

Statement of Environmental Effects

Snowmaking Infrastructure Upgrades – Upper Supertrail to Lower Sundance

Thredbo Alpine Resort Kosciuszko National Park, NSW

August 2024

Kosciuszko Thredbo Pty Ltd | Statement of Environmental Effects

Document Control

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Kosciuszko Thredbo Pty Ltd



Contents

1		Intro	duct	ion	3
	1.1	1 Application Details			
	1.2	2	Supp	porting Documents	3
2		Site	Conte	ext	5
3		Proje	ect De	escription	11
	3.1	L	Proje	ect Justification	11
	3.2	2	Proje	ect Timing	11
	3.3	3	Deve	elopment Components	11
		3.3.1		Replacement of snowmaking mains	11
		3.3.2		Replacement of snowmaking laterals	11
		3.3.3		Installation of snowmaking pits	12
		3.3.4		Installation of snowmaking guns	12
	3.4	ł	Cons	struction Management Details	12
	3.5	5	Oper	rational Details	12
4		Legis	latio	n and Statutory Framework	13
	4.1	L	Com	monwealth	13
		4.1.1		Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	13
	4.2	2	State	2	13
		4.2.1		Environmental Planning and Assessment Act 1979 (EP&A Act)	13
		4.2.2		National Parks and Wildlife Act 1974 (NPW Act)	13
		4.2.3		Biodiversity Conservation Act 2016 (BC Act)	13
	4.3	3	Plan	ning Framework	14
		4.3.1		Environmental Planning and Assessment Act 1979	14
		4.	3.1.1	Matters for consideration, s4.15	14
		4.	3.1.2	Integrated Development	15
		4.3.2		Environmental Planning Instruments	15
		4.	3.2.1	State Environmental Planning Policy (Precincts – Regional) 2021	15
	4.4	ļ	Plans	S	18
		4.4.1		South East and Tablelands Regional Plan 2036	18
		4.4.2		Snowy Mountains Special Activation Precinct Master Plan 2022	18
		4.4.3		Kosciuszko National Park Plan of Management 2006 (KNP PoM)	18
5		Asse	ssme	nt Method	18
6		Impa	ict As	ssessment	18

THREDBO

	6.1	Geote	echnical Considerations	18
	6.2	Biodi	versity	19
	6.3	Soil a	nd Water	19
	6.4	Socio	-economic	20
	6.5	Herita	age	20
	6.6	Abori	iginal Cultural Heritage	20
	6.7	Traffi	c and Access	21
	6.8	Built	Environment and Visual Impacts	21
	6.9	Air Q	uality, Noise and Vibration	21
7	Cond	clusior	٦	22
8	Refe	rence	S	22
9	Арре	endice	25	24
Ар	pendix	A I	Desktop Search Results	24
Ap	pendix	в	Geotechnical Assessment and Form 4	25
Ар	pendix	C I	Biodiversity Development Assessment Report	26
Ар	pendix	D S	Site Photos	27

Figures

Figure 1: Regional Site Context	6
Figure 2: Site Overview	
Figure 3: Site Plan - Upper Supertrail	
Figure 4: Site Plan - Rossi Racecourse	
Figure 5: Site Plan - Sundance	. 10
Figure 6: Geotechnical Policy Map Overlay (Source: NSW Planning Portal Spatial Viewer, NSW	
Government 2024)	. 19
Figure 7: Watercourses (Source: Hydroline spatial data 2023; NSW Government 2007)	. 19

Tables

Table 1: Application Details	3
Table 2: Supporting documents	3
Table 3: Snowmaking Mains Pipe Specifications	11
Table 4: Aboriginal Cultural Heritage Due Diligence Process	20

Plates

Plate 1: Example of plastic/steel pit and lance gun adjacent to pit	12
Plate 2: Example of TT10 fan gun and pit	12



1 Introduction

This Statement of Environmental Effects (SEE) has been prepared to support the Development Application (DA) for snowmaking infrastructure upgrades on the Upper Supertrail, Rossignol Racecourse and Sundance ski runs, within Thredbo Alpine Resort (hereinafter referred to as the Development).

