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Department of Planning
Housing and Infrastructure

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No 24/14995

Granted on the 15 July 2025

Signed M Brown

Sheet No 3 of 11

Date: 19 September 2024

Our ref: 6835

Kosciuszko Thredbo Pty Ltd
PO Box 92
Thredbo Village NSW 2625

Attention: Chloe Chalk

Dear Chloe,

Ecological Assessment – Kareela Hutte Access - Thredbo Alpine Resort

As requested, I have reviewed the potential impacts on vegetation and fauna habitats associated with the proposed Kareela Hutte access upgrade, as shown in Figure 1 below. This included an inspection of the vegetation and habitats to be affected on 28 September 2023. The proposed works are described in more detail below.

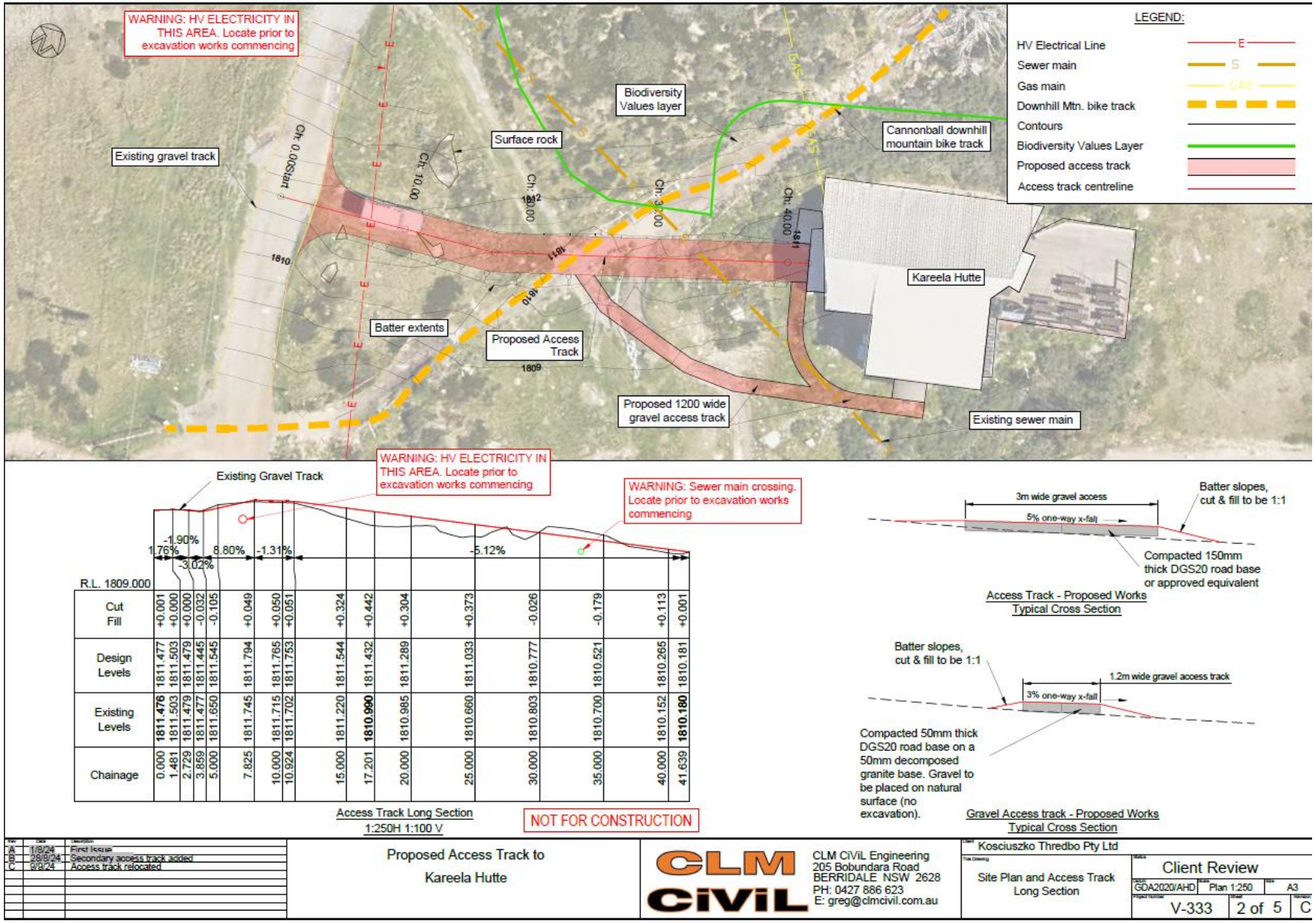
The proposed works include:

