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Ropers Saddle Carpark:

Planning assessment report

FINAL REPORT

Prepared for Alpine Resorts Victoria – Falls Creek

3 November 2022

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- Client: Alpine Resorts Victoria – Falls Creek
- Department of Environment, Land, Water and Planning for access to Victorian Planning Provisions and VicPlan Mapshare tool.

Biosis staff involved in this project were:

- Ben Howells (quality assurance and project director)
- Jenny Beckius (mapping)

Contents

1 Introduction

1.1 Background

Biosis Pty Ltd (Biosis) has been commissioned by Alpine Resorts Victoria – Falls Creek (ARV-FC) to prepare a planning report to support a planning permit application for the proposed development of the Ropers Saddle Carpark (Project) along Bogong High Plains Road, 2.5 kilometres northwest of Falls Creek Alpine Resort, Victoria (Site) (Attachment 1).

ARV-FC seek approval for building and works associated with the construction of a car park, the removal of non-native and native vegetation and the creation of an access to a Transport Road Zone 2 (TRZ2).

As required under the Alpine Resorts Planning Scheme (Planning Scheme), GHD has prepared a Preliminary Geotechnical Assessment (Attachment 2) and Biosis has prepared an updated Flora and Fauna Assessment (FFA) (Biosis 2022) (Attachment 3) and Site Environmental Management Plan (SEMP) (Biosis 2022b) (Attachment 4) for the Project.

A mandatory Cultural Heritage Management Plan (CHMP) under Section 46(a) of the AH Act is required when an activity meets the two-trigger threshold of being a high impact activity in an area of cultural heritage sensitivity (CHS). Given that the Site is not in area of CHS, a mandatory CHMP is not required.

1.1.1 Planning Permit Application PA1900694

In 2019, Biosis previously undertook a site assessment and provided a flora and fauna assessment report and SEMP for the project. A planning permit application (PA1900694) for the project was submitted to the Department of Environment, Land, Water and Planning (DELWP).

Offset requirements for the project detailed in the 2019 flora and fauna assessment report included 1.135 species habitat units for Shining Westringia *Westringia fulcrata* which, at the time of the planning permit application submission, were not available within any registered Victorian native vegetation offset site. DELWP issued a request for further information in relation to the availability of offsets (dated 28 October 2019) and the planning application did not progress. The permit application was subsequently withdrawn.

Since the planning permit application was submitted (and withdrawn), an offset site has been established within the Falls Creek Resort.

Consultation with Regional Roads Victoria (formerly VicRoads)

The Roads Corporation (VicRoads) is a referral authority for the Project pursuant to Section 55 of the *Planning and Environment Act 1989*. This is as part of the Site is subject to the Transport Road Zone 2 (TRZ2) (Bogong High Plains Road).

Following lodgement of the initial permit application PA1900694, VicRoads reviewed the application and provided a letter noting that VicRoads provides conditional support for the project (Attachment 5). Pursuant to the TRZ, consent from the Head for Transport Victoria (or under delegation from Regional Roads Victoria) is required for a permit application to be made for land within TRZ2. Biosis considers the letter providing conditional support for the project to satisfy this requirement.

Consultation with AusNet

Following lodgement of the initial permit application PA1900694, ARV-FC also engaged Ausnet in relation to the project, specifically with regards to the proposed re-routing of electrical lines underground. AusNet confirmed that they do not object to the project.

1.2 Planning permit requirements

A planning permit is required pursuant to the following provisions of the Alpine Resorts Planning Scheme:

- Clause 33.06 Public Park and Recreation Zone (PPRZ) to construct or carry out works.
- Clause 52.17 (Native vegetation) for the removal, destruction and lopping of native vegetation including dead native vegetation.
- Clause 52.29 (Land adjacent to the principal road network) for the creation or alteration of access to a road in the Transport Road Zone 2 (TRZ2).
  - Note: The TRZ mapping does not accurately correspond to land comprising the Bogong High Plains Road (see Figure 4). Biosis considers the TRZ2 to be on the Bogong High Plains Road for the purpose of the permit application and the zoning where the car park is located PPRZ.

1.2.1 Supporting documentation

The Planning Scheme nominates several application requirements (i.e., assessments or management plans) which must be submitted with the planning permit application for the project. Table 1 below provides a summary of the information and documents accompanying this planning assessment report.

Table 1 Summary of supporting information

Item/information requirement	Description	Appendices
Project Design	• Refer to *'Project No, FCRM-77 – Ropers Saddle Carpark Site Layout Plan'* prepared by Foresight Engineering Services.	Attachment 1
Preliminary Geotechnical Assessment	• Refer to *Ropers Saddle Carpark Preliminary Geotechnical Risk Assessment* (GHD 2019). • Document reference no. 312993418	Attachment 2
Flora and Fauna Assessment	• Refer to *Ropers Saddle Carpark: flora and fauna assessment* (Biosis 2022a). • Supports permit requirements under Clause 52.17.	Attachment 3
Site Environmental Management Plan	• Refer to *Ropers Saddle Carpark: Site Environmental Management Plan* (Biosis 2022b). • Supports permit requirements under Clause 37.07.	Attachment 4
VicRoads Conditions	• Refer to *Application consent and conditional support from VicRoads*	Attachment 5

1.2.2 Referral requirements

Clause 66 of the Planning Scheme specifies the notice and referral requirements under the Planning and Environment Act 1987 (PE Act).

This application is required to be referred to the following agencies:

- Alpine Resorts Victoria – Falls Creek (formerly Falls Creek Resort Management)
- Secretary to the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forests and Lands Act 1987*)
- Roads Corporation (Regional Roads Victoria formerly VicRoads)

1.2.3 Notice requirements

EMO1:

The permit application is exempt from notice requirements under Section 52(1)(a)(b)(d), the decision requirements under Section 64(1)(2) and the review rights of Section 82(1) of the *Planning & Environment Act 1987* (P&E Act).

BMO1:

The permit application is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the P&E Act.

Clause 52.17:

No notice requirements are specified under Clause 52.17.

1.3 Summary opinion

The extent of vegetation removal is consistent with relevant objectives in the Planning Policy Framework in the Planning Scheme.

The Project has been designed to avoid the removal of vegetation, minimise impacts and offsets will be provided in accordance with the requirements in the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017).

An offset statement is included in the Project's FFA (Attachment 3) that confirmed that an offset of 1.027 general habitat units, including eight large trees, are available to purchase from within the North East Catchment Management Authority (CMA) area or the Falls Creek Alpine Resort municipal district (Falls Creek Alpine Resort). Alternatively, the general offsets required by the proposed development could be purchased via third party credit trade.

2 Project Description

2.1 Location

The proposed Site of the carpark is at Ropers Saddle, adjacent to Bogong High Plains Rd and approximately 2.5km north west of Falls Creek village (Figure 1 and 2) (Table 2).

The Site is entirely located within the Falls Creek Alpine Resort in northeast Victoria. The Site is subject to the Alpine Resorts Planning Scheme (Planning Scheme).

The Site comprises 2.04 hectares of land which interfaces with Bogong High Plains Road and its reserves to the north, east and west; and recreation land with some areas of disturbed and undisturbed vegetation to the south.

Table 2 Cadastral information of the Site

Land tenure	Crown land
Coordinates	GDA2020: 36°50'39.82" S, 147°15'51.25" E. VicRoads: 50 F7 (ed. 8) Ropers Saddle does not have an identifiable address.
Standard Parcel Identifier (SPI)	Partly within 2008\RP2361 and 2010\RP2361
Local Government Area	Falls Creek Alpine Resort (uninc.)
Planning Scheme	Alpine Resorts Planning Scheme
Catchment Management	North East Catchment Management Authority (CMA)

2.2 Existing conditions

Current use

A power line easement for the 22kV overhead line servicing Falls Creek Alpine Resort runs through the centre of the study area (east to west), corresponding to areas where vegetation has been previously cleared. The balance of the Site is not currently used for any other use and comprises areas of undisturbed forest vegetation.

Vegetation

The Site supports forest vegetation contiguous with similar vegetation in the Alpine National Park (Biosis 2022a). The Site has been subject to various disturbances and land uses described above and these have resulted in a mosaic of disturbed areas, regenerating and intact native vegetation (Biosis 2022a).

Topography

The proposed site is located between two hills to the north and south and sits on a relatively flat plateau with approximate slope gradients of 0 to 5° (GHD 2019). The site is truncated to the north by a cutting where Bogong High Plains Road curves around the site and sits at a lower elevation (GHD 2019).

2.3 Proposal

The proposal is for building and works associated with the construction of a car park comprising 182 car spaces, associated vegetation removal and creation of an access to a Transport Road Zone 2.

The car parking spaces are proposed in horizontal direction with dimensions of 2.5 x 5.4 metre. Access to the proposed car park will be from the Bogong High Plains Road. The general arrangement and section drawings for the proposed development provided by the ARV-FC are presented in Attachment 1.

Proposed use

The proposed use description of the Project (i.e., a car park) is defined as 'Land used to park motor vehicles'. under Clause 73.03 of the Planning Scheme. In accordance with this definition, the proposed use does not include the charging of electric vehicles. See Attachment 1 for the proposed Ropers Saddle Car Park development.

The proposed carpark constitutes as a new use within the Site and will require advertisement.

Proposed native vegetation removal

As part of the Project, ARV-FC proposes to remove 1.225 hectares of native vegetation, including eight large trees, from the Site. Refer to Figure 3.

Proposed building and works

As part of the project, the ARV-FC proposes to undertake the following works:

- The car park will be accessed from Bogong High Plains Road by a driveway approximately 70m in length. The long section for the driveway indicates cut depths of up to 3.0m will be undertaken to reduce the existing ground profile. Cut batters along the south side of driveway will have a slope gradient of 1V:1.5H and maximum height of approximately 10m. See Attachment 2.
- Earthworks will be undertaken at the site of the car park to form a flat area of approximately 6100m^2 for the car park.
- A cut slope is proposed along the southern boundary of the site and material removed from the proposed car park site during earthworks is to be used as fill to form a batter slope with a maximum gradient of 1V:2H along the north and western boundaries of the site above Bogong High Plains Road.
- Moving the two electric poles and re-routing of electrical line to underground.
- The proposed car park driveway is accessed from the south-east corner of the site from Bogong High Plains Road by a gentle, unvegetated slope.

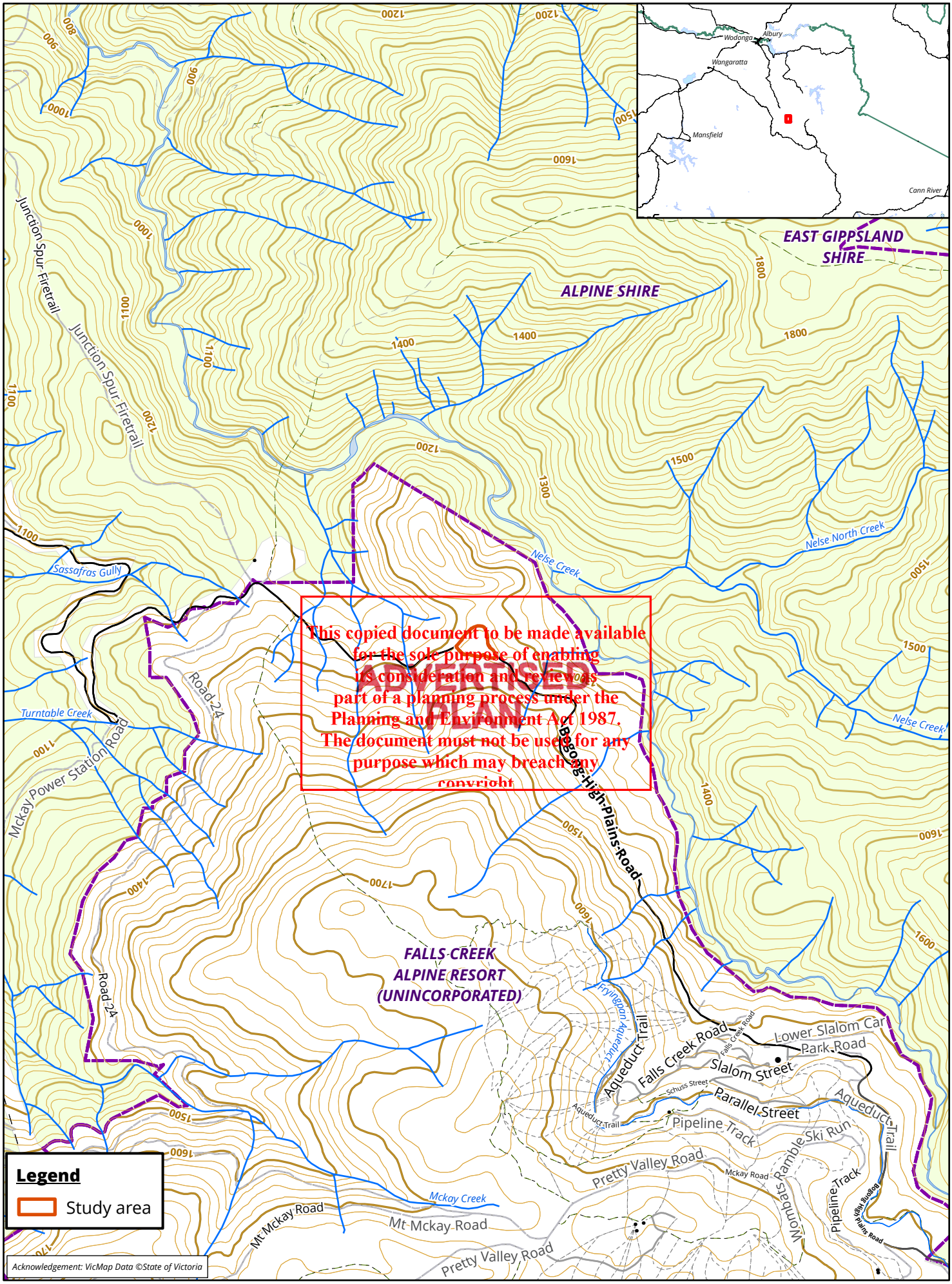

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Figure 1 Location of the study area

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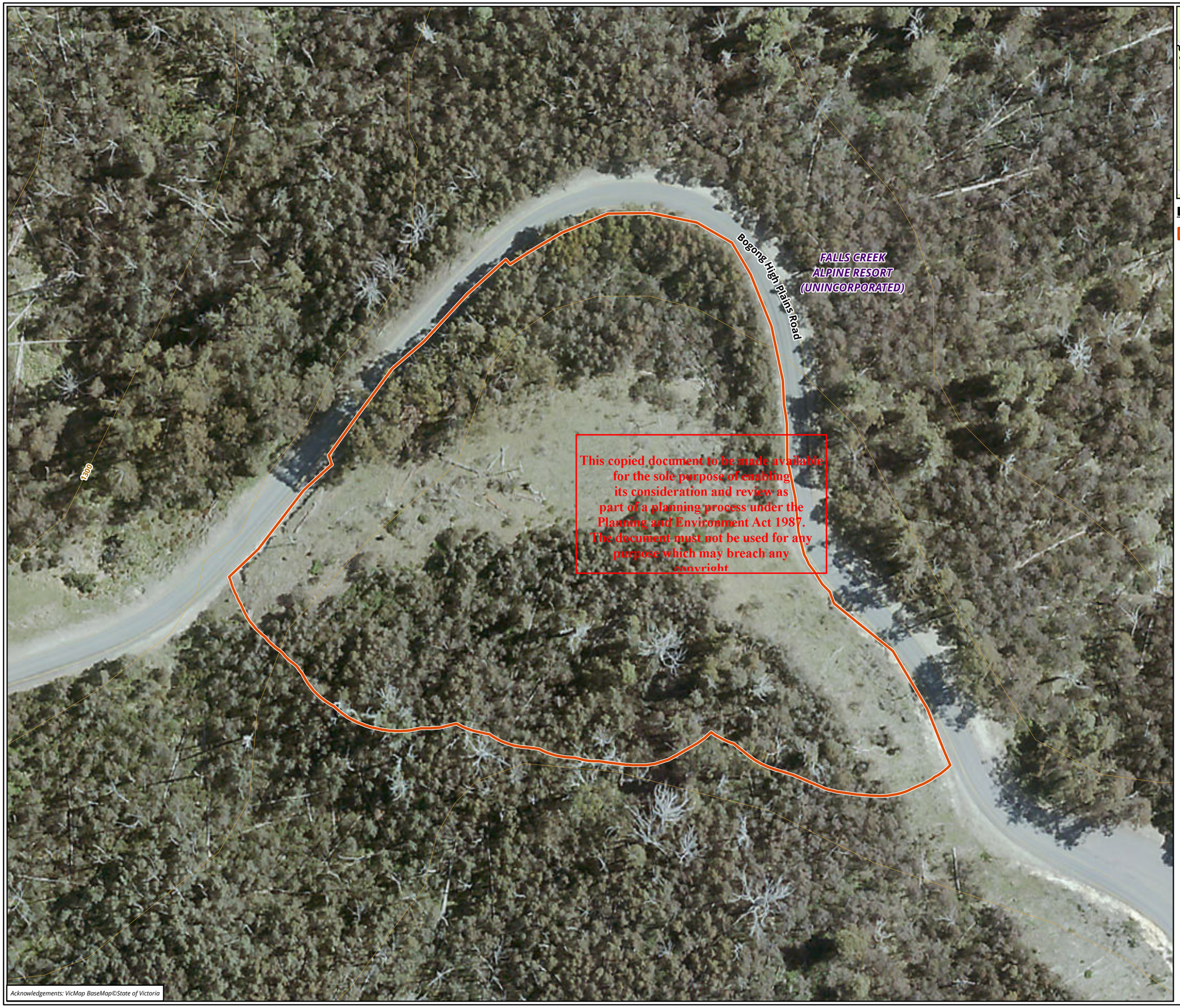
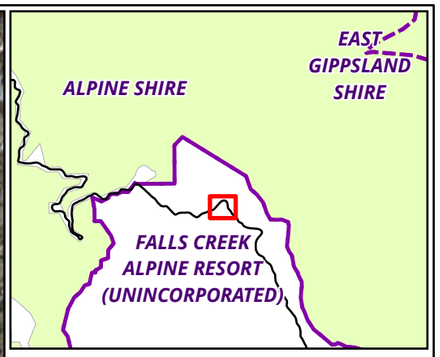
Prepared for: GHG, Prepared by: JB, Last edited by: jbeckius
Layout: 37933_F1_Locality
Project: P:\37900s\37933\Mapping\37933_RopersCarpark_PAR_SEMP.aprx

0 250 500 750 1,000
Metres

N

Scale: 1:25,000 @ A4
Coordinate System GDA 1994 MGA Zone 55





Legend

Study area

Figure 2 Study area

0 10 20 30 40

Metres

Scale: 1:1,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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Matter: 37933, Date: 14 October 2022,
Prepared for: GHG, Prepared by: JB, Last edited by: jbeckius
Layout: 37933_F2_StudyArea
Project: P:\37900s\37933\Mapping\
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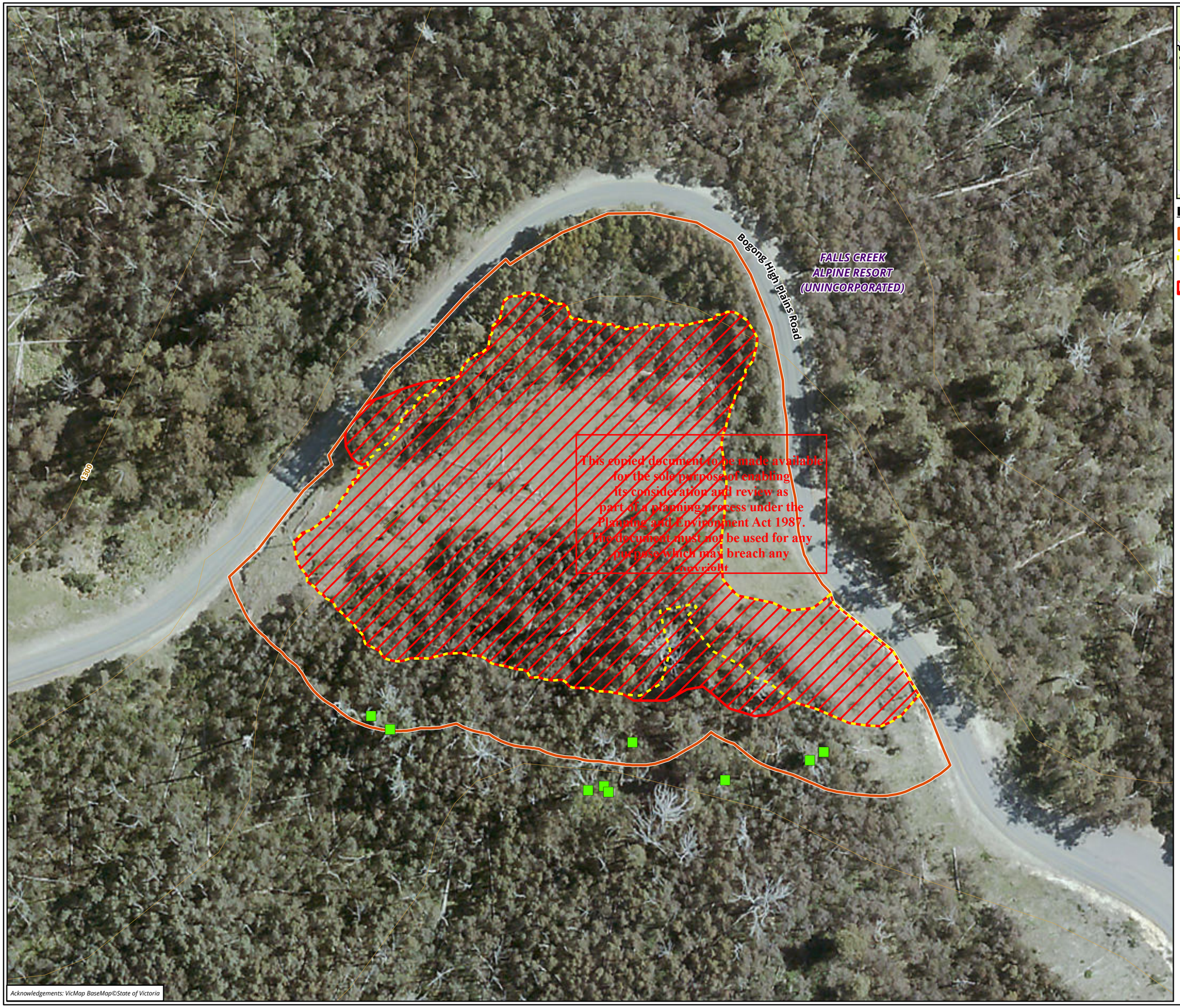
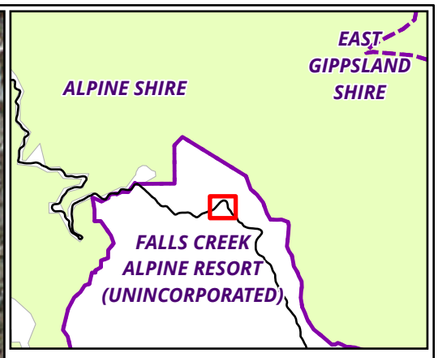
Acknowledgements: VicMap BaseMap©State of Victoria





Legend

- Study area
- Impact area
- Extent of native vegetation proposed to be removed
- Trees proposed to be retained

Figure 3 Proposed development

0 10 20 30 40

Metres

Scale: 1:1,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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Matter: 37933, Date: 14 October 2022,
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Layout: 37933_F3_PropDevelopment
Project: P:\37900s\37933\Mapping\
37933_RopersCarpark_PAR_SEMP.aprx

Acknowledgements: VicMap BaseMap©State of Victoria

3 Related Assessments

3.1 Preliminary Geotechnical Assessment

GHD has prepared a Preliminary Geotechnical Assessment for the project in accordance with the application requirements under EMO1 of the Planning Scheme.

The following considerations apply to the project's design response:

- Several hazards that may affect the site were observed during the assessment. These hazards are:
  - Local failure of cut slopes along the proposed car park access driveway
  - Long- and short-term local failure of un-retained cut slopes along Bogong High Plains Road due to excessive filling and construction loading
  - Local failure of the fill slope
  - Global failure of overall natural slope encompassing the site
- Based on the project plans (Attachment 1) the qualitative assessment recorded a residual risk rating of Low, subject to the implementation of the recommendations in Section 3.5 of the Preliminary Geotechnical Report (Attachment 2). Further quantitative or semi-qualitative risk assessment is not deemed necessary for this project and the site is considered suitable for the proposed development provided all recommendations in the Preliminary Geotechnical Report (Attachment 2) are adopted.

3.2 Flora and Fauna Assessment

Biosis has prepared a detailed flora and fauna assessment for the project (FFA) (Biosis 2022a) (Attachment 3) to satisfy the requirements of the relevant Commonwealth and State legislation.

The following considerations apply to this the project's design response and required approvals:

- 1.225 hectares of native vegetation proposed for removal including eight large trees (see Table 3 below)
- The Site supports four patches of differing quality native vegetation within the Montane Damp Forest Ecological Vegetation Class EVC 38. (Biosis 2022a).
- Known or potential habitat for listed threatened species including:
  - Gang-gang Cockatoo *Callocephalon fimbriatum* (Endangered), Pilotbird *Pycnoptilus floccosus* (Vulnerable) and Mountain Skink *Liopholis montana* (Endangered) listed under the EPBC Act.
  - Little Eagle *Hieraaetus morphnoides* (Vulnerable), Powerful Owl *Ninox strenua* (Vulnerable), Dingo *Canis lupus* subsp. *dingo* (Vulnerable) and Tussock Skink *Pseudemoia pagenstecheri* (Endangered), listed under the FFG Act.

Table 3 Summary of proposed native vegetation removal

Attribute	Outcome	Notes
Location category	Location 1	Low location risk
Native vegetation removal extent	1.225 hectares	Comprised of four habitat zones and eight large trees.
Assessment pathway	Detailed	Location 1 and patch clearing
Strategic Biodiversity Value Score	0.698 – 0.735	Range over four habitat zones
Offset type	General	1.027 general offset units
General offset vicinity	North East CMA or Falls Creek Alpine Resort	The offset site must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed.
General offset minimum Strategic Biodiversity Value Score	0.584	Minimum SBV of the offset.
Large trees	Eight large trees	The offset must include one large tree for every large tree proposed to be removed

3.2.1 Avoid, minimise and offset

Efforts have been made to avoid native vegetation removal to the extent practicable. Avoid and minimise steps taken at a site level for the Project, these steps include:

- Avoiding higher quality areas of native vegetation and locating the proposed car park in a more common forest EVC, Montane Damp Forest, which is classified as least concern.
- Locating the proposed development and stockpile locations on existing disturbed land (power line easement) to minimise impacts to native vegetation.
- Designing the proposed car park to avoid areas of high biodiversity value and higher sensitivity such as waterways and listed ecological communities.

Please refer to section 5 of the FFA to review the Project's detailed 'avoid, minimise and offset' response.

3.2.2 Site Environmental Management Plan (SEMP)

The construction impacts will be avoided and minimised through the implementation of the projects SEMP as shown in Attachment 4.

The SEMP describes the construction techniques and associated environmental risks and specifies the measures that will be undertaken to mitigate those risks. This includes the use of sediment controls to prevent sediment entering surrounding waterways, and the use of no-go zones/exclusion fencing to separate construction activities from native vegetation identified for retention. A Construction Management Plan (CMP) including a map has been incorporated into the SEMP document. The project SEMP will specifically deal with controlling the introduction and spread of weed species.

4 Alpine Resorts Planning Scheme

4.1 Planning Scheme controls

The Planning Scheme applies to the Site.

4.1.1 Zones and overlays

The Site is affected by the following zone and overlay controls (Figure 4 and 5):

- Clause 36.02 Public Park and Recreation Zones (PPRZ)
- Clause 36.04 Transport Zone – Category 2 (TRZ2)
- Clause 44.01 Environmental Management Overlay schedule 1 (EMO1)
- Clause 44.06 Bushfire Management Overlay schedule 1 (BMO1)

Note: The TRZ mapping does not accurately correspond to land comprising the Bogong High Plains Road (see Figure 4). Biosis considers the TRZ2 to be on the Bogong High Plains Road for the purpose of the permit application and the zoning where the car park is located PPRZ.

4.1.2 Particular provisions

The following particular provisions apply to the project:

- Clause 52.17 Native Vegetation
- Clause 52.29 Land adjacent to the principal road network

4.2 Permit requirements

A permit is required for the following reasons:

- Under Clause 33.06-2 of the PPRZ, a permit is required for a carpark and to construct or carry out works. There are no exempted listed in the schedule to the PPRZ, therefore the permit requirements for building and works apply.
- Under Clause 36.04-2, a permit is required to construct or carry out works for any use listed in Section 2 in Clause 36.04-1 (Table of uses). Car park is an unspecified use in the Table of Uses and is therefore a Section 2 (permit required) use as it does not meet the condition to qualify as a Section 1 use ('any other use not in section 3').
- Under Clause 44.01-3 of the EMO, a permit is required to construct or carry out works and to remove, destroy or lop any vegetation.
  - This permit requirements applies as a site development plan has not been prepared to the satisfaction of, or been approved by, the responsible authority.
  - Permit exemptions under the EMO and EMO1 do not apply to the project.
- Under Clause 52.17-1 (Native vegetation), a permit is required for the removal, destruction and lopping of native vegetation including dead native vegetation.
  - Permit exemptions under Clause 52.17 do not apply to the project.

- Clause 52.29-1 (Land adjacent to the principal road network) a permit is required for the creation or alteration of access to a road in the Transport Road Zone 2.
- Permit requirements under the BMO and BMO1 do not apply to the project as no subdivision is proposed, no buildings are being constructed and, the works are not associated with any land use listed in 44.06-2.

4.3 Application Requirements

The following application requirements apply to the Project under the relevant controls. A detailed assessment of the project against the above application requirements is provided in Section 6 of this report.

- Pursuant to Clause 36.04-3 of the TRZ, an application by a person other than a relevant transport manager on TRZ2 land must be accompanied by the written consent of the Head, Transport for Victoria, indicating that the Head, Transport for Victoria consents generally or conditionally to either:
  - The application being made.
  - The application being made and to the proposed use or development.
  - Consent from the Head for Transport Victoria (or under delegation from Regional Roads Victoria, formerly VicRoads) has been acquired by way of conditional support (see Attachment 5).
- EMO1 specifies that a planning permit application must be accompanied by a Preliminary Geotechnical Assessment prepared, or technically verified, by a suitably qualified and experienced geotechnical practitioner.
  - Clause 4.1 of EMO Schedule 1 provides details of the information which must be provided in the Preliminary Geotechnical Assessment. See Section 3 of this report for further information relating to the project's preliminary geotechnical assessment (Attachment 2).
  - There are decision guidelines incorporated into EMO Schedule 1 which must be considered by the responsible authority when assessing a planning permit application.
  - A response to the application requirements and decision guidelines is given in Section 6 of this report.
- Under Clause 52.17-2, an application to remove, destroy or lop native vegetation must comply with the application requirements specified in the *Guidelines for the removal, destruction or lopping of native vegetation* (Guidelines) (DELWP 2017).
  - The Guidelines require a flora and fauna assessment to be prepared by a qualified or experienced professional for the removal, removal or lopping of native vegetation.
  - See Section 3 of this report for further information relating to the project's flora and fauna assessment (Attachment 3).

4.4 Planning Policy

4.4.1 State and Local Planning Policy

The development is considered to be consistent with the relevant State and Local planning policy listed below. A detailed assessment of the project against Local planning policy objectives is provided in Section 7 of this report.

Clause 12 – Environmental and Landscape Values

- Clause 12.01 – Biodiversity
  - Clause 12.01-1S – Protection of biodiversity
    - Clause 12.01-1L – Protection of biodiversity in alpine resorts
  - Clause 12.01-2S – Native vegetation management
- Clause 12.04 – Alpine Areas
  - Clause 12.04-1S – Sustainable development in alpine areas
    - Clause 12.04-1L Sustainable development – Falls Creek Alpine Resort

Clause 13 – Environmental Risks and Amenity

- Clause 13.01 – Climate Change Impacts
  - Clause 13.01-1S – Natural hazards and climate change
- Clause 13.04 Soil Degradation
  - Clause 13.04-2S – Erosion and landslip
    - Clause 13.04-2L – Erosion and landslips in alpine resorts

Clause 15 Built Environment and Heritage

- Clause 15.02 – Heritage
  - Clause 15.03-1S Heritage conservation
  - Clause 15.03-2S Aboriginal cultural heritage

Clause 18 Transport

- Clause 18.02 Movement Networks
  - Clause 18.02-4S – Roads
  - Clause 18.02-4L – Car parking – alpine resorts

4.4.2 Response to State Planning Policy Objectives

The development is consistent with the relevant PPF objectives.

Clause 12.01 (Biodiversity) and 12.05 (Significant Environments and Landscapes) aim to protect, conserve and enhance Victoria's biodiversity. The amount of native vegetation required to be removed on site is minimised through the project's design and works proposed to be undertaken. Of the native vegetation required to be removed, the majority is limited to minor sections of the works footprint. This will ensure that the removal of native vegetation is minimised as part of development within the alpine resort. ARV-FC has consulted with Biosis to identify native vegetation on site and in the surrounding area. As such, the project has been designed to reduce additional impacts to the surrounding ecological values, through the incorporation of no-go zones, exclusion fencing and retaining the majority of high-quality vegetation recorded in the study area. The project's FFA (Attachment 3) has identified that the project requires offsets for varying species habitat units for nine species. This helps to achieve '*no net loss to biodiversity*' in accordance with Clause 12.01-2S of the Planning Scheme. Please refer to Section 5 of the FFA (Attachment 3) for the proposed offset strategy for this project.

Under Clause 13 (Environmental Risks and Amenity), the protection of areas prone to erosion, landslip and land degradation is paramount. To address potential erosion and landslip issues as part of the project, ARV-FC commissioned GHD to undertake a preliminary geotechnical assessment (Attachment 2). The assessment concluded that all associated geotechnical risks on-site could be mitigated through the implementation of the recommendations specified in the report. ARV-FC are committed to undertaking these recommendations to ensure the project adheres to Clause 13.04-2S.

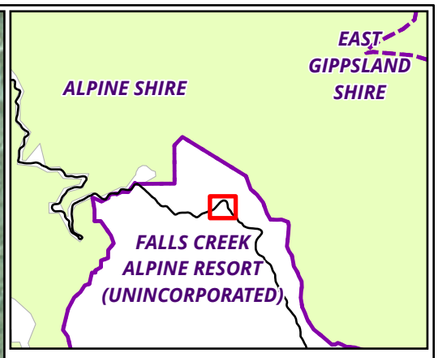
Regarding Aboriginal cultural heritage under Clause 15 (Built Environment and Heritage), and in accordance with the *Aboriginal Heritage Act 2006* and *Aboriginal Heritage Regulations 2018,* the project is not located within or in close proximity to an area of cultural heritage sensitivity and therefore does not trigger the mandatory requirements for a Cultural Heritage Management Plan (CHMP).

Under Clause 18.02 (Movement networks) car parking within Falls Creek that avoids the loss of substantial significant indigenous vegetation and substantial earthworks is to be encouraged. Additionally, a key strategy for car parking within alpine resorts is to facilitate safe and efficient car parking within the alpine resorts that meet visitor needs.