1.1 Application Details

A summary of the application details is provided in Table 1.

Application Details			
Applicant	Kosciuszko Thredbo Pty Ltd (KT)		
ABN	95 000 139 015		
Applicant Address	1 Friday Drive, Thredbo NSW 2625		
Development Address	Upper Supertrail, Rossignol Racecourse and Sundance ski runs,		
	Thredbo Alpine Resort, Kosciuszko National Park,		
	2 Friday Drive, Thredbo NSW 2625		
Lot/Plan	876/DP1243112		
Local Government Area (LGA)	Snowy Monaro Regional Council		
Zoning	Zone C1 – National Parks and Nature Reserves		
Planning Instrument	State Environmental Planning Policy (Precincts – Regional) 2021		
	(Precincts – Regional SEPP)		
Integrated Development	Not applicable		
Consent Authority	Department of Planning, House and Infrastructure		
Type of Development	Snowmaking infrastructure		
Summary of works	vegetation clearing		
	 earthworks, including trenching and excavation 		
	 installation of snowmaking infrastructure and associated 		
	works		
	site rehabilitation		

1.2 Supporting Documents

Supporting documents are listed in Table 2.

 Table 2: Supporting documents

Document	Title / Description	Author / Prepared	Date	Document
Туре		by		Reference
Biodiversity	Proposed Snowmaking Upgrades,	Eco Logical Australia	30 July	Version 2
Development	Upper Supertrail to Lower	Pty Ltd	2024	
Assessment	Sundance, Thredbo Alpine Resort,			
Report	Biodiversity Development			
	Assessment Report			
Geotechnical	Proposed Snowmaking Upgrades –	ACT Geotechnical	30 May	AS/C14767.1
Assessment	Upper Supertrail to Lower	Engineers Pty Ltd	2024	
	Sundance, Geotechnical			
	Assessment			
Geotechnical	Form 4 – Minimal Impact	Jeremy Murray	30/05/2024	-
Form 4	Certification			



Document Type	Title / Description	Author / Prepared by	Date	Document Reference
Site Environmental Management Plan	Site Environmental Management Plan, Snowmaking Upgrades, Upper Supertrail to Lower Sundance	Kosciuszko Thredbo Pty Ltd	2024	Rev 0
Rehabilitation Plan	Installation of Snowmaking Infrastructure & Associated Works Thredbo, Upper Supertrail to Lower Sundance, Detailed Rehabilitation and Monitoring Plan	Kosciuszko Thredbo Pty Ltd	July 2024	-
Site Plan	Site Overview	Kosciuszko Thredbo Pty Ltd, BB	30/05/2024	Revision 1
Site Plan	Site Plan – Upper Supertrail	Kosciuszko Thredbo Pty Ltd, BB	08/05/2024	Rev 3
Site Plan	Site Plan – Rossi Racecourse	Kosciuszko Thredbo Pty Ltd, BB	08/05/2024	Rev 4
Site Plan	Site Plan – Sundance	Kosciuszko Thredbo Pty Ltd, BB	08/05/2024	Rev 6
Plan	Longsection Positions, Sheet 1-3	Kosciuszko Thredbo Pty Ltd, KOS	06/06/2024	Rev A
Plan	Longsections Snowmaking Upgrades Upper Supertrail to Lower Sundance, Sheet 1-6	Kosciuszko Thredbo Pty Ltd, K.O'Sullivan	6/06/2024	Rev 0
Plan	TT10 Fan Gun Dimensions	TechnoAlpin	2020	-
Plan	CHRC0057	TechnoAlpin	19.03.2021	А
Plan	Snowmaking Lateral Trench Cross Section to Fan Pit	Kosciuszko Thredbo Pty Ltd	06/07/23	Rev 1
Plan	Lance TL8 with centralized air – automatically adjustable	TechnoAlpin	2023	p.16, version_2023
Plan	Snowmaking Pit Cross Section	Kosciuszko Thredbo Pty Ltd, K.O'Sullivan	15/03/2024	Rev 0
Plan	Snowmaking Trench Cross Section	Kosciuszko Thredbo Pty Ltd, K.O'Sullivan	10/05/2024	Rev 1
Plan	Snowmaking Laterals Connection	Kosciuszko Thredbo Pty Ltd, K.O'Sullivan	15/03/23	Rev 1
Plan	Lance Gun Footing	Kosciuszko Thredbo Pty Ltd, K.O'Sullivan	14/06/2024	Rev 1
Plan	Temporary MTB Diversion, Snowmaking Upgrades Upper Supertrail to Lower Sundance, Sheets 1-4	Kosciuszko Thredbo Pty Ltd, BB	25/01/2024	Rev 1



