Refurbishment of Pygmy Possum Lodge, Charlotte Pass

[V20 – 09 July 2023 Barber]

[V21 – 21 May 2024 Barber]. This document revision reflects a review and site inspection by NSW Planning of the original DA submission and of the lodge and a review by NPWS. These reviews resulted in requests for additional information or modifications. The revisions in this document reflect those change requests and are shown herein in blue.

[V22 – 12 December 2024 Barber]. This document revision reflects:

1. fire concerns with the SOU bathrooms. These bathrooms are constructed with fiberglass modules. Fiberglass is flammable and a performance solution is proposed to include a side mounted sprinkler in all bathrooms and to redirect the fan ventilation for the Level 2 bathrooms to the outside. The existing Level 2 fans vent to the ceiling space between Level 2 and Level 3 and then to the outside.
2. A club board decision to install fire sprinklers on Level 1 (basement). This level is not an accommodation area, however it contains two potential fire sources, in the two drying rooms and the laundry. The J^2 BCA report doesn't mandate these sprinklers.
3. J^2 issued REV-F of their BCA report to cover the bathroom concern. This document is now Up to date with J^2 REV-F.
4. These revisions are shown in red.

5. Executive Summary

Elouera Ski Club Pty Ltd (ACN: 002703988) is the owner operator of the Pygmy Possum Ski lodge at Charlotte Pass. The lodge operates under a 40-year sub-lease to the main lease holder Charlotte Pass Ski Resort. The Elouera Ski Club lease expires on 11 September 2058. The Pygmy Possum Lodge was constructed in 1984-5 with 24 SOUs and was expanded in 1992 with the addition of four SOUs. The 1992 expansion was undertaken to improve the fire exits at the rear of the lodge. This point requires further improvement and is addressed in this document. Under the lease the lodge accommodation is capped at 54 adults. The Pygmy Possum Lodge is now 37 years old and requires considerable refurbishing to provide a safe and viable accommodation to 2058 and beyond.

This document has been written to accompany a DA submission for this refurbishment. The purpose of the document is to inform the various approving parties such as CPSR, NPWS and NSW planning. Elouera Ski Club operates with a continual rotation of volunteer members in executive and other roles consequently the document is important as a knowledge deposit for future club executives and members.

The major motivation for the DA is the recladding of the lodge in colour bond steel. The lodge is currently clad in western red cedar boards. There are three reasons supporting recladding these are:

1. the bushfire risk associated with the current external flammable cladding,
2. continual expensive maintenance at heights of the timber cladding and
3. the opportunity to inspect and repair the building frame while recladding.

Recladding in steel, will reduce the bushfire risk and reduce ongoing maintenance. These reasons are elaborated on in Section 3.

A BCA survey has identified facility and safety upgrades required to bring the lodge to current BCA standards. Implementation of these identified upgrades are included in this DA. Briefly the DA covers the following work:

1. Removal of the existing cladding and replacement with steel cladding [Section 3].

2. Installation of a fire sprinkler network on level 1, 2, 3 and the ceiling cavity of the lodge [Section 4].

3. Upgrade of all internal lodge doors to meet fire safety standards; this requires replacing the existing knob handles with lever handles [Section 5].

4. Replacement of the balcony balustrades to meet the BCA 1000mm height and 150mm lower rail standards [Section 6].

5. Re-establishing the west and east wing Level 2 rear fire exits [Section 7].

6. Connecting the rear of lodge fire exits to the front roadway with a natural path on the east of the lodge. The path will have minimal impact on vegetation cover as it will be within the approved APZ. The path will be marked with winter ski poles and made passable in winter by regular walking and clearing as required. [Section 7].

7. Completion of other works identified in the BCA survey [Section 8].

Additional issues were identified during a January 2024, NSW Planning visit to the lodge and by NPWS. These issues are listed below.

1. A revision and update to the APZ documentation. This update was requested by NPWS following their review of the submitted DA. NPWS staff visited the site in April 2024 and prepared a revised APZ. This revision is submitted along with the other revised documentation. The revised APZ is also discussed in Section 9 of this report.
2. Fire protection treatment of four external steel columns that support the Level 3 quiet lounges.
3. A new step/landing on the east wing kitchen. The step from the kitchen to ground exceeds the BCA requirements.
4. Remediation of the lodge front steps which have irregular treads and risers.
5. A more detailed section and plan of the exit path in the Spencers Road area where steps are required.
6. Other issues were noted by NSW Planning regarding the J^2 report. These have been addressed in the J^2 REV-E report which is submitted with this update.

Issues numbered above as 1 to 5 are discussed in this document and are now included on the architectural plans. Point 2, the external steel columns, is also addressed in the revised J^2 report. The cost of these changes is covered as a single allowance of $20,000 in Table 1 and in Table 2.

The revision documents submitted to the planning portal address the issues noted above are:

1. This document in a redacted format, with cost information redacted.
2. The revised APZ documentation.
3. A new J^2 report labelled ~~REV-E~~ REV-F

4. A new set of architectural drawings.
5. A letter from Douglas and Partners covering the geotechnical aspects of the new steps and landings.

In August 2024 site visits were conducted with the fire sprinkler contractor (Your Fire) and with Fire Integrity Services (FIS). FIS reviewed and quoted to:

1. Install PROMSEALs on all plumbing & electrical perforations between the Level 1 and Level 2.
2. Protect the steel columns (internal in basement) and external (supporting the quiet rooms) using PROMATECT 100 for the former and grout fill for the latter, and
3. the installation of fire damping intumescent panels in the SOU bathroom fans to prevent spread of a fire from a bathroom to the floor above. When on site FIS questioned the utility of such dampeners given the SOU bathrooms are fibreglass modules. This concern led to a review of the J^2 report (REV-F). The new performance solution includes installation of a fire-sprinkler in the bathrooms and replacement of the Level 2 roof of bathroom exit fans with side mounted wall of bathroom fans.

The Your Fire visit recommended that the sprinkler system be extended to the basement level (level 1). There are two fire sources on Level 1. These are the two clothing drying rooms (east and west wing) and the laundry dryers. In addition, the incremental cost of sprinkler installation on Level 1 is low as the sprinkler pipe runs are within long open corridors with minimal wall perforations required.

A staged work approach is proposed which recognises the limited summer work periods and the need for the lodge to generate income to support this project. Staging is discussed in Section 2. Table 1 lists the budget for this work. All costs are exclusive of GST. The club is registered for GST and any GST expense in excess of the GST collected will be refunded. GST will impact on cash flow but not on the cost. Table 1 reflects the additional costs and a revision of the contingency from 15% to 17.5% based on inflation.

Table 1: Cost estimate for proposed work		
DA preparation work	[redacted]	Contracts paid & provisions
Cladding	[redacted]	Local builder quotation
Scaffolding	[redacted]	Covers 2 months; includes erect and remove
Frame Repairs	[redacted]	Club estimate
Sprinkler System	[redacted]	Site visit & quote
Water connection	[redacted]	Estimated based on distance
All door work	[redacted]	Holland supply quotation
Front Balustrades	[redacted]	Bright Balustrading quotation
L1 rear exits (Refer Table 4)	[redacted]	Porticos, walkway exit path
Other works	[redacted]	Refer Table 5
Sub total	$853,000	
Contingency 17.5%	$149,275	
Total	$1,002,275	

To prepare this submission the following team have provided input:

1. Complete Town Planning have undertaken a Bushfire and Environmental Survey and acted as lead manager for the DA submission (Katy Murphy)

2. J^2 has completed a BCA survey report (James Alexander and Conner Riley). Their report has been updated to the 2022 BCA standards. The J^2 report was updated to REV-E in May 2024 following the NSW Planning inputs and revision requests. REV-F was issued in December 2024 following review of the SOU bathrooms.

3. Alpine Fire Safety (Alex Machin) has been contracted to manage the design and budget estimation process for the sprinkler system. As part of this work Alpine Fire Safety have developed the DA documentation pertinent to the fire sprinkler system. Revised fire sprinkler drawings are provided for Level 1, 2, & the ceiling space. Thes drawings include sprinklers within the SOU bathrooms.

4. Complete Town Planning have been appointed to coordinate and submit the overall DA (Katy Murphy).

5. Camstruct has inspected the building frame and designed the structural work involved in the two fire exit porticos (Cameron Lee).

6. Douglas and Partners have provided geotechnical input and site inspection for the foundations of the fire exit porticos and provided geotechnical advice on the proposed fire exit paths (Michael Jones – Douglas and Partners Canberra). DP have also reviewed the footing for the main stairs, the east wing kitchen step and the east side exit path. Their new document is submitted to the portal.

7. Abe Consulting has provided an Accessibility Report. The works proposed do not impact on the lodge access from the main road and as such are deemed not to require access upgrading. The rear of lodge fire escape will in winter exit onto snow. A path will be marked with ski pols but this path will not be cleared. Even if this path was cleared of snow, its gradients preclude disability access.

8. David Woods provided a Flora and Fauna Assessment in regard to the proposed East Wing Fire Escape.

8. Elouera Ski Club President, Jon Barber, has acted as manager and coordinator of the above consultants. Jon has been assisted by Ken George, a licensed architect, who designed and supervised building of the Pygmy Possum Lodge. Ken George is a past director of Elouera Ski Club. Discussion with Holland (doors), Bright (Balustrades), various builders (cladding), has been managed by Barber.

9. Precision Drafting have prepared the architectural drawings for the original and the revised submission. [Note: Precision Drafting was incorrectly omitted as a contributor in the original DA submission].

10. Four club members all with past board roles and lodge experience, have provided a peer review of this document and their suggestions have been incorporated.

The consultant's work fees are listed in Table 2. Updates by J^2, Douglas and Partners and Precision Drafting, associated with this revision, are within the original allowance for updates and Table 2 is therefore unchanged.

Table 2: Costs incurred in DA preparation		
Company or job	**Description**	**Fee Paid ex GST**
J Squared	BCA report	[redacted]
Complete Town Planning	DA lodge, Environment report	
Complete Town Planning	Bush fire report	
Alpine Fire	Fire Sprinkler Design	
Alpine Fire	Fire Sprinkler DA docs	
Camstruct Consulting	Structural Engineering	
Douglas and Partners	Geotechnical Engineering	
Abe Consulting	Disability access	
Precision Drafting	DA architectural drawings	
Dave Woods	Flora and Fauna Assessment	
Contingency	Various overruns & updates	
[redacted]		

6. Implementation Schedule

Elouera Ski Club, in common with many Australian businesses has suffered significant COVID associated losses in the 2020 and 2021 snow season. In 2020 the lodge operated at 50% capacity due to COVID. The 2021 ski season revenue was impacted by multiple LGA shutdowns. To manage club cash flow, recognise the limited weather windows and recognise the scarcity of trades people the club proposed to stage refurbishment in two tranches.

Stage 1 will deliver most of the internal lodge works. As trades people are primarily working within the building, this stage can be done independently of the weather conditions and is not contingent on a specific DA approval date. This work could, for example, be done in October – November or April – May despite the potential for late or early snow falls respectively. Either date range allows the club to remain open across the high revenue Christmas period.