4.4.3 Other relevant guidance

The following strategies and policies are relevant to the application:

- *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017) (Guidelines).
- *Applicant's guide – Applications to remove, destroy or lop native vegetation* (DELWP, 2018) (Applicant's Guide)
- *Assessor's handbook – Applications to remove, destroy or lop native vegetation* (DELWP, 2018) (Assessor's Handbook)



Legend

- Study area
- Impact area

Planning zones

- PPRZ - Public Park and Recreation Zone
- TRZ2 - Transport Zone 2-Principal Road Network

Figure 4 Zones

0 10 20 30 40

Metres

Scale: 1:1,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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Matter: 37933, Date: 14 October 2022,
Prepared for: GHG, Prepared by: JB, Last edited by: jbeckius
Layout: 37933_F4_Zones
Project: P:\37900s\37933\Mapping\
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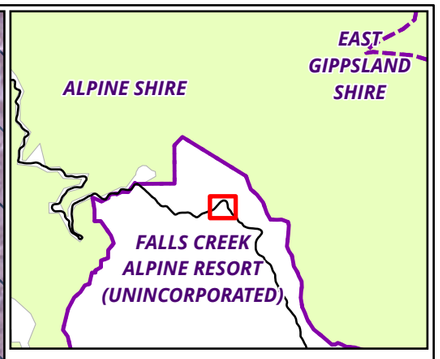
Acknowledgements: VicMap BaseMap©State of Victoria



Legend

- Study area
- Impact area

Planning Overlay

- Bushfire Management Overlay (BMO) - Schedule 1
- Erosion Management Overlay (EMO) - Schedule 1

Figure 5 Overlays

0 10 20 30 40

Metres

Scale: 1:1,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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Matter: 37933, Date: 14 October 2022,
Prepared for: GHG, Prepared by: JB, Last edited by: jbeckius
Layout: 37933_F5_Overlays
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5 Related legislative requirements

The following legislation is broadly relevant from a planning perspective.

5.1 Environment and Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)

The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (MNES) protected under the EPBC Act.

Based on the FFA prepared for the project (see Attachment 3), the following implications for the project under the EPBC Act apply:

- Three EPBC Act listed threatened species are considered likely to occur within the study area: Gang-gang Cockatoo *Callocephalon fimbriatum* (Endangered), Pilotbird *Pycnoptilus floccosus* (Vulnerable) and Mountain Skink *Liopholis montana* (Endangered).
- No EPBC Act listed ecological communities present within the study area.
- A referral to the Commonwealth Government under the EPBC Act is not considered necessary as significant impacts to Matters of National Environmental Significance considered unlikely.
- The extent and nature of the impacts are not considered likely to trigger a significant impact on any Matters of National Environmental Significance. Significant Impact Criteria assessments completed for relevant species in Section 4.1.1 of the FFA (Attachment 3)

5.2 Flora and Fauna Guarantee Act 1988 (FFG Act)

The FFG Act is the key piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes.

Under the FFG Act a permit is required from DELWP to 'take' protected flora species. Permit exemptions under the FFG Act generally apply to the non-commercial removal of protected flora from private land, unless there is 'critical habitat' that has been declared on the land. Authorisation under the FFG Act is required to collect, kill, injure or disturb listed fish on private or public land.

Based on the FFA prepared for the project (see Attachment 3), the following implications for the project under the FFG Act apply:

- The study area is on Crown Land or land owned by or vested in a public authority (ARV-FC) and is therefore public land for the purposes of the FFG Act.
- One FFG Act listed species, Tussock Skink, has been recently recorded in the study area and was recorded during the field assessment (see Appendix 1 of FFA in Attachment 3).
- A protected flora permit from DELWP would be required if these species will be affected by the proposal.

5.3 Catchment and Land Protection Act 1994 (CaLP Act)

The CaLP Act identifies and classifies certain species as noxious weeds or pest animals and provides a system of controls on noxious species.

Based on the FFA prepared for the project (see Appendix 1 of Attachment 3), declared noxious weeds have been identified within the Site. These are the regionally controlled Spear Thistle *Cirsium vulgare* and St John's Wort *Hypericum perforatum subsp. veronense* (introduced species).

As the land manager, FCRM must take all reasonable steps to eradicate regionally prohibited weeds, prevent the growth and spread of regionally controlled weeds, and prevent the spread of and as far as possible eradicate established pest animals. The State is responsible for eradicating State prohibited weeds from all land in Victoria.

5.4 Aboriginal Heritage Act 2006 (AH Act)

The AH Act provides for the protection of Aboriginal cultural heritage in Victoria. The AH Act allows organisations, groups and bodies to enforce and preserve policies regarding Aboriginal Heritage.

The Aboriginal Heritage Regulations 2018 (the Regulations) is the mechanism which gives effect to the AH Act. The Regulations set out the circumstances in which a Cultural Heritage Management Plan (CHMP) should be prepared.

A mandatory Cultural Heritage Management Plan (CHMP) under Section 46(a) of the AH Act is required when an activity meets the two-trigger threshold of being a high impact activity in an area of cultural heritage sensitivity (CHS). Given that the Site is not in area of CHS, a mandatory CHMP is not required.

6 Detailed Response to Application Requirements

Table 4 Response to application requirements and decision guidelines of Clause 44.01 EMO Schedule 1

Requirements	Proposal Response
Clause 44.01 Erosion Management Overlay – Schedule 1 – Objectives to be achieved	
To ensure that applications for development are supported by adequate investigation and documentation of geotechnical and related structural matters.	A consolidated preliminary geotechnical assessment has been undertaken for the project, which has recommended mitigation measures to reduce any geotechnical risks to 'low'. Please see Attachment 2 for the full assessment.
To ensure that development is appropriate to be carried out either conditionally or unconditionally, having regard to the results of those geotechnical and related structural investigations.	The proposed development is considered appropriate given the result of the preliminary geotechnical assessments and it has been concluded that the project is a low-risk development. Please see Attachment 2.
To ensure that development is only carried out if identified geotechnical and related structural engineering risks are effectively addressed.	As above.
Clause 44.01 & Section 3.0 EMO1 Site development plan and application requirements	
The existing site conditions, including land gradient and the extent of any existing erosion, landslip or other land degradation.	Please section 2 of this report for a description of the existing site conditions. Description of the land gradient and extent of potential risk of erosion, landslip or other geotechnical hazards is outlined in the geotechnical assessment prepared for the project (Attachment 2).

The extent of any proposed earthworks.	The project has kept earthworks to a minimum where possible. Details of ground impacts are listed below and included in the project's preliminary geotechnical report (Attachment 2) and SEMP (Attachment 4). Construction of the car park • Preparation of ground surface area for the carpark will be undertaken. • The car park will be accessed from Bogong High Plains Road by a driveway approximately 70m in length. The long section for the driveway indicates cut depths of up to 3.0m will be undertaken to reduce the existing ground profile. Cut batters along the south side of driveway will have a slope gradient of 1V:1.5H and maximum height of approximately 10m. • Earthworks will be undertaken at the site of the car park to form a flat area of approximately 6100m2 for 182 car spaces. A cut slope is proposed along the southern boundary of the site and material removed from the proposed car park site during earthworks is to be used as fill to form a batter slope with a maximum gradient of 1V:2H along the north and western boundaries of the site above Bogong High Plains Road.
The means proposed to stabilise disturbed areas.	Section 3.5 of the preliminary geotechnical assessment report includes recommendations for risk control including slope stabilisation (Attachment 2). These area as follows: • Slope stabilisation works recommended along the car park driveway where 1V:1.5H gradient cut slopes are proposed. A gabion wall solution is suggested to provide toe support to the cut slopes (GHD 2019). • The wall should be designed by an appropriately qualified geotechnical engineer (GHD 2019). • Undertake a geotechnical investigation to establish the ground conditions of the site and inform assessment of the stability of the proposed cut slopes and the un-retained Bogong High Plains Road cutting (GHD 2019). • Ensure that risk is reviewed should changes to land use or drainage conditions surrounding the site be proposed (GHD 2019). • Ensure that continuous visual monitoring of the slopes is undertaken by the contractor during construction for any signs of instability and new areas of groundwater discharge and where observed refer to a geotechnical engineer. A visual inspection should be completed by a geotechnical engineer following completion of construction works (GHD 2019).
A preliminary geotechnical assessment prepared or technically verified by a suitably qualified and experienced geotechnical practitioner.	As above.

Section 7.0 EMO1 Decision Guidelines	
The PPF and LPPF.	The proposal is consistent with the PPF including local planning policies.
The objectives of this schedule.	The proposal is consistent with the objectives of the EMO1 as the risk to life and property from landslip has been reduced to a tolerable level.
The recommendations of any relevant Preliminary Geotechnical Assessment and Quantitative Risk Assessment.	The preliminary geotechnical assessment (Attachment 2) sets out a number of risk control measures in Section 3.5 of the report. These recommendations will be complied with to ensure that the risk to property is kept to low and this would result in no credible risks to life from the project.
The Advice of any geotechnical practitioner who has reviewed the application.	The report was not required to be reviewed.
The comments of the relevant Alpine Resort Management Board.	The application will be referred to the ARV-FC as part of the permit application.

Table 5 Response to application requirements and decision guidelines of Clause 52.17 Native Vegetation

Requirements	Project response
6.4 Application requirements for all applications	
Information about the native vegetation to be removed, including: • **The assessment pathway and reason for the assessment pathway. This includes the location category of the native vegetation to be removed.** • **A description of the native vegetation to be removed that includes:** – **whether it is a patch or a scattered tree (or both)** – **the extent (in hectares)**	The proposed removal of native vegetation has been assessed and included in the project's FFA (Biosis 2022a) in Attachment 3. The following information has been extracted from the project's FFA: • The proposed removal of native vegetation is assessed under the Detailed Assessment Pathway and is located in Location Category 1. • The proposed removal of native vegetation includes 1.225 hectares and eight large trees of native vegetation • The study area has been modelled as having a Strategic Biodiversity Value Score between 0.698-0.735.

– **the number and circumference (in centimetres measured at 1.3 metres above ground level) of any large trees within a patch** – **the number and circumference (in centimetres measured at 1.3 metres above ground level) of any scattered trees, and whether each tree is small or large** – **the strategic biodiversity value score** – **the condition score** – **if it includes endangered Ecological Vegetation Classes** – **if it includes sensitive wetland or coastal areas.** • **Maps showing the native vegetation and property in context and containing:** – **scale, north point and property boundaries** – **location of any patches of native vegetation and the number of large trees within the patch proposed to be removed** – **location of scattered trees proposed to be removed, including their size** • **The offset requirement, determined in accordance with section 5 of the Guidelines, that will apply if the native vegetation is approved to be removed.**	• The site does not include any sensitive wetland or coastal areas. • A map that shows the location of the proposed native vegetation for removal and retention in the Site can be found in Figure 3. • According to the Native Vegetation Removal (NVR) report (Appendix 3 of FFA) 1.027 general offset units and eight large trees are required as part of the project. • If a permit is granted, the offset requirements would be 1.027 general habitat units. Falls Creek Resort Management has a registered offset site within the Falls Creek Alpine Resort. A recent credit extract (provided 21 June 2022) indicates 21.792 general habitat units and 416 large trees are available, which will satisfy this project's offset requirements. Alternatively, the general offsets required by the proposed development could be purchased via third party credit trade.
Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan.	The study area is located within the Falls Creek Alpine Resorts area. The Site is generally flat and has been assessed by GHD to be no greater than 20 percent.

Recent, dated photographs of the native vegetation to be removed.	• Contained in the project's FFA (Biosis 2022a – Attachment 3) and the project's plans (Attachment 1).
Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five year period before the application for a permit is lodged.	3.630 hectares of removal in total made up of: • 1.225 hectares of proposed removal • 2.405 hectares of past permitted removal.
An avoid and minimise statement. The statement describes any efforts to avoid the removal of, and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value. The statement should include a description of the following: • **Strategic level planning – any regional or landscape scale strategic planning process that the site has been subject to that avoided and minimised impacts on native vegetation across a region or landscape** • **Site level planning – how the proposed use or development has been sited or designed to avoid and minimise impacts on native vegetation.** **That no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.**	ARV-FC intend to avoid and minimise impacts on the existing native vegetation of the study area by committing to the following measures during the design, and construction/ post-construction stages: • Vegetation outside of the construction footprint should be fenced off and sign-posted as no-go zones. • Environmental inductions should inform contractors of no-go zones. • Identify and implement appropriate offsets for vegetation losses as specified above. • Specific detail relating to the prevention of impacts to the retained native vegetation in proximity to the study area is further elaborated in the project's SEMP (Biosis 2022b and Attachment 4). A detailed avoid and minimise statement has been prepared in Section 5 of the projects FFA (Attachment 3).
A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the Conservation, Forests and Lands Act 1987 that applies to the native vegetation to be removed.	Not applicable.
Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation	The native vegetation proposed to be removed has been minimised to mitigate impacts to biodiversity. Please see section 5 of the FFA (Attachment 3) for further information regarding

is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay	steps taken to achieve this.
If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 8.	Not applicable.
An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified, and can be secured in accordance with the Guidelines. **A suitable statement includes evidence that the required offset:** • **is available to purchase from a third party, or** • **will be established as a new offset and has the agreement of the proposed offset provider, or can be met by a first party offset.**	An offset statement has been provided with the project's FFA (Attachment 3). A recent credit extract (provided 21 June 2022) indicates 21.792 general habitat units and 416 large trees are available, which will satisfy this project's offset requirements. Alternatively, the general offsets required by the proposed development could be purchased via third party credit trade. See Appendix 3 of the FFA (Attachment 3) for the Native Vegetation Removal (NVR) report for the project's offset requirements.
Clause 52.17-5 decision guidelines	
Decision guidelines (all applications) **Efforts to avoid the removal of, and minimise the impacts on, native vegetation should be commensurate with the biodiversity and other values of the native vegetation, and should focus on areas of native vegetation that have the most value. Taking this into account consider whether:** • **the site has been subject to a regional or landscape scale strategic planning process that appropriately avoided and minimised impacts on native vegetation** • **the proposed use or development has been appropriately sited or designed to avoid and minimise impacts on native vegetation**	See response above.

• **feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.**	
The role of native vegetation to be removed in: • **Protecting water quality and waterway and riparian ecosystems, particularly within 30 metres of a wetland or waterway in a special water supply catchment area listed in the Catchment and Land Protection Act 1994.** • **Preventing land degradation, including soil erosion, salination, acidity, instability and water logging particularly:** – **where ground slopes are more than 20 per cent** – **on land which is subject to soil erosion or slippage** – **in harsh environments, such as coastal or alpine areas.** • **Preventing adverse effects on groundwater quality, particularly on land:** – **where groundwater recharge to saline water tables occurs** – **that is in proximity to a discharge area that is a known recharge area**	The proposed removal of native vegetation: • Is unlikely to have any impacts on existing water resources given the distance from the nearest water resources listed in the decision guidelines. • A consolidated preliminary geotechnical assessment has been prepared Attachment 2). • The potential impacts on groundwater quality and measures to prevent them have been addressed in the SEMP (Attachment 4).
The need to manage native vegetation to preserve identified landscape values.	ARV-FC intends to avoid significant impact on landscape values of the land and broader environment by minimising the removal of native vegetation to the minimum possible extent.
Whether any part of the native vegetation to be removed, destroyed or lopped is protected under the *Aboriginal Heritage Act 2006*.	Not applicable.
The need to remove, destroy or lop native vegetation to create defendable space to reduce the risk of bushfire to life and property, having regard to other available bushfire risk mitigation measures	Native vegetation is proposed to be removed to provide a construction footprint. Given that the study area contains grassland and heath, there is no need to remove, destroy or lop native vegetation to create additional defendable space.

Whether the native vegetation to be removed is in accordance with any Property Vegetation Plan that applies to the site.	Not applicable.
Whether an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines	An offset amount of 1.097 general habitat units and eight large trees applies to the proposed removal of native vegetation. ARV-FC are in the process of seeking an offset quote for the required native vegetation removal.
Decision guidelines (Clause 52.17) **Consider in relation to the native vegetation to be removed:** • **The purpose and objectives of the Native Vegetation Precinct Plan.** • **The effect on any native vegetation identified for retention in the Native Vegetation Precinct Plan.** • **The potential for the effectiveness of the Native Vegetation Precinct Plan to be undermined.** • **The potential for the proposed development to lead to the loss or fragmentation of native vegetation identified for retention in the Native Vegetation Precinct Plan.** **Offset requirements in the Native Vegetation Precinct Plan.**	Not applicable.
For applications in both the Intermediate and Detailed Assessment Pathway only – consider the impacts on biodiversity based on the following values of the native vegetation to be removed: • **The extent.** • **The condition score.** • **The strategic biodiversity value score.** • **The number and circumference of any large trees.** • **Whether it includes an endangered Ecological Vegetation Class.** • **Whether it includes sensitive wetlands or coastal areas.**	See above and the project's FFA (Section 5 of Attachment 3).

For applications in the Detailed Assessment Pathway only – consider the impacts on habitat for rare or threatened species. Where native vegetation to be removed is habitat for rare or threatened species according to the Habitat importance maps, consider the following: • **The total number of species' habitats.** • **The species habitat(s) that require a species offset(s).** • **The proportional impact of the native vegetation removal on the total habitat for each species, as calculated in section 5.3.1.** • **The conservation status of the species (per the Advisory Lists maintained by DELWP).** • **Whether the habitats are highly localised habitats, dispersed habitats, or important areas of habitat within a dispersed species habitat.**	The Project seeks to remove 1.225 hectares and eight large trees of native vegetation from within location category 1, therefore the application for removal of this native vegetation must meet the requirements of, and be assessed in, the detailed assessment pathway. An additional 2.405 hectares was considered under past vegetation removal by ARV-FC in the resort, bringing the total extent of native vegetation removal to 3.631 hectares.

7 Planning Assessment

7.1 Is there strategic justification?

Falls Creek experiences car parking issues during the peak periods of the snow season from end June to end September, particularly during weekends when there is an influx of day visitation to the resort. The volume of vehicles greatly exceeds the number of designated parks within the resort resulting in considerable public safety concerns due to the manner in which vehicles are required to be managed in the village area.

Additionally, overnight parking currently occurs along the edge of Bogong High Plains Road to the north of the village, creating additional risk to drivers and road users. Resort staff are also at risk from these existing parking arrangements when undertaking snow clearing operations. This risk is increased substantially at night time when visibility is substantially impacted.

To address the road safety risks as stated above, the project ultimately seeks to:

- Provide additional overnight parking capacity to reduce overnight parking from Bogong High Plains Rd to reduce risk associated with parking in these locations;
- Provide additional overnight parking capacity to reduce overnight parking in the village area in order to increase day visitor parking allocations during peak periods;
- Minimise environmental impact and costs associated with construction of the carpark through selection of location.
- Reduce risk associated with carpark snow clearing operational costs.

To deliver the project, the complete removal of native vegetation within the study area is required. While this requirement conflicts with biodiversity policies under the Planning Scheme, Clause 71.02-3 of the Planning Scheme states that:

> *Planning and responsible authorities should endeavour to integrate the range of planning policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations.*

Pursuant to Clause 71.02, the project has been considered against its relevant environmental issues in the project's FFA (see Attachment 3) which provides an assessment of the ecological values present on site and the likely impact of the proposed development on those values. The FFA also provides particular attention to the impact of the proposed development on threatened flora and fauna species and communities listed under the EPBC and FFG Act.

The project is considered to provide a balanced response to the transportation needs of the community (i.e. safety and infrastructure) and the biodiversity constraints of the study area. The outcome of the project is found to support movement network planning which ensures that transport investment have positive benefits to state, local and public transport networks and, provides opportunities for public access and recreation within an existing movement network. In accordance with the *Movement and Place in Victoria Framework* (DoT, 2019), the project minimises the risk of harm to persons arising from the transport system's capacity to manage its demand. Additionally, the project has also been designed to minimise the extent of vegetation removal within the Site, maintaining the important contribution that native vegetation makes to the quality and character of the surrounding landscape. The project is considered to be of merit as it provides net community benefit with regard given to the transportation and environmental planning issues affecting the wider area.

7.2 Detailed Response to Local Planning Policies

Table 6 Response to relevant Local Planning Policies in the Alpine Resorts Planning Scheme

Relevant Objectives	Relevant Strategies	Response
12.01 Biodiversity – Clause 12.01-1L – Protection of biodiversity in alpine resorts		
• **To preserve and enhance the habitat of threatened species and communities within the alpine resorts.**	• Maintain and improve the present diversity and viability of species and ecological communities within the alpine resorts. • Avoid use and development that detrimentally impacts upon threatened species, habitat or communities. • Minimise the removal of vegetation as part of development. • Retain mature trees or, if removed, incorporate suitable replacement planting. • Encourage development to be designed around significant vegetation on the site. • Retain native vegetation, including trees, shrubs and ground cover. • Discourage the isolation of trees, where vegetation is to be removed. • Discourage the destruction and fragmentation of landscapes. • Maintain a transition between the vegetated landscape in the National and State Parks and development in the resorts. • Minimise impacts on significant areas of landscape habitat and habitat corridors for indigenous fauna.	• The project's FFA (Attachment 3) has also been undertaken by ecologists who have a thorough understanding of the ecological values of the alpine region (in this instance, specifically Falls Creek's ecological values), which helps to ensure that impacts of the development on native or threatened flora/ fauna is minimised. • Where possible, the project has been designed to minimise and avoid impact to high quality vegetation and the habitat of species and ecological communities within the study area and its surrounds. • Avoid and minimisation steps have been undertaken at the strategic level planning and site level planning stages of the project, see section 5 of the FFA (Attachment 3) for more detail. • ARV-FC has consulted with Biosis to identify native vegetation and trees on site and in the surrounding area. As such, the project has been designed to reduce additional impacts to the surrounding ecological values, through the incorporation of no-go zones, exclusion fencing and retaining the majority of trees recorded in the study area. • The project's FFA (Attachment 3) has identified the project's required offsets, which includes 1.027general habitat units and eight large trees to be sourced within the locality. This helps to achieve no net loss to biodiversity (Biosis 2022a).

	• Ensure that snow gums are retained wherever possible. Ensure that existing Mountain Pygmy-possum habitats are preserved. • Preserve the areas of high environmental significance at Lake Mountain such as the heath and bog areas, sub-alpine wetlands and the Northofagus (Myrtle Beech) fauna. • Protect and enhance existing Stream Complex, Alpine Bog and snow Gum Woodland habitats	• The SEMP (Attachment 4) addresses key threats including predation, weed invasion, sedimentation, herbivores, recreation and infrastructure.
12.04 Alpine Areas - Clause 12.04-1L-01 – Sustainable development alpine resorts		
No objectives applicable to this clause.	• Ensure that development complements the natural features of the resorts. Ensure the location and scale of development is respectful of views to the ski fields and mountain ranges. • Minimise the visual intrusion of and nestle development within the snowgum canopy. • Step development with the natural grades of the land. Restrict the use of the skifields to snow based recreational activities. • Encourage commercial facilities in the ski fields that cater for the needs of skiers and are sensitive to the alpine environment. • Focus commercial activity, community facilities, skier congregations, skifield access points and transport hubs around the resort centres. • Ensure passive and active recreational activities are in balance with the conservation and protection of the natural environment within and adjacent to the resorts.	• The project will indirectly support demand for transport infrastructure activity in the village and growth of visitation during the resort's snow and green season. • The construction and development of the project has considered the ecological constraints of the study area and has incorporated management actions detailed in the SEMP (Attachment 4) to ensure a balance between transport network infrastructure with environmental protection of the natural environment.
13.04 Soil Degradation – Clause 13.04-2L Erosion and landslips in alpine resorts		

To ensure that geotechnical hazards are managed throughout the resorts so as to minimise risk to property and persons.	• Avoid development unless geotechnical and structural engineering risks are addressed. • Avoid development if a preliminary geotechnical report demonstrates a risk greater than 'low'. • Discourage development that results in any increase in risk to property or persons. • Discourage development that requires (for geotechnical purposes) excessive earthworks, drainage works or removal of vegetation to achieve a moderate, low or very low level of risk.	• GHD conducted a preliminary geotechnical assessment (Attachment 2) in accordance with the requirements under the EMO1. The assessment found that all associated geotechnical risks on-site could be minimised to 'low' through the implementation of the recommendations specified in Section 3.1 of this report. ARV-FC are committed to undertaking these recommendations.
18.02-4L Car parking- - alpine resorts		
To facilitate an efficient and safe road network that integrates all movement networks and makes best use of existing infrastructure.	• Facilitate safe and efficient car parking within the alpine resorts that meet visitor needs. • Minimise the impacts of car parking on adjacent properties and the alpine environment. • Ensure that developments do not lead to a reduction in the existing provision of public car parking.	• As noted in Section 7.1 of this report, overnight parking within the road reserves of Bogong High Plains Road is a significant risk to the lives and safety of visitors and residents of Falls Creek Village. This car park will provide a safe and accessible option to drivers and ensure that the needs of the community are met. • Given its current use, location and surrounding conditions, the proposed carpark is not considered to impact any built form of the Village and has been designed to minimise its impact to the alpine environment as much as practicable without undermining its purpose and function. • The proposed car park will enhance the provision of short term and long term carparking provisions within the alpine resort.

8 Conclusion

This report has outlined the planning controls and considerations associated with an application to construct the project.

Key considerations in seeking approval for this project have been identified and addressed, these include:

- Ensuring the strategic value of the proposal has been considered.
- Incorporating construction techniques and recommendations from the preliminary geotechnical assessment prepared by a qualified professional.
- Achieving a no net loss in the contribution made by native vegetation to Victoria's biodiversity through the risked-based approach: avoid, minimise and offset.
- Implementing best practice environmental standards for the construction process through requiring a project SEMP and appropriately excluding any adjacent native vegetation from construction activities.
- Incorporating environmental management actions in the SEMP to address threats of habitat degradation or spreading of noxious weeds.

In summary the proposal is considered to accord with the purpose of the relevant decision guidelines of the Planning Scheme and meets with all relevant requirements in each section. The proposal is considered to be in accordance with Planning Policy Framework and the Alpine Resorts Planning Strategy.

References

Biosis 2022a. Ropers Saddle Carpark: Flora and fauna assessment. Report for Falls Creek Resort Management. Authors: Zacks G, McCutcheon C & Tingate, C. Biosis Pty Ltd. Project no. 29670

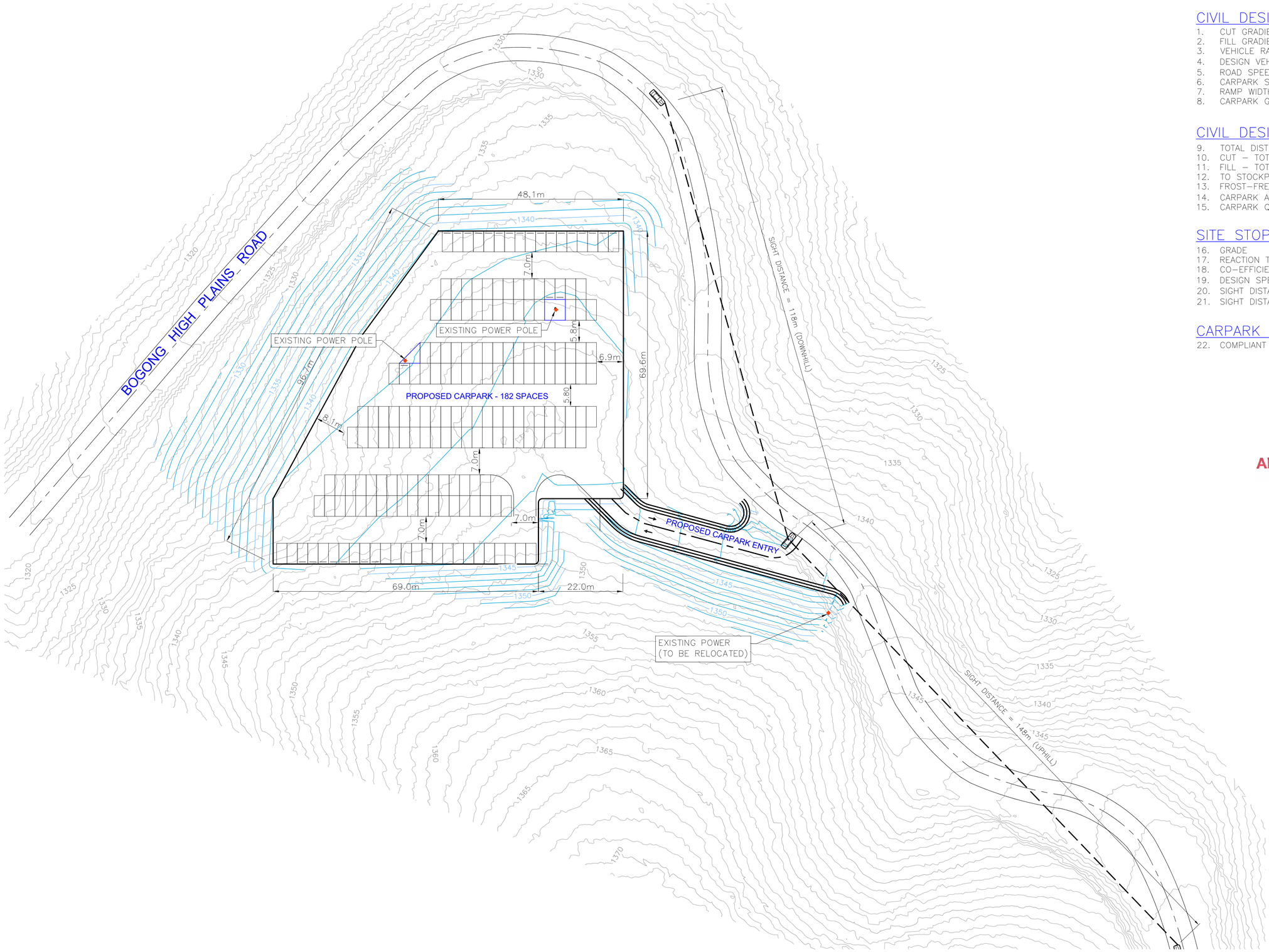
Biosis 2022b. Ropers Saddle Carpark: Site Environmental Management Plan. Report for Falls Creek Resort Management. Authors: Head-Gray, G. Howells. B. Biosis Pty Ltd. Project no. 37933

DELWP 2017. *Guidelines for the removal, destruction or lopping of native vegetation.* Victorian Government Department of Land, Water and Planning, Melbourne (December 2017).

DELWP 2018. *Assessor's handbook – Applications to remove destroy or lop native vegetation*. Victorian Government Department of Land, Water and Planning, Melbourne (October 2018).

GHD 2019. Report for Falls Creek Resort Management - Ropers Saddle Car Park, 312993418.

Attachment 1 – Project Plans



CIVIL DESIGN CRITERIA

1. CUT GRADIENT 1:1.5 MAX – ASSUME NO REINFORCEMENT
2. FILL GRADIENT 1:2 MAX – ASSUME NO REINFORCEMENT
3. VEHICLE RAMP GRADIENT 10% MAX
4. DESIGN VEHICLE 8.8m SERVICE VEHICLE AT 0–5km/h
5. ROAD SPEED ZONE 70km/h
6. CARPARK SIZE 2.7 x 5.4m
7. RAMP WIDTH 7m
8. CARPARK GRADIENT 5% MAX

CIVIL DESIGN QTY

9.	TOTAL DISTURBED AREA	11729m^2
10.	CUT – TOTAL	10515m^3
11.	FILL – TOTAL	11655m^3
12.	TO STOCKPILE	24m^3
13.	FROST–FREE PAVING	1237m^3
14.	CARPARK AREA	6126m^2
15.	CARPARK QTY	189

SITE STOPPING DISTANCE

16.	GRADE	–8% / +6%
17.	REACTION TIME	2.0s
18.	CO–EFFICIENT FRICTION	0.26
19.	DESIGN SPEED	70km/h
20.	SIGHT DISTANCE REQUIRED	146m (–8%) / 99m (+6%)
21.	SIGHT DISTANCE AVAILABLE	148m (–8%) / 118m (+6%)

CARPARK LAYOUT

22. COMPLIANT WITH AS 2890.1–2004

ADVERTISED PLAN

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

REVISIONS

No.	DETAILS	DATE
A.	ISSUED FOR PLANNING APPROVAL	12/09/19
B.	ISSUED FOR PLANNING APPROVAL	13/09/19
C.	ISSUED FOR PLANNING APPROVAL	12/11/19

REVISIONS

No.	DETAILS	DATE

Designed	S.E.P.	09/19
Drawn	DAN	09/19
Checked		
Approved		

1:500 (A1)
1:1000 (A3)
0 10 20m
SCALEBAR (m)

FORESIGHT
ENGINEERING SERVICES
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PROJECT No. FCRM-77
DRAWING No. FCRM77-106
DATUM AHD
GRID GDA94

FALLS CREEK RESORT MANAGEMENT BOARD

BOGONG HIGH PLAINS RD, FALLS CREEK, VIC, 3699
ROPERS SADDLE CARPARK
SITE LAYOUT PLAN

SHEET: 1 of 1 | A1

Attachment 2 – Preliminary Geotechnical Assessment

Falls Creek Resort Management

Ropers Saddle Car Park

Preliminary Geotechnical Risk Assessment

June 2019

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Appendices

1. Introduction

1.1 General

GHD has been requested to undertake a Preliminary Geotechnical Risk Assessment for the construction of Ropers Saddle Carpark along Bogong High Plains Road, 2.5km north west of Falls Creek Alpine Resort, Victoria.

It is a requirement that a Preliminary Geotechnical Risk Assessment is prepared when a planning permit is required under Schedule 1 to the Erosion Management Overlay (EMO) for a development within the Alpine Resorts Area. This report has been prepared for this purpose.

The report reviews and qualitatively assesses the geotechnical risks identified at the proposed project site in accordance with Clause 3.1 of the EMO and Australian Geomechanics, 'Practice Note Guidelines for Landslide Risk Management', Vol 42 No. 1, March 2007.

1.2 Scope

The scope of the Preliminary Geotechnical Risk Assessment included the following:

- Review of existing documents;
- Site visit to conduct a visual geotechnical risk assessment of the site;
- Preliminary Qualitative Risk Assessment of the site in relation to risk to property and
- Preparation of a Preliminary Geotechnical Risk Assessment providing advice on risk minimisation strategies and prioritisation of risk remediation works, if required.

1.3 Limitations

This report: has been prepared by GHD for Falls Creek Alpine Resort Management Board (RMB) and may only be used and relied on by the RMB for the purpose agreed between GHD and the RMB as set out in Section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than the RMB arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by the RMB and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this report are based on information obtained from visual assessment of the site. Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of roads and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

1.4 Available information

A review of available information was undertaken as part of the assessment. This information includes:

- Taylor, D. H., Morand, V. J., Cayley, R. A., Wohlt, K. E. and Simons, B. A., 2004. Falls Creek 1:50 000 geological map. Geological Survey of Victoria;
- Falls Creek Resort Management Geotechnical Risk Management Database, various site risk assessments and mapping information (held by GHD);
- LiDAR data.
- GHD 2012, Falls Creek Risk Mitigation Program, Refinement of Geological and Hydrogeological Models, November 2012.