2 Site Context

The Development is located in Thredbo, within the southern part of Kosciuszko National Park, approximately 35 km south-west of Jindabyne, NSW (**Figure 1**). Within the context of the resort, the Development site encompasses the Upper Supertrail, Rossignol Race Course (Cat Walk to Cat Shed) and Sundance ski runs (refer **Figure 2** to **Figure 5**).

The site is highly disturbed, comprising existing snowmaking infrastructure (i.e. underground pipes and cables, pits, hydrants and guns). Existing land uses within the site and surrounds include: snowmaking infrastructure, fences, lifting facilities, recreational infrastructure, ski slope huts, ski slopes, mountain bike trails, access tracks and a mix of disturbed and undisturbed vegetation. There are no known records of contamination within the site. The Development will impact the edge of vegetation islands adjacent to the ski runs, comprising small areas mapped as containing biodiversity values. The site is considered suitable for the Development as the proposal is predominately like-forlike replacement, with additional infrastructure located in pre-disturbed areas where possible.





Scale: 1:6,352 40 80 160 240 320

0

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

Meters



SITE OVERVIEW

Project: Snowmaking Upgrades Upper Supertrail to Lower Sundance Revision: 1

Date: 30/05/2024

Produced By: BB









3 Project Description

3.1 Project Justification

KT operate a snowmaking system which provides air and water via pipes to a network of snowmaking guns to produce snow across the resort. These guns are broadly grouped into the categories of lance or fan guns. Lance guns rely on the supply of air, water and electricity, whilst fan guns can be configured with onboard air compressors, relying only on water and electricity to operate.

The purpose of the Development is to replace existing snowmaking infrastructure that is nearing the end of its design life. The replacement of aged infrastructure and installation of fan guns to supplement the network will increase the efficiency of artificial snowmaking and enhance snow cover in these locations. Achieving good snow cover in May / early June greatly enhances early season visitation, as well as KT's ability to still be skiing and snowboarding in late September / early October.

In response to the challenges posed by the sustainability of natural snow fall within a changing climate, artificial snowmaking improves seasonal length and viability and is considered critical infrastructure for the operation of the resort.

3.2 **Project Timing**

Construction is planned to commence October 2024 and be carried out over two summer periods. This is critical to the operation of the resort during the winter season.

3.3 Development Components

Development components are outlined in the subsequent sections. Plans have been provided separately as part of this DA.

3.3.1 Replacement of snowmaking mains

The replacement of snowmaking mains within a common trench will include air and water pipes, and power and dialog cable. To minimise environmental impacts, some sections of existing pipe will remain in situ and made redundant. Where this is required, deviations to the alignment will be required within the existing disturbed ski slope. The trench will be approximately 1.4 m wide and 1.2 m deep. Pipe specifications are outlined in **Table 3**.

Location	Water	Air
Upper Supertrail	250NB	300NB
Cat Walk to Cat Shed (Rossignol Race Course)	200 NB	200 NB
Sundance	250NB	300NB

3.3.2 Replacement of snowmaking laterals

The installation of laterals off the new snowmaking mains will be required to tie into existing and new pits.



Laterals to existing pits that support lances and hydrants will include air and water pipe, and power and dialog cable. Laterals to new fan pits will include water pipe only, and power and dialog cable. The lateral trench will be approximately 0.80 m wide and 1 m deep.