The stage 1 works will comprise:

1. Installation of the Fire sprinkler system on Level 1, 2 & 3 including the ceiling space and all SOU bathrooms.
2. Installation of lever door handles on all SOUs and other doors.
3. Upgrades to signage associated with fire exits and stairs.
4. Installation of fire rated doors, with associated smoke seals, on all four SOU corridors and both quiet lounges. The lodge contains two small lounges on Level 3. These are distant from the kitchen dining areas and are referred to as "quiet lounges"
5. Installation of ~~gyprock~~ PROMOTECT 100 cladding over the steel columns in the Level 1 entrance area.
6. Installation of the Promoseal collars on the level 1 plumbing outlets.

7. Rerouting of the Level 2 SOU bathroom fans so they exit directly outside without entering the void space between Level 2 and Level 3.
8. Closure, of the redundant Level 2 roof of SOU bathroom fan openings to a 60-minute fire rating
9. Installation of an intumescent panel in the ~~level 2 and~~ 3 bathrooms.
10. The level 2 external columns supporting the level 3 quite lounges will be filled with non-shrink structural grout (J^2 REV-F page 6 and page 41).
11. Replacement of the external balustrades. The selected contractor is licensed to work at heights with harness systems. As such the scaffolding concern, noted in the earlier version, is mitigated.
12. Install a steel mesh platform outside the east wing kitchen to comply with BCA safe exit requirements.

Stage 2 work will primarily consist of the external works. This work will require a longer duration and is partly dependant on weather conditions. Ideally the work would be done in February to May. This four-month period will allow some float if weather necessitated.

The stage 2 works will comprise:

1. Removal of the existing cladding and replacement with steel cladding.
2. Construction of the two rear exit porticos.
3. Construction of the east fire exit pathways to the front of lodge roadway.
4. ~~Replacement of the external balustrades. This work is best done while the cladding project is underway to maximise the usage of rental scaffolding.~~
5. Raising the internal stair balustrades to the BCA heights.
6. Raising the internal ceiling in stairways to 2000mm.
7. Install a lower stair flight on the main lodge front external stairs. This new flight to replace the existing irregular steel and timber stairs.

The proposed implementation schedule may be modified to suit contractor availability and weather conditions.

7. External Cladding in Colorbond

Pygmy Possum Lodge is currently clad with 14mm western red cedar over a timber frame. The cedar cladding has been maintained by club volunteers. Figure 1 shows part of the eastern wing of the lodge. The club wishes to replace the cedar cladding with steel colorbond. Recladding is justified on three grounds:

1. Following the 2019/20 bush fires the lodges insurance renewal provided minimal bushfire cover. A nominal cover of $200,000 is provided with a $100,000 excess. Effectively the lodge is uninsured against bushfire. The lodge insurance was renewed in November 2022, with the same minimal bushfire cover. The club board is of the opinion that the reinstatement of meaningful commercial bushfire insurance is unlikely. NSW or Australian government insurance underwriting is also, in our opinion, unlikely and certainly not immediate. Installation of colorbond cladding is unlikely to reinstate our bushfire cover, but it will mitigate the lodge's bush fire risk. The club has implemented an approved APZ (Asset Protection Zone). This has reduced the fuel load in the area adjacent to the lodge, however, the cedar cladding could be sparked from embers or from radiant heat.

2. The cedar cladding requires reasonably regular maintenance; repairs, caulking and repainting. This has traditionally been carried out by members using ladders and harnesses and is effectively limited to the safely accessible areas of the lodge. Professional repainting will require commercial scaffolding and has not been considered affordable. An estimated, 5-yearly commercial repainting and repair over the 36-year lease period will likely incur a similar or higher cost to that of steel cladding.

3. Inspection of the lodge frame, in May 2022, indicated some water ingress and development of mould. The inspected area was on the southeast of the lodge. This area is naturally damper than the front of the lodge. The south side of the lodge is close to the natural ground level, is subject to longer snow burial and has low sun exposure. Regardless of this small sample and its location bias, we consider that all the cladding needs removal so the frame can be inspected and repaired. Figures 2 and 3 show the moisture in the existing frame (May 27, 2022). Removal of the cladding will allow for frame inspection, frame repair (as required), upgrading of the insulation and upgrading of the moisture membrane.

Recladding the lodge will include the following work:

1. Remove and safely dispose of all existing western red cedar.

2. On removal of the existing cladding, all frame damage will be photographed and forwarded to the appointed structural engineer prior to remediation. Where damage is minor the remediation will be done immediately. However, if the damage is significant then the area will be temporarily sealed and inspected by a structural engineer prior to further work in that area. Work will procced on the next area if feasible. All major make good of frame damage will be subject to engineering inspections and approvals.

3. Replace all R2.5 insulation with new R2.7 insulation. The wall studs are 90mm and will accommodate a R2.7 batt.

4. Install a waterproof breathable membrane over the insulation. The Bradford Enviroseal ProctorWrap, is the preferred product as it meets the BCA Part 2.2 objective of managing condensation.

5. Affix a vertical timber batten to the studs (30mm x 11mm H3 treated) over the Bradford Enviroseal ProctorWrap. This will stand the cladding 11mm proud of the Enviroseal and allow air circulation between the Enviroseal and the cladding. The cladding laid horizontally will have horizontal "ins" and "outs" in its shape. The "ins" if butted to the Enviroseal will potentially collect or pool moisture. The battens will allow ventilation and eliminate moisture buildup.

6. Affix the Morclad timber look steel cladding. The Morclad product installed horizontally will mimic the existing timber look. Figure 4 shows an example of the Morclad product installed at Langlauf Lodge in Perisher. The Langlauf Lodge is clad in Manor Red; this colour is not suggested for Pygmy Possum. The Pygmy Possum colour will be Monument which is similar to the existing lodge colour.

7. Finish all corners with a 65mm right angle in a Monument Colourbond material.

8. Cover or replace all timber barge boards with a steel cover. A custom U-cover will be fabricated by Morclad to cover the barge boards. This material will be Colorbond Surfmist Matt. This colour will closely match the existing white paint.

9. Infill all eaves with Miniorb (or similar) in Surfmist Matt. The current eaves are open with exposed timber beams.

10. Infill in 2mm stainless mesh two ground areas where leaf litter accumulates. The west wing area of concern is shown in Figure 5; a similar area exists on the east wing.

11. Work will be done in stages to minimise the area open to weather at any time.

On completion of this work nearly all external timber areas will be replaced or covered with a non-flammable material.

A cost estimate has been made for the cladding using a local building quotation (Ben Mawhinney-Mountain Metal Roofing) and an estimate by Barber for the repair of frame damage of $25,000. Mawhinney has provided a scaffolding quotation of $110,000.

Figure 1: Typical western red cedar panels on Pygmy Possum Lodge. Photo also highlights exposed timber in eaves and timber barge boards. APZ clearance is approximately 5m to east of lodge. APZ clearance highlighted by change in ground vegetation height.

Figure 2: Lodge frame below east wing rear exit stairs. This are was constructed in 1994 and is now 28 years old.

Figure3: Detail of same area highlighting moisture in frame.

Figure 4: Example horizontal cladding at Langlauf Lodge (Perisher Valley), highlighting "timber" look. Pygmy Possum colour will be in Colorbond Monument.

Figure 5: Minor areas requiring meshing with stainless steel 2mm aperture mesh to reduce fuel build-up. View is of the west side; a similar situation exists on the east side.

8. Internal Fire Sprinkler System

The lodge was constructed and approved in the mid 1980's, a four-bedroom extension was approved and added in 1993/94. At the time a fire sprinkler system was not required. This DA triggers an update of the lodge to current standards and a fire sprinkler system is recommended although not mandated. The club board is of the opinion that a fire sprinkler system should be installed as part of this refurbishment for guest and lodge safety. It is likely, in the boards opinion, that a fire sprinkler system will be mandated in the future. The National Construction Code (NCC) 2019 currently requires sprinklers in buildings over three stories. The difference between "over three" and "three" is minor.

The lodge is built in two wings, referred to as the east and west wing. Each wing has 14 SOUs[1], a kitchen and dining/lounge area. A large open "games room" completes the bar of the H-shaped design and joins the two wings. The residential and dining areas are on level 2 and 3. The ground or level 1 area is constructed of Besser brick and stone. Level 1 has a concrete ceiling. Level 1 contains storage areas, a laundry, a food store (non-perishable) and an east and west wing drying room. Level 1 is effectively non-flammable in the 60-minute time frame. Fire exits for each wing are via a central stair well to level 1 or via a set of fire stairs at the rear of the lodge.

A fire sprinkler system is proposed for both wings on levels 1, 2 and 3. ~~Fire sprinklers on Level 1 are not proposed.~~ On level 1, 34 sprinklers will be installed along each corridor and within the adjoining rooms (drying rooms, bathrooms etc). On Level 2 and 3, sprinklers will be installed in:

1. All 28 SOUs.
2. All 28 SOU bathrooms.
3. Both upstairs quiet lounges.
4. Bedroom corridors on both levels in both wings.
5. The east and west wing central stair wells.
6. The east and west wing rear exit stairs.
7. The lounge, dining and kitchen areas.
8. The central games room.
9. The ceiling or roof void above level 3 in both wings.

A total of ~~102~~ 164 sprinklers will be installed. All pipework will be in copper and in the majority run exposed to minimize entry into gyprock walls and ceilings. All work will comply with Australian standards (AS2118.4-2012).

The fire sprinkler system will:

1. Increase the time available for all guests to safely exit the lodge
2. Maintain the safety of multiple exit paths.
3. Provide improved asset protection by reducing the risk of fire spreading.

A known local downside to the sprinkler system is poor water security at Charlotte Pass. In approximately every third or fourth summer the Charlotte Pass area is irregularly closed for accommodation due to inadequate potable water. This issue is considered mute. If there is no water there are no guests and the sprinkler system has no role in guest safety. However, in dry periods the

[1] The Single Occupancy Unit (SOU) term has been used in the BCA inspection report. The SOU acronym has been retained in this document. However, most lodge rooms accommodate two or, in the family rooms, more people.

asset security benefit will be lost. This risk could be mitigated with the installation of dedicated water tank(s) behind the lodge. Installation of water storage tank(s) is not proposed in this DA.

The cost of this work, including design and installation, is [redacted]. [Note: This cost is based on a quote for Level 1, 2 and 3 of [redacted] and an allowance of [redacted] for the SOU Bathrooms]. This work doesn't allow for connecting the lodge fire system to the existing fire reticulation piping at Charlotte Pass. An allowance of $25,000 for excavation and reticulation is included as a separate item in Table 1. Following the CPSR STP fire in May 2024 a fire reticulation line now runs in front of the Pygmy Possum lodge to the STP. It is proposed that this new line be tapped to install a hydrant in front of the lodge and that this hydrant pipe would provide water for the lodge sprinklers. This solution is considered to be covered within the original allowance of [redacted].

The existing internal fire reel system in each lounge room is connected with a 4-inch water supply. This 4-inch supply may be adequate for the fire sprinkler system. The BCA report has identified that this internal fire reel is not required under current building standards, and it will be removed as part of this project. The fire reel system will be replaced with extinguishers when the fire sprinkler system is complete.