1.5 Proposed development

The project involves the construction of a new car park located along the Bogong High Plains Road. The general arrangement and section drawings for the proposed development provided by the RMB are presented in Appendix B.

The car park will be accessed from Bogong High Plains Road by a driveway approximately 70m in length. The long section for the driveway indicates cut depths of up to 3.0m will be undertaken to reduce the existing ground profile. Cut batters along the south side of driveway will have a slope gradient of 1V:1.5H and maximum height of approximately 10m.

Earthworks will be undertaken at the site of the car park to form a flat area of approximately 6100m^2 for 182 car spaces. A cut slope is proposed along the southern boundary of the site and material removed from the proposed car park site during earthworks is to be used as fill to form a batter slope with a maximum gradient of 1V:2H along the north and western boundaries of the site above Bogong High Plains Road.

2. Site assessment and investigation

2.1 General

On Tuesday 4th December 2018, GHD undertook a site assessment at the proposed site of Ropers Saddle Car Park along Bogong High Plains Road, Falls Creek. Photographs of the site are provided in Appendix A.

2.2 Site description

2.2.1 Existing conditions

The Ropers Saddle Car Park site is located on Bogong High Plains Road approximately 2.5km north west of the Falls Creek Alpine Resort, Victoria.

The proposed site is saddled between two hills to the north and south and sits on a relatively flat plateau with approximate slope gradients of 0 to 5° (Photograph 1). The site is truncated to the north by a cutting where Bogong High Plains Road curves around the site and sits at a lower elevation (Photograph 2). To the east of Bogong High Plains Road beyond the site, the slope drops away steeply at approximately 35 to 40°. Exposed extremely weathered rock is observed in the cut faces along this road section, suggesting this material underlies the site (Photograph 3 and 4).

The proposed car park driveway is accessed from the south east corner of the site from Bogong High Plains Road by a gentle, unvegetated slope (approximately 15 to 20°) (Photograph 5 and 6).

The majority of the site is currently cleared of trees and bush growth for the existing power lines that run through the site. The ground surface is hummocky (Photograph 7) which may suggest historical ground movement. The site is bordered by mature trees/forest, which display no obvious signs of instability (Photograph 8).

No surface water or groundwater springs were noted during the site visit.

2.2.2 Regional geology

No site investigations are known to have taken place within the vicinity of the Roper Saddle Car Park site, therefore, specific geological details of the site are unknown. It should be noted that the site assessment highlighted the presence of extremely weathered rock below the site in the road cutting.

The 2004 Falls Creek 1:50,000 geological map produced by the Geological Survey of Victoria shows the surface geology expected in the project area to include:

- G549: Biotite-muscovite granite: grey; coarse to medium grained with K-feldspar phenocrysts; accessory cordierite; small ovoid biotite-sillimanite enclaves; common enclaves of migmatite, gneiss and vein quartz; variably foliated; S-type

As discussed in the Falls Creek Geotechnical Risk Management Program Report (GHD report 31/28685/06/6389) the wider Falls Creek area predominantly comprises gneiss to migmatite that has in places been anatexised into granodiorite bodies. Anatexis describes the formational process of melting or recrytallising as a result of high pressure/temperature. The gneiss and migmatite rocks generally exhibit a medium grained texture with zones of high mica content and common foliations, whereas the granodiorite is medium to coarse grained without foliation.

2.3 Identified hazards

Several hazards that may affect the site were observed during the assessment. These hazards are:

- Local failure of cut slopes along the proposed car park access driveway
- Long and short term local failure of un-retained cut slopes along Bogong High Plains Road due to excessive filling and construction loading
- Local failure of the fill slope
- Global failure of overall natural slope encompassing the site

The estimated risk associated with each of the identified hazards is presented in the following section.

3. Qualitative risk assessment

3.1 General

A qualitative risk to property assessment has been undertaken for the proposed developments. This is an assessment of the *"Likelihood"* and *"Consequence"* using descriptors provided in the Australian Geomechanics Society (AGS) Guidelines for Landslide Risk Management (2007).

The estimated likelihood and consequence have been used to derive a risk rating from the risk matrix presented in the AGS (2007) guidelines and reproduced below.

In accordance with Section 3.2 of the EMO if no risks exceed a *"Low"* risk rating, a Qualitative Risk Assessment is a suitable level of assessment for the proposed works.

Where appropriate risk has been assessed for pre, during and post development conditions in accordance with Section 3.1 of the EMO.

No consideration has been given to snow avalanches which are not considered to fall within the scope of geotechnical hazards.

Details of the qualitative risk assessment are provided below.

3.2 Likelihood of failure

The likelihoods of occurrence of the identified hazards are presented below. These ratings are qualitative estimates of how *likely* a failure is without consideration of the *consequences* of this failure. The assessment of the likelihood of failure for each hazard has been determined based on the following factors:

- Observations made during the site inspection and intrusive investigation
- Engineering experience

Appendix C contains details of the qualitative descriptors used for likelihood of failure from AGS (2007).

3.3 Consequence of failure

Consequences of the hazards identified above have been estimated based on observations made during the site inspection. Potential consequences of failure include:

- Impacts on the existing and proposed structures
- Impact on people including workers during construction

For the hazards assessed, the associated consequences to property have been estimated based on the qualitative descriptors presented in AGS (2007) and included in Appendix C.

3.4 Risk Rating for property

The following matrix (Table 1) has been used to rate the risk for each of the hazards identified, based on the estimated likelihood and consequence. The risk matrix is reproduced from AGS (2007). Risk ratings for each of the hazards identified are summarised in Table 2, and for, along with recommended control measures to mitigate these risks where applicable.

Table 1 Risk rating matrix

		Consequences				
		Catastrophic	Major	Medium	Minor	Insignificant
Likelihood	Almost Certain	VH	VH	VH	H	M or L
	Likely	VH	VH	H	M	L
	Possible	VH	H	M	M	VL
	Unlikely	H	M	L	L	VL
	Rare	M	L	L	VL	VL
	Barely Credible	L	VL	VL	VL	VL

Table 2 Risk rating

Hazard	Location	Initial Risk Rating			Control Measures	Residual Risk Rating		
		Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Existing Conditions								
Global failure of natural slope (encompassing the site area)	Overall site	Rare – no indication of large scale instability observed during assessment	Major – failure may result in extensive damage to Bogong High Plains Road	Low	N/A	N/A	N/A	N/A
During Construction								
Local failure of cut slopes	Along car park driveway and south boundary of car park	Possible – if construction undertaken during wet weather conditions. If unexpected ground conditions encountered.	Minor – failure may require reinstatement of slope	Moderate	Complete earthworks during dryer months. Ensure surface water diverted away from cut slope face. Geotechnical investigation recommended to identify ground conditions and assess stability of slope during construction. Where evidence of slope instability is observed, request inspection by geotechnical engineer	Unlikely	Minor	Low
Local failure of fill slopes	Along west and northern boundaries of car park	Possible - if construction undertaken during wet weather conditions. If crest of fill slope loaded during construction	Minor – failure may require reinstatement of slope.	Moderate	Complete earthworks during drying months. Ensure surface water diverted away from fill slope face. Avoid unnecessary excessive loading of slopes. Where evidence of slope instability is observed, request inspection by geotechnical engineer	Unlikely	Minor	Low

Hazard	Location	Initial Risk Rating			Control Measures	Residual Risk Rating		
		Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Failure of Bogong High Plains Road un-retained cutting	Road cutting along Bogong High Plains Road below site	Possible – if construction traffic encroaches crest of cutting	Medium – failure may affect road, causing delays. Failure may require reinstatement of slope and/or remediation works to stabilise slope	Moderate	Avoid encroachment of construction traffic near crest of cutting. Where evidence of slope instability is observed, request inspection by geotechnical engineer.	Unlikely	Minor	Low
Post Construction								
Failure of cut slopes	Batter slope along northern boundary of site following Bogong High Plains Road	Likely – proposed cut slope gradients are considered steep for proposed slope heights. Erosion and subsequent failure of slope likely in long term without protection	Minor – failure may require reinstatement of slope and/or remediation works to stabilise slope	Moderate	Protection works required in order to adopt proposed cut slope gradient (1V:1.5H). Gabion walls suggested to provide toe support. Geotechnical investigation recommended to identify ground conditions and assess stability of slope in the long term condition. Ensure a permanent drainage system is installed to divert surface water from slope face and prevent ponding of water at toe of slope. Where evidence of slope instability is observed, request inspection by geotechnical engineer.	Unlikely	Minor	Low

Hazard	Location	Initial Risk Rating			Control Measures	Residual Risk Rating		
		Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Failure of fill slopes	Along west and northern boundaries of car park	Unlikely – loading from car park vehicles will be minimal	Minor – failure may require reinstatement of slope. May cause minor damage to car park	Low	Where evidence of slope instability is observed, request inspection by geotechnical engineer. Ensure surface water diverted away from fill slope face.	N/A	N/A	N/A
Failure of Bogong High Plains Road un-retained cutting	Road cutting along Bogong High Plains Road below site	Unlikely – excessive loading unlikely when car park in use	Medium - failure may affect road, causing delays. Failure may require reinstatement of slope and/or remediation works to stabilise slope	Low	Geotechnical investigation recommended to identify ground profile and ensure long term stability of un-retained cutting following construction of car park.	N/A	N/A	N/A

3.5 Risk control measures

To reduce, manage and maintain the assessed Low to Moderate risk ratings of the proposed works; it is advised that the following risk control measures are implemented.

Control measures to reduce all hazards to a low risk rating may include:

- Ensure that earthworks are undertaken during drying months.
- Ensure that surface drainage across the site is controlled during and after construction and not concentrated on slopes.
- Avoid excessive loading of fill slope during construction.
- Construction traffic not to encroach the crest of the Bogong High Plains Road un-retained cutting.
- Slope stabilisation works recommended along the car park driveway where 1V:1.5H gradient cut slopes are proposed. A gabion wall solution is suggested to provide toe support to the cut slopes. The wall should be designed by an appropriately qualified geotechnical engineer.
- Undertake a geotechnical investigation to establish the ground conditions of the site and inform assessment of the stability of the proposed cut slopes and the un-retained Bogong High Plains Road cutting.
- Ensure that risk is reviewed should changes to land use or drainage conditions surrounding the site be proposed.
- Ensure that continuous visual monitoring of the slopes is undertaken by the contractor during construction for any signs of instability and new areas of groundwater discharge and where observed refer to a geotechnical engineer. A visual inspection should be completed by a geotechnical engineer following completion of construction works.

4. Conclusions

The qualitative assessment recorded a residual risk rating of Low, subject to the implementation of the recommendations in Section 3.5. In accordance with Clause 3.2 of the EMO, further quantitative or semi-qualitative risk assessment is not deemed necessary for this project and the site is considered suitable for the proposed development provided all recommendations in Section 3.5 are adopted.

5. Information about this report

The report contains the results of a geotechnical investigation conducted for a specific purpose and client. The results should not be used by other parties, or for other purposes, as they may contain neither adequate nor appropriate information. In particular, the investigation does not cover contamination issues unless specifically required to do so by the client.

5.1 Interpretation of results

The discussion or recommendations contained within this report normally are based on a site evaluation from discrete test hole data. Generalised, idealised or inferred subsurface conditions (including any geotechnical cross-sections) have been assumed or prepared by interpolation and/or extrapolation of these data. As such these conditions are an interpretation and must be considered as a guide only.

5.2 Change in conditions

Local variations or anomalies in the generalised ground conditions do occur in the natural environment, particularly between discrete test hole locations. Additionally, certain design or construction procedures may have been assumed in assessing the soil-structure interaction behaviour of the site. Furthermore, conditions may change at the site from those encountered at the time of the geotechnical investigation through construction activities and constantly changing natural forces.

Any change in design, in construction methods, or in ground conditions as noted during construction, from those assumed or reported should be referred to GHD for appropriate assessment and comment.

5.3 Geotechnical verification

Verification of the geotechnical assumptions and/or model is an integral part of the design process - investigation, construction verification, and performance monitoring. Variability is a feature of the natural environment and, in many instances, verification of soil or rock quality, or foundation levels, is required. There may be a requirement to extend foundation depths, to modify a foundation system or to conduct monitoring as a result of this natural variability. Allowance for verification by geotechnical personnel accordingly should be recognised and programmed during construction.

5.4 Reproduction of reports

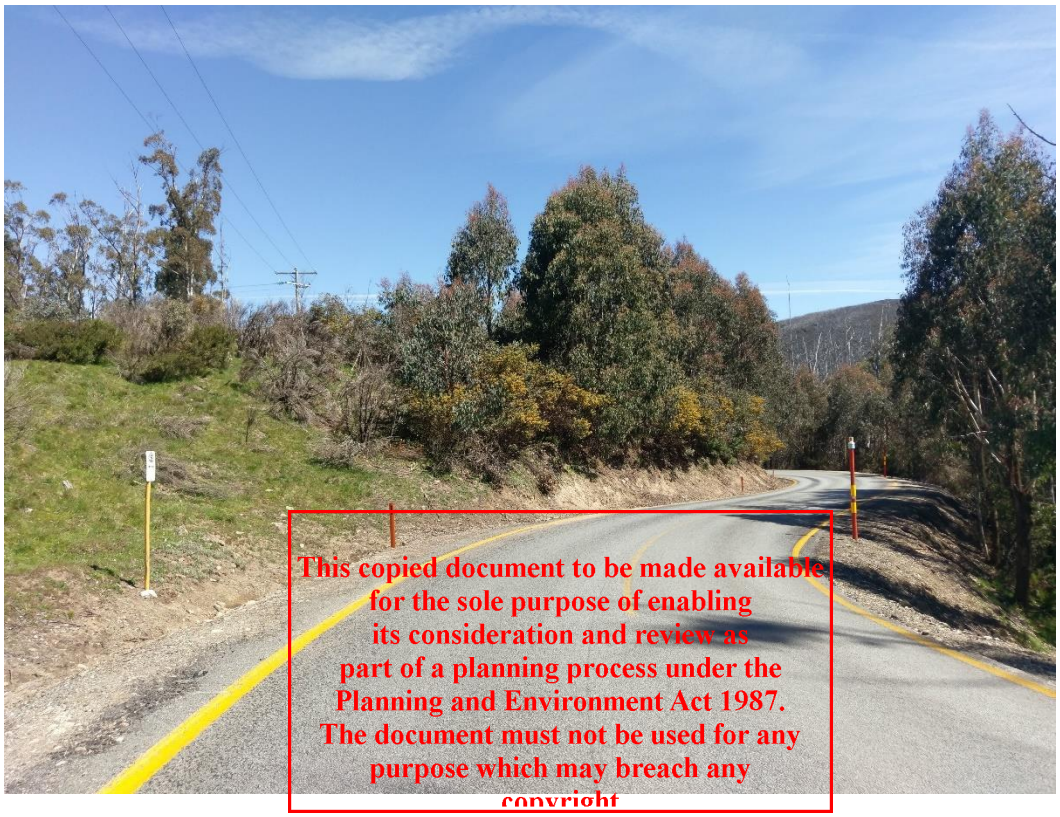
Where it is desired to reproduce the information contained in our geotechnical report, or other technical information, for the inclusion in contract documents or engineering specification of the subject development, such reproductions should include at least all of the relevant test hole and test data, together with the appropriate standard description sheets and remarks made in the written report of a factual or descriptive nature.

Reports are the subject of copyright and shall not be reproduced either totally or in part without the express permission of GHD.

Appendices

Appendix A – Site Photographs

Photograph 1 Plateau area on top of hill. Slightly hummocky ground surface but generally flat. Trees indicate no previous movement



Photograph 2 View of overall slope profile, with Bogong High Plains Road cutting in to natural surface, looking north

Photograph 3 Cute slope below the north east of the site in natural material (probably extremely weathered rock

Photograph 4 Low cut slope height (approximately 2-3m) along Bogong High Plains Road to the east of the site. Vegetation shows no sign of movement

Photograph 5 Proposed location for car park driveway from Bogong High Plains Road, looking south

Photograph 6 Location of car park driveway connecting site to Bogong High Plains Road showing typical slope profile, looking north

Photograph 7 Hummocky gentle grassed slope (10-15°), looking north

Photograph 8 Trees on a gentle slope along the site boundary showing no signs of slope movement

Appendix B – Proposed Site Drawings (Provided by the RMB)

WHEELSTOP 28-OFF

BOGONG HIGH PLAINS ROAD

20 1343.242 PP69 POWER POLE

27 1341.941 PP68 POWER POLE

PROPOSED CARPARK - 182 CAR SPACES

PROPOSED CARPARK ENTRY

CH 0 CH 10 CH 20 CH 30 CH 40 CH 50 CH 60 CH 69

1343.378 ppole

CIVIL DESIGN CRITERIA

1. CUT GRADIENT 1:1.5 MAX - ASSUME NO REINFORCEMENT
2. FILL GRADIENT 1:2 MAX - ASSUME NO REINFORCEMENT
3. VEHICLE RAMP GRADIENT 10% MAX
4. DESIGN VEHICLE 8.8 m SERVICE VEHICLE AT 0-5 km/h
5. ROAD SPEED ZONE 60 km/h
6. CARPARK SIZE 2.7 x 5.4 m
7. RAMP WIDTH 7 m
8. CARPARK GRADIENT 5% MAX

CIVIL DESIGN QTY

9.	TOTAL DISTURBED AREA	11729 m^2
10.	CUT - TOTAL	10515 m^3
11.	FILL - TOTAL	11655 m^3
12.	TO STOCKPILE	24 m^3
13.	FROST-FREE PAVING	1237 m^3
14.	CARPARK AREA	6126 m^2
15.	CARPARK QTY	189

SITE STOPPING DISTANCE

16.	GRADE	-8%
17.	REACTION TIME	2.0 s
18.	CO-EFFICIENT FRICTION	0.26
19.	DESIGN SPEED	60 km/h
20.	SIGHT DISTANCE REQUIRED	112.1 m
21.	SIGHT DISTANCE AVAILABLE	130 m

ADVERTISED PLAN

PLAN - CARPARK

SCALE 1:300

PRELIMINARY ISSUE
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REVISIONS

No.	DETAILS	DATE
A	ISSUED FOR REVIEW	12/02/19
A8	ISSUED FOR REVIEW - CLIENT COMMENTS	13/03/19
B	ISSUED FOR CONCEPT APPROVAL	20/03/19
C	ISSUED FOR REVIEW	01/04/19

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Designed	NSM	04/19
Drawn	GG	04/19
Checked	SEP	04/19
Approved		

PROJECT No. FCRM77

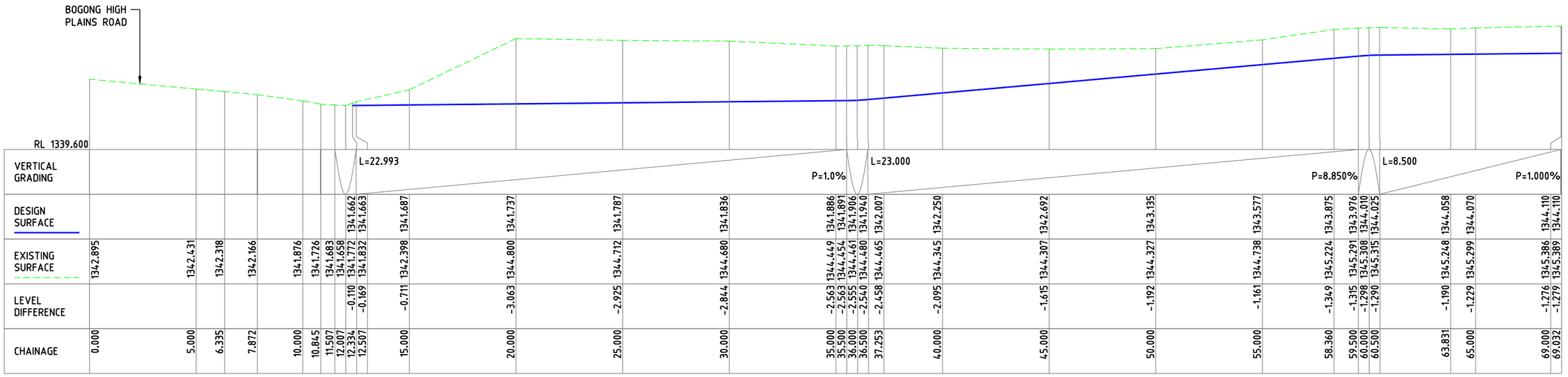
DRAWING No. FCRM77-102

DATUM AHD | GRID GDA94

FALLS CREEK RESORT MANAGEMENT BOARD

BOGONG HIGH PLAINS RD, FALLS CREEK, VIC, 3699
ROPERS SADDLE CARPARK
GENERAL ARRANGEMENT

SHEET: 1 of 1 | A1



LONGITUDINAL SECTION - DRIVEWAY

SCALE 1:100

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A	ISSUED FOR REVIEW	12/02/19
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C	ISSUED FOR REVIEW	01/04/19

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PROJECT No. FCRM77
DRAWING No. FCRM77-103
DATUM AHD | GRID GDA94

FALLS CREEK RESORT MANAGEMENT BOARD

BOGONG HIGH PLAINS RD, FALLS CREEK, VIC, 3699
ROPERS SADDLE CARPARK
DRIVEWAY LONG SECTION

SHEET: 1 of 1 | A1

PRELIMINARY ISSUE
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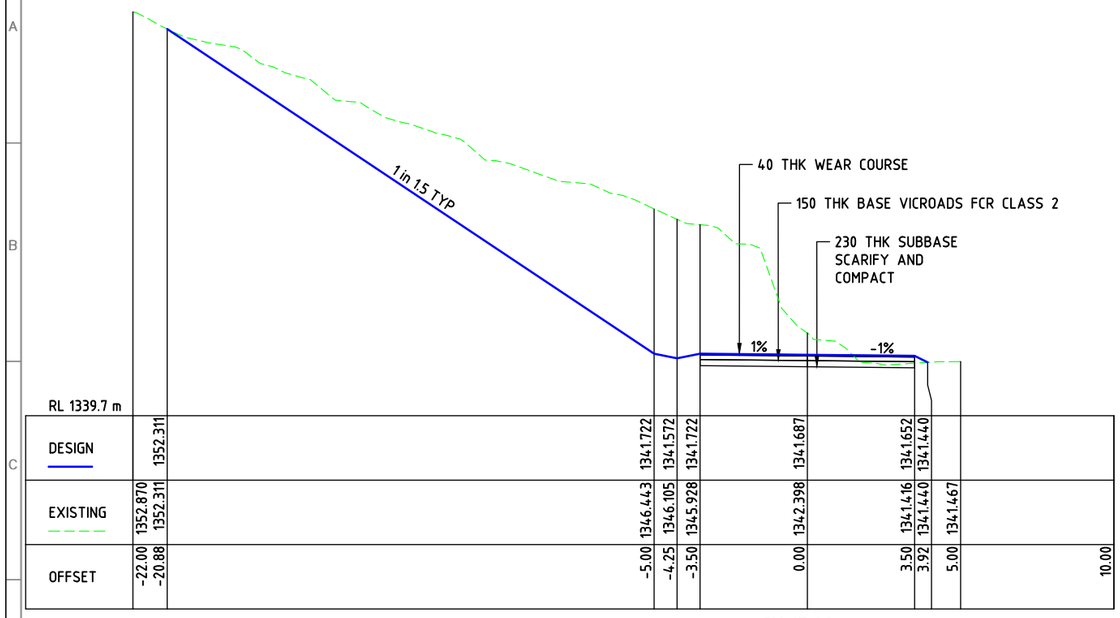

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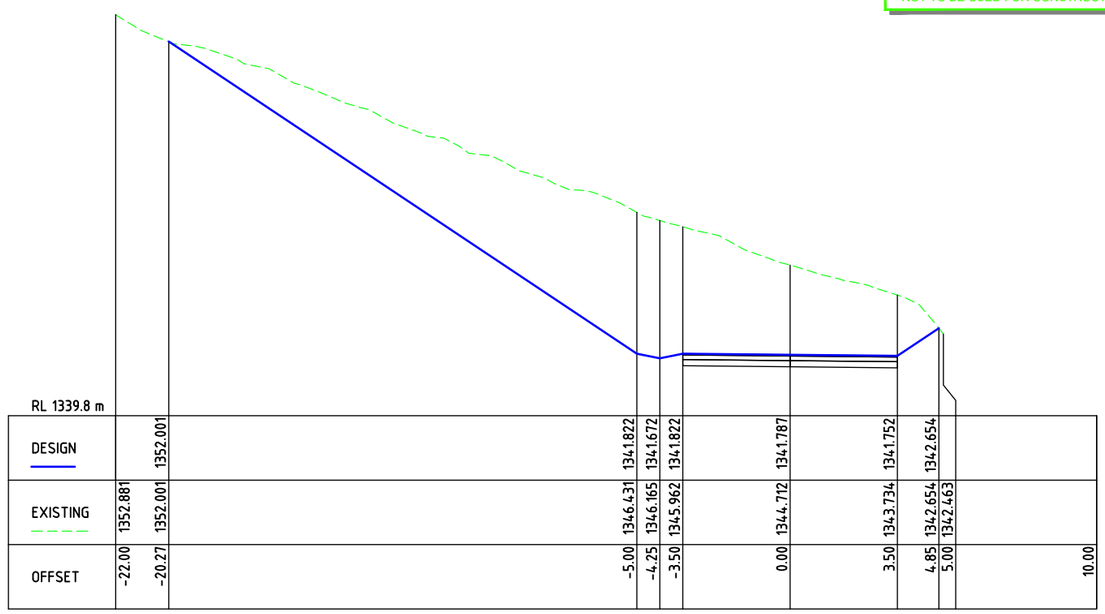
CH 15.00 m



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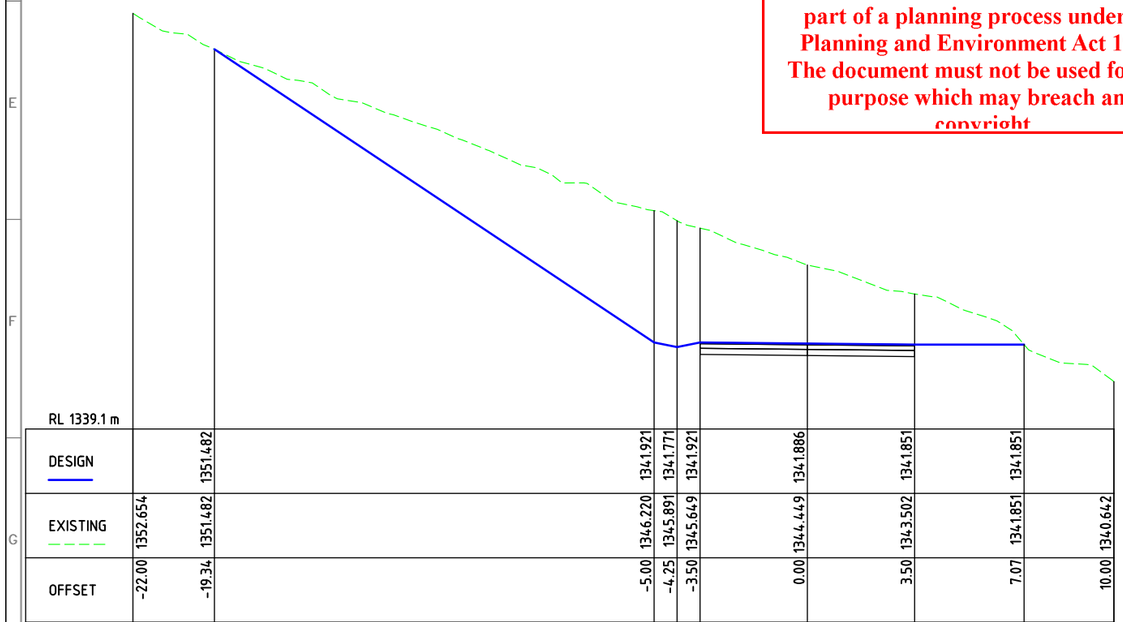

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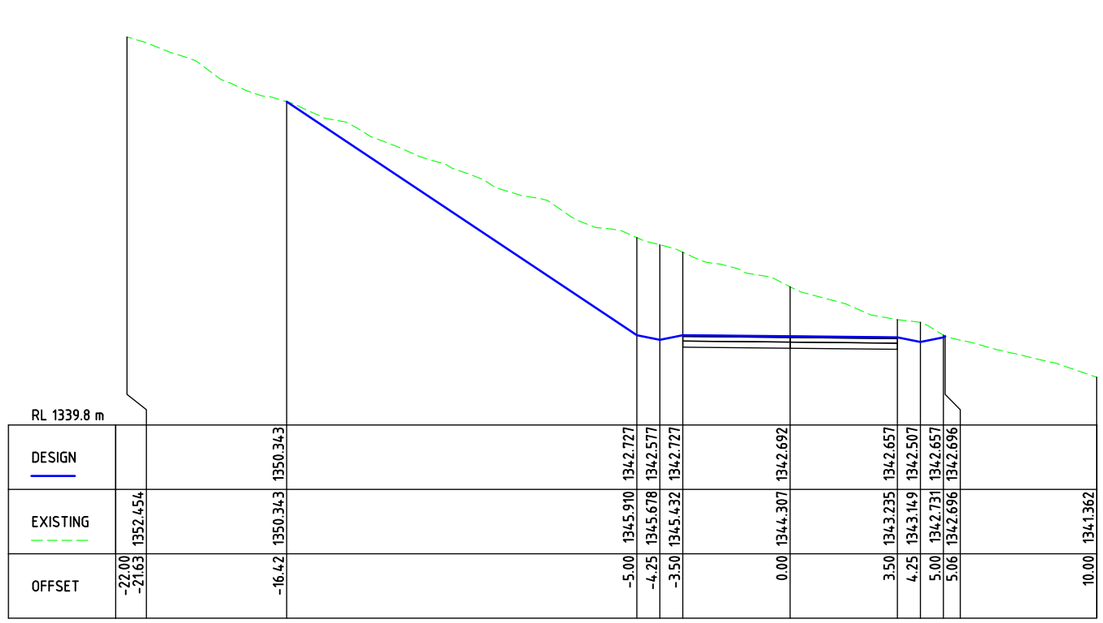

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CH 45.00 m

REVISIONS

No.	DETAILS	DATE
A	ISSUED FOR REVIEW	12/02/19
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Approved		

PROJECT No. FCRM77
DRAWING No. FCRM77-104
DATUM AHD | GRID GDA94

FALLS CREEK RESORT MANAGEMENT BOARD
BOGONG HIGH PLAINS RD, FALLS CREEK, VIC, 3699
ROPERS SADDLE CARPARK
CROSS SECTIONS SH 1

SHEET: 1 of 1 | A1

PRELIMINARY ISSUE
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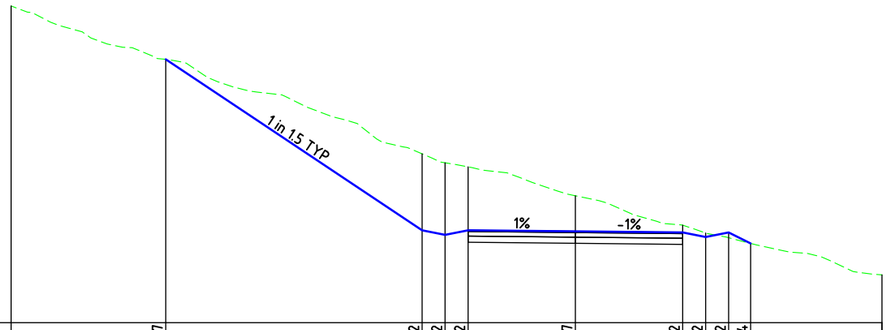

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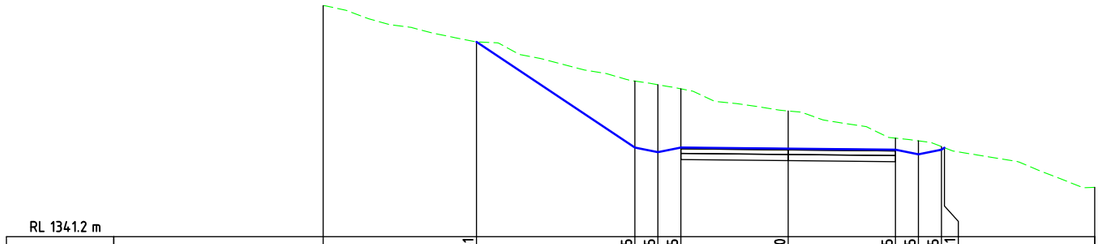

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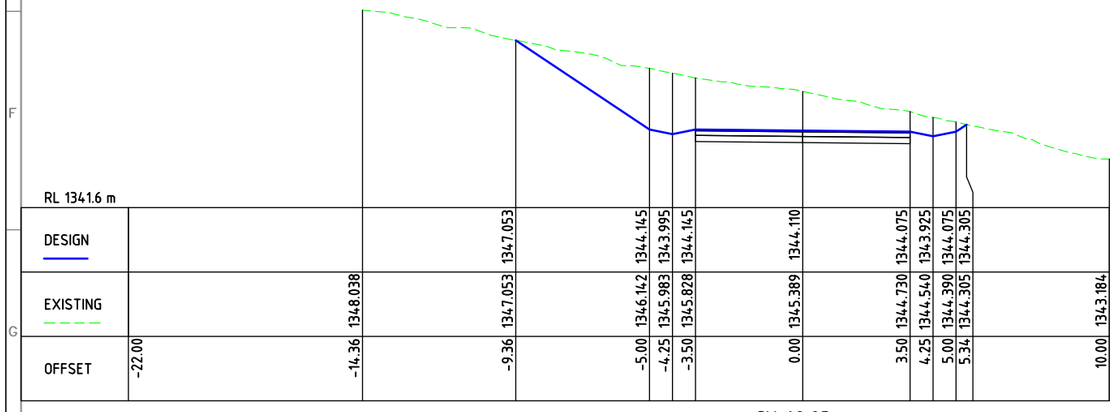
OFFSET	-22.00		-15.17		-10.17		-5.00	-4.25	-3.50		0.00		3.50	4.25	5.00	5.10		10.00					

CH 65.00 m



RL 1341.6 m

DESIGN				1347.053			1344.145	1343.995	1344.145		1344.110		1344.075	1343.925	1344.075	1344.305							
EXISTING		1348.038		1347.053			1346.142	1345.983	1345.828		1345.389		1344.730	1344.540	1344.390	1344.305		1343.184					
OFFSET	-22.00		-14.36		-9.36		-5.00	-4.25	-3.50		0.00		3.50	4.25	5.00	5.34		10.00					

CH 69.03 m

REVISIONS

No.	DETAILS	DATE
A	ISSUED FOR REVIEW	12/02/19
A8	ISSUED FOR REVIEW – CLIENT COMMENTS	14/03/19
B	ISSUED FOR CONCEPT APPROVAL	20/03/19
C	ISSUED FOR REVIEW	01/04/19

FallsCreek

FORESIGHT
ENGINEERING SERVICES
Civil & Mining Engineering and Project Management
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A.B.N. 32 619 099 142 © 2018

Designed	NSM	04/19
Drawn	GG	04/19
Checked	SEP	04/19
Approved		

PROJECT No. FCRM77
DRAWING No. FCRM77-105
DATUM AHD | GRID GDA94

FALLS CREEK RESORT MANAGEMENT BOARD
BOGONG HIGH PLAINS RD, FALLS CREEK, VIC, 3699
ROPERS SADDLE CARPARK
CROSS SECTIONS SH 2

SHEET: 1 of 1 | A1

Appendix C – Qualitative terminology for use in assessing risk to property

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

APPENDIX C: LANDSLIDE RISK ASSESSMENT

QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY

QUALITATIVE MEASURES OF LIKELIHOOD

Approximate Annual Probability		Implied Indicative Landslide Recurrence Interval		Description	Descriptor	Level
Indicative Value	Notional Boundary					
10^{-1}	$5x10^{-2}$	10 years	20 years	The event is expected to occur over the design life.	ALMOST CERTAIN	A
10^{-2}	$5x10^{-3}$	100 years	200 years	The event will probably occur under adverse conditions over the design life.	LIKELY	B
10^{-3}	$5x10^{-4}$	1000 years	2000 years	The event could occur under adverse conditions over the design life.	POSSIBLE	C
10^{-4}	$5x10^{-5}$	10,000 years	20,000 years	The event might occur under very adverse circumstances over the design life.	UNLIKELY	D
10^{-5}	$5x10^{-6}$	100,000 years	200,000 years	The event is conceivable but only under exceptional circumstances over the design life.	RARE	E
10^{-6}		1,000,000 years		The event is inconceivable or fanciful over the design life.	BARELY CREDIBLE	F

Note: (1) The table should be used from left to right; use Approximate Annual Probability or Description to assign Descriptor, not *vice versa*.