3.3.3 Installation of snowmaking pits

The Development will include the installation of snowmaking pits, refer to Plans provided separately as part of this DA. The construction footprint for the pits is approximately 3 x 3 m wide and 1.6 m deep.

3.3.4 Installation of snowmaking guns

The Development will include the installation of snowmaking guns. Where plastic/steel pits are used, lance guns are installed adjacent to the pit (**Plate 1**). The lance guns are concreted into the ground (augured hole 350mm x min. 800mm deep). The fan guns are located on top of the fan pits, therefore no additional ground disturbance (**Plate 2**).



Plate 1: Example of plastic/steel pit and lance gun adjacent to pit



Plate 2: Example of TT10 fan gun and pit

3.4 Construction Management Details

Construction management details are outlined in the Site Environmental Management Plan (SEMP) provided separately with this DA.

3.5 Operational Details

The snowmaking infrastructure will operate as required during the winter season.



4 Legislation and Statutory Framework

4.1 Commonwealth

4.1.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

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). Under Part 3 of the EPBC Act, a person must not undertake an action 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.

An EPBC Act referral to the Commonwealth Environment Minister is not recommended as the Development is unlikely to have a significant impact on any MNES or Commonwealth land, refer to the BDAR (**Appendix C**) for further details.

4.2 State

4.2.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

The EP&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&A Act.

4.2.2 National Parks and Wildlife Act 1974 (NPW Act)

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.

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 prosecution if they later unknowingly harm an object without an Aboriginal heritage impacts permit (AHIP). A due diligence assessment is provided in **Section 6.5**.

4.2.3 Biodiversity Conservation Act 2016 (BC Act)

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.

The Development will impact on areas mapped on the Biodiversity Values Map (BVM). A Biodiversity Development Assessment Report (BDAR) (ELA 2024) is provided in **Appendix C**.



4.3 Planning Framework

4.3.1 Environmental Planning and Assessment Act 1979

4.3.1.1 Matters for consideration, s4.15

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

(1) Matters for consideration – General	Comment
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 Section 4.2.2 .
 (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) 	There are no draft Environmental Planning Instruments that are applicable to the Development.
(iii) any development control plan	There are 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	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 requirements of the EP&A Regulation.
(a) 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 Section 6.
(b) the suitability of the site for the development	The suitability of the site for the Development is described in Section 2 .
(c) any submissions made in accordance with this Act or the regulations	KT will consider any submission made during the DA assessment process.
(d) the public interest.	The Development is considered within the public interest as it will improve snow cover in the locality, creating more reliable skiing and snowboarding conditions for guests.



4.3.1.2 Integrated Development

Integrated development requires development consent and one or more of the approvals outlined in Section 4.46 of the EP&A Act. A review of the *Development referrals guideline* (DPIE 2021) has been undertaken to inform this application. The Development is not integrated development.

4.3.2 Environmental Planning Instruments

4.3.2.1 State Environmental Planning Policy (Precincts – Regional) 2021

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.

Chapter 4, Relevant Sections	Evaluation
Section 4.7 Land Use Table	In accordance with the Land Use Table in Section 4.7 of the Precincts – Regional SEPP, 'snowmaking infrastructure' is permissible development with consent within the Thredbo Alpine Resort.
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.
Section 4.25 Earthworks	
(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.	The Development is consistent with the objective.
 (2) Development consent is required for earthworks in the Alpine Region unless— (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. 	This SEE forms part of the DA seeking Development Consent for the proposal.
 (3) In deciding whether to grant development consent for earthworks, or for development involving ancillary earthworks, the consent authority must consider the following matters— (a) the likely disruption of, or adverse impact on, drainage patterns and soil stability in the locality of the development, (b) the effect of the development on the likely future use or redevelopment of the land, 	 (a) Unlikely, refer to SEMP and Geotechnical Assessment. (b) The Development is not anticipated to impact upon the future use or redevelopment of the land. (c) The quality of the soil required to be excavated is not likely to change as it will be temporarily stockpiled onsite and reused to backfill excavations. (d) Refer Section 6.7.