Figures 6 and 7 show examples of an exposed sprinkler system in the YCA Thredbo.

Figure 6: Example exposed copper sprinkler installation in YCA Thredbo. Glass rod breaks at 55-77°C. The glass colour indicates the temperature range. Red is a low temperature range. All joints are pressure crimps, this reduces install costs as no welding or soldering is involved

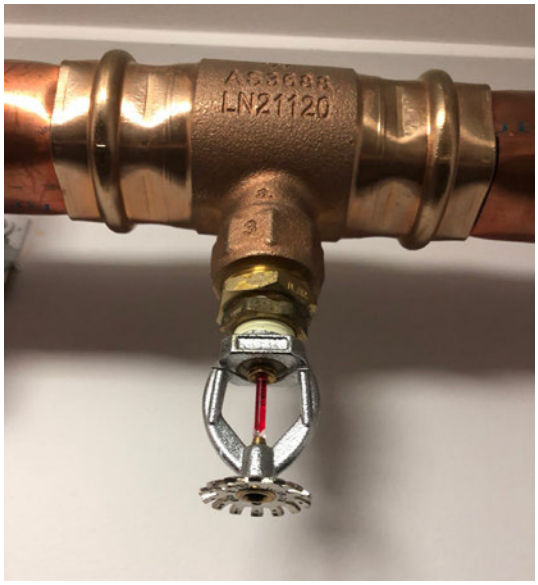


Figure 7: Installation in YCA Thredbo.

A set of drawings covering the fire sprinkler system is included in the DA submission. These drawings will be followed in the installation of the proposed system.

9. Internal doors, seals and door handles

~~All SOU corridor access doors (28) are solid core and are fitted with knob or circular handles. These knob handles don't comply with D2.21 of the BCA. Another six doors (stair access and quiet lounge) are fitted with non-fireproof safety glass.~~[Note: This is a cosmetic revision this point is made in 5 below] Upgrades are proposed to bring all doors to current BCA standards, the following work is proposed:

1. Corridor Exit Doors opening onto stairs. The Level 2 and Level 3, bedroom corridors lead north to the front of lodge main stairs or south to the rear of lodge exit stairs. It is proposed that all 8 doors (2 wings x 2 levels x (front + back)) be upgraded to fire-resistant door sets with a FRL -/60/30 rating. The door set proposed is a MDF 45mm door with a maple veneer. The maple veneer finish will allow for a wood grain varnish finish in keeping with the current lodge ambience. All 8 doors will be factory fitted with a fire-resistant glass panel. The glass panels will be 200mm x 300mm in size. These glass panels will therefore provide adequate vision and meet the FRL-/60/30 requirement. All doors will be provided by Holland Fire Doors and Windows. https://www.hollandfiredoors-srp.com.au/

2. Corridor Exit Doors opening onto stairs. The same eight doors will be fitted with a spring-loaded smoke seal on the base edge and a compression seal on the side and top edges. On the lower floor edge, the Lorient 8009 system, as shown in Figure 8 will be installed. According to the manufacturer web site the system meets the *"medium temperature smoke approvals for use on AS6905 compliant smoke door assemblies and conforms with BCA Specification C3.4 smoke sealing requirements".*
   https://www.stylefinishdesign.com.au/products/8009-automatic-door-bottom-seal

   The door perimeters will be sealed with the Kilargo IS7087 seal (Figure 9). This seal has a screw adjustment that allows fine tuning of the seal pressure.

3. Quiet Lounge Doors. The doors on these lounges currently incorporate a non-fire-resistant glass panel and do not comply with BCA C1.1. These two doors will be replaced with the same door set as noted immediately above in point 1 (FRL -/60/30 rating). The glass panel, approximately 200mm x 300mm, will allow visual checking while maintaining the FRL -/60/30 requirement. Smoke seals will not be required on these doors as they are "inside" the smoke seals provided by the stair doors.

4. Installation costs are estimated at 10 doors, 4 hours/door at $600/day= $3,000. All new doors will be vanished by club members in a working bee.

5. Door handles. All door handles are currently circular or knob handles. These will be replaced with lever handles. This replacement applies to the 28 SOUs, the two rear exit doors, the three games room doors and the ~~two~~ east and west kitchen exit doors; a total of 35 doors. The handles will be provided by Holland with a master key system. The corridor to stairs doors and quiet lounge doors do not have handles. The SOU bathroom doors (28) will be fitted with the same lever action handle but will not be lockable. This work will result in compliance with D2.21 of the BCA.

~~6. Installation costs are estimated at 10 doors, 4 hours/door at $600/day= $3,000. All new doors will be varnished by club members in a working bee.~~ [Note: Moving point 6 to 4 is for clarity.]

7. The two doors, on level 2, between the lounge-dining and the SOU corridors have an asymmetrical saloon door setup. This is illustrated in Figure 10. The smaller hinged 303mm wide door, will be replaced with a new stud wall covered with two layers of 16mm firecheck plasterboard on both the kitchen and SOU side. This will ensure that the effectiveness of the new FRL-/60/30 door set is not compromised.

Figure 8: Lorient 8009 bottom smoke seal

Figure 9: Kilargo IS7087si perimeter door seal.

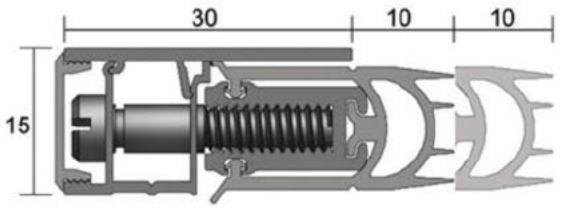


Figure 10: Saloon type door set up in east and west wing leading to the Level 2 SOU corridors.

Table 3 sets out the material and installation costs for the door upgrade work.

Table 3: Fire Resistant Doors and hardware			
Description	**Number**	**Unit $**	**Extended $**
Smoke seal Lorient 8009 (door base)	8	[redacted]	[redacted]
Lorient end plate (door base)	8	[redacted]	[redacted]
Kilargo IS7087si 1000mm (door top)	8	[redacted]	[redacted]
Kilargo IS7087si 2050mm (door sides)	8	[redacted]	[redacted]
Doors and Frame sets (Corridor and Q lounge)	10	[redacted]	[redacted]
Specification: Doors 2040 x 820 x 45mm MDF			$0
Maple Finish (Corridor and Q Lounge)	10	[redacted]	[redacted]
Door and Frame set – Rear Exit (refer Section 7)	2	[redacted]	[redacted]
SS Hinges (Corridor and Q Lounge)	24	[redacted]	[redacted]
Dorma Surface mounted closers (Corridor and Q Lounge)	12	[redacted]	[redacted]
Vision Panels factory fitted (Corridor and Q Lounge)	12	[redacted]	[redacted]
G2 lever handset with key (SOU doors)	30	[redacted]	[redacted]
G2 lever handset no key (SOU bathroom)	30	[redacted]	[redacted]
G2 lever handset button lock (fire exits)	6	[redacted]	[redacted]
Stub walls in downstairs corridors east wing (1) west (1)	2	[redacted]	[redacted]
Installation 10 door sets (man days)	5	[redacted]	[redacted]
Installation 8 door smoke seals (man days)	2	[redacted]	[redacted]
Total ex GST			[redacted]
Rounded			[redacted]

10. Front of Lodge External Balustrades

All balustrades on the lodge frontage are of timber construction with a top rail at 900mm and a lower rung at 270mm above ground. The BCA standards D2.16, of 1000mm (minimum height) and 150mm (maximum climbing rung) are not complied with currently. All external front of lodge balustrades are more than 1m above ground level. Extending the top rail by 100mm is feasible but will not resolve the lower rung height issue. In addition, timber construction presents an ongoing maintenance issue. It is proposed that the existing balustrades be replaced with aluminum powder coated balustrades. The top-rails will be finished in Dulux powder coat Mistletoe, the verticals will be finished in Dulux charcoal. This colour scheme matches the existing lodge colours. The work will be done by Bright Balustrading of Sydney with fabrication and installation priced at [redacted] Figure 11 shows the existing and the proposed alternate. All work meets the Australian standards.

The Bright Balustrading proposal includes:

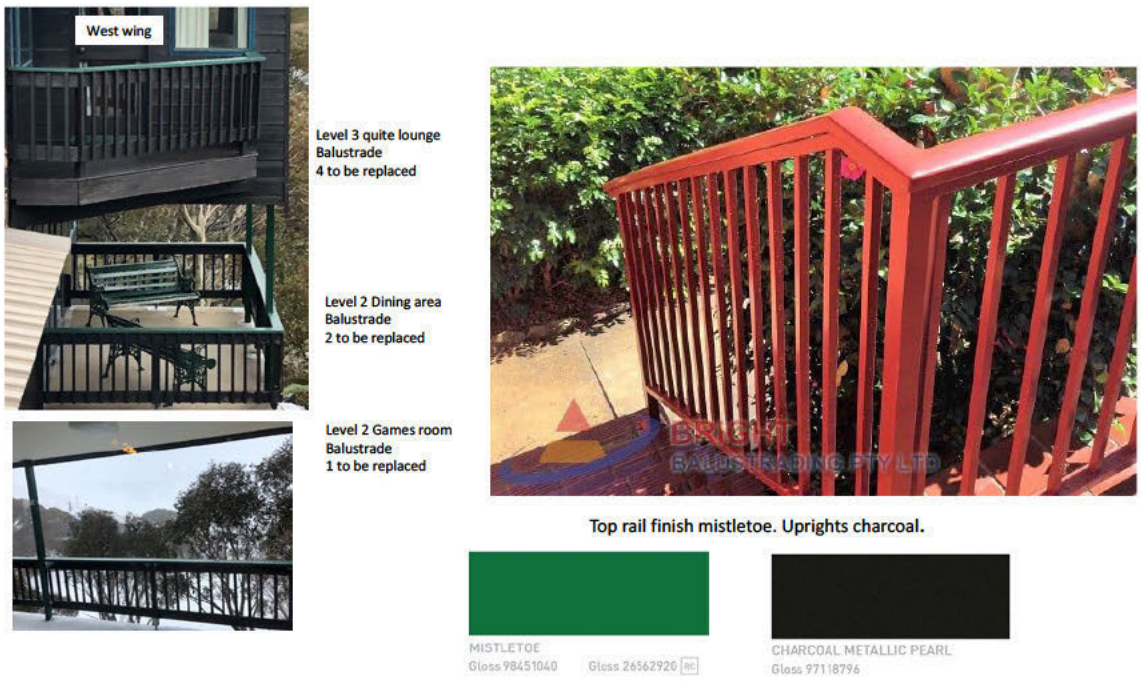
1. A visit to the lodge (one man) to do a detailed pre-manufacture measure of the required balustrades. The current estimate is based on a linear measure of 46m of balustrades.

2. Manufacturing and powder coating will be done in Sydney.

3. Bright Balustrading will then install the new balustrades on site.

The work proposed will meet D2.16 of the BCA.

