



# Statement of Environmental Effects

## Thredbo Golf Course Subdivision

Thredbo Alpine Resort  
Kosciuszko National Park, NSW  
September 2023



**Kosciuszko Thredbo Pty Ltd**  
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## Document Control

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## Executive Summary

Details	
<b>Development Proposal</b>	<p>This Statement of Environmental Effects (SEE) has been prepared to support the Development Application (DA) for the Thredbo Golf Course Subdivision (the Development).</p> <p>The DA is seeking development approval for the following works:</p> <ul style="list-style-type: none"> <li>• vegetation clearing;</li> <li>• earthworks;</li> <li>• establishment of 19 lots;</li> <li>• golf course re-design;</li> <li>• access road;</li> <li>• provision of municipal services, including water, electricity, sewer, communications, stormwater drainage and gas infrastructure; and</li> <li>• rehabilitation and landscaping works.</li> </ul> <p>The development of individual lots will be subject to separate DAs in the future.</p>
<b>Site Details</b>	<p><b>Lot Description:</b> Lot 876/DP 1243112</p> <p><b>Address:</b> Crackenback Drive, Thredbo NSW 2625</p> <p><b>Zoning:</b> Kosciuszko National Park, C1: National Parks and Reserves</p>
<b>Applicant</b>	Kosciuszko Thredbo Pty Ltd
<b>Key Planning Considerations</b>	<p>The Development is subject to the requirements of the <i>State Environmental Planning Policy (Precincts – Regional) 2021</i> (Precincts – Regional SEPP). As such, the Minister for Planning is the consent authority for the DA.</p> <p>The Development is integrated development under Section 4.46 of the EP&amp;A Act, requiring assessment under the relevant provision of the following Acts:</p> <ul style="list-style-type: none"> <li>• <i>Rural Fires Act 1997</i> – Section 100B;</li> <li>• <i>Water Management Act 2000</i> – Section 91; and</li> <li>• <i>National Parks and Wildlife Act 1974</i> – Section 90.</li> </ul>
<b>Key Matters</b>	<p>Detailed impact assessments have been undertaken on various matters including land, water, terrestrial ecology, aquatic ecology, socio-economic, landscape character, visual amenity, noise and vibration, air quality, historic heritage, Aboriginal cultural heritage, Matters of National Environmental Significance (MNES), transport and infrastructure and services and waste. Various technical consultants have been engaged to prepare independent studies to support the impact assessment. A copy of the technical reports has been provided in the Appendices of this report. A summary of the key matters is provided below.</p> <p><b>Geotechnical</b></p> <p>The preliminary slope risk hazards assessment concluded that given that the proposed sub division and ensuing development on each lot are located at valley floors, it is expected that the geotechnical hazards for the exiting surface conditions to be low to very low, the risk to property to be low, and the risk of injury or loss of life to be acceptable (Alliance 2023).</p>

### **Bushfire**

The aim of the Planning for Bushfire Protection 2019 (PBP) in respect of development on bushfire prone land is “to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to the development potential, site characteristics and protection of the environment”. The Bushfire Assessment Report (GHD 2023) demonstrates the requirements of, and the acceptable solutions identified in the PBP in relation to asset protection zones, public roads and accessibility and provision of services can be met in full for the Development.

### **Riparian and Aquatic Ecology**

The riparian and aquatic ecology assessment concludes that the proposed subdivision, and construction work and golf course reconfiguration would not have a significant impact on any threatened fish species or aquatic communities listed under the FM Act or EPBC Act.

The Development will require an Integrated Development Application for assessment by DPE-Water for works on waterfront land. The assessment confirmed the proposed encroachments to the vegetation riparian zone will not degrade the existing watercourse condition as the area is already cleared and disturbed (ELA 2023b).

### **Biodiversity – Terrestrial**

The Development has been located to take advantage of existing disturbed areas within the golf course and minimise the required clearing. As a result, it is anticipated that the proposal will involve the clearing or further modification of 1.66 ha of native vegetation, most of which has been heavily modified in association with the existing golf course. The residual unavoidable impacts of the Development were calculated in accordance with the Biodiversity Assessment Method (BAM) by utilising the BAM Calculator (BAMC). The BAMC calculated that a total of 39 ecosystem credits and one (1) species credit are required to offset the unavoidable impacts to the vegetation and fauna habitats present within the Development footprint. The Development will not result in any Serious and Irreversible Impacts (SII).

### **Matters of National Environmental Significance (MNES)**

Following consideration of the administrative guidelines for determining significant impacts under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the Development is unlikely to have a significant impact on MNES or Commonwealth land, and a referral to the Commonwealth Environment Minister is therefore not recommended.

### **Aboriginal Cultural Heritage**

Past Traces identified one Aboriginal heritage site with an associated area of potential archaeological deposit (PAD) which required subsurface investigation to determine heritage impacts. As a result of the potential impacts to the site, and to allow subsurface testing to proceed, an Aboriginal Cultural Heritage Assessment (ACHA) was completed to determine the extent and significance of impacts.

Past Traces (2023) determined the surface site is in a disturbed context and holds low significance and does not preclude development of the project area on condition that the heritage recommendations outlined in the ACHA are implemented.

KT will apply for an Aboriginal Heritage Impact Permit (AHIP) prior to commencement of works and comply with the recommendations of the ACHA.

#### **Infrastructure Capacity Summary**

The Thredbo Sewer (Reticulation) Capacity Assessment (Robert Staples & Associates 2023) concluded:

- The evidence both from statutory monitoring reports and by calculation indicates the capacity of the existing sewer pipe network downstream of the proposed Golf Course Development site is compliant with Water Services Association of Australia (WSAA) Code provisions.
- By calculation using factual data and assumptive reasoning the capacity of the sewer pipe network downstream of the proposed Golf Course Development site will remain compliant with WSAA Code provisions post-development i.e. after the sites have been developed (rounded up to an additional 190 beds) and are placing demand upon the sewer network.
- It is evident that the trunk main servicing the whole of the Thredbo resort leading to the Thredbo Sewage Treatment Works is nearing the WSAA Code compliance limits for Peak Dry Weather Flow (PDWF) under certain operating conditions (i.e. at minimum scour velocity).
- Further development beyond the immediately planned growth (i.e. beyond the additional 190 beds), the subject of this analysis, may result in the need to upgrade the 300mm diameter trunk main in the future.

The Water Supply Capacity Assessment (Gordon Gibson Nominees 2023) recommends that an additional water storage tank (adjacent to the existing tank) is required, and one pumps may need to be added to the pump set, or pumps upgraded, in order to provide sufficient Peak Hourly Demand capacity, including fire demand.

The Thredbo Village Sewerage Treatment Plant (STP) Capacity Assessment (Yabbie Pond Pty Ltd 2023) concluded the additional loads represent 3.2% increase in the maximum hydraulic load and 2.2% of the maximum organic load into the Thredbo STP. These increases are considered minor and well within the treatment capacity of the plant.

## Cross-reference Table – Mandatory Application Requirements

The following table provides a cross-reference to the mandatory application requirements for Development Applications outlined in the Department of Planning and Environment (DPE) *Application requirements* (March 2022).

Requirement	Reference in this SEE
<b>1.1 Information requirements for development applications</b>	
a. the name and address of the applicant	Executive summary
b. a description of the development to be carried out	Section 3
c. the address, and formal particulars of title, of the land on which the development is to be carried out	Section 2
d. an indication as to whether the land is, or is part of, critical habitat	Section 6.4
e. an indication as to whether the development is likely to significantly affect threatened species, populations or ecological communities, or their habitats, unless the development is taken to be development that is not likely to have such an effect because it is biodiversity compliant development	Section 6.4
f. the estimated cost of the development	Estimated cost of the development has been provided separately as part of this DA.
g. evidence that the owner of the land on which the development is to be carried out consents to the application, but only if the application is made by a person other than the owner and the owner's consent is required by the Regulation	Evidence provided. KT is the Applicant.
h. a list of the documents accompanying the application	Section 1.1
i. a Statement of Environmental Effects. See section 1.2 below for detailed requirements	This document addresses the requirements for a SEE.
j. a site plan of the land.	
k. drawings of the development.	
<b>Table 1 – essential document requirements for a development application</b>	
m. a list of any approvals of the kind referred to in section 4.46(1) of the Act that must be obtained before the development may lawfully be carried out	Section 4.1
n. a statement by the applicant that the relevant matters in the Development referrals guide have been considered	Section 4.3.6
r. Preliminary engineering drawings of the work to be carried out	Appendix B
<b>Section 1.2 Requirements for a Statement of Environmental Effects</b>	
a. the environmental impacts of the development	Section 6
b. how the environmental impacts of the development have been identified	Section 5
c. the steps to be taken to protect the environment or to lessen the expected harm to the environment	Section 7 and supporting technical reports
d. any matters required to be indicated by any guidelines issued by the Planning Secretary	This SEE has addressed the applicable guidelines for the Project. Relevant guidelines have been referenced throughout.



e. drawings of the proposed development in the context of surrounding development, including the streetscape	Appendix B
f. development compliance with building heights, building height planes, setbacks and building envelope controls (if applicable) marked on plans, sections and elevations	Not applicable. No statutory development controls in place for Thredbo Alpine Resort. Kosciuszko Thredbo Development Guidelines updated to include the Golf Course Development with similar guidelines to the adjacent Crackenback Ridge
g. drawings of the proposed landscape area, including species selected and materials to be used, presented in the context of the proposed building or buildings, and the surrounding development and its context	Appendix J
h. if the proposed development is within an area in which the built form is changing, statements of the existing and likely future contexts	Section 6.6
i. photomontages of the proposed development in the context of surrounding development	Not applicable
j. a sample board of the proposed materials and colours of the facade	Not applicable
k. detailed sections of proposed facades	Not applicable
l. if appropriate, a model that includes the context.	Not applicable

# 1 Introduction

This Statement of Environmental Effects (SEE) has been prepared to support the Development Application (DA) for the Thredbo Golf Course Subdivision (hereinafter referred to as the Development). The Development is located within Thredbo Alpine Resort (Thredbo), Kosciuszko National Park (KNP), New South Wales (NSW) 2625. The Applicant for the DA is Kosciuszko Thredbo Pty Ltd (KT) (ABN 95 000 139 015).

The DA is seeking development approval for the following works:

- vegetation clearing;
- earthworks
- establishment, survey, and sub-division of 19 lots;
- golf course re-design;
- access road;
- provision of municipal services, including water, electricity, sewer, communications, stormwater drainage and gas infrastructure; and
- rehabilitation and landscaping works.

The development of individual lots will be subject to separate DAs in the future.

Development in NSW alpine resort areas is governed by the *State Environmental Planning Policy (Precincts – Regional) 2021* (Precincts – Regional SEPP). The Development proposal has been designed to achieve the relevant provisions of the Precincts – Regional SEPP, *Environmental Planning and Assessment Act 1979* (EP&A Act) and *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation). The NSW Minister for Planning is the consent authority for development in the alpine resort areas under Part 4 of the EP&A Act.

The purpose of this SEE is to:

- describe the proposed development in relation to the existing environment;
- evaluate the proposed development against the relevant statutory planning framework; and
- assess the following key issues in relation to the proposed development –
  - the impacts of the development on the natural, human and built environment and how these impacts have been identified
  - mitigation and management measures that will be taken to protect the environment or to reduce expected environmental harm
  - any specific matters identified by the Secretary of DPE.

## 1.1 Supporting documentation

Supporting documentation is listed in **Table 1**.

**Table 1: Supporting documentation**

Document	Title	Author / Prepared by	Document Reference
Biodiversity Development Assessment Report	Proposed Golf Course Development, Thredbo Alpine Resort, Biodiversity Development Assessment Report	Eco Logical Australia Pty Ltd	V3
Preliminary Site Investigation	Preliminary Site Investigation with Targeted Sampling, Proposed Subdivision within Thredbo Golf Course Thredbo, NSW	Ground Doctor Pty Ltd	2022-GD012-RP1-FINAL
Geotechnical Assessment	Geotechnical Investigation Report, Proposed Golf Course Subdivision 2/4 Crackenback Drive, Thredbo NSW,	Alliance Geotechnical Pty Ltd	14871-GR-1-1-RevB
Bushfire Assessment	Proposed Thredbo Golf Course subdivision and re-design, Bushfire Assessment Report	GHD	Rev 0, 14 July 2023
Aboriginal Cultural Heritage Assessment	Aboriginal Cultural Heritage and Archaeological Report, Thredbo Golf Course	Past Traces Pty Ltd	V2
Aquatic and Riparian Assessment	Thredbo Golf Course Development, Aquatic and Riparian Impact Assessment	Eco Logical Australia Pty Ltd	V2
Sewer Capacity Assessment	Thredbo Sewer Capacity Assessment	Robert Staples & Associates	241-1, ver. 1.0
STP Capacity Assessment	Thredbo Village Sewage Treatment Plant Capacity Assessment – Golf Course Subdivision	Yabbie Pond Pty Ltd	30 June 2023
Water Supply Capacity Report	Thredbo Water Supply and Fire Hydrant Operation	Gordon Gibson Nominees	29 June 2023
Cost Estimate Report	Thredbo Golf Course Subdivision DA Estimate	WT Partnership	PR-020132 Thredbo Subdivision, 29 June 2023
Site Environmental Management Plan	Site Environmental Management Plan, Thredbo Golf Course Subdivision	Kosciuszko Thredbo Pty Ltd	Rev 0
Erosion and Sediment Control Plan	Erosion and Sediment Control Plan, Thredbo Golf Course Subdivision	Kosciuszko Thredbo Pty Ltd	Rev 0
Stormwater Management Plan	Thredbo Golf Course Development, Stormwater Management Plan	Eco Logical Australia Pty Ltd	V2
Community Consultation Summary	Community Consultation, Thredbo Golf Course Subdivision	Kosciuszko Thredbo Pty Ltd	August 2023
Landscape Concept Plan	401, Landscape Plantings, Sheet 1, Thredbo Golf Course Upgrade	DAWSON DESIGN golf + resorts Pty Ltd	Issue F, Rev B

Landscape Concept Plan	402, Landscape Plantings, Sheet 2, Thredbo Golf Course Upgrade	DAWSON DESIGN golf + resorts Pty Ltd	Issue F, Rev B
Landscape Concept Plan	403, Landscape Plantings, Sheet 3, Thredbo Golf Course Upgrade	DAWSON DESIGN golf + resorts Pty Ltd	Issue B, Rev B
Landscape Concept Plan	404, Landscape Plantings, Sheet 4, Thredbo Golf Course Upgrade	DAWSON DESIGN golf + resorts Pty Ltd	Issue B, Rev B
Landscape Concept Plan	501, Landscape Details, Sheet 1	DAWSON DESIGN golf + resorts Pty Ltd	Issue B, Rev B
Landscape Concept Plan	601, Landscape Cross Sections A & B: Access Road North, Sheet 1	DAWSON DESIGN golf + resorts Pty Ltd	Issue A, Rev A
Landscape Concept Plan	602, Landscape Cross Sections C: Access Road Centre, Sheet 1	DAWSON DESIGN golf + resorts Pty Ltd	Issue A, Rev A
Landscape Concept Plan	603, Landscape Cross Sections: Access Road South, Sheet 1	DAWSON DESIGN golf + resorts Pty Ltd	Issue A, Rev A
Subdivision Plan	SITE PLAN	DJRD Architects	A1.001, Rev F
Subdivision Plan	LOTS	DJRD Architects	A1.002, Rev B
Subdivision Plan	STAGING AREA	DJRD Architects	A1.003, Rev C
Subdivision Plan	PARKING	DJRD Architects	A1.004, Rev C
Civil Plan	Cover Sheet	CLM Civil Engineering	U-183-E
Civil Plan	Overall site plan	CLM Civil Engineering	U-183-E, Sheet 1 of 12
Civil Plan	Detailed site plan sheet 1	CLM Civil Engineering	U-183-E, Sheet 2 of 12
Civil Plan	Detailed site plan sheet 2	CLM Civil Engineering	U-183-E, Sheet 3 of 12
Civil Plan	Detailed site plan sheet 3	CLM Civil Engineering	U-183-E, Sheet 4 of 12
Civil Plan	Road Long Section Ch00 to Ch180	CLM Civil Engineering	U-183-E, Sheet 5 of 12
Civil Plan	Road Long Section Ch180 to Ch360	CLM Civil Engineering	U-183-E, Sheet 6 of 12
Civil Plan	Road Long Section Ch360 to Ch454.8	CLM Civil Engineering	U-183-E, Sheet 7 of 12
Civil Plan	Road Cross Sections Ch14.22 to Ch150	CLM Civil Engineering	U-183-E, Sheet 8 of 12
Civil Plan	Road Cross Sections Ch200 to Ch350	CLM Civil Engineering	U-183-E, Sheet 9 of 12
Civil Plan	Road Cross Sections Ch400 to Ch420	CLM Civil Engineering	U-183-C, Sheet 10 of 12
Civil Plan	Sewer Long Section - A/1 to A/6	CLM Civil Engineering	U-183-E, Sheet 11 of 12
Civil Plan	Sewer Long Section - A/6 to A/10	CLM Civil Engineering	U-183-E, Sheet 13 of 12
Golf Course Plan	Legend and Notes	DAWSON DESIGN golf + resorts Pty Ltd	200, Issue B
Golf Course Plan	Site plan, 300	DAWSON DESIGN golf + resorts Pty Ltd	300, Issue F
Golf Course Plan	GENERAL ARRANGEMENTS, SHEET 1	DAWSON DESIGN golf + resorts Pty Ltd	301, Issue F
Golf Course Plan	GENERAL ARRANGEMENTS, SHEET 2	DAWSON DESIGN golf + resorts Pty Ltd	302, Issue F
Golf Course Plan	GENERAL ARRANGEMENTS, SHEET 3	DAWSON DESIGN golf + resorts Pty Ltd	303, Issue F
Golf Course Plan	GENERAL ARRANGEMENTS, SHEET 4	DAWSON DESIGN golf + resorts Pty Ltd	304, Issue F
Golf Course Plan	EXTENT OF GOLF COURSE WORKS	DAWSON DESIGN golf + resorts Pty Ltd	305, Issue F
Correspondence	JAS588 – Kosciuszko Thredbo – Subdivision Potential Review	Jack Atkinson Surveying	1 June 2023



## 2 Site Context and Analysis

### 2.1 Site Location

Regionally, the site is located in Thredbo, within the southern part of KNP, approximately 35 km south-west of Jindabyne in the Snowy Monaro Regional Council Local Government Area (LGA) (**Figure 1**).

Within the context of the resort, the site is located on Crackenback Drive within the outer western precinct. The site is situated on land being part of Lot 876/DP1243112 (**Figure 2**). A portion of the Development (portion of the new access road corridor) is located within the Thredbo Community Centre lease area, formally described as Lot 500/DP1118419.

The site is zoned as C1: National Parks and Nature Reserves (NSW Government 2022a).

### 2.2 Topography, Geology and Soils

#### 2.2.1 Topography

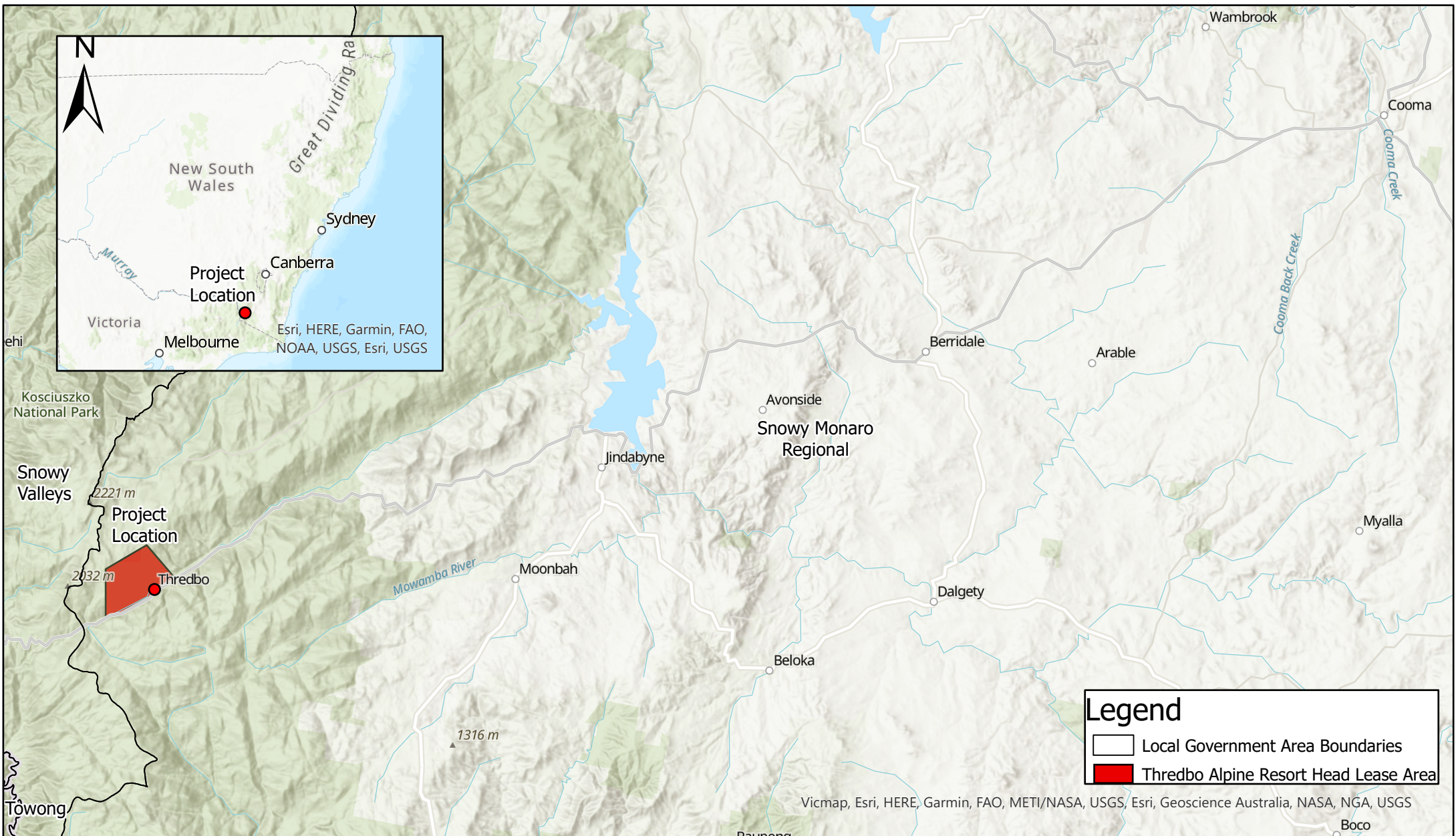
The site is situated on the lower south east slope of the Ramshead Range. Based on the regional topography, the site lies within a valley with slightly steep inclines of less than 20° and 30° towards the northwest and southeast direction, respectively (Alliance 2023). The v-valley characteristics of the resort constrains the options of suitable development sites. In comparison to the broader resort, the site is located on comparatively flatter terrain.

Surface elevation data indicates the site is situated between approximately 1380 m AHD to 1396 m AHD. The site has a general slope toward Thredbo River, to the east and south east. During the preliminary site investigation, Ground Doctor (2023) noted there was no evidence of significant excavation or filling within the site, with the exception of areas occupied by tees and greens, which appeared to have been constructed by cut and fill to create the relatively level surfaces.

#### 2.2.2 Geology and soils

The *NSW Seamless Geology Data, version 2.1* indicates that most of the site is underlain by Silurian aged Mowambah Granodiorite which may contain medium-grained mafic biotite-rich granodiorite, strong foliation defined by quartz and biotite crystals plus aligned xenoliths, muscovite flakes accentuate foliation, and metasedimentary xenoliths include banded cordierite gneiss (Alliance 2022).

The Crackenback Fault is located along the south-eastern boundary of the site, following the line of Thredbo River.



Scale: 1:305,832

3 1.5 0 3 6 9 12 Kilometers

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 2020  
Grid: GDA 2020 MGA Zone 55



**FIGURE 1: REGIONAL SITE  
CONTEXT**

Revision: A  
Date: 7/06/2022  
Produced By: KO





## Legend

- Subdivision Lots
- Subdivision Outline

Scale: 1:2,482

30 15 0 30 60 90 120  
Meters

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



## FIGURE 2: PROJECT SITE

Project: Thredbo Golf Course Subdivision

Revision: B

Date: 21/07/2023

Produced By: KOS



## 2.3 Present and Previous Land Use

### 2.3.1 History of the site

A summary of the history of the site and immediate surrounds is provided below. Further details are provided in the Preliminary Investigation Report (Ground Doctor 2023) (**Appendix D**).

Timing	Description of Site
1884	Land title records indicate the site was part of the Crackenback Goldfields.
Prior to 1968	largely vacant grassed open space, some trees present, visible tracks. No evidence of intensive land use or development of the site.
1968	Initial construction of the golf course, construction of small dam to supply water to the golf course. Historical approval documentation and photographs suggest the golf course was constructed by slashing, raking, scarifying and over sowing soils in-situ. There is evidence that imported fill was obtained from previously undeveloped areas within the resort to top dress fairways following initial construction. Some sand may have been imported to the site to create bases of greens and tees. The imported soil is likely to have been virgin excavated material free of debris (Ground Doctor 2023)
1969	Installation of underground pipes (poly and concrete), retaining walls, grooming of the rough, construction of temporary maintenance shed along the 9 <sup>th</sup> hole.
1970-1971	Construction of permanent maintenance shed at the same location as the temporary shed.  Widening of fairways, construction of access driveway to the maintenance shed from the bridge over Thredbo River, construction of septic system for toilet in the maintenance shed, construction of bridle path and walk track around/through the golf course looping to Valley Terminal.
1977	Construction of clubhouse / ticket office.
1993	Installation of water supply infrastructure to draw water from Thredbo River (subject to NPWS Development Approval 07/1091, dated 3 February 1993).
1996	Construction of current maintenance shed.
2016	Construction of nine (9) hole (18 tees) disc golf course (subject to DA 8053).

### 2.3.2 Present land use

The Development site comprises a nine (9) hole golf course which runs alongside the Thredbo River and below the base of the ski slopes. The site provides defined fairways with tracts of both managed and undisturbed vegetation throughout. The existing golf course offers one (1) par 5 hole; four (4) par 4 holes; and four (4) par 3 holes.

The site also contains a nine (9) hole disc golf course, comprising tees and baskets (**Figure 3**); and recreational open space.

### 2.3.3 Surrounding land uses

Land uses immediately adjoining the Development site include (**Figure 4**): tourist accommodation (Crackenback Ridge and Riverside Cabins subdivisions); chapel; childcare centre; maintenance shed; roads and access tracks; and recreational / open space including multi-use trail.

### 2.3.4 Thredbo Village land use zones

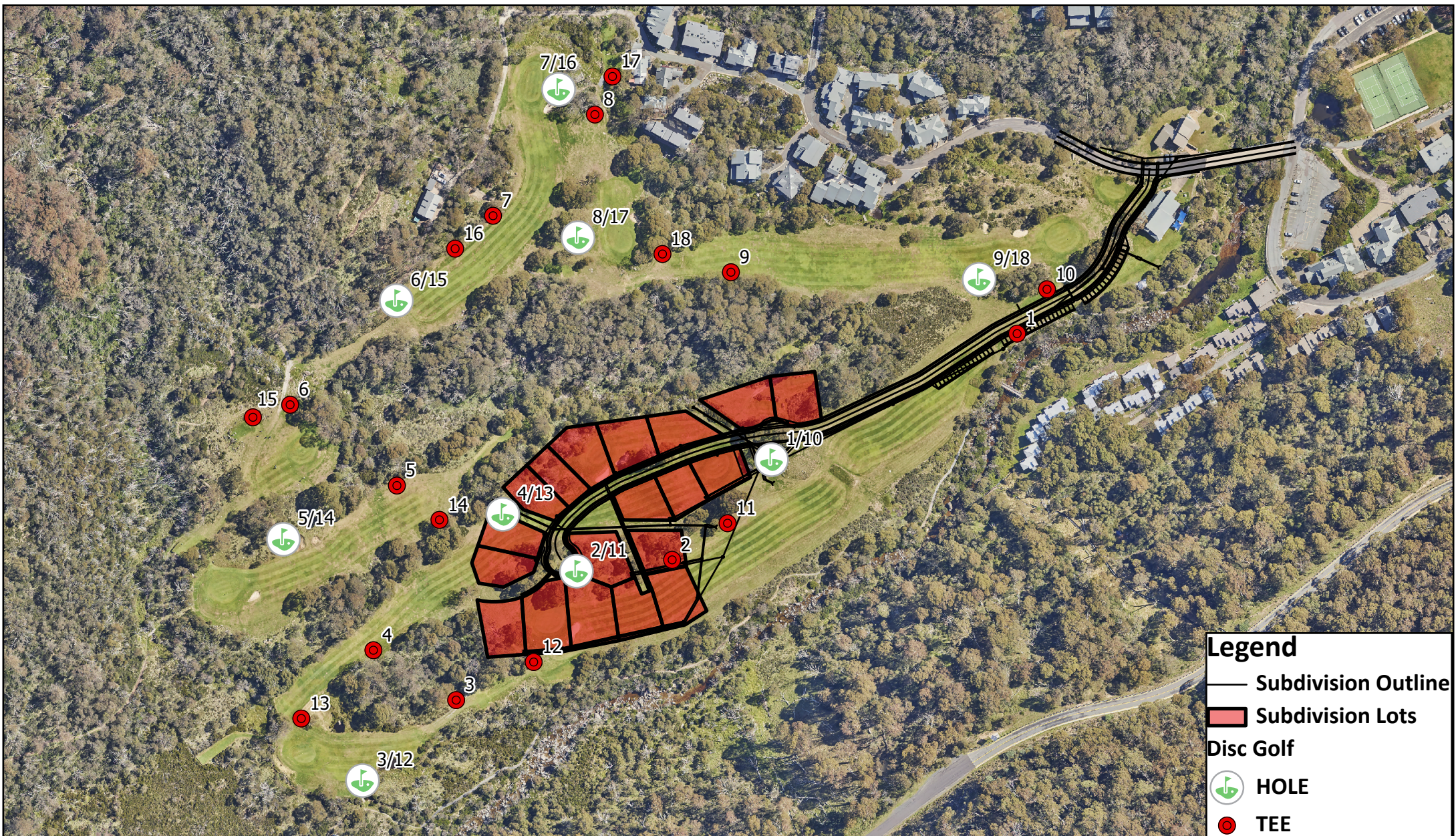
The village is divided into 14 land use zones that prescribe the types of activities and developments that can occur in each, refer **Figure 5**. Each zone is generally governed by different development controls set out in the *Thredbo Development Guidelines*. The Development is consistent with the land uses described in Zones 12 and 13.

