechanical ventilation must be provided to any room occupied by a person for any purpose.

Natural ventilation must be provided in accordance with the requirements of BCA Clause F4.6 ie have openings amounting to not less than 5% of the floor area of the room and mechanical ventilation must be provided in accordance with the requirements of AS1668.2 2012.

The Class 7a building is required to be provided with:

- a system of mechanical ventilation complying with AS 1668.2 2012; or
- a system of natural ventilation complying with Section 4 of AS 1668.4 2012. (the entry door should provide sufficient natural ventilation)

A kitchen exhaust hood complying with AS/NZS 1668.1 2015 and AS 1668.2 2012 must be provided where:

(a) any cooking apparatus has—
(i) a total maximum electrical power input exceeding 8 kW; or
(ii) a total gas power input exceeding 29 MJ/h; or
(b) the total maximum power input to more than one apparatus exceeds—
(i) 0.5 kW electrical power; or
(ii) 1.8 MJ gas, per m2 of floor area of the room or enclosure.

8.0 Acoustics

The Class 3 SOU must comply with the following details extracted from the BCA for acoustic compliance;

Floors
(a) A floor in a building required to have an impact sound insulation rating must—
(i) have the required value for weighted normalised impact sound pressure level (Ln,w) determined in accordance
with AS ISO 717.2 using results from laboratory measurements; or
(ii) comply with Specification F5.2.

(a) A floor in a Class 2 or 3 building must have an Rw + Ctr (airborne) not less than 50 and an Ln,w (impact) not more
than 62 if it separates—
(i) sole-occupancy units; or
(ii) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of
a different classification

Walls
A wall in a Class 2 or 3 building must—
(i) have an Rw + Ctr (airborne) not less than 50, if it separates sole-occupancy units; and
(ii) have an Rw (airborne) not less than 50, if it separates a sole-occupancy unit from a plant room, lift shaft, stairway,
public corridor, public lobby or the like, or parts of a different classification; and
(iii) comply with F5.3(b) if it separates—
(A) a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit; or
(B) a sole-occupancy unit from a plant room or lift shaft.

(b) A wall in a building required to have an impact sound insulation rating must—
(i) for a Class 2 or 3 building, be of discontinuous construction; and
(ii) for a Class 9c building, must—
(A) for other than masonry, be two or more separate leaves without rigid mechanical connection except at the
periphery; or
(B) be identical with a prototype that is no less resistant to the transmission of impact sound when tested in accordance with Specification F5.5 than a wall listed in Table 2 of Specification F5.2
(c)For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2
separate leaves, and
(i) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and
(ii) for other than masonry, there is no mechanical linkage between leaves except at the periphery

Doors
(b) A door may be incorporated in a wall in a Class 2 or 3 building that separates a sole-occupancy unit from a stairway,
public corridor, public lobby or the like, provided the door assembly has an Rw not less than 30

9.0 Construction in alpine areas

The BCA states that all of the buildings have the following applicable BCA requirements need to also comply with the provisions for construction in alpine areas:

G4.3 External doors
External doors which may be subject to the build-up of snow must—
(a) open inwards or slide; and
(b) if inward opening, be marked "OPEN INWARDS" on the inside face of the door in letters not less than 75 mm high in a colour contrasting with that of the background; and
(c) be constructed so that the threshold is not less than 900 mm above the adjoining surface; and
(d) if it serves a corridor or stairway, be positioned in an alcove or recess with—
(i) no horizontal dimensions of the alcove or recess less than twice the width of the door; and
(ii) the door positioned to open against a wall such that the distance from any part of its swing to the nearest point of entry of the stairway or corridor is not less than the width of the door.