Figure 11: External front of lodge balustrades.



7. Rear of Lodge Fire Exits

In 1993/94 the lodge was extended to the south to improve the rear fire exits. The 1993 approval submission stated:

> *"An emergency exit for the Pygmy Possum Lodge is provided at the rear of the lodge. This position is on the uphill side of the lodge and is sheltered from the winter sun, with the result that snow accumulates at the exit door. This snow is cleared manually, but there is not a reliable method of clearing, and a large amount of snow can accumulate following a heavy overnight snowfall or if the lodge has been unoccupied for an extended period."*
>
> *"The accumulation of snow under circumstances when it is impracticable to clear it is considered by the directors of the Club to create an unsafe situation."*

The 1993 approved proposal involved:

> *"Constructing a new internal staircase to serve as a fire escape with an external steel grill landing at the upper level of the extensions and steps leading down to the slope behind the lodge".* [2]

The 1993 rationale remains valid. However, neither of the rear exits are 100% satisfactory and neither exit provides a reasonable exit path to the front roadway. Figure 12 shows the rear west and rear east exits after the June 2022 snow falls (approximately 1m cumulatively) and after some melt.

Figure 12: Rear exits on June 14, 2022, showing snow build-up, particularly on east of lodge.

[2] *Extensions to the Pygmy Possum Lodge Charlotte Pass Village Review of Environmental factors prepared by David Hogg November 1993 and approved under File 406 22 December 1993 by NPWS as part of the Development Approval".*

While the roof lines don't slope immediately into or onto the exits it appears that the upper stairs are catching snow from the roof and the lower exit is then buried under this same snow or wind-blown snow. The existing four exits, but particularly the lower exits are in a re-entrant area (GF4.1) and are prone to deep snow build up. To make these exits safe a new roof structure would need to cover both the east and west exits to allow people to exit without having snow fall on them. The problem identified in 1993 of *"large snow accumulation*" remains. Building these covering structures is considered complex and unsightly and is not proposed.

The proposed alternate is construction of two covered porticos; one at the rear of the west wing and one at the rear of the east wing. These porticos would be accessed with a new door on each wing. People exiting the building would enter a covered portico or "tunnel" which will shelter them from lodge roof snow falls. These two fire exits have been geotechnically reviewed by Douglas Partners in regard to the foundations and designed by Camstruct in regard to the structures. The Camstruct design incorporates three 100mm x 100mm x 3mm RHS galvanized steel columns and is a 100% steel construction. The exterior of the structure will be clad with vertical cladding. This vertical alignment will provide better structural integrity to snow loads as compared to a horizontal cladding and will readily shed snow.

The new fire exit doors will be located partway between Level 2 and Level 3 such that the door exits slightly above natural ground level. The porticos will be fitted with an expanded mesh walkway and suitable steps or ramps to natural ground level. All existing exits will be closed and the existing steel stairs will be removed. The two existing upper-level doors, visible at the top of Figure 11, will be replaced with internal gyprock, timber framing, R2.7 insulation and steel cladding. Ambient natural light is adequately provided on this level from an existing window. The two lower-level doorways will be replaced with gyprock, timber framing, R2.7 insulation and steel cladding to approximately 1200mm height. The top section of these doors will be replaced with an 800mm x 800mm double glazed window. These two new windows will be covered with 2mm aperture stainless steel mesh. The existing west wing lower-level doorway is visible in Figure 12 (left). The existing east wing lower-level doorway is snow covered in Figure 12 (right).

The proposed porticos offer advantages as compared to improving or making good the existing exits:

1. The new structures (east and west) are a simple wall and will read as part of the building.

2. Retrofitting roof structures on the existing two exits will be more complex to design and is likely to be aesthetically less pleasing. It is likely that such structures will not read as part of the building.

3. To "make safe" the existing lower exit will need a snow protection structure that projects outside the building line. The main lodge roof slopes to the west or east respectively. This main roof slope, along with the re-entrant corner, is part of the reason these lower exits are snow bound.

4. The new portico will exit uphill and is well clear of the main roof. Snow falling from the exit roof, which slopes south, will accumulate against the new portico wall. However, the exit door within the portico will remain clear of snow.

Figure 13 shows the location of the proposed new door on the west wing. Figure 14 shows the new west wing portico design. The concept on the east side is similar and is not shown here; both sides are detailed in the architectural plans and the Camstruct structural plans.

All work on these two new porticos and the associated exit path and stair (to access the roadway) will comply with G4.5 of the BCA. For reference G4.5 of the BCA is included in the following text box.

Text Box: G4.5 of BCA on external trafficable structures.

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

(c) for a stairway have, *goings* (G), *risers* (R) and slope relationship quantity (2R + G) in accordance with—

(i) Table D2.13; or

(ii) Table G4.5; and

(d) for a ramp serving as an *exit* and not serving as an *accessible* ramp, have a gradient not steeper than 1:12; and

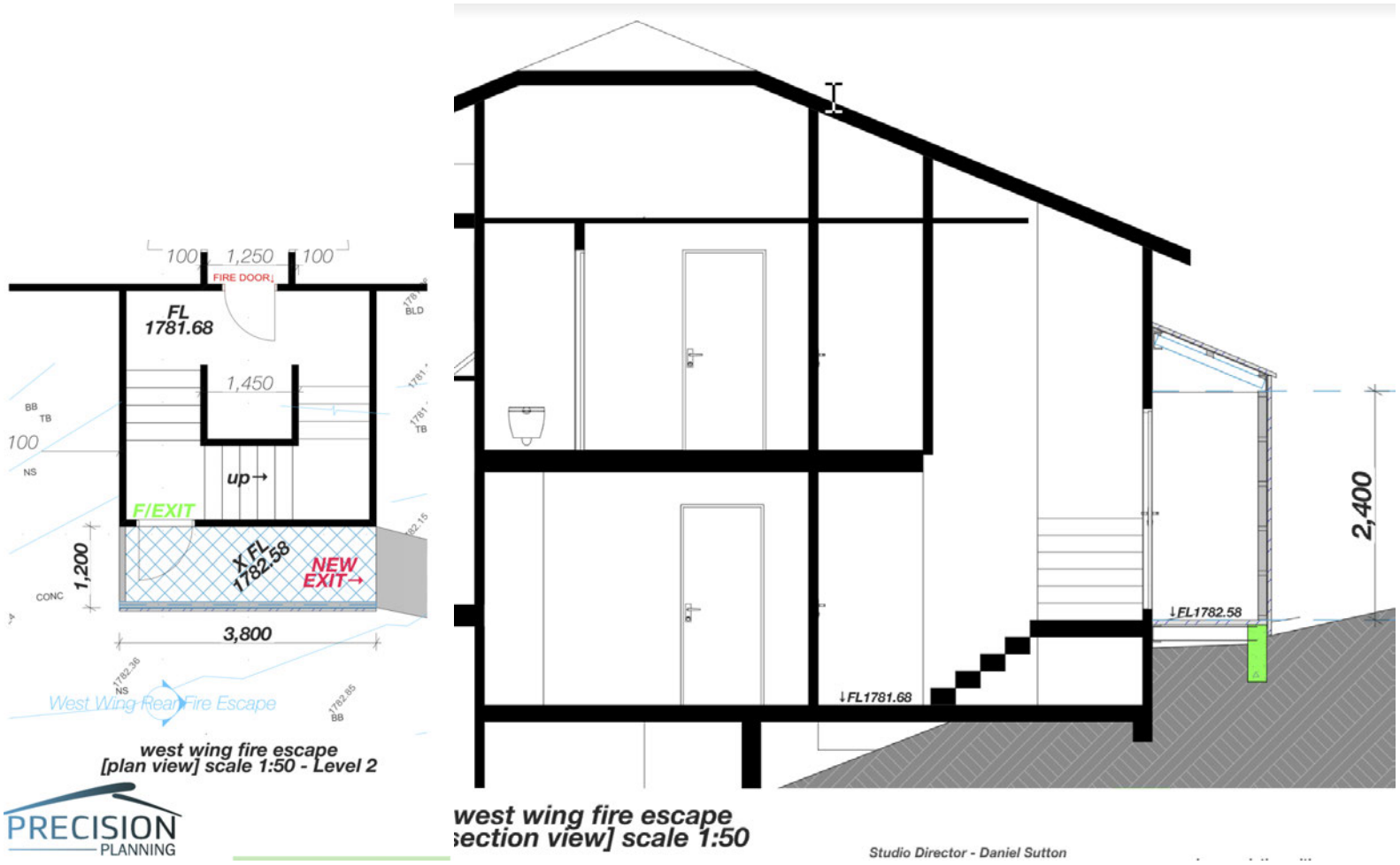
(e) where a ramp is also serving as an *accessible* ramp under Part D3, be in accordance with AS 1428.1.

Table G4.5 Alternate stair riser and going dimensions (mm)

Riser (R)		Going (G)		Slope relationship (2R + G)	
Max	Min	Max	Min	Max	Min
150	115	375	355	675	605

Figure 13: Proposed new door location west wing. Left photo shows existing glass door at lower exit and location of new door. Right photo shows the outside location of the new door. Steel tape marks the foot of the new door.

Figure 14: Plan and section of west wing fire exit



Rear of Lodge Exit Path – East Side

A component of the new rear portico exits is establishing an exit path to the roadway. The exit path alignment is shown in Figure 15. Figure 15 highlights that the Lot 108 boundary is very close to the west edge of the lodge. Maintaining a 3m clearance between the building and the path is nearly impossible unless the path is positioned outside Lot 108. The southwest corner of Lot 108 encroaches on the Biodiversity Values Map (BVM) and for these two reasons a west exit path is not proposed.

The east side exit path is discussed below:

1. On the east side of the lodge, the Lot 108 boundary is 5m from the lodge, allowing a +3m gap between the building and the proposed exit path. Therefore, the proposed path can be positioned outside the 3m radiant heat zone and clear of falling roof snow.

2. The gradients along this path are reasonable. The fall is 7.5m over a length of 31m or an average gradient of 24.2% or 13.6°. [This gradient is measured from the drain at the SE corner of the path to the top of the stair at the roadway.] Steps of stone or timber are proposed in two local areas. These will slightly reduce the "on path" gradients. Any such steps will use natural materials, such as hardwood sleepers, granite flagstones. Crushed granite or similar will be avoided as it is subject to erosion. In most areas the "path" will not disturb the natural vegetation. The path is within Lot 108, except where the path meets the road.

3. A steel expanded mesh stair will be required near the lodge frontage (i.e. near the road).

4. This stair will lead to an expanded mesh walkway. This area near the road is permanently wet and is best traversed with a walkway. The walkway will terminate at the road. The walkway will be 200mm above local ground to minimize the need for continual snow clearing. Levels will be confirmed during construction. The stairs will be fitted with a simple top rail balustrade to keep people on the stairs rather than drifting off the stairs into snow. The stairs are almost on ground level and a fully compliant balustrade is not required.

5. Reflective snow poles on transition points will provide night and winter orientation. When occupied, the path will be kept clear of deep snow by a combination of shovel clearance and tramping.