## **2.4 Site Suitability**

The site is considered suitable to accommodate the Development given the following:

- The site is predominately pre-disturbed as a result of the existing golf course and service infrastructure within the locality.
- The site is fit for expansion and considered a suitable location to provide additional accommodation.
- The site is a nominated development site in the Snowy SAP Master Plan.
- The results of the Preliminary Site Investigation Report (Ground Doctor 2023) indicate that the site is suitable for the proposed subdivision.
- The site is situated within close proximity of existing municipal services connections and village services.





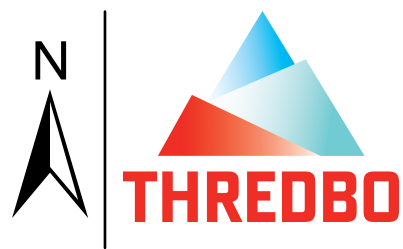
**Legend**

- Subdivision Outline
- Subdivision Lots
- Disc Golf
- HOLE
- TEE

Scale: 1:2,984

0 20 40 80 120 160 Meters

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



**FIGURE 3: EXISTING DISC GOLF COURSE**

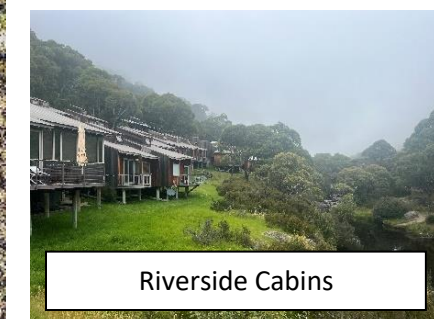
Project: Thredbo Golf Course Subdivision

Revision: D

Date: 07/09/2023

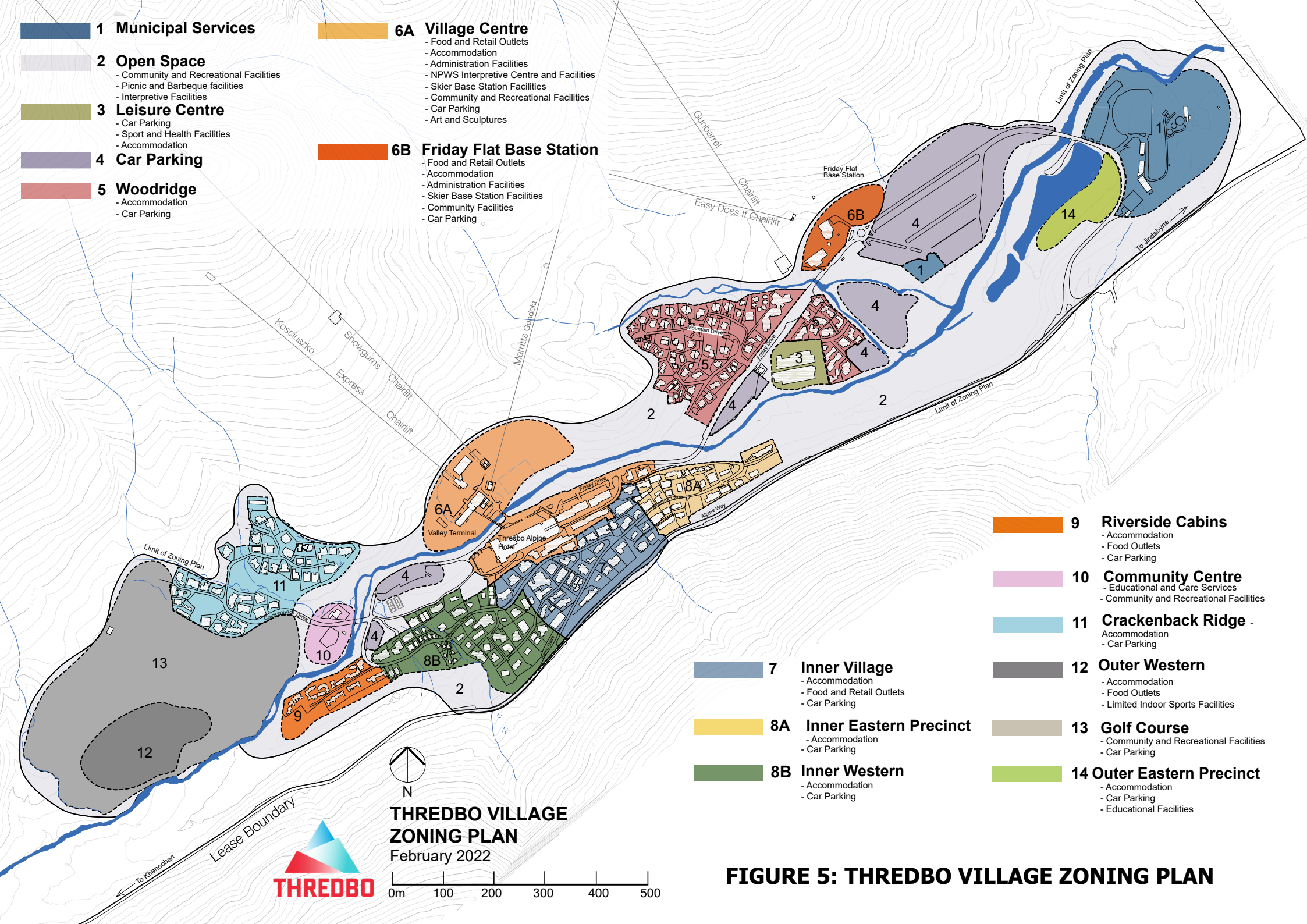
Produced By: KOS





**Figure 4: Surrounding land uses**







## 3 Project Description

### 3.1 Project Need and Alternatives

#### 3.1.1 Project need

##### 3.1.1.1 Shortage of accommodation offering

Thredbo is the preeminent year-round tourist destinations in the region. Since 2010 there has been strong growth within the resort in both winter and summer and this is expected to continue. There has been no significant increase in tourist accommodation since the early 2000's. Demand for existing sub-leased premises is high with all supply being older style buildings. Demand for new sub-leased premises is considered high as evident from the recent Belvedere and Black Bear developments. Peak summer and winter season holiday demand in Thredbo is currently not being met. The development of an additional 186 beds in Thredbo will help address the accommodation shortages currently experienced in the Alpine Resorts.

##### 3.1.1.2 Demand and visitor accommodation preferences

There is a strong market preference for self-contained accommodation as opposed to more traditional hotel/motel rooms within the resort. Accommodation styles and preference have changed dramatically since the 1960s with a shift from shared accommodation to fully serviced or self-contained accommodation (70 percent of the Thredbo market) with only ski clubs and the backpacker market remaining as shared style accommodation (24 percent of the Thredbo market).

The Development will facilitate the delivery of improved and contemporary tourist accommodation in the village to meet increasing demand.

#### 3.1.2 Development alternatives

##### 3.1.2.1 Alternative location in Jindabyne

The location of the subdivision in Jindabyne rather than the proposed site could potentially result in the following:

- Increase in the frequency of traffic along Alpine Way generated by day visitors during peak visitation further contributing to the congestion experienced along the Alpine Way.
- Restrict opportunities for visitors to experience on-mountain accommodation and enjoy a closer association with the Thredbo alpine landscape.
- Restricts the opportunity for KT to upgrade the standard of the resort, including the range of accommodation offerings and services infrastructure.
- Not meet current tourist accommodation demand.

##### 3.1.2.2 Alternative location in Kosciuszko National Park

Visitor accommodation in KNP is primarily concentrated within the Alpine Resorts. Alternative accommodation locations within KNP such as the Thredbo Ranger Station, Creel Bay are not considered viable options for KT's proposal as they are located outside of KT's Head Lease. Further, the provision of additional visitor accommodation beyond those areas already identified as Visitor Services Zones in the *Kosciuszko National Park Plan of Management 2006* (KNP PoM) are not permitted.

### 3.1.2.3 *Alternative location within Thredbo*

With the classic V-valley landscape, there is very limited flat land available within the resort for future development. As such, the predominately pre-disturbed site is a favourable location for the Development.

### 3.1.2.4 *Alternative designs within the golf course catchment*

A range of subdivision options have been explored to offer golf solutions whilst achieving the proposed Development, considering the constraints of the terrain, safety risk to existing and new accommodation, transport routes and so on.

Various golf course re-design options were considered to accommodate the proposed subdivision options and layouts. These options either resulted in a reduction in holes and yields, relocation of tees and a varying degree of vegetation removal. All of the considered options would have resulted in a reduction in course rating perception. A comparative summary of each alternatives with regards to the environmental and socio-economic impacts of each is provided below.

#### **Option 1 – summary of proposal**

Option 1 was included in the draft Thredbo Master Plan (DJRD 2019). The option proposed to extend the Crackenback Ridge development into part of the existing golf course and is accessed via an upgraded existing road to the maintenance shed. Development would permit individual development up to two (2) storeys and a site cover of 35% with 3 m setbacks to be individually developed with similar design guidelines to those in Crackenback Ridge. Proposed bed count is 196.

No golf course re-design was prepared for this concept.

Environmental and socio-economic considerations of Option 1:

- The road through Crackenback Ridge is steep and narrow. Increased vehicle traffic through Crackenback Ridge subdivision would have resulted in adverse impacts to existing tourist accommodation and general traffic safety.
- Greater amount of native tree removal required for the provision of lots.
- Potential for greater perceived visual and amenity impacts to Crackenback Ridge occupants as subdivision located within close proximity of existing tourist accommodation buildings in Crackenback Ridge in comparison to other options.
- Abutting the relatively intact vegetation to the north and west would present significant challenges in achieving acceptable bushfire protection, likely requiring considerable vegetation management.

#### **Option 2 – summary of proposal**

Option 2 proposed the development of 22 lots located predominately within the first, third and fourth fairways. Development would permit individual development up to two (2) storeys with similar design guidelines as Option 1. Proposed bed count is 176.

Environmental and socio-economic considerations of Option 2:

- 22 lots with a combined footprint of 3,878 m<sup>2</sup>.
- Reduced disturbance footprint in comparison to all other options.
- Leaves a lot of the golf course unchanged.
- Minimises costs of golf course restructure.

- Potential design limitations for meeting PBP 2019 requirements.
- Potential for greater perceived visual and amenity impacts to Riverside Cabins occupants as subdivision located within closer proximity of existing tourist accommodation buildings in Riverside Cabins in comparison to other options.
- Using existing corridors so minimal tree / heath removal required for the golf course re-design.
- Long walks and loss of 4 shots and minus 648 m a big reduction in course rating perception.



**Plate 1: Option 1 concept plan**





**Plate 2: Option 2 concept plan**

### Summary of options analysis for alternative designs within the golf course catchment

Following significant engagement with various stakeholders, Options 1 and 2 described above were dismissed for the proposal. The Development (refer Site Plan, **Appendix B**) described in detail in **Section 3.3** is considered the most viable option considering the environmental and socio-economic impacts.

The preferred Development proposes 19 lots located largely on the existing first, third and fourth fairways though encroaches into the adjacent eucalypt forest. The Development would permit similar design guidelines as Options 1 and 2. Proposed bed count is 186.

Environmental and socio-economic considerations of preferred option:

#### Preferred subdivision proposal

- 19 lots with a combined footprint of 4961 m<sup>2</sup>.
- Layout demonstrates compliance with the PBP 2019 requirements.
- The subdivision has been designed to minimise visual and amenity impacts on adjacent tourist accommodation subdivisions.

### Preferred golf course proposal

- Reasonably good spread of short, medium and long par 3.'s
- Loss of four (4) shots and minus 599 m a reduction in course rating perception.
- Five (5) existing holes remain unchanged and other four (4) holes mostly use existing corridors.
- Design uses existing corridors where possible, but requires additional vegetation clearing and management to aid in bushfire management requirements.
- Fourth tee uses existing third, therefore avoiding impacts to PCT 939 comprises the Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions EEC.

#### 3.1.3 Do-nothing scenario

The do-nothing scenario is not considered a credible option for delivering the planned land use outcomes for the site as identified in the *Snowy Mountains Special Activation Precinct (SAP) Master Plan* (NSW Government 2022) (Snowy SAP Master Plan).

The current shortage of tourist accommodation within the resort restricts many visitors from experiencing on-mountain accommodation. By increasing the number and variety of accommodation offerings within the resort, the Development will increase the opportunity for visitors to be able to stay in the resort and experience the alpine environment. The do-nothing scenario would deny this opportunity for a number of visitors to experience on-mountain accommodation and continue to put daily pressure on the Alpine Way transport corridor.

## 3.2 Proposed Timing and Staging of Works

Commencement of construction works is dependent on obtaining development approval and contractor availability. Indicative timing for the Development is provided below.

Timing	Milestone
August 2023 – January 2024	DA lodgement and assessment leading to approval.
February 2024 – August 2024	Obtain Construction Certificate.
July 2024 – October 2024	Engage project delivery contractors – civil and golf course.
October 2024	Commencement of demolition and site preparation works, including vegetation clearing, preliminary earthworks.
December 2024 – May 2025	Construction of municipal services and infrastructure; re-development of golf course.
June 2025	Completion of subdivision.

## 3.3 Project Components

### 3.3.1 Subdivision

The Development provides for 19 separate buildings lots (**Table 2**) which sits largely on the existing first, third and fourth fairways (refer site plans in **Appendix B**). The majority of lots have been orientated to maximise solar access. All lots are sufficiently sized to accommodate future dwellings, vehicle access and open space. For the purposes of this report and supporting technical studies, conceptual building envelopes and footprints have been provided in **Table 2** and depicted on the Site Plans (**Appendix B**).

Where possible, significant vegetation within lots will be retained. All lots with the exception of lot 10 have vehicle access off the new sub-division road or proposed accessway to lots 14-16. Lot 10 will have vehicle access via the road turning head. Access via an easement for Lots 10 and 14-16 will be confirmed at the survey stage.

**Table 2: Proposed Lots**

Lot	Lot Area (m <sup>2</sup> )	Building Footprint (m <sup>2</sup> )	Beds
1	783	280	12
2	812	267	12
3	710	192	8
4	858	276	12
5	903	316	10
6	612	177	6
7	637	222	6
8	701	245	6
9	640	193	8
10	802	280	12
11	1061	371	10
12	1093	382	12
13	899	305	16
14	759	265	10
15	836	292	12
16	678	237	8
17	644	202	14
18	632	221	6
19	689	238	6
<b>Total:</b>	<b>14,751</b>	<b>4,961</b>	<b>186</b>

### 3.3.2 Golf Course re-design

The Development necessitates a re-design of the golf course. The preferred re-design retains a nine-hole course, albeit shortened in distance with all but one hole being par three holes. A summary of the re-design is provided in **Table 3**. Refer to golf course plans (DAWSON DESIGN golf + resorts Pty Ltd (DAWSON DESIGN) Drawing No. 300-305), **Appendix B** for further details.

**Table 3: Golf course re-design**

Existing			Proposed				
Hole	Metres (m)	Par	Hole	Metres (m)	Elevation tee to green (m)	Par	Existing hole used
1	432	5	1	125	+9	Short 3	Most 9 <sup>th</sup>
2	167	3	2	162	+6	Medium 3	1 <sup>st</sup>
3	348	4 (5)	3	167	-	Long 3	2 <sup>nd</sup>
4	132	3	4	160	+2	Long 3	3 <sup>rd</sup> & new tee
5	199	3	5	200	+6	Long 3	5 <sup>th</sup>
6	90	3	6	96	+3	Short 3	6 <sup>th</sup>
7	294	4	7	294	+4	Short 4	7 <sup>th</sup>
8	124	3	8	124	-6	Medium 3	8 <sup>th</sup>
9	322	4	9	181	-23	Long 3	Most 9 <sup>th</sup>
<b>Total</b>	<b>Mens 2,180</b>	<b>32</b>		<b>Total</b>	<b>Mens 1,509</b>	<b>28</b>	<b>9 holes used</b>
	<b>(Womens) 1,947</b>	<b>(33)</b>		<b>Change</b>	<b>-599</b>	<b>-4</b>	



### 3.3.3 Municipal services

The Development will include provision of municipal infrastructure, including new road access and car parking, water, electricity, sewer, communications, stormwater drainage and gas infrastructure. All services will be underground and where possible located within a single trench. Connections to the existing village services will be made on the northern side of Crackenback Drive. Refer to site plans (Drawing No. U-183-C, Sheet 4 of 12) prepared by CLM Civil Engineering (**Appendix B**).

#### 3.3.3.1 Access road and circulation areas

The new internal access road has been designed with consideration of the following:

- The road is 6.1 m in width which satisfies the requirements for emergency vehicle access and can accommodate two-way traffic.
- The design follows natural contours to reduce stormwater velocities, minimise changes to the existing drainage network.
- Heated turning head and adequate allowance for snow clearing machinery.
- Roundabout between the public car parks and subdivision to enable turnaround and avoid unnecessary traffic to the subdivision.
- The roundabout has also been designed to provide an emergency services staging area.

Detailed design will be provided at the Construction Certificate stage.

#### 3.3.3.2 Car parking

An additional 48 public carparks will be provided along the access road (southwest of the Community Centre).

There is currently no adopted statutory DCP or guideline applying to development within Thredbo. As per the car parking controls outlined in the *Thredbo Development Guidelines*, the development of individual lots within the village are generally required to provide onsite carparking in the ratio of one (1) car space for every three (3) beds.

Detailed design of the proposed public car parking area will be provided at the Construction Certificate stage.

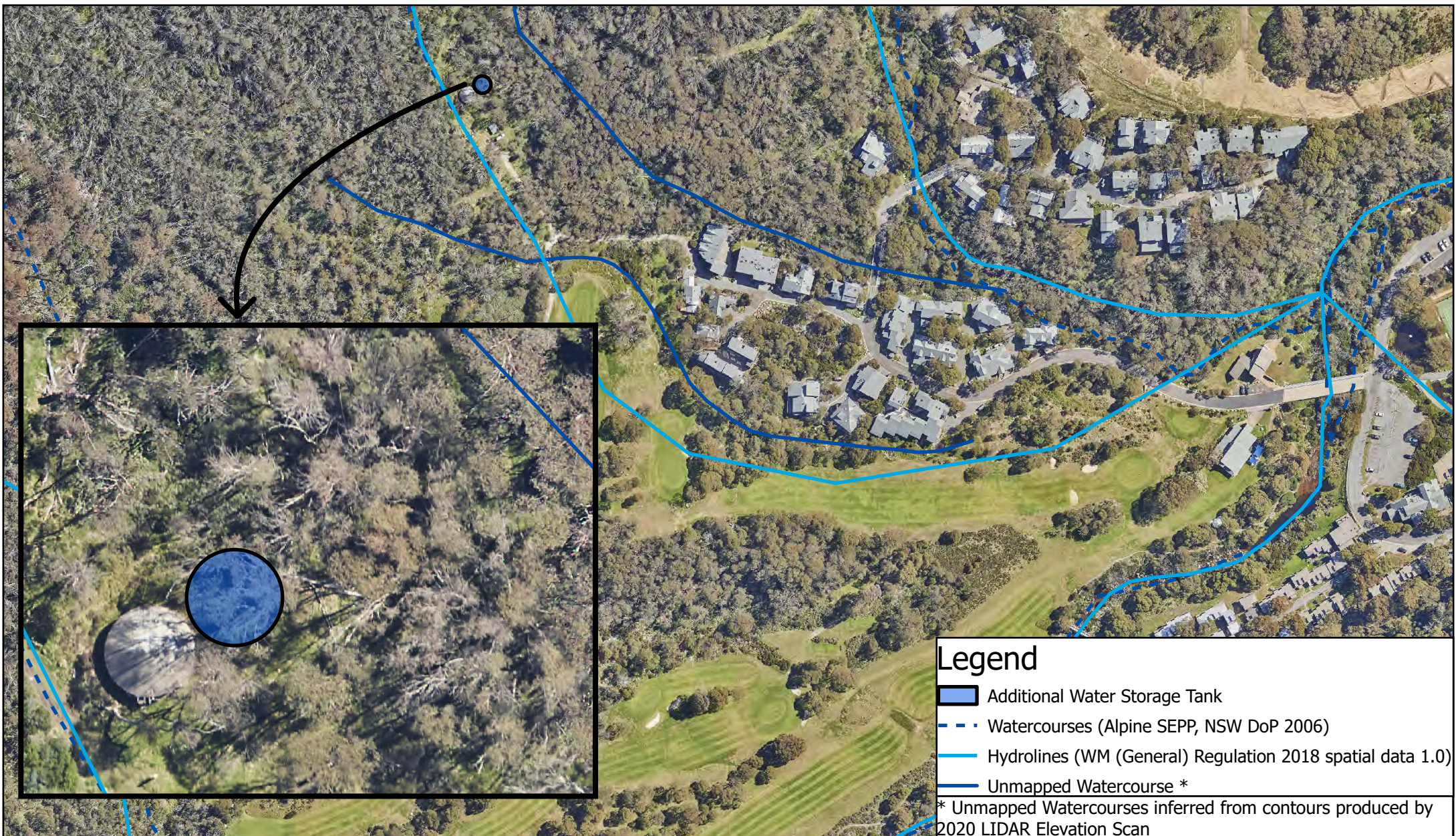
#### 3.3.3.3 Pedestrian access

Pedestrian access to and from the subdivision is provided from the street, off Crackenback Drive. The proposal includes a dedicated pedestrian crossing along the new access road which will provide safe access for golf course users and general public.

#### 3.3.3.4 Water supply

The Development will provide water supply infrastructure tapping into the existing Crackenback water supply network (refer to **Section 6.13.1** for more detail). The Development will include the provision of a new water storage tank adjacent to the existing Crackenback Water Storage tank to supplement the existing water supply (**Figure 6**).





## Legend

- Additional Water Storage Tank
- Watercourses (Alpine SEPP, NSW DoP 2006)
- Hydrolines (WM (General) Regulation 2018 spatial data 1.0)
- Unmapped Watercourse \*

\* Unmapped Watercourses inferred from contours produced by 2020 LIDAR Elevation Scan

Scale: 1:2,857

0 15 30 60 90 120  
Meters

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



## FIGURE 6: WATER STORAGE TANK

Project: Thredbo Golf Course Subdivision

Revision: B

Date: 18/07/2023

Produced By: KOS



#### 3.3.3.5 Sewer

The Development will include gravity sewer reticulation. The Development will connect to the existing village sewerage system via the existing infrastructure along Crackenback Drive (refer CLM Civil drawings in **Appendix B**).

#### 3.3.3.6 Stormwater management

The Development will provide stormwater management controls throughout the site (refer site plans in **Appendix B**). Stormwater will be diverted into the stormwater network, comprising above-ground controls and subsurface discharge systems within the site.

The proposed stormwater controls will include (but not limited to):

- layback kerb on the highside of the road;
- concrete spoon drain on the low side of the road;
- grated inlets along the road;
- stormwater retention devices e.g. puraceptor;
- network of pipes and pits; and
- landscaping.

A detailed stormwater plan will be prepared by a Qualified Engineer at the construction certificate stage.

#### 3.3.3.7 Electricity and gas

The Development will include electricity and gas infrastructure to service the lots. The services will connect into the existing network on the northern side of Crackenback Drive (refer CLM Civil drawings in **Appendix B** for alignment details). A new substation will be required to service the Development, subject to a separate approvals process under the State Environmental Planning Policy (Transport and Infrastructure) 2021.

Individual lots will be connected to electricity and gas services in accordance with the relevant requirements of the service provider.

#### 3.3.3.8 Telecommunications

The Development will include underground telecommunications cables to service the lots. The services will connect into the existing network on the northern side of Crackenback Drive (refer CLM Civil drawings in **Appendix B** for alignment details). Individual lots will be connected to telecommunications services in accordance with the relevant requirements of the service provider.

#### 3.3.3.9 Street Furniture

The Development will provide the following street furniture:

- street lighting to ensure the safety of pedestrians, cyclists and vehicles (mix of solar and LED);
- signage, including major subdivision signage, way finding and signposting; and
- dual head fire hydrants in accordance with Australian Standard (AS 2419.1:2021).

Street furniture locations will be finalised during detailed design as part of the Construction Certificate documentation.

### 3.3.4 Open space and recreational facilities

The Development has been designed to retain as much open space within the golf course area as possible. The subdivision will be low density and native vegetation has been retained throughout the subdivision to maintain the scenic amenity. The disc golf course will be re-instated following construction completion.

### 3.3.5 Landscaping and rehabilitation

A Landscape Concept Plan (DAWSON DESIGN 2023) has been prepared to illustrate how native landscaping will contribute to the character of the subdivision, provide visual screening and enhancement of environmental values associated with vegetation and natural habitat for fauna (refer **Appendix J**).

All disturbed areas will be rehabilitated in accordance with the *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (NGH 2007) (Resort Rehabilitation Guidelines). A detailed Rehabilitation Plan will be prepared during detailed design as part of the post approval documentation.

### 3.3.6 Establishment of lots

Activities associated with the establishment of lots will include survey and registration of title.

## 3.4 Development Guidelines and Controls

There is currently no statutory adopted DCP or guideline applying to development within Thredbo. Development within Thredbo is currently guided by the non-statutory *Thredbo Development Guidelines*.

*The Thredbo Development Guidelines* were originally prepared in 2008 to guide development within the resort. The *Thredbo Development Guidelines* were developed based on the National Parks and Wildlife Service Building Code and the 1988 Master Plan and have evolved over time. The purpose of the *Thredbo Development Guidelines* is to provide site planning and building design guidelines and development controls to assist developers, architects, builders and lodge operators in achieving a high quality building development while minimising negative impacts on the natural environment. The *Thredbo Development Guidelines* also aim to ensure there is a clear understanding of the constraints on development in the village.

The *Thredbo Development Guidelines* apply to all development within the village.

All development will be subject to a design evaluation process which will provide KT with the opportunity to maintain the character, amenity and significance of the village and its environment. The evaluation considers the guidelines and standard development controls relating to privacy, building characteristics, landscaping, waste management, building colours and materials, roof form, windows, balconies, signage, access and parking, walls (e.g local granite facing is required to be incorporated into the prominent facades of all buildings generally to no less than 15% of the façade).

The specific design controls applicable to each zone in the village are also an essential consideration for future development. Proposed zone-specific controls for the Development are outlined in the subsequent section.

KT is mindful of the evolving nature of development in alpine environments/resorts around the world and have taken a pragmatic approach in applying the Thredbo Development Guidelines so as to not stifle architectural or design evolution. KT aims to provide world class resort facilities and service and will take a merit-based approach to all development proposals.

### 3.4.1 Proposed zone-specific development controls for individual lots

DJRD Architects were engaged to provide input into proposed development controls for individual lots within the subdivision. Proposed zone-specific controls include (but are not limited to) those outlined in **Table 4**. It should be noted these are preliminary guidelines only and the development of individual lots may be subject to alternative development controls e.g. following the adoption of a statutory Alpine DCP.

