Site Environmental Management Plan

Snowmaking Infrastructure Upgrades – Upper Supertrail to Lower Sundance

Thredbo Alpine Resort
Kosciuszko National Park, NSW

July 2024

Document Control

Revision	Date	Revision Type	Author	Approved by
A	10/05/2024	Draft	C.Chalk; J.Best	K.Delpit
0	31/07/2024	Final	C.Chalk; J.Best	K.Delpit

Project Number: 23007MO

Kosciuszko Thredbo Pty Ltd

Contents

Tables

1 Introduction

This Site Environmental Management Plan (SEMP) has been prepared for implementation by Kosciuszko Thredbo Pty Ltd (KT) (and its contractors) for snowmaking infrastructure upgrades on the Upper Supertrail, Rossignol Racecourse and Sundance ski runs, within Thredbo Alpine Resort, Kosciuszko National Park, New South Wales.

2 Reference Documentation

2.1 Applicable Legislation

The Development will be carried out in accordance with the applicable legislative requirements outlined in the following Acts and subordinate legislation:

- *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*
- *Biodiversity Conservation Act 2016*
- *Environmental Planning and Assessment Act 1979*
- *Environmentally Hazardous Chemicals Act 1985*
- *Heritage Act 1977*
- *National Parks and Wildlife Act 1974*
- *Protection of the Environment Operations Act 1997*
- *Waste Avoidance and Resource Recovery Act 2001*
- *Water Management Act 2000*
- *Work Health and Safety Act 2011.*

2.2 Approvals

The Development will be carried out in accordance with the Development Consent.

2.3 Supporting Documents / Guidelines / Procedures

- Procedure: Standard Operating Procedure: Use and Maintenance of Wash Down Bay (KT055), 2019
- Procedure: Emergency Response Spill Procedure, version 1
- Procedure: Construction Site Incident and Emergency Procedures Thredbo Village, version 1.1
- Guideline for the Preparation of Environmental Management Plans (DIPNR 2004).
- Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition (Landcom 2004).
- Managing Urban Stormwater: Soils and Construction, Volume 2A, Installation of services (NSW DECC 2008).

3 Project Description

The Development is for the replacement of existing and installation of new snowmaking infrastructure on Upper Supertrail, Rossignol racecourse and Sundance ski runs, including pipes, cables, pits and snowmaking guns (refer Site Plans, **Appendix A**).

4 Construction Management Details

4.1 Construction Activities

Pre-construction activities involve site preparation works, which will include:

- Establishment of site boundary, including marking out proposed route;
- Installation of environmental safeguards i.e. fencing, signage and erosion and sediment controls where required; and
- Vegetation clearing.

The proposed construction program will comprise the following:

- Excavation and trenching to prepare ground for pipe laying and installation of cables;
- Laying of new pipe and cables in common trench and laterals;
- Excavation and installation of snowmaking pits and guns; and
- Backfilling of excavations.
- Progressive rehabilitation of disturbed areas.

Post-construction activities will comprise:

- Stabilisation and rehabilitation work in accordance with the Rehabilitation Management Plan;
- Removal of erosion and sediment controls;
- Demobilisation of plant and machinery; and
- Site clean-up.

4.2 Construction Corridor and Disturbance

The construction corridor is marked on the Site Plans. The corridor is to provide flexibility for the builders to respond to unforeseen circumstances that may occur during construction where it may be more appropriate to go around an object rather than remove it (e.g. unknown underground services locations). Disturbance within the construction corridor to be kept to the minimum required for the works, and no vegetation clearing is permitted outside of approved areas.

4.3 Construction Access

The Development site is accessible via the summer mountain access road (authorised access only) via Friday Drive. The lower section of the Development site is accessible from Valley Terminal.

4.4 Mountain Bike Trail Diversions

Temporary mountain bike trail diversions will be required during construction, refer to the MTB Trail Diversion Plans provided separately.

4.5 Vehicles, Machinery and Equipment

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

- 4WD vehicles and utilities
- Excavator
- Front-end / skid-steer loader
- Telehandler

- Snow groomer with summer tracks
- Utility Terrain Vehicles (UTV)
- Tipper trucks
- Delivery trucks
- Mobile crane.