QUALITATIVE MEASURES OF CONSEQUENCES TO PROPERTY

Approximate Cost of Damage		Description	Descriptor	Level
Indicative Value	Notional Boundary			
200%	100%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequence damage.	CATASTROPHIC	1
60%	40%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequence damage.	MAJOR	2
20%	10%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequence damage.	MEDIUM	3
5%	1%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works.	MINOR	4
0.5%		Little damage. (Note for high probability event (Almost Certain), this category may be subdivided at a notional boundary of 0.1%. See Risk Matrix.)	INSIGNIFICANT	5

Notes: (2) The Approximate Cost of Damage is expressed as a percentage of market value, being the cost of the improved value of the unaffected property which includes the land plus the unaffected structures.

(3) The Approximate Cost is to be an estimate of the direct cost of the damage, such as the cost of reinstatement of the damaged portion of the property (land plus structures), stabilisation works required to render the site to tolerable risk level for the landslide which has occurred and professional design fees, and consequential costs such as legal fees, temporary accommodation. It does not include additional stabilisation works to address other landslides which may affect the property.

(4) The table should be used from left to right; use Approximate Cost of Damage or Description to assign Descriptor, not vice versa

APPENDIX C: – QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY (CONTINUED)

QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD		CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
	Indicative Value of Approximate Annual Probability	1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
A – ALMOST CERTAIN	10^{-1}	VH	VH	VH	H	M or **L** (5)
B - LIKELY	10^{-2}	VH	VH	H	M	**L**
C - POSSIBLE	10^{-3}	VH	H	M	M	**VL**
D - UNLIKELY	10^{-4}	H	M	**L**	**L**	**VL**
E - RARE	10^{-5}	M	**L**	**L**	**VL**	**VL**
F - BARELY CREDIBLE	10^{-6}	**L**	**VL**	**VL**	**VL**	**VL**

Notes: (5) For Cell A5, may be subdivided such that a consequence of less than 0.1% is Low Risk.
(6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time.

RISK LEVEL IMPLICATIONS

Risk Level		Example Implications (7)
VH	VERY HIGH RISK	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than value of the property.
H	HIGH RISK	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	MODERATE RISK	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	LOW RISK	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	VERY LOW RISK	Acceptable. Manage by normal slope maintenance procedures.

Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide.

Appendix D – EMO Schedule 1 Management of Geotechnical Hazard Form 1

DEPARTMENT OF ENVIRONMENT, LAND, WATER & PLANNING

ALPINE RESORTS PLANNING SCHEME
Erosion Management Overlay – Schedule 1 Management of Geotechnical Hazard

FORM 1
Declaration and/or verification made by geotechnical engineer or engineering geologist as part of a geotechnical report

Name of application: ___Ropers Saddle Car Park_____
Address of subject site: _Bogong High Plains Road, Falls Creek Ski Resort, VIC _____
I, __Andrew Hunter_____ of _GHD Pty Ltd_____
(insert name) (trading or company name)
on _____11 June 2019_____
(insert date)

certify that I am a geotechnical engineer or engineering geologist as defined by the Erosion Management Overlay (Schedule 1 – Management of Geotechnical Hazard) and I have: (tick appropriate box):

☐ prepared the Geotechnical Report referenced below in accordance with the Australian Geomechanics Society's Geotechnical Risk Management Guidelines and Clause 3 of the EMO1

or

☒ technically verified that the geotechnical report referenced below has been prepared in accordance with the AGS's Geotechnical Risk Management Guidelines and Clause 3 of the EMO1.

Geotechnical report details:

Report title: Falls Creek Resort Management. Ropers Saddle Car Park, Preliminary Geotechnical Risk Assessment

Report date: June 2019

Report reference: 312993418

Author: Ryan Hayes

Author's affiliation: Engineering Geologist at GHD Pty Ltd

Documentation relied upon in report preparation:

Development Details
Drawings:
General Arrangement and Section Drawings for the proposed Ropers Saddle Car Park (April 2019)

I am aware that the Geotechnical Report I have either prepared or am technically verifying for the above development is to be submitted in support of a development application for the proposed development Ropers Saddle Car Park at Bogong High Plains Road, Falls Creek Ski Resort, VIC, requiring approval from the Minister for Planning. (name of development)

Further, I hold a current professional indemnity insurance policy of at least $2 million, evidence of which is attached with this form.

Name _Andrew Hunter_____ Signature _____ _____

Date __11 June 2019_____

State Government Victoria

Appendix E – GHD Professional Indemnity

Willis Towers Watson

Telephone: +61 2 9285 4000
Fax: +61 2 9995 7297
Website: www.willistowerswatson.com.au
Direct Line: +61 2 9285 4060
Email: tanya.stevenson@willistowerswatson.com

Issue Date: 30 November 2018

To Whom It May Concern

Certificate of Placement – Professional Indemnity

In our capacity as Insurance Broker to the Named Insured shown below, we confirm having arranged the following insurance, the details of which are correct as at the Issue Date:

Named Insured:	GHD Pty Ltd
Form:	Civil Liability Wording which includes coverage for the Trade Practices Act and the Competition and Consumer Act
Policy Number:	B080113856P18
Limit of Indemnity:	AUD2,000,000 any one claim and in the aggregate
Period of Insurance:	1 December 2018 at 4.00pm to 1 December 2019 at 4.00pm
Insurer:	Certain Underwriters at Lloyd's of London

Signed for and on behalf of
Willis Australia Ltd ("Willis Towers Watson")

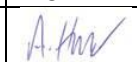
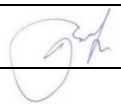
Willis Australia Limited
ABN 90 000 321 237
AFSL No: 240600
Version 2016 1.0 18 Apr 2016

GHD

Level 18 180 Lonsdale Street
Melbourne VIC 3000
T: 61 3 8687 8000 F: 61 3 8687 8111 E: melmail@ghd.com

GHDDocId/\\ghdnet\ghd\AU\Albury Wodonga\Projects\31\2993418\Tech\Ropers Saddle Car Park\312993418-REP_Ropers Saddle Car Park GRA.docx

Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	R. Hayes	A.Hunter		G.Jones		11/06/2019

www.ghd.com

Attachment 3 – Flora and Fauna Assessment

biosis

Ropers Saddle Carpark:
Flora and fauna assessment

Prepared for Falls Creek Resort Management

28 September 2022

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Document information

Report to:	Falls Creek Resort Management
Prepared by:	Georgina Zacks Clare McCutcheon Claire Tingate
Biosis project no.:	29670
File name:	29670.Ropers.Carpark.Falls.Creek.FIN02.20220928.docx
Citation:	Biosis 2022. Ropers Saddle Carpark: Flora and fauna assessment. Report for Falls Creek Resort Management. Authors: Zacks G, McCutcheon C & Tingate, C. Biosis Pty Ltd. Project no. 29670

Document control

Version	Internal reviewer	Date issued
Draft version 01	Daniel Gilmore	24/05/2019
Final version 01	Matt Looby	17/09/2019
Final version 02	Matt Looby	21/09/2022

Acknowledgements

Biosis acknowledges the contribution of the following people and organisations in undertaking this study:

- Falls Creek Resort Management: Callum Brown and Fred Weir
- Department of Environment, Land, Water and Planning for access to the Victorian Biodiversity Atlas and Native Vegetation Information Tools
- Department of Climate Change, the Environment, Energy and Water for access to the Protected Matters Search Tool of the Australian Government
- BirdLife Australia for access to the New Atlas of Australian Birds 1998-2013.

Biosis staff involved in this project were:

- Matt Looby & Georgina Zacks (assistance in the field), Sonika Kumar & Sally Mitchell (mapping), Matt Looby (quality assurance)

Contents

Tables

Figures

Photos

Summary

Biosis Pty Ltd was commissioned by Falls Creek Resort Management (FCRM) to undertake a flora and fauna assessment of an area of land proposed for construction of a carpark. The study area is located at Roper Saddle on the southern side of Bogong High Plains Road, approximately 2.7 kilometres north of Falls Creek Village.

A planning permit application (PA1900694) for the project was submitted to the Department of Environment, Land, Water and Planning (DELWP). Offset requirements for the project detailed in the flora and fauna assessment report included 1.135 species habitat units for Shining Westringia *Westringia lucida* which, at the time of the planning permit application submission, were not available within any registered Victorian native vegetation offset site. DELWP issued a request for further information in relation to the availability of offsets (dated 28 October 2019) and the planning application did not progress.

A request for further information This final version 02 report has been updated in September 2022 from final version 01 which was produced in 2019. This report has been updated to:

- Include updated database searches for threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Flora and Fauna Guarantee Act 1988* (FFG Act).
- Reflect amendments to the FFG Act legislation.
- Include likelihood of occurrence assessments for all EPBC Act and FFG Act threatened species recorded or predicted to occur based on updated database searches.
- Include Significant Impact Criteria assessments for relevant EPBC Act-listed threatened species.
- Include a detailed avoid and minimise statement in accordance with Appendix 1D of the Assessor's Handbook (DELWP 2018).
- Address the Public Authority Duty under the FFG Act.
- Reflect the most current past permitted clearing information and associated updated Native Vegetation Removal report from DELWP.

Ecological values

Key ecological values and impacts identified within the study area are as follows:

- 1.225 hectares of native vegetation proposed for removal including eight large trees.
- Four patches of differing quality native vegetation within the Montane Damp Forest Ecological Vegetation Class EVC 38. Some areas have been cleared for an existing power line easement, and the entire site was affected by the 2003 Alpine Fires.
- Known or potential habitat for listed threatened species including:
  - Gang-gang Cockatoo *Callocephalon fimbriatum* (Endangered), Pilotbird *Pycnoptilus floccosus* (Vulnerable) and Mountain Skink *Liopholis montana* (Endangered) listed under the EPBC Act.
  - Little Eagle *Hieraaetus morphnoides* (Vulnerable), Powerful Owl *Ninox strenua* (Vulnerable), Dingo *Canis lupus* subsp. *dingo* (Vulnerable) and Tussock Skink *Pseudemoia pagenstecheri* (Endangered), listed under the FFG Act.

Government legislation and policy

An assessment of the project in relation to key biodiversity legislation and policy is provided and summarised below.

Legislation / policy	Relevant ecological feature on site	Permit / approval required	Notes
EPBC Act	Three EPBC Act listed threatened species are considered likely to occur within the study area. No EPBC Act listed ecological communities present within the study area.	Referral not considered necessary as significant impacts to Matters of National Environmental Significance considered unlikely.	The extent and nature of the impacts are not considered likely to trigger a significant impact on any Matters of National Environmental Significance. Significant Impact Criteria assessments completed for relevant species in Section 4.1.1.
FFG Act	Protected flora species recorded. Known or potential use of the study area by four FFG listed fauna species (Little Eagle, Powerful Owl, Dingo and Tussock Skink).	A Protected Flora Permit will be required. FCRM to consider obligations under the Public Authority Duty. Actions required to avoid and minimise impacts on listed species.	Study area occurs on Alpine Resort Crown land.
Planning & Environment Act	Native vegetation removal or disturbance required.	Planning permit required to remove, destroy or lop native vegetation.	Best practice environmental management on public land requires avoidance, minimisation and offsetting of native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines).*
CaLP Act	Regionally controlled weeds and pest animals have been recorded in the study area.	Not applicable.	Comply with requirements to control the growth and spread of pest species.

Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines)

Based on the current design, the new car park development will require the removal of 1.225 hectares of native vegetation, including eight large trees, from within Location 1. Therefore the planning permit application will be assessed on the detailed assessment pathway. The strategic biodiversity value score of the native vegetation to be removed is between 0.698 and 0.735 over multiple zones. Assessment of native vegetation removal has also considered past vegetation removal in the resort by FCRM over the last five years.

The steps that have been taken during the design of the carpark to ensure that impacts on biodiversity from the removal of native vegetation have been minimised include:

- Utilisation of existing cleared land beneath the power line easement to minimise vegetation clearance.
- Locating all site storage, stockpiles and vehicle parking on existing disturbed land.

If a permit is granted, the offset requirements would be 1.027 general habitat units. The general offset must be within the North East catchment management authority (CMA) area or the Falls Creek Alpine Resort municipal district, include eight large trees and must have a minimum strategic biodiversity value score of 0.584. Falls Creek Resort Management has a registered offset site within the Falls Creek Alpine Resort. A recent credit extract (provided 21 June 2022) indicates 21.792 general habitat units and 416 large trees are available, which will satisfy this project's offset requirements. Alternatively, the general offsets required by the proposed development could be purchased via third party credit trade.

Recommendations

This report identifies recommendations to assist FCRM to plan and complete the project in a way that reduces impacts on biodiversity. Actions to minimise impacts on native vegetation and threatened species habitat need to be considered at the design stage, and then mitigation measures will need to be implemented through a project Site Environmental Management Plan (SEMP).

Planning permit application requirements

Clause 52.17 of the Alpine Resorts Planning Scheme states that a permit is required to remove, destroy or lop native vegetation, including dead native vegetation. All applications to remove, destroy or lop native vegetation must comply with the application requirements in the Guidelines for the removal, destruction or lopping of native vegetation (as per Clause 52.17-2). The table below outlines how this report specifically addresses the requirements of the Guidelines for a detailed assessment pathway application.

Requirements	Proposal Response/Report Section
Information about native vegetation to be removed	
The assessment pathway and reason for the assessment pathway. This includes the location category of the native vegetation to be removed.	Detailed pathway due to >0.5 ha and eight large trees to be removed, see Section 5 and Appendix 3.
A description of the native vegetation to be removed that includes: • whether it is a patch or a scattered tree (or both) • the extent (in hectares) • the number and circumference (in centimetres measured at 1.3 metres above ground level) of any large trees within a patch • the number and circumference (in centimetres measured at 1.3 metres above ground level) of any scattered trees, and whether each tree is small or large • the strategic biodiversity value score • the condition score • if it includes endangered Ecological Vegetation Classes • if it includes sensitive wetland or coastal areas.	See results Section 3 for vegetation descriptions, condition and tree information Section 5 and Appendix 3 for other information.
Maps showing the native vegetation and property in context and containing: • scale, north point and property boundaries • location of any patches of native vegetation and the number of large trees within the patch proposed to be removed • location of scattered trees proposed to be removed, including their size.	See Figures 2 and 3.
The offset requirement, determined in accordance with section 5 of the Guidelines, which will apply if the native vegetation is approved to be removed.	See Section 5 and Appendix 3.
Topographic and land information	
Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan.	See Figure 1 that contains hydrology information and Figures 2 and 3 that contain 10 m contour interval information.
Photographs	
Recent, dated photographs of the native vegetation to be removed.	See Photos 1 to 4.
Past clearing	
Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five year period before the application for a permit is lodged.	Past removal of 2.405 ha within the resort by FCRM in the last five years, creating a total extent of removal (including past and present) of 3.631 ha.

Requirements	Proposal Response/Report Section
Avoid and minimise statement	
An avoid and minimise statement. The statement describes any efforts to avoid the removal of, and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value. The statement should include a description of the following: • Strategic level planning – any regional or landscape scale strategic planning process that the site has been subject to that avoided and minimised impacts on native vegetation across a region or landscape • That no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.	The steps that have been taken during the design of the development to ensure that impacts on biodiversity from the removal of native vegetation have been minimised include: • Avoiding higher quality areas of native vegetation, and locating the proposed car park in a more common forest EVC, Montane Damp Forest, which is classified as least concern. • Locating the proposed development and stock pile locations on existing disturbed land (power line easement) to minimise impacts to native vegetation. • Designing the proposed car park to avoid areas of high biodiversity value and higher sensitivity such as waterways and listed ecological communities.
Property vegetation plan	
A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the *Conservation, Forests and Lands Act 1987* that applies to the native vegetation to be removed.	Not applicable.
Defendable space	
Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.	Not applicable.
Native Vegetation Precinct Plan	
If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 8.	Not applicable, the application is under Clause 52.17.

Requirements	Proposal Response/Report Section
Offset statement	
An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified, and can be secured in accordance with the Guidelines. A suitable statement includes evidence that the required offset: is available to purchase from a third party, or • will be established as a new offset and has the agreement of the proposed offset provider, or • can be met by a first party offset.	Falls Creek Resort Management has a registered offset site within the Falls Creek Alpine Resort. A recent credit extract (provided 21 June 2022) indicates 21.792 general habitat units and 416 large trees are available, which will satisfy this project's offset requirements. Alternatively, the general offsets required by the proposed development could be purchased via third party credit trade.
Detailed assessment pathway application requirements	
A site assessment report of the native vegetation to be removed, including: • A habitat hectare assessment of any patches of native vegetation, including the condition. • Extent (in hectares), Ecological Vegetation Class and bioregional conservation status. • The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any large trees within patches. • The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any scattered trees, and whether each tree is small or large.	See Table 2 and Section 5.
Information about impacts on rare or threatened species habitat, including: • The relevant section of the Habitat importance map for each rare or threatened species requiring a species offset. • For each rare or threatened species that the native vegetation to be removed is habitat for, according to the Habitat importance maps: – The species' conservation status. – The proportional impact of the removal of native vegetation on the total habitat for that species. – Whether their habitats are highly localised habitats, dispersed habitats, or important areas of habitat within a dispersed species habitat. Note: A report from DELWP systems and tools contains information required to address this application requirement.	See Section 3 and Appendix 3 (NVRR).

1. Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Falls Creek Resort Management (FCRM) to undertake a flora and fauna assessment of an area of land known as Ropers Saddle, just south of Bogong High Plains Road. Construction of a carpark is proposed for the study area.

A planning permit application (PA1900694) for the project was submitted to the Department of Environment, Land, Water and Planning (DELWP). Offset requirements for the project detailed in the flora and fauna assessment report included 1.135 species habitat units for Shining Westringia *Westringia lucida* which, at the time of the planning permit application submission, were not available within any registered Victorian native vegetation offset site. DELWP issued a request for further information in relation to the availability of offsets (dated 28 October 2019) and the planning application did not progress.

This final version 02 report has been updated in September 2022 from final version 01 which was produced in 2019. This report has been updated to:

- Include updated database searches for threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Flora and Fauna Guarantee Act 1988* (FFG Act).
- Reflect amendments to the FFG Act legislation.
- Include likelihood of occurrence assessments for all EPBC Act and FFG Act threatened species recorded or predicted to occur within database search area.
- Include Significant Impact Criteria assessments for relevant EPBC Act-listed threatened species.
- Include a detailed avoid and minimise statement in accordance with Appendix 1D of the Assessor's Handbook (DELWP 2018)
- Address the Public Authority Duty.
- Reflect the most current past permitted clearing information and associated updated Native Vegetation Removal report from DELWP.

1.2 Scope of assessment

The objectives of this investigation are to:

- Describe the vascular flora (ferns, conifers, flowering plants) and vertebrate fauna (mammals, birds, reptiles, frogs, fishes).
- Map native vegetation and other habitat features.
- Conduct a vegetation quality assessment.
- Review the implications of relevant biodiversity legislation and policy, including Victoria's Guidelines for the removal, destruction or lopping of native vegetation ('the Guidelines').
- Identify potential implications of the proposed development and provide recommendations to assist with development design.
- Recommend any further assessments of the site that may be required (such as targeted searches for significant species).

1.3 Location of the study area

The study area, which consists of a 2.04 hectare area of land on Bogong High Plains Road, north of Falls Creek Village, is located entirely within the Falls Creek Alpine Resort in north east Victoria (Figure 1). It is currently zoned Public Park and Recreation Zone (PPRZ), and is covered by a Bushfire Management Overlay (BMO1) and an Erosion Management Overlay (EMO1).

The study area is within the:

- Victorian Alps Bioregion
- Kiewa River Basin
- Management area of the North East Catchment Management Authority
- Alpine Resorts Planning Scheme.

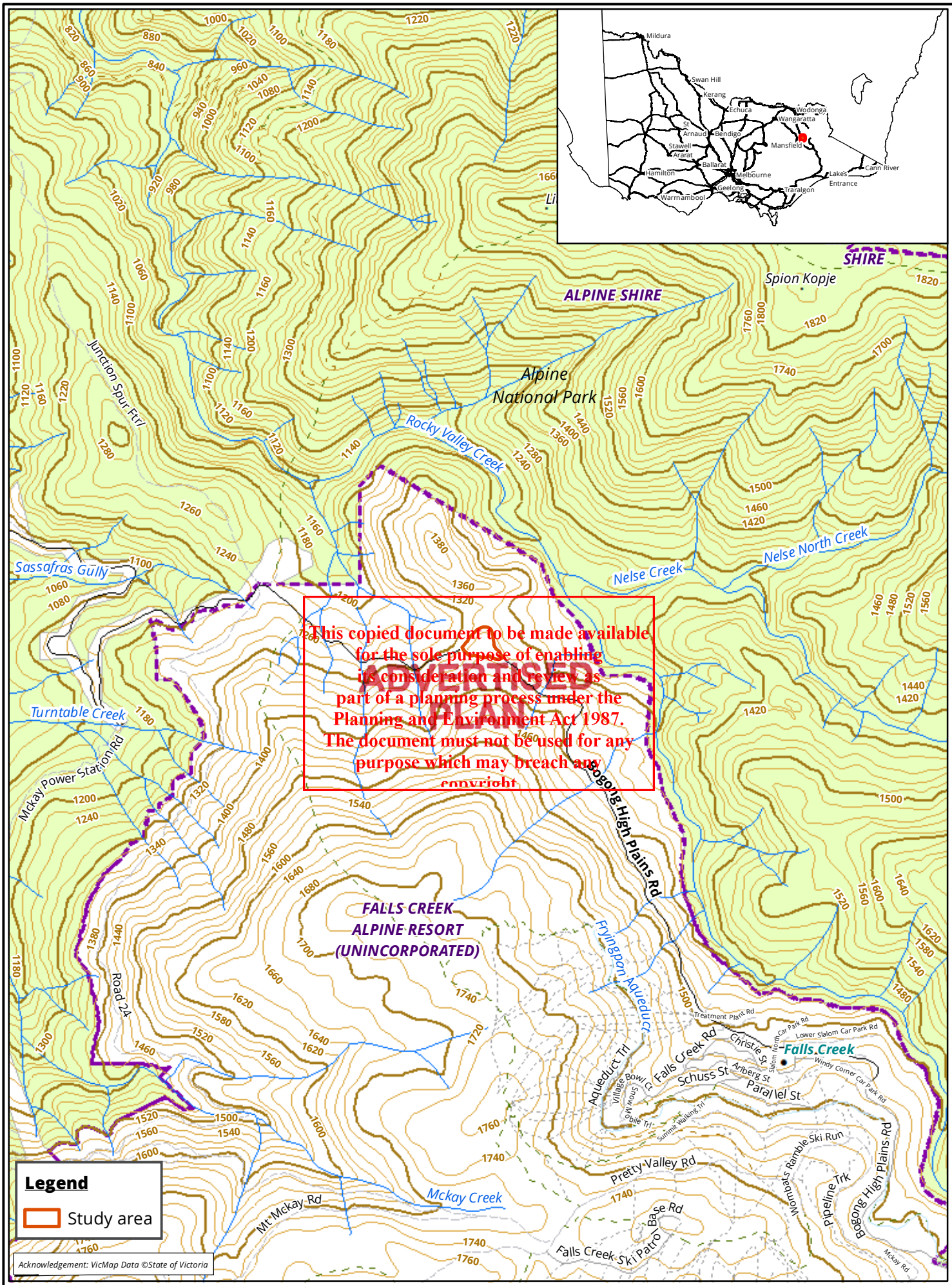


Figure 1 Location of the study area - Ropers Corner, Bogong High Plains Road, Falls Creek,

0 240 480 720 960 Metres

N

Scale 1:25,000 @ A4, GDA 1994 MGA Zone 55

biosis
Biosis Pty Ltd
Albury, Ballarat, Melbourne
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 29670,
Date: 21 May 2019,
Checked by: GZ, Drawn by: SKM, Last edited by: smitchell
Location:P:\29600s\29670\Mapping\29670_F1_Locality

2. Methods

2.1 Database review

In order to provide a context for the study area, information about flora and fauna from within 10 kilometres of the study area (the 'local area') was obtained from relevant biodiversity databases, many of which are maintained by the Victorian Government DELWP or the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW). Records from the following databases were collated and reviewed:

- DELWP's Victorian Biodiversity Atlas (VBA), including the 'VBA_FLORA25, FLORA100 & FLORA Restricted' and 'VBA_FAUNA25, FAUNA100 & FAUNA Restricted' datasets.
- DCCEEW's Protected Matters Search Tool for matters protected by the Commonwealth EPBC Act.

Other sources of biodiversity information were examined including:

- DELWP's NatureKit mapping tool.
- DELWP's Habitat Importance maps.
- BirdLife Australia for access to the New Atlas of Australian Birds 1998-2013.
- DELWP's Native Vegetation Information Management (NVIM) system.
- DELWP's Native Vegetation Transitional Guidance team was provided with site-based spatial information in order to generate a Native Vegetation Removal Report for the study area.
- Planning Scheme overlays relevant to biodiversity based on http://planningschemes.dpcd.vic.gov.au.

2.2 Definitions of significance

The significance of a species or ecological community is determined by its listing status under Commonwealth or State legislation / policy (Table 1).

Table 1 Conservation status of threatened species and ecological communities

National	Listed as nationally critically endangered, endangered or vulnerable under the EPBC Act
State	Listed as extinct, extinct in the wild, critically endangered, endangered, vulnerable or conservation dependent in Victoria under the FFG Act

Lists of significant species generated from the databases are provided in Appendix 1 (flora) and Appendix 2 (fauna) and the species have been assessed to determine their likelihood of occurrence based on the process outlined below.

2.3 Determining likelihood of occurrence of significant species

Likelihood of occurrence indicates the potential for a species or ecological community to occur regularly within the study area. It is based on expert opinion, information in relevant biodiversity databases and reports, and an assessment of the habitats on site. Likelihood of occurrence is ranked as negligible, low, medium, high or recorded. The rationale for the rank assigned is provided for each species in Appendix 1(flora) and Appendix 2 (fauna). Those species for which there is little or no suitable habitat within the study area are assigned a likelihood of low or negligible and are not considered further.

Only those species listed under the EPBC Act or listed as threatened under the FFG Act (hereafter referred to as 'listed species') are assessed to determine their likelihood of occurrence. The habitat value for species listed on the DELWP Advisory Lists is calculated by the Habitat Importance Modelling produced by DELWP (DELWP 2017). Where DELWP Advisory List species are recorded in the study area this is noted in Appendix 1(flora) and Appendix 2 (fauna).

Species which have at least medium likelihood of occurrence are given further consideration in this report. The need for targeted survey for these species is also considered.

2.4 Site investigation

2.4.1 Flora assessment

The flora assessment was undertaken by Matt Looby and Georgina Zacks on 11 April 2019 and a list of flora species was collected. This list will be submitted to DELWP for incorporation into the Victorian Biodiversity Atlas. Planted species have not been recorded unless they are naturalised.

Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses' (Clause 72).

The Guidelines classify native vegetation into two categories (DELWP 2017):

- A **patch** of native vegetation (measured in hectares) is either:
  - An area of native vegetation, with or without trees, where at least 25 percent of the total perennial understorey cover is native plants.
  - An area with three or more native canopy trees where the drip line (i.e. the outermost boundary of a tree canopy) of each tree touches the drip line of at least one other tree, forming a continuous canopy.
  - Any mapped wetland included in the *current wetlands map,* available in DELWP systems and tools.

Patch vegetation is classified into ecological vegetation classes (EVCs). An EVC contains one or more floristic (plant) communities, and represents a grouping of broadly similar environments. Definitions of EVCs and benchmarks (condition against which vegetation quality at the site can be compared) are determined by DELWP.

- A **scattered tree** is defined as a native canopy tree that does not form part of a patch of native vegetation.

A canopy tree is a mature tree that is greater than three metres in height and is normally found in the upper layer of a vegetation type. Ecological vegetation class descriptions provide a list of the typical canopy species. A scattered tree is defined as either small or large, and is determined using the large tree benchmark for the relevant EVC. The extent of a small scattered tree is the area of a circle with a 10 metre radius (i.e. 0.031 hectares), while the extent of a large scattered tree is a circle with a 15 metre radius (i.e. 0.070 hectares). A condition score is applied to each scattered tree based on information provided by DELWP's NVIM.

A Vegetation Quality Assessment (VQA) was undertaken for all patches of native vegetation identified in the study area. This assessment is consistent with DELWP's habitat hectare method (DSE 2004) and the Guidelines (DELWP 2017). For the purposes of this assessment the limit of the resolution for identification of a patch of native vegetation was taken to be 0.001 habitat hectares (Hha). That is, if a discrete patch native vegetation was present with sufficient cover but its condition and extent would not have resulted in the

identification of at least 0.001 habitat hectares, the vegetation patch of vegetation was not mapped or included in the assessment.

Species nomenclature for flora follows the Victorian Biodiversity Atlas (VBA).

2.4.2 Fauna assessment

A desktop fauna assessment was undertaken by a zoologist to assess the terrestrial fauna habitat values of the study area, which incorporated a review of relevant databases along with photographs and vegetation descriptions obtained during the flora assessment. Particular attention was given the determining the likelihood of threatened fauna species presence. A list of fauna species encountered incidentally during the flora assessment was obtained and is provided in Appendix 2. Fauna species were recorded with a view to characterising the values of the site and the investigation was not intended to provide a comprehensive survey of all fauna that has potential to utilise the site over time.

Fauna records will be submitted to DELWP for incorporation into the VBA.

2.4.3 Permits

Biosis undertakes flora and fauna assessments under the following permits and approvals:

- Research Permit/Management Authorisation and Permit to Take/Keep Protected Flora & Protected Fish issued by DELWP under the Victorian *Wildlife Act 1975*, *Flora and Fauna Guarantee Act 1988* (FFG Act), *National Parks Act 1975* and *Crown Land (Reserves) Act 1978* (Permit Number 10008711)
- Permit to catch and release fish issued by the Victorian Fisheries Authority under the Victorian *Fisheries Act 1995* (Permit Number RP 1220, Personal File Number 13041)
- Approvals 30.17 and 19.18 issued by the Wildlife and Small Institutions Animal Ethics Committee of the Victorian Government Department of Economic Development, Jobs, Transport and Resources (DEDJTR)
- Scientific Procedures Fieldwork Licence issued by DEDJTR's Wildlife and Small Institutions Animal Ethics Committee (Licence Number 20020).

2.5 Qualifications

Ecological surveys provide a sampling of flora and fauna at a given time and season. There are a number of reasons why not all species will be detected at a site during survey, such as low abundance, patchy distribution, species dormancy, seasonal conditions, and migration and breeding behaviours. In many cases these factors do not present a significant limitation to assessing the overall biodiversity values of a site.

The current assessment was conducted in mid-autumn, which is not an optimal time for survey within Victoria's alpine environments. As a result of surveying late in the growing season much of the flora had long finished flowering and setting seed making identification of some species difficult. However, this is not considered a significant limitation to the current survey.

Native Vegetation Removal Reports are prepared through DELWP's NVIM system or requested through DELWP's Native Vegetation Transitional Guidance team. Biosis supplies relevant site-based spatial information as inputs to DELWP and we are entirely reliant on DELWP's output reports for all assessment pathway applications. Biosis makes every effort to ensure site and spatial information entered into the NVIM, or supplied to DELWP, is an accurate reflection of proposed native vegetation removal. The Native Vegetation Removal Report can be viewed in Appendix 3.

2.6 Legislation and policy

The implications for the project were assessed in relation to key biodiversity legislation and policy including:

- Matters listed under the EPBC Act, associated policy statements, significant impacts guidelines, listing advice and key threatening processes
- Threatened taxa, communities and threatening processes listed under Section 10 of the FFG Act and associated action statements and listing advice
- Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017)
- *Planning and Environment Act 1987* – specifically Clauses 12.01-2, 52.17 and 66.02 and Overlays in the Alpine Resort Planning Scheme
- Noxious weeds and pest animals lists under the *Catchment and Land Protection Act 1994* (CaLP Act)

2.7 Mapping

Falls Creek Resort Management supplied site plans (FCRM77-102_105[C]). They also described the impact footprint related to the extent of earthworks required to construct the carpark and this was used to calculate vegetation removal.

Mapping was conducted using hand-held GPS-enabled tablets and aerial photo interpretation. The accuracy of this mapping is therefore subject to the accuracy of the tablets (generally ± 7 metres) and dependent on the limitations of aerial photo rectification and registration.

Mapping has been produced using a Geographic Information System (GIS). Electronic GIS files which contain our flora and fauna spatial data are available to incorporate into design concept plans. However this mapping may not be sufficiently precise for detailed design purposes.

3. Results

The general condition and ecological features of the study area are described below in Table 2 and mapped in Figure 2. Species recorded during the flora and fauna assessment are listed in Appendix 1 (flora) and Appendix 2 (fauna). Unless of particular note, these species are not discussed further. Those species recorded or predicted to occur in the local area is also provided in those appendices, along with an assessment of the likelihood of the species occurring within the study area.

3.1 Vegetation and fauna habitat

The area proposed for development of a car park is made up of Montane Damp Forest EVC 38, and much of the site is bordered by the Bogong High Plains Road. A power line easement runs through the centre of the study area, and much of the site was affected by the 2003 alpine fires. Evidence of herbicide spraying to kill native woody regrowth within the power line easement was observed. The study area contains a variety of resources for locally common fauna, including several hollow-bearing trees. The ecological features of the study area are mapped in Figure 2 and described in Table 2.