6. Figure 15 shows the overview plan of the east path.

7. Figures 16 to 19 show the pathway in more detail. The captions on Figures 16 to 19 detail specifics for each photo.

8. A small walkway will connect the west portico with the east portico and east path. This path will also be marked with ski poles as required. When occupied, the path will be kept clear of deep snow by a combination of shovel clearance and tramping. Figures 20 and 21 show the path area.

9. The west path will not enter the east portico. Rather this walkway will travel above the east portico. This will allow west wing guests to exit without reentering the east wing.

10. Dring winter occupancy of the lodge the fire exit path will be “tramped” in daylight to ensure the alignment can be followed at night. The walkway will not be cleared of snow as this would damage the underlying vegetation. The stairs at the roadway will be regularly cleared of snow.

The cost of the work involved in the two exits is listed in Table 4.

Table 4: Estimated cost for rear fire exits including landscaping.

Option	East	West	Comment
Remove existing exit stairs	[redacted]	[redacted]	
Construct new false wall	[redacted]	[redacted]	
Steel expanded mesh work	[redacted]	[redacted]	
New exit doors	[redacted]	$0	Included in Table 2
New windows 800mm x 800mm	[redacted]	[redacted]	
Path landscaping and stair	[redacted]		
Total		[redacted]	

Figure 15: Proposed path from back of lodge to roadway. The path will be landscaped with local stone or hardwood sleepers where required. This figure is updated to show the west exit route stays outside the east wing portico.

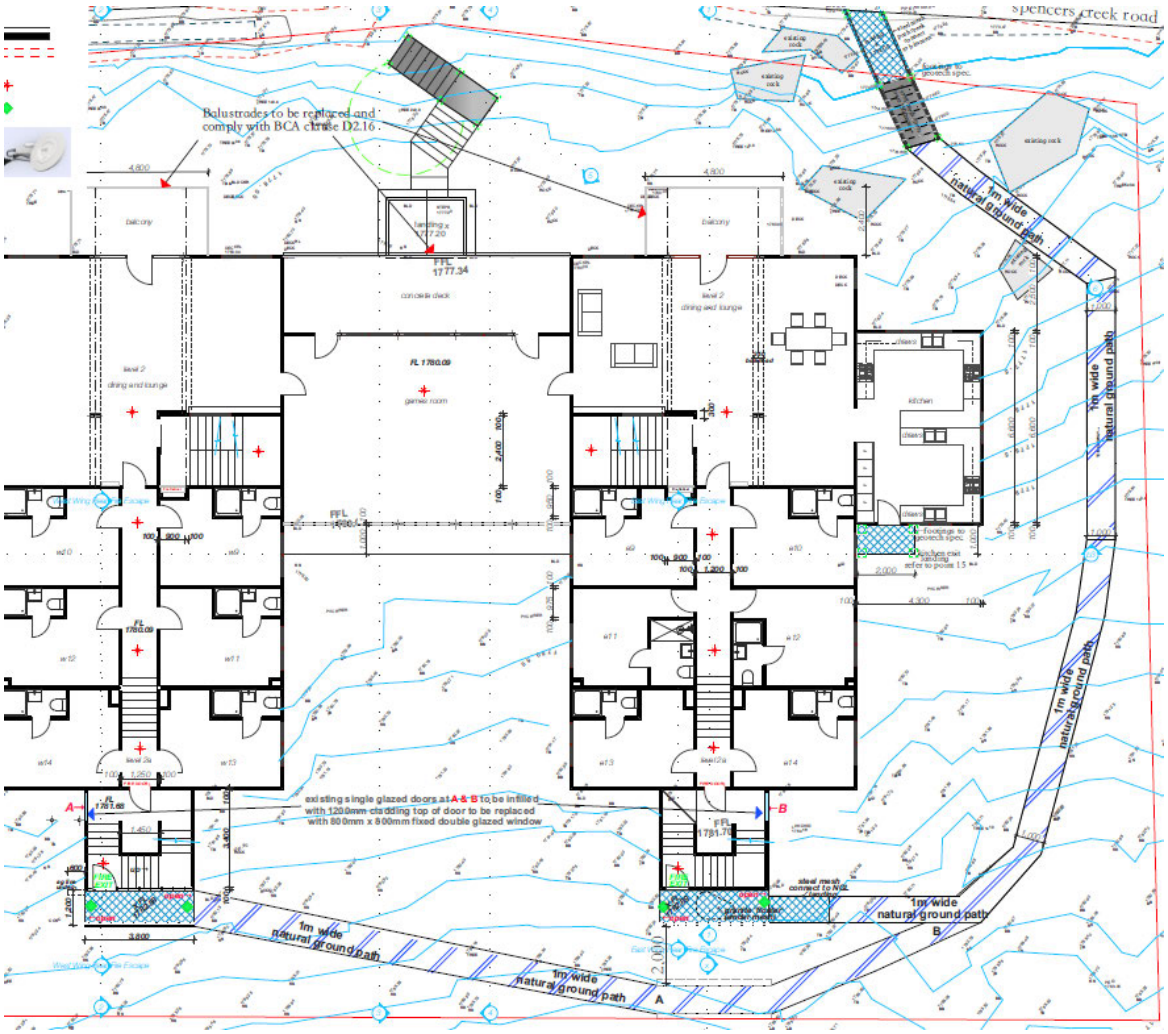


Figure 16: Path at rear of east wing. Dashed blue line shows edge of portico structure.

Existing stairs removed

Two ski poles to define path at drain

Looking east from east wing.

Expanded mesh to extend east to X & daylight on topography

Path to cross the drain at top of photo with an ag pipe covered with gravel or crushed stone.

Figure 17: Path down east side of lodge. Path is well clear of lodge and within Lot 108. Granite flagstones will be required in some areas.

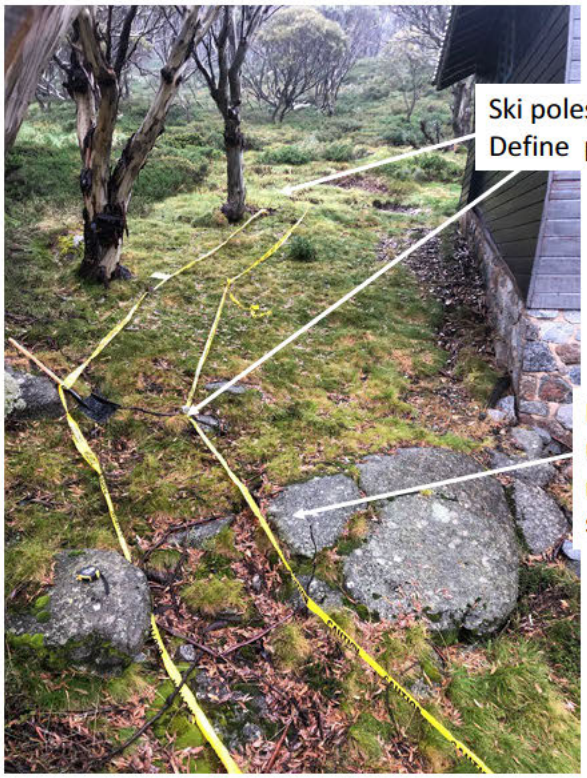


Figure 18: Path on east side of lodge in road area. This water course is semi-permanent and will be crossed with a steel expanded mesh walkway approximately 200mm above the drain. This walkway will daylight on the road edge.

Road access area.

1.Path travels to low spot, immediately east of large boulder.

2. Expanded mesh platform with three stairs to NW

3. Platform supported with rock bolts to boulder & steel posts

4. Hand rail on lower side

5. Mesh path & steps as required to road

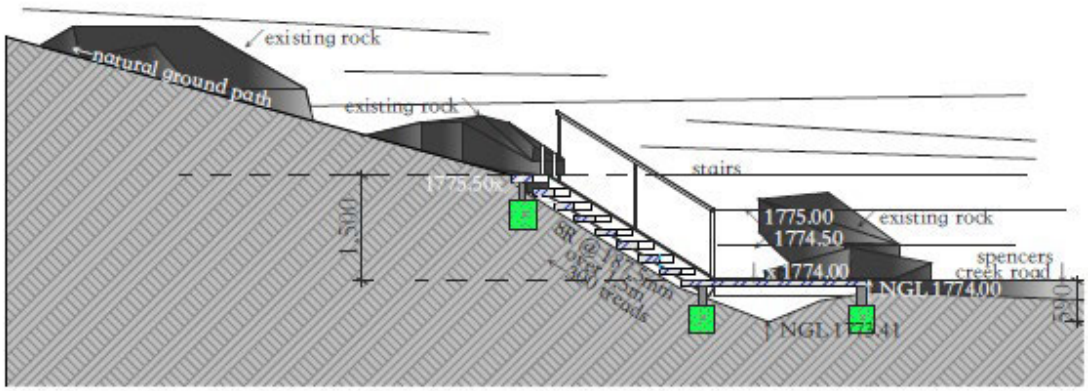
Figure 19: Path connecting west portico to east portico and east path. Width indicated by tape is approximately 1m.

Figure 20: Continuation of path between west and east wings.

Variation to Path Design

NSW Planning requested a detailed plan and cross section of the east side lodge fire exit path in the Spencer's Creek Road area. This area requires a set of steps and a walkway to traverse the local gradients and cross the drain respectively. This design is now detailed in the architectural plans. The proposed stairs and platform will be constructed in Corten steel to blend with the local vegetation. Handrails will be positioned on both sides of the stairs and pathway. The area fills with snow and without left and right handrails users could "loose" the solid path and drop into snow fill. Figure 20A is taken from the architectural plans (page 15) and is included for reference.

Figure 20A. Cross section of exit stairs for eastern side fire exit path.



8. Other Work noted in BCA report by J²

The J² BCA report (~~2244 Rev C~~ 2244 REV F) lists issues within the building which are not compliant with current BCA provisions. A table in the J² report from page 19 to page 27 lists these items and references them to the current BCA Clause. Some of these items are covered in the major work outlined in Sections 3 to 7 of this report (e.g. cladding, fire sprinklers, doors). For completeness, this section of this report lists all the BCA Clauses itemized by J². A large number of the items are minor in cost and complexity and are deliverable via one or more club working bees. All work will be inspected under the required compliance inspection process.

8.1 BCA Clause C1.9 Non-Combustible buildings elements (J² page 21)

The installation of non-combustible cladding will address this issue. This is detailed in Section 3 of this report.

8.2 BCA Clause C1.10 Fiberglass bathroom pod construction (J² page 21)

This is address in the section on fire sprinklers. A performance solution includes mounting a sprinkler head in each bathroom & changing the Level 2 exhaust fan system.

8.3 BCA Clause C2.6 Vertical Separation of openings in external walls (J² page 21)

The vertical separation between adjoining levels is less than 900mm. This has been addressed with a sprinkler system. This is detailed in Section 4.

8.4 BCA Clause C3.2 Protection of Openings (J² page 21)

The distance between buildings, that is between the Pygmy Possum Lodge and other lodges is greater than 6m and this is considered acceptable.