4.6 Site Compound

No site compound will be required within the construction corridor. Amenities are available at Valley Terminal.

4.7 Material Storage Areas and Stockpile Sites

Temporary material storage areas will be located within the construction corridor on previously disturbed land. The main stockpile locations will be located within Thredbo's top carpark. Access to these locations will be restricted to KT staff and contractors. Temporary stockpiles for excavated spoil will be required directly adjacent to the trench to minimise environmental disturbance. Soil will be separated so that it can be used during rehabilitation works. The main soil stockpile site for excess spoil is identified in **Appendix A**.

Soil stockpiles will be managed in accordance with the Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park (OEH 2017) (Soil Stockpile Guidelines), in accordance with the environmental controls in **Section 6.2.2** and the Erosion and Sediment Control Plan (**Appendix B**).

4.8 Work Hours

The working hours for construction will be outlined in the Development Consent.

4.9 Adverse Weather Contingencies

Adverse weather events (e.g. high winds, thunderstorms, heavy rain, hail, snow, bushfire and high temperatures) have the potential to negatively impact upon construction activities. To ensure appropriate consideration of such events, the Project and Construction Manager will monitor weather conditions throughout the construction period. The Bureau of Meteorology (BoM) Thredbo AWS station provides daily weather observation data for the resort. The NSW Rural Fire Service website 'Fires Near Me' includes information on current bush fires and other incidents, as well as warnings for fires which may affect your location.

If adverse weather events are anticipated and/or occur during construction, contingencies will be implemented and arrangements will be made to postpone construction activities.

The Construction Manager / Site Project Manager will be responsible for notifying construction staff of any impending adverse weather, and to implement appropriate controls onsite, such as:

- Erecting wind breaks or covering stockpiles to prevent materials being blown away.
- Evaluate temporary sediment and erosion controls to ensure they are adequately installed to withstand adverse weather events.
- Discontinue use of plant and machinery.
- Secure materials and equipment.
- Protect open excavations.

5 Environmental Management

5.1 Roles and Responsibilities

The roles and responsibilities are outlined in **Table 1**.

Table 1: Roles and Responsibilities

Role	Responsibilities
Project Manager	• Ensure the SEMP is made available, communicated, maintained and understood by all Project staff. • Responsible for the overall management of the construction and operation of the Project. • Ensure the SEMP is updated with applicable conditions of approval following the provision of Development Consent from Department of Planning and Environment (DPE). • Ensure that the requirements of the SEMP and sub-plans have been addressed in all contractor environmental management documentation. • Review of incidents, non-conformances and non-compliance. • Ensuring Project personnel and contractors are adequately trained and qualified to fulfil their roles.
Site Project Manager	• Implement and maintain the SEMP. • Ensure all Project personnel comply with the requirements of the SEMP. • Report any incidents, non-conformances to the Project Manager.
Environmental Officer	• Oversee all works which are part of the Project on behalf of KT. • Ensure compliance with all environmental protection measures detailed in the SEMP, supporting management plans and conditions of approval. • Ensure all environmental controls are in place and adequately functioning during construction. and • Conduct construction inspections and complete reporting requirements e.g. progress reports, environmental incidents, non-compliance, corrective action and auditing.
All Personnel	• Comply with requirements of this SEMP. • Report any actual or potential environmental incidents to the Construction Manager immediately. • Identify and report non-conforming or potentially hazardous work practices, equipment, machinery or products. • Only perform tasks for which they are trained and competent. • Assist with environmental incident investigations and applying corrective actions. • Ensure all machinery, plant and equipment are in good working order and condition prior to use.
Construction Contractor	• Comply with SEMP and legislative requirements. • Construction contractor to develop and implement management plans in accordance with this SEMP, conditions of approval and contractual obligations.

5.2 Communication and Consultation

5.2.1 Training and Awareness

All Project staff will be made aware of the site-specific environmental controls through a site induction, and pre-start meetings / toolbox talks prior to the commencement of construction.

5.2.2 Key Contacts

Key contacts for the Project are provided in **Table 2**. Prior to commencement of works, contact details (name and contact number) will be provided for Project personnel.