- Construction of a 3 m wide and 150 mm thick gravel vehicle access track from the existing Summer Road to the top entry of Kareela Hutte over a distance of approximately 35 m.
- Construction of two 1.2 m wide and 50 mm thick gravel secondary access tracks from the proposed vehicle access to the lower entry of Kareela Hutte over a combined distance of approximately 30 m.
- Minor cut and fill batters for the construction of the vehicle access track. The cut and fill would be no greater than 2 m.
- Minor vegetation removal, predominately exotic grasses and small patches of native shrubs.
- Sediment and erosion control measures, such as the installation of silt fencing and straw bale filters.

To avoid, minimise and mitigate impacts, the proposed works will be located entirely within existing highly disturbed areas. As such, there will be only very minor direct impacts on native vegetation. Direct impacts on vegetation will be restricted to approximately 10 m^2 of regrowth native shrubs that occur in small patches within highly disturbed areas dominated by exotic grassland or bare ground, as shown in Photos 1 -3.

Indirect impacts associated with the proposal are expected to be minor as:

- The footprint of the proposed direct impacts is small.
- The areas affected are already highly disturbed and located immediately adjacent to existing infrastructure.
- The proposed works will be implemented with appropriate safeguards.



	Cut Fill	Design Levels	Existing Levels	Chainage
	+0.001	1811.477	**1811.476**	0.000
	+0.000	1811.503	1811.503	1.481
	+0.000	1811.479	1811.479	2.729
	-0.032	1811.445	1811.477	3.859
	-0.105	1811.545	1811.650	5.000
	+0.049	1811.794	1811.745	7.825
	+0.050	1811.765	1811.715	10.000
	+0.051	1811.753	1811.702	10.924
	+0.324	1811.544	1811.220	15.000
	+0.442	1811.432	**1810.990**	17.201
	+0.304	1811.289	1810.985	20.000
	+0.373	1811.033	1810.660	25.000
	-0.026	1810.777	1810.803	30.000
	-0.179	1810.521	1810.700	35.000
	+0.113	1810.265	1810.152	40.000
	+0.001	1810.181	**1810.180**	41.639

Rev	Date	Description
A	1/8/24	First Issue
B	28/8/24	Secondary access track added
C	9/9/24	Access track relocated

Figure 1: The proposed development.

Figure 2: The proposed works will not affect any vegetation on the Biodiversity Values Map.

Photo 1: The proposed vehicle access will be entirely contained within existing heavily disturbed areas.

Photo 2: The proposed vehicle access will traverse the existing Cannonball mountain bike trail. The area immediately adjacent to Kareela Hutte is highly disturbed and dominated by exotic grasses, particularly *Dactylis glomerata* (Cocksfoot) with scattered *Ozothamnus secundiflorus* (Cascade Everlasting).

Photo 3: The location of the proposed secondary access tracks are also highly modified and dominated by exotic grasses.

NSW Biodiversity Offset Scheme

The proposed works will not affect any areas mapped within the Biodiversity Values Map as defined in the NSW *Biodiversity Conservation Regulation 2017* (BC Reg), as shown in Figure 2, nor will the potential impacts on native vegetation or habitats exceed the 1 ha native vegetation clearance threshold which applies to the Thredbo Resort Area as per the BC Reg. As such, the proposal will not trigger the NSW Biodiversity Offset Scheme (BOS).