G4.4 Emergency lighting
In a Class 2, 3, 5, 6, 7, 8 or 9 building or Class 4 part of a building, a system of emergency lighting must be installed in accordance with the Deemed-to-Satisfy Provisions of Part E4—
(a) in every stairway (other than those within a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building);
and
(b) in every public corridor or the like leading to an exit; and
(c) externally above every doorway opening to a road or open space; and
(d) in any storey of the building if illumination sufficient for safe egress will not be available under conditions of Emergency

G4.5 External trafficable structures
External stairways, ramps, access bridges or other trafficable structures serving the building must—
(a) have a floor surface that consists of expanded mesh if it is used as a means of egress; and
(b) have any required barrier designed so that its sides are not less than 75% open; and

10.0 Energy Efficiency

Building Fabric:

The envelope of the conditioned space must comply with the building fabric requirements of Part J1 of the Building Code of Australia 2019 amendment 1.

The envelope will include the internal wall as the plant room (vehicle parking bay) is not expected to be conditioned and this internal wall is required to comply with Part J1.

Glazing:

The glazing in the envelope of the conditioned space must comply with the glazing requirements of Part J2 of the Building Code of Australia 2019 amendment 1.

Ventilation Systems, Artificial Lighting, Hot Water Supply

The proposed Police Station and Accommodation building is required to comply with the provisions of BCA Section J. Provide a copy of the section J report for review.

10.0 Construction in Bushfire Prone Areas

The Section 10.7 planning certificate prepared by Snowy Monaro Council states that the Lot 167 DP 75686, which is subject to this development is currently not situated in a bushfire zone, however subsequent attachment to the document, attached to this report in Appendix C shows that the land is potentially subject to changes.

It is recommended that Group GSA relay the information to the client to prevent the change in any environmental planning regulation affecting the development at a later stage.

11.0 Conclusion

The drawings provided to date have been assessed in respect to the deemed to satisfy provisions of the Building Code of Australia 2019 amendment 1 Parts C, D, E, F, G & J. The design is at a stage where it can be developed in accordance with the recommendations within this report. Further details are required to be provided for review prior to the issue of the S6.28 Crown Works Certificate.

APPENDIX A – DRAWINGS REVIEWED

Architectural drawings prepared by Group GSA

Title	Drawing Number	Revision	Date
Drawing Schedule / Site Location Plan	JIN-AR-0000	A	17/02/2021
Site Staging Plans	JIN-AR-1050	A	17/02/2021
Existing Site Plan	JIN-AR-1100	A	17/02/2021
Demolition Site Plan	JIN-AR-1101	A	17/02/2021
Proposed Site Plan	JIN-AR-1102	B	17/02/2021
General Arrangement Plans – Police Station	JIN-AR-2000	B	17/02/2021
General Arrangement Plans – Accommodation	JIN-AR-2001	B	17/02/2021
Structural Set Out Plan – Police Station	JIN-AR-2100	A	17/02/2021
Structural Set Out Plan – Accommodation	JIN-AR-2101	A	17/02/2021
Wall Set Out Plan – Police Station	JIN-AR-2200	A	17/02/2021
Wall Set Out Plan – Accommodation	JIN-AR-2201	A	17/02/2021
Reflected Ceiling Plan – Police Station	JIN-AR-2300	A	17/02/2021
Reflected Ceiling Plan – Accommodation	JIN-AR-2301	A	17/02/2021
Finishes Plan – Police Station	JIN-AR-2400	A	17/02/2021
Finishes Plan – Accommodation	JIN-AR-2401	A	17/02/2021
FFE Plan – Police Station	JIN-AR-2500	A	17/02/2021
FFE Plan – Accommodation	JIN-AR-2501	A	17/02/2021
Joinery Plan – Police Station	JIN-AR-2520	A	17/02/2021
Joinery Plan – Accommodation	JIN-AR-2521	A	17/02/2021
Elevations – Police Station	JIN-AR-3000	B	17/02/2021
Elevations – Accommodation	JIN-AR-3001	B	17/02/2021
Sections – Police Station	JIN-AR-3100	B	17/02/2021
Sections – Accommodation	JIN-AR-3101	B	17/02/2021
Wall Types – External and Loadbearing	JIN-AR-4500	A	17/02/2021
Wall Types – Internal	JIN-AR-4510	A	17/02/2021