Table 2 Summary of vegetation and habitat types within the study area

Vegetation or habitat type	Description	Location	Significant values
Montane Damp Forest (EVC 38), fire-killed canopy **Plate 1**	**Structure:** Tall open forest to 50 m with dense regenerating understorey to 5 m with occasional ferns and grasses. **Character species**: Alpine Ash *Eucalyptus delegatensis* subsp. *delegatensis* with occasional Mountain Gum *Eucalyptus dalrympleana* subsp. *dalrympleana.* Dense regrowth of mid-storey shrub species Mountain Hickory Wattle *Acacia obliquinervia,* Hop Bitter-pea *Daviesia latifolia,* Alpine Podolobium *Podolobium alpestre,* Victorian Christmas-bush *Prostanthera lasianthos* and Rough Coprosma *Coprosma hirtella*. **Weeds**: Sheep's Sorrel *Acetosella vulgaris* and St John's Wort *Hypochaeris perforatum*. **Biodiversity Conservation Status (BCS)**: Least Concern **EVC Listed ecological Community**: No	HZ1: Up-slope of the power line easement, south of Bogong High Plains Road	Due to the intense fire that has passed through this area, fauna species present are likely to be restricted to those that are locally common, relatively mobile and are well-adapted to early post-fire succession and have recolonised from adjacent areas that are more intact. Dense regeneration of canopy trees provides foraging and nesting resources for small insectivorous birds such as thornbills and scrubwrens. Common reptile species may also be present, particularly where the loss of canopy has created additional opportunities for basking. Large old hollow-bearing trees and stags provide den sites for locally common fauna species including Mountain Brushtail Possum *Trichosurus cunninghami*. The FFG Act listed Powerful Owl *Ninox strenua* may utilise this vegetation for foraging, but the species is unlikely to nest in the study area, as it requires live hollow-bearing trees with suitable nearby roosting habitat. No additional threatened fauna species are likely to make significant use of this vegetation.
Montane Damp Forest (EVC 38), cleared **Plate 2**	**Structure**: Treeless due to removal for power line easement. Varies from grassy to shrubby and achieves up to 1.5 m height depending on slashing/poisoning frequency.	HZ2: Within the power line easement	The structure of this vegetation type varies from grassy with scattered shrubs to shrub-dominated. The regenerating Hop Bitter-pea has been killed with herbicide and now stands dead. There are limited opportunities for birds due to lack of tree canopy, however open-country birds such as

Vegetation or habitat type	Description	Location	Significant values
	Character species: Seedling regeneration of Hop Bitter-pea. Scattered to dense shrub layer of Dusty Daisy-bush *Olearia phlogopappa var. flavescens*, Bogong Daisy-bush *Olearia frostii*, Alpine Podolobium and Mountain Hickory Wattle. Variable grassy and herbaceous groundlayer of wallaby-grasses *Rytidosperma* spp., Ledge Grass *Poa hothamensis*, Slender Snow-daisy *Celmisia pugioniformis*, Pale Everlasting *Coronidium monticola*, Bidgee-widgee *Acaena novae-zelandiae* and Common Triggerplant *Stylidium graminifolium*. **Weeds**: Blackberry *Rubus anglocandicans*, Sheep's Sorrel, Spear Thistle *Cirsium vulgare*, Yorkshire Fog *Holcus lanatus* **BCS**: Least Concern **EVC Listed ecological Community**: No		Australasian Pipit *Anthus novaeseelandiae* are common in grassy areas. Some areas of coarse woody debris and limited scattered surface rock may provide habitat and basking areas for various locally common reptile species. FFG listed Tussock Skinks are likely to make significant use of this vegetation.
Montane Damp Forest (EVC 38), canopy absent **Plate 3**	**Structure**: Absence of canopy trees due to previous clearing (presumably for road works/power line easement). Dense regrowth of eucalypts and Mountain Hickory Wattle, Hop Bitter-pea, Alpine Podolobium, Victorian Christmas-bush and Rough Coprosma. **Weeds**: Sheep's Sorrel, St John's Wort **BCS**: Least Concern **EVC Listed ecological Community**: No	HZ3: Small patch adjacent to Bogong High Plains Road	The regenerating trees and shrubs, coarse woody debris and leaf litter provide habitat for insectivorous birds. Logs and other litter and debris provide shelter for reptiles, frogs and small mammals. However, the lack of large hollow bearing trees or food resources in the form of flowering eucalypts limits its value to fauna. No fauna species listed as threatened are likely to make significant use of this vegetation.

Vegetation or habitat type	Description	Location	Significant values
Montane Damp Forest (EVC 38), intact canopy **Plate 4**	**Structure**: Tall open forest to 50 m with live canopy trees that survived the 2003 fires. Dense understorey to 5 m, minimal understorey species and large amounts of organic litter. **Character species**: Alpine Ash with occasional Mountain Gum. Dense regrowth of mid-storey shrub species Mountain Hickory Wattle, Hop Bitter-pea, Alpine Podolobium and Rough Coprosma. **Weeds**: Sheep's Sorrell **BCS**: Least Concern **EVC Listed ecological Community**: No	HZ4: Small patch adjacent to Bogong High Plains Road	Intact Montane Damp Forest within the study area provides foraging and nesting resources for fauna. Flowering eucalypts provide food for nectar-feeding birds, such as honeyeaters. Trees, shrubs, coarse woody debris and leaf litter provide habitat for insectivorous birds such as White-browed Scrubwren *Sericornis frontalis*. Logs and other litter and debris provide shelter for reptiles, frogs and small mammals. The EPBC Act listed Gang-gang Cockatoo *Callocephalon fimbriatum* may make use of this vegetation for foraging, as a part of a broader home range. The FFG Act listed Powerful Owl *Ninox strenua* may also utilise this vegetation as part of a broader home range. No additional threatened fauna species are likely to make significant use of this vegetation.

Photo 1 Habitat Zone 1 Montane Damp Forest with fire killed canopy, looking south (photo taken 11 April 2019)

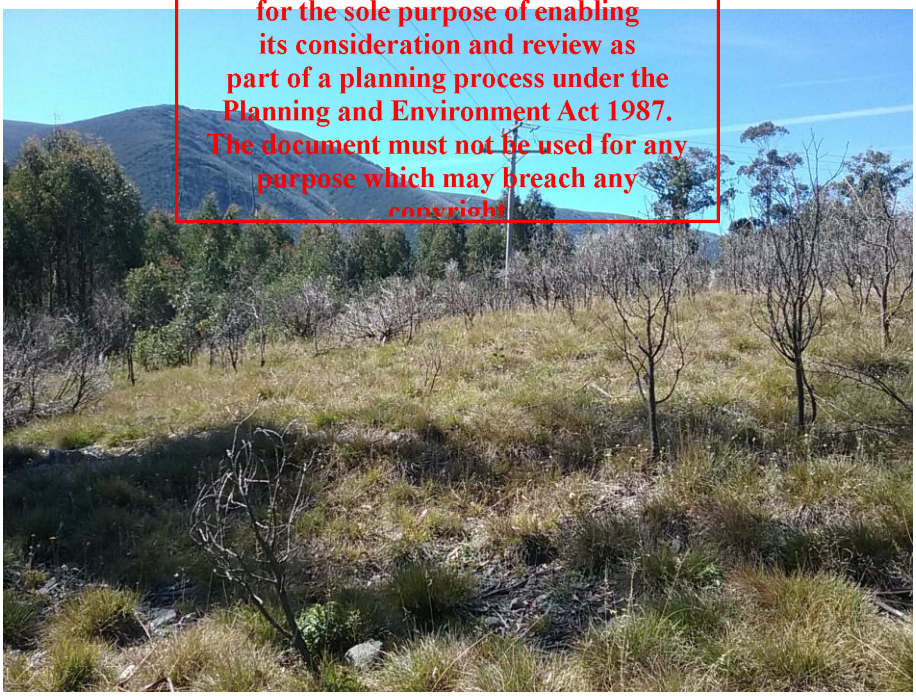


Photo 2 Habitat Zone 2 Cleared Montane Damp Forest within power line easement, looking east (photo taken 11 April 2019)

Photo 3 Habitat Zone 3 Montane Damp Forest with cleared overstorey, looking north-east (photo taken 11 April 2019)

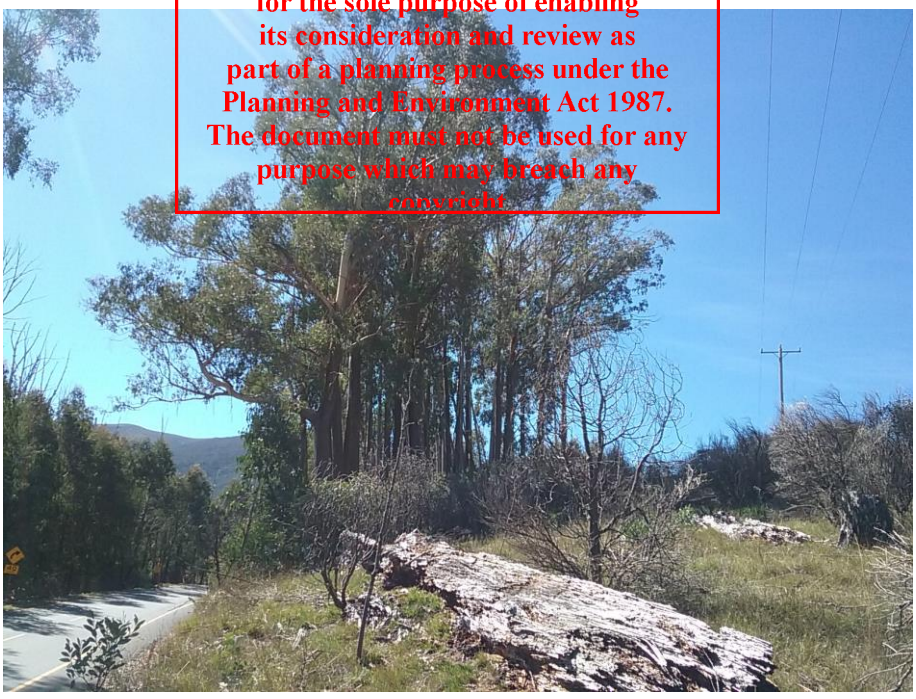


Photo 4 Habitat Zone 4 Montane Damp Forest within intact canopy, looking east (photo taken 11 April 2019)

3.2 Landscape context

The study area supports Montane Damp Forest contiguous with similar vegetation in the Alpine National Park. The study area has been subject to various disturbances and land uses described above and these have resulted in a mosaic of disturbed areas, regenerating and intact native vegetation.

3.3 Significant species and ecological communities

3.3.1 EPBC Act and FFG Act listed species

Lists of EPBC Act and FFG Act listed species recorded or predicted to occur within 10 kilometres of the study area or from the relevant catchment (aquatic species) are provided in Appendix 1 (flora) and Appendix 2 (fauna). An assessment of the likelihood of these species occurring in the study area and an indication of where within the site (i.e. which habitats or features of relevance to the species) is included.

Gang-gang Cockatoo *Callocephalon fimbriatum*, listed as endangered under the EPBC Act, has been recorded in the study area. The species uses mature eucalypts for foraging and is dependant on areas with abundance hollow-bearing trees for nesting and breeding. The species is considered unlikely to nest within the study area due to lack of suitable features as a result of previous disturbance and wildfire. Significant impacts to the species are considered under section 4.1.1.

Pilotbird *Pycnoptilus floccosus*, listed as vulnerable under the EPBC Act, has a high likelihood of occurrence within the study area, but the extent and availability of suitable habitat such as dense understory and groundcover comprising litter and debris, the site is unlikely to provide suitable breeding habitat. The area may occasionally be used for foraging as a part of a broader home range. Significant impacts to the species are considered under section 4.1.1.

Mountain Skink *Liopholis montana*, listed as endangered under the EPBC Act, has a medium likelihood of occurrence within the study area. They occur in fragmented populations at high elevations throughout the montane and subalpine areas in the north-east. The species constructs borrow networks beneath rocks and occupies habitats with granite and basalt boulders, rocks, slabs, rock screes or tors which provides refuge from extreme weather and predators. The general disturbance and limited suitable habitat features within the study area suggest they are unlikely to occur. Significant impacts to the species are considered under section 4.1.1.

Tussock Skink *Pseudemoia pagenstecheri* listed as vulnerable under the FFG Act, has been recorded in the study area and are likely to regularly use the area for foraging and breeding.

Powerful Owl and Little Eagle *Hieraaetus morphnoides*, both listed as vulnerable under the FFG Act, have a medium or higher likelihood of occurrence within the study area. These species have been recorded in contiguous forest at lower elevations. These species may utilise habitat within the study area for foraging within a broader home range, but are considered unlikely to nest within the study area due to lack of suitable features as a result of previous disturbance and wildfire.

The Dingo, listed as vulnerable under the FFG Act, also has a high likelihood of occurrence within the study area. Dingoes are a highly mobile species and are known to utilise roads as movement corridors (DEPI 2013b). The study area does not contain den habitat, and the proposed car park development will not have any impact on the local population.

No additional threatened species listed under the EPBC Act or FFG Act are considered likely to occur within the study area.

3.3.2 Other species

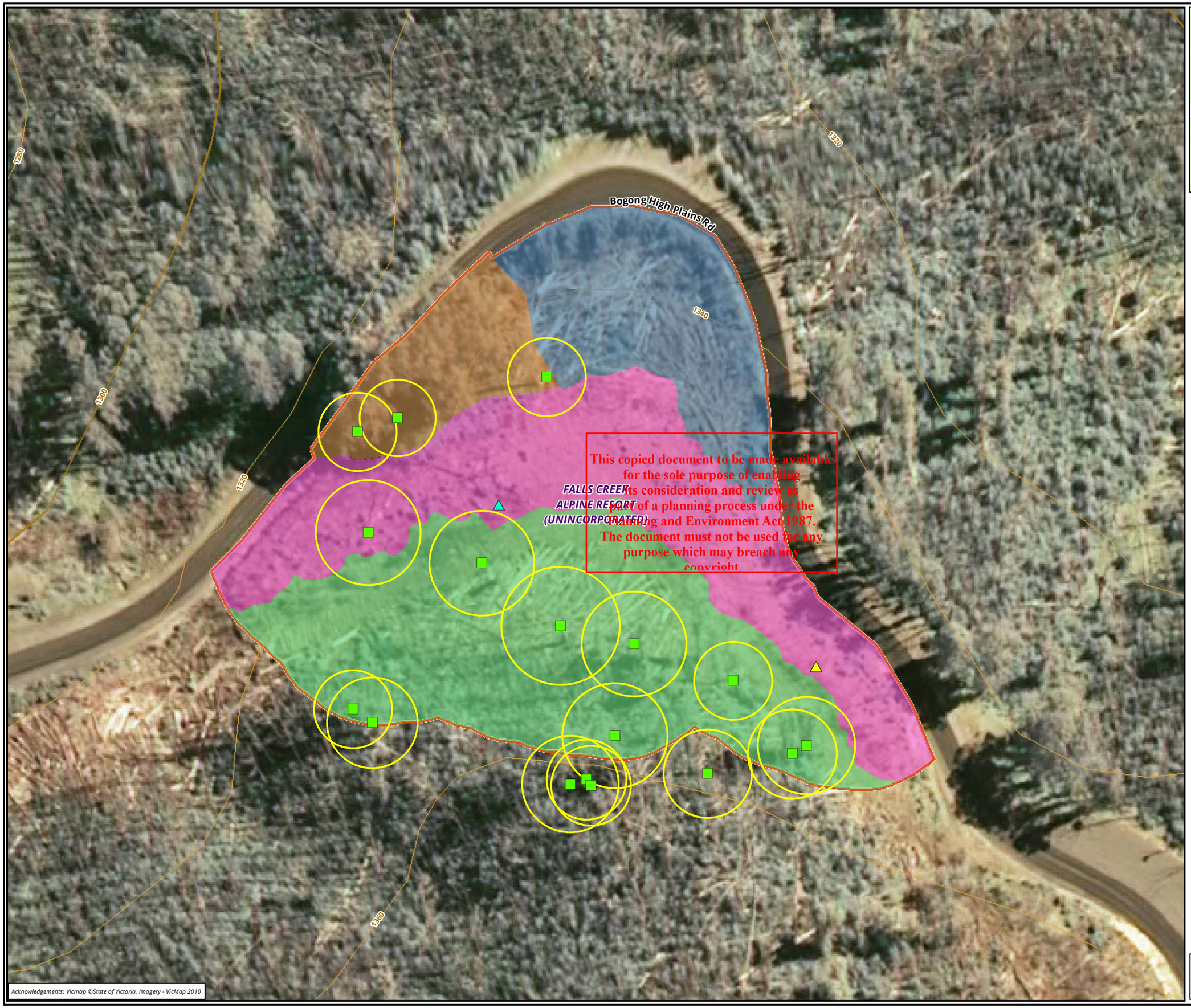
The study area and broader database search area contains records of numerous (166) FFG Act listed flora species, the majority of which were listed as DELWP Advisory list species until the recent changes to the FFG Act. The majority of these species are either located outside of the Falls Creek Resort boundaries, i.e. are Bogong High Plains endemics, or are locally common sub-alpine species. These locally common species are geographically restricted due to their occurrence in the Australian Alps and are thus considered rare at a state level, but are regionally common species that in some instances make up the majority of species in the mid- and understorey. We have excluded these species from the remainder of this report and focused on flora species that are perceived to be threatened at the local scale.

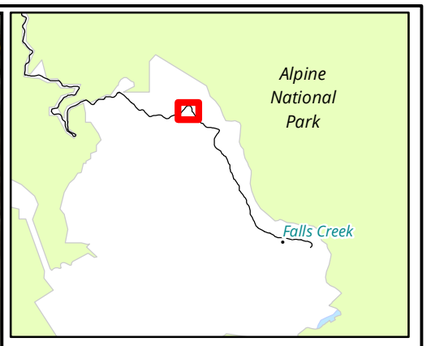
3.3.3 Significant ecological communities

No threatened ecological communities were recorded in the study area.

3.4 Further survey recommendations

The current assessment is considered sufficient to identify the ecological values of the study area and no further survey is required.





Legend

- Study area

Montane Damp Forest (VAlp0038)

- Habitat Zone 1
- Habitat Zone 2
- Habitat Zone 3
- Habitat Zone 4
- Tree protection zone
- Large old tree

Weeds

- Spear Thistle
- Common Blackberry

Figure 2 Ecological features of the study area

0 10 20 30 40 50

Metres
Scale: 1:1,000 @ A3
Coordinate System: GDA 1994 MGA Zone 55

N

biosis

Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 29670,
Date: 21 May 2019,
Checked by: GZ, Drawn by: SKM, Last edited by: smitchell
Location: P:\29600s\29670\Mapping\
29670_F2_EcoFeatures.mxd

4. Biodiversity legislation and government policy

This section provides an assessment of the project in relation to key biodiversity legislation and government policy. This section does not describe the legislation and policy in detail. Where available, links to further information are provided.

4.1 Commonwealth

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (MNES) protected under the Act.

Link for further information including a guide to the referral process is available at: http://www.environment.gov.au/epbc/index.html.

MNES relevant to the project are summarised in Table 3. It includes an assessment against the EPBC Act policy statements published by the Australian Government which provide guidance on the practical application of EPBC Act.

Table 3 Assessment of project in relation to the EPBC Act

MNES	Project specifics	Assessment against significant impact guidelines
Threatened species and ecological communities	Twenty-seven fauna and twelve flora species have been recorded or predicted to occur in the project search area. The likelihood of these species occurring in the study area is assessed in Appendix 1 (flora) and Appendix 2 (fauna).	One listed fauna species was recorded within the study area (Gang-gang Cockatoo) and two have potential habitat (Pilotbird and Mountain Skink). Significant Impact Criteria assessments in accordance with *Significant impact guidelines 1.1* (CoA 2013) have been completed below for these three species. The remaining threatened species and communities are not likely to occur and development is unlikely to constitute a significant impact.
Migratory species	Twelve migratory species have been recorded or predicted to occur in the project search area (Appendix 2).	While some of these species would be expected to use the study area on occasions, and some of them may do so regularly, it does not provide important habitat for an ecologically significant proportion of any of these species.
Wetlands of international importance (Ramsar sites).	The study area is identified as being within the catchment of seven Ramsar sites: Banrock Station Wetland Complex; Barmah Forest; Coorong and Lakes Alexandrina and Albert; Gunbower Forest, NSW Central Murray State Forests, Hattah-Kulkyne Lakes and Riverland.	The study area drains into two of these Ramsar sites, but the closest (Barmah Forest) is located over 200 kilometres downstream of the study area and the potential for the development to have a significant impact on it is considered to be negligible.

Gang-gang Cockatoo *Callocephalon fimbriatum*

Gang-gang Cockatoo was recently listed (March 2022) as endangered under the EPBC Act due to significant and ongoing population decline, largely due to the widespread bushfires in 2019/2020. The species is endemic throughout south-eastern Australia, and in Victorian is widespread throughout north-east and southern regions particularly in east Melbourne, Mornington Peninsula, and south-western Gippsland.

The species habitat is primarily restricted to eucalypt forests and woodlands but exhibit some seasonal variation in habitat preferences. During summer months, Gang-gang Cockatoos prefer eucalypt dominant, mature wet forests, and are more abundant in habitats with dense native understorey. During winter months, they are more common across woodlands at lower, drier altitudes, although Gang-gang Cockatoos are wide ranging and can occur throughout parks, gardens and roadside vegetation. The species feeds primarily on flowers, fruits and seeds from native or introduced species. Nesting occurs in hollow-bearing trees, often near water (DAWE 2022a).

Significant impact assessment

Gang-gang Cockatoo were recorded study area. An assessment and justification of potential significant impacts to the species is provided in Table 4.

Table 4 Gang-gang Cockatoo – self-assessment against significant impact criteria (CoA 2013)

Significant Impact Criteria	Likelihood of significant impact	Justification
Lead to a long-term decrease in the size of a population	Unlikely	Gang-gang Cockatoo have been recently recorded in the study area. However, the removal of 1.225ha of vegetation, including eight large trees (two of which are stumps), is unlikely to lead to a long-term decrease in the size of a population of Gang-gang Cockatoo.
Reduce the area of occupancy of the species	Unlikely	The proposed works are considered to reduce the area of occupancy for the species, due to the removal of habitat which the species was recorded in. However, Gang-gang Cockatoos are wide ranging and typically altitudinal migrants, using various habitat throughout the landscape. Whilst the species may occasionally occupy the site, the works are unlikely to reduce their area of occupancy to the extent that their habitat will be significantly impacted in the context of the landscape and surrounding vegetation. The species will continue to occur in the local area and utilise foraging habitat adjacent to the study area.
Fragment an existing population into two or more populations	Unlikely	Gang-gang Cockatoos are capable of dispersing between summer habitat in the Australian alpine area and winter habitat at lower elevations (DAWE 2022a). It is also capable of dispersing and foraging within urban environments. The proposed vegetation removal will not act as a barrier to this highly mobile species, nor will it result in population or habitat fragmentation.

Significant Impact Criteria	Likelihood of significant impact	Justification
Adversely affect habitat critical to the survival of the species	Unlikely	Habitat critical to the survival of the Gang-gang Cockatoo is defined by DAWE (2022a) as all foraging habitat during both the breeding and non-breeding seasons, excluding introduced trees and shrubs. Hollow-bearing trees containing suitable nesting hollows are also defined as habitat critical to the survival of the species. Whilst the proposed vegetation removal may include a small extent of such 'critical habitat' as it includes eight large trees (two of which are large burnt stumps) and vegetation that may provide some foraging or roosting opportunity, the impacts are unlikely to be *adverse*. The habitat definition provided above from DAWE (2022a) is very broad and realistically could encompass any suitable forest/woodland habitat in south-eastern Australia. The magnitude and scale of impacts is not considered significantly adverse to the point where it would compromise the survival of this species at the local, regional or National scale.
Disrupt the breeding cycle of a population	Unlikely	The study area contains very limited breeding habitat for Gang-Gang Cockatoo, which are dependent on mature hollow-bearing trees. Given the previous disturbance evident within the study area, the works are unlikely to disrupt the breeding cycle of the local population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	The works are not considered to be of a magnitude great enough to decrease the availability or quality of habitat to the extent that the species is likely to decline.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	Unlikely	Feral animals and plants are known to be established in the study area. Some of these are known to potentially negatively impact Gang-gang, such as foxes. Feral cats may also be present. However it is unlikely that the works would result in the establishment of new species. The proposed action is unlikely to exacerbate the current level of invasive species threat operating within the study area.
Introduce disease that may cause the species to decline	Unlikely	Psittacine beak and feather disease (PBFD) is known to impact Gang-gang Cockatoo and is generally transmitted via contact with infected birds or water sources. It is unlikely that construction activities would exacerbate or introduce this disease into the area.

Significant Impact Criteria	Likelihood of significant impact	Justification
Interfere with the recovery of a species	Unlikely	DAWE (2022a) contains several recovery items aimed at halting the decline of Gang-gang Cockatoo. The scale and type of disturbance proposed is highly unlikely to interfere substantially with the recovery of the species.

Pilotbird *Pycnoptilus floccosus*

Pilotbird is listed as vulnerable under the EPBC Act due to significant population decline over the last 11 years, with recent declines attributed to the widespread bushfires in 2019/2020. In Victoria, the Upland Pilotbird subspecies occurs above 600 metres elevation in the north-east. They can occur across a variety of wet and dry sclerophyll forests, in temperate zones or in woodlands on dry slopes and ridges. The species is ground-dwelling and is reliant on dense forests with heavy undergrowth, usually present in pairs or small groups. Pilotbirds forage for insects and occasionally seeds or fruits on damp ground or in leaf litter.

Significant impact assessment

Pilotbird were assessed as a high likelihood of occurring within the study area. An assessment and justification of potential significant impacts to the species is provided in Table 5.

Table 5 Pilotbird -self- assessment against significant impact criteria (CoA 2013)

Significant Impact Criteria	Likelihood of significant impact	Justification
Lead to a long-term decrease in the size of an important population	Unlikely	It is unknown whether the species currently uses vegetation within the study area, with the species last recorded in the local area in 1998. The regenerating shrub and understorey layer may provide some suitable

Significant Impact Criteria	Likelihood of significant impact	Justification
Reduce the area of occupancy of an important population	Unlikely	habitat for foraging, if Pilotbird are present in the area. The lack of dense understorey and shrub cover throughout most of the study area suggests that it is unlikely to provide nesting habitat or support an important population. An 'important population' is defined as a population that is necessary for a species' long-term survival and recovery. The existing modification of roads on the eastern and western boundaries combined with the historical burning of vegetation in the study area suggest that it is unlikely to provide habitat necessary for the species long-term survival. Whist the area has been disturbed from fire and clearing for power lines, the area is in a successional state and has the potential to develop suitable vegetation structure in the future. However, even if the disturbed sections of the study area become suitable for the species to occupy, the area is unlikely to support an important population. The removal of vegetation that may occasionally be used for foraging or dispersal is unlikely to lead to a long-term decrease in the size or area of occupancy of an important population.
Fragment an existing important population into two or more populations	Unlikely	The study area is unlikely to support an important population. If the species uses vegetation in the study area on occasion, the project is unlikely to result in the fragmentation of populations. Bogong High Plains Road borders the eastern and western boundaries of the study area, and only a small patch of vegetation to the south is likely to currently support habitat of suitable structure, which is connected to the broader forested area.

Significant Impact Criteria	Likelihood of significant impact	Justification
Adversely affect habitat critical to the survival of the species	Unlikely	Habitat critical to the survival of Pilotbird is defined by DAWE (2022b) as breeding or foraging habitat in areas where the species is known or likely to occur. The area is unlikely to be used for breeding in its existing condition due to the lack of understorey comprising dense shrubs, debris and litter. A small extent of the intact Montane Damp Forest may provide suitable foraging habitat, however the limited extent of proposed vegetation removal is unlikely to result in adverse impacts. The magnitude and scale of impacts is not considered significantly adverse to the point where it would compromise the survival of this species at the local, regional or National scale.
Disrupt the breeding cycle of an important population	Unlikely	The existing modification of roads on the eastern and western boundaries combined with the historical burning of vegetation in the study area suggest that it is unlikely to provide habitat necessary for the species long-term survival. The study area is unlikely to support an important population even in the case that the burnt areas are left to recover and reach maturity, therefore the breeding cycle of an important population is unlikely to be disrupted.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	The works are not considered to be of a magnitude great enough to decrease the availability or quality of habitat to the extent that the species is likely to decline.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Unlikely	Feral animals and plants are known to be established in the study area. Some of these are known to negatively impact Pilotbirds, including foxes and feral cats which are likely to be present. However, it is unlikely that the works would result in the establishment of new species. The proposed action is unlikely to exacerbate the current level of invasive species threat operating within the study area.
Introduce disease that may cause the species to decline	Unlikely	It is considered highly unlikely that the proposed works will introduce disease that may cause the species to decline.

Significant Impact Criteria	Likelihood of significant impact	Justification
Interfere substantially with the recovery of a species	Unlikely	The site does not contain a currently known population and is not subject to any population monitoring or species recovery activities, however the site contains a small extent of potentially suitable habitat. DAWE (2022b) identifies ongoing clearing of native vegetation and inappropriate forest management as a threat to the species. The proposed works are not considered to be of a magnitude great enough to decrease the availability or quality of habitat to the extent that the species recovery may be substantially interfered with.

Mountain Skink *Liopholis montana*

Mountain Skink is listed as endangered under the EPBC Act due to population declines resulting primarily from severe fragmentation, ongoing loss and degradation of habitat. Populations are fragmented throughout its range, which in Victoria occur at high elevations throughout the montane and subalpine areas in the north-east. The species constructs borrow networks beneath rocks and occupies habitats with granite and basalt boulders, rocks, slabs, rock screes or tors which provides refuge from extreme weather and predators. The nearest known population to the study area occurs at Mount Bogong.

Significant impact assessment

Mountain Skink were assessed as a medium likelihood of occurring within the study area. An assessment and justification of potential significant impacts to the species is provided in Table 6.

Table 6 Mountain Skink – self-assessment against significant impact criteria (CoA 2013)

Significant Impact Criteria	Likelihood of significant impact	Justification
Lead to a long-term decrease in the size of a population	Unlikely	It is not currently known whether the species is present within the study area, however some suitable habitat may be present and proposed to be impacted. Due to the modified nature of the study area from historical fire and the limited presence of important habitat features such as boulders, rocks and other refuges, it is unlikely that the proposed works will decrease the area of occupancy of the population to the extent that a long-term decline will occur.
Reduce the area of occupancy of the species	Unlikely	
Fragment an existing population into two or more populations	Unlikely	The proposed works occur next to a road along the western and eastern boundaries, and a proportion of the study area is disturbed from burning. While it is unknown whether the species occurs within the study area, the position of the works in the broader landscape suggest that the works would be unlikely to fragment a population into two or more populations.
Adversely affect habitat critical to the survival of the species	Unlikely	The Conservation Advice provided by DAWE (2022c) does not explicitly define habitat critical to the survival of the species. Within known populations, the species appears to be occurring in fragmented colonies each consisting of only one or two warrens with small numbers of individuals. As such, critical habitat may be any suitable habitat where the species occurs or can occur. However, if the species is present, the study area is unlikely to provide a sufficient extent of critical habitat features such as boulders, rocks and other refuges to be crucial to the survival of the species.

Significant Impact Criteria	Likelihood of significant impact	Justification
Disrupt the breeding cycle of a population	Unlikely	If the species is present within or adjacent to the study area, the proposed works are unlikely to disrupt the breeding cycle of a population due to the limited and minimal extent of suitable habitat features, which suggest that the area is unlikely to support breeding populations.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	Potentially suitable habitat is present and proposed to be impacted by the works. Due to the existing modification in the area and disturbance from clearing and fire, it is considered unlikely that the proposed works will result in species decline, if present.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	Unlikely	Feral animals and plants are known to be established in the study area. Some of these are known to negatively impact Mountain Skinks, including foxes and feral cats which are likely to be present. However, it is unlikely that the works would result in the establishment of new species. The proposed action is unlikely to exacerbate the current level of invasive species threat operating within the study area.
Introduce disease that may cause the species to decline	Unlikely	It is considered unlikely that the proposed works will introduce disease that may cause the species to decline.

Significant Impact Criteria	Likelihood of significant impact	Justification
Interfere with the recovery of a species	Unlikely	The site does not contain a currently known population and is not subject to any population monitoring or species recovery activities, however the site is within the species potential range and it is currently unknown whether a population is present. The species has been assessed as not requiring a recovery plan, and that management of key threats can be sufficiently guided through the Conservation Advice (DAWE 2022c). Priority conservation management actions outlined to mitigate the species key threats include ensuring logging activities and planned burns avoid and protect Mountain Skink habitat. The species is also threatened by climate change and associated increases in wildfire frequency. DAWE (2022c) have outlined targeted surveys commenced in 2021 to improve understanding of the species status, distribution, habitat preferences, ecology and management needs, prioritising fire affected regions within their known distribution. The proposed works are unlikely to interfere with the management of logging and burning activities. Mountain Skinks have poor dispersal ability, and it is suggested that recolonisation of sites following disturbance is unlikely. Given the past disturbance of the site, the proposed works are considered unlikely to interfere with the recovery of the species.

4.1.2 Conclusion: Impacts on Matters of National Environmental Significance

Based on an assessment against the relevant significant impact criteria for the endangered Gang-gang Cockatoo, the habitat removal is not considered significantly adverse to the point where it would compromise the survival of this species at the local, regional or National scale. Significant impacts to Pilotbird are also considered unlikely, given the past disturbance of area and limited extent of suitable preferred habitat. In the instance that recently burnt/sprayed areas are successfully re-established, the site may be occasionally used for foraging but is unlikely to be critical for the species long-term survival and recovery. Suitable habitat for Mountain Skink is likely to be limited, given their dependence on features such as boulders, rocks and other refuges. Coupled with the evidence of disturbance at the site, significant impacts to the species are also considered unlikely.

On the basis of criteria outlined in the relevant *Significant Impact Guidelines* it is considered unlikely that a significant impact on a Matter of National Environmental Significance would result from the proposed action. Referral of the proposed action to the Australian Government Minister for the Environment to determine whether the action requires approval under the EPBC Act is therefore unlikely to be required.

4.2 State

4.2.1 Flora and Fauna Guarantee Act 1988 (FFG Act)

The FFG Act is the key piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes. Under the FFG Act a permit is required from DELWP to 'take' protected flora species from public land. A permit is generally not required for removal of protected flora from private land. Authorisation under the FFG Act is required to collect, kill, injure or disturb listed fish.

Link for further information: http://www.depi.vic.gov.au/environment-and-wildlife/threatened-species-and-communities/flora-and-fauna-guarantee-act-1988.

The FFG Act defines public land as *Crown land or land owned by, or vested in, a public authority,* while private land is defined as *any land other than public land.* A public authority is defined in the FFG Act as a body established for a public purpose by or under any Act and includes:

- an Administrative Office
- a Government Department
- a municipal council
- a public entity
- a State-owned enterprise.

The study area is on Crown Land or land owned by or vested in a public authority (Falls Creek Resort Management Board), and is therefore public land for the purposes of the FFG Act. Eleven protected flora species were recorded (Appendix 1), and a protected flora permit from DELWP would be required if any of these species will be affected by the proposal.

One FFG Act listed species, Tussock Skink, has been recently recorded in the study area and was recorded during the field assessment. Additionally, three FFG Act listed threatened species, Little Eagle, Powerful Owl and Dingo, have been identified as having potential to utilise habitat within the study area, however the land is not declared 'critical habitat' for the purposes of the FFG Act.