**Table 4: Zone-specific design guidelines / controls**

Element	Objectives	Controls
Siting, orientation and setbacks (privacy and protection of existing views and vistas)	<ul style="list-style-type: none"> <li>Ensure buildings are designed to maximise occupant privacy whilst minimising impact on the views from existing buildings and village vantage points.</li> <li>Ensure development adopts a consistent approach to the siting of buildings to ensure consistent streetscape, landscape character as well the maintenance and incorporation of existing natural features.</li> </ul>	6 m from road 4 m from side and rear
Building heights	<ul style="list-style-type: none"> <li>Minimise the impact of new buildings on the views from existing buildings and village vantage points.</li> <li>Minimise overshadowing access to sunlight on adjoining lots.</li> <li>Manage the visual impacts of buildings on the public domain.</li> </ul>	Maximum height limit of 8.5 m above existing ground level.
Roof design	To prevent snow deposition over entrances or other areas where people may congregate.	Roof pitch to be between 10-30°
Site coverage	To prevent excessive bulk and overdevelopment of lots, and to ensure adequate provision for landscaping and open space.	Development must not exceed a site coverage of 35 %.
Soft landscaping	To maintain and enhance the existing landscape character of the Resort.	Minimum 25% of site area.
Car parking	To ensure new development includes provisions for onsite parking which is appropriately designed for the use and size of the development.	New site development shall aim to provide for car parking at a rate the greater than one (1) space per apartment or one (1) per three (3) beds and must meet the following requirements: <ul style="list-style-type: none"> <li>Be located within the curtilage of the lease site and set back a minimum of 3 m from side and rear boundaries</li> </ul>

		<ul style="list-style-type: none"> <li>• Provision of one driveway providing access to a site</li> <li>• Avoid the loss of substantial / significant native vegetation</li> <li>• Avoid substantial earthworks</li> </ul>
Building Colours and Materials	To ensure building design incorporates sustainable building materials and contributes to the consistency of character with materials, colours and built form within the village.	A colour range from the current Dulux Colour Atlas has been selected to assist designers, lodge owners and developers.

### 3.5 Building Code of Australia

Construction related to the Development will comply with the relevant provisions of the Building Code of Australia.

Consideration of building classification associated with the development of each individual lot will be addressed at the Construction Certificate stage for the future development of individual lots.

### 3.6 Accessibility

The subdivision and associated road infrastructure will provide reasonable access to this new part of the village for people with disabilities.

### 3.7 Construction Management Details

#### 3.7.1 Work hours

It is proposed construction hours of works will be undertaken during 7:00 am and 6:00 pm, 7 days a week.

#### 3.7.2 Site access

Construction site access will be located off Crackenback Drive, via Friday Drive and will be restricted to authorised vehicles only during construction, refer to the SEMP (**Appendix J**) for details.

#### 3.7.3 Vehicles, machinery and equipment

The Development will likely require (but not limited to) the following machinery, plant and equipment:

- 4wd vehicles and utilities;
- excavators;
- graders;
- roller;
- trucks;
- side-by-side buggies;
- chippers;
- chainsaws;
- brush cutters;
- hand tools;
- rock breaking hammers or other hard ripping equipment;
- mobile crane;

- front end loaders / skid steers; and
- jack hammer.

### 3.7.4 Site compound

The site compound will be located south-west of the childcare centre. The site compound will include carparking, office/amenities and small material storage. Refer to the SEMP (**Appendix M**) for details.

### 3.7.5 Stockpiles and material storage areas

Temporary stockpiles will be required within the construction corridor to effectively manage materials during the works. Soil will be separated so that it can be used during landscaping and rehabilitation works. The main stockpile locations will be located within Thredbo's Waste Transfer Station. Stockpile locations are identified in the SEMP (**Appendix M**).

All stockpiles will be managed in accordance with the *Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park* (OEH 2017) (Soil Stockpile Guidelines) and controls outlined in the SEMP (**Appendix M**).

Material storage areas will be located within the site compound and Village Green carpark (refer SEMP for details, **Appendix M**). These areas will be limited to building materials such as pits and pipes etc. No stockpiling of soil or materials such as gravel and road base will occur within these locations.

### 3.7.6 Construction activities

#### 3.7.6.1 Pre-construction activities

Pre-construction activities involve site preparation works, which will include (but may not be limited to) the following:

- establishment of site boundary/fencing and no-go zones;
- mobilisation of machinery, plant and construction materials to site;
- establishment of site compound and waste bins;
- erection of site safety measures, including site signage and pedestrian/traffic controls;
- installation of erosion and sediment controls; and
- vegetation clearing.

#### 3.7.6.2 Services Infrastructure

Construction activities associated with the installation of services infrastructure will include (but may not be limited to) the following:

- strip existing topsoil and temporarily stockpile excavated soil;
- trenching and installation of services including water supply, sewage, electricity, gas and communications infrastructure;
- backfilling of trenches and disturbed areas; and
- landscaping/re-vegetation.

#### 3.7.6.3 Road Access, Carparking and Street Furniture

Construction activities associated with these works will include (but may not be limited to) the following:

- strip existing fill and topsoil and temporarily stockpile excavated soil;
- cut and fill earthworks to form road
  - excavation to create pavement subgrade
  - test rolling to confirm suitable subgrade
  - the excavated areas to be backfilled and compacted in preparation for laying road base and seal
- demolition/removal of redundant underground pipes where uncovered within the disturbance footprint;
- drainage and site works, including construction of retaining wall;
- construction of road and carparks;
- line marking and installation of street furniture etc; and
- landscaping/re-vegetation.

#### 3.7.6.4 Golf course re-design

Construction activities associated with these works will include:

- vegetation removal for new fairways/holes and adjacent to select fairways;
- earthworks including shaping, mounding and batters for creation of new tees, greens and bunker;
- construction of new holes and dressing; and
- landscaping and rehabilitation.

#### 3.7.6.5 Post-construction activities

Post-construction activities will comprise:

- completion of rehabilitation and landscaping in accordance with the Resort Rehabilitation Guidelines (NGH 2007) and Landscape Concept Plan (DAWSON DESIGN 2023);
- demobilisation of plant and machinery; and
- site clean-up.

### 3.8 Operational Details

The Development works will be operational 24 hours a day, 7 days a week. The golf course will remain operational in summer months though will be subject to staged course modification and partial closures during construction.

The subdivision will be accessible via the new access road off Crackenback Drive. The existing pedestrian access adjacent to the community centre will be retained.

## 4 Legislation, Policies and Guidelines

A review of key legislation and the relevant environmental planning instrument applicable to the Development is provided in this section.

### 4.1 Legislative review

A review of key legislation and planning instruments applicable to the Development is provided in **Table 5**.

The Development is integrated development under Section 4.46 of the EP&A Act, requiring assessment under the relevant provision of the following Acts:

- *Rural Fires Act 1997* – Section 100B
- *Water Management Act 2000* – Section 91
- *National Parks and Wildlife Act 1974* – Section 90.

**Table 5: Legislative review**

Acts & Planning Instruments	Summary	Relevance to Development
<b>Commonwealth Legislation</b>		
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)	<p>The EPBC Act provides a legal framework to protect and manage nationally and internationally important aspects of the Australian environment. The EPBC Act is administered by the Department of Climate Change, Energy, the Environment and Water (DCCEEW).</p> <p>Under Part 3 of the EPBC Act, a person must not undertake an action (e.g. a development) that will have, or is likely to have, a significant impact on a protected matter (MNES), without approval from the Australian Government Minister for the Environment.</p>	An EPBC Act referral is not recommended for the Development, refer to <b>Section 6.11</b> for further details.
<b>State Legislation</b>		
<i>Environmental Planning and Assessment Act 1979</i> (EP&A Act)  <i>Environmental Planning and Assessment Regulation 2021</i> (EP&A Regulation)	<p>The EP&amp;A Act is the primary piece of legislation governing development within NSW. DPE assesses development proposals within NSW alpine resort areas where the Minister for Planning is the consent authority under Part 4 of the EP&amp;A Act. Section 4.15 of the Act sets out matters a consent authority is to take into consideration when determining a DA.</p>	An assessment of the Development against Section 4.15 of the Act is provided in <b>Section 4.2.1</b> .
<i>National Parks and Wildlife Act 1974</i> (NPW Act)  <i>National Parks and Wildlife Regulation 2019</i>	<p>The NPW Act governs the establishment, protection, conservation and management of national parks, including the conservation of objects, places or features (including biological diversity) of cultural value within the landscape.</p> <p><i>Aboriginal Cultural Heritage</i>            Section 87 of the NPW Act provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against</p>	<p>The Development is integrated development.</p> <p>KT will apply for an AHIP under section 90 of the NPW Act prior to commencement of</p>

	prosecution if they later unknowingly harm an object without an Aboriginal heritage impacts permit (AHIP).	works, refer to <b>Section 6.10.1.1</b> .
<p><i>Biodiversity Conservation Act 2016</i> (BC Act)</p> <p><i>Biodiversity Conservation Regulation 2017</i> (BC Regulation)</p>	<p>The purpose of the BC Act is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ESD.</p> <p>The BC Regulation sets out threshold levels for when the BOS will be triggered. The threshold has two elements:</p> <ul style="list-style-type: none"> <li>• whether the amount of native vegetation being cleared exceeds the area threshold; and</li> <li>• whether the impacts occur on an area mapped on the Biodiversity Values Map (BVM).</li> </ul> <p>If clearing and other impacts, including biodiversity impacts prescribed by Clause 6.1 of the BC Regulation, exceed either trigger, the BOS applies.</p> <p>The BOS also applies when:</p> <ul style="list-style-type: none"> <li>• the ‘test of significance’ in section 7.3 of the BC Act identifies that the development or activity is likely to significantly effect threatened species or ecological communities, or their habitats; or</li> <li>• the works are carried out on a declared area of outstanding biodiversity value.</li> </ul> <p>If the BOS is not triggered, the test of significance detailed in section 7.3 of the BC Act must be used to determine whether a local development is likely to significantly affect threatened species.</p>	<p>The Development will trigger the BOS, refer to <b>Section 6.4</b> and <b>Appendix G</b> for details.</p>
<p><i>Water Management Act 2000</i> (WM Act)</p> <p><i>Water Management (General) Regulation 2018</i> (WM (General) Regulation)</p>	<p>Controlled activities carried out in, on, or under waterfront land are regulated by the WM Act. Waterfront land includes the bed and bank of any river, lake or estuary and all land within 40 m of the highest bank of the river, lake or estuary. The NSW Department of Planning and Environment – Water (DPE – Water) administers the WM Act and is required to assess the impact of any proposed controlled activity to ensure minimal harm to waterfront land. A controlled activity approval (CAA) must be obtained before commencing the controlled activity, unless an exemption applies under the WM (General) Regulation.</p>	<p>The Development is nominated integrated Development, refer <b>Section 6.2</b> for further detail.</p>
<p><i>Fisheries Management Act 1994</i></p>	<p>The <i>Fisheries Management Act 1994</i> (FM Act) aims to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations. The FM Act defines ‘fish’ as any marine, estuarine or freshwater fish or other aquatic animal life at any stage of their life history. This includes insects, molluscs (e.g. oysters), crustaceans, echinoderms, and aquatic polychaetes (e.g. beachworms), but does not include whales, mammals, reptiles, birds, amphibians or species specifically excluded. Under the FM Act, if any activity occurs on key fish habitat and will obstruct fish passage, involve dredging or reclamation of channel bed or banks or involve use of explosives in the waterway, then a permit under Part 7 will be required.</p>	<p>The Development is located within the Aquatic ecological community in the catchment of the Snowy River in NSW listed under Schedule 4. Refer to <b>Section 6.3</b> and <b>Appendix I</b> for the impact assessment.</p>



<i>Rural Fires Act 1997</i> (Rural Fires Act) Rural Fires Regulation 2022 (Rural Fires Regulation)	Under Section 100B of the Rural Fires Act, proposals for special fire protection purpose (SFPP) developments and residential or rural subdivision is integrated development (Section 4.14 of EP&A Act) and requires approval under the Rural Fires Act (in the form of a bush fire safety authority from the NSW RFS) and the EP&A Act.  Development on bushfire prone land (BFPL) must satisfy the requirements of Planning for Bush Fire Protection (NSW RFS 2019).	The Development is integrated development.  The Development is located within bush fire prone land. KT will apply for a BFSA from NWS RFS. Refer <b>Section 6.1.2</b> for further details.
<b>State Environmental Planning Instruments</b>		
State Environmental Planning Policy (Precincts – Regional) 2021 (Precincts – Regional SEPP)	Development in NSW alpine resort areas are governed by Chapter 4 (Kosciuszko National Park and alpine resorts) of the Precincts – Regional SEPP. The aim of Chapter 4 is to protect and enhance the Alpine Region by ensuring development is managed with regard to the principles of ecologically sustainable development, including the conservation and restoration of ecological processes, natural systems and biodiversity.	Refer <b>Section 4.2.2</b> for an assessment of the Development against the key provisions of Chapter 4.

## 4.2 Planning Framework

An assessment against the relevant matters of the EP&A Act and relevant environment planning instruments, policies and plans is provided in this section.

### 4.2.1 Environmental Planning and Assessment Act 1979

Pursuant to Section 4.15 of the EP&A Act, the consent authority is to consider the matters outlined below.

<b>(1) Matters for consideration – General</b>	<b>Evaluation</b>
(a) the provisions of—	
(i) any environmental planning instrument	The Precincts – Regional SEPP is the only environmental planning instrument which applies to the site for this proposal. An assessment against the relevant sections of the Precincts – Regional SEPP have been addressed in <b>Section 4.2.2</b> .
(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved)	Not applicable. There are no draft Environmental Planning Instruments that are applicable to the Development.
(iii) any development control plan	Not applicable. There are currently no development control plans applicable to the site.
(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4	Not applicable. There are no planning agreements applicable to Thredbo under the Precincts – Regional SEPP.
(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph)	The DA and supporting information has been prepared in accordance with the relevant requirements of the EP&A Regulation.

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality	The likely impacts of the Development on the natural and built environment, and social and economic impacts in the locality have been assessed in <b>Section 6</b> .
(c) the suitability of the site for the development	The suitability of the site for the Development is described in <b>Section 2</b> .
(d) any submissions made in accordance with this Act or the regulations	Consideration will be given to submissions made.
(e) the public interest.	<p>The Development is considered to be within the public interest for the following reasons:</p> <ul style="list-style-type: none"> <li>• The Development is consistent with the aim and objectives of the Precincts – Regional SEPP.</li> <li>• The Development is compatible with the site.</li> <li>• The Development will not have any significant adverse environmental impacts.</li> <li>• The Development is consistent with the principles of ESD.</li> </ul>

## 4.2.2 Precincts – Regional SEPP

The relevant sections of Chapter 4 (Kosciuszko National Park and alpine resorts) of the Precincts – Regional SEPP are addressed in this section.

### 4.2.2.1 Section 4.7 – Land Use Table

In accordance with the Land Use Table in Section 4.7 of the Precincts – Regional SEPP, tourist and visitor accommodation, carparks, infrastructure facilities and recreation infrastructure are permissible development with consent within the Thredbo Alpine Resort.

Therefore, the Development is permissible development with consent.

### 4.2.2.2 Section 4.8 – Subdivision

In accordance with Section 4.8 of the Precincts – Regional SEPP, land in the Alpine Region may be subdivided with development consent.

### 4.2.2.3 Section 4.24 Flood planning

There is no defined flood planning area, flood planning level or reference to adopted mapping under the Precincts – Regional SEPP. No further consideration is required.

### 4.2.2.4 Section 4.25 Earthworks

In accordance with Section 4.25 of the Precincts – Regional SEPP, the consent authority is to consider the matters outlined below.

Section 4.25 Earthworks	Evaluation
(1) The objective of this section is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.	
(2) Development consent is required for earthworks in the Alpine Region unless—	This SEE forms part of the DA seeking Development Consent for the proposal.
(a) the earthworks are exempt development under this Chapter or another environmental planning instrument, or	
(b) the earthworks are ancillary to—	

- (i) development permitted without consent under this Chapter, or
- (ii) development for which development consent has been given.

<p>(3) In deciding whether to grant development consent for earthworks, or for development involving ancillary earthworks, the consent authority must consider the following matters—</p> <ul style="list-style-type: none"> <li>(a) the likely disruption of, or adverse impact on, drainage patterns and soil stability in the locality of the development,</li> <li>(b) the effect of the development on the likely future use or redevelopment of the land,</li> <li>(c) the quality of the fill or the soil to be excavated, or both,</li> <li>(d) the effect of the development on the existing and likely amenity of adjoining properties,</li> <li>(e) the source of any fill material and the destination of any excavated material,</li> <li>(f) the likelihood of disturbing relics,</li> <li>(g) the proximity to, and potential for adverse impacts on, a waterway, drinking water catchment or environmentally sensitive area,</li> <li>(h) appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</li> </ul>	<ul style="list-style-type: none"> <li>(a) Refer to the Aquatic and Riparian Assessment (<b>Appendix I</b>) and Stormwater Management Plan (<b>Appendix N</b>) for details.</li> <li>(b) The effect of the Development is not anticipated to impact upon the future use or redevelopment of the land. Appropriate environmental controls have been incorporated into the design of the proposal to minimise and mitigate environmental impacts upon the land.</li> <li>(c) The quality of the existing fill and soil to be excavated has been assessed in the Preliminary Investigation Report (<b>Appendix D</b>).</li> <li>(d) Refer to <b>Section 6.6</b> and <b>6.7</b> for the impacts to the landscape character, built form and visual amenity of the locality.</li> <li>(e) Where imported fill material is required it will be sourced from NPWS approved locations. Any excess spoil from excavation works will be transported to an approved location, either within the resort or off-site to a licenced facility.</li> <li>(f) Refer to the Aboriginal Cultural Heritage Report (<b>Appendix H</b>) for details.</li> <li>(g) Refer to the Aquatic and Riparian Assessment (<b>Appendix I</b>) and Stormwater Management Plan (<b>Appendix N</b>) for details.</li> <li>(h) Refer to <b>Section 7</b> for mitigation and management measures.</li> </ul>
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#### 4.2.2.5 Section 4.28 – Consideration of master plans and other documents

In accordance with Section 4.28 of the Precincts – Regional SEPP, the consent authority is to consider the matters outlined below.

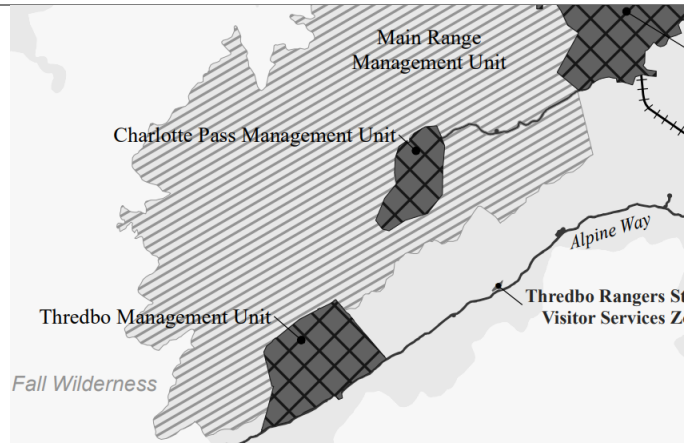
Section 4.28 Matters for consideration	Evaluation
(1) In deciding whether to grant development consent to development in the Alpine Region, the consent authority must consider the following—	
(a) the aim and objectives of this Chapter set out in section 4.1,	The Development is consistent with the objectives of Chapter 4, as demonstrated in this report.
(b) a draft development control plan that is intended to apply to the land and has been published on the NSW planning portal,	Not applicable.
(c) a conservation agreement under the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth that applies to the land,	Not applicable.
(d) the Geotechnical Policy —Kosciuszko Alpine Resorts published by the Department in November 2003,	A Geotechnical Assessment (Alliance 2023) has been undertaken in accordance with the Geotechnical Policy, refer <b>Appendix F</b> .
(e) for development in the Perisher Range Alpine Resort—	Not applicable.

(i) the Perisher Range Resorts Master Plan, published by the National Parks and Wildlife Service in November 2001, and	
(ii) the Perisher Blue Ski Resort Ski Slope Master Plan adopted by the National Parks and Wildlife Service in May 2002.	
(2) In deciding whether to grant development consent to development in the Alpine Region, the consent authority must consider—	
(a) a master plan approved by the Minister under section 4.26 that applies to the land, or	Refer to <b>Section 4.3.2</b> .
(b) if a master plan has not been approved—a draft master plan prepared under section 4.26 that is intended to apply to the land and has been published on the NSW planning portal.	Master Plan has been approved.

#### 4.2.2.6 Section 4.29 – Consideration of environmental, geotechnical and other matters

In accordance with Section 4.29 of the Precincts – Regional SEPP, the consent authority is to consider the matters outlined below.

Section 4.29 Matters for consideration	Evaluation
(1) In deciding whether to grant development consent to development in the Alpine Region, the consent authority must consider the following—	
(a) measures proposed to address geotechnical issues relating to the development,	Refer to the Geotechnical Investigation Report (Alliance 2023) provided in <b>Appendix F</b> .
(b) the extent to which the development will achieve an appropriate balance between— (i) the conservation of the natural environment, and (ii) taking measures to mitigate environmental hazards, including geotechnical hazards, bush fires and flooding,	<p>This SEE demonstrates that the Development will achieve an appropriate balance between the conservation of existing environmental values (within the site and surrounds) and the proposed measures to mitigate environment hazards outlined in the following technical reports:</p> <ul style="list-style-type: none"> <li>• Geotechnical Investigation Report (Alliance 2023), <b>Appendix F</b>; and</li> <li>• Bushfire Assessment Report (GHD 2023), <b>Appendix E</b>.</li> </ul> <p>The design has undergone several iterations ensure the Development minimises environmental impacts as much as practicable whilst allowing for the primary objectives of the Development to be achieved. Where impacts are unavoidable, appropriate mitigation and management measures have been applied.</p>
(c) the visual impact of the proposed development, particularly when viewed from the land identified as the Main Range Management Unit in the Kosciuszko National Park Plan of Management,	The Main Range Management Unit extends along the spine of the Great Dividing Range over 28 km. The Unit follows the southern break of slope of the Rams Head Range where it adjoins the Thredbo Management Unit, see below within the context of the Thredbo Head Lease.



Given the aspect of the golf course, and the Development being on the valley floor, the visual impact of the Development when viewed from the Main Range Management Unit is considered negligible, refer to **Section 6.7.1.9** for further assessment of impacts.

(d) the cumulative impacts of development and resource use on the environment of the Alpine Subregion in which the development is carried out,

Sufficient publicly available information regarding regional impact thresholds is currently unavailable to inform robust cumulative impact assessments within the Alpine subregion.

This SEE and supporting technical reports have considered the impacts of the Development on the existing environmental, social and economic values within the locality and surrounds, refer **Section 6**. The technical studies conclude there is no threats of serious or irreversible environmental damage resulting from the Development. The Development is anticipated to provide a significant positive socio-economic contribution to the Alpine subregion. Where unavoidable impacts have been identified, offsets are proposed.

The Development is consistent with the Management Objectives of the Kosciuszko National Park Plan of Management and facilitates appropriate development in the Alpine subregion.

(e) the capacity of existing infrastructure and services for transport to and within the Alpine Region to deal with additional usage generated by the development, including in peak periods,

Refer **Section 6.12** for details.

(f) the capacity of existing waste or resource management facilities to deal with additional waste generated by the development, including in peak periods.

Refer **Sections 6.13** and **6.14** for details.

(2) For development involving earthworks or stormwater draining works, the consent authority must also consider measures to mitigate adverse impacts associated with the works.

Earthworks and stormwater drainage works are proposed. During construction, appropriate environmental safeguards outlined in the SEMP (**Appendix J**) will be implemented.

The design has incorporated stormwater controls to mitigate potential adverse impacts on the receiving environment during operation. Refer to the following appendices for further details:

- CLM Civil drawings (**Appendix B**)
- Landscape Concept Plan (**Appendix O**)
- Stormwater Management Plan (**Appendix N**).

(3) For development the consent authority considers will significantly alter the character of an Alpine Subregion, the consent authority must also consider—	The Development is not anticipated to significantly alter the alpine resort character as demonstrated in <b>Section 6.6</b> .
(a) the existing character of the site and immediate surroundings, and	The provision of additional tourist accommodation within the Alpine Subregion is consistent with surrounding land uses.
(b) how the development will relate to the Alpine Subregion.	

## 4.3 Plans, Policies and Guidelines

### 4.3.1 South East and Tablelands Regional Plan 2036

The *South East and Tablelands Regional Plan 2036* (Regional Plan) provides directions for land use planning for the South-east and tablelands region for the next 20 years. The region comprises nine (9) local government areas including Bega Valley, Eurobodalla, Goulburn Malware, Hilltops, Queanbeyan-Palerang, Snowy Monaro, Upper Lachlan, Wingecarribee and Yass Valley.

The Regional Plan identifies the following goals for new development with the region:

- a connected and prosperous economy;
- a diverse environment interconnected by biodiversity corridors;
- healthy and connected communities; and
- environmentally sustainable housing choices.

Direction 3 of the Regional Plan is to develop the Snowy Mountains into Australia's premier year-round alpine destination. The Regional Plan recognises that an increase in year-round visitors requires better parking access, public facilities and housing/accommodation.

The Regional Plan promotes well planned, efficient and sustainable development that complements the area's natural and cultural values.

The Development will facilitate the expansion of tourist accommodation offerings within the resort to meet increasing demand, whilst balancing the conservation of key environmental values. The Development is consistent with the goals and objectives of the Regional Plan.

### 4.3.2 Snowy Mountains Special Activation Precinct Master Plan

The *Snowy Mountains Special Activation Precinct Master Plan* (DPE 2022) (Snowy SAP Master Plan) is a 40-year plan that sets out the vision, principles, and precinct-wide performance criteria to support the planning controls in three Environmental Planning Instruments (EPIs).

The Snowy SAP Master Plan seeks to facilitate a safe and sustainable increase in the amount and range of year-round recreation and accommodation offerings.

The protection of the natural, cultural and social values of KNP is a primary focus of the Snowy Mountains Special Activation Precinct. As demonstrated in this SEE and supporting technical reports, the Development will not result in any significant adverse impacts on natural values. The Development has been designed to first avoid impacts on the natural environment, then minimise and mitigate impacts through a range of mitigation and management measures implemented in the design, construction and operational phases.

The Precincts – Regional SEPP requires that a master plan and delivery plan be prepared for each Activation Precinct (NSW Government 2022a). The Alpine Precinct Development Control Plan (Alpine DCP) is yet to be finalised.

The Development site is located within the Thredbo Alpine Sub-precinct. The Development site is identified as a 'development area' within the Thredbo Village West structure plan.

The Snowy SAP Master Plan describes the future desired character of Thredbo as –

*"Thredbo is the densest alpine village among the alpine resorts, meaning future infrastructure improvements will focus on pedestrian connectivity within the resort and long-term public transport solutions at the Alpine Precinct scale. Developments and renewal within the village will continue to support a strong alpine design character, village heart and year-round uses".*

The Development is consistent with the desired future character of Thredbo as demonstrated below:

- Specific development controls will ensure that development of individual lots is consistent with the existing alpine design character of the resort.
- The additional 186 beds will allow more visitors to experience on-mountain accommodation.
- The Development will retain and improve connectivity from the golf course precinct to the Village Hub.
- The Development will provide an additional 48 public car parks which will mitigate potential strain on existing village carparking.
- The Development provides a mix of accommodation and recreational uses that are compatible to create a viable precinct that responds to the accommodation demand whilst retaining the recreational values of the golf course.

#### **4.3.3 Kosciuszko National Park Plan of Management 2006 (KNP PoM)**

The KNP PoM along with the Alpine Resorts environmental planning instruments are based on a vision that seeks to (DPIE 2006):

- Develop viable, high quality resorts;
- Provide opportunities and benefits for the regional community; and
- Ensure that all visitors have the opportunity to enjoy a range of recreational activities in the unique alpine environment, while acquiring a memorable experience and understanding the significance of the park.

The KNP PoM outlines objectives and management strategies to guide the long-term management of values within specific areas of KNP. The KNP PoM includes several management zones, comprising seven management units that contain places and values of exceptional significance. Thredbo is included in the Thredbo Management Unit, considered an area of exceptional recreational significance.

The Development is considered consistent with the relevant management objectives set out in the KNP PoM.



#### 4.3.3.1 *Kosciuszko National Park Amendment to the Plan of Management: Snowy Mountains Special Activation Precinct*

The *Kosciuszko National Park Amendment to the Plan of Management: Snowy Mountains Special Activation Precinct* (DPE 2022) (KNP PoM Snowy SAP Amendment) was adopted by the Minister for Environment and Heritage on 29 June 2022. This amendment alters park accommodation policy and ensures that the protection of the park's natural and cultural values remains as the primary consideration during implementation of the Snowy SAP Master Plan.

During the development of the Snowy SAP Master Plan, the carrying capacity study found that that additional accommodation within the resorts could be feasible and led to the inclusion of long term (2060) accommodation targets for Thredbo (6,455 beds, including a minimum of 20 volunteer ski patrol beds). The KNP PoM Snowy SAP Amendment provides for the achievement of these targets, consistent with the NPW Act, by increasing the maximum allowable bed limits in the alpine resorts, however, the current bed allocation in Schedule 8 of the KNP PoM remains the same. It is noted a new mechanism has been introduced which means before the current PoM allocation can be increased, certain requirements must be met.