Impacts on vegetation communities

The proposal will result in only very minor impacts on native vegetation, being limited to the removal of approximately 10 m^2 of regrowth shrubs, mainly *Ozothamnus secundiflorus* (Cascade Everlasting), but also including, *Olearia phlogopappa* (Dusty Daisy-bush), *Nematolepis ovatifolia*, *Oxylobium ellipticum* and *Hovea montana* (Alpine Hovea). The rest of vegetation within the development footprint comprises exotic grassland resulting from a long history and range of disturbances. The exotic grassland which is dominated by a range of exotic grasses such as *Festuca rubra* (Red Fescue), *Dactylis glomerata* (Cocksfoot) and *Agrostis capillaris* (Browntop Bent), and weeds such as *Acetosella vulgaris* (Sheep Sorrel), *Achillea millefolium* (Yarrow), and *Hypochaeris radicata* (Flatweed).

Impacts on threatened ecological communities

The proposed development will not affect any threatened ecological communities.

Impacts on flora species of conservation significance

The proposed development will not affect any threatened flora species.

Impacts on fauna habitats

Potential impacts on fauna habitats associated with the proposed works will be limited to minor potential impacts on connectivity as no potentially important fauna habitats will be directly impacted by the proposed works. The proposed works will not affect connectivity for highly mobile fauna species, nor is it considered likely that the proposed works will adversely affect the capacity for less mobile species such as small mammals and reptiles, to access habitats surrounding the proposed works.

Searches of the affected vegetation did not detect any evidence of use by *Mastacomys fuscus* (Broad-toothed Rat) however it is likely that the species occurs in the heathy woodland surrounding the Hutte and occasionally occurs in the study area. The habitats to be affected are unlikely to be used by other threatened mammal species such as *Cercartetus nanus* (Eastern Pygmy-possum) or *Burramys parvus* (Mountain Pygmy-possum). Whilst highly mobile threatened bird species such as the *Petroica phoenicea* (Flame Robin), may occasionally forage in the study area they would not be affected by the proposed works. The proposal will not affect any potentially important habitat for the threatened reptiles such as *Liopholis guthega* (Guthega Skink) or *Cyclodomorphus praealtus* (Alpine She-oak Skink).

The proposal will not result in substantial modifications to the hydrological environment. Similar developments have been undertaken over many years within the Thredbo Resort area, and elsewhere within the NSW Alps, with negligible impacts on the hydrological environment and associated ecosystems.

Under these circumstances, the impacts of the proposal on fauna habitats are considered to be negligible and acceptable. The potential impact of the proposal on threatened fauna have been assessed further (Appendix A) pursuant to relevant statutory assessments.

Recommendations

To further mitigate the potential impacts of the proposal, the following recommendations for impact mitigation and amelioration are suggested.

Vegetation and habitat management

- All disturbance should be kept to the minimum required to achieve the proposal.
- The proposed works should be constructed and implemented in accordance with best practice design standards to ensure that there are no adverse modifications to the hydrological environment that may impact on surrounding vegetation and associated habitats.
- Appropriate safeguards should be in place during the proposed works to limit the potential for invasive plants or pathogens, chemicals or any other pollutants to enter the environment in association with the proposed development.

Sediment control

- Appropriate sediment control measures should be implemented prior to any construction work for the proposal and retained in place until exposed areas of soil or vegetation are stabilised and/or revegetated.
- Sediment control measures are to have particular regard to the prevention of any sedimentation of watercourses or vegetation communities adjoining the study area.

Rehabilitation

- Rehabilitation activities should be consistent with the resort areas rehabilitation guidelines (NGH Environmental 2007).
- Only weed-free straw or natural thatch/litter should be used in sediment control activities.

Conclusion

The proposed works will not result in any adverse impacts on threatened species, populations or ecological communities and will not have a significant impact on these entities pursuant to the NSW *Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The proposal will not result in any substantial adverse impacts on native vegetation communities or associated fauna habitats, nor will there be any impacts on flora species of conservation significance, important fauna habitats, habitat connectivity or any other biodiversity values of conservation significance.