8.5 BCA Clause C3.11 Bounding Construction (J² page 22)

Three issues are listed by J² in relation to BCA Clause C3.11. These are:

1. The SOU doors are solid core but not fire resistant. This issue is considered covered sufficiently by installation of the AS2118.4-2012 fire sprinkler system. Sprinklers are discussed in Section 4.

2. Exhaust duct fans in all SOU bathrooms and the two upstairs women's toilets are penetrating the ceiling plasterboard. The SOU bathrooms are vented with an exhaust fan into the ceiling, the exhaust ducting penetrates the ceiling of two 13mm plasterboard layers and compromises its fire safety integrity. The vents on Level 3 will be retrofitted with an Integrated intumescent fire damper. The vents on Level 2 will be removed and replaced with a fan and duct that directly vents to the outside via a non-combustible pipe and doesn't penetrate the void between Level 2 and Level 3. The cost are estimated at [redacted].

3. The existing quiet Lounge doors do not satisfy the requirements of C3.11 given that the door incorporates a glazed panel and is not a fire-resistant door set. These doors will be replaced with fire resistant door sets FRL -/60/60, including fire resistant glass. This is described and budgeted in Section 5.

8.6 BCA Clause C3.12 Opening to Floor and Ceilings for Services (J^2 page 23)

The ground floor PVC service pipes, generally carrying wastewater, will be sealed with Promoseal collars. ~~It is estimated that there are ten pipes to install at $100 each (parts total $1,000). The fire resistance level of the collars will be FRL -/90/90. This work will be done by a local plumber. Labour is estimated at~~ [redacted] Fire Integrity Services inspected the lodge and provided a quotation on remediating these penetrations. The number of penetrations had been seriously underestimated and following visual inspection is now counted as 50. The cost estimate provided is $40,000.

8.7 BCA Clause ~~C1.1~~ C3.12 Spec 5 Fire-Resisting Construction (J^2 page 23)

~~The structural steel posts on the ground floor will be contained in two layers of 16mm plasterboard. This work will be contacted to a local builder and inspected mid project for compliance before sealing. Estimated cost is $2,000. The fitment will follow Figure 21. This figure is from *gyprock-548-commercial_installation_guide_201809.pdf*~~

~~Figure 21: Gyprock around RHS steel columns~~

The originally proposed two x 16mm of gyprock cladding (above) was found to be physically impossible to install as the steel columns are too close to the brick walls. An alternative cladding is proposed in the J^2 REV-E report. The steel columns will be clad with PROMATECT 100. This is a 20mm board which will achieve a fire resistance level of 120 minutes while staying clear of the adjacent brickworks. No cost variation is expected from this change. Fire Integrity Services have inspected the lodge and quoted [redacted] for this work.

8.8 BCA Clause D1.2 Number of exits (J^2 page 23-24).

The existing rear fire exit doors are snow bound in winter. Two new portico structures will be built on the rear of the two wings. This is described in Section 7. Section 7 identifies an additional exit from each wing which satisfies the requirements of D1.2 of the BCA. This work will be to AS/NZS 2293.1-2018 requirements.

8.9 BCA Clause D1.2 Exit Signage (J^2 page 23-24).

This point is made in the same table cell as 8.7. All fire exit signage will be altered to comply to AS/NZS 2293.1-2018. The cost is estimated [redacted]

8.10 BCA Clause D2D4 Fire Isolated stairway (J^2 page 24).

This item is addressed via installation of a fire sprinkler system as described in Section 4.

In addition, all four doors connecting the SOU corridors with the lounge/dining/kitchen areas will be replaced with doors including fire resistant glazed panels and Kilago medium temperature smoke seals

on all door edges. Four doors (two on the east wing and two on the west wing) will be upgraded. This door topic is detailed in Section 5.

8.11 BCA Clause D1.6 Dimensions of Exit and paths of travel (J^2 page 24-25)

While this stairway is 970mm wide compared to 1000mm it is under the Performance Solution considered sufficient.

8.12 BCA Clause D2D12 Travel via fire-isolated exits (J^2 page 25)

This item is covered by the inclusion of a fire sprinkler system as described in Section 4.

In addition, all four doors connecting the SOU corridors with the lounge/dining/kitchen areas will be replaced doors including fire resistant glazed panels and Kilago medium temperature smoke seals on all four sides. Four doors (two east wing, two east wing) will be upgraded. This door topic is addressed in Section 5.

8.13 BCA Clause D2.7 Electricity Board Shielding (J^2 page 25)

The electrical boards will be covered with a steel cover fitted with smoke proof seals. This work will be done locally by a Cooma or Jindabyne fabricator. This work will comply with D2.7 of the BCA. Costs are estimated at $2,000.

8.14 BCA Clause D3D14 Goings and Risers (J^2 page 26)

This item will be addressed with contrast strips and signage. This work will be done on site by club members and maintained by the club. The work will be inspected by the certifying authority. Costs are estimated at $200.

8.15 BCA Clause D2.16 Barriers to prevent falls (J^2 page 27)

The internal stair balustrade will be raised form 825mm (measured) to 865mm. This work will be done by the club members on a working bee and inspected for compliance by the compliance authority. This change will comply with D2.16 of the BCA. Costs are estimated at [redacted]

The external balustrades are listed under the same BCA D2.16 item. These external balustrades will be replaced and will comply with D2.16 of the BCA. This is discussed in Section 6.

8.16 BCA Clause D2.21 Operation of Latch (J^2 page 27)

Replacement of all doorknobs with door latches is discussed and budgeted for in Section 5. This, as noted in Section 4, applies to all SOU bathroom doors, SOU corridor doors and all exit doors. All doors are effectively part of an individual's exit route, and all doors will be fitted with lever handles. The proposed work will result in compliance with D2.21 of the BCA. Costs are estimated at [redacted].

8.17 BCA Clause E1.3 and G4.8 Fire Hydrants (J^2 page 27)

Compliance certifications will be provided during the fire sprinkler installation process. The current certificates show compliance. The hydrants will be re-certified as part of the fire sprinkler system.

8.18 BCA Clause E1.4 and G4.8 Fire hose reels (J^2 page 27)

This work involves removal of the internal fire hose reels and replacement with extinguishers. This work is best done on completion of the fire sprinkler system. The current BCA does not allow fire hose reels which are not located within 4m of exit doors. As such the existing fire hose reels will be decommissioned and replaced with applicable portable fire extinguishers in accordance with AS2444-2001. The cost of additional extinguishers is estimated at [redacted]0. This work will be done by Alpine Fire Services.

8.19 BCA Clause E1.6 Relocate existing extinguishers to satisfy AS 2444-2001 (J^2 page 28)

This work will be done by Alpine Fire Services on completion of the sprinkler system. The cost is estimated at $1,000.

8.20 BCA Clause E2.2 and G4.8 Smoke Detection and Alarms (J^2 page 28)

Currently the lodge is inspected for fire safety on a 6-month basis. Following installation of the fire sprinklers the detection coverage will be reviewed and updated as required. An allowance of $2000 is included for any additional work.

8.21 BCA Clause E4.2 Emergency Lighting Requirements (J^2 page 28)

The two new rear exits will have emergency lighting installed within the building and externally. This lighting will comply with AS/NZS 2293.1-2018. Spitfire lighting is proposed for all levels. It is proposed that 23 lights be installed over the three levels. An allowance is made for [redacted] with installation at $[redacted] The spitfire lighting system will also comply with AS/NZS 2293-2018.

8.22 BCA Clause E4.5 Exit Signs (J^2 page 28)

Exit signage will be installed for the new rear exit doors. The signage will satisfy BCA E4.5.

8.23Height of Rooms & other Spaces (J2 page 28-29 & page 12)

The roof structure above the stairs on the east wing and the west wing is slightly lower at 1950mm as compared to the BCA requirement of 2000mm. (refer BCA F5D2). The gyprock will be removed and chamfered to achieve a 2000mm clearance.

8.24 BCA Clause G4.3 External Doors (J^2 page 29)

All external opening doors need "OPEN INWARDS" signage in 75mm minimum letter height. This work will be done by the club using commercial signs to meet the requirements of G4.3. Eight doors are involved at a cost of $100/door or $800.

8.25 BCA Clause G4.8 Fire Fighting Services (J^2 page 29)

Strobe type visual alarm will be added on the front entrance to comply with AS1670.1-2018. This work will be done by a local Jindabyne electrician. Costs are estimated at [redacted]

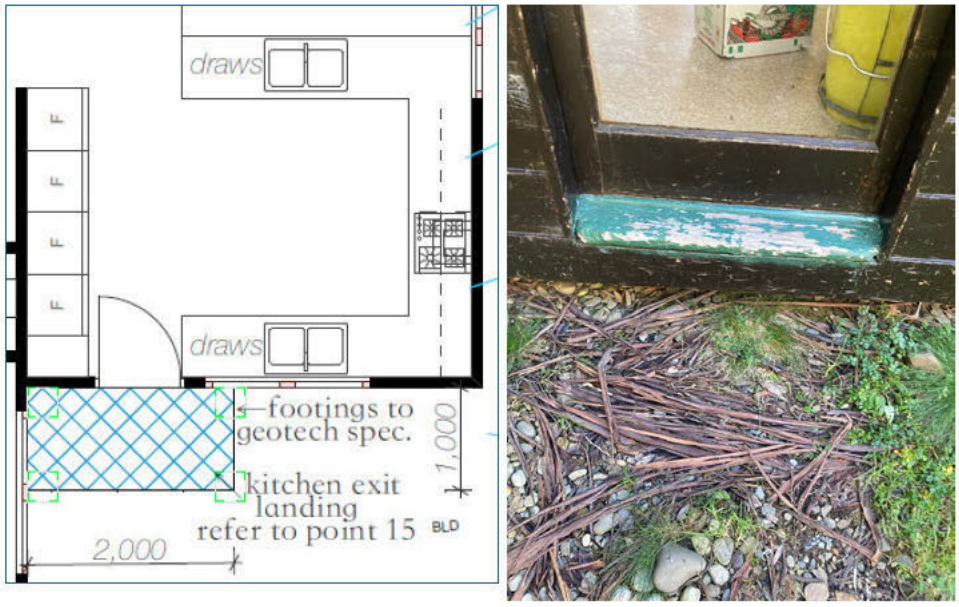
8.26 BCA Clause G4.9 Fire Orders (J^2 page 29)

This work involves upgrading fire orders to include location of PFE and FHR. This work will be done as part of and on completion of the fire sprinkler system. This work will be compliance with G4.9 of the BCA. Costs are $500.

8.27 Exit from East wing Kitchen (Item not addressed by J² report).

The J² BCA inspection was conducted in October 2021. At that time the east wing kitchen exit was level with the snowpack and deemed satisfactory in providing a safe exit. In summer 2024 when NSW Planning conducted a site inspection the step was found to exceed the BCA requirements. A steel mesh platform will be positioned outside the kitchen exit. The platform will be 100mm below the kitchen doorstep. The platform will extend into the building corner, so it doesn't create a trip hazard. Details are shown on the Architectural drawings page 4. For reference part of that drawing is shown in Figure 22. This work will be done in Stage 1. Cost is estimated at [redacted].