#### 4.3.3.2 *Bed Numbers and Carrying Capacity*

The current bed allocation for the Thredbo Management Unit is 4,820 beds. This bed allocation was established with consideration of key service infrastructure, including sewer, waste and water capacity. The Development will provide additional service infrastructure, and an assessment of the existing infrastructure capacity has been undertaken to inform the impact assessment of this Development (refer **Appendix J**, **Appendix K** and **Appendix L**).

With consideration of other proposed developments (**Table 6**), KT will not exceed the current bed allocation for the Thredbo Management Unit if all current development proposals go ahead. KT is not aware of any other major development proposals in the resort at the time of preparing this application.

**Table 6: Current Bed Inventory**

Current Bed Inventory	
Current bed allocation	4,820
Current beds utilised	-4,374
Future bed number changes	-114
<i>Black bear – 10 beds</i>	
<i>Lot 768 – 90 beds</i>	
<i>Lot 593 – 12 beds</i>	
<i>Lot 612 – 2</i>	
Golf course subdivision	-186
<b>Total remaining unallocated beds:</b>	146

Expansion of the village by 186 beds will improve Thredbo's viability as a year-round destination, and enhance the tourism base by providing addition on-mountain / overnight accommodation.

#### 4.3.4 **Geotechnical Policy Kosciuszko Alpine Resorts 2003**

The *Geotechnical Policy Kosciuszko Alpine Resorts* (DIPNR 2003) (Geotechnical Policy) applies to the Development as the site is located within the "G" area of the supporting Geotechnical Policy Map, Thredbo (G5).



All DAs which include the carrying out of any works or the erection of any buildings within the designated “G” area are to be accompanied by a geotechnical report. A copy of the Geotechnical Report (Alliance 2023) is provided in **Appendix F**.

#### 4.3.5 Planning for Bushfire Protection 2019

All development on bushfire prone land must meet the requirements of the Planning for Bush Fire Protection (PBP) (NSW RFS 2019). In accordance with the PBP, a bush fire assessment report has been prepared for the Development, refer **Appendix E**.

#### 4.3.6 Guidelines

The relevant matters in the following Guidelines have been considered:

- What to include with your development application (DA) (DPE 2017)
- Development referrals guide (DPE 2022)
- Threatened species assessment guidelines: The assessment of significance (DPI 2006)
- Controlled activities – Guidelines for riparian corridors on waterfront land (DPE 2022)
- Guide to Traffic Generating Developments, v 2.2 (RTA 2002).

### 4.4 Ecologically Sustainable Development

Australia's *National Strategy for Ecologically Sustainable Development* (1992) defines ESD as '*using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased*'.

The principles of ESD are outlined in both the State EP&A Regulation and Commonwealth EPBC Act. Throughout the planning and design phases, the Development has considered the principles of ESD. Discussion on how each principle has been incorporated into the Development is provided below.

***Principle 1: The precautionary principle – The precautionary principle is that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.***

Various consultants have been engaged to prepare independent technical studies to assess potential impacts of the Development and inform the design of the proposal. This SEE and supporting technical reports seek to provide robust scientific data and information to prevent and/or mitigate environmental harm as much as practicable. Potential environmental impacts have been identified and avoidance, mitigation and management measures are proposed. Where impacts are unavoidable, offsets are proposed (refer BDAR, **Appendix F**).

No serious threats of serious or irreversible environmental damage have been identified in this SEE or supporting technical reports.

***Principle 2: Inter-generational equity – The principle of inter-generational equity is that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.***

The Development has been designed to minimise adverse impacts on existing environmental values as much as practicable whilst achieving the key objectives of the proposal.

## **Optimise site potential**

The 19 lot subdivision is located within a predominately pre-disturbed site identified as a development area in the Snowy SAP Master Plan. The subdivision has been designed to maximise the use of the natural topography and retain significant vegetation and landscape features (where possible and subject to meeting Planning for Bushfire Asset Protection Zone (APZ) requirements), whilst retaining the 9-hole golf course. The subdivision layout provides for a diversity of lot sizes to support various building types. The siting of lots, while facing south take advantage of northern solar orientation where possible.

## **Sustainable design principles**

The incorporation of sustainable design principles for the development of individual lots will be the responsibility of the owner. KT provides guidelines and recommendations for sustainable development of buildings through the *Thredbo Development Guidelines*. Additionally, development consent conditions generally mandate minimum ESD standards that would apply to the development of buildings on individual lots.

Whilst no statutory DCP currently applies to the Alpine Resort areas, the development of the Alpine DCP is currently underway which will provide detailed planning and design guidelines to promote sustainable development of individual lots in the future.

## **Create places for people – transport, connectivity, people focused street network**

The street network has been designed to ensure safe and accessible pedestrian access throughout the subdivision.

The Development will encourage overnight visitors, therefore reducing the number of day visitors potentially travelling to/from Jindabyne and beyond.

The Development (once Lots developed) will include the provision of a village shuttle bus stop that will enable guests to use the service to access other areas of the village such as Valley Terminal and Friday Flat.

The Development provides the opportunity for people to interact with nature in their immediate surroundings – walking tracks, mountain biking trails, swimming in the Thredbo River and playing golf.

## **Energy efficiency and water saving devices**

- Through the *Thredbo Development Guidelines* developers, lodge owners and the like are encouraged to incorporate energy efficiency (e.g. solar passive design) and water saving devices and appliances (e.g. dual flush toilets and low flow showers) into building design.
- Reduced energy consumption – the subdivision will incorporate a mix of solar and LED street lights.
- The subdivision layout has been designed to allow buildings on individual lots to maximise solar orientation (north-south orientation). This is a prerequisite for taking full advantage of energy efficiency when it comes to building developments on individual lots.

## Integrated water management

- *Potable Water* – The adjacent Crackenback subdivision is supplied from the Crackenback water supply tanks which is fed from the Thredbo River. An additional water storage tank will be installed adjacent to the existing tank (refer **Appendix J** for details). The subdivision includes the provision of water services to all lots.
- *Wastewater treatment* – Thredbo manages wastewater treatment for the village. After tertiary treatment, water is returned to the Thredbo River.
- *Stormwater Management* – WSUD principles have been incorporated into the subdivision to ensure the health of the existing environment is maintained and protected from additional development within the locality. The location of open space and stormwater network responds to the existing drainage channels and overland flow path.

## Waste management

- The access road has been designed to support general waste and recycling collection from lots. KT's Environmental Services Department are responsible for waste collection and management in the village.
- KT promote good recycling practices and segregate all waste streams within the village. Details on waste management are provided in **Section 6.14**.

## Open space

- The design of the subdivision ensures public open space remains accessible, protected and enhanced. The subdivision has been designed to retain significant vegetation within individual lots, where possible.

## Heritage

Within Aboriginal communities' intergenerational equity is maintained by the transmission of cultural knowledge, traditions and continued access and visitation to cultural sites. Loss of cultural knowledge, heritage sites or access to highly significant sites is detrimental to the current and future communities (Past Traces 2023).

Past Traces (2023) determined the heritage site within the Development does not play a significant role in ongoing cultural traditions, transmission of knowledge or learning for the next generation. The impacts to the site will not have a detrimental effect on continuing traditions and the transmission of knowledge to future generations, as it plays no active role in the current and future community (Past Traces 2023).

## Opportunities for improved building design and standards

This subdivision provides an opportunity for new sustainable tourist accommodation buildings in the resort.

***Principle 3: Conservation of biological diversity and ecological integrity – The principle of the conservation of biological diversity and ecological integrity is that the conservation of biological diversity and ecological integrity should be a fundamental consideration.***

#### **Retain and enhance biodiversity**

The design aims to reduce the amount of native vegetation clearing as much as practicable to achieve the desired outcome of the proposal. The subdivision layout has been designed to retain natural features and large mature trees, where possible. Where impacts are unavoidable, offsets are proposed (refer to the BDAR (**Appendix G**) for details).

Landscaping has been incorporated into the design to enhance the biodiversity value of the site by providing natural fauna habitat and linkages. Refer to the Landscape Concept Plan (**Appendix O**) for details.

KT actively manages exotic flora and fauna species within the resort.

***Principle 4: Improved valuation, pricing and incentive mechanisms – The principle of improved valuation, pricing and incentive mechanisms is that environmental factors should be included in the valuation of assets and services.***

This principle includes concepts such as ‘polluters pay’ i.e. those who generate waste and pollution should bear the costs associated with containment, avoidance and abatement. The development of these mechanisms largely comes down to the responsibility of government and their agencies.

A Quantity Surveyor has been engaged to provide cost advice during the planning and design phase of the Development, and to ensure the proposal stays within budget and effectively considers environmental factors in the valuation of assets and services. The cost advice has been used to inform both the short and long-term economic cost benefits of the proposal. The cost estimate has been provided separately as part of this DA.

KT is responsible for the costs of management, disposal and treatment of waste generated by the Development. These costs are subject to taxes and charges.

KT is responsible for the payment of biodiversity offsets as a result of unavoidable impacts to conservation significant flora and fauna, refer **Section 6.4.3** for details.

***Principle 5: Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.***

KT have engaged with key stakeholders during the planning phase of the Development to understand stakeholders needs and concerns, and to ensure appropriate mitigation measures are incorporated into the design. Further opportunities for community participation will continue throughout the assessment process (i.e. advertisement of the DA on the NSW Planning Portal during the public exhibition period).

Collaboration with a range of stakeholders (e.g. designers, technical consultants, government agencies) and identification of potential impacts (positive and negative) allows for informed decision making and ensures that environmental controls will be implemented effectively and sustainably.

This SEE and supporting documentation aim to provide a robust assessment of the potential economic, environmental and social impacts of the Development to allow for informed decision making.

## 5 Assessment Method

The assessment for the Development consisted of a desktop review of publicly available data sources and information. The desktop review was followed by consultation with key stakeholders and subsequent site visits to determine the environmental values present on the site and to aid the evaluation of potential impacts of the Development to those values. A summary of the assessment methods is provided in the following sections.

### 5.1 Desktop assessment

A desktop assessment was carried out to identify relevant environmental values, that potentially occur within the Development area. Database and information sources utilised in the desktop assessment are listed below, and relevant reports are provided in **Appendix C**:

- Aboriginal Heritage Information Management System Web Services (NSW Government 2023e);
- Biodiversity Values Map and Threshold Tool (NSW Government 2023b);
- Protected Matters Search Tool (DCCEEW 2023);
- NSW BioNet (NSW Government 2023f);
- Water Management (General) Regulation 2018 hydroline spatial data 1.0 (NSW Government 2023c);
- NSW Planning Portal Spatial Viewer (NSW Government 2023a); and
- Bush fire prone land mapping tool (RFS 2023).

### 5.2 Preliminary site assessment

A preliminary site assessment was undertaken by KT Project personnel to validate the desktop assessment results, inform the design process and ensure appropriate environmental controls are implemented to avoid, mitigate and/or management potential impacts on environmental and cultural values.

### 5.3 Consultation with key Government Agencies

A summary of pre-DA consultation is provided below:

- 17 March 2020 – KT sought preliminary advice and input from DPE (Alpine Resorts team) on key matters for consideration in the DA. DPE provided response 8 May 2020.
- 23 February 2022 – KT held a pre-DA lodgement meeting with DPE (Alpine Resorts team) representatives to discuss potential constraints and sought preliminary advice and input from NSW RFS, SAP team, Transport for NSW, NPWS, NRAR (now DPE-Water) via DPE (Alpine Resorts team). DPE provided combined comments on 8 March 2022.
- 17 February 2023 – KT and representatives from DPE (Alpine Resorts team), NPWS, NSW RFS and GHD (bushfire consultant) met to discuss the proposed bushfire assessment methodology and determine potential site constraints, including a site inspection.
- 09 June 2023 – KT and representatives from DPE (Alpine Resorts team) and NPWS to discuss findings from technical studies and DA package. KT sought feedback on any key matters for consideration in the DA package.

## 5.4 Technical assessments

The following technical assessment have been undertaken to inform the Development:

- Bushfire Assessment Report (GHD 2023) (**Appendix E**);
- Biodiversity Development Assessment Report (ELA 2023a) (**Appendix G**);
- Geotechnical Investigation Report (Alliance 2023) (**Appendix F**);
- Aboriginal Cultural Heritage and Archaeological Report (Past Traces 2023) (**Appendix H**);
- Preliminary Site Investigation Report (Ground Doctor 2023) (**Appendix D**);
- Aquatic and Riparian Impact Assessment (ELA 2023b) (**Appendix I**);
- Stormwater Management Plan (ELA 2023c) (**Appendix N**);
- Sewer Capacity Assessment (Robert Staples & Associates 2023) (**Appendix K**);
- Sewerage treatment plant capacity assessment (Yabbie Pond 2023) (**Appendix L**); and
- Water supply capacity assessment (Gordon Gibson Nominees 2023) (**Appendix J**).

## 6 Impact Assessment

This section describes the existing environmental, cultural and socio-economic values of the site and surrounds, and provides an assessment of the Development impacts on both the natural and built environments, and social and economic impacts in the locality.

### 6.1 Land

#### 6.1.1 Land use

Thredbo forms an integral part of KNP as a major tourist destination – Australia’s preeminent alpine resort. Sub-division and the expansion of tourist accommodation within Thredbo does not introduce any land uses which are not permitted under the head lease, Chapter 4 –Kosciuszko Alpine Region of the Precinct – Regional SEPP or the KNP PoM. The site is identified as a ‘development area’ within the Snowy SAP Master Plan.

The Development will impact on the existing land use (recreational and open space – golf course) through the introduction of roads, car parking and future tourist accommodation developments. Within the context of the resort and surrounding subdivisions, the impacts on existing land uses are considered acceptable. The subdivision has been designed to ensure the existing recreational uses and open space are retained with a modified nine hole golf course.

#### 6.1.2 Bush fire prone land

The Development site is mapped within a designated bush fire prone area (NSW RFS 2022). The Bushfire Assessment Report (GHD 2023) demonstrates the requirements of, and the acceptable solutions identified in the PBP in relation to asset protection zones, public roads and accessibility and provision of services can be met in full for the Development, refer **Appendix D** for a copy of the report.

#### 6.1.3 Preliminary site investigation

The only potential source of contaminations that warranted assessment was the application of herbicides, pesticides and fertilisers to parts of the site occupied by turf surfaces of the golf course (Ground Doctor 2023).

Ground Doctor assessed near surface soils at seven (7) locations within the site, targeting putting greens, teeing areas and fairways of the golf course, where chemical application was likely to have been most frequent.

The field results indicated there are no unacceptable impacts to human health via the identified relevant exposure pathways and no unacceptable ecological impacts. Further, the absence of significant soil impacts indicate that groundwater impacts are unlikely and groundwater assessment is not warranted. Ground Doctor (2023) concluded the results of the assessment indicate that the site is suitable for the proposed subdivision. Refer to **Appendix D** for further details.

#### **6.1.4 Geotechnical considerations**

The preliminary slope risk hazards assessment concluded that given that the proposed structures on each lot are located at valley floors, it is expected that the geotechnical hazards for the existing surface conditions to be low to very low, the risk to property to be low, and the risk of injury or loss of life to be acceptable (Alliance 2023). Refer to **Appendix F** for the complete geotechnical assessment.

### **6.2 Water**

#### **6.2.1 Watercourses**

Watercourses mapped on the *Water Management (General) Regulation 2018 Hydro Line spatial data* (NSW Government 2018) and the *State Environmental Planning Policy (Kosciuszko National Park – Alpine Resort) 2007 Thredbo Alpine Resort, Sheet 1 of 5* (DoP 2006) are identified in **Figure 7**. It should be noted there are discrepancies between the two datasets and some of the mapped lines do not actually comprise the features of a watercourse.

The Development site intersects with the riparian corridors of two 1st order streams, one 2nd order stream, and one 3rd order stream (Thredbo River), forming part of the Snowy River Catchment (ELA 2023b). Refer to the Aquatic and Riparian Impact Assessment (ELA 2023b) (**Appendix I**) for details.

#### **6.2.2 Hydrogeology / groundwater**

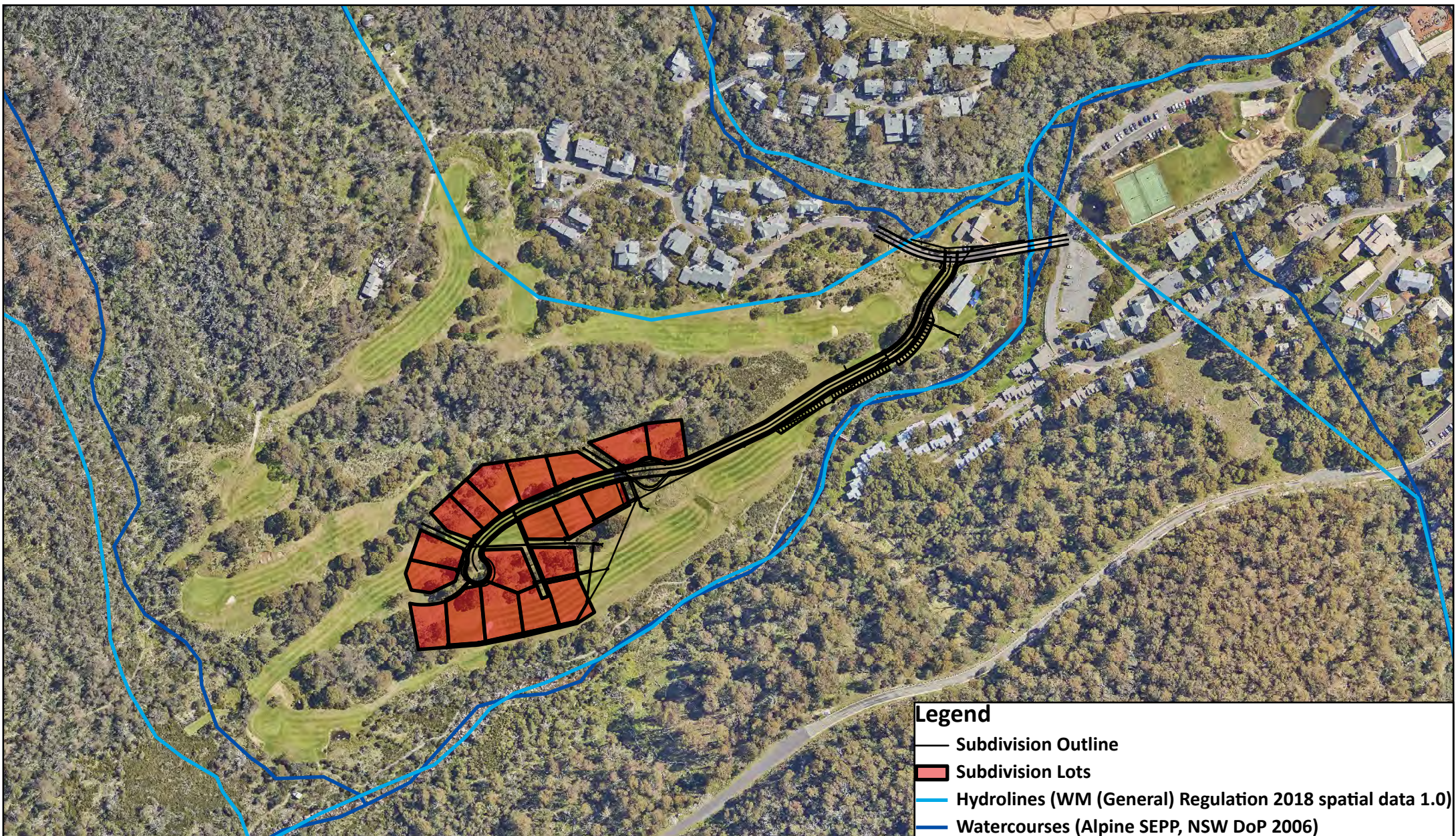
The desktop assessment indicated there are no registered groundwater works within 1000 m of the site (Ground Doctor 2023). During the geotechnical site investigation undertaken by Alliance (2023) no groundwater was observed within the site. However, it is expected the groundwater seepage occurs through the interface between soil and rock boulders (Alliance 2023).

A summary of the groundwater that likely exists below the site is as follows (Ground Doctor 2023):

- Relatively uniformly within the underlying weathered profile of granite in the upper 5 m of the subsurface.
- Localised subsurface flows along drainage depressions. Groundwater would be expected to be present in the upper 3 m of the soil profile.
- Potential for springs from fractures in underlying granite bedrock.

Groundwater flow beneath the site would be expected to be in a generally southeast direction toward Thredbo River (fresh water aquatic ecosystem) which is the nearest groundwater receiving environment (Ground Doctor 2023).





Scale: 1:3,711

0 25 50 100 150 200  
Meters

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



## FIGURE 7: MAPPED WATERCOURSES

Project: Thredbo Golf Course Subdivision

Revision: B

Date: 21/07/2023

Produced By: KOS



### 6.2.3 Riparian assessment

The Study Area (defined in Figure 4 of **Appendix I**) intersects with the riparian corridors of two 1st order streams, one 2nd order stream and one 3rd order stream (Thredbo River). All streams within the study area met the definition of a river under the WM Act, except for a 106 m piped section across the golf course (Reach 1B). Concrete-lined and piped sections are exempt from obtaining approvals for works on waterfront land (Clause 28 of Schedule 4 of the WM Regulations). Part of the development is separated from Reach 1A by an existing public road, therefore, that portion of land is also exempt (Clause 31 of Schedule 4 of the WM Regulations).

A summary of the findings from the Riparian Impact Assessment prepared by ELA (2023b) are provided below.

The Development encroaches the inner 50 percent of the vegetated riparian zone. Encroachment of Reaches 1A and 2A are limited to minor tree/shrub removal and reconfiguration of the golf course layout within existing cleared areas. Encroachment of Reach 3A (Thredbo River) is similar in nature plus the addition of the main access road and car parking, located on an existing cleared fairway. All areas of encroachment, besides a small section of walking trail realignment adjacent to Thredbo River, are within cleared areas or areas currently managed as a functional golf course.

No riparian offsetting using the averaging rule is proposed. It is argued that riparian averaging is not possible, due to ongoing existing use and limited space provided by this golf course. It is also argued that surrounding portions of Thredbo River have their inner 50 percent vegetated riparian zone encroached by previous village development. An example of this is seen in Figure 8 of **Appendix I**, where immediately downstream of the study area, Friday Drive lies between 5-10 m from the top of bank of Thredbo River in several areas. This distance is well under the 15 m inner 50 percent width recommended by DPE riparian guidelines (2022), and these distances are similar to the encroachments proposed by the golf course subdivision. Another example is on the opposite bank of Thredbo River, where clearing around the accommodation structures is 7-10 m from top of bank. With such development along the immediate reach, it is highly unlikely the proposed encroachment on existing cleared land would reduce the current riparian functions and value.

### 6.2.4 Water quality impacts

#### 6.2.4.1 Construction Impacts

Vegetation clearing and earthworks will be required for establishment of the subdivision, municipal infrastructure and golf course adjustments. Earthworks will comprise trenching, excavations, and cut and fill. These activities have the potential to impact on water quality in the receiving environment, for example:

- Excavation works and soil stockpiling (if incorrectly managed) have the potential to result in the release of sediment laden water into drainage lines and watercourses.
- Accidental chemical and fuel spills from operating machinery may result in contamination of soil and watercourses.

With the implementation of appropriate controls outlined in the SEMP (**Appendix M**), the potential impacts to water quality will be mitigated.

#### 6.2.4.2 Operational Impacts

The introduction of roads and car parks introduces impervious surfaces that may contribute to nonpoint source water pollution and increased stormwater runoff. The new access road will generate overland flow from the impervious surfaces created. However, the road design has considered the existing overland flow patterns and has been designed in a way that blends into the existing landscape and morphology of the site. The road has been designed to manage runoff and the stormwater controls (e.g. layback kerb, spoon drains and grated inlets) will intercept and direct flow into the stormwater network. The new access road is not expected to adversely impact on water quality in the receiving environment.

The subdivision will incorporate stormwater retention devices such as purceptors to treat stormwater runoff during operation (**Appendix B**). Similar techniques have proven the effective management of runoff in other accommodation zones such as Crackenback Ridge and Woodridge subdivisions.

The subdivision layout has been designed to retain existing drainage lines (e.g. channel between 7, 8, 12 16 and 17) and divert overland flow into existing and proposed stormwater infrastructure. The future development of individual lots will require the incorporation of stormwater controls that tie into the broader network to minimise impacts on the receiving environment.

### 6.3 Aquatic Ecology

#### 6.3.1 Existing environment

##### 6.3.1.1 Key Fish Habitat

DPI Fisheries identify three types of Key Fish Habitat (KFH) in their Policy and Guidelines for Fish Habitat Conservation and Management (Table 4). As a 3rd order stream, Thredbo River is mapped as key fish habitat by DPI Fisheries and can further be described as Type 1 – highly sensitive key fish habitat. Smaller streams can also be classed as KFH if they are known to support a threatened species, therefore the 2nd order stream along the western edge of the study area is defined as KFH (refer Figure 5 of **Appendix I**).

##### 6.3.1.2 Threatened fish species, populations or communities

Threatened fish species, populations or communities listed under the FM Act and EPBC Act that are known or expected to occur in the region are listed in Appendix B of the Aquatic and Riparian Impact Assessment (**Appendix I**). Two are known or predicted to occur in the study area, including:

- *Austropetalia tonyana* (Alpine Redspot Dragonfly); and
- Aquatic Ecological Community in the Catchment of the Snowy River in NSW.

Alpine Redspot Dragonfly (listed as Vulnerable under the FM Act) is modelled to occur in Thredbo River and numerous tributaries, as seen in Figure 5 (Riches et al 2016). Alpine Redspot Dragonfly have an aquatic phase of their lifecycle, with extremely specific habitat requirements, in that they only occur amongst rocks, logs and moss within the splash zone of waterfalls or in the nearby stream edge. Their flight period is thought to occur between October and January.

The Aquatic Ecological Community in the Catchment of the Snowy River in NSW (listed as Endangered under the FM Act) is an endangered ecological community (EEC) that includes all native fish and aquatic invertebrates in all rivers, creeks and streams within the entire NSW portion of the Snowy River catchment.

### 6.3.2 Threatened species impact assessment

An assessment of significance under the FM Act for the Alpine Redspot Dragonfly and the Aquatic Ecological Community in the Catchment of the Snowy River in NSW was undertaken by ELA (2023b).

Given the Development is mainly situated on existing cleared and managed land, and does not include in stream works, the main concern are indirect impacts from factors, such as run-off during construction and operation (ELA 2023b).

#### 6.3.2.1 Alpine Redspot Dragonfly

In summary, Alpine Redspot Dragonfly is currently threatened due to habitat degradation caused by climate change, natural disasters, reduced stream flow associated with forestry development and the capture of dragonflies by humans. The proposal sees no direct or indirect links to any of these factors, and given no instream works are proposed, there will be no modification or removal of habitat, particularly splash zones of waterfalls, or equivalent habitat around large boulder riffles (ELA 2023b).

The test conducted in Appendix C of the Aquatic and Riparian Impact Assessment (ELA 2023b) (**Appendix I**) concludes no significant impacts to the species.

#### 6.3.2.2 Aquatic Ecological Community in the Catchment of the Snowy River in NSW

The Aquatic Ecological Community in the Catchment of the Snowy River in NSW is currently threatened due to the indirect impacts to biological cues (spawning, migration etc), largely caused by the Snowy Mountains Hydro-electric Scheme (SMS). Erection of the SMS reduced flows, affecting water quality, thermal pollution and fish barriers in the form of dam and weirs. The proposal sees no direct impact to the EEC, and with sufficient mitigation measures in place to minimise factors such as construction run-off and stormwater filtration, indirect impacts will also not modify or degrade the existing condition of the habitat supporting the aquatic community. As per the SWMP (ELA 2023c), stormwater infrastructure is proposed to manage runoff surrounding impervious areas including the subdivided lots, buildings and access road. The drainage infrastructure will be connected to three stormwater Purceptor units to treat stormwater prior to discharge to Thredbo River. If effective and adequately maintained, the treatment system would mitigate indirect impacts to the river (ELA 2023b).

The test conducted Appendix D of the Aquatic and Riparian Impact Assessment (ELA 2023b) (**Appendix I**) concludes no significant impacts to the EEC.

## 6.4 Terrestrial Ecology

### 6.4.1 Existing environment

#### 6.4.1.1 Plant Community Types

Three Plant Community Types (PCT) are present within the Development site (ELA 2023): PCT 644, 679 and 939, see below.

Plant Community Types	Vegetation Class
644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Subalpine Woodlands
679: Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Subalpine Woodlands

#### 6.4.1.2 Threatened Ecological Communities (TECs)

PCTs 679 and 644 do not comprise any Threatened Ecological Communities (TECs) listed under the BC Act or EPBC Act. PCT 939 comprises the *Montane Peatland and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands* endangered ecological community (EEC) (hereafter referred to as the Montane Peatland and Swamps), which is listed as Endangered under the BC Act (ELA 2023).

#### 6.4.1.3 Threatened species

A total of 13 ecosystem credit species were predicted to occur within the Development site, refer BDAR, Section 4.1 (**Appendix G**) for details. Of these species, eight (8) were identified as candidate species (BDAR, Section 4.2.1). Following further assessment of the candidate species (BDAR, Section 4.2.2), five (5) species were excluded from further assessment.