Chapter 4, Relevant Sections	Evaluation
 Chapter 4, Relevant Sections (c) the quality of the fill or the soil to be excavated, or both, (d) the effect of the development on the existing and likely amenity of adjoining properties, (e) the source of any fill material and the destination of any excavated material, (f) the likelihood of disturbing relics, (g) the proximity to, and potential for adverse impacts on, a waterway, drinking water catchment or environmentally sensitive area, (h) appropriate measures proposed to avoid, minimise or mitigate the impacts of the 	 (e) If required, imported fill material 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. (f) Unlikely, refer Table 5 (g) Adverse impacts unlikely, the site is not
development.	mitigate the impacts of the Development.
Section 4.28 Consideration of master plans an other documents	
(1) In deciding whether to grant development of consent authority must consider the following-	consent to development in the Alpine Region, the —
(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) (Repealed)	-
 (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,	Refer Geotechnical Assessment and Form 4, Appendix B.
 (e) for development in the Perisher Range Alpine Resort— (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. 	Not applicable.
(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 	The Development is consistent with the Snowy Mountains Master Plan.
(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.



	Evaluation
Section 4.29 Consideration of environmental,	
geotechnical and other matters	
(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	Refer to the Geotechnical Assessment and
issues relating to the development,	Form 4 (Appendix B).
(b) the extent to which the development will	The proposed geotechnical measures will
achieve an appropriate balance between—	not result in any significant impacts on the
(i) the conservation of the natural environment,	natural environment. No measures to
and	mitigate bush fires and flooding are
(ii) taking measures to mitigate environmental	required.
hazards, including geotechnical hazards, bush fires	•
and flooding,	
(c) the visual impact of the proposed	The visual impacts are considered
development, particularly when viewed from the	acceptable. The infrastructure is not visibl
land identified as the Main Range Management	from the Main Range Management Unit.
Unit in the Kosciuszko National Park Plan of	nom the Main Range Management onit.
Management,	
(d) the cumulative impacts of development and	The Development will not result in any
resource use on the environment of the Alpine	significant adverse impacts on the
•	environment.
Subregion in which the development is carried	environment.
out, (e) the capacity of existing infrastructure and	The Development will not impact on the
	capacity of the 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,	upgrades of existing snowmaking infrastructure.
(f) the conscitute of evicting waste or recovered	
(f) the capacity of existing waste or resource	The Development will not impact upon th
management facilities to deal with additional	capacity of existing waste or resource
waste generated by the development, including in	management facilities.
peak periods.	The Dovelopment will involve contained
(2) For development involving earthworks or	The Development will involve earthworks
stormwater draining works, the consent authority	Measures to mitigate potential impacts an
must also consider measures to mitigate adverse	outlined in the SEMP provided separately
impacts associated with the works.	with this DA.
(3) For development the consent authority	The Development is consistent with the
considers will significantly alter the character of	existing land uses within the site and
	surrounds. The Development will not alte
an Alpine Subregion, the consent authority must also consider—	the character of Thredbo.
(a) the existing character of the site and	
immediate surroundings, and	
(b) how the development will relate to the Alpine	
Subregion.	



4.4 Plans

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

The Development is generally consistent with the Regional Plan as it will increase the efficiency of Thredbo's artificial snowmaking operations. Artificial snowmaking may improve seasonal length and viability, which may allow the winter visitation period to be maintained or potentially extended.

4.4.2 Snowy Mountains Special Activation Precinct Master Plan 2022

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 protection of the natural, cultural, and social values of KNP is a primary focus of the Snowy Mountains Special Activation Precinct. KT aims to protect and enhance these values through ecologically sustainable development. Appropriate measures have been incorporated into the design, construction and operational phases to minimise environmental impacts as much as practicable. Offsets are proposed for unavoidable biodiversity impacts.

4.4.3 Kosciuszko National Park Plan of Management 2006 (KNP PoM)

The KNP PoM outlines objectives and management strategies to guide the long-term management of values within specific areas of KNP. The Development will improve the quality of the resort experience for guests by improving the quality of snow cover in the locality. The potential impacts on key environmental values have been avoided and mitigated where possible. Offsets are proposed for unavoidable impacts to the vegetation and habitats present within the Development footprint. The Development is generally consistent with the relevant management objectives of the KNP PoM.