In addition to the requirement for a protected flora permit, it is a requirement of the FFG Act that a public authority, in performing its functions, must consider the objectives of the FFG Act and the impact on biodiversity. Public authorities are also required to consider the Biodiversity 2037 targets (DELWP 2017b), action statements, critical habitat determinations and management plans made under the FFG Act.

Falls Creek Resort Management should engage with DELWP to identify what is required of them to satisfy their Public Authority Duty for the proposed works, as Ministerial guidelines that outline these responsibilities are still in development. The presence of Tussock Skink should be highlighted, given the potential for death of listed fauna as a result of the project. Additional matters are also specified by DELWP to be considered to clarify the objectives of the Public Authority Duty, including the Biodiversity Strategy, relevant action statements, management plans or critical habitat determinations.

A consideration of the public authority duty is included in Table 7 (DELWP 2021).

Table 7 Public authority duty consideration of impact on biodiversity (DELWP 2021)

Impact on biodiversity	Response
Long and short-term impacts	Short-term impacts that could arise from the proposed development include: • Temporary noise disturbance during construction. • Potential for death of individual fauna species during construction. • Potential for indirect impacts during construction such as sediment run-off and erosion (although this will be managed by the project SEMP). Long-term impacts that could arise from the proposed development include: • Reduction in extent and quality of available habitat. • Increased levels of disturbance due to increased traffic and human presence in the area.
Beneficial and detrimental impacts	Detrimental impacts include: • Removal of habitat and reduction in remaining habitat quality.
Direct and indirect impacts	Direct impacts include: • Removal of potential habitat for FFG listed species. Indirect impacts include: • Invasion of pest plants. • Increased sediment run-off and erosion (although this will be managed by the project SEMP).
Cumulative impacts	The cumulative extent of clearing within the Falls Creek resort area within the last five years equates to 2.405 hectares of native vegetation removal using the past clearing cumulative impact approach of the Guidelines.
The impacts of potentially threatening processes	Potentially threatening process already operating in the broader area (not specific to the project) include: • Alteration to the natural flow regimes of rover and streams • Alteration to the natural temperature regimes of rivers and streams • Habitat fragmentation as a threatening process for fauna in Victoria. • High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition. • Introduction of live fish into waters outside their natural range within a Victorian river catchment after 1770. • Invasion of native vegetation by Blackberry *Rubus fruticosus* L. agg • Invasion of native vegetation by 'environmental weeds'. • Predation of native wildlife by the cat, *Felis catus*. • Predation of native wildlife by the introduced Red Fox *Vulpes vulpes*. • Prevention of passage of aquatic biota as a result of the presence of instream structures. • Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases. • Reduction in biodiversity of native vegetation by Sambar (*Cervus unicolor*). • Reduction in biomass and biodiversity of native vegetation through grazing by the Rabbit *Oryctolagus cuniculus*.

4.2.2 Catchment and Land Protection Act 1994 (CaLP Act)

The CaLP Act identifies and classifies certain species as noxious weeds or pest animals, and provides a system of controls on noxious species.

Declared noxious weeds identified in the study area are listed in Appendix 1.

As the land manager, FCRM must take all reasonable steps to eradicate regionally prohibited weeds, prevent the growth and spread of regionally controlled weeds, and prevent the spread of and as far as possible eradicate established pest animals. The State is responsible for eradicating State prohibited weeds from all land in Victoria.

Link for further information: http://www.depi.vic.gov.au/agriculture-and-food/pests-diseases-and-weeds/protecting-victoria-from-pest-animals-and-weeds/legislation-policy-and-permits/legislation.

4.2.3 Planning and Environment Act 1987 (incl. Planning Schemes)

The *Planning and Environment Act 1987* controls the planning and development of land in Victoria, and provides for the development of planning schemes for all municipalities.

Of particular relevance to the development proposal are controls relating to the removal, destruction or lopping of native vegetation contained within the Alpine Resorts Planning Scheme (the Scheme), including permit requirements. The Scheme (Clause 72) defines 'native vegetation' as 'Plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'. It is an objective of Clause 12.01-2 of the State Planning Policy Framework (Native Vegetation Management) that removal of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity.

Clause 52.17 (Native Vegetation) requires a planning permit to remove, destroy or lop native vegetation including some dead native vegetation. It should be noted that where native vegetation does not meet the definition of a patch or scattered tree, as described in Section 3.1, the Guidelines do not apply. However, a permit may still be required to remove, destroy or lop native vegetation under the provisions of the Scheme.

Under Clause 66.02 a permit application to remove, destroy or lop native vegetation is required to be referred to DELWP as a recommending referral authority if any of the following apply:

- the class of application is on the detailed assessment pathway
- a property vegetation precinct plan applies to the site or
- the native vegetation is on Crown land occupied or managed by the Responsible Authority.

Other planning permit triggers (other than Clause 52.17) for native vegetation removal and referral under the Alpine Resorts Planning Scheme relevant to this project include:

- The Erosion Management Overlay covering all Alpine Resorts triggering a permit requirement for all vegetation removal, unless deemed exempt.

Victoria's Guidelines for the removal, destruction or lopping of native vegetation

The Guidelines are incorporated into the Victoria Planning Provisions and all planning schemes in Victoria (DELWP 2017). The Guidelines replaced the previous incorporated document titled *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (DEPI 2013a) on 12 December 2017.

The purpose of the Guidelines is to guide how impacts to biodiversity should be considered when assessing a permit application to remove, destroy or lop native vegetation. The objective for the guidelines in Victoria is 'No net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'.

A detailed assessment of the implications for the project under the Guidelines is provided in Section 5 of this report. Under the Guidelines, there are three assessment pathways for assessing an application for a permit to remove native vegetation: basic, intermediate and detailed.

A detailed determination of the assessment pathway for the planning application relevant to the proposed development is provided in Section 5.2. In summary, the planning application for removal of native vegetation must meet the requirements of, and be assessed in, the detailed assessment pathway.

5. Victoria's Guidelines for the removal, destruction or lopping of native vegetation

The Guidelines were introduced in December 2017. They set out and describe the application of Victoria's statewide policy in relation to assessing and compensating for the removal of native vegetation in order to achieve the objective of 'no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'.

This objective is to be achieved through Victoria's planning system using an assessment approach that relies on strategic planning and the permit and offset system. The key policy for achieving no net loss to biodiversity is the three-step approach of avoid, minimise and offset:

- **Avoid** the removal, destruction or lopping of native vegetation to ensure that the important biodiversity values of native vegetation continue to be delivered into the future.
- **Minimise** impacts resulting from the removal of native vegetation that cannot be avoided.
- Provide an **offset** to compensate for the biodiversity impact resulting from the removal of native vegetation.

The steps that have been taken during the design of the Ropers Carpark to ensure that impacts on biodiversity from the removal of native vegetation have been minimised are summarised below in accordance with the DELWP Assessor's Handbook (DELWP 2018).

A summary of how avoidance and minimisation has been achieved in relation to the native vegetation values described in Appendix 1D of DELWP (2018) is provided in Table 8.

Strategic level planning

The steps that have been taken during the design of the development to ensure that impacts on biodiversity from the removal of native vegetation have been minimised include:

- Preparation of the Falls Creek Alpine Resort Biodiversity Management Strategy, Ecology Australia (2011), which has guided understanding of native vegetation extent, types and highest value areas for various development projects.
- Design has focused on placement of footprints in existing disturbed areas.

Site level planning

Avoid and minimise steps taken at a site level specifically for the Ropers Carpark works include:

- Avoiding higher quality areas of native vegetation, and locating the proposed car park in a more common forest EVC, Montane Damp Forest, which is classified as least concern.
- Locating the proposed development and stockpile locations on existing disturbed land (power line easement) to minimise impacts to native vegetation.
- Designing the proposed car park to avoid areas of high biodiversity value and higher sensitivity such as waterways and listed ecological communities.

Table 8 Summary of avoid and minimise steps in accordance with DELWP (2018), Appendix 1D

Value (Appendix 1D of DELWP 2018)	Notes on avoid and minimise steps
Land and water protection	**Site value –** Vegetation within the study area has been subject to previous disturbance (clearing, herbicide application and wildfire) and would generally be considered of low to moderate quality. **Response -** Impacts to vegetation will be avoided and minimised through placement of the works footprint within existing disturbed areas and installation of sediment control and appropriate drainage.
Landscape values	**Site value –** The alpine resorts are managed for both recreation and environmental values. **Response -** Removal of native vegetation to facilitate recreational development is a regular source of policy conflict in alpine resorts. The Ropers Carpark development is within Montane Damp Forest which is extensive throughout the montane areas of the resort and surrounds. It aims to minimise impacts on the higher values areas at Falls Creek by designing development within and adjacent to previously disturbed areas.
Protection under the Aboriginal Heritage Act 2006	**Site value –**The site is not mapped as an area of cultural heritage sensitivity. **Response –** A Cultural Heritage Management is not required for the project.
Extent	**Site value –** The amount of vegetation proposed to be removed is 1.225 hectares and this is from a relatively disturbed area most of which has been modified for construction and maintenance of the powerline easement and Bogong High Plains Road. **Response –** Vegetation to be removed has been previously disturbed and is adjacent to existing disturbed areas. The functioning and viability of the surrounding landscape will not be significantly impacted given the existing modified condition of the site.
Condition	**Site value –** Condition scores are moderate for the vegetation to be removed, ranging between 0.640 and 0.710 out of 1.0. **Response –**Vegetation in the resort is generally of relatively high condition due to the intact nature of the landscape, however the lower score here is reflective of the previous disturbance within the site.
Strategic Biodiversity Value (SBV)	**Site value –** SBV scores for vegetation to be removed are high, between 0.698 – 0.735 out of 1.0. **Response –** Almost all vegetation in the resort has a high SBV score due to the intact nature of the landscape. It is not possible to focus on areas of lower SBV as they do not occur across the majority of the resort – see mapping in DELWP Native Vegetation Removal Report in Appendix 5.

Value (Appendix 1D of DELWP 2018)	Notes on avoid and minimise steps
Large Trees	**Site value –** There are 17 large trees within Montane Damp Forest patch vegetation within the study area. The surrounding landscape supports an extensive tract of montane forest vegetation. **Response –** Eight large trees in patches will be removed for the project, however two of these are tall dead stumps and provide limited habitat value for fauna.
Ecological Vegetation Class	**Site value –** All vegetation to be impacted is within Montane Damp Forest EVC 38 which has a BCS of Least Concern. **Response –** Vegetation does not have a threatened BCS.
Sensitive wetland and coastal areas	**Site value –** The carpark will not impact on sensitive wetlands or coastal areas mapped as Location 2 – see mapping in DELWP Native Vegetation Removal Report in Appendix 5. **Response –** No sensitive wetlands are mapped by DELWP.
Habitat for threatened species	**Site value –** A large number of modelled species habitats occur in the alpine resort. **Response –** Proposed clearing is below the species offset threshold for all species.

DELWP has provided biodiversity information tools to assist with determining the assessment pathway associated with the removal of native vegetation and the contribution that native vegetation within the study area makes to Victoria's biodiversity.

All planning permit applications to remove native vegetation are assigned to an assessment pathway determined by the extent and location of proposed native vegetation removal. The assessment pathway will dictate the information to be provided in a planning permit application and the decision guidelines the responsible authority (e.g. Council) and/or DELWP as a referral authority will use to assess the permit application.

The biodiversity information tools have two components:

Site-based information

The site-based information is observable at a particular site. Biosis has collected the requisite site-based information for the assessment against the Guidelines.

Landscape scale information

Landscape scale information requires consideration of information beyond the site. This information is managed by DELWP and can be accessed via the NVIM.

The following section summarises the results of the site-based assessment and the outputs generated by the Native Vegetation Removal Report, which identifies the assessment pathway on which the planning application will be assessed. The full Native Vegetation Removal Report can be viewed in Appendix 3.

5.1 Proposed removal of native vegetation

The extent of native vegetation patches, the location of large trees within patches and any scattered trees were mapped within the study area (Figure 2) and the condition was assessed in relation to standard methods provided by DSE (2004) and pre-determined EVC benchmarks: https://www.environment.vic.gov.au/biodiversity/bioregions-and-evc-benchmarks. DELWP's Native Vegetation Information Management system was also used to determine vegetation extent and condition.

The proposed removal of native vegetation was assessed in accordance with the concept design provided (FCRM77-102_105[C]). The development proposes to remove 1.225 hectares of native vegetation, including eight large trees. Spatial data (shapefiles) of proposed vegetation removal were submitted to DELWP's native vegetation support team, who provided a Native Vegetation Removal Report for the project. This is provided in Appendix 3 and summarised in the following sections.

An area of 2.405 hectares of past vegetation removal associated with previous development by FCRM in the resort has been included in the total project footprint, creating a total extent (including past and present removal) of 3.631 hectares.

5.1.1 Vegetation quality and habitat zones

A continuous area of the same EVC is termed a 'habitat zone'. Different habitat zones exist where there are different EVCs present and/or discrete (non-continuous) patches of the same EVC. A separate vegetation quality assessment was conducted for each habitat zone. Four habitat zones were identified. The results of the vegetation quality assessment are provided in Table 9.

Table 9 Vegetation Quality Assessment results within the study area

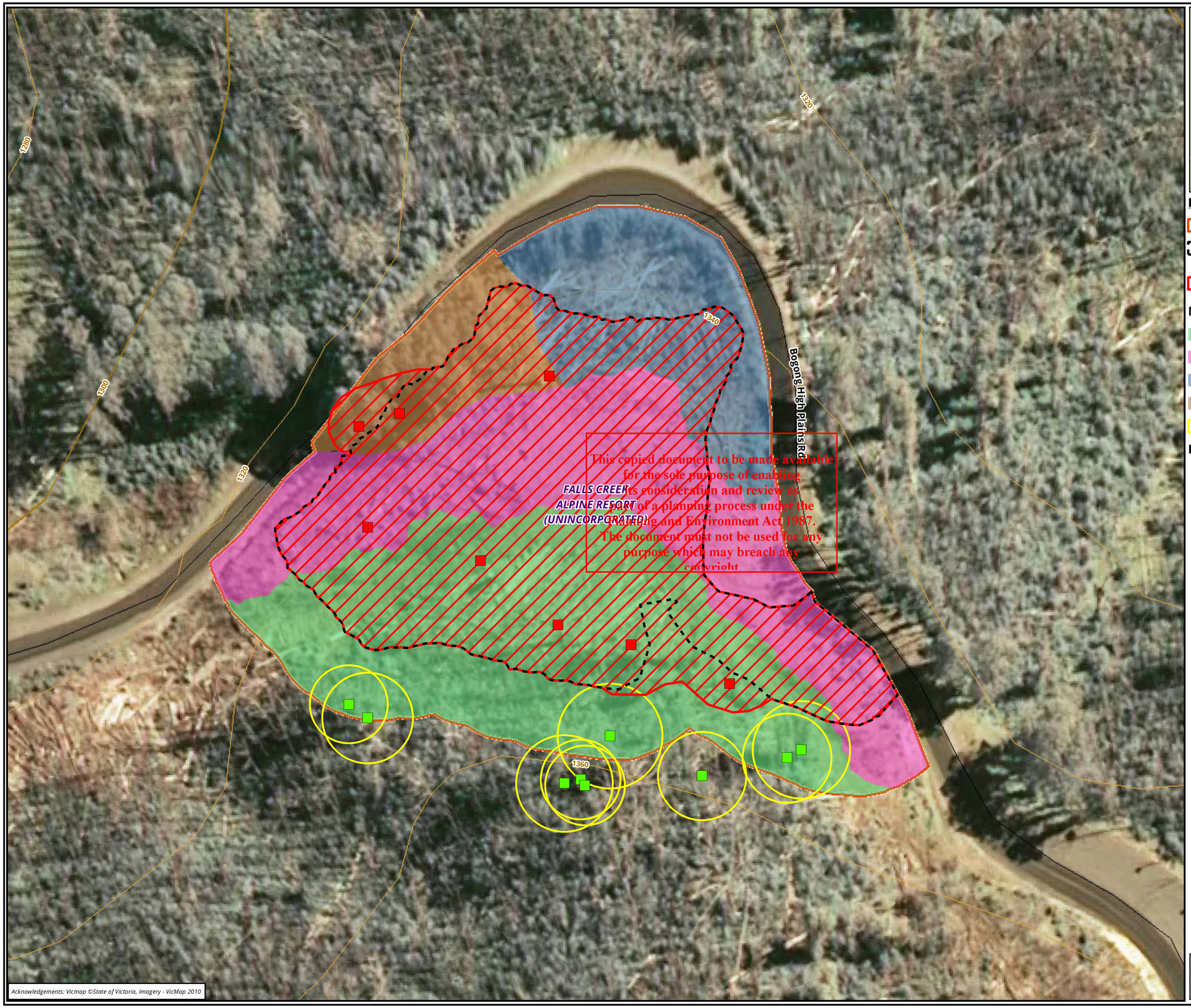
Site ID: Falls Creek Roper's Car Park			1	2	3	4
Habitat Zone ID			A	A	A	A
EVC 38: Montane Damp Forest						
		Max Score	Score	Score	Score	Score
Site Condition	Large Old Trees	10	5	1	0	7
	Canopy Cover	5	2	0	0	2
	Lack of Weeds	15	13	9	13	13
	Understorey	25	15	15	15	5
	Recruitment	10	10	10	10	6
	Organic Matter	5	3	3	3	5
	Logs	5	5	3	5	5
	Total Site Score		53	41	46	43
Landscape Value	Patch Size	10	8	8	8	8
	Neighbourhood	10	6	6	6	6
	Distance to Core	5	4	4	4	4
	Total Landscape Score		18	18	18	18
HABITAT SCORE		100	71	59	64	61
Habitat points = #/100		1	0.71	0.59	0.64	0.61

5.1.2 Tree removal data

A total of eight large trees occur within patches of native vegetation within the study area. The locations of large trees within patches are shown in Figure 2, and DBH and circumference information is given below in Table 10. It should be noted that two of these tree are large burnt stumps taller than 1.3 metres and are therefore considered large trees although they are of limited habitat value for hollow-dependent fauna.

Table 10 Data of large trees proposed for removal

Species	Status	DBH (cm)	TPZ (m)	Circumference (cm)
Eucalyptus delegatensis* subsp. *delegatensis	Live	141	16.92	443
E. delegatensis* subsp. *delegatensis	Dead	113	15	355
E. dalrympleana* subsp. *dalrympleana	Live	93	11.16	292
E. delegatensis* subsp. *delegatensis	Dead, broken stump >1.3 DBH	123	15	386
E. delegatensis* subsp. *delegatensis	Dead, broken stump >1.3 DBH	117	15	368
E. delegatensis* subsp. *delegatensis	Live	93	11.16	292
E. delegatensis* subsp. *delegatensis	Live	91	10.92	286
E. delegatensis* subsp. *delegatensis	Live	93	11.16	292



Legend

- Study area
- Impact area
- Extent of native vegetation proposed to be removed

Montane Damp Forest (VAlp0038)

- Habitat Zone 1
- Habitat Zone 2
- Habitat Zone 3
- Habitat Zone 4
- Tree protection zone

Large trees

- Proposed to be removed
- No impact

Figure 3 Native vegetation proposed for removal within the study area

0 10 20 30 40 50

Metres
Scale: 1:1,000 @ A3
Coordinate System: GDA 1994 VICGRID94

N

biosis

Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 29670,
Date: 21 May 2019,
Checked by: GZ, Drawn by: SKM, Last edited by: smitchell
Location: P:\29600s\29670\Mapping\
29670_F3_VegRemoval.mxd

5.2 Determining the assessment pathway

Applications to remove native vegetation are categorised into one of three assessment pathways: basic, intermediate or detailed. Two factors are used to determine the assessment pathway for a permit application, the **location** and **extent** of the native vegetation proposed to be removed. Location has been divided into three possible categories by DELWP, and has been pre-determined by DELWP for all locations in Victoria. The location of a particular site is determined using the *location map* available in the Native Vegetation Information Management (NVIM) system (http://nvim.depi.vic.gov.au).

The extent of native vegetation proposed to be removed determines the assessment pathway by considering the following:

- The total area (hectares) of native vegetation (including any patches and scattered trees) proposed to be removed
- Whether any large trees are proposed to be removed, either as scattered trees or occurring in patches.

It is proposed to remove 1.225 hectares and eight large trees of native vegetation from within location category 1, therefore the application for removal of this native vegetation must meet the requirements of, and be assessed in, the detailed assessment pathway. An additional 2.405 hectares was considered under past vegetation removal by FCRM in the resort, bringing the total extent of native vegetation removal to 3.631 hectares.

5.3 Offset requirements

In order to ensure a gain to Victoria's biodiversity that is equivalent to the loss resulting from the proposed removal of native vegetation, compensatory offsets are required. Losses and gains are measured in general or species habitat scores or units. The offset must also include at least one large tree for every large tree removed.

For a detailed assessment pathway application, the species-general offset test will determine if a general offset, species offset or combination of both is required.

The results of the species-general offset test are provided in Appendix 3 and summarised in Table 11.

Table 11 Summary of DELWP Native Vegetation Removal Report

Attribute	Outcome	Notes
Location category	Location 1	Low location risk
Native vegetation removal extent	1.225 hectares	Comprised of four habitat zones and eight large trees.
Assessment pathway	Detailed	Location 1 and patch clearing
Strategic Biodiversity Value Score	0.698 – 0.735	Range over four habitat zones
Offset type	General	1.027 general offset units
General offset vicinity	North East CMA or Falls Creek Alpine Resort	The offset site must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed.

Attribute	Outcome	Notes
General offset minimum Strategic Biodiversity Value Score	0.584	Minimum SBV of the offset.
Large trees	Eight large trees	The offset must include one large tree for every large tree proposed to be removed

5.4 Proposed offset strategy

In 2019, the relevant past removal included in the NVR report was 3.429 hectares and caused the species offset threshold for Shining Westringia *Westringia lucida* to be exceeded. In the three years since the previous NVR and final version 01 was produced, the amount of relevant past permitted clearing within the last five years has reduced to 2.405 hectares, and the threshold for species offsets is not exceeded for any species.

If a permit is granted, the offset requirements would be 1.027 general habitat units. Falls Creek Resort Management has a registered offset site within the Falls Creek Alpine Resort. A recent credit extract (provided 21 June 2022) indicates 21.792 general habitat units and 416 large trees are available, which will satisfy this project's offset requirements. Alternatively, the general offsets required by the proposed development could be purchased via third party credit trade.

6. Key ecological values and recommendations

The study area supports variable quality Montane Damp Forest affected by disturbances such as clearing, herbicide application and wildfire. Vegetation within the power line easement has been cleared and sprayed and now supports shrubby and grassy vegetation. Some patches were affected by the alpine fires in 2003 and lack a canopy component, supporting dense Hop Bitter-pea and Mountain Hickory Wattle regeneration. The vegetation in the study area is contiguous with montane and sub-alpine vegetation in the Alpine National Park.

Based on the construction footprint provided by FCRM, potential impacts to biodiversity values include:

- Removal of 1.225 hectares of native vegetation and eight large trees.
- Removal of known or potential habitat for three EPBC Act listed species – Gang-gang Cockatoo listed as endangered, Pilotbird listed as vulnerable and Mountain Skink listed as endangered.
- Removal of known or potential habitat for four FFG Act listed species – Little Eagle (vulnerable) Tussock Skink (endangered), Dingo (vulnerable) and Powerful Owl (vulnerable).
- Accidental loss of or damage to retained vegetation during the construction phase.
- Mortality of wildlife during construction works, particularly resident and relatively sedentary species such as reptiles.

A summary of potential implications of development of the study area and recommendations to minimise impacts during the **design phase** of the project is provided in Table 12.

Table 12 Summary of key ecological values, potential implications of developing the study area and recommendations to minimise ecological impacts during the design phase.

Ecological feature (Figure 2)	Implications of development	Recommendations
Native vegetation	The permanent removal of 1.225 hectares of vegetation, including eight large trees within patches. The application will be assessed on the detailed assessment pathway.	Avoid and minimise removal of native vegetation, in accordance with the Guidelines. Refer to Section 5. Retained vegetation should be fenced off and treated as no-go zones. Identify and implement appropriate offsets for vegetation losses as outlined in Section 5.3.
Significant species and ecological communities	Removal of foraging habitat for the EPBC Act listed Gang-gang Cockatoo, and potential habitat for Pilotbird and Mountain Skink. Removal of habitat currently used by the FFG listed Tussock Skink. Removal of potential foraging habitat for the FFG Act listed Little Eagle, Powerful Owl and Dingo, and locally common fauna species.	Avoid and minimise removal of native vegetation, especially large hollow-bearing trees, and grassy vegetation used by Tussock Skinks.

Conclusion

Specific detail relating to preventing impacts to retained native vegetation and terrestrial habitat should be addressed in a site-specific Construction Environmental Management Plan. This will include issues relating to contractors such as environmental inductions, installation of temporary fencing/signage, drainage and sediment control. Specific measures to include are outlined in Table 13.

Table 13 Suggested mitigation measures to be included in the project SEMP

	Actions	Timing	Responsibility
Site selection and project planning stage			
Avoid and minimise removal of native vegetation and fauna habitat for car park	General site responsiveness during design phase of the project, consultation with project ecologists based on preliminary mapping of biodiversity values.	Completed during design phase	FCRM and project ecologists
External and internal site access	Locate all tracks, where possible, on existing cleared areas and access points at existing turn-offs on Bogong High Plains Road.	Completed during design phase but will require further refinement at detailed design	FCRM and construction contractor
Construction			
Construction Environmental Management	SEMP and CMP to be prepared	Prior to construction	FCRM and/or construction contractor
No go areas to protected retained vegetation	Installation of appropriate exclusion fencing around trees and vegetation to be retained in, or directly adjacent to, the development site: • The radius of the tree protection zone (TPZ) is calculated for each tree by multiplying its diameter at breast height (DBH) by 12 (i.e. TPZ = DBH x 12) in accordance with Standards Australia (2009). Alternatives to the agreed 15 metre buffer should be applied to all trees according to DELWP (2018). • A TPZ should not be less than 2 metres or greater than 15 metres, except where crown protection is required (Standards Australia 2009). • Appropriate signage such as 'No Go Zone' or 'Environmental Protection Area' should be installed. • Identify the location of any 'No Go Zones' in site inductions. • Fencing should be star pickets with high visibility bunting.	Prior to construction	FCRM and/or construction contractor

	Actions	Timing	Responsibility
Stockpiles & laydown areas	All material stockpiles, vehicle parking and machinery storage will be located within cleared areas or areas proposed for clearing, and not in areas of retained native vegetation.	Prior to and during construction	FCRM and/or construction contractor
Wildlife rescue during tree removal	A licenced wildlife salvage team should be on-site during tree removal to catch and relocate (if appropriate) any wildlife encountered in hollow-bearing trees.	During construction	FCRM and/or construction contractor
Soil erosion/sedimentation	• Dust suppression measures should be implemented during construction. • Implementation of temporary stormwater controls during construction if necessary to ensure that discharges to Rocky Valley Creek and other drainage channels are consistent with existing conditions. • Sediment and erosion control measures should be implemented prior to construction works commencing (e.g. silt fences, sediment traps), to protect Rocky Valley Creek and other drainage channels. These should conform to relevant guidelines, should be maintained throughout the construction period and should be carefully removed following the completion of works. • Sediment controls should be monitored weekly or after rainfall events.	Prior to and during construction	FCRM and/or construction contractor
Weed control on site and to protect retained vegetation	• Control of woody weeds should occur in immediately adjacent retained native vegetation. • Weed control measures should be monitored annually to assess their effectiveness.	During construction and operation of the car park	FCRM, construction contractor

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Appendices

Appendix 1 Flora

The following abbreviations and symbols are relevant to this Appendix.

Code	Meaning	Reference
National listings (EPBC Act)		
EX	Extinct	Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
CR	Critically endangered	
EN	Endangered	
VU	Vulnerable	
PMST	Protected Matters Search Tool	
State listings (FFG Act and DELWP Advisory List)		
x	Extinct	Victorian Flora and Fauna Guarantee Act 1988 (FFG Act)
cr	Critically endangered	
e	Endangered	
v	Vulnerable	
t	Threatened	
P	Protected (public land only)	
(e)	Endangered	DELWP's Advisory List of Rare or Threatened Plants in Victoria (DEPI 2014a)
(v)	Vulnerable	
(r)	Rare	
(k)	Poorly known	
Weed status (CaLP Act, DAWE Weeds of National Significance and DELWP Advisory List)		
SP	State prohibited species	Victorian Catchment and Land Protection Act 1994 (CaLP Act)
RP	Regionally prohibited species	
RC	Regionally controlled species	
R	Restricted species	
Other		
#	Native species outside its natural range	Victorian Biodiversity Atlas (VBA)

Appendix1.1Flora species recorded from the study area

Table A1.1 Flora species recorded from the study area

Status	Scientific Name	Common Name
Indigenous species		
P	*Acacia obliquinervia*	Mountain Hickory Wattle
	Acaena novae-zelandiae	Bidgee-widgee
	Arthropodium milleflorum s.l.	Pale Vanilla-lily
	Carex breviculmis	Common Grass-sedge
P	*Cassinia aculeata*	Common Cassinia
P, r, v	*Celmisia tomentella*	Silver Snow-daisy
	Coprosma hirtella	Rough Coprosma
P	*Coronidium monticola*	Pale Everlasting
	Daviesia latifolia	Hop Bitter-pea
	Dianella tasmanica	Tasman Flax-lily
	Epilobium billardierianum	Variable Willow-herb
	Eucalyptus dalrympleana subsp. *dalrympleana*	Mountain Gum
	Eucalyptus delegatensis subsp. *delegatensis*	Alpine Ash
r, e	*Geranium potentilloides* var. *abditum*	Soft Crane's-bill
	Gonocarpus montanus	Mat Raspwort
	Goodenia hederacea	Ivy Goodenia
P	*Leucopogon gelidus*	Drooping Beard-heath
P, r, e	*Olearia phlogopappa* subsp. *flavescens*	Dusty Daisy-bush
	Oreomyrrhis eriopoda	Australian Caraway
P	*Ozothamnus thyrsoideus*	Sticky Everlasting
	Panicum spp.	Panic
P	*Picris angustifolia*	Native Picris
	Poa hothamensis	Ledge Grass
	Podolobium alpestre	Alpine Podolobium
	Polyscias sambucifolia	Elderberry Panax
P	*Polystichum proliferum*	Mother Shield-fern
	Poranthera microphylla s.l.	Small Poranthera
P	*Prostanthera lasianthos*	Victorian Christmas-bush
	Rubus parvifolius	Small-leaf Bramble
	Stellaria pungens	Prickly Starwort
P	*Stylidium graminifolium* s.l.	Grass Triggerplant
	Veronica derwentiana	Derwent Speedwell
	Viola betonicifolia	Showy Violet
Introduced species		
	Acetosella vulgaris	Sheep Sorrel
	Agrostis capillaris	Brown-top Bent
	Anthoxanthum odoratum	Sweet Vernal-grass

Status	Scientific Name	Common Name
	Betula pendula	Silver Birch
RC	*Cirsium vulgare*	Spear Thistle
	Crepis capillaris	Smooth Hawksbeard
	Digitaria sanguinalis	Summer Grass
#	*Dysphania pumilio*	Clammy Goosefoot
	Euphorbia maculata	Eyebane
	Gamochaeta spp.	American Cudweed
	Holcus lanatus	Yorkshire Fog
RC	*Hypericum perforatum* subsp. *veronense*	St John's Wort
	Hypochaeris radicata	Flatweed
	Lotus uliginosus	Greater Bird's-foot Trefoil
	Plantago lanceolata	Ribwort
	Poa annua	Annual Meadow-grass
	Rubus anglocandicans	Common Blackberry
	Spergularia rubra s.l.	Red Sand-spurrey
	Verbascum virgatum	Twiggy Mullein

Appendix 1.2 Listed flora species

The following table includes the listed flora species that have potential to occur within the study area. The list of species is sourced from the Victorian Biodiversity Atlas and the Protected Matters Search Tool (DCCEEW; accessed on 9 September 2022).

Table A1.2 Listed flora species recorded / predicted to occur within 10 km of the study area

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
National significance									
Argyrotegium nitidulum	Shining Cudweed	VU	r		2020	PMST	Restricted to damp, open grassland communities between Mt Cope and Mt Nelse.	**Negligible**	No suitable habitat.
Colobanthus curtisiae	Snowy Colobanth	VU	v			PMST	Grassland and grassy woodland; known in Victoria from a small number of records in the Alpine National Park.	**Negligible**	No suitable habitat.
Euphrasia crassiuscula subsp. glandulifera	Thick Eyebright	VU	v	cr	2004	PMST	Alpine grasslands, heathlands and herbfields.	**Negligible**	All records for this species are outside the Falls Creek Resort and no *Euphrasia* species were recorded during the current survey.
Euphrasia eichleri	Bogong Eyebright	VU	v	e	2007	PMST	Low open heath, grassland, and Sphagnum bogs in alpine and higher subalpine tracts.	**Negligible**	All records for this species are outside the Falls Creek

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
									Resort and no *Euphrasia* species were recorded during the current survey.
Glycine latrobeana	Clover Glycine	VU	v	v		PMST	Grasslands and grassy woodlands, particularly those dominated by Kangaroo Grass.	**Negligible**	No suitable habitat.
Kelleria bogongensis	Snow Daphne	VU	e	cr	2006	PMST	Depressions within Bog Snow-grass grassland and Mud Pratia spp. – Alpine Stackhousia spp. herblands. Confined to the Bogong High Plains.	**Negligible**	No suitable habitat.
Leucochrysum albicans subsp. tricolor	White Sunray	EN	e	e		PMST	Grasslands of the Victorian Volcanic Plains, primarily on acidic clay soils derived from basalt, with occasional occurrences on adjacent sedimentary, sandy-clay soils.	**Negligible**	No suitable habitat.
Lobelia gelida	Snow Pratia	VU	v	e		PMST	Alpine grasslands, on heavy dark mud around seasonal pools and creek edges.	**Negligible**	No suitable habitat.
Prasophyllum morganii	Mignonette Leek-orchid	VU	x	x		PMST	Known from only one location near Cobungra in Snow Gum open forest at about 1000 m ASL. Presumed to be extinct.	**Negligible**	Highly restricted population, no suitable habitat.
Pterostylis oreophila	Blue-tongue Greenhood	CR	e			PMST	Damp, shady habitat along watercourses.	**Negligible**	All records for this species are

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
									outside the Falls Creek Resort and no *Pterostylis* species were recorded during the current survey.
Thesium australe	Austral Toad-flax	VU	v	e		PMST	Most commonly in damp grassland and woodland, including subalpine grassy heathlands.	**Negligible**	No suitable habitat.
Xerochrysum palustre	Swamp Everlasting	VU	v	cr		PMST	Sedge-swamps and shallow freshwater marshes and swamps in lowlands, on black cracking clay soils.	**Negligible**	No suitable habitat.