A total of three species credit species required further assessment following site survey to assess the condition of the Development site and the presence of microhabitats. These species included:

- *Mastacomys fuscus* (Broad-toothed Rat);
- *Euphrasia scabra* (Rough Eyebright); and
- *Pterostylis oreophila* (Blue-tongued Greenhood).

#### 6.4.1.4 Exotic Flora Species

A total of 12 exotic flora species were identified within the vegetation floristic plots or incidentally elsewhere within the Development site or immediate surrounds (refer BDAR, Appendix B – Vegetation Floristic Plot Data for details).

### 6.4.2 Impact assessment

The Development has been designed to avoid and minimise direct and indirect impacts. In particular, this has involved:

- Locating the proposed development predominately in disturbed areas.
- Modifying the original proposal to avoid and minimise direct impacts on the Montane Peatland and Swamps EEC.
- Minimising the disturbance footprint associated with construction.
- Implementing a wombat management plan to minimise impacts on wombats during the construction phase of the proposal.
- Using low impact construction methods.
- Undertaking post construction rehabilitation.

The direct impacts of the Development will include:

- Direct impact from clearing or further modification to native vegetation
  - impact = 1.46 ha of PCT 679 (not listed under BC Act or EPBC Act)
  - impact = 0.01 ha of PCT 939 (listed under BC Act, not listed under EPBC Act)
- Direct impact on threatened species and threatened species habitat

- impact = 0.01 ha of habitat for Broad-toothed Rat (listed as Vulnerable under the BC Act and EPBC Act).

Potential indirect impacts of the Development on native flora and fauna are described in Section 6.3 of the BDAR (ELA 202a3), these include impacts such as:

- sedimentation and contaminated and/or nutrient rich run-off;
- noise, dust and light spill;
- inadvertent impacts on adjacent habitat or vegetation;
- transport of weeds and pathogens from the site to adjacent vegetation;
- vehicle strike;
- trampling threatened species;
- rubbish dumping;
- bush rock removal and disturbance;
- increase in predatory species populations;
- increase in pest animal populations; and
- increased risk of fire.

The Development does not include any prescribed biodiversity impacts. The Development does not have any Serious and Irreversible Impacts (SAIL). Refer to the BDAR (**Appendix G**) for further details.

### **6.4.3 Offsets**

The impacts of the Development requiring offsets for species credit species and their habitats are outlined in the BDAR (**Appendix G**). The Development will require 39 ecosystem credits and one (1) species credit.

## **6.5 Socio-Economic**

### **6.5.1 Community and stakeholder consultation**

Throughout the planning phase of the Development various consultation activities have been undertaken to inform the proposal. A summary of the community and stakeholder engagement undertaken to date is provided in **Appendix P**.

### **6.5.2 Accommodation**

During peak visitation the Thredbo Alpine Hotel is generally fully booked with other major commercial lodges, ski clubs and apartments experiencing similar occupancy. It is anticipated the Development will complement the existing accommodation offerings through the provision of an additional 186 beds.

### **6.5.3 Capacity of social infrastructure, facilities and services**

It is not anticipated the Development will significantly increase the pressure on the existing social infrastructure, facilities and services within Thredbo. The Development will result in indirect benefits for existing businesses through the purchase of goods and services.

During construction, the existing operation of the golf course will be impacted, however the impacts are assessed as minor given the impacts from construction will be short-lived as the affected course will be reconstructed.

The Development necessitates the re-design of the current course. The proposed changes will change the course rating, and overall challenge of the course.

The golf course re-design may have some perceived negative impacts by users as it will result in all par 3's except one short but challenging par 4, and no par 5; loss of 4 shots; and -599 m (reduction in course rating perception).

Contrary to the above, the design has positive impacts as it allows for a reasonably good spread of short, medium and long par 3's; six (6) slightly uphill holes of 9 m or less; rising 9 m short 1<sup>st</sup> and the two (2) existing steeply downhill 8<sup>th</sup> and 9<sup>th</sup> holes to close. The Thredbo golf course is, by and large, considered a fun and challenging golf course in a unique environment and is an "extra" activity for a Thredbo stay and not an attraction in its own right. The re-designed course will maintain the unique environment and challenging course.

During construction, the disc golf course will be closed to the public. The course will be re-instated following construction completion (exempt development). No adverse impacts are proposed.

#### **6.5.4 Socio-economic benefits**

Thredbo is one of the major tourist destinations in the region, providing significant tourism and economic benefits to the local and regional economy. Since 2010 there has been strong growth within the resort in both winter and summer and this is expected to continue.

The Development will contribute to the local and regional economy and is therefore considered to have a positive economic impact for the following reasons:

- The Development will generate approximately 25 construction jobs. Where feasible, project construction will use local and regional contractors, labourers and suppliers.
- There is a growing market preference for self-contained accommodation as opposed to more traditional hotel/motel rooms. The Development will provide an opportunity for a greater number of self-contained accommodation offerings within the resort to meet this market preference.
- The expansion of Thredbo's accommodation and municipal services will support the year-round recreational and tourism opportunities within the resort.
- The Development will result in the generation of rental income from 186 additional beds.
- The Development will result in direct investment into the resort.
- The Development will result in the provision of additional accommodation for people that work and visit the resort and region. In turn, this will contribute to the regional tourism base and have indirect impacts as local businesses may experience increased revenue from the Development in the form of purchase of goods and services.



## 6.6 Landscape Character and Built Environment

### 6.6.1 Existing environment

Thredbo is located in a v-valley with an established village form and feel. The golf course lies within the valley floor, bordered by the Thredbo River and surrounded by vegetated slopes providing spectacular views and vistas characteristic of the alpine environment.

The site comprises an existing golf course and associated infrastructure. The surrounding built environment comprises tourist accommodation, roads and recreation and services infrastructure.

The surrounding tourist accommodation is consistent with the character of materials, colours and built form across the village, comprising a mix of timber, stone and profiled metal which are recessive in tone and blend with the colours and textures of the natural landscape. Examples of adjoining built form within Riverside Cabins and Crackenback Ridge subdivisions are provided in **Plate 3 to Plate 8**.

It is anticipated the future development of individual subdivision lots will retain the predominant built form elements within the village, and introduce a range of contemporary alpine architectural styles and forms such as those depicted in recent redevelopments and proposals in the village.



**Plate 3: Riverside Cabins**





**Plate 4: Wintergreen Chalets**



**Plate 5: Snow Bound Apartments**





**Plate 6: Escape, Crackenback Ridge subdivision**



**Plate 7: Pinnibar, Crackenback Ridge subdivision**





**Plate 8: Eagle View, Crackenback Ridge subdivision**

### **6.6.2 Impact assessment**

Whilst the site is in a pre-disturbed state, the Development will introduce new infrastructure into the environment. The timing of sales and subsequent development of individual lots will vary, therefore it is expected the existing landscape and built form will change over time.

The design of the subdivision aims to minimise impacts to the built environment as much as possible. For example, the proposed subdivision will be low density, having high levels of privacy, low vehicle usage and significant areas of open space. Buildings are to be consistent with the character of materials, colours and built form within the village and ensure the colours and textures blend in with the natural landscape.

The building heights within surrounding subdivisions vary. For example, Crackenback Ridge developments generally range from 1-2 storeys (plus mezzanines) with a maximum height of 9 m and Riverside Cabin developments generally range from 1-2 storeys (plus mezzanines) with a maximum height of 12 m.

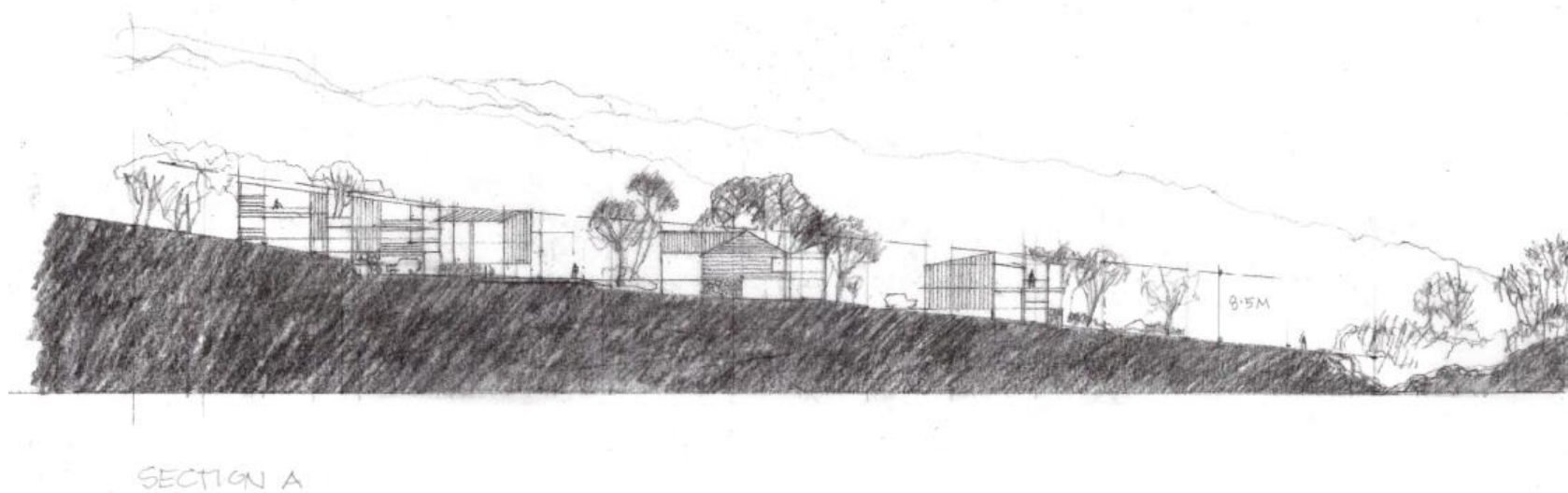
The proposed design controls outlined in **Section 3.4** stipulate the maximum height of 8.5 m above existing ground level for developments within the subdivision. This height limit is considered commensurate to the surrounding tree canopy and built form, refer **Figure 8** and **Figure 9**.

For future development of individual lots, elements such as materials and colours, waste management, energy efficiency, water sensitive urban design, signage and advertising should be designed with consideration of the guidelines and standard development controls outlined in the *Thredbo Development Guidelines*. This will ensure new development within the subdivision incorporates –

- Sustainable building materials suitable for the alpine environment that contribute to the consistency of character with materials and colours within the village.
- High quality building design which is environmentally responsive, compatible with the form of surrounding buildings and maintains the village character.
- Provisions for onsite parking which is appropriately designed for the use and size of the development on the lot.
- Sustainable initiatives into the built form, including energy and water conservation.
- Waste minimisation strategies to ensure effective disposal, storage and collection of waste.

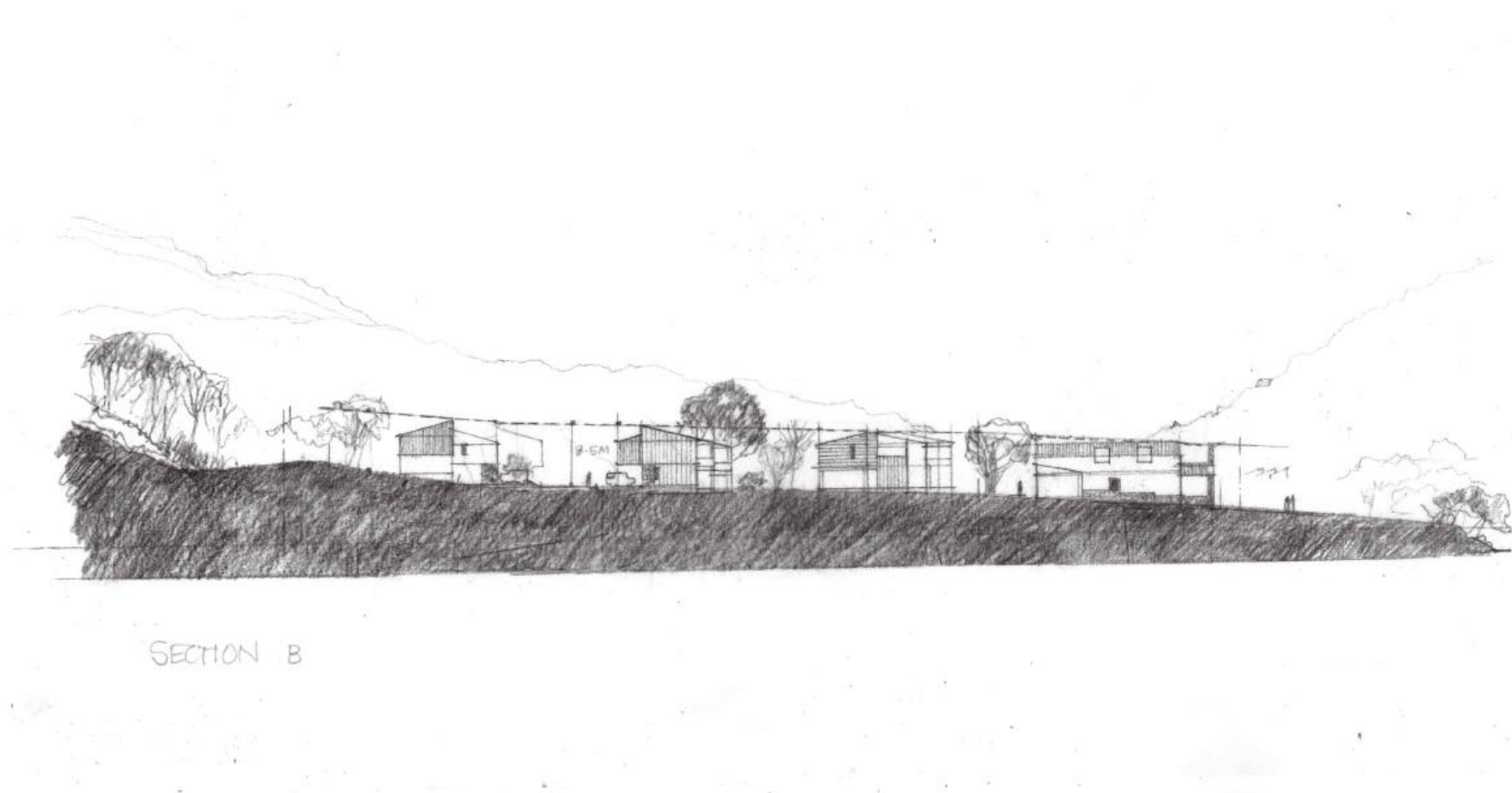
Given the siting of the subdivision and integration with the existing landscape, the impacts of the subdivision on the surrounding built form and amenity are considered acceptable. The Development has been designed to fit within and blend with the surrounding landscape character and with the adjoining built environments of Crackenback Ridge and Riverside Cabins.

For those occupying the lots, the site provides views of the Brindle Bull /Paddy Rush's Bogong mountain range to the south, ski slopes and the Thredbo River, contributing to the amenity that will be experienced in this development.



Source: DJRD 2023

**Figure 8: Development Scale Section A**



Source: DJRD 2023

**Figure 9: Development Scale Section B**



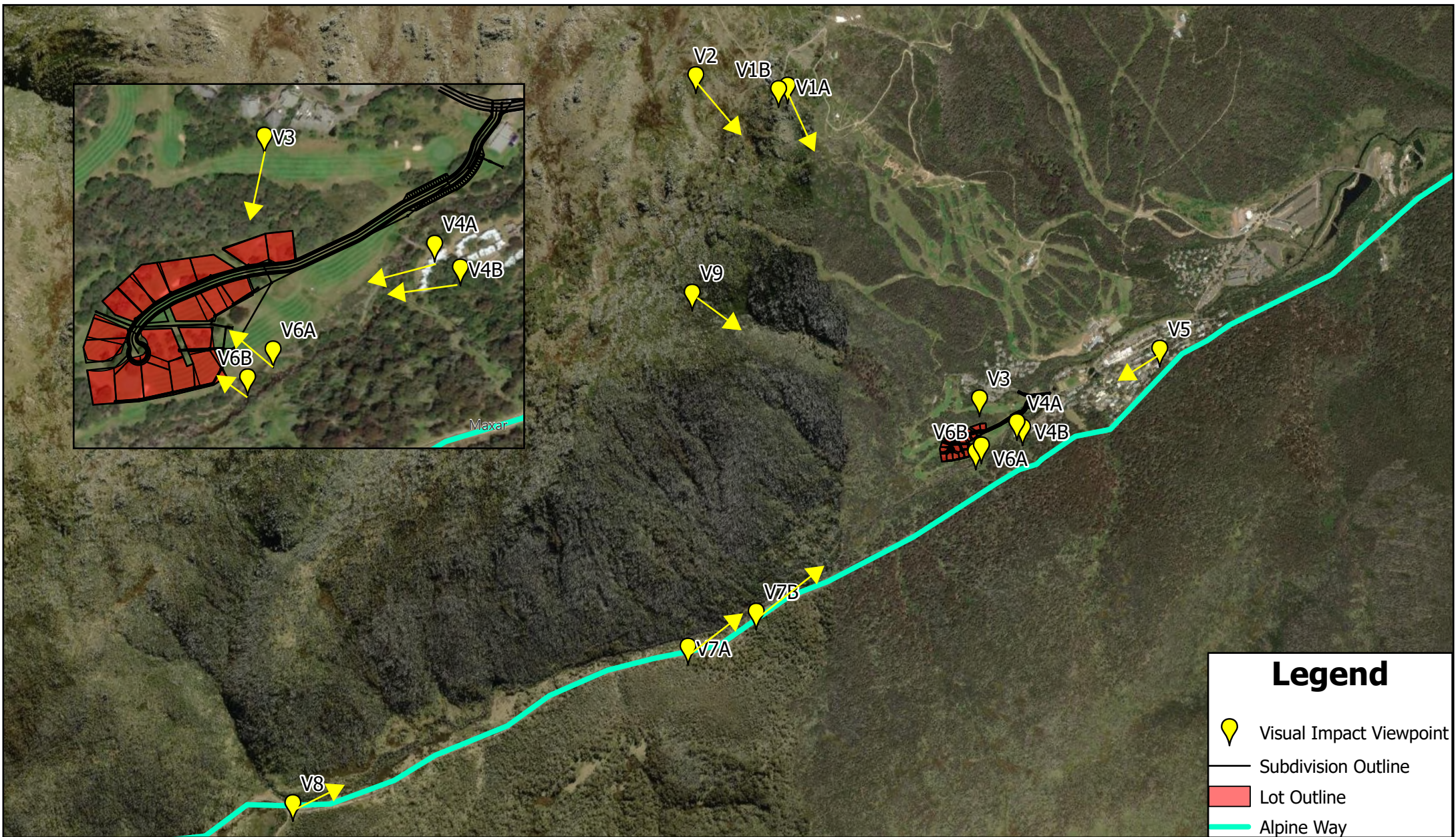
## 6.7 Visual Impact

The visual impact assessment was undertaken to identify existing landscape character and key viewpoints to illustrate the potential visual impact of the Development, including views from tourist accommodation, public roads and publicly accessible walking tracks. In all locations the photographs were taken at eye level. The key viewpoints for the assessment are provided in **Table 7** and **Figure 10**.





**Table 7: Vantage points**

Vantage Point		Description	View Reference Point
1	Eagles Nest / top of Kosciuszko Chairlift / start of Merritts Traverse Walk	Publicly accessible restaurant, chairlift and walking trail within the resort	V1A, V1B
2	Ramshead and Crackenback Ridges	Karels T-bar bottom station, views from ski runs	V2
3	Crackenback Ridge Development	Tourist accommodation precinct	V3
4	Riverside Cabins	Tourist accommodation precinct	V4A, V4B
5	Bella's corner	Public road, lodges adjacent	V5
6	Riverside Walk / Thredbo River Track	Public walking track	V6A, V6B
7	Alpine Way	State controlled road	V7A, V7B
8	Cascade Trail Head / Dead Horse Gap	Trail head carpark, Alpine Way	V8
9	Main Range Management Unit	Vantage point within the Thredbo Main Range Management Unit. There is no formalised access to this vantage point, however skiers/snowboarders/walkers and the like can access this site via the backcountry.	V9






## Legend

-  Visual Impact Viewpoint
-  Subdivision Outline
-  Lot Outline
-  Alpine Way

Scale: 1:22,253

0 0.1 0.25 0.5 0.75 1  
 Kilometers

Map Projection: Universal Transverse Mercator  
 Horizontal Datum: GDA 1994  
 Grid: GDA 1994 MGA Zone 55



## FIGURE 10: VISUAL IMPACT VIEWPOINTS

Project: Thredbo Golf Course Subdivision

Revision: C

Date: 21/07/2023

Produced By: KOS



#### 6.7.1.1 *Eagles Nest / top of Kosciuszko Chairlift / start of Merritts Traverse Walk*

Views to the golf course are available from Eagles Nest, the top of Kosciuszko Chairlift and the top section of the Merritts Traverse Walk (**Plate 9** and **Plate 10**). The Development will form part of the village landscape which is seen as compact and consistent, bordered by Alpine Way and Brindle Bull/Paddy Rush's Bogong Ridge to the south. The golf course is set clearly in the v-valley and does not dominate the landscape. The impacts to views from this vantage point are considered acceptable within the context of the resort.



**Plate 9: Viewpoint V1A – top of Kosciuszko Express Chairlift**



**Plate 10: Viewpoint V1B – start of Merritts Walk**

#### 6.7.1.2 Ramshead and Crackenback Ridges

Limited views to the golf course are available from the Ramshead and Crackenback ridges (**Plate 11**). The impacts to views from this vantage point are considered acceptable within the context of the resort.



**Plate 11: Viewpoint V2 – Karels T-bar bottom station**

#### 6.7.1.3 Crackenback Ridge subdivision

Visual impacts (i.e. presence of machinery/plant, stockpiling of materials and exposed earth) to some Crackenback Ridge occupiers will be unavoidable during construction works on the fairways and new access road.

During operation views from tourist accommodation within Crackenback Ridge are likely to be screen through the tree island that sits between the proposed subdivision and Crackenback Ridge (**Plate 12**).

Tourist accommodation in Crackenback Ridge will retain views to the upper slopes of the mountains – Saturday Peak and the Ramshead beyond the golf course and Alpine Way, many of which are mostly screened by existing vegetation. Natural features of tree cover have been retained as much as possible to provide a buffer between the subdivision and existing lodges within Crackenback Ridge. The potential impacts to views from Crackenback Ridge are considered acceptable within the context of the resort and surrounding built form.





**Plate 12: Viewpoint V3 – outside Lots 515 & 517**

#### *6.7.1.4 Riverside Cabins*

Visual impacts (i.e. presence of machinery/plant, stockpiling of materials and exposed earth) to some Riverside Cabin occupiers will be unavoidable during construction.

The Development will introduce new infrastructure and buildings into the golf course catchment. Some Riverside Cabin occupiers will have clear sightlines to the new access road and building lots. Other views will be restricted to glimpses of the subdivision due to the screening from existing riparian vegetation associated with Thredbo River (refer **Plate 13** to **Plate 15**). The visual impacts to Riverside Cabin occupiers are assessed as minor to moderate.

Mitigation and management measures for the medium to long term will comprise landscaping / tree planting along the south-eastern boundary of the subdivision providing screening for occupiers potentially affected by the Development. The development of individual lots will also be subject to the planning controls (e.g. building height limits, site coverage and soft landscaping) listed in **Table 4** which aim to ensure buildings are designed to maximum privacy whilst minimising impacts on the views from existing buildings as much as practicable. Tourist accommodation in Riverside Cabins will retain the predominant views to the upper slopes of the mountains (Ramsheads) beyond the golf course. Natural features of tree cover have been retained as much as practicable to provide a buffer between the subdivision and existing tourist accommodation.





**Plate 13: Viewpoint V4A – ground level below Riverside Cabins**



**Plate 14: Viewpoint V4A – ground level between Riverside Cabins and bank of Thredbo River**





**Plate 15: Viewpoint V4B – upper level of Riverside Cabins**

#### 6.7.1.5 Bella's Corner

The Development site is located at a significantly lower level to Bella's Corner and adjacent tourist accommodation. Clear sightlines of the entire subdivision from this location are unlikely due to the significant vegetation and built form between the site and this area of the village (**Plate 16**). Some tourist accommodation buildings within the village may have glimpses of the subdivision from certain vantage points, however views of buildings and infrastructure within the resort are not uncommon. The visual impacts to tourist accommodation within this locality are considered acceptable.



**Plate 16: Viewpoint V5 – Bella's Corner**



#### 6.7.1.6 Riverside Walk / Thredbo River Track

The Development will be clearly visible from certain vantage points along the Riverside Walk / Thredbo River Track which is utilised by walkers and bike riders (refer **Plate 17** to **Plate 19**). It should be noted users currently experience glimpses of the Riverside Cabins and Crackenback Ridge subdivisions along the track and the views of the Development are not dissimilar to existing land uses viewed across the resort. The change in land use will result a loss of visual and scenic amenity for some walkers and bike riders, however it should be noted significant portions of the track are screened by existing riparian vegetation. The impacts from this vantage point are assessed as moderate.



**Plate 17: Viewpoint V6A – Thredbo River Track (looking toward existing 3<sup>rd</sup> and 4<sup>th</sup> hole)**



**Plate 18: Viewpoint V6B – Thredbo River Track (looking at existing 4<sup>th</sup> hole)**





**Plate 19: Viewpoint V6B – Timber pedestrian bridge linking the Riverside Walk to Riverside Cabins**

#### 6.7.1.7 *Alpine Way*

Views along Alpine Way are confined to glimpses of the existing golf course due to the screening from dense roadside vegetation, thus limiting the visual influence of the proposed Development on passing travellers (**Plate 20** and **Plate 21**).



**Plate 20: Viewpoint V7A –Alpine Way (below Dead Horse Gap/Cascade Trail Head Car Park)**





**Plate 21: Viewpoint V7B – Alpine Way (heading towards Thredbo from Dead Horse Gap)**

#### 6.7.1.8 Cascade Trail Head / Dead Horse Gap

The Development will not be visible from the Cascade Trail Head / Dead Horse Gap carpark area (Plate 22).



**Plate 22: Viewpoint V8 – Alpine Way (opposite Cascade Trail Head Carpark looking down valley)**



#### 6.7.1.9 Main Range Management Unit

Section 4.29 of the Precincts – Regional SEPP requires the consent authority to consider the visual impact of the proposed development, particularly when viewed from the land identified as the Main Range Management Unit in the KNP POM.

The nature of the topography and extensive vegetation cover between the golf course and the Main Range Management Unit limits views of the proposed Development. To provide context, a vantage point (rocky outcrop west of the golf course, locally known as “Saturday Peak”) within the Main Range Management Unit has been included in this assessment. It should be noted there is no formal public access to this rocky outcrop, however skiers/snowboarders/walkers and the like are able to access this point via the backcountry. As depicted in **Plate 23**, views of the Development would be limited to glimpses of tree canopy and roof lines. Given the aspect of the golf course, and the Development being on the valley floor, the visual impact of the Development when viewed from the Main Range Management Unit is considered negligible.

The Development will not be prominent, obtrusive or out of keeping with the existing and permitted development of the village when viewed from the Main Range Management Unit.



**Plate 23: Viewpoint V9 – view from peak within Main Range Management Unit (Source: E.Diver)**

#### 6.7.1.10 Visual impacts summary

Potential adverse visual impacts which may be experienced during construction include the presence of machinery/plant, stockpiling of materials and exposed earth.

Though visual impacts have been assessed as acceptable within the context of the resort, the Development will have an impact on the golf course visual catchment by introducing infrastructure and development in an area that is largely undeveloped. The Development will affect views from a small number of the Riverside Cabins which are located in the golf course visual catchment. The Development will introduce glimpses of rooftops, and in some cases partially unscreened buildings (depending upon building size, landscaping etc. of individual lots). Visual impacts may also affect recreational users (i.e. walkers, bike riders and golfers) through the loss of landscape character of the locality / golf course which may impact on the sense of place. However, it should be noted that the Development does not introduce any land uses that are not permitted within the site, or which are not currently prevalent across the resort (i.e. tourist accommodation and municipal infrastructure).

The design has undergone several iterations to minimise visual impacts on adjacent land uses and to ensure existing amenity values of the site are retained as much as possible. The subdivision which is essentially a cluster precinct rather than a linear development will be low density, have high levels of privacy, low vehicle usage and significant areas of open space. The potential adverse visual impacts will be mitigated through development controls such as building height limits, the use of natural colours and finishes consistent with existing village development. Retention of native vegetation where possible and new site landscaping will also provide a mitigation of adverse visual impacts in the medium to longer term. The development controls outlined in **Section 3.4** will contribute to an attractive residential environment consistent with the alpine village character and identity of the resort.

## 6.8 Noise and Vibration

### 6.8.1 Sensitive receptors

The nearest sensitive receptors (tourist accommodation and community services) are located more than 180 m from the subdivision (refer **Table 8** and Figure 10: Visual **Figure 11**).