Figure 22: Step or landing required outside east wing kitchen exit.

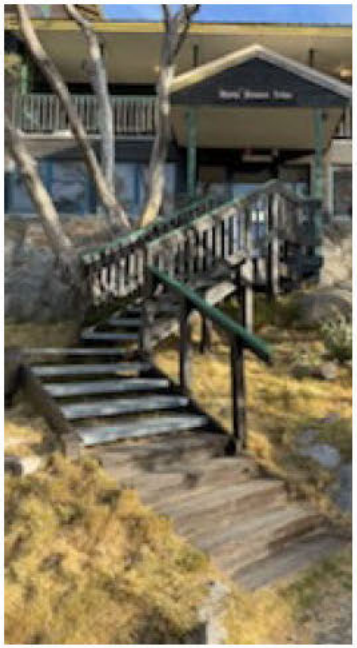


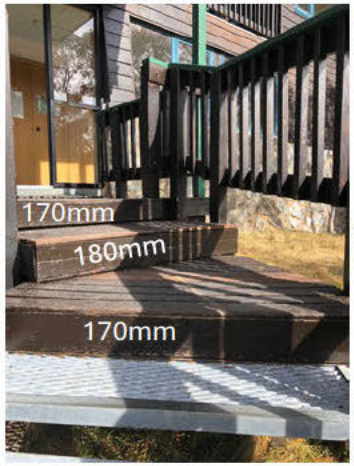
8.28 Front stairs of lodge

The front of lodge entrance stairs are a mix of timber and steel treads with various riser heights. Figure 23 shows the "as is" layout. The proposed layout will maintain the top lodge landing as is. These treads (at 170, 180, 170mm) are variable but are within BCA limits.

The lower steel flight will be replaced with a new steel flight with 170mm risers and 300mm treads. This flight will extend downwards to replace the timber flight. Details are provided in the architectural plans. The cost of this item is estimated at [redacted]

Figure 23: Lodge front steps “as is”.

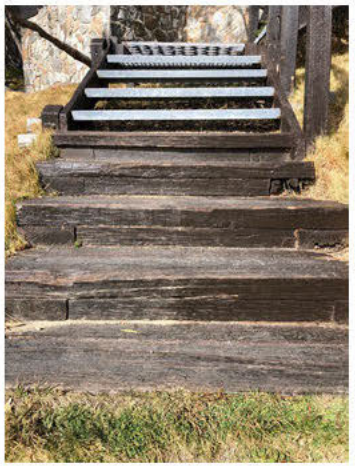




Lodge Landing
170mm, 180mm, 170mm risers

Top steel flight
170mm risers &
300mm treads.

Lower steel flight
160mm risers &
300mm treads.



Bottom timber flight
130mm to 140mm risers &
300mm treads.

8.29 External Columns supporting the quiet rooms (J² page 5 and page 37)

NSW Planning requested that the four structural columns supporting the quiet lounges be provided with adequate fire treatment. J² have addressed this issue with grout filling of the columns. The specification notes:

1. Column to be filled with a flowable non-shrink structural grout via a 45mm top hole and a 5mm basal vent hole.
2. Following curing a more pliable mix of non-shrink structural grout to be forced via the 45mm top hole to fill be remaining void between the first pour and the top slab.

The cost is estimated at [redacted].

Table 5 shows the estimated costs for the work listed in Section 8. The column headed solution shows that sprinklers solve several issues raised by J2. As suggested by the NA (no Applicable) label no additional costs are incurred on these items.

Table 5: Cost for items not covered in Sections 3 to 7.				
Doc Ref	**BCA**	**Description**	**Solution**	**Cost**
8.1	C1.9	Non-Combustible buildings elements	Sprinklers	NA
8.2	C1.10	Fiberglass bathroom pod construction	Sprinklers	NA
8.3	C2.6	Vertical Separation of openings in external walls	Sprinklers	NA
8.4	C3.2	Protection of Openings (Distance to buildings)		NA
8.5	C3.11	Bounding Construction		
		SOU doors inadequate	Sprinklers	NA
		Bathroom fans. Level 2	Rerouting	[redacted]
		Bathroom fans. Level 3	Dampers	
		Quiet rooms	New Doors	NA
8.6	C3.12	Opening to Floor and Ceilings for Services	PROMATECT	[redacted]
8.7	C3.12	Fire-Resisting Construction (Posts)		
8.8	D1.2	Number of exits	Rear exits	NA
8.9	D1.2	Exit Signage		[redacted]
8.10	D2D4	Fire Isolated stairway	Sprinklers	NA
8.11	D1.6	Dimensions of Exit and paths of travel		NA
8.12	D2D12	Travel via fire-isolated exits	Sprinklers	NA
8.13	D2.7	Electricity Board Shielding		[redacted]
8.14	D3D14	Goings and Risers (add signs)		
8.15	D2.16	Barriers to prevent falls. Internal		
		Barriers to prevent falls. External	Balustrades	NA
8.16	D2.21	Operation of Latch		[redacted]
8.17	G4.8	Fire Hydrants (certification as part of Sprinkler)	Sprinklers	NA
8.18	G4.8	Hose reels (removed when sprinklers complete)	Sprinklers	[redacted]
8.19	E1.6	Relocate extinguishers		
8.20	E2.2	Smoke detector & alarms		
8.21	E4.2	Emergency lighting		
8.22	E4.5	Exit signs (included in portico cost)		NA
8.23	F5D2	Roof height		[redacted]
8.24	G4.3	External Doors (OPEN INWARD signs)	Done	NA
8.25	G4.8	Fire services (strobe light)		$[redacted]
8.26	G4.9	Fire orders updated		
8.27		Exit from East wing Kitchen		[redacted]
8.28		Front stairs of lodge		$[redacted]
8.29		External Columns supporting the quiet rooms		[redacted]
Total				[redacted]

9. Revised APZ

Following review of the initial DA submission, NPWS updated Lot 108's APZ (email 21 May 2024 Bryce Williams to Jon Barber). The new APZ (4 pages) is submitted with this resubmitted DA. The new APZ contains two major changes:

1. A native vegetation island on the east of the lodge has been identified. This area is partly on and partly off Lot 108. This area was noted by NPWS in 2023 and led to the concept of the east fire exit only and a "no go" west fire exit. The area is noted (refer Figure 25) to contain a large Mountain plum pine.

2. The plan area of the two "islands" has also been clarified by the inclusion of photos on page 4 of the revised APZ.

Figure 24 shows the new APZ plan. Figure 25 shows the "island" photos.

Figure 24: APZ plan for Lot 108 as presented by NPWS on 21 May 2024. The area on left or west has been added to the APZ.

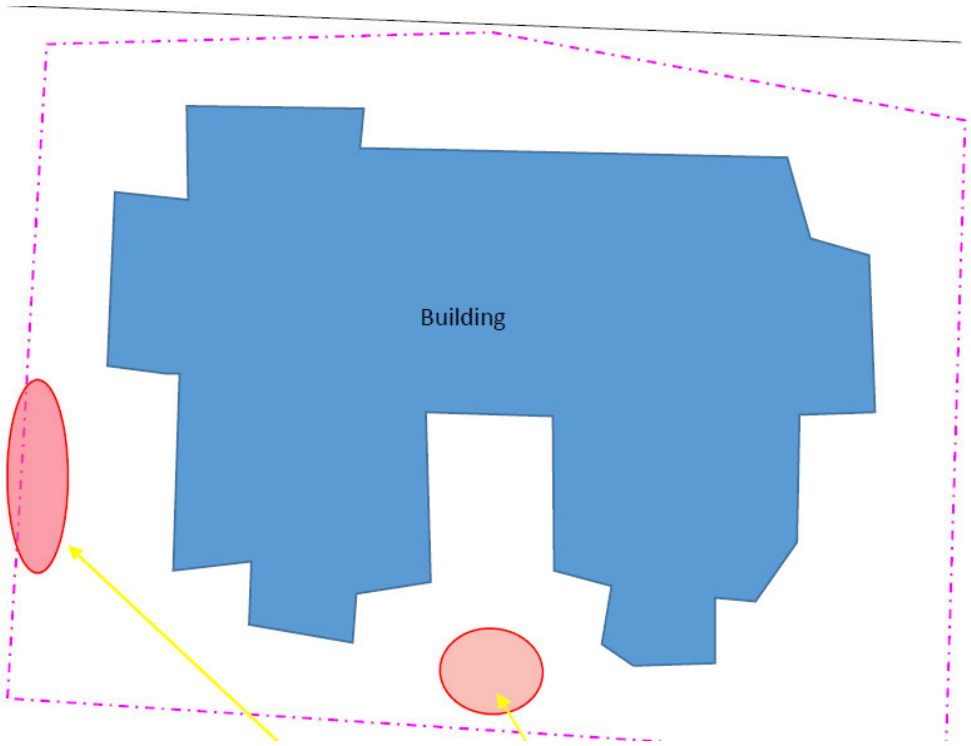
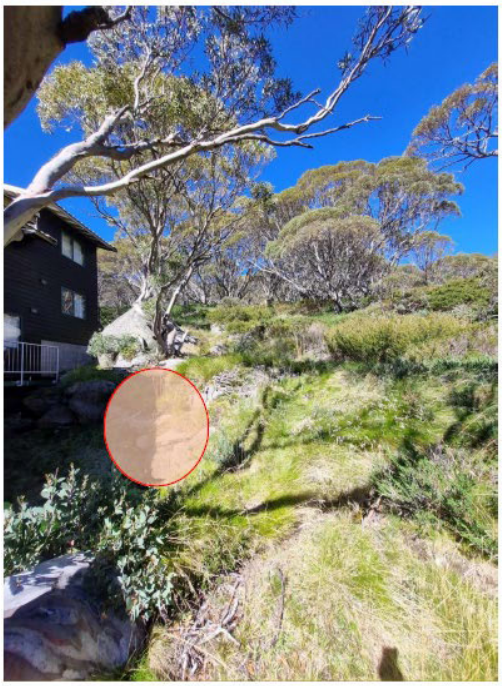
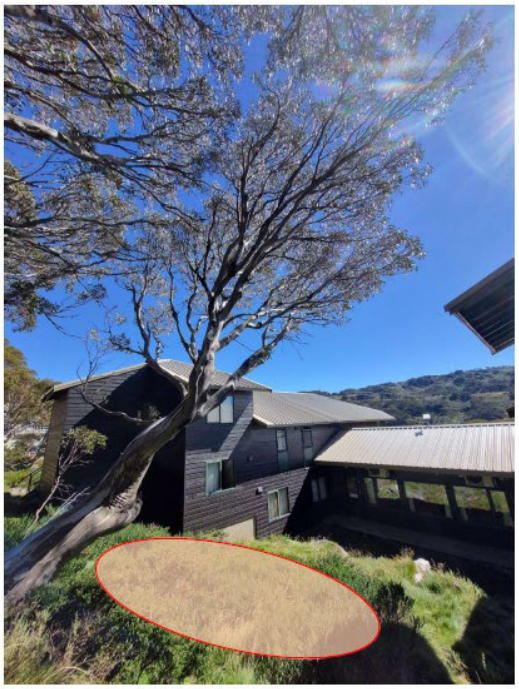


Figure 25: Photos from Lot 108 APZ page 4. These identify the native vegetation islands.