5 Assessment Method

The assessment method consisted of a desktop review of publicly available data sources and information. The desktop review was followed by site inspections and surveys carried out within the Development area to describe the environmental values present on the site and to aid the evaluation of potential impacts of the Development to those values. Representatives from DPHI and NPWS inspected the site on 16 November 2023.

6 Impact Assessment

6.1 Geotechnical Considerations

A portion of the Development site is located within the area marked as "G" on the maps accompanying the *Geotechnical Policy Kosciuszko Alpine Resorts* (DIPNR 2003) (Geotechnical Policy) (**Figure 6**). In accordance with Section 3.0 of the Geotechnical Policy, the Development is for minor construction works which present minimal or no geotechnical impact, therefore a geotechnical report is not required. A copy of the Geotechnical Assessment and Form 4 is provided **Appendix B**.





Figure 6: Geotechnical Policy Map Overlay (Source: NSW Planning Portal Spatial Viewer, NSW Government 2024)

6.2 Biodiversity

The Development will result in direct impacts to native vegetation and threatened species habitat. The BDAR (**Appendix C**) outlines the measure proposed to avoid, mitigate and offset biodiversity impacts to an acceptable level. To meet offset obligations under the Biodiversity Offset Scheme, one (1) ecosystem credit and two (2) species credits are required to offset the unavoidable impacts to the vegetation and habitats present within the Development footprint.

6.3 Soil and Water

A review of the Water Management (General) Regulation 2018 Hydro line spatial data and State Environmental Planning Policy (Kosciuszko National Park – Alpine Resort) 2007 Thredbo Alpine Resort Sheet 1 of 5 (NSW Government 2007) (now superseded) confirms the Development site is not located within 40 m of a mapped watercourse (waterfront land) (**Figure 7**). During the site inspection no unmapped watercourses were identified within 40 m of the Development. Therefore, no further assessment is required.



Figure 7: Watercourses (Source: Hydroline spatial data 2023; NSW Government 2007)



Potential impacts to soil and water quality during construction can be mitigated with the environmental controls proposed in the SEMP (provided separately with this DA). All disturbed areas will be rehabilitated post construction in accordance with the Detailed Rehabilitation and Monitoring Plan (KT 2024) (provided separately with this DA).

6.4 Socio-economic

The Development will improve snow cover in the locality, creating more reliable skiing and snowboarding conditions for guests. Without the replacement of older infrastructure, KT's snowmaking operations would be compromised which could impact on the resort's ability to provide better snow conditions for guests early and later in the winter season, as well as quality snow throughout the season.

The economic impacts generated by the Development will be positive in terms direct investment into the resort and the generation of short-term construction jobs, however these are anticipated to be nominal given the scale and timing for construction works.

6.5 Heritage

The Development will not impact any listed heritage items or places.

6.6 Aboriginal Cultural 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) is provided in **Table 4**.

Table 4: Aboriginal	Cultural Heritage	Due Diligence Process
----------------------------	-------------------	------------------------------

Due Dili	gence Process	Comment
	the activity disturb the ground surface or culturally modified trees?	The Development will result in ground disturbance within a predominately disturbed site. Some areas of native vegetation will be cleared for the Development. No culturally modified were identified within the site.
a) relev asso	there any: vant confirmed site records or other ociated landscape feature information on MS? And/or	A search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken on 4 January 2024. The search results (Appendix A) show two (2) Aboriginal sites are recorded within the broader search area. However, no recorded Aboriginal sites are located within the Development site or its immediate surrounds.
	other sources of information of which a son is already aware? And/or	Several historical independent assessments have been undertaken within the resort including Middle Slopes and immediate surrounds by Past Traces Heritage Consultants (2017), NGH Environmental (2017), Iron Bark (2013), and URS Australia Pty Ltd (2004; 2005). All studies provide an indication that the ski slope areas have low archaeological potential due to the level of disturbance associated with the previous ski slope work. The studies also concluded that given the steepness and exposed aspect/lack of sheltering tors, the ski slopes are unlikely to have been favourable campsite locations.
	scape features that are likely to indicate ence of Aboriginal objects?	The Development site is located in a highly disturbed environment, which has been subject to previous disturbance for the construction of existing ski slopes, huts, fences, buildings and snowmaking infrastructure.



Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided? Does a desktop assessment and visual	Previous disturbance has comprised extensive earthworks, vegetation clearing and removal and disturbance to top soils and soil profiles, thus removing potential for Aboriginal sites to remain within these heavily disturbed areas. There are no landscape features within the Development site that would indicate the presence of Aboriginal objects due to the extensive disturbance that has occurred. As such, it is considered the Development has low potential to impact on unrecorded Aboriginal objects or sites. There is no requirement to move onto Steps 3 and 4. Not applicable.
objects or that they are likely?	

All reasonable steps have been undertaken to ensure the Development fulfils the requirements of the Aboriginal Cultural Heritage Due Diligence Process. Potential impacts from the Development on objects or sites of Aboriginal Cultural Heritage significance are considered unlikely. Therefore, an independent impact assessment for Aboriginal heritage and archaeology is not required. In the unlikely event that Aboriginal objects are discovered, management measures outlined in the SEMP (provided separately with this DA) will be implemented.

6.7 Traffic and Access

Kosciuszko Flow, Cannonball Downhill, Village Loop and Home Run mountain bike trails traverse the construction corridor at various locations. Temporary diversions will be put in place during construction to manage bike riders around the active construction area. Details of the mountain bike trail diversions are provided separately with this DA.

6.8 Built Environment and Visual Impacts

The Development is for the installation of snowmaking infrastructure which is consistent with the surrounding built form comprising ski runs and associated infrastructure. The snowmaking guns have the ability to provide greater snow cover and therefore considered to have a positive impact on the landscape through the provision of improved snow cover during the winter season. Within the context of the landscape, the visual impacts of the Development are considered acceptable.

6.9 Air Quality, Noise and Vibration

The Development is not located within close proximity of any sensitive receptors, as such no adverse noise and vibration impacts are anticipated. There is potential for dust emissions to be generated from truck movements and earthworks during construction. Potential construction impacts can be mitigated through the environmental controls detailed in the SEMP provided separately with this DA.



7 Conclusion

This application is seeking development approval for the replacement of existing snowmaking infrastructure, as well as the installation of additional snowmaking infrastructure within the Upper Supertrail, Rossignol Racecourse and Sundance ski runs within Thredbo Alpine Resort. The Development will increase the efficiency of Thredbo's artificial snowmaking operations and improve the quality and reliability of snow cover within the locality.

In accordance with the requirements of the EP&A Act, EP&A Regs, BC Act and Precincts – Regional SEPP, this SEE has assessed the potential impacts of the Development on the human, built and natural environment of the Development site and surrounds. The Development has been designed to improve the operation of the snowmaking system whilst minimising environmental impacts as much as practicable. The Development will result in direct impacts to native vegetation and threatened species habitat. The BDAR outlines the measure proposed to avoid, mitigate and offset biodiversity impacts to an acceptable level. To meet offset obligations under the Biodiversity Offset Scheme, one (1) ecosystem credit and two (2) species credits are required to offset the unavoidable impacts to the vegetation and habitats present within the Development footprint.

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.

In response to the challenges posed by the sustainability of natural snow fall within a changing climate, artificial snowmaking improves seasonal length and viability. The Development is considered within the public interest as it will improve snow cover in the locality, creating more reliable skiing and snowboarding conditions for guests. The Development is therefore considered critical infrastructure for the operation of the resort.

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9 Appendices

Appendix A Desktop Search Results

Kosciuszko Thredbo Pty Ltd | Statement of Environmental Effects



Appendix B Geotechnical Assessment and Form 4



Appendix C Biodiversity Development Assessment Report



Appendix D Site Photos