Appendix 2 Fauna

The following abbreviations and symbols are relevant to this Appendix:

Code	Meaning	Reference
National listings (EPBC Act)		
EX	Extinct	Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
CR	Critically endangered	
EN	Endangered	
VU	Vulnerable	
NT	Near threatened	
CD	Conservation dependent	
PMST	Protected Matters Search Tool	
State listings (FFG Act and DELWP Advisory List)		
x	Extinct	Victorian Flora and Fauna Guarantee Act 1988 (FFG Act)
cr	Critically endangered	
e	Endangered	
v	Vulnerable	
t	Threatened	
P	Protected (fish only)	
(ex)	Extinct	DELWP's Advisory Lists of Threatened Fauna in Victoria (DSE 2009; DSE 2013)
(rx)	Regionally extinct	
(ew)	Extinct in the wild	
(cr)	Critically endangered	
(en)	Endangered	
(vu)	Vulnerable	
(nt)	Near threatened	
(dd)	Data deficient	
Pest animal status (CaLP Act and Fisheries Act)		
PS	Declared pest animal	Victorian Catchment and Land Protection Act 1994 (CaLP Act)
N	Declared noxious aquatic species	Victorian Fisheries Act 1995
Other		
*****	Introduced species	Victorian Biodiversity Atlas (VBA)

A2.1 Fauna species recorded from the study area

Table A2.1 Vertebrate fauna recorded from the study area

Status	Scientific Name	Common Name
Indigenous species		
	Cormobates leucophaeus	White-throated Treecreeper
EN	*Callocephalon fimbriatum*	Gang-gang Cockatoo
	Platycercus elegans	Crimson Rosella
	Psophodes olivaceus	Eastern Whipbird
	Sericornis frontalis	White-browed Scrubwren
	Zosterops lateralis	Silvereye
	Ptilonorhynchus violaceus	Satin Bowerbird
	Strepera graculina	Pied Currawong
	Vombatus ursinus	Common Wombat
vu, e	*Pseudemoia pagenstecheri*	Tussock Skink
Introduced species		
	Cervus unicolor	Sambar
PS	*Oryctolagus cuniculus*	European Rabbit
PS	*Vulpes vulpes*	Red Fox

A2.2 Listed fauna species

The following table includes a list of the listed fauna species that have potential to occur within the study area. The list of species is sourced from the Victorian Biodiversity Atlas and the Protected Matters Search Tool (DCCEEW; accessed on 9 September 2022).

Table A2.2 Listed fauna species recorded, or predicted to occur, within 10 km of the study area

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
National significance								
Rostratula australis	Australian Painted-snipe	EN	cr		PMST	Shallows of well-vegetated freshwater wetlands.	**Negligible**	No suitable habitat.
Callocephalon fimbriatum	Gang-gang Cockatoo	EN		2019	PMST	S Vic to E NSW. Forests and woodlands from coast to alpine areas. Autumn-winter dispersal from highlands to lower elevations. Forages in eucalypts, acacias and some exotic garden trees and shrubs.	**Recorded**	Common species throughout montane forests, recorded during site assessment.
Hirundapus caudacutus	White-throated Needletail	VU	v	1993	PMST	An almost exclusively aerial species within Australia, occurring over most types of habitat, particularly wooded areas.	**Low**	Species occasionally recorded nearby study area. Will most likely use sky over study area.
Numenius madagascariensis	Eastern Curlew	CR	cr		PMST	Large intertidal sandflats, banks, mudflats, estuaries, inlets, sewage farms, saltworks, harbours, coastal lagoons and bays.	**Negligible**	No suitable habitat.

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
Calidris ferruginea	Curlew Sandpiper	CR	cr		PMST	Large intertidal sandflats, banks, mudflats, estuaries, inlets, sewage farms, saltworks, harbours, coastal lagoons and bays.	**Negligible**	No suitable habitat.
Pycnoptilus floccosus	Pilotbird	VU		1998	PMST	E Vic to SE NSW. Largely ground-dwelling among leaf litter, logs and lower storey vegetation of wet sclerophyll forests and rainforest. Less often, alpine and coastal woodlands.	**High**	Common species of damp forests
Grantiella picta	Painted Honeyeater	VU	v		PMST	Dry open woodlands and forests. Typically forages for fruit and nectar in mistletoes and in tree canopies.	**Negligible**	No suitable habitat.
Anthochaera phrygia	Regent Honeyeater	CR	cr	1965	PMST	A range of dry woodlands and forests dominated by nectar-producing tree species.	**Negligible**	No recent records and no suitable habitat.
Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll	EN	e	2001	PMST	Rainforest and wet and dry sclerophyll forests and woodlands.	**Low**	Small number of records from broader local area. May move through study area but unlikely to make regular use of habitat present.

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
Petauroides volans	Southern Greater Glider	VU	v	1996	PMST	Wet and damp sclerophyll forest with large hollow-bearing trees.	**Low**	Unlikely to occur above 1200 metres altitude, and sensitive to fire. Therefore considered unlikely to be present.
Petaurus australis	Yellow-bellied Glider	VU			PMST	No habitat description	**Negligible**	No suitable habitat.
Burramys parvus	Mountain Pygmy-possum	EN	e	2021	PMST	Alpine rock screes and boulder fields supporting heathy vegetation.	**Negligible**	No suitable habitat.
Potorous longipes	Long-footed Potoroo	EN	e		PMST	Temperate rainforest, riparian forest and wet and dry sclerophyll forest.	**Negligible**	No suitable habitat, outside species range.
Mastacomys fuscus mordicus	Broad-toothed Rat	VU	v	2019	PMST	Sub-alpine Woodland, Heathland, Sedgeland, and sedge-dominated areas within forest.	**Low**	Likely to be more closely associated with sedgeland and drainage lines at this altitude, therefore considered unlikely to make

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
								regular use of study area.
Pseudomys fumeus	Smoky Mouse	EN	e		PMST	Coastal heath and heathy woodland, wet forest, sub-alpine heath and dry sclerophyll forest.	**Low**	No records from within local area.
Pteropus poliocephalus	Grey-headed Flying-fox	VU	v		PMST	Rainforest, wet and dry sclerophyll forest, woodland and urban areas.	**Low**	No known camp nearby, minimal suitable habitat.
Liopholis guthega	Guthega Skink	EN	cr	2021	PMST	Alpine woodlands, grasslands and heathlands with sub-surface boulders.	**Negligible**	No suitable habitat.
Liopholis montana	Mountain Skink	EN			PMST	Alpine woodland and montane forest environments along the Great Dividing Range in Victoria to the upper Yarra River valley. An exceptionally low altitude population has also been recorded in the Wombat SF. Relatively little is known about the species' biology and ecology.	**Medium**	Potential species habitat within study area, little recordings of species due to species rarely being searched for.
Cyclodomorphus praealtus	Alpine She-oak Skink	EN	cr	2021	PMST	Sparsely-treed subalpine woodland, alpine heathlands and native and introduced alpine grasslands.	**Negligible**	No suitable habitat.
Litoria spenceri	Spotted Tree Frog	CR	cr		PMST	Rocky areas along streams within forest and woodland.	**Negligible**	No suitable habitat.

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
Litoria raniformis	Growling Grass Frog	VU	v		PMST	Still or slow-flowing waterbodies and surrounding terrestrial vegetation.	**Negligible**	No suitable habitat.
Litoria verreauxii alpina	Alpine Tree Frog	VU	cr	2004	PMST	Alpine and subalpine woodland, heath and grassland; breeds in a variety of natural and artificial waterbodies including dams and reservoirs.	**Negligible**	No suitable habitat.
Galaxias rostratus	Flat-headed Galaxias	CR	v		PMST	Still or slow-moving waters of rivers, billabongs, lakes and swamps.	**Negligible**	No suitable habitat.
Maccullochella macquariensis	Trout Cod	EN	e		PMST	Streams characterised by a high abundance of large woody debris.	**Negligible**	No suitable habitat.
Maccullochella peelii	Murray Cod	VU	e		PMST	A diverse range of stream habitats in the Murray-Darling basin; principally the main channels of rivers and their major tributaries.	**Negligible**	No suitable habitat.
Macquaria australasica	Macquarie Perch	EN	e		PMST	Streams with clear water and deep, rocky holes with abundant cover.	**Negligible**	No suitable habitat.
Thaumatoperla alpina	Alpine Stonefly	EN	e	2016	PMST	In and around steep, stony and cool alpine streams.	**Negligible**	No suitable habitat.
State significance								
Lewinia pectoralis	Lewin's Rail		v	1968		Swamps, dense riparian vegetation and saltmarsh.	**Negligible**	No suitable habitat.

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
Aythya australis	Hardhead		v	2019		A mainly aquatic species preferring large, deep freshwater environments with abundant aquatic vegetation, including slow moving areas of rivers. Also occurs in brackish wetlands and may be found in deep dams and water storage ponds. Occasionally in estuarine and littoral habitats such as saltpans, coastal lagoons and sheltered inshore waters. Avoids main streams or rivers, except in calm reaches where aquatic flora is developed.	**Negligible**	No suitable habitat.
Accipiter novaehollandiae	Grey Goshawk		e	1901		Rainforest, gallery forest, tall wet forest and woodland. Also partially cleared agricultural land.	**Low**	No recent records.
Hieraaetus morphnoides	Little Eagle		v	1991		Woodland and open areas. Rabbits are a key component of their diet. Nesting occurs in mature trees in open woodland or riparian vegetation.	**Medium**	May be found within study area, but unlikely to nest in study area due to lack of live old trees.
Ninox strenua	Powerful Owl		v	1998		Eucalypt forests and woodlands, well-treed urban areas.	**Medium**	May utilise study area as part of broader foraging movements

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
								from lower altitudes, but unlikely to nest in study area due to lack of live old trees.
Tyto tenebricosa	Sooty Owl		e	1996		Tall, wet eucalypt forest and rainforest.	**Low**	Prefers wet gullies and mid-slope habitats in North East Victoria, therefore considered unlikely to be present within study area.
Calyptorhynchus lathami	Glossy Black-Cockatoo		cr	2013		Forests and woodlands with Buloke Allocasuarina spp.	**Negligible**	No suitable habitat.
Hydroprogne caspia	Caspian Tern		v	1996		Estuaries, inlets, bays, lagoons, inland lakes, flooded pasture, sewage ponds.	**Negligible**	No suitable habitat.
Actitis hypoleucos	Common Sandpiper		v		PMST	Migrates to Australia from Eurasia in August where it inhabits a wide variety of coastal and inland wetlands with muddy margins before departing north in March.	**Negligible**	No suitable habitat.

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
Ornithorhynchus anatinus	Platypus		v	2004		A variety of freshwater waterbodies, particularly those with stable banks suitable for burrows, and shallow waters for foraging.	**Negligible**	No suitable habitat.
Canis lupus dingo	Dingo		v	2006		Virtually all terrestrial environments but range reduced by exclusion fencing, persecution and hybridisation with domestic dogs.	**High**	Likely to move through study area due to its proximity to a road.
Eulamprus kosciuskoi	Alpine Water Skink		e	2017		Alpine woodlands, heaths and tussock grasslands.	**Negligible**	No suitable habitat.
Pseudemoia cryodroma	Alpine Bog Skink		e	2021		Alpine and Sub-alpine Grassland, Heathland and Woodland.	**Negligible**	No suitable habitat.
Pseudemoia pagenstecheri	Tussock Skink		e	2021		On the ground in a range of grasslands or sparse grassy woodlands from alps to coast.	**Recorded**	Species recorded within and within 10km of study area, habitat limited in its capacity to support the species due to extent, quality however.
Austroaeschna (Austroaeschna) flavomaculata	Alpine Darner Dragonfly		v	2012		No habitat description	**Low**	Species recorded within 10km of study but

Scientific name	Common name	Conservation status		Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	FFG					
								unlikely to be found within study area.
Riekoperla intermedia	Stonefly		v	1972		Slow flowing stream habitats in the Falls Creek, Mount Feathertop and Mount Bogong area, Victoria.	**Negligible**	No suitable habitat.
Colubotelson joyneri	Freshwater Isopod		cr	2008		No habitat description	**Negligible**	No suitable habitat.
Euastacus armatus	Murray Spiny Crayfish		t	2000		Large and small flowing, cool-water streams in pasture and sclerophyll forest.	**Negligible**	No suitable habitat.

A2.3 Migratory species (EPBC Act listed)

Table A2.3 Migratory fauna species recorded or predicted to occur within 10 km of the study area

Scientific name	Common name	Most recent record
Migratory species		
Actitis hypoleucos	Common Sandpiper	PMST
Gallinago hardwickii	Latham's Snipe	2018
Hirundapus caudacutus	White-throated Needletail	1993
Apus pacificus	Fork-tailed Swift	2019
Hydroprogne caspia	Caspian Tern	1996
Numenius madagascariensis	Eastern Curlew	PMST
Calidris ferruginea	Curlew Sandpiper	PMST
Calidris acuminata	Sharp-tailed Sandpiper	PMST
Calidris melanotos	Pectoral Sandpiper	PMST
Motacilla flava	Yellow Wagtail	PMST
Rhipidura rufifrons	Rufous Fantail	1998
Myiagra cyanoleuca	Satin Flycatcher	1997

Appendix 3 Native Vegetation Removal Report

Native vegetation removal report

This report provides information to support an application to remove, destroy or lop native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report **is not an assessment by DELWP** of the proposed native vegetation removal. Native vegetation information and offset requirements have been determined using spatial data provided by the applicant or their consultant.

Date of issue: **27/09/2022**
Time of issue: **7:04 pm**

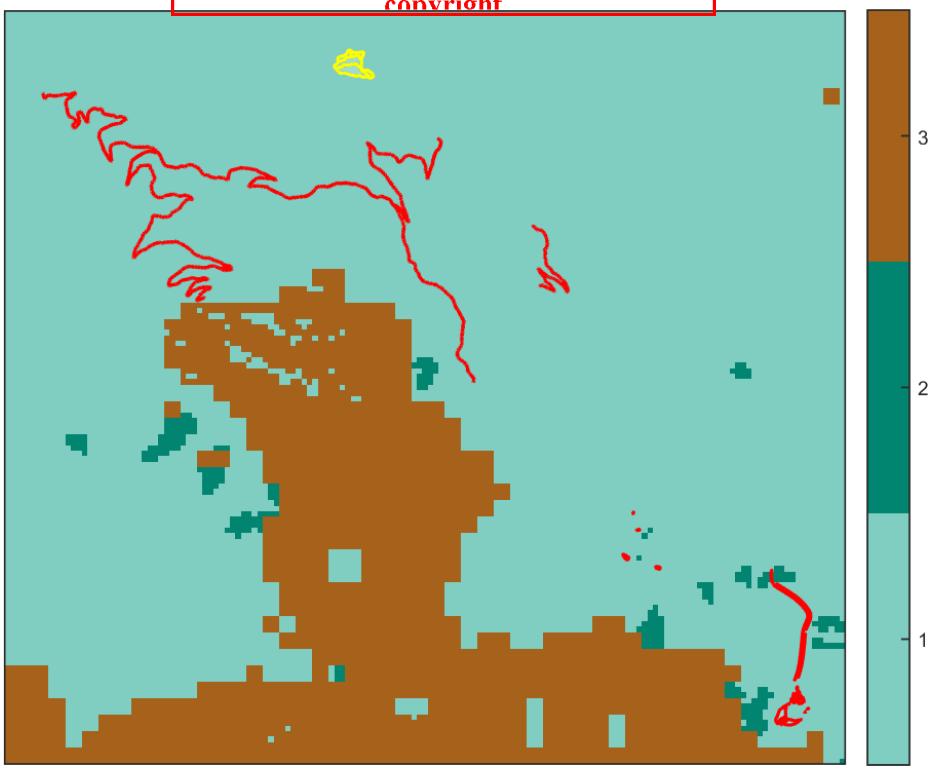
Report ID: BIO_2022_119

Project ID	37860_VegClearing_20220921

Assessment pathway

Assessment pathway	**Detailed Assessment Pathway**
Extent including past and proposed	3.631 ha
Extent of past removal	2.405 ha
Extent of proposed removal	1.225 ha
No. Large trees proposed to be removed	8
Location category of proposed removal	Location 1 The native vegetation is not in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map), sensitive wetland or coastal area. Removal of less than 0.5 hectares in this location will not have a significant impact on any habitat for a rare or threatened species

1. Location map



Offset requirements if a permit is granted

Any approval granted will include a condition to obtain an offset that meets the following requirements:

General offset amount[1]	1.027 general habitat units
Vicinity	North East Catchment Management Authority (CMA) or Falls Creek Alpine Resort (Unincorporated) Council
Minimum strategic biodiversity value score[2]	0.584
Large trees	8 large trees

NB: values within tables in this document may not add to the totals shown above due to rounding

Appendix 1 includes information about the native vegetation to be removed

Appendix 2 includes information about the rare or threatened species mapped at the site.

Appendix 3 includes maps showing native vegetation to be removed and extracts of relevant species habitat importance maps

1 The general offset amount required is the sum of all general habitat units in Appendix 1.

2 Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

Next steps

Any proposal to remove native vegetation must meet the application requirements of the Detailed Assessment Pathway and it will be assessed under the Detailed Assessment Pathway.

If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. Council will refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

This *Native vegetation removal report* must be submitted with your application for a permit to remove, destroy or lop native vegetation.

Refer to the *Guidelines for the removal, destruction or lopping of native* vegetation (the Guidelines) for a full list of application requirements This report provides information that meets the following application requirements:

- The assessment pathway and reason for the assessment pathway
- A description of the native vegetation to be removed (partly met)
- Maps showing the native vegetation and property (partly met)
- Information about the impacts on rare or threatened species.
- The offset requirements determined in accordance with section 5 of the Guidelines that apply if approval is granted to remove native vegetation.

Additional application requirements must be met including:

- Topographical and land information
- Recent dated photographs
- Details of past native vegetation removal
- An avoid and minimise statement
- A copy of any Property Vegetation Plan that applies
- A defendable space statement as applicable
- A statement about the Native Vegetation Precinct Plan as applicable
- A site assessment report including a habitat hectare assessment of any patches of native vegetation and details of trees
- An offset statement that explains that an offset has been identified and how it will be secured.

Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

For more information contact the DELWP Customer Service Centre 136 186

www.delwp.vic.gov.au

Appendix 1: Description of native vegetation to be removed

The species-general offset test was applied to your proposal. This test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the species offset threshold. The threshold is set at 0.005 per cent of the mapped habitat value for a species. When the proportional impact is above the species offset threshold a species offset is required. This test is done for all species mapped at the site. Multiple species offsets will be required if the species offset threshold is exceeded for multiple species.

Where a zone requires species offset(s), the species habitat units for each species in that zone is calculated by the following equation in accordance with the Guidelines:

Species habitat units = extent x condition x species landscape factor x 2, where the species landscape factor = 0.5 + (habitat importance score/2)

The species offset amount(s) required is the sum of all species habitat units per zone

Where a zone does not require a species offset, the general habitat units in that zone is calculated by the following equation in accordance with the Guidelines:

General habitat units = extent x condition x general landscape factor x 1.5, where the general landscape factor = 0.5 + (strategic biodiversity value score/2)

The general offset amount required is the sum of all general habitat units per zone.

Native vegetation to be removed

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	**Type**	**BioEVC**	**BioEVC conservation status**	**Large tree(s)**	**Partial removal**	**Condition score**	**Polygon Extent**	**Extent without overlap**	**SBV score**	**HI score**	**Habitat units**	**Offset type**
2-3	Patch	valp0038	Least Concern	0	no	0.640	0.119	0.119	0.698		0.097	General
2-4	Patch	valp0038	Least Concern	3	no	0.610	0.132	0.132	0.727		0.105	General
2-2	Patch	valp0038	Least Concern	1	no	0.590	0.478	0.478	0.735		0.367	General
2-1	Patch	valp0038	Least Concern	4	no	0.710	0.496	0.496	0.734		0.458	General

Appendix 2: Information about impacts to rare or threatened species' habitats on site

This table lists all rare or threatened species' habitats mapped at the site.

Species common name	Species scientific name	Species number	Conservation status	Group	Habitat impacted	% habitat value affected
Shining Westringia	*Westringia lucida*	504062	Vulnerable	Dispersed	Habitat importance map	0.0039
Sky Lily	*Herpolirion novae-zelandiae*	501658	Rare	Dispersed	Habitat importance map	0.0028
Alpine Swan Greenhood	*Pterostylis crassicaulis*	505626	Rare	Dispersed	Habitat importance map	0.0022
Silver Snow-daisy	*Celmisia tomentella*	504637	Rare	Dispersed	Habitat importance map	0.0021
Snow Heath	*Epacris petrophila*	501170	Rare	Dispersed	Habitat importance map	0.0021
Turquoise Coprosma	*Coprosma moorei*	500818	Rare	Dispersed	Habitat importance map	0.0021
Broad-leaf Flower-rush	*Carpha nivicola*	500653	Rare	Dispersed	Habitat importance map	0.0021
Alpine Marsh-marigold	*Psychrophila introloba*	500601	Rare	Dispersed	Habitat importance map	0.0020
White Billy-buttons	*Craspedia alba*	500856	Vulnerable	Dispersed	Habitat importance map	0.0020
Alpine Wattle	*Acacia alpina*	500009	Rare	Dispersed	Habitat importance map	0.0019
Alpine Stork's-bill	*Pelargonium helmsii*	502445	Vulnerable	Dispersed	Habitat importance map	0.0019
Baw Baw Daisy	*Brachyscome obovata*	500468	Rare	Dispersed	Habitat importance map	0.0018
Snow Coprosma	*Coprosma nivalis*	500820	Rare	Dispersed	Habitat importance map	0.0018
Short Sedge	*Carex canescens*	500633	Rare	Dispersed	Habitat importance map	0.0018
Alpine Blown-grass	*Lachnagrostis meionectes*	500156	Rare	Dispersed	Habitat importance map	0.0018
Snowy Everlasting	*Coronidium waddelliae*	504588	Rare	Dispersed	Habitat importance map	0.0017
Spreading Bitter-cress	*Cardamine astoniae*	505025	Vulnerable	Dispersed	Habitat importance map	0.0017
Gunn's Alpine Buttercup	*Ranunculus gunnianus*	502892	Rare	Dispersed	Habitat importance map	0.0017
Dusty Daisy-bush	*Olearia phlogopappa subsp. flavescens*	504780	Rare	Dispersed	Habitat importance map ; special site	0.0017

Tasmanian Bladderwort	*Utricularia monanthos*	503481	Vulnerable	Dispersed	Habitat importance map	0.0017
Dusky Violet	*Viola fuscoviolacea*	505057	Rare	Dispersed	Habitat importance map	0.0016
Mossy Knawel	*Scleranthus singuliflorus*	503064	Rare	Dispersed	Habitat importance map	0.0015
Orange Billy-buttons	*Craspedia aurantia var. aurantia*	504642	Rare	Dispersed	Habitat importance map	0.0015
Eichler's Buttercup	*Ranunculus eichlerianus*	502888	Rare	Dispersed	Habitat importance map	0.0015
Hard-head Bush-pea	*Pultenaea capitellata*	502840	Rare	Dispersed	Habitat importance map	0.0014
Velvety Geebung	*Persoonia subvelutina*	502471	Rare	Dispersed	Habitat importance map	0.0014
Alpine Spear-grass	*Austrostipa nivicola*	503284	Rare	Dispersed	Habitat importance map	0.0013
Alpine Buttons	*Leptorhynchos squamatus subsp. alpinus*	505611	Rare	Dispersed	Habitat importance map	0.0013
Mat Cudweed	*Euchiton traversii*	501474	Rare	Dispersed	Habitat importance map	0.0013
Matted Rice-flower	*Pimelea biflora*	502516	Rare	Dispersed	Habitat importance map	0.0013
Veined Plantain	*Plantago alpestris*	502548	Rare	Dispersed	Habitat importance map	0.0013
Snowfield Groundsel	*Senecio pinnatifolius var. alpinus*	505108	Rare	Dispersed	Habitat importance map	0.0013
Alpine Bog Skink	*Pseudemoia cryodroma*	12992	Endangered	Dispersed	Habitat importance map	0.0012
Alpine Crane's-bill	*Geranium brevicaule*	501433	Rare	Dispersed	Habitat importance map	0.0012
Alpine Triggerplant	*Stylidium montanum*	504722	Rare	Dispersed	Habitat importance map	0.0012
Large Alpine Leek-orchid	*Prasophyllum sphacelatum*	505276	Rare	Dispersed	Habitat importance map	0.0011
Fir Clubmoss	*Huperzia australiana*	501709	Rare	Dispersed	Habitat importance map	0.0011
Thready Beard-heath	*Leucopogon pilifer*	501989	Rare	Dispersed	Habitat importance map	0.0011
Royal Grevillea	*Grevillea victoriae subsp. victoriae*	505486	Rare	Dispersed	Habitat importance map ; special site	0.0011
Mountain Wallaby-grass	*Rytidosperma oreophilum*	504913	Rare	Dispersed	Habitat importance map	0.0011
Tussock Woodrush	*Luzula alpestris*	502065	Rare	Dispersed	Habitat importance map	0.0011
Mountain Aciphyll	*Aciphylla simplicifolia*	500114	Rare	Dispersed	Habitat importance map	0.0011
Fringed Rice-flower	*Pimelea ligustrina subsp. ciliata*	504841	Rare	Dispersed	Habitat importance map	0.0011

Cryptic Heath	*Epacris celata*	504633	Rare	Dispersed	Habitat importance map	0.0011
Alpine Sedge	*Carex blakei*	500626	Rare	Dispersed	Habitat importance map	0.0011
Delicate Bush-pea	*Pultenaea tenella*	502876	Rare	Dispersed	Habitat importance map	0.0010
Fog Club-sedge	*Isolepis montivaga*	501781	Rare	Dispersed	Habitat importance map	0.0010
Rough Eyebright	*Euphrasia scabra*	501343	Endangered	Dispersed	Habitat importance map	0.0010
Mueller's Bent	*Agrostis muelleriana*	500157	Rare	Dispersed	Habitat importance map	0.0010
Mountain Wheat-grass	*Australopyrum velutinum*	500147	Rare	Dispersed	Habitat importance map	0.0010
Dwarf Buttercup	*Ranunculus millanii*	502895	Rare	Dispersed	Habitat importance map	0.0009
Carpet Sedge	*Carex jackiana*	500644	Rare	Dispersed	Habitat importance map	0.0009
Thick Bent-grass	*Deyeuxia crassiuscula*	501014	Rare	Dispersed	Habitat importance map	0.0009
Hair Sedge	*Carex capillacea*	500630	Rare	Dispersed	Habitat importance map	0.0009
Raleigh Sedge	*Carex raleighii*	500649	Rare	Dispersed	Habitat importance map	0.0009
Spinning Gum	*Eucalyptus perriniana*	501309	Rare	Dispersed	Habitat importance map	0.0009
Keeled Bent-grass	*Deyeuxia carinata*	501012	Rare	Dispersed	Habitat importance map	0.0009
Broad-toothed Rat	*Mastacomys fuscus mordicus*	11438	Endangered	Dispersed	Habitat importance map	0.0009
Green Billy-buttons	*Craspedia aurantia var. jamesii*	504647	Rare	Dispersed	Habitat importance map	0.0008
Slender Gingidia	*Gingidia harveyana*	501436	Vulnerable	Dispersed	Habitat importance map	0.0008
Mountain Dandelion	*Taraxacum aristum*	503334	Rare	Dispersed	Habitat importance map	0.0007
Bald-seeded Willow-herb	*Epilobium curtisiae*	501177	Rare	Dispersed	Habitat importance map	0.0007
Ovens Everlasting	*Ozothamnus stirlingii*	501629	Rare	Dispersed	Habitat importance map	0.0007
Tussock Skink	*Pseudemoia pagenstecheri*	12993	Vulnerable	Dispersed	Habitat importance map	0.0007
Alpine Boronia	*Boronia algida*	500419	Rare	Dispersed	Habitat importance map	0.0006
Mountain Needlewood	*Hakea lissosperma*	501565	Rare	Dispersed	Habitat importance map	0.0005
Catkin Wattle	*Acacia dallachiana*	500023	Rare	Dispersed	Habitat importance map	0.0005
Sickle-leaf Rush	*Juncus falcatus subsp. falcatus*	501816	Rare	Dispersed	Habitat importance map	0.0005

Dark-flower Rush	*Juncus phaeanthus*	501832	Rare	Dispersed	Habitat importance map	0.0004
Alpine Bush-pea	*Pultenaea fasciculata*	502847	Rare	Dispersed	Habitat importance map	0.0004
Fine-leaf Snow-grass	*Poa clivicola*	502585	Rare	Dispersed	Habitat importance map	0.0004
Mountain Willow-herb	*Epilobium sarmentaceum*	501181	Rare	Dispersed	Habitat importance map	0.0003
Smooth Darling-pea	*Swainsona galegifolia*	503992	Endangered	Dispersed	Habitat importance map	0.0002
Tufted Knawel	*Scleranthus diander*	503061	Rare	Dispersed	Habitat importance map	0.0002
Cliff Cudweed	*Euchiton umbricola*	501475	Rare	Dispersed	Habitat importance map	0.0001
Grey Beard-heath	*Leucopogon attenuatus*	501971	Rare	Dispersed	Habitat importance map	0.0001
Tick Indigo	*Indigofera adesmiifolia*	503780	Vulnerable	Dispersed	Habitat importance map	0.0001
Native Wintercress	*Barbarea grayi*	500368	Vulnerable	Dispersed	Habitat importance map	0.0001
Grey Rice-flower	*Pimelea treyvaudii*	502534	Vulnerable	Dispersed	Habitat importance map	0.0000
Soft Ledge-grass	*Poa hothamensis var. parviflora*	504531	Rare	Dispersed	Habitat importance map	0.0000
Narrow-wing Daisy	*Brachyscome willisii*	504797	Rare	Dispersed	Habitat importance map	0.0000
Fisch's Greenhood	*Pterostylis fischii*	502795	Rare	Dispersed	Habitat importance map	0.0000
Delicate Crane's-bill	*Geranium sp. 6*	505347	Vulnerable	Dispersed	Habitat importance map	0.0000
White-throated Needletail	*Hirundapus caudacutus*	10334	Vulnerable	Dispersed	Habitat importance map	0.0000
Spot-tailed Quoll	*Dasyurus maculatus maculatus*	11008	Endangered	Dispersed	Habitat importance map	0.0000
Greater Glider	*Petauroides volans*	11133	Vulnerable	Dispersed	Habitat importance map	0.0000
Common Pipewort	*Eriocaulon scariosum*	501218	Rare	Dispersed	Habitat importance map	0.0000

Habitat group

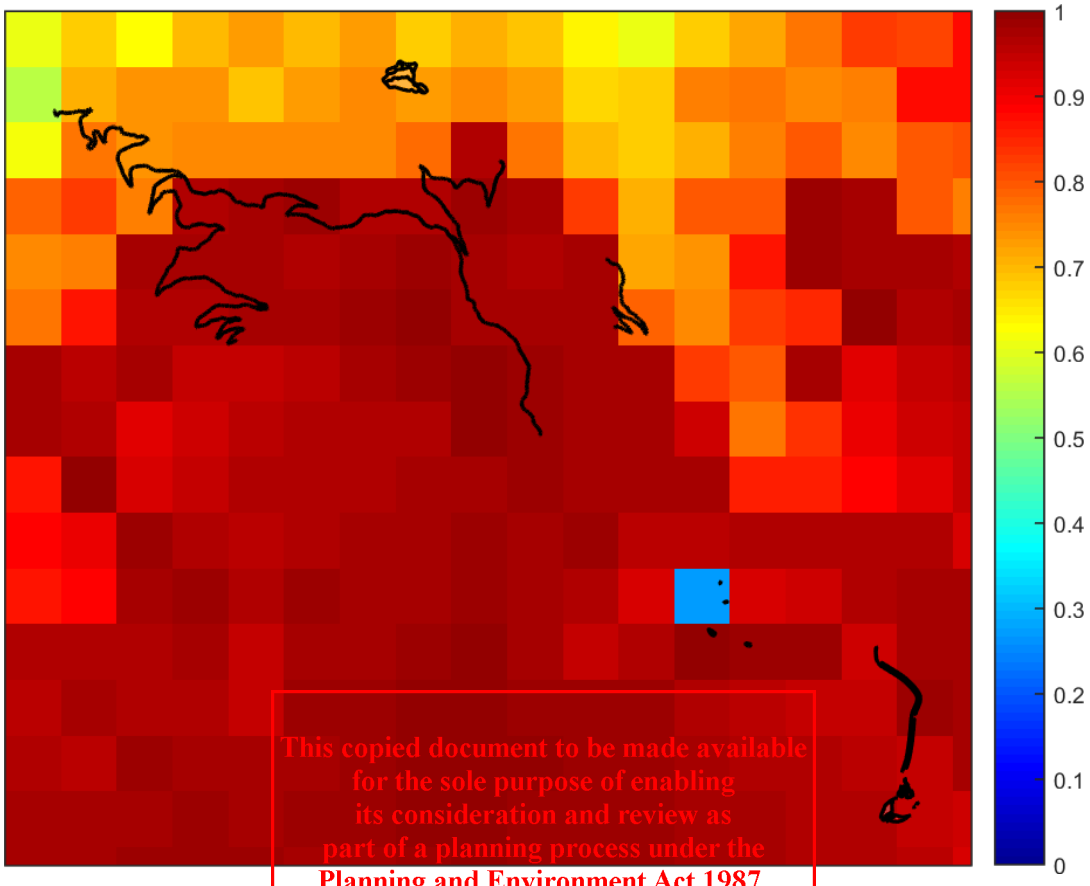
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

Habitat impacted

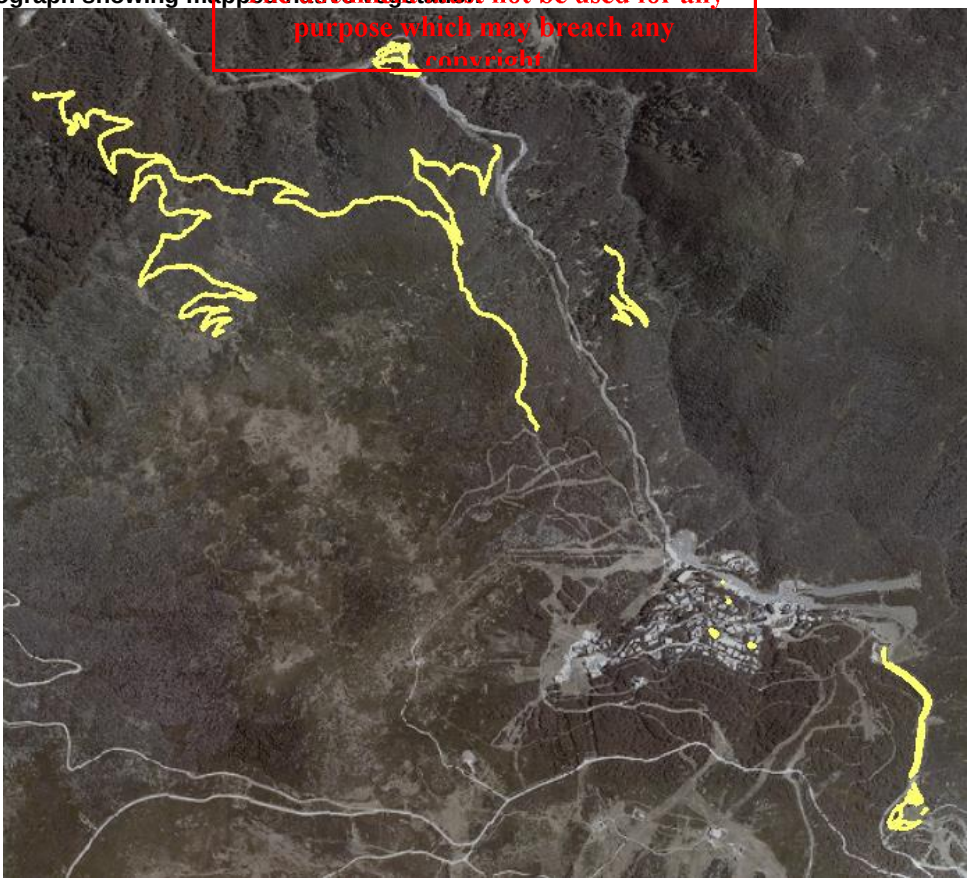
- Habitat importance maps are the maps defined in the Guidelines that include all the mapped habitat for a rare or threatened species
- Top ranking maps are the maps defined in the Guidelines that depict the important areas of a dispersed species habitat, developed from the highest habitat importance scores in dispersed species habitat maps and selected VBA records
- Selected VBA record is an area in Victoria that represents a large population, roosting or breeding site etc.