Western side, a large Mountain plum pine *(Podocarpus lawrencii)* is located along this side amongst the boulders. Individuals of this species must not be cut or trimmed further due to its significance for Pygmy Possums food source and habitat.



This vegetation island should be retained at the rear of the lodge to assist with pygmy Possum migration habits.

Western Mountain Plum area (area to west of lodge)

The western area specifically relates to a Mountain plum pine. This is noted in the APZ in the caption on the lower left of Figure 25. As the proposed fire exit travels east, this area will not be impacted by the proposed development. However, a risk to this area will occur during external construction, specifically the cladding [Note the balustrade shown in Figure 25 is compliant and will not be rebuilt]. When cladding is removed or added or when scaffolding is erected or decommissioned the area will be proximate to building activity. This risk will be managed by:

1. Erecting adequate flagging or fencing around but not affecting the plum pine area.
2. Inducting all workers on this issue prior to work commencing.
3. NPWS staff will, in a timely manner, be consulted in this process.

Following construction there will be no activity in this area and the fencing will be removed.

Native vegetation island between lodge wings.

This area is better described as south of the leaning tree which is shown in Figure 25 (right), Figure 26 and Figures 19 and 20. The dogleg in the proposed fire exit path accommodates this island. David Woods in the Flora and Fauna Assessment provided a more succinct photo in his report. Wood's report Image 1 is shown here as Figure 26.

Figure 26: Copy of Fauna and Flora Assessment report Image 1.

Image 1: A pathway will be defined between the west wing fire exit and the east wing fire exit. The proposed path is routed around a small clump of shrubs and snowgum stand.

As with the western area, there is a construction risk to this area. This risk will be managed as follows:

1. Prior to construction the island will be picketed and flagged with Keep Out tape.

2. All construction workers will be inducted on the reasons for this flagging and the area's importance.

3. NPWS staff will, in a timely manner, be consulted in this process.

The construction of the exit path in this area includes provision for ski poles to mark the alignment. These poles are noted in Figure 19 and 20 (of this report). Additional poles will be added as required.

Post construction of this path there is minimal risk to this native vegetation area. The area is sufficiently thick to deter human access and the final path will be adequately marked.

Appendix A: Lodge Cladding Proposal

An estimate of the cladding cost is presented in this appendix. The external dimensions of the lodge are shown in Figures A1 to A4. The areas of cladding are taken from these figures and are highlighted in Figures A1 to A4 as red rectangles. Some areas have been duplicated to the east and west wings and or front to rear. Areas include windows and doors. Thus, the area of cladding is overstated. However, the labour involved around windows and the detailing of cladding in areas is considered to compensate for this over statement. The cladding cost is estimated at $125/sq metre including insulation but not including frame damage or scaffolding. This $125/sqm figure was provided by Mountain Metal Roofing. Using this $125/sqm cost the cladding cost is estimated at $150,000. However, a verbal quotation form Mountain Metal Roofing of $175,000 is used as it is considered more current. The areas and costs are then summarized in Table A1. Scaffolding hire includes crane hire, erection and removal with a two month stay on site. The scaffolding estimate was provided by Mountain Metal Roofing based on discussion with the scaffolding provider.

Table A1: Estimated cost of Cladding for Pygmy Possum Lodge.

Description	Source:	Area sq m	Length met	Unit Cost	Extended
Front	Figure A1	200		$125	$25,000
Rear	Figure A2	200		$125	$25,000
Sides	Figure A3	560		$125	$70,000
Subtotal Cladding		960			
Insulation area		960		0	
Enviroseal area		960		$0	
Eaves	Figure A4		150	$100	$15,000
Barge Boards	Figure A4		150	$100	$15,000
Sub total					$150,000
Verbal quotation from Mountain Metal Roofing (May 2022)					$175,000
Frame Damage					$25,000
Scaffolding Hire					$110,000
Sub Total					$310,000

Figure A1. Rear of lodge.

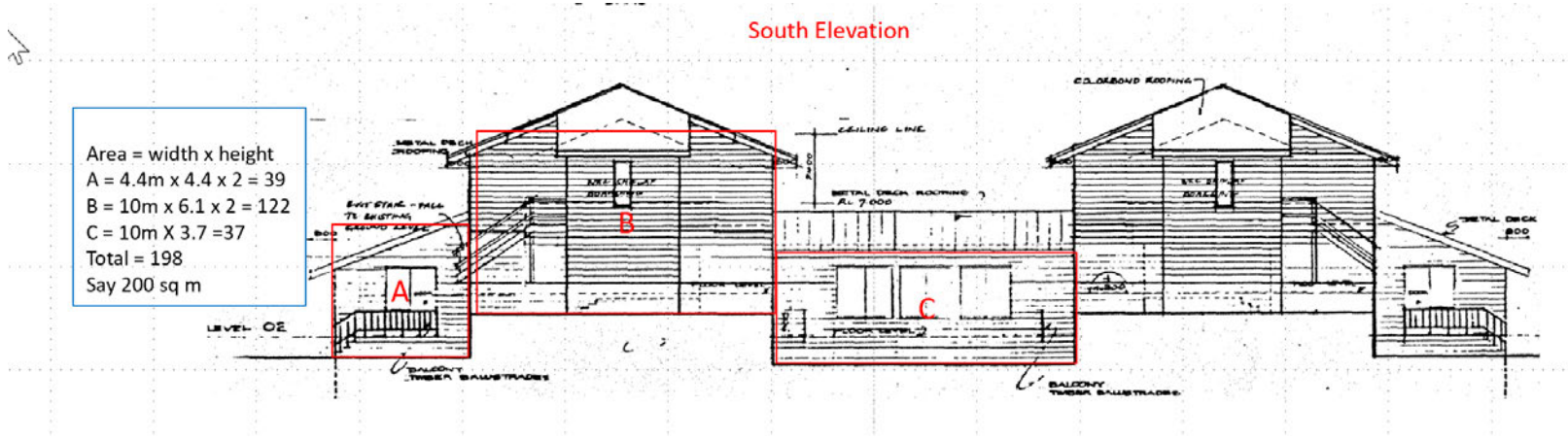


Figure A2: East and west Side Aspect

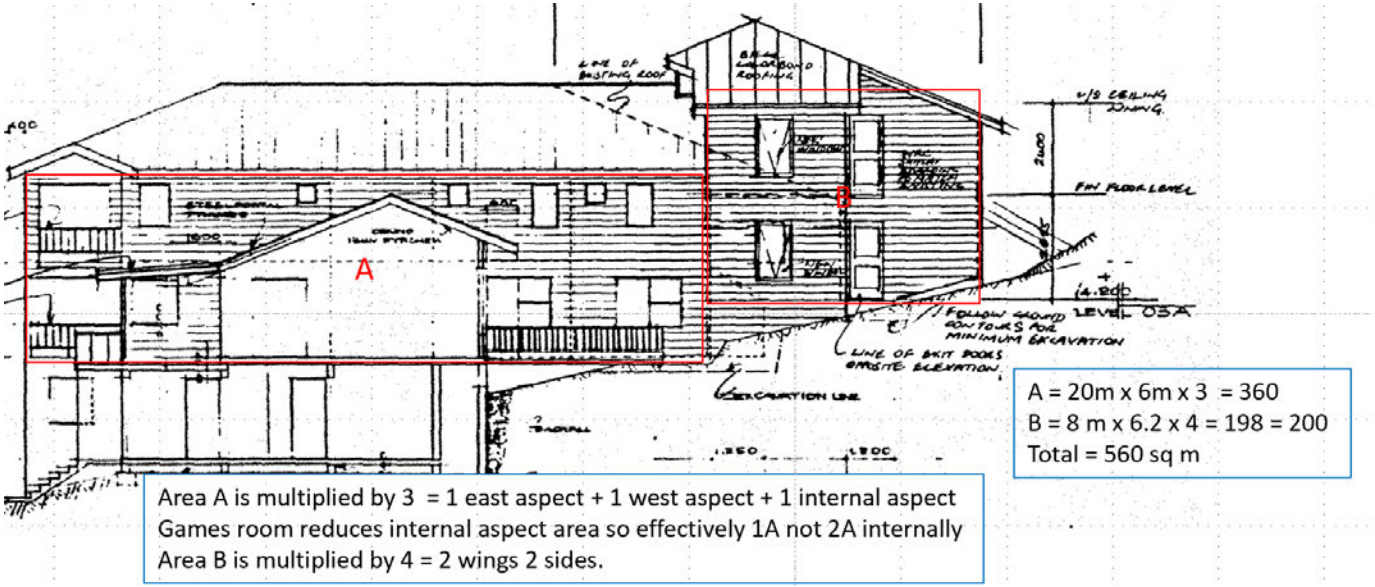


Figure A3: Front aspect

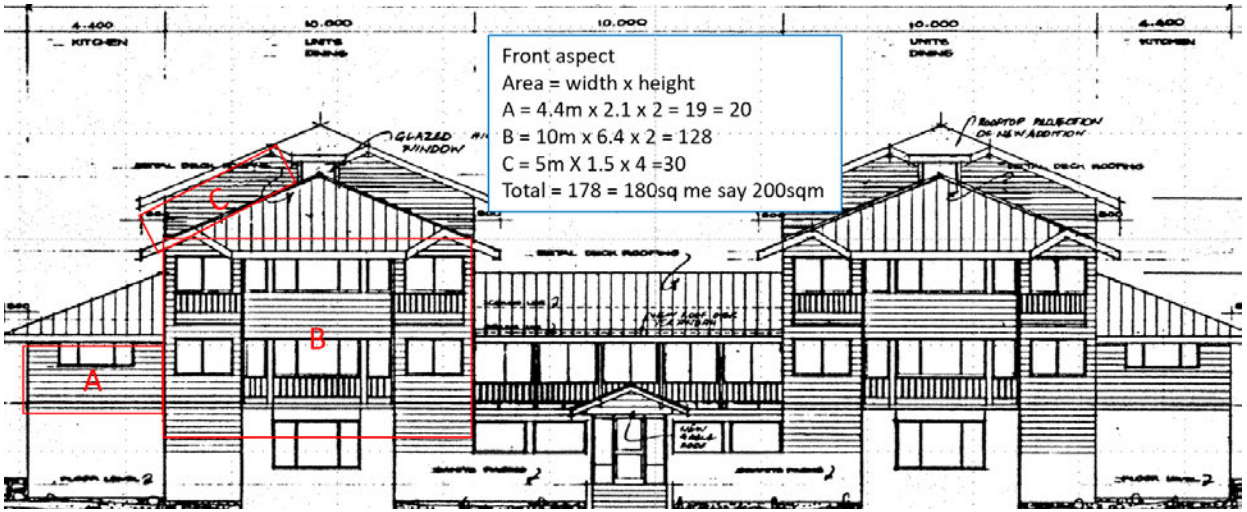


Figure A4: Eaves