Should you require any further information please contact me on 0422 802 447.

Regards,

Ryan Smithers
Principal Ecologist

References

Department of Environment and Conservation. 2006. *Plan of Management Kosciuszko National Park*. Department of Environment and Conservation, South Sydney.

NGH Environmental 2007. *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park.* A report for Parks and Wildlife Division. Department of Environment and Climate Change NSW.

Appendix A : Test of significance

Test of significance pursuant to section 7.3 of the BC Act: Five-part test

An assessment of the effects of the proposal on threatened species, populations and ecological communities which may be directly or indirectly affected by the proposal may be carried out by applying the five factors from Section 7.3 of the BC Act.

This test of significance is presented below for the threatened fauna species:

- *Mastacomys fuscus* (Broad-toothed Rat)

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Broad-toothed Rat *Mastacomys fuscus* (potential occurrence)
The Broad-toothed Rat generally occurs in two widely separated areas in NSW, the Barrington Tops area and the wet alpine and subalpine heaths and woodlands of the Kosciuszko NP and adjacent areas. The species lives in a complex of runways through dense vegetation of wet grass, sedge or heath and under the snow in winter. Home range size is thought to range between approximately 0.1 ha and 0.27 ha. Individuals nest alone over summer but congregate in communal nests during winter. The species is thought to be locally common in the alpine and high subalpine tracts of the Snowy Mountains area, where suitable habitats are present. The study area provides a very small amount of potential foraging and sheltering habitat for the Broad-toothed Rat.

The proposed development will not affect any key resources for the species, and the habitats immediately adjoining the study area will continue to be available to the species after the implementation of the proposed development. As such, the proposed development will not adversely affect a significant proportion of the home range of any Broad-toothed Rat individuals.

The proposed development is highly unlikely to result in any habitat fragmentation or the creation of barriers which could isolate individuals or a population of the Broad-toothed Rat. Whilst the proposal includes earthworks and the construction of a gravel vehicle track and secondary access tracks, the proposed works will not sever connectivity between surrounding habitats such that it would impede the movement of the Broad-toothed Rat.

Under these circumstances, the proposed development is considered unlikely to disrupt the life cycle of the Broad-toothed Rat such that a viable local population is likely to be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

There are no endangered or critically endangered ecological communities within the study area.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The proposed development will not impact any known Broad-toothed Rat habitat. The proposed development is not considered likely to modify connectivity between habitats adjoining the proposed works to the extent that the Broad-toothed Rat would be adversely impacted.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

The effects of the action proposed on habitat connectivity will be minor and the native fauna which may occur within the study area, will continue to be able to traverse the study area and access habitats adjoining the proposed works.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

The habitats that will be effected by the proposed works are not considered to be important for the Broad-toothed Rat.

d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

The proposed development will not affect any area of outstanding biodiversity value.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The proposed development is not part of any key threatening process.

EPBC Act Significant Impact Criteria

The EPBC Act Administrative Guidelines on Significance set out 'Significant Impact Criteria' that are to be used to assist in determining whether a proposed action is likely to have a significant impact on matters of national environmental significance. Matters listed under the EPBC Act as being of national environmental significance include:

- Listed threatened species and ecological communities;
- Listed migratory species;
- Wetlands of International Importance;
- The Commonwealth marine environment;
- World Heritage properties;
- National Heritage places;
- Nuclear actions; and
- Great Barrier Reef.

Specific 'Significant Impact Criteria' are provided for each matter of national environmental significance except for threatened species and ecological communities in which case separate criteria are provided for species listed as endangered and vulnerable under the EPBC Act.

The only Commonwealth listed species which is considered to have the potential to occur within the study area or be affected by the action proposed is the Broad-toothed Rat.

The relevant Significant Impact Criteria have been applied to determine the significance of impacts associated with the proposal.