Appendix 3 – Images of mapped native vegetation

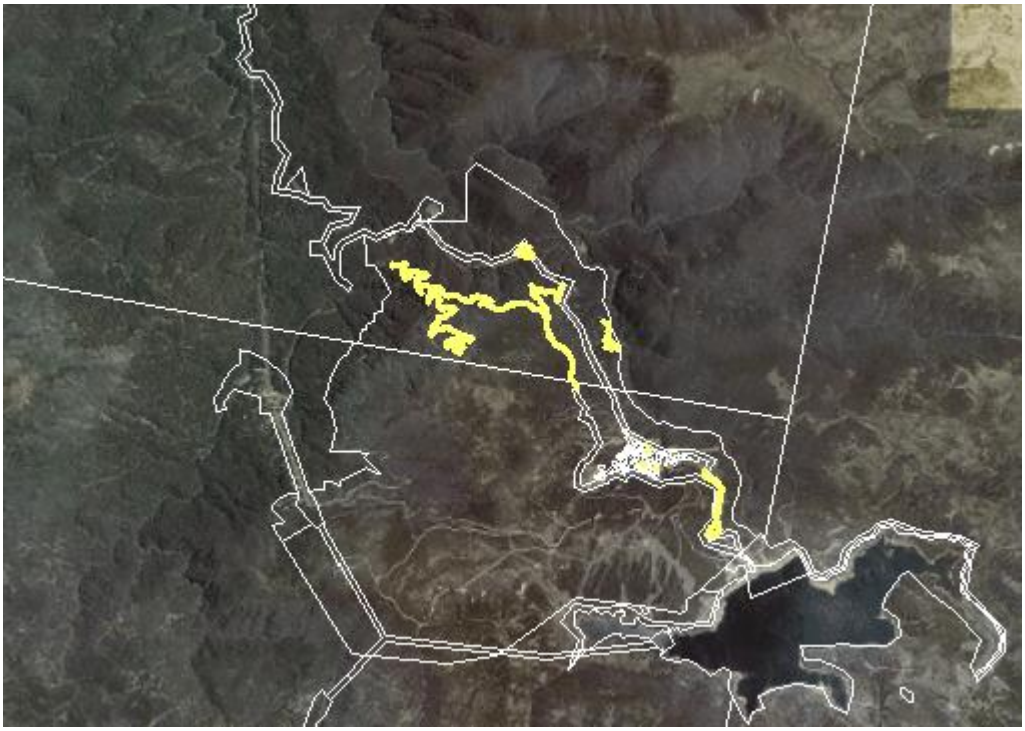
2. Strategic biodiversity values map



3. Aerial photograph showing mapped native vegetation



4. Map of the property in context



Yellow boundaries denote areas of proposed native vegetation removal.

Red boundaries denote areas of past removal.

Blue boundaries denote zones of partial removal with a halved condition score.

Attachment 4 – SEMP

SITE ENVIRONMENTAL MANAGEMENT PLAN (SEMP)

Ropers Saddle Carpark

Prepared by Biosis Pty Ltd for Alpine Resorts Victoria – Falls Creek

A Site Environmental Management Plan (SEMP) is a document detailing the potential environmental impacts of a proposed use and/or development and the ways that these impacts may be reduced by management strategies and practices. The provision of a SEMP is triggered under Schedule 1 and Schedule 2 of the Comprehensive Development Zone contained within the Alpine Resorts Planning Scheme.

OBJECTIVES OF A SEMP

The objectives of a SEMP are to address environmental, planning scheme and rehabilitation requirements and ensure that applicants are accountable for preventing or mitigating any environmental impacts.

THE PROCESS

A SEMP must be endorsed by the responsible authority (the Minister for Planning) prior to the commencement of any building or works. Endorsement may include approval by the relevant Alpine Resorts Victoria, the Department of Environment, Land, Water and Planning (DELWP) and the relevant Water Authority.

SUBMISSION

Ensure that you submit the following as part of your SEMP package:

Part A - SEMP Cover Form

Part B - Site Construction Management Plan, including a detailed drawing identifying environmental measures referenced in the SEMP Cover Form and documentation addressing the performance standards – SEE MAP ATTACHED

Part C - Site Rehabilitation Plan including a detailed drawing identifying revegetation requirements and rehabilitation areas and other necessary documentation – See Part C

Please note:

The planning scheme may require additional information to be attached to fully describe the site and works such as:

- Flora, fauna and No Net Loss assessments – SEE ATTACHED ROPERS SADDLE CARPARK: FLORA AND FAUNA ASSESSMENT Biosis, 2022.

A copy of the endorsed SEMP must be kept on site at all times during the construction period.

Failure to comply with a SEMP can result in enforcement action.

Document control

Version	**1.0 (Draft)**		
Internal reviewer	**BRH**	**Date issued**	**14/10/2022**

PART A

SITE ENVIRONMENTAL MANAGEMENT PLAN:

Ropers Saddle Carpark

Site Location

The Site consists of a 2.04 hectares area of land known as Ropers Saddle located on Bogong High Plains Road, north of Falls Creek Village.

The Site is located within the Falls Creek Alpine Resort and included in Allotment 2009, Parish of Carruno.

See attached Construction Management Plan (CMP) for site location information (Figure 1).

Project Description

It is proposed to construct 182 car parking spaces on the Site.

The car parking spaces are proposed in horizontal direction with dimensions of 2.5 x 5.4 metre.

Access to the proposed car park will be from the Bogong High Plains Road.

Project Management

Alpine Resorts Victoria – Falls Creek (ARV-FC) is the project proponent and has led the design and planning phases of the project.

The construction phase of the project will be managed by ARV-FC and they will be contactable on a 24 hour basis during construction works.

Project Manager:

Name: Fred Weir
Address: 1 Slalom Street, Falls Creek
Mobile 0410 466 219
Email: fredweir@fallscreek.com.au

*This is subject to change on appointment of building contractor.

The Project Manager or Site Supervisor must:

- Be present at a site induction
- Ensure all personnel (including contractor/sub-contractors) are aware of contents of SEMP
- Be available for on-site meetings when required
- Ensure compliance with the SEMP.

Construction Schedule

An indicative construction schedule is outlined in Table 1. These timeframes will be subject to change dependant on obtaining planning approval.

Table 1: Construction schedule

Stage1	Date/timing
Clear vegetation	November 2023
Car parking spaces construction	November 2023 – April 2024
Site rehabilitation	April 2024 – December 2024

Construction timing will be confirmed subject to planning approval and appointment of building contractor.

Construction will be halted where severe weather conditions are forecast or experienced (e.g. fire, flood, severe thunderstorm or wind warnings issued by the Bureau of Meteorology).

A site induction will be held consistent with standards outlined in the accompanying CMP prior to the commencement of the project.

Construction Techniques/Activities

The construction of the car park will be done using traditional methods for the Alpine Resorts. Vegetation on the site will be removed by hand and by machinery, cut and fill will be undertaken using tracked excavators and the car park will be constructed using typical machinery used for road construction. All construction will be undertaken in accordance with the SEMP and CMP.

Construction activity will occur from November 2023 to April 2024, subject to obtaining the necessary planning approvals. If construction is not completed by April 2024, the site will be secured prior to the snow season. Construction will then recommence in November 2024 with completion prior to April 2025.

Environmental Risks

Each environmental risk is described below in Table 2 with relevant responses.

Table 2: Environmental risk

Risk	Measures to address risk
1. Local erosion and sedimentation as a result of exposed soil in the immediate vicinity of the construction areas.	A preliminary geotechnical risk assessment has been undertaken by GHD. This report concludes that the residual risk associated with the development is low subject to the implementation of the recommendations outlined in that report (GHD, 2019). The below mitigation measures will be undertaken following the recommendations in the preliminary geotechnical risk assessment to avoid local erosion and sedimentation: • Surface drainage across the site will be controlled during and after construction and not concentrated on slopes. • Excessive loading of fill slope during construction will be avoided. • Slope stabilisation works will be undertaken along the car park driveway where 1V:1.5H gradient cut slopes are proposed. A gabion wall solution will be used to provide toe support to the cut slopes. The wall will be designed by an appropriately qualified geotechnical engineer. • A geotechnical investigation will be undertaken to establish the ground conditions of the site and inform assessment of the stability of the proposed cut slopes and the un-retained Bogong High Plains Road cutting. • Ensure that risk is reviewed should changes to land use or drainage conditions surrounding the site be proposed. • The continuous visual monitoring of the slopes will be undertaken by the contractor during construction for any signs of instability and new areas of groundwater discharge and where observed refer to a geotechnical engineer. A visual inspection will be completed by a geotechnical engineer following completion of construction works.

Risk	Measures to address risk
2. Removal of native vegetation beyond the approved construction area.	Access/egress to the construction site will be via predefined and marked routes that correlate to the location of future driveway and paths. The location of the car parking spaces, proposed access and native vegetation to be removed will be clearly marked on site to ensure only the approved vegetation is removed. Tree Protection Zones (TPZ) will be established in accordance with the following: • The radius of the tree protection zone (TPZ) is calculated for each tree by multiplying its diameter at breast height (DBH) by 12 (i.e. TPZ = DBH x 12) in accordance with Standards Australia (2009). Alternatives to the agreed 15 metre buffer should be applied to all trees according to DELWP (2018). • A TPZ should not be less than 2 metres or greater than 15 metres, except where crown protection is required (Standards Australia 2009). Vegetation removal beyond the approved construction area is strictly prohibited and will be secured by exclusion fencing and signed as NO GO AREA. Vegetation removal protocols will be discussed in detail at the site induction.
3. Introduction of pest plants (weeds) and soil pathogens.	Prior to works commencing any machinery, equipment and PPE introduced into the Resort will be washed down to remove soil and weed seeds / propagules, using a wash down facility provided onsite or offsite, as approved by the Project Manager. All equipment that has been previously contaminated with soil material will be washed down off-site with Phytoclean anti-fungal solution prior to works commencing. All construction materials must be certified free of contamination by pest plant seeds / propagules or soil pathogens. All works contracts are to specify the contractor is responsible for prevention or follow control of any pest plant or pathogens introduced to the site. Control of woody weeds should occur in immediately adjacent retained native vegetation. Weed control measures should be monitored annually to assess their effectiveness.

Risk	Measures to address risk
4. Destruction of threatened flora or their habitats. Impacts to threatened ecological communities.	The proposed development area has been assessed by a professional ecologist and the development avoids and minimises impacts to significant flora species largely by restricting vegetation removal to the minimum construction footprint. All areas of retained native vegetation to be protected during construction by means of temporary fencing. Fencing must be installed before construction work commences and the fenced areas treated as NO-GO zones (see CMP). Access to Site during construction will be via predefined and marked routes that correlate to the location of future driveways or paths. No large loose or embedded rocks will be disturbed in rocky outcrop habitats beyond construction areas. The large branches and trunks of any trees which are lopped or felled should be incorporated into areas where they can continue to provide fauna habitats. A *Flora and Fauna Guarantee Act 1988* (FFG Act) protected flora permit will be obtained from DELWP for the removal potential habitat for listed fauna species and protected flora species present on site. All conditions of this permit will be adhered to. Works impacting on protected flora will not commence until the FFG permit is issued by DELWP.
5. Disturbance or injury to terrestrial wildlife.	Disturbance or injury to wildlife is unlikely if all works are restricted to the impact area. Prior to tree removal any subject tree must be inspected by an appropriately qualified zoologist to determine the presence of any native animals living or nesting in the tree. Should any native animals be detected they must be caught and relocated to a site deemed appropriate by the zoologist. Appropriate animal handling permits must be in place prior to wildlife salvage (organised by the zoologist) All open trenches will be filled in at the end of each day where possible. Where this is not possible open trenches will be inspected by the site supervisor each morning to ensure no wildlife has been trapped. If injured wildlife is encountered the project manager will be immediately notified and a licenced wildlife handler/carer or local veterinarian will be consulted. *Wildlife Victoria – ph. 03 8400 7300.*

Risk	Measures to address risk
6. Bushfire.	Construction works will not take place on days of total fire ban (TFB). During the fire danger period, the use of spark or flame emitting equipment such as grinders and welders, or risks posed by hot exhausts on chainsaws and machines, will be monitored by a spotter equipped with a fire extinguisher, rake hoe and suitable water supply. No cutting or welding will take place on days of total fire ban. Should the use of spark or flame emitting equipment be required (e.g. welding) or there are risks posed by hot exhausts on machines, these risks will be monitored by a spotter equipped with a fire extinguisher, rake hoe and suitable water supply. No fires will be lit for cooking or warmth by the contractor within or near the construction corridors. The contractor will be responsible for developing an OHS and emergency plan to deal with issues such as bushfire. All requirements relating to bushfire are to be included in contract specifications. The ARV-FC will be responsible for developing an OHS and emergency plan to deal with issues such as bushfire.
7. Pollution and litter.	All litter or waste materials introduced to the work site will be removed on a daily basis or secured appropriately against dispersal beyond the site, for legal disposal at a later date. The works do not require the specific use of any hazardous substances other than machinery fuels and oils. No toxic or potentially environmentally harmful substances such as paints, herbicides, pesticides and will be used on site unless consent is given in writing by the Project Manager. No fuels, oil or any potentially harmful substance will be stored or used on site without the prior written consent of the Project Supervisor. All refuelling shall be conducted at least 30m away from waterways using suitable containers and funnels or a built for purpose fuel tender that is in good condition and does not have defects or leaks. The tender vehicle must have materials at hand to manage and clean up any spill incidents. The Project Manager must inspect the condition of any fuel tender before access is granted to the construction site. Machinery servicing and oil changes will not be performed on-site without the written consent of the Project Manager. The Project Manager will specify measures to manage risks associated with any machinery servicing.
8. Community concern for environmental protection during works.	Communicate project plan with community, provide SEMP to the public.

Risk	Measures to address risk
9. Failure of rehabilitation works	Follow up visual inspections of rehabilitation works and vegetation establishment / recovery to assess the success of soil, slope and vegetation stabilisation Reinstatement of failed rehabilitation works Clauses relating to reinstalment rehabilitation failure to be included in the contract specification.
10. Inadvertent environmental damage or works without necessary permits. Non-compliance with Environmental Legislation	Ensure all required permits have been obtained and that design meets any permit or other legislative requirements for the works. Ensure all personnel are aware of the permitted works activities and the extent of the construction site.

Site Environmental Values

An assessment of the native vegetation within the Site has been prepared by Biosis (Biosis, 2022).

The Site supports Montane Damp Forest contiguous with similar vegetation in the Alpine National Park. The Site has been subject to various disturbances and land uses and these have resulted in a mosaic of disturbed areas, regenerating and intact native vegetation.

Key ecological values identified within the Site are as follows:

- 1.225 hectares of native vegetation proposed for removal including eight large trees.
- Four patches of differing quality native vegetation within the Montane Damp Forest Ecological Vegetation Class EVC 38. Some areas have been cleared for an existing power line easement, and the entire site was affected by the 2003 Alpine Fires.
- Potential habitat for three threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) include: Gang-gang Cockatoo *Callocephalon fimbriatum* (Endangered), Pilotbird *Pycnoptilus floccosus* (Vulnerable) and Mountain Skink *Liopholis montana* (Endangered) listed under the EPBC Act.
- Potential habitat for four threatened species listed under the *Flora and Fauna Guarantee Act 1988* (FFG Act) include: Little Eagle *Hieraaetus morphnoides* (Vulnerable), Powerful Owl Ninox strenua (Vulnerable), Dingo Canis lupus subsp. dingo (Vulnerable) and Tussock Skink Pseudemoia pagenstecheri (Endangered), listed under the FFG Act.

Project Monitoring

The environmental risks associated with construction will be monitored on a regular basis. The Project Manager and Site Supervisor will be responsible for undertaking a general daily assessment of positive and negative impacts during the construction program and appropriate photographic records will be kept. Specialist advice on environmental issues will be sought as required from a suitably qualified environmental professional during the construction period.

The Project Manager will supply an informal monthly report to DELWP (Biodiversity and Planning) during the construction phase. This report will take the form of an email or phone call, and cover issue such as:

- Construction progress
- Timelines
- Any environmental issues encountered
- Responses implemented to address issues
- Dated photographs of key issues and responses.

The construction monitoring program for identified environmental risks is outlined in Table 3.

Table 3: Site and environmental risk monitoring, Parcel B

Risk	Monitoring response	Frequency of monitoring	Responsibility
1. Local erosion and sedimentation as a result of exposed soil in the immediate vicinity of the construction areas.	Visual inspections of construction progress including compliance with the preliminary geotechnical risk assessment (GHD, 2019), maintaining the construction area, stockpile/lay down areas and installation/maintenance of sediment control devices.	Daily	Project Manager and Site Supervisor
2. Removal of native vegetation beyond the approved construction area.	Visual inspection (including NO-GO areas and protection fencing) and photo record of pre- and post- construction clearing.	Daily inspections and monthly photographs	Project Manager and Site Supervisor
3. Introduction of weeds and soil pathogens.	Follow up visual inspections to detect weed germination and signs of soil pathogen infection. Maintain vehicle hygiene Manage any weed infestations.	Weekly during construction and monthly for 1 year after construction completion.	Project Manager
4. Destruction of threatened flora or their habitats. Impacts to threatened ecological communities.	Visual inspections to ensure vegetation removal is carried out in accordance with the planning and EPC permits.	As required at construction area mark out and when construction/ native vegetation removal commences	Project Manager
5. Disturbance to terrestrial wildlife.	Visual inspections by the Project Manager during construction where trenches/ footings have been left open over night.	Daily, prior to construction commencing or trench/ footings back filling.	Project Manager
6. Bushfire.	Have a spotter observing any welding or grinding operations, and when machinery with hot exhausts are in use	As required during and after such works	Site Supervisor
7. Pollution and litter.	Visual inspections of storage and machinery/equipment lay down areas.	Daily	Site Supervisor

Risk	Monitoring response	Frequency of monitoring	Responsibility
8. Failure of rehabilitation works.	Follow up visual inspections of rehabilitation works to assess the success of soil and vegetation stabilisation.	Weekly during construction and monthly for 1 year after construction completion.	Project Manager

Declaration

I agree to ensure that:

✓ All site and environmental protection measures outlined within the approved SEMP will be adhered to.

✓ All endorsed plans will be adhered to.

✓ All site rehabilitation and revegetation works will be undertaken in accordance with the approved SEMP.

✓ Prior to construction personnel commencing work, the site supervisor will ensure:

- An appropriate site induction has been undertaken.
- Equipment/Plant will be serviced off-site.
- All equipment will be cleaned and free of vegetation, soil and seed prior to being brought on to the site and prior to leaving the site.
- Approval from the Resort Management Board will be obtained prior to any out-of-hours work occurring. Written notification will be provided to local residents when out-of-hours work is occurring.

✓ Provision of new service connections and upgrading of existing services will be undertaken in a timely manner with minimal on-site and off-site impacts and with prior approval of the RMB and services providers.

✓ Advice will be obtained from the 'Dial Before You Dig' service to determine the location of existing services onsite

Fred Weir

Full Name **Signature**

Date: _____/_____/_____

PART B

SITE CONSTRUCTION MANAGEMENT PLAN

Ropers Saddle Car Park

One map addressing the CMP requirements for the project is attached to the end of this document and the relevant requirements have been noted in the list below. **This CMP map accompanies the SEMP and will be provided to the contractor/ ARV-FC staff.**

The Site Construction Management Plan must include the following information and address all the Performance Standards within Part B:

a) Construction zone

The construction area is located south of Bogong High Plains Road, Falls Creek, as indicated on the CMP map.

Location of:

- neighbouring buildings (including setbacks) – No buildings exist in the vicinity of the Site
- surrounding street network – Vehicle access and street network is provided on the CMP
- waterways – indicated on CMP
- site access points – indicated on CMP
- surface water drainage – indicated on CMP maps (Catch drain)
- native vegetation/trees
  - on site/off site
  - to be retained and protected – all areas indicated on the CMP as No-Go Area
  - to be removed or lopped – all areas of native vegetation proposed to be removed (incl. trees) as indicated on Figure 3 of Biosis report *Ropers Saddle Carpark: Flora and fauna assessment* (Biosis, 2022)

b) Easements – not applicable

c) Existing service locations and protection measures – not applicable

d) Storage areas for: – indicated on CMP map

- construction vehicles
- construction materials
- waste
- stockpiles

e) Location of any temporary site offices/lunchrooms (if applicable) – indicated on CMP or determined by Project Manager as the works progress.

f) Topography/slope of the land – indicated on CMP maps, 1:500 topography layer

g) Sediment control measures – see CMP maps and sediment control section of SEMP

h) Stormwater drainage measures – see CMP maps and sediment control section of SEMP

i) Staging of works (if applicable) – One stage indicated on the CMP

j) Location of on site green waste storage – Green waste and excess soil to be removed from the site and stored in a location approved by the Falls Creek Resort Management Board.

k) Location of on site vehicle wash down location – to be done off-site at locations approved by the Falls Creek Resort Management Board in accordance with SEMP, if machinery from outside of the resort is to be used it is to be washed down prior to entering the resort.

PART B - SITE CONSTRUCTION MANAGEMENT PLAN PERFORMANCE STANDARDS

Site Induction

An induction must be undertaken by the site supervisor as required by the responsible authority.

Prior to the commencement of any building or works the site supervisor is responsible for ensuring that an appropriate induction is provided to all construction personnel in conjunction with the Alpine Resorts Victoria – Falls Creek.

Construction Zone and Vehicle Access

- Prior to the commencement of any building or works, the extent of the construction zone, including pedestrian, vehicle and machinery access must be clearly defined both on the plan and physically on the site.
- All buildings and works must be confined to the defined construction zone.
- Access should be confined to designated access tracks and pathways, and as far as practical utilise existing disturbed areas. Access must not be over adjoining leasehold sites. Access areas, both vehicular and pedestrian, must be stabilised to prevent sediment loss (eg. with crushed rock).
- If using porous materials (e.g. crushed rock) it should be contained by edging or boxing. Where suitable, porous material should be free of fines to allow for free drainage and to minimise the risk of sediment transport.
- Vehicular and machinery maintenance is not to occur on site.

Threatened Species

- The presence of rare/vulnerable/threatened species should be recognised on site and the necessary protection measures put in place.
- If any threatened species are identified on the site, as listed in *the Flora and Fauna Guarantee Act 1988* (FFG Act) or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), there are specific requirements that must be met which are outside the planning permit or associated assessment process. These requirements must be defined and adhered to as applicable.
- If the FFG Act is triggered, consultation with DELWP is required and if the EPBC Act is triggered, consultation with the relevant Federal Government department is required.

Easements and existing service locations

- Contact the 'Dial Before You Dig' service (phone 1100 or web www.1100.com.au) and the relevant RMB to identify where all existing services and infrastructure are located on site
- Contact the relevant service utility/planning authorities to determine what measures need to be implemented to best protect the asset. (For Information regarding Telstra: Telstra Network Integrity Services 1800 810 443)

Storage Areas for Building Materials and Waste Storage (on and off site)

- The storage of all equipment, waste and building materials must be contained within the areas defined on the CMP.
- Construction areas must be kept free of litter at all times.
- Adequate and appropriate waste bins must be provided on site, with locations to be determined in conjunction with the ARV. If waste bins are to be located off site, written approval from the ARV is required.
- Waste must be transported to an appropriate off-site transfer station, recycling centre or land fill, to be determined in consultation with the ARV.
- Waste is to be collected when waste bins are full.
- Waste is to be reduced by selecting, in order of preference, avoidance, reduction, reuse and recycling methods. Construction should involve the reuse of materials and the recycling of waste wherever possible.

- No waste may be disposed of on site.
- Chemicals and fuels stored on site must be kept to a minimum. If stored on site, bunds must be installed to reduce the potential damage caused by spills.
- All equipment, construction materials and waste must be removed from the site as part of site clean up works.
- Preparation of a Waste Management Plan in conjunction with the relevant ARV is encouraged to help achieve compliance with the relevant performance standards.
- No fire is to be lit on site without ARV approval.

Sediment Control Measures

- Sediment run-off controls and drainage around all construction areas must be established prior to commencement of any building or works.
- Sediment traps must be designed, installed and maintained to maximise the volume of sediment trapped from the site during construction.
- A mulch of fibre matting, shredded plant material from the site or certified weed free sterile straw, preferably from a pasture fescue crop, must be maintained on exposed areas until adequate plant cover is produced.
- Grading, excavation and construction must not proceed during periods of heavy rainfall.
- Sediment control measures must have a size and capacity to withstand the flow of a one in five year storm event.
- All sediment control measures must be maintained during construction and inspected prior to (and after) rain events to ensure they are functioning properly.
- Topsoil must be kept separate from sub-soil when stockpiling soil, and covered with an appropriate fabric to minimise loss and sedimentation.
- All loads of soil being taken off site for disposal must be covered.
- Drainage is to be returned to previously existing flow paths, except where specified by a separate drainage report.
- All stockpiles of soil, sand, fertiliser, cement or other fine, loose material must be placed in locations away from drainage lines, roadside channels and culverts unless adequately protected from erosion by diversion drains, bunds or similar works. All stockpiles must be covered.

Stormwater Drainage Measures

- Pre-construction drainage will be provided to divert excess water away from excavations and working areas to minimise sediment-ladan run-off.
- Any water to be pumped from the site should be filtered before release to ensure that no sediment or weed seeds enter the stormwater system. Energy dissipation measures also need to be in place to guard against potential scouring.
- Natural drainage patterns must not be altered post construction, except through an approved drainage plan.
- Cut-off or intercept drains must be established during construction to redirect stormwater away from cleared areas and slopes to stable (vegetated) areas.
- Stormwater collected by impervious surfaces during construction must be drained via sediment traps to the road drainage system where possible.
- Drip line drainage, including energy dissipation measures, must be installed under eaves to minimise erosion caused by raindrop action and snow shedding.

Management of Pests and Animals

- All construction vehicles and equipment must be cleared of soil and organic matter to remove seeds prior to arriving on site to prevent the introduction and/or spread of weeds and pathogens.
- Site inspections must be conducted by the site supervisor during and after construction to identify weed species requiring control.
- Building work that uses transported gravel and soil must be monitored to prevent the introduction of exotic species.
- No animals (including dogs) are permitted on site without the prior written consent of the relevant RMB.

Further Guidance:

Department of Environment, Land, Water and Planning

http://www.delwp.vic.gov.au

Guidelines for Minimising Soil Erosion and Sedimentation from Construction Sites in Victoria, compiled under the guidance of the Land Disturbance Working Party; by R.J. Garvin, M.R. Knight, T.J. Richmond

Water Sensitive Urban Design Guidelines for Alpine Environments, Dec 2005

EPA's publication 275 'Construction Techniques for Sediment and Pollution Control', available online: www.epa.vic.gov.au, link – Publications and Library

PART C

SITE REHABILITATION PLAN

Ropers Saddle Car Park

This section outlines the steps that will be taken to stabilise and rehabilitate the construction area once the proposed car park is constructed. A description of the rehabilitation process is outlined below.

Type of soil stabilisation to be used on disturbed areas

Top soil will be stock piled and reinstated on disturbed areas.

Sediment fence technique will be used for trapping sand and silt. Details are included in the attachment (Sediment fence).

The following erosion control measures will be used for sand and soil stockpiles.

Material	Stockpile cover	Comment
Sand	No cover	• When wind erosion and dust control is not an issue.
	Synthetic cover, porous or not porous	• When the control of wind erosion is essential for reasons of safety.
Soil	No cover	• When wind erosion and dust control is not an issue.
	Mulching, vegetative cover, chemical stabilisers, soil binders, or impervious blanket	• Long-term (>28 days) stockpiling of dispersive soil. • Long-term (>28 days) stockpiles of clayey soils when turbidity control is desirable. • Long-term (>5/10 days) soil stockpiles during months of Extreme/High erosion risk. • Short and long-term stockpiles of clayey soils when turbidity control is essential.

Location of on-site replanting (if applicable), indicating the species and number to be used and approximate area (in square metres) of ground cover species

Replanting will occur on downhill slopes where there is sufficient top soil. Species will be determined in consultation with the Alpine Nursery and will be planted at a density of approximately 2-4 plants per square meter.

Schedule of works to undertake:

Soil stabilisation

Excavated areas will be covered with top soil, weed free straw and jute mesh to promote soil stability and reduce sediment runoff once construction have been completed. Large logs and branches removed from the construction site can be used to reduce run off and provide habitat in disturbed areas such as batters etc.

Planting

As above.

Maintenance and extent of monitoring and follow-up works on site

Construction to be monitored daily and weekly during the construction period. The Project will be monitored monthly after commissioning (unless under snow).

Note: Site rehabilitation is separate to any native vegetation offset requirements for native vegetation removal authorised by the planning permit.

References

Biosis. (2022). *Ropers Saddle Carpark: Flora and Fauna Assessment.* Wangaratta: Biosis.

GHD. (2019). *Falls Creek Resort Management, Ropers Saddle Car Park: Preliminary Geotechnical Risk Assessment* . Melbourne.

Construction Management Plan

Fuels, oils and chemicals

- No fuel or chemical storage on site
- Machinery fueling to be completed using portable bunding
- Spill kit to be provided on all plant or on site

Stockpile management

- Stockpiles must be constructed according to the specification provided.
- Sediment controls such as sediment fence must be in place.
- A catch drain must be constructed upslope, and runoff directed through a modular sediment trap or check dam.
- Appropriate dust suppression must be in place at all times.

Bogong High Plains Rd

Bogong High Plains Rd

No-Go area

Legend

- Power pole
- Tree protection zone

Large old trees

- Large tree to be retained
- Large tree to be removed

Project design

- Batter - cut
- Batter - fill
- Carpark entry
- Car parking area

Construction management plan

- Modular sediment trap or check dam
- Outlet structure
- Sealed rubbish and recycle bins
- Site access
- Site facility - temporary
- Stockpile site
- Vehicle/plant parking
- Catch drain
- Chute
- Culvert
- Exclusion fence
- Sediment fence
- Table drain - existing
- No-Go Area

N

0 10 20 30

Metres

Scale 1:500 @A3

Coordinate system: GDA 1994 MGA Zone 55

biosis

Sediment controls

- Place modular sediment traps (MST) or check dams (CD) at any point of potential concentrated surface water flow, including in stormwater drains.
- More than one MST or CD may be required at each point. Refer to design specifications attached.
- Indicative locations for MST / CD, cut off drains and sediment fencing are shown.
- Place all sediment controls according to detailed design or to terrain.
- Refer to sediment control specifications provided with the CEMP /SEMP report.
- **Hay bales or straw bales not permitted for sediment controls.**

Layout: 29893_F1_CMP
Matter: 29893 Date: 19 June 2019
Checked by: LDM, Drawn by: LDM, Last edited by: Imilne
Location: P:\29800s\29893\Mapping\29893_SEMP_RopersCarPark_FallsCrk

Acknowledgements: State Government of Victoria - VicMap - Nearmap

Attachment 5 – Application consent and conditional support from VicRoads

vicroads
ABN 61 760 960 480

Attention: Michael Dafnomilis

Dear Sir/Madam

PLANNING APPLICATION NO.: **PA1900694**
VICROADS REFERENCE NO: **PPR 31054/19**
PROPERTY ADDRESS: **BOGONG HIGH PLAINS ROAD, FALLS CREEK VIC 3699**

Section 55 – No objection subject to conditions

Thank you for your letter dated 11th October 2019 referring details of the above application to the Roads Corporation (VicRoads) pursuant to Section 55 of the Planning and Environment Act 1987.

The application is for Works associated with the construction of a car park, associated vegetation removal and creation of an access to a Road Zone Category 1

(Ropers Saddle), Bogong High Plains Road, Falls Creek.

VicRoads notes while the proposed development is not without some merit, there are a number of deficiencies as follows:

A Traffic Impact Assessment Report (TIAR) was not supplied with the application. As a result of the site meeting with Falls Creek Resorts Management it was decided that TIAR can be requested as a condition on the permit and Falls Creek Resort Management agreed to complete any mitigating works that might emerge from TIAR.

If Council regards the proposed development favourably, VicRoads would require that the following conditions be included in any Notice of Decision to issue a Planning Permit or Planning Permit:

Conditions

1) Only one access will be permitted from the car park to the Bogong High Plains Road as shown on the plan appended to the application.

2) Prior to development commencing the following must be submitted to the satisfaction of Roads Corporation,

   i. A scaled functional layout plan showing the proposed access point to the development on Bogong High Plains Road including features such as pavement, kerb / shoulders, line marking, power poles, trees and other road furniture within 100 metres of the proposed access. The functional layout plan must also demonstrate how the proposed access fit into, operate and interact with Bogong High Plains Road. This must include any required turning movements into or out of the proposed access point.

   ii. The submission of swept path analysis for the appropriate design vehicle for all movements associated within all the proposed access point, including how the largest design vehicle that could be reasonably anticipated to use the site may enter and exit the development in a forward direction.

   iii. A Transport Impact Assessment Report (TIAR) which must address traffic and access issues arising from the proposed development on this site, sight distance assessment, predicted traffic generation and the impact of the development on the existing arterial road network in all relevant peak periods, in particular its impact on Bogong High Plains Road at which access is proposed, nearby intersections and access points to abutting land. The report will also identify any mitigation works required.

3) Prior to development coming into use, mitigating works recommended in TIAR must be completed to the satisfaction of and at no cost to Roads Corporation .

4) The access road to the carpark must be maintained in a fit and proper state so as not to compromise the ability of vehicles to enter and exit the site in a safe manner or compromise operational efficiency of the road or public safety (eg. by spilling gravel onto the roadway).

Planning Notes

1. Separate consent for works within the road reserve and the specifications of these works may be required under the Road Management Act.
2. It should be noted that the consent application will be treated as a developer funded application which requires fees and detailed plans and specifications.

Once Council makes its decision, please forward a copy of the decision to VicRoads as required under Section 66 of the Planning and Environment Act 1987.

Should you have any enquiries regarding this matter, please contact Mayank Gupta on 5761-1836 or ner.ppr@roads.vic.gov.au.

Yours sincerely

Signed, Mayank Gupta 10/12/2019

MAYANK GUPTA
STATUTORY REFERRALS ENGINEER

Cc: Permit Applicant