**Table 8: Nearest sensitive receptors**

Receptor Name	Lot	Approx. distance from subdivision (measurement taken from lat/long: -36.507839, 148.297119).	Direction from subdivision
Cascadia	513	211 m	N-NE
First Tracks	514	194 m	N-NE
Creekside	515	184 m	N-NE
Escape	516	209 m	NE
Thunder and Lightning	517	190 m	NE
Snow Bound Apartments	518	196 m	NE
Thredbo Chapel	501	371 m	NE
Thredbo Community Centre	500	344 m	NE
Riverside Cabins	772	238-390 m	E





**Figure 11: Nearest sensitive receptors**

### 6.8.2 Existing acoustic environment

The current land use is recreational / open space. Crackenback Ridge and Riverside Cabins subdivisions are located adjacent to the site. Potential noise sources within the vicinity of the site include vehicle traffic and trail users, however neither of these activities generate significant noise.

### 6.8.3 Construction noise and vibration Impacts

It is proposed construction will be undertaken during standard working hours. The construction period will be staged over two summers. As construction within the Alpine Resorts is generally limited to the months of October – April the following year, noise from construction sites during these months is not uncommon in the resort. At times adjacent tourist accommodation may experience some construction noise impacts, including:

- noise from light vehicles, excavators, loaders (e.g. horns and reversing beepers); and
- noise experience from general construction activities (e.g. loading and unloading materials, breaking rock).

Alliance (2023) concluded excavation through fill material and natural sandy or clayey soil is expected to be achievable using conventional earthwork equipment such as a tracked excavator with tiger-tooth bucket. Vibration from excavation within soil is expected to be negligible.

Excavation through the medium to high strength granodiorite boulders encountered at the site may require the use of rock breaking hammers or other easy to hard ripping equipment. Low vibration equipment will be required at locations where vibration could impact on adjacent structures. Alternatively, blocks of cut rock mass can be dislodged using small rock hammers and lifted out without generating large vibration (Alliance 2023).

In accordance with the *Interim Construction Noise Guidelines* (DECC 2009) the number of potentially affected sensitive receptors is low (i.e. less than 25). As required, consultation with adjacent tourist accommodation owners will be undertaken to ensure any potential impacts during construction are mitigated as far as practicable.

Crackenback Ridge tourist accommodation may experience noise associated with construction (e.g. golf course works along fairway 9), however impacts will be negligible and short-lived.

Riverside Cabins may at times experience potential noise impacts during construction of the new access road and installation of municipal services, however potential impacts are anticipated to be minor and short-lived.

It is noted natural barriers (i.e. tracts of vegetation) to screen noise exist between the construction area and some potentially affected sensitive receivers. Where required, appropriate construction noise controls will be implemented to minimise and mitigate any potential impacts on sensitive receptors within proximity of the site.

#### *6.8.3.1 Vibration Impacts*

During construction, excavation through the fill material and natural sandy or clayey soil is expected to be achievable using conventional earthwork equipment. Vibration from excavation within soil is expected to be negligible (Alliance 2023).

Excavation through the medium to high strength granodiorite boulders encountered at the site may require the use of rock breaking hammers or other easy to hard ripping equipment.

Low vibration equipment will be required at locations where vibration could impact on adjacent structures. Alternatively, blocks of cut rock mass can be dislodged using small rock hammers and lifted out without generating large vibration (Alliance 2023).

All demolition, excavation and construction works will be carried out in accordance with the recommendations outlined in the Geotechnical Report (Alliance 2023).

### **6.8.4 Operational noise impacts**

During operation, no significant adverse noise impacts are anticipated as the subdivision is not dissimilar to existing tourist accommodation precincts within the village, such as Riverside Cabins and Crackenback Ridge. Additionally, existing tracts of vegetation and landscaping will act as natural barriers to screen noise between the Development site and adjacent subdivisions.

## **6.9 Air Quality**

### **6.9.1 Existing air quality**

No substantial sources of pollutants are known in the vicinity of the site.

### **6.9.2 Impact assessment**

Dust can be a nuisance and decrease the amenity value of an area. Minor to moderate dust impacts are likely to be generated during construction from activities including vegetation clearing, truck movements and general construction activities (i.e. earthworks). With the implementation of site controls, no significant air pollution is expected from construction activities.

During operation, vehicles arriving/departing will generate pollutants into the air, however no significant adverse impacts are expected.

## 6.10 Heritage

### 6.10.1 European heritage

A review of the Precincts – Regional SEPP, NSW historic inventory and the Thredbo Alpine Village Conservation Plan, Vol.2 Inventory (Clive Lucas, Stapleton and Partners 1997) was undertaken on 4 November 2021. No listed heritage items are located within the site or within close proximity.

The Development site is located within KNP, forming part of the Australian Alps National Parks and Reserves (AANP), refer below.

#### 6.10.1.1 National Heritage Place (MNES)

The Development site is located within KNP, forming part of the Australian Alps National Parks and Reserves (AANP) which were included on the National Heritage List on 7 November 2008 for their –

- 1) course or pattern of Australia's natural or cultural history;
- 2) possession of uncommon, rare or endangered aspects of Australia's natural or cultural history;
- 3) importance in demonstrating the principal characteristics of: (i) a class of Australia's natural or cultural places, or (ii) a class of Australia's natural or cultural environment
- 4) importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- 5) strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; and
- 6) special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.

In total, three reserves, seven national parks and one wilderness area comprise the National Heritage Place.

To determine whether a referral and formal assessment is required for the Development, an assessment against the significant impact criteria in the *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (DEE 2013) has been undertaken below.

National Heritage Values of the AANP	Significant Impact Assessment
<b>Criteria:</b> An action is likely to have a significant impact on the National Heritage values of a National Heritage place if there is a real chance or possibility that it will cause: <ul style="list-style-type: none"> <li>• one or more of the National Heritage values to be lost,</li> <li>• one or more of the National Heritage values to be degraded or damaged, or</li> <li>• one or more of the National Heritage values to be notably altered, modified, obscured or diminished.</li> </ul>	
<b>1)</b> The AANP are of outstanding landscape value and are important in the pattern of Australia's natural history, containing glacial and periglacial features, fossils, karst, biological heritage, moth feasting, transhumant grazing, scientific research, water harvesting and recreation. The AANP have outstanding heritage value for the longevity and diversity of its recreational use (Commonwealth of Australia 2008).	The Development will not have an adverse impact on these values.
<b>2)</b> The high altitude peaks and plateaus, glacial lakes and alpine and sub-alpine ecosystems of the alps are rare in Australia's mostly flat, dry and hot continent. The AANP contain a vast range of mountain environments and plant communities	The Development will not have an adverse impact on these values.



	<p>adapted to cold climates including tall, wet, fern-filled forests to snowgum woodlands and open expanses of alpine meadows. The alps also contains landforms created by glaciers, remarkable fish fossils and unique fauna including Mountain Pygmy Possum (<i>Burramys parvus</i>) and Bogong moth (<i>Agrotis infusa</i>) (Commonwealth of Australia 2008; DAWE 2021).</p>
<p>3) The AANP are listed for the north-east Kosciuszko pastoral landscape values which demonstrate the use of mountain resources, namely the summer grasses and herbfields. The landscape demonstrates the past grazing leases which convey the principal characteristics of transhumance and permanent pastoralism in a remote environment (Commonwealth of Australia 2008). The area contains stockman's huts, homestead complexes, stock yards and stock routes which reflect 150 years of summer grazing on the alpine high plains (DAWE 2021).</p>	<p>The Development is not located within the north-eastern area of KNP, therefore it will not impact on these landscape values.</p>
<p>4) The AANP is a powerful, spectacular and distinctive landscape and natural beauty. The mountain vistas, alpine streams and rivers, lakes, snow-covered eucalypts, high plain grasslands, summer alpine wildflowers, forests and natural sounds are highly valued by community groups (Commonwealth of Australia 2008; DAWE 2021).</p>	<p>The Development will not have any adverse impact on these values.</p> <p>The subdivision will provide opportunities for tourist accommodation developments bordered by the Thredbo River and surrounded by vegetated slopes providing spectacular views and vistas characteristic of the alpine environment.</p>
<p>5) The AANP have a strong association with Australia's pioneering history, while the snowfields and national parks have long been popular recreation areas. Many community groups have a strong association with the alps for social and cultural reasons. The pioneering history of the high country is valued as an important part of the construction of the Australian identity featuring in myths, legends and literature. The mountain huts constructed for grazing, mining and recreation are valued by communities as physical expression of the cultural history of the region (Commonwealth of Australia 2008; DAWE 2021).</p>	<p>The Development will not have any impacts on these values. The Development has been designed to avoid and minimise impacts upon the existing recreational values of the site.</p>
<p>6) There is a long history of scientific research and endeavour in the AANP and its associated with the life or works of highly recognised persons such as Baron Ferdinand von Mueller (botanist), Eugen Von Guerard (artist), and writers/poets, Andrew Barton 'Banjo' Paterson, Elyne Mitchell and David Campbell (Commonwealth of Australia 2008; DAWE 2021).</p>	<p>The Development will not have any impact on the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.</p>

### 6.10.2 Aboriginal heritage

To establish due diligence, an assessment against the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010) was undertaken by Past Traces in 2022. The assessment identified one Aboriginal heritage site with an associated area of potential archaeological deposit (PAD) which required subsurface investigation to determine heritage impacts. The surface site and the area of PAD will be impacted by the Development. As a result of the potential impacts to the site, and to allow subsurface testing to proceed, an Aboriginal Cultural Heritage Assessment (**Appendix H**) was completed to determine the extent and significance of impacts.

Past Traces (2023) determined the surface site is in a disturbed context and holds low significance and does not preclude development of the project area on condition that the heritage recommendations outlined in the ACHR are implemented. KT will apply for an AHIP prior to commencement of works.

## 6.11 Matters of National Environmental Significance

A person must not take an action that has, will have or is likely to have a significant impact on any of the MNES without approval from the Australian Government Minister for the Environment.

Two categories of MNES were determined of relevance to the Development, these included:

- Listed Threatened Species; and
- National Heritage Places.

An assessment against the EPBC Act Significant Impact Criteria was undertaken on Listed Species known to occur within the Development site or immediate surrounds or within potential to occur there. These MNES included: Broad-toothed Rat; and Gang-gang Cockatoo. A copy of the assessment is provided in Appendix D of the BDAR (**Appendix G**).

An assessment against the EPBC Act Significant Impact Criteria was undertaken on the AANP, a listed National Heritage Place, refer **Section 6.10.1.1**. The Development will not cause any of the heritage values of the AANP to be lost, degraded, damaged or to be notably altered, modified, obscured or diminished.

The Development is unlikely to have a significant impact on MNES or Commonwealth land, and a referral to the Commonwealth Environment Minister is therefore not recommended.

## 6.12 Transport and Access

### 6.12.1 Types of traffic generating developments

A review of the RTA (2002) *Guide to Traffic Generating Developments, v2.2* (RTA Guide) was undertaken to inform the subsequent sections.

Schedule 1 and 2 of the *State Environmental Planning Policy No 11 – Traffic Generating Developments* lists traffic generating developments. An evaluation of the Development against those developments listed in Schedules 1 and 2 is provided below.

Schedule 1, SEPP No 11 – Traffic Generating Developments	Evaluation
Development for the purpose of or being:	
(a) the erection of, or conversion of a building into, a residential flat building comprising 300 or more dwellings or the enlargement or extension of a residential flat building by the addition of 300 or more dwellings,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(b) the erection of a building for the purposes of shops where the gross floor area of the building is or exceeds 2 000 square metres or the enlargement or extension of a building used for the purposes of shops where the gross floor area of that enlargement or extension is or exceeds 2 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(c) the erection of a building for the purposes of shops and commercial premises where the gross floor area of the building is or exceeds 4 000 square metres or the enlargement or extension of a building used for the purposes of shops and commercial premises where the gross floor area of that enlargement or extension is or exceeds 4 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(d) the erection of a building for the purposes of commercial premises where the gross floor area of the building is or exceeds 10 000 square metres or the enlargement or extension of a building used for the purposes of commercial premises where the gross floor area of that enlargement or extension is or exceeds 10 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(e) the erection of a building for the purposes of commercial premises and industry where the gross floor area of the building is or exceeds 15 000 square metres or the enlargement or extension of a building used for the purposes of commercial premises and industry where the gross floor area of that enlargement or extension is or exceeds 15 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(f) the erection of a building for the purposes of industry where the gross floor area of the building is or exceeds 20 000 square metres or the enlargement or extension of a building used for the purposes of industry where the gross floor area of that enlargement or extension is or exceeds 20 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(g) subdivision of land into 200 or more allotments where the subdivision includes the opening of a public road,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(h) drive-in theatres or the enlargement or extension of existing drive-in theatres so as to enable the accommodation of more than 200 motor vehicles,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(i) educational establishments accommodating 50 or more students or the enlargement or	



extension of existing educational establishments to accommodate an additional 50 or more students,	
(j) transport terminals, bulk stores, container depots or liquid fuel depots or the enlargement or extension of any existing transport terminal, bulk store, container depot or liquid fuel depot by increasing by more than 8 000 square metres the area of land or the gross floor area of buildings used for that purpose,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(k) junk yards or depots or regional depots, within the meaning of the Waste Disposal Act 1970,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(l) heliports, airports or aerodromes,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(m) extractive industry or mining,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(n) areas used exclusively for parking or any other development having ancillary accommodation for 200 or more motor vehicles, or the enlargement or extension of a parking area where the enlargement or extension accommodates 200 or more motor vehicles.	N/A – the subject site is not an area used exclusively for parking. The proposal is not a development having ancillary accommodation for 200 or more motor vehicles. The proposal is not for the enlargement or extension of a parking area where the enlargement or extension accommodates 200 or more motor vehicles.
<b>Schedule 2, SEPP No 11 – Traffic Generating Developments</b>	
Development for the purposes of or being:	
(a) the erection of, or the conversion of a building into, a residential flat building comprising 75 or more dwellings or the enlargement or extension of a residential flat building by the addition of 75 or more dwellings,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(b) the erection of a building for the purposes of shops where the gross floor area of the building is or exceeds 500 square metres or the enlargement or extension of a building used for the purposes of shops where the gross floor area of that enlargement or extension is or exceeds 500 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(c) the erection of a building for the purposes of shops and commercial premises where the gross floor area of the building is or exceeds 1 000 square metres or the enlargement or extension of a building used for the purposes of shops and commercial premises where the gross floor area of that enlargement or extension is or exceeds 1 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(d) the erection of a building for the purposes of commercial premises where the gross floor area of the building is or exceeds 2 500 square	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor

metres or the enlargement or extension of a building used for the purposes of commercial premises where the gross floor area of that enlargement or extension is or exceeds 2 500 square metres,	accommodation, including provision of municipal services and golf course re-design.
(e) the erection of a building for the purposes of commercial premises and industry where the gross floor area of the building is or exceeds 4 000 square metres or the enlargement or extension of a building used for the purposes of commercial premises and industry where the gross floor area of that enlargement or extension is or exceeds 4 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(f) the erection of a building for the purposes of industry where the gross floor area of the building is or exceeds 5 000 square metres, or the enlargement or extension of a building used for the purposes of industry where the gross floor area of that enlargement or extension is or exceeds 5 000 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(g) subdivision of land into 50 or more allotments,	N/A – the proposal is for the subdivision of land into 19 lots.
(h) tourist facilities, recreation facilities, showgrounds or sportsgrounds, in each case having accommodation for 50 or more motor vehicles or the enlargement or extension of any existing tourist facilities, recreation facilities, showgrounds or sportsgrounds where that enlargement or extension includes accommodation for 50 or more motor vehicles,	<p>Section 10.1 of the RTA Guide defines ‘tourist facilities’ as <i>“an establishment which provides holiday accommodation or recreation which may include a boat shed, boat landing facilities, camping ground, hotel, houseboat, marina, motel, playground, refreshment room, water sport facilities, or a club used in connection with any like activities”</i>.</p> <p>Section 5.9.1 of the RTA Guide defines a ‘recreation facility’ as <i>“a building or place used for indoor or outdoor recreation, but does not include places of assembly. A billiard saloon, table tennis centre, squash centre, swimming pool, gymnasium, health studio, bowling alley, fun parlour or any other building of a like character used for recreation (whether or not used for the purpose of gain), is considered to be a recreation facility.”</i></p> <p>The primary purpose of the Development is for the subdivision of land for the purposes of tourist and visitor accommodation. The future development of individual lots would be required to consider appropriate onsite parking provision relevant to the size and scale of the development, subject to development controls at the time. It is acknowledged the golf course is considered a place used for outdoor recreation and the proposal requires the re-design of the existing 9-hole golf course. The Development includes the provision of 48 new public car parks along the access road.</p> <p>The Development could be considered somewhat consistent with the type of development described in this clause.</p>

	<p>Section 2.2.2 of the RTA Guide states: <i>“The scale of the development is the major determinant of whether a traffic impact study is required for developments listed in Schedule 2. As a minimum requirement, driveway location and design and the internal site layout should be investigated.</i></p> <p><i>Schedule 2 developments which require a detailed traffic impact study are:</i></p> <ul style="list-style-type: none"> <li>clubs and licensed premises.</li> <li>drive-in take away food outlets.</li> <li>service stations and convenience stores.”</li> </ul> <p>The scale of the subdivision is not considered to be a major development. A description of the existing traffic conditions, and potential traffic and parking impacts of the Development is provided in the subsequent sections.</p>
(i) premises licensed under the Liquor Act 1982, or the Registered Clubs Act 1976, in each case having accommodation for 50 or more motor vehicles or the enlargement or extension of any such premises where the enlargement or extension includes accommodation for 50 or more vehicles,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation.
(j) places of assembly or places of public worship, in each case having accommodation for 50 or more motor vehicles, or the enlargement or extension of any existing places of assembly or places of public worship where that enlargement or extension includes accommodation for 50 or more motor vehicles	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation.
(k) the erection of a building for the purposes of refreshment rooms where the gross floor area of that building is or exceeds 300 square metres or the enlargement or extension of a building used for the purposes of refreshment rooms where the gross floor area of that enlargement or extension is or exceeds 300 square metres,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation.
(l) drive-in take-away food outlets,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation.
(m) service stations (including service stations which have retail outlets),	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation.
(n) motor showrooms having accommodation for 50 or more motor vehicles, the enlargement or extension of any existing motor showrooms where that enlargement or extension includes accommodation for 50 or more motor vehicles,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation.
(o) the erection of a building for the purposes of a hospital with accommodation for 100 or more beds or the enlargement or extension of a building for the purposes of a hospital where	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.

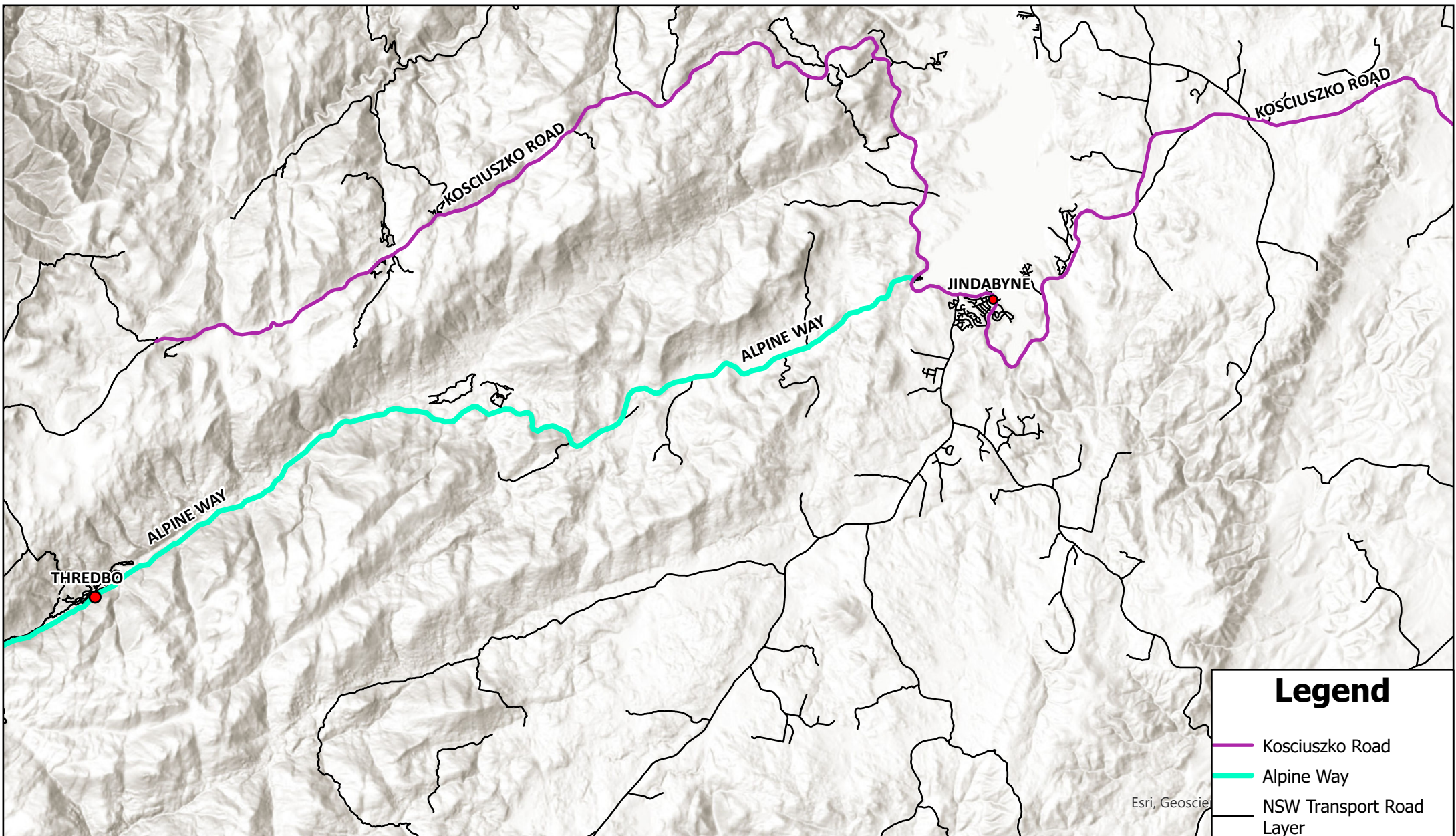


that enlargement or extension provides accommodation for 100 or more beds,	
(p) roadside stalls,	N/A – the proposal is for the subdivision of land into 19 lots for the purposes of tourist and visitor accommodation, including provision of municipal services and golf course re-design.
(q) areas used exclusively for parking or any other development, in each case having ancillary accommodation for 50 or more motor vehicles, or the enlargement or extension of a parking area where the enlargement or extension accommodates 50 or more motor vehicles.	N/A – the proposal includes 48 dedicated public car parks along the new access road.

## 6.12.2 Existing Traffic Conditions

### 6.12.2.1 Existing road network

The regional road network is shown on **Figure 12** and the local road network is illustrated on **Figure 13**. The road hierarchy in the vicinity of the Development site is described in **Table 9**. Alpine Way (State Controlled road) provides the main access road to the resort.



## FIGURE 12: REGIONAL ROAD NETWORK

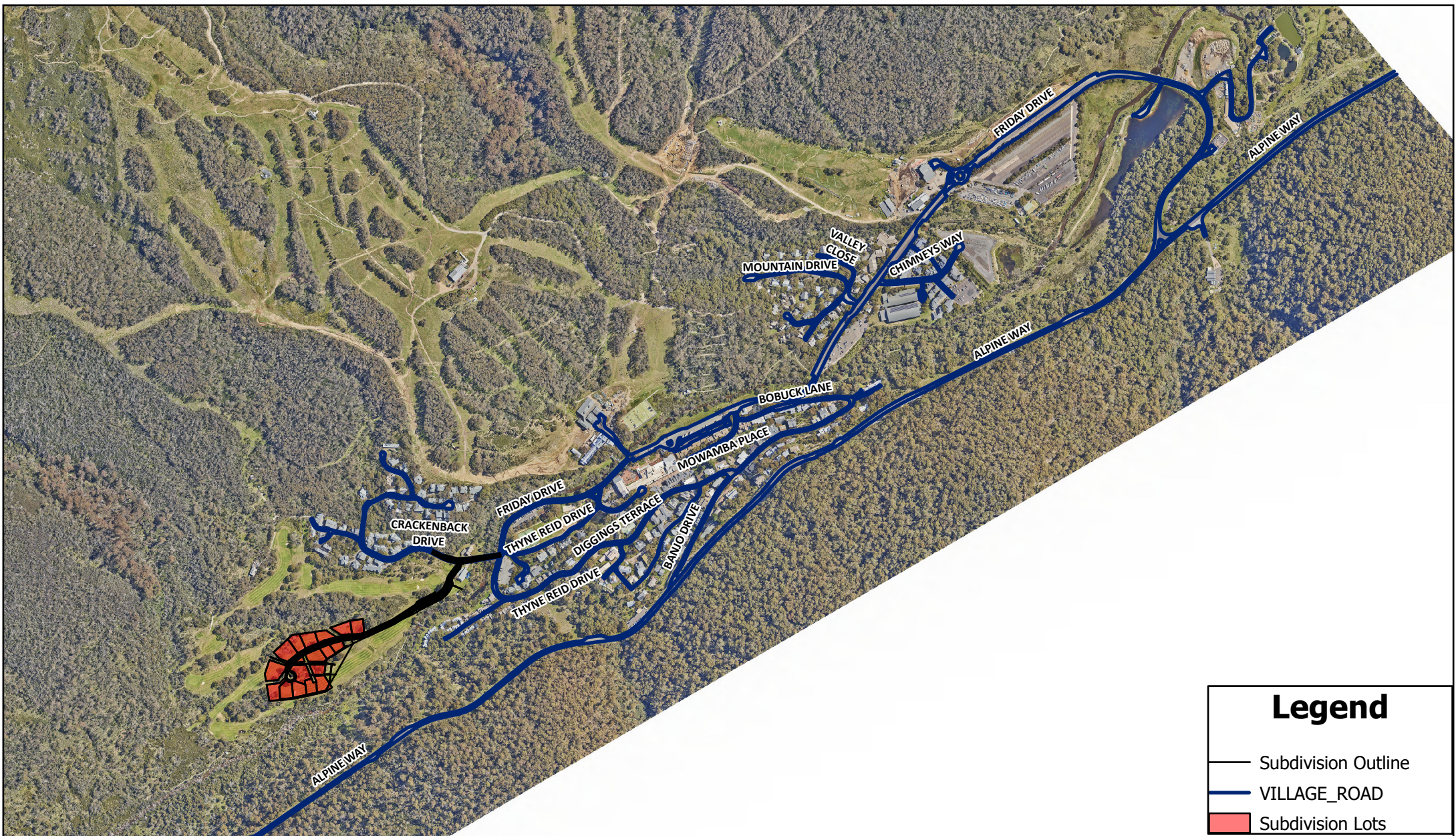
Project: Thredbo Golf Course Subdivision

Revision: A

Date: 15/06/2023

Produced By: KOS





## Legend

- Subdivision Outline
- VILLAGE\_ROAD
- Subdivision Lots

Scale: 1:10,421

0 70 140 280 420 560  
Meters

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



## FIGURE 13: LOCAL ROAD NETWORK

Project: Thredbo Golf Course Subdivision

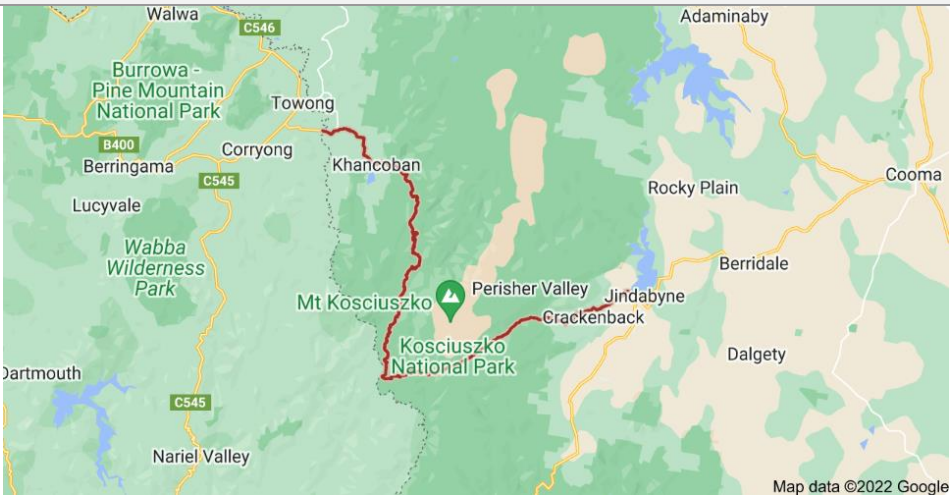


Revision: A

Date: 15/06/2023

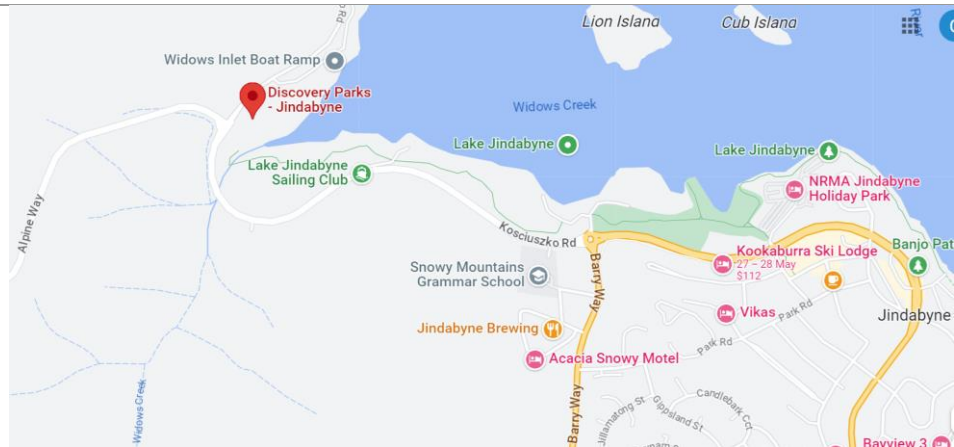
Produced By: KOS



**Table 9: Road network**

Road	Photo
<b>State-controlled Roads</b>	
<p><b>Alpine Way</b> – the Alpine Way is a 121 km State Controlled road providing a major arterial link between regional towns (i.e. Jindabyne to Khancoban), and the interstate connection between Jindabyne to the east in NSW and the Victorian border in the west.</p> <p>The site is accessible via Alpine Way at two separate locations (via main resort entrance onto Friday Drive and Banjo Drive).</p>	 <p>Alpine Way (Google Maps 2022)</p>  <p>Alpine way at intersection with Friday Drive (main resort access) (Google Maps 2022)</p>  <p>Alpine way at intersection with Banjo Drive (second resort access) (Google Maps 2022)</p>

**Kosciuszko Road**  
 – Kosciuszko Road provides access to the Alpine Way from Jindabyne. Kosciuszko Road is connected to the Snowy Mountains Highway.