Matters to be considered	Impact
any environmental impact on a World Heritage Property or National Heritage Places;	No. The proposal does not impact on a World Heritage Property or a National Heritage Place as addressed in the SEE. (listed natural: Australian Alpine National Parks and Reserves; nominated historic: Snowy Mountains Scheme NSW).
any environmental impact on Wetlands of International Importance	No. The proposal will not affect any part of Ramsar wetland.
any impact on Commonwealth Listed Critically Endangered or Endangered Species;	Yes. The study area provides potential habitat for one Commonwealth listed endangered species: the Broad-toothed Rat. The significant impact criteria for endangered species are discussed below: a. lead to a long-term decrease in the size a population of a species, Whilst the proposed action will affect some marginal potential habitat for the Broad-toothed Rat, the proposal is considered highly unlikely to adversely affect a significant proportion of the home range of one or more Broad-toothed Rat individuals and will not result in habitat fragmentation which could isolate individuals or a population of the Broad-toothed Rat. Under these circumstances, it is considered highly unlikely that the proposed action will lead to a long-term decrease in the size of the Broad-toothed Rat population. b. reduce the area of occupancy of the species The proposed works will not affect any key habitat resources for the Broad-toothed Rat; nor substantially adversely affect the species ability to access habitats within or beyond the study area. Under these circumstances, the proposed action is highly unlikely to reduce the area of occupancy of the local population of the Broad-toothed Rat. c. fragment an existing population into two or more populations The proposed works will not affect any key habitat resources for the Broad-toothed Rat; nor substantially adversely affect the species ability to access habitats within or beyond the study area. Under these circumstances, the proposed action will not fragment an existing population of the Broad-toothed Rat into two or more populations. d. adversely affect habitat critical to the survival of a species No habitat within the development site is considered likely to be critical to the survival of the Broad-toothed Rat. There are thousands of hectares of similar habitats in the alpine and subalpine zones of the Australian alps, including elsewhere within the Thredbo Resort area. The Broad-toothed Rat continues to occur within the Thredbo Resort Area despite a long history of similar and more extensive disturbances. e. disrupt the breeding cycle of a population It is considered highly unlikely that the Broad-toothed Rat would breed within the study area given the absence of suitable habitat. Under these circumstances, the proposed action will not disrupt the breeding cycle of a population of the Broad-toothed Rat. f. modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Matters to be considered	Impact
	The proposed action will modify a very small area of potential habitat for the Broad-toothed Rat, but this area is unlikely to be important to these species in the context of the extent of potential habitat in the locality. Under these circumstances it is highly unlikely that the proposed action would modify- destroy- remove or isolate or decrease the availability or quality of habitat to the extent that the Broad-toothed Rat is likely to decline. g. result in invasive species that are harmful to an endangered species becoming established in the endangered or critically endangered species' habitat The proposed action is unlikely to result in invasive species that are harmful becoming established in potential habitat of the Broad-toothed Rat. Species such as cats or foxes are already present in the landscape and are subject to control programs within the resort. h. introduce disease that may cause the species to decline The proposed action is unlikely to introduce disease that may cause the Broad-toothed Rat to decline. i. interfere substantially with the recovery of the species. As the proposed action is not considered to decrease or fragment any existing populations the recovery of the Broad-toothed Rat is unlikely to be adversely impacted.
Any impact on Commonwealth Listed vulnerable Species;	No. The study area does not provides potential habitat for any Commonwealth listed vulnerable species.
Any impact on a Commonwealth Endangered Ecological Community	No. The proposal will not impact any Commonwealth listed endangered ecological communities.
Any environmental impact on Commonwealth Listed Migratory Species;	No. The proposal will not have any adverse impacts on any listed migratory species.
Does any part of the Proposal involve a Nuclear Action;	No. The project does not include a Nuclear Action.
Any environmental impact on a Commonwealth Marine Area;	No. There are no Commonwealth Marine Areas within the study area.
In addition, any direct or indirect impact on Commonwealth lands	No. The project does not directly or indirectly affect Commonwealth land.