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APPENDIX B – BCA TYPE C CONSTRUCTION REQUIREMENTS

Building Element	FRL Required for Class 3	FRL Required for Class 5, 7a	FRL Required for Class 7b
External wall (including any column and other building element incorporated therein) or other external building element, where the distance from any fire source feature to which it is exposed is -			
Less than 1.5m	90/90/90	90/90/90	90/90/90
1.5 to less than 3m	-/-/-	60/60/60	60/60/60
3m or more	-/-/-	-/-/-	-/-/-
External column not incorporated in an external wall, where the distance from any fire source feature to which it is exposed is -			
Less than 1.5m	90/-/-	90/-/-	90/-/-
1.5 to less than 3m	-/-/-	60/-/-	60/-/-
3m or more	-/-/-	-/-/-	-/-/-
Common wall and fire walls	90/90/90	90/90/90	90/90/90
Internal walls bounding public corridors, public lobbies and the like	60/60/60	-/-/-	-/-/-
Internal walls between or bounding sole-occupancy units	60/60/60	-/-/-	-/-/-
Internal walls bounding a stair if required to be rated	60/60/60	60/60/60	60/60/60
Roofs	-/-/-	-/-/-	-/-/-

Appendix C Snowy Monaro Council extract from 10.7 Planning Certificate

SNOWY MONARO REGIONAL COUNCIL

Public Notice

Bushfire Prone Lands Mapping Update

The NSW Rural Fire Service (RFS) and Snowy Monaro Regional Council have prepared a draft Bush Fire Prone Land (BFPL) Map using new categories identified by the (RFS) and updated vegetation mapping. This has resulted in the majority of the Local Government Area being mapped as bushfire prone land.

This notice has been prepared to inform you of the changes as they may impact plans for developing your property. Also when the new mapping comes into effect you may notice that your land is now identified as bushfire prone in the Section 10.7 Planning Certificate accompanying the sale of your land.

Please note that the revised map is currently in the drafting stage and will be available to the public in the near future. Council expects the draft map to be approved by the NSW RFS in 2019/20.

The new map is necessary because the NSW Rural Fire Service has changed the current two (2) categories BFPL classification system to a three (3) category BFPL classification system. The three (3) new categories are outlined below.

The three categories are defined as follows:

- Vegetation Category 1 is vegetation which is the highest risk for bush fire. It is represented as red on the BFPL Map and will be given a 100m buffer. This vegetation category has the highest combustibility and likelihood of forming fully developed fires including heavy ember production. Examples of Category 1 vegetation include areas of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations.

- Vegetation Category 2 is considered to be a lower bushfire risk than Category 1 and Category 3 but higher than the excluded areas. It is represented as light orange on a bush fire prone land map and will be given a 30 metre buffer. This vegetation category has lower combustibility and/or limited potential fire size due to the vegetation area shape and size, land geography and management practices. Examples of category 2 vegetation include rainforests and lower risk vegetation parcels.

- Vegetation Category 3 is considered to be medium bush fire risk vegetation. It is higher in bush fire risk than category 2 (and the excluded areas) but lower than Category 1. It is represented as dark orange on a Bush Fire Prone Land map and will be given a 30 metre buffer. Examples of Category 3 vegetation include Grasslands, freshwater wetlands, semi-arid woodlands, alpine complex and arid shrublands.

Any development (including minor works) on properties impacted by the BFPL mapping will require an assessment under *Planning for Bushfire Protection Guidelines* and relevant construction standards.

Snowy Monaro Regional Council offer planning services to the community including a duty planner available on weekdays and pre-lodgement meetings to discuss planning implications for larger or more complex proposals. Information on building in bushfire prone areas can be found on the NSW RFS website – see https://www.rfs.nsw.gov.au/resources/publications/building-in-a-bush-fire-area.