*Kosciuszko Road (Google Maps 2023)*

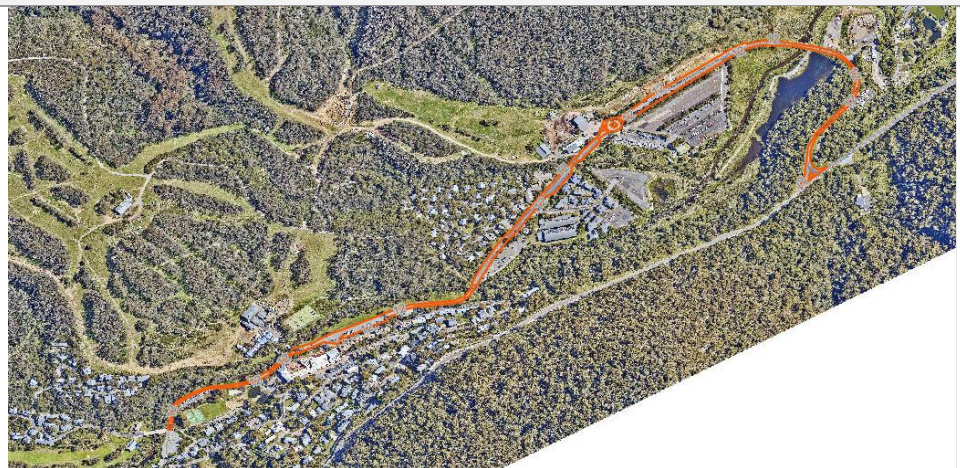


*Kosciuszko Road intersection with Alpine Way (Google Maps 2023)*

#### Thredbo Village Internal Roads

**Friday Drive** – The main village access from the Alpine Way is provided by Friday Drive. Friday Drive is a two-way road that was developed to cope with high levels of traffic entering the village.

Friday Drive terminates at the intersection with Thyne Reid Road, Diggings Terrace and Crackenback Drive.



*Friday Drive*





*Friday Drive looking towards intersection of Thyne Reid Road (left), Crackenabck Drive (right) and Diggings Terrace (straight ahead)*

**Banjo Drive –**  
Banjo Drive is a two-way road that provides access to the village from Alpine Way. Banjo Drive also provides access to Diggings Terrace.



*Banjo Drive*



*Banjo Drive intersection with Alpine Way (heading towards Jindabyne) (Google Maps 2022)*





*Banjo Drive intersection with Diggings Terrace (Google Maps 2022)*

**Diggings Terrace**  
– Diggings Terrace is a two-way road located to the east of the site, at the intersection of Crackenback Drive and Thyne Reid Drive. Diggings Terrace terminates at the intersection with Banjo Drive.



*Diggings Terrace*



*Diggings Terrace intersection with Crackenback Drive*



### Thyne Reid Drive

– Thyne Reid Drive is a one-way road located to the east of the site, at the intersection of Crackenback Drive and Diggings Terrace.

Thyne Reid Drive is a low traffic road.



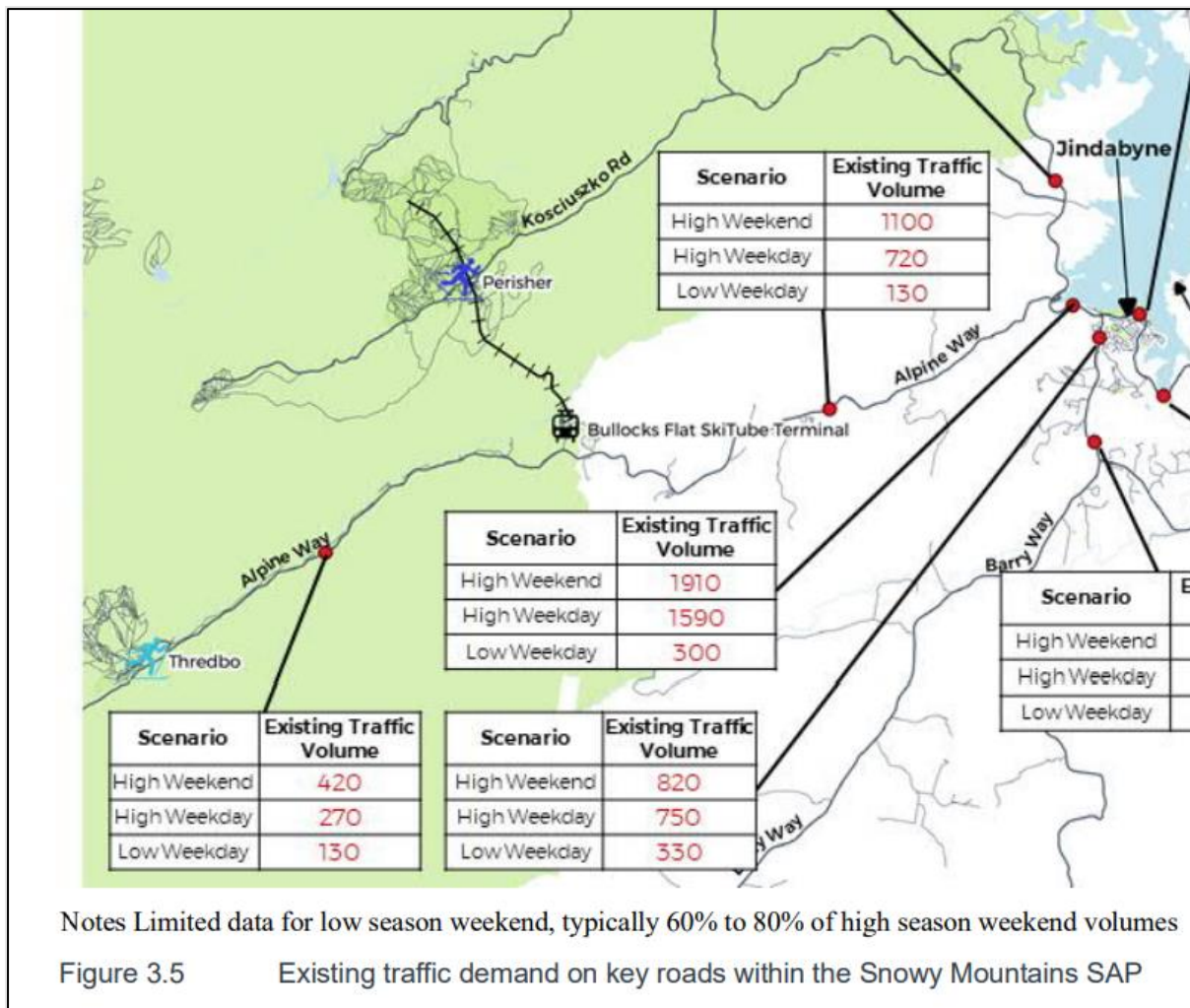
*Thyne Reid Drive*



*Thyne Reid Drive facing towards intersection with Diggings Terrace, Crackenback Drive and Friday Drive*

### State Controlled Road – Alpine Way

Alpine Way is a key state road for consideration. During peak visitation to Thredbo and Perisher alpine resorts, the Alpine Way between the Kosciuszko Road intersection and the Bullocks Flat Skitube Terminal (Skitube) turn off carries peak flows during winter for both Skitube and Thredbo. The section between Skitube and Thredbo mainly carries vehicles travelling to Thredbo. This is supported by the findings in the Transport Technical Study Report (WSP 2022) prepared for the Snowy SAP Master Plan and the 1988 Master Plan, see below.



**Plate 24: Extract from Snowy SAP Transport Technical Study (WSP 2022)**

The Skitube section currently has a peak vehicle flow in the order of 1040 vph, while the Thredbo section has a much reduced peak flow of approximately 415 vph. The available capacity of section one of the Alpine Way of approximately 1000 vehicles per hour has effectively been taken up during peak periods through the introduction of the Skitube. This in effect has prejudiced the accessibility of Thredbo during these times as the section of the road used solely by Thredbo visitors has remained well below the capacity.

**Plate 25: Extract from 1988 Master Plan**

#### 6.12.2.2 Existing operational conditions of the site

The site is currently utilised as a golf course and disc golf course. For users accessing the site, public parking is provided to the east of the site along Friday Drive, therefore the existing site does not generate any significant traffic volumes.



#### *6.12.2.3 Existing operational conditions of the surrounding village road network*

The roads adjoining the site are generally not as highly trafficked in comparison to the eastern precinct during peak seasons. For guests accessing the golf course site, they would generally utilise the public car parks along Friday Drive/adjacent to the Village Green and walk to the site as shown on **Figure 14**. As the site is at the western limits of the village, traffic generation in the locality is generally limited to KT operational vehicles and guests accessing the Riverside Cabins and Crackenback Ridge subdivision.

#### *6.12.2.4 Traffic management and parking control*

All roads and public car parking areas within the Thredbo Head Lease area are managed by KT. NPWS undertake routine parking compliance within the resort.

### **6.12.3 Site access**

All construction vehicles will enter/exit the Development site via Crackenback Drive. All machinery and plant will be confined to the construction corridor.

During operation, the site will be accessible via the new access road access off Crackenback Drive. The new access road has been designed to minimise impacts to the natural environment, as well as withstand the alpine climate, refer to the CLM Civil drawings provided in **Appendix B** for the internal road layout. The majority of lots have frontage to the proposed new access road. All lots with the exception of lot 10 have vehicle access off the new road or proposed accessway to lots 14-16. Lot 10 will have vehicle access via the road turning head. Access via an easement for lots 10 and 14-16 will be confirmed at the survey stage.

### **6.12.4 Construction traffic impacts**

#### *6.12.4.1 Vehicle types*

During construction both heavy and light heavy vehicles will need to gain access to the site.

#### *6.12.4.2 Impacts to Alpine Way*

During construction additional light and heavy vehicle traffic will be generated along the Alpine Way to service the Development. The additional traffic is not anticipated to significantly compromise the safety, traffic flows or ongoing operation and function of Alpine Way during construction.

#### *6.12.4.3 Impacts to village internal roads*

During construction additional traffic will be generated along Friday Drive to the proposed intersection off Crackenback Drive. The resort-wide speed limit is 40 km/hr. Heavy vehicles will be restricted to Friday Drive and Crackenback Drive only. A significant increase in the volume of traffic through existing accommodation precincts in the village is not anticipated.

The timing for delivery of heavy machinery and plant will aim to be outside of peak times. Heavy vehicles will be required to load/unload within the construction corridor, to ensure all manoeuvring takes place onsite and away from conflicts with other vehicles utilising Crackenback Drive, and pedestrian access adjacent to the site. With the implementation of appropriate traffic controls, the additional vehicles travelling along Friday Drive and Crackenback Drive to the site access point are not anticipated to result in significant adverse impacts to other road users within the resort.





Scale: 1:2,375

0 15 30 60 90 120  
Meters

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



## FIGURE 14: CARPARKING AND PEDESTRIAN ACCESS

Project: Thredbo Golf Course Subdivision

Legend	
	Subdivision Outline
	Subdivision Lots
	Carparking
	Pedestrian Access Point

Revision: B

Date: 21/07/2023

Produced By: KOS



### 6.12.5 Operational traffic impacts

Ski resorts in the Alpine region are heavily car dependent which results in traffic and parking bottlenecks (particularly during peak visitation periods) and negatively impacts on the visitor experience. There is potential that the Development will remove cars off the road during peak hours, and provide additional car parking.

At a village traffic operation level the Development will see a minor increase the level of traffic into and out of Crackenback Drive (for the short section only to the proposed new subdivision road). The Friday Drive – Crackenback Drive intersection traffic volumes will not be significantly increased and it should be noted that guests once at their village accommodation generally do not then drive around the village on a daily basis.

#### 6.12.5.1 Maximum parking demand

There are currently no parking requirements rates provided within a DCP applicable to the Alpine Resort areas. KT provide a general recommendation within the *Thredbo Development Guidelines* of one (1) car park per three (3) beds for developments within the village.

For the purposes of this assessment, the estimated maximum parking demand generated by the subdivision is based on the following assumptions.

User	Estimated Maximum Parking Demand	Comment
Accommodation guests	62	The subdivision allows for 186 beds, with the general recommendation of one (1) car park per three (3) beds = 62 onsite car parks.
Day Users / accommodation guests / Other	48	The subdivision allows for 48 public car parks on the new access road.
<b>Total:</b>	<b>110</b>	

Based on the above, if all car parks associated with the subdivision are utilised, this could result in the generation of 110 additional vehicles on the surrounding road network. It is however important to consider that all guests are unlikely to travel on the same day and time to access the subdivision and parking demand for the Development will vary seasonally and during different times of the day. Peak traffic flows may be experienced during events held at the resort, school holidays, typical check in (after 2:00pm) /check out hours (before 10am) and guests leaving for / returning from daily activities. Guests may also travel in more than one vehicle to their accommodation and utilise other public car parks within the village.

#### 6.12.5.2 Alpine Way

It is anticipated that the provision of 186 additional beds may result in a proportional decrease in day visitors compared to overnight visitors and subsequent decrease in the frequency of vehicle movement along the Alpine Way during peak flows. Therefore, the additional traffic generation associated with the Development is not anticipated to result in significant adverse impacts on the Alpine Way peak traffic volumes.



#### 6.12.5.3 *Thredbo village internal roads*

During operation, not all vehicles accessing the subdivision will utilise the village roads at one given time. As per the current environment, traffic within the village is highly variable, and increases in traffic flows are often associated with peak visitation times e.g. winter, competitions and events.

#### 6.12.5.4 *Emergency vehicle access*

NSW RFS was consulted during the planning stage to ensure appropriate emergency vehicle access and other requirements were incorporated into the layout of the subdivision.

The Development includes an extension of the existing emergency services road to Crackenback Ridge (providing looped/alternate access/egress) and emergency services staging area along the new access road to ensure adequate access is provided for emergency services to facilitate bushfire mitigation works and fire suppression if required (refer to the site plans in **Appendix B**).

### 6.12.6 **Carparking**

There is currently no Local Environmental Plan or statutory DCP applicable to the Development that outlines parking controls. As such, the *Thredbo Development Guidelines* recommends each allotment to provide one (1) car park per three (3) beds.

The Disability (Access to Premises – Buildings) 2010 requires a varying number of accessible car parking spaces to be provided dependent upon the classification of a building. The requirements for accessible car parking spaces associated with individual lots is to be considered as part of the future development proposals. The public car parking spaces shall comply with the relevant Australian Standards. Detailed road and parking design will form part of the Construction Certificate documentation.

It is proposed to include 2-3 electric vehicle chargers within the public car parking area. The exact locations to be determined at a later stage. These works do not form part of this DA as electric vehicle charges are exempt development under Clause 24, Schedule 2 of the Precincts – Regional SEPP, see below.

#### **24 Electric vehicle chargers**

- (1) The construction or installation of an electric vehicle charger for use by the public.*
- (2) The electric vehicle charger must be constructed or installed on an existing driveway, hardstand area or paved area.*
- (3) An electric vehicle charger constructed or installed in an existing car park must comply with AS/NZS IEC 60079.10.1:2022, Explosive atmospheres—Classification of areas—Explosive gas atmospheres.*

### 6.12.7 Limiting carriageway widths

Section 7.2.1 of the RTA Guide relates to limiting carriageway widths in residential subdivisions. A review of this section in relation to the Development is provided below:

- “In instances where traffic volumes are low streets may be designed with width of 3 to 3.5 metres”.
  - The access road width is 6.1 m.
- “... it is advisable that some parking bays are provided at the site of the traffic lane (one space per three households is a common provision, in addition to off-street parking)”.
  - The Development will provide 48 public carparks along the new access road that will provide for existing demand and improve the visitor experience. The public car parking along the new access road will provide accessible parking spaces in accordance with the relevant Australian Standards.
- “In areas where it is possible to provide off-street visitor parking one space is required for every three households”.
  - The development controls (**Section 3.4**) state new site development shall aim to provide for car parking at a rate the greater than one (1) space per apartment or one (1) per three (3) beds.
- “It is emphasised that overtaking opportunities, where the road is wide enough for two vehicles to pass, must be provided and it should be obvious that parking is prohibited in these places. Depending on the number of passing opportunities a 3-3.5 m wide carriageway is best suited to an average of less than 100 houses”.
  - The access road is 6.1 m wide, and the subdivision is for 19 lots.

### 6.12.8 Public transport routes

#### 6.12.8.1 Public transport to/from Jindabyne

Primarily the resort is accessed via motor vehicles via the Alpine Way. During winter 2021-2023 the Snowy Mountains bus service trial was launched to better connect guests and locals with Thredbo, Perisher and Charlotte Pass resorts. It is anticipated this service will continue in the future during winter months.

#### 6.12.8.2 Public transport within Thredbo Village

KT operates a village shuttle bus daily during the winter season. Route 4 provides access to Valley Terminal and Friday Flat through to Crackenback Ridge subdivision during winter. During summer peak periods, Route 3 runs during summer (the closest stop to the subdivision being the Information Centre).

A new bus stop will be construction at the western end of the new access road where lots are concentrated. The bus stop will be serviced by Route 4. Depending upon demand, KT may provide an additional bus to service the outer western precinct.



# WINTER BUS ROUTES THREDBO VILLAGE

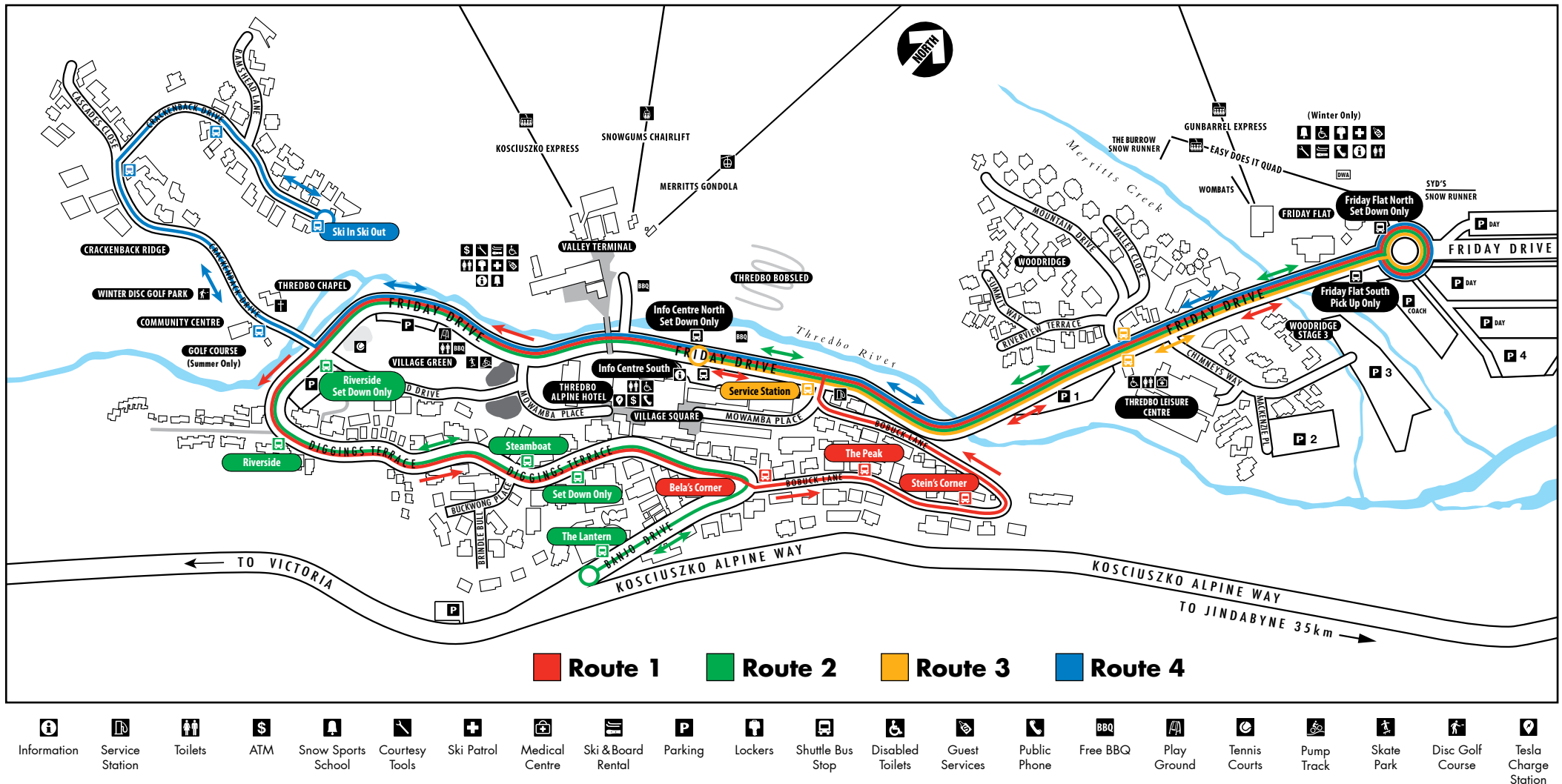


FIGURE 14: VILLAGE BUS ROUTES

Information presented is correct at the time of printing, July 2020.

[thredbo.com.au](http://thredbo.com.au)



### 6.12.9 Traffic management methods and road safety

Traffic safety within the village will be maintained through the incorporation of appropriate traffic controls (e.g. speed, signage and line marking). The Development will incorporate the following traffic management methods to ensure road, bike rider and pedestrian safety is maximised:

- regulatory line marking and signage to identify new access road;
- adequate access and parking for waste collection vehicles;
- regulatory posted speed limit of 40 km/hr high pedestrian activity;
- allocation of off-road carparks;
- pedestrian crossing, including signs and lines on the access road; and
- dedicated bus stop.

### 6.12.10 Snow clearing and management

The KT Environmental Services Department is responsible for snow clearing. Snow clearing within the subdivision will be managed in accordance with general village operations. The access road has been designed without kerb and guttering to allow for easier snow management. The turning circle at the end of the access road will be heated to assist with management of ice accumulation.

### 6.12.11 Pedestrian networks and linkages

#### 6.12.11.1 Existing walking trails

The Riverside Walk / Golf Course Loop walk (indicated by the green trail 'C' on **Plate 26**) is a loop trail around the golf course. The Golf Course Loop Walk is intersected by a section of the Meadows Nature Track (pink trail) and leads into a shared use (walkers and cyclists) on-road trail (indicated by the dotted line on **Plate 26**).

The Thredbo River Track follows the lower section of the Riverside Walk (southern boundary of site) and heads west towards Dead Horse Gap (indicated by the pale blue line 'J' on **Plate 26**).



**Plate 26: Existing walking tracks**

The Development is not anticipated to result in any significant adverse impacts upon pedestrian networks and linkages. The design ensures pedestrian networks and linkages to existing open space will be retained within the site during operation, including a dedicated pedestrian crossing along the new access road.

### 6.12.12 Impacts to golf course operations

During construction the works will disrupt the normal operation of the golf course. Construction works will aim to be undertaken during periods when the public is least affected.

The golf course has been re-designed to ensure the nine (9) holes are retained for guests to enjoy, whilst balancing the protection of existing site environmental values to the furthest extent practicable. The impacts of the golf course re-design are provided below.

Issue	Pros	Constraints
Golf	Reasonably good spread of short, medium and long par 3's. Six slightly uphill holes of 9m or less; plus the rising 9m short 1st and the two existing steeply downhill 8th and 9th holes to close.	1,509m so -599m. All par 3's except one short but challenging par 4 7 <sup>th</sup> retained. No par 5. Loss of 4 shots and minus 599m certainly a reduction in course rating perception (but few after a game will call it easy).
Environment	Excellent comparatively as 5 existing holes unchanged and the other 4 holes mostly using existing hole corridors. Proposed lodge development and access road primarily located on cleared existing Holes 1, 3 (eastern end) and 4 so minimal development impact. Also due to offsets, vegetation and topography minimal awareness from other western Thredbo developments. No development sites in the Thredbo River riparian or biodiversity offset Zones.	Shortened 9th hole alignment to aid course and apartment safety required added vegetation management and loss but aids lodge zone fire management compliance.
Long walks	-	98m uphill walk 4G to T5. Also a 160m downhill walk with good views of Thredbo & the valley from 9G to return to T1 for second loop or to depart at Community Centre.
Safety	Shortened 9th hole aligned 15m southward for existing new tee so as to reduce potential safety conflicts with the retained 8th green and the new 9th green similarly aligned 10m southward to aid safety to the nearest Crackenback Ridge apartments. Overall on course and neighbour safety improved by splitting the existing 9th to two par 3's rather than a longer par 4 hole.	-
New greens and tees	2 new tees.	4 new greens (but offers opportunity to improve playability and condition).

### 6.12.13 Public safety

To ensure public safety within the subdivision the following elements have been incorporated into the design:

- Natural surveillance
  - Provision of street lighting along the new access road.
  - The road design provides clear sight lines for visibility and safety for pedestrians and cyclists.

- Natural access control
  - Access to the subdivision will be clearly marked to direct both pedestrian and vehicular traffic through/around the subdivision.
- Territorial reinforcement
  - Landscaping will be used to create an attractive public place that attracts people to the area.
  - Provision of directional signage to assist in controlling vehicles, pedestrians and bike riders through the subdivision. The access road will be sign posted with the village speed limit, 40 km/hr. Section 7.2 of the RTA Guide states “in existing residential environments, 40km/h is an acceptable speed objective”.
  - A pedestrian road crossing is provided in a convenient location along the new access road.
  - The new access road shall comply with relevant Australian Standards to ensure safe and equitable public access.
- Maintenance and management
  - KT will be responsible for maintaining vegetation within the road reserve and car park area to ensure clear sight lines.
  - KT will be responsible for maintaining street lighting to preserve visibility within the subdivision.
  - Tourist accommodation owners will be responsible for the ongoing maintenance and management of vegetation on their lots.

## 6.13 Infrastructure and Services

This section addresses water supply, sewer, electricity, gas and telecommunications.

### 6.13.1 Existing water supply

KT have a Water Access Licence (WAL) under the WM Act which permits water extraction from the Thredbo River. The WAL includes the Golf Course Pump station.

The Crackenback Ridge and golf course area of the village is supplied with water by the following infrastructure.

#### 6.13.1.1 Water Intake – Golf Course Pumps

The water intake is located in a “pooling” area of Thredbo River, located at the south western end of the golf course. Water flows from the intake via gravity into a wet well situated inside the “golf course pump house”.

#### 6.13.1.2 Pump House

The pump house pumps the water up to the “Crackenback Ridge Tank” approximately 800 m away.

The pump house comprises of a small wooden building housing an electric pump, a diesel backup pump, telemetry equipment, a self-backwashing pre-filter and the wet well. From this location, water is pumped a distance of 800 m uphill to the Crackenback Ridge storage tank, which serves as the water supply primarily for Crackenback Ridge and when required for the central village.

#### 6.13.1.3 Pipeline

The 1,700 m pipeline traverses the golf course and connects the pump house to the storage tanks. Pipe then connects the storage tanks with the existing Thredbo water main near the Village Green.



#### 6.13.1.4 Crackenback Ridge Water Supply Tank

This tank acts as a storage reservoir for supply of the entire Crackenback Ridge subdivision. A normally closed valve on the Village Green isolates the Crackenback Ridge water supply system from the rest of the village, however there is the capacity in emergency circumstances to open this valve and supply either Crackenback Ridge from the village or the village from the Crackenback Ridge system. The water supply tank above Crackenback Ridge has a total volume of 115 kilolitres and is always maintained at 85% capacity or better.

#### 6.13.2 Estimated water supply requirements

The proposed Development entails an additional 186 beds to be supplied from the Crackenback Ridge system. The Peak Day water demand for the developed Crackenback Ridge area is therefore estimated as follows (Gordon Gibson Nominees 2023):

- Existing system – 330 beds
- Proposed development 186 beds
- Irrigation = 50 beds
- 566 beds x 330L/bed/day
- Plus Fire Hydrant Allowance = 10L/s x 1 hour
- Peak Total Daily Demand = 222,780 L/day (say 225 kL/day)
- Peak Hourly Demand =  $3.5 \times 566 \times 330 / 86400 + 10$  (Fire)
- =17.6L/s.

Based on the above calculations, Gordon Gibson Nominees (2023) recommends the following works to be undertaken in order to meet the requirements of the Development:

- Installation of one additional identical tank be constructed, adjacent to the existing tank (i.e. an additional 150kL tank, with TWL of 1436.2m and BWL of 1434.4m).
- Installation of one or two additional pumps may need to be added to the pump station, or pumps upgraded, in order to provide sufficient Peak Hourly Demand capacity, including fire demand.
- The existing 200 mm diameter delivery main from the Golf Course Pump Station has sufficient capacity to meet the estimated Peak Hourly Demand. The supply pipeline to the subdivision should connect into this existing 200 mm main at the proposed access road intersection and be installed in the access road reserve, to the end of the subdivision. An isolation valve should be installed at the connection. This main should be 150 mm diameter PN 16 pipe (HDPE or mPVC).
- Fire hydrants at suitable intervals should be installed on the main and a flushing hydrant at the end of the main.

#### 6.13.3 Sewerage System

##### 6.13.3.1 Existing sewerage system

There is currently no existing sewerage reticulation at the golf course. The surrounding sewer network is illustrated in **Figure 16**. The nearby Crackenback sewer is a gravity fed main which was installed during the construction of the Crackenback subdivision. The 150 mm sewer main travels east along Crackenback Drive and continues onto Friday Drive to connect with the village sub-main which transports wastewater to the Wastewater Treatment Plant (WWTP) at the northern end of the village.

The Thredbo sewerage treatment plant (STP) operates under Environment Protection Licence (EPL) No. 1599 which permits sewage treatment processing by small plants (>219-1000 ML annual maximum volume of discharge). The volume/mass limit for the discharge point is 1,610 kilolitres per day. The STP is designed to cope with peak winter loads of over 8,000 visitors.

In 1996 the EPA confirmed in writing that the impact of additional wastewater discharges flowing from further development of the village to the maximum development level of 4,810 beds would not adversely affect the physical, chemical and biological condition of the Thredbo River, from the condition as at 19 July 1989 (EPA 1996). It should be noted this Development (as well as other known proposed development) will not result in 4,810 beds being utilised.

#### *6.13.3.2 Impacts to existing sewerage services*

The Thredbo Sewer Capacity Assessment (Robert Staples & Associates 2023) (**Appendix K**) concluded the following:

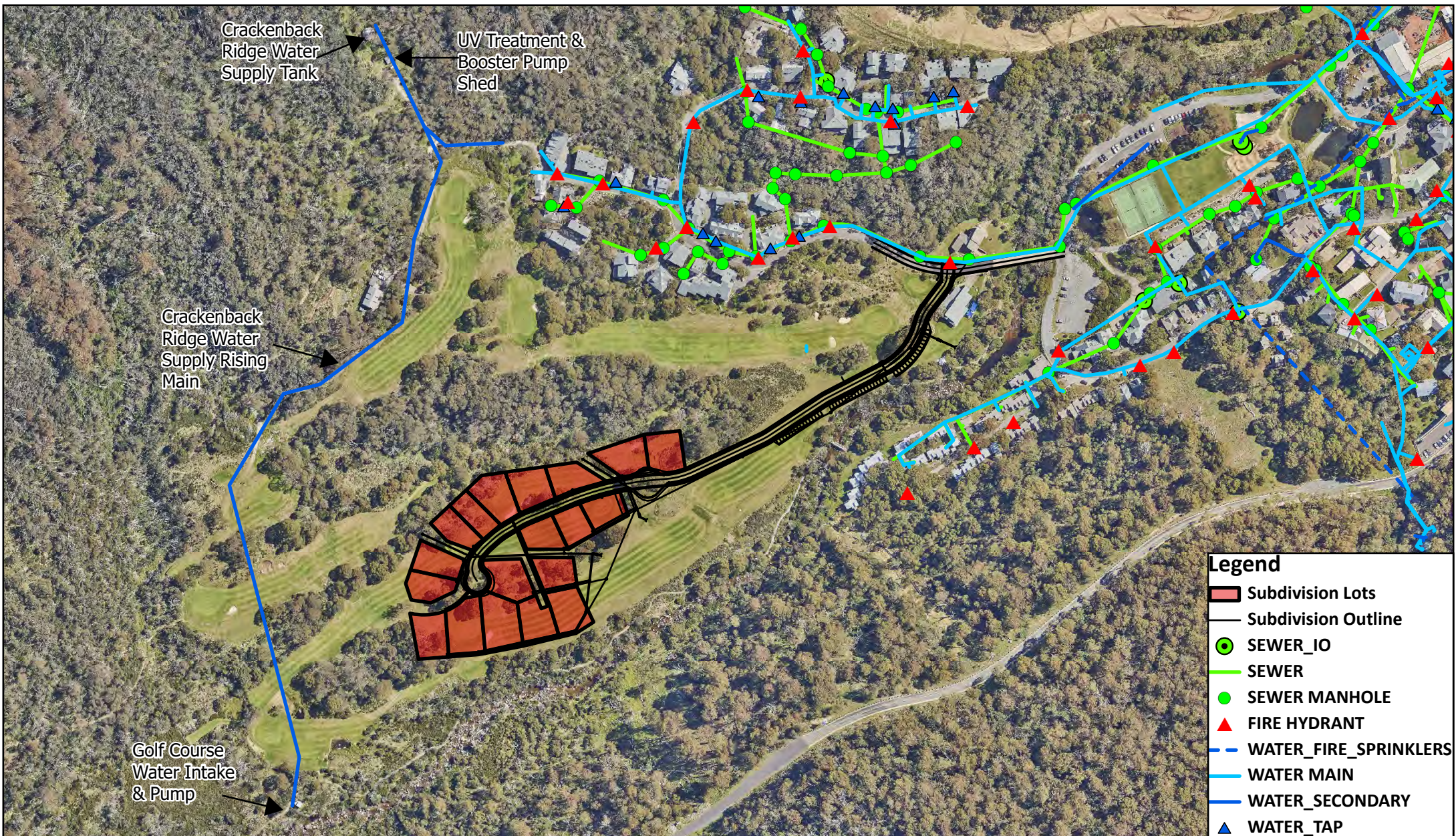
- The evidence both from statutory monitoring reports and by calculation indicates the capacity of the existing sewer pipe network downstream of the proposed Golf Course Development site is compliant with Water Services Association of Australia (WSAA) Code provisions.
- By calculation using factual data and assumptive reasoning the capacity of the sewer pipe network downstream of the proposed Golf Course Development site will remain compliant with WSAA Code provisions post-development ie after the sites have been developed (rounded up to an additional 190 beds) and are placing demand upon the sewer network
- It is evident that the trunk main servicing the whole of the Thredbo resort leading to the Thredbo Sewage Treatment Works is nearing the WSAA Code compliance limits for Peak Dry Weather Flow (PDWF) under certain operating conditions (ie at minimum scour velocity)
- Further development beyond the immediately planned growth (ie beyond the additional 190 beds), the subject of this analysis, may result in the need to upgrade the 300 mm diameter trunk main in the future.

The Thredbo Village Sewerage Treatment Plant Capacity Assessment (Yabbie Pond 2023) stipulates an additional 185 beds will equate to the following load increases:

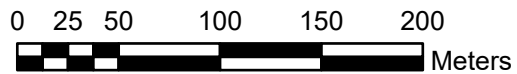
- Hydraulic load = 48.4 kL/d maximum
- Organic load = 11.2 kg BOD<sub>5</sub>/day

These additional loads represent 3.2% increase in the maximum hydraulic load and 2.2% of the maximum organic load into the Thredbo STP. These increases are considered minor and well within the treatment capacity of the plant (Yabbie Pond 2023).





Scale: 1:3,732



Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



## FIGURE 9: EXISTING WATER AND SEWER INFRASTRUCTURE

Project: Thredbo Golf Course Subdivision

### Legend

- Subdivision Lots
- Subdivision Outline
- SEWER\_IO
- SEWER
- SEWER MANHOLE
- FIRE HYDRANT
- WATER\_FIRE\_SPRINKLERS
- WATER MAIN
- WATER\_SECONDARY
- WATER\_TAP

Revision: B

Date: 21/07/2023

Produced By: KOS



#### **6.13.4 Electricity**

The existing electricity infrastructure is shown on **Figure 17**. The resort service provider is Essential Energy.

Electricity will be provided via underground supply located in the common services trench. A new substation will be required to service the Development, subject to a separate approvals process. No adverse impacts to existing electricity services are anticipated.

#### **6.13.5 Gas**

The existing gas infrastructure is shown on **Figure 17**. The resort service provider is Elgas. Gas services will be provided via underground supply located in the common services trench. No adverse impacts to existing gas services are anticipated.

#### **6.13.6 Telecommunications**

The existing telecommunications infrastructure is shown on **Figure 17**. Telecommunications cables will be provided via underground supply located in the common services trench. No adverse impacts to existing telecommunications services are anticipated.





- Legend**
- Subdivision Outline
  - Subdivision Lots
  - GAS\_PIPE
  - ELEC\_HV
  - - - ELEC\_LV
  - STREETLIGHT
  - - - STREET\_LIGHT\_CIRCUIT
  - PHONE\_OPTIC
  - PHONE\_CABLE
  - TELSTRA\_PIT
  - ⋈ GAS\_VALVE
  - ELEC\_LV\_PILLAR

Scale: 1:2,499

0 15 30 60 90 120  
Meters

Map Projection: Universal Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



## FIGURE 17: EXISTING ELECTRICITY, GAS AND TELECOMMUNICATIONS INFRASTRUCTURE

Project: Thredbo Golf Course Subdivision

Revision: B

Date: 21/07/2023

Produced By: KOS



## 6.14 Waste Management

The Development will incorporate the waste hierarchy to ensure the efficient use of resources (EPA 2017):

- **avoidance** including action to reduce the amount of waste generated by the Development;
- **resource recovery** including re-use, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources; and
- **disposal** including management of all disposal options in the most environmentally responsible manner.

Proposed waste streams, sources, separation and collection methods are proposed in **Table 10**.

### 6.14.1 Construction waste management

The following receptacles will be utilised for the removal and storage of waste during construction:

- demolition skip bins;
- general building waste skip;
- scrap metal skip;
- concrete washout skip for excess concrete;
- general waste bins;
- recycling bins; and
- enclosed and covered trucks.

All waste will be managed in accordance with KT's waste management procedures. All materials will be segregated and where possible reused and recycled within the resort. Materials being kept for re-use elsewhere in the resort will be either loaded directly onto a truck or placed on pallets for transport to the Thredbo Waste Transfer Facility where they will be stored or taken to the workshop for preservation works prior to storage.

Any waste that cannot be re-used within the resort will be transported off-site by a licenced contractor and disposed of at an external waste facility such as Jindabyne Regional Waste Management Facility, or Cooma Landfill.

### 6.14.2 Operational waste management

Waste and recycling collection will be managed in accordance with the Thredbo Waste Management Strategy. Waste and recycling will be collected within, and transported off-site from the Thredbo Waste Transfer Facility for processing and/or disposal.

It is a requirement for all development in the village to include a fully enclosed refuse area, which contains separate containers for recycled materials and general waste. Refuse areas on each lot are required to accommodate snow depth and ease of collection by KT personnel.

KT's waste system uses a combination of 120 / 240 / 660 litre wheeled bins for putrescible waste collection and organics recycling and a poly weave bag system for comingled and paper/carboard recycling.



**Table 10: Proposed waste streams**

Waste Class	Waste Type	Source of Waste	Development Phase	Reuse, recycle or disposal	Storage	Collection Method	Disposal Location
General solid waste (putrescible)	Food waste	Food waste from construction site personnel  Food waste from accommodation / lodges	Construction and operation	Recycle (on-site composting)	Food organics bins	Construction contractor (construction); KT Environmental Services Department (operation)	Thredbo Waste Transfer Facility
General solid waste (non-putrescible)	Municipal waste that does not contain food waste	Packaging waste e.g. plastic bags, food wrapping (Low density polyethylene)	Construction and operation	Disposal	General waste bins	Construction contractor (construction); KT Environmental Services Department (operation)	Thredbo Waste Transfer Facility
	Comingled recycling stream	Waste from tourist accommodation / lodges etc.	Operation	Recycle	Poly weave bags and/or recycling bins	KT Environmental Services Department	Thredbo Waste Transfer Facility
	Recyclable plastic food and beverage packaging	Glass and plastic bottles, aluminium and steel cans	Operation	Recycle	Poly weave bags and/or recycling bins	KT Environmental Services Department	Thredbo Waste Transfer Facility
	Paper and cardboard	Mixed paper and cardboard from site offices, product packaging etc.	Construction	Recycle	Recycling bins	Construction contractor	External waste facility
	General hard waste (i.e. furniture, sports equipment)	Replacement of furniture, sports equipment end-of-life, etc.	Operation	Disposal	None	Waste Producer off-site removal	External waste facility
	E-waste	Equipment end-of-life, electrical renovation work, etc.	Operation	Recycle	Individual property waste enclosures	KT Environmental Services Department	External waste facility

Waste Class	Waste Type	Source of Waste	Development Phase	Reuse, recycle or disposal	Storage	Collection Method	Disposal Location
	Plastics	Silt fencing, flagging etc.	Pre-construction; construction	Disposal	Industrial skip bin	Construction contractor	External waste facility
		Electricity supply materials and underground pipes (e.g. PVC cables and pipe)	Demolition of existing underground infrastructure; construction	Disposal	Scrap metal recycling skip bins (metals), industrial skip bins (other material)	Construction contractor	External waste facility
	Building and demolition waste	Concrete	Demolition	Disposal	Industrial skip bin	Construction contractor	External waste facility
		Underground pipes	Demolition	Disposal	Industrial skip bin	Construction contractor	External waste facility
	Virgin excavated natural material	Excess materials from excavation works	Earthworks; construction	Reuse, or disposal	Temporary stockpile; Thredbo Main Stockpile Area	Construction contractor	Thredbo Main Stockpile Area within Thredbo Waste Transfer Facility, or External waste facility.

## 7 Mitigation and Management Measures

The measures proposed in this section will be implemented to minimise, mitigate and manage potential impacts on key values of the natural, built and human environment.

Mitigation and Management Measures	Timing
<b>General</b>	
All works are to be undertaken in accordance with the Development Consent and any other planning approvals or permits.	Construction
Prepare and implement <b>Site Environmental Management Plan (SEMP)</b> and supporting environmental management plans.	Detailed design and construction
Prior to commencement of works, the Development site will be temporarily fenced, roped or flagged to clearly delineate the construction area and no-go zones.	Prior to commencement of works
<b>Water quality, stormwater management, erosion and sediment control</b>	
Prepare and implement <b>Erosion and Sediment Control Plan (ESCP)</b> . The plan must detail how sedimentation will be managed throughout construction. The objective of the ESCP will be to reduce pollution and sedimentation discharges to the Thredbo River. The plan is to be prepared in conjunction with the final design at the construction certificate stage by a suitably qualified engineer. Controls outlined in Section 6 of the Stormwater Management Plan (ELA 2023c) must be included. A preliminary ESCP is provided in the SEMP ( <b>Appendix J</b> ).	Detailed design and construction
Implement the <b>Stormwater Management Plan (ELA 2023c)</b> .	Construction and operation
Detailed drawings are to include all permanent stormwater management and erosion and sediment control measures.	Detailed design
All site preparation activities will be undertaken in accordance with the approved SEMP, ESCP and Stormwater Management Plan. Site preparation works will be staged to reduce the extent of exposed soils at any one time, which in turn will reduce environmental impacts by minimising dust generation and potential stormwater runoff etc.	Site preparation and construction
Preservation of significant existing vegetation and limiting disturbance area during construction to minimise potential for erosion and sediment runoff.	Construction
Minimise the extent of exposed earth and time soil is exposed through the implementation of progressive rehabilitation. Site rehabilitation will be carried out in accordance with the Resort Rehabilitation Guidelines (NGH 2007).	Construction
ELA (2023b) recommends urban plantings should avoid using deciduous trees within 40 m of a watercourse, or in areas where excess leaf drop cannot be contained from stormwater runoff.	Construction
Water sensitive urban design (WSUD) elements have been considered in the concept stormwater design. The aim of WSUD is to maximise the retention of stormwater pollutants within the Development and minimise impacts on the receiving environment, in this case the Thredbo River. The Development incorporates the following elements of WSUD (ELA 2023c): <ul style="list-style-type: none"> <li>• Ensure water quality is not impacted through implementation of stormwater management controls during the construction phase.</li> <li>• Integration of stormwater treatment into the natural landscape through overall preservation of watercourses and riparian corridors within the development site.</li> <li>• Reduction of surface runoff caused by the development through minimising impervious areas.</li> <li>• Treatment of stormwater prior to discharge into Thredbo River via three proposed stormwater retention devices.</li> </ul>	Detailed design, construction and operation



The configuration and sizing of lots have been designed to maximise open space and retain significant native vegetation.	
Apply for a <b>Controlled Activity Approval</b> prior to commencement of works.	Prior to commencement of works
<b>Fuels and chemical storage and spills</b>	
All storage of petroleum products, oils or chemicals to be in accordance with relevant Australian Standards. Implement appropriate procedures for the management of oil/fuel/chemical storage and spill management (ELA 2023b).	Construction
Routine machinery and engine maintenance should be carried out to reduce potential oil/fuel leakage (ELA 2023b).	Construction
<b>Bushfire</b>	
Implement recommendations outlined in the Bushfire Assessment Report (GDH 2023).	Detailed design and construction
<b>Geotechnical</b>	
Undertake works in accordance with the recommendations outlined in the Geotechnical Investigation Report (Alliance 2023).	Detailed design and construction
<b>Biodiversity</b>	Timing
Constructions works will be confined to the approved construction corridor.	Construction
Identify with flagging tape the limit of the disturbance footprint where it encroaches upon relatively undisturbed native vegetation, prior to construction. Clearly mark any trees requiring hand removal (ELA 2023).	Prior to vegetation clearing and construction
Implement sediment control measure as necessary (ELA 2023a).	During and post-construction
Restrict work to daylight hours to reduce impacts of noise and light spill (ELA 2023a).	During construction
Brief all workers as to limit of disturbance footprint and other environmental safeguards (ELA 2023a).	Prior to and during construction, as necessary
Prepare and implement <b>Wombat Management Plan</b> to manage impacts on any active wombat burrows in close proximity to works (ELA 2023a). The plan is to be prepared in conjunction with the final design at the construction certificate stage.	Detailed design and construction
<b>Biosecurity</b>	
Any machinery or vehicles involved with the proposed works that are not owned by KT will be washed down to remove all soil and vegetative matter before entering the site to limit spread of weeds and disease such as <i>Phytophthora cinnamomic</i> (ELA 2023).	Prior to commencement of works, during construction
Machinery to be regularly maintained and manoeuvred to prevent the spread of weeds and pathogens.	Construction
Disposal and storage of putrescible wastes must be undertaken appropriately to ensure feral animals aren't attracted to the site.	Construction and operation
Waste to be stored in suitable bins onsite, and disposed of appropriately offsite.	Construction and operation
<b>Rehabilitation and landscaping</b>	
Prepare and implement a detailed <b>Rehabilitation and Monitoring Plan</b> . The plan is to be prepared in conjunction with the final design at the construction certificate stage. The aim of the plan is to achieve successful rehabilitation of all areas disturbed during construction with full vegetation coverage to achieve an erosion resistant state. The plan will: <ul style="list-style-type: none"> <li>Detail the rehabilitation works required by the proposal for all disturbed areas;</li> <li>Set out the schedule for the rehabilitation works;</li> <li>Provide information on plant species and planting ratios; and</li> <li>Dictate the maintenance and monitoring of the disturbed and rehabilitated areas.</li> </ul>	Detailed design, Prior to commencement of works, during and immediately post-construction

All rehabilitation to be carried out in accordance with the Resort Rehabilitation Guidelines (NGH 2007). Progressive rehabilitation of disturbed areas to be undertaken.	
Landscaping to be undertaken in accordance with the <b>Landscape Concept Plan</b> (DAWSON DESIGN 2023).	During and immediately post-construction
<b>Landscape character and visual amenity</b>	
Vegetation clearing to be undertaken in accordance with the approved plans and recommendations outlined in the BDAR (ELA 2023) to ensure the key existing environmental values of the site are retained.	Vegetation clearing
Landscaping and rehabilitation to be undertaken in accordance with the Landscape Concept Plan and detailed Rehabilitation and Monitoring Plan to retain the existing landscape character and values of the site.	Construction
The alpine village character will be maintained and enhanced through consideration of applicable development controls at the time of development. Currently, design guidance for developers, architects, owners etc. is provided in the Thredbo Development Guidelines. When the Alpine DCP is adopted, development of individual lots would also be guided by those development controls.	Development of individual lots
<b>Socio-economic</b>	
Development and implementation of complaints management procedure and complaints register during construction	Prior to works and construction
Consultation with key stakeholders during the planning and construction phase. The following consultation activities have been undertaken / opportunities are proposed: <ul style="list-style-type: none"> <li>Pre-DA lodgement meetings or consultation with relevant government agencies, including DPE, NPWS, NSW RFS, Transport for NSW, Regional NSW.</li> <li>Submissions in relation to the Development provided as part of the Snowy SAP Master Plan consultation process.</li> <li>Consultation with Aboriginal heritage parties.</li> <li>Consultation via the formal DA process.</li> <li>Consultation with potentially impact adjacent land users during construction.</li> </ul>	Planning phase, detailed design and construction
<b>Transport</b>	
Traffic and construction vehicle access will be managed as per regular daily operation in the resort.	Construction
All vehicle and plant operators will be licensed and trained.	Construction
Installation of signage and wayfinding to ensure the safety of road users, bike riders and pedestrians.	Construction and operation
<b>Air quality, noise and vibration</b>	
Reasonable and practicable measures (e.g. water sprays, vehicles carrying rubble must be covered) will be implemented to prevent dirt and dust from affecting the amenity or the surrounding environment during construction.	Timing
Appropriate noise management strategies will be implemented for construction works and operation of plant in accordance with the <i>Australian Standard AS 2436-2010 Guide to noise and vibration control on construction, demolition and maintenance sites</i> . Measures detailed in the SEMP.	Construction
<b>Aboriginal Cultural Heritage</b>	
Obtain <b>Aboriginal Heritage Impact Permit</b> (AHIP).	Prior to construction
All works to be carried out in accordance with the AHIP.	Construction
Where unexpected items of potential archaeological, built or Aboriginal cultural heritage significance are discovered, works will cease, relevant authorities (i.e. NPWS) will be notified and the site will be secured by erecting a no-go zone. If human remains are found, works will cease, the site will be secured and NSW Police will be notified immediately.	Construction

<b>Waste</b>	
Waste to be managed in accordance with the waste hierarchy – avoid and reduce, reuse waste, recycle waste, recover energy, treat waste and dispose of waste.	Construction Operation
All waste to be managed and disposed of in accordance with legislative requirements and relevant standards.	Construction Operation
All construction waste and litter to be minimised and contained within appropriate receptacles. All receptacles will be in good condition.	Construction Operation

## 8 Conclusion

Demand for new accommodation development in Thredbo is considered high as evident by both the strength of existing property market sales and tourist/visitor demand. The new lots and additional 186 beds will help address the peak period accommodation shortages currently experienced in Thredbo and the broader Snowy Mountains Region.

In accordance with the requirements of the EP&A Act, EP&A Regs and Precincts – Regional SEPP, this SEE has assessed the potential impacts of the Development on the human, built and natural environment of the Project site and surrounds. The Development is consistent with the key objectives of planning strategies applicable to Thredbo, including the South East and Tablelands Regional Plan, Snowy SAP Master Plan and KNP PoM.

The Development will result in impacts to native vegetation and threatened species habitat. This SEE outlines the measure proposed to avoid, mitigate and offset these impacts to a community acceptable level. To meet offset obligations under the BOS, a payment of 39 ecosystem credits and one (1) species credits is required to offset the unavoidable impacts.

The Development is low density and provides greater areas of open space compared to the adjacent Woodridge and Crackenback Ridge sub-divisions. Buildings will be required to be consistent with the character of materials, colours and built form within the village and ensure the colours and textures blend in with the natural landscape. In response to growing visitation in the resort, the provision of additional accommodation options and upgraded municipal infrastructure is considered positive.

The Development is compatible with the site, will enhance the current built form amongst the village, and will not have any significant adverse environmental impacts. The Development has been designed to first avoid impacts on the natural environment, then minimise and mitigate impacts through a range of mitigation and management measures implemented in the design, construction and operational phases.

Following consideration of the administrative guidelines for determining significance under the EPBC Act, it is concluded that the Development is unlikely to have a significant impact on MNES or Commonwealth land, and a referral to the Commonwealth Environment Minister is therefore not recommended.

The Development is considered to be within the public interest given the Development is consistent with the head lease, the aim and objectives of the Precincts – Regional SEPP, the principles of ESD and will provide more accommodation capacity and diversity for existing and future users of the resort.



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## 10 Acronyms and Abbreviations

Acronyms & Abbreviations	
AANP	Australian Alps National Parks and Reserves
AHD	Australian Height Datum
AHIP	Aboriginal heritage impact permit
Alliance	Alliance Geotechnical Pty Ltd
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCA	Building Code of Australia
BDAR	Biodiversity Development Assessment Report
BFPL	Bush fire prone land
BFSA	Bush fire safety authority
BOS	Biodiversity Offset Scheme
BVM	Biodiversity Values Map
Cth	Commonwealth
DA	Development Application
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water (formerly DAWE)
DECC	NSW Department of Environment and Climate Change
DECCW	NSW Department of Environment, Climate Change and Water
DIPNR	NSW Department of Infrastructure, Planning and Natural Resources
DoP	NSW Department of Planning
DPE	NSW Department of Planning and Environment
DPE Water	NSW Department of Planning and Environment – Water
DIPE	NSW Department of Planning, Industry and Environment (now DPE)
EEC	Endangered Ecological Community
ELA	Eco Logical Australia Pty Ltd
EPA	Environmental Protection Agency, NSW
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESCP	Erosion and Sediment Control Plan
ESD	Ecologically Sustainable Development
GHD	GHD Pty Ltd
Ha	Hectare
KNP	Kosciuszko National Park
KNP POM	Kosciuszko National Park Plan of Management 2006
km	kilometres
LGA	Local Government Area
m	metres
m <sup>2</sup>	metres squares
MNES	Matters of National Environmental Significance
NGH	NGH Pty Ltd
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service
NRAR	Natural Resources Access Regulator
NSW	New South Wales
OEH	NSW Office of Environment and Heritage
PCT	Plant Community Type
PMR	Protected Matters Report
Precincts – Regional SEPP	<i>State Environmental Planning Policy (Precincts—Regional) 2021</i>
RFS	NSW Rural Fire Service
SEE	Statement of Environmental Effects



SEMP	Site Environmental Management Plan
SFPP	Special Fire Protection Purpose
SMS	Snowy Mountains Hydro-electric Scheme
STP	Sewerage Treatment Plan
TEC	Threatened Ecological Community
Thredbo	Thredbo Alpine Resort
WAL	Water Access Licence
WM Act	<i>Water Management Act 2000</i>
WM (General) Regulation	Water Management (General) Regulation 2018
WSUD	Water Sensitive Urban Design
WWTP	Waste Water Treatment Plant

## **11 Appendices**

## Appendix A Site Photos



## Appendix B Plans

## Appendix C Desktop Search Results

## **Appendix D Preliminary Site Investigation**



## **Appendix E Bushfire Assessment Report**

## **Appendix F   Geotechnical Report**

## **Appendix G Biodiversity Development Assessment Report**



## **Appendix H Aboriginal Cultural Heritage Report**

## **Appendix I   Aquatic and Riparian Impact Assessment**

## **Appendix J    Water Supply Capacity Assessment**



## **Appendix K Sewer Capacity Assessment**

## **Appendix L STP Capacity Assessment**

## **Appendix M Site Environmental Management Plan**



## **Appendix N Stormwater Management Plan**

## **Appendix O Landscape Concept Plan**

## **Appendix P Consultation Summary**