Table 2: Key Project Personnel Contact Details

Company / Agency	Role / Reason	Name	Contact
Government Agency Contacts			
Department of Planning and Environment (DPE) (Alpine Resorts Team)	Development approval and compliance	-	(02) 6456 1733
National Parks and Wildlife Service (NPWS)	Flora, fauna, archaeology	-	(02) 6450 5600
Environment Protection Agency (EPA)	Water, noise, air pollution and regulation	-	131 555
NSW Soil Conservation Service	Soil erosion and sediment control	-	02 9842 8300
Thredbo Village Services			
Thredbo Medical Centre	General medical attention	-	(02) 6457 6254
Fire and Rescue Thredbo, NSW	Incident / emergency	-	(02) 6457 6144
Emergency Contacts			
NSW Police	In case of fire, medical or police emergency	-	000
NSW Fire and Rescue		-	
NSW Ambulance		-	

5.2.3 Consultation

KT is committed to ensuring effective communication and consultation is undertaken to inform the development of this SEMP and ensure it is implemented on-site as per the Project roles and responsibilities in **Section 5.1.** Where required, communication with key external stakeholders such as DPE and NPWS will be undertaken. A summary of the key consultation activities is provided in **Table 3**.

Table 3: Summary of Consultation Activities

Consultation Activity	Communication Method	Frequency
Internal	Site inductions	Prior to commencement of works
	Pre-start meetings and toolbox talks	Daily
	Reports to Project Manager identifying project progress, any environmental incidents, and review of any complaints or enquiries	Weekly
External	Face-to-face meetings, phone and email correspondence with relevant Government Departments / Agencies	As required
	In-writing notifications to Government Departments / Agencies and relevant parties	As required

5.2.4 Notification Protocols

A summary of the key notification protocols is provided in **Table 4.** Notification requirements will be updated as required.

Table 4: Regulatory Agency Notification Protocols

Party to Notify	What to Notify	When to Notify	Responsibility to Notify Regulatory Agency
DPE	Commencement of construction	DPE will be notified in writing at least 48 hours prior to the commencement of construction.	Site Project Manager
NPWS	Details of any material suspected of being a European or Aboriginal culturally significant site, relic or artefact.	Immediately upon discovery of any archaeological/culturally significant site or relic that are encountered. NSW Police to also be notified immediately upon discovery of human remains.	Site Project Manager
NSW Environmental Protection Agency	Details of pollution incident – who, what, when, where, how, any other supporting information and evidence (e.g. photos)	Immediately upon identification of pollution incident causing or threatening material harm to the environment, in accordance with ***KT's Construction site Incident and Emergency Procedures Thredbo Village 2021/2022***.	Environmental Officer

5.3 Environmental Incident and Emergency Response

All Project personnel are required to follow KT's ***Construction site Incident and Emergency Procedures Thredbo Village***. The procedure will be available on-site and all Project staff will be trained on their implementation through the site induction. The procedure classifies examples of emergencies and incidents and provides specific procedures for response to such events.

The procedure also outlines general site management principles, incident reporting and notification requirements and provides an emergency contacts list. In the event of an environmental incident, emergency or near-miss, the following steps should be taken:

1) **STOP** works in the area and if safe to do so ensure the safety of personnel within the vicinity.
2) **NOTIFY** relevant persons e.g. emergency services or Construction Manager.
3) **ISOLATE** the risk or hazard e.g. turn off machinery/plant, implement immediate site controls, set up exclusion zone. and
4) **REPORT** and notify relevant persons (e.g. Project Manager, regulatory agencies).

Environmental incident and near-miss reporting requirements are detailed in **Section 7.2**. Contact details for key Project personnel and emergency services are provided in **Table 2**.

External contractors are required to prepare and implement an emergency and incident response procedure. The contractor will be responsible for responding to any environmental emergency caused by any action (or inaction) of the contractor's staff, including notification requirements to external parties such as EPA and Fire, Fire and Rescue NSW.

6 Environmental Controls

6.1 General

- Ensure works are conducted by suitably qualified and trained personnel.
- Ensure all site environmental management controls relevant to that stage of work are implemented in accordance with the approved plans and conditions of consent.
- Provide approved plans and relevant documentation in the site office or other suitable location so that they are easily accessible by all construction staff.
- Brief all workers as to limit of disturbance footprint and other environmental safeguards.

6.1.1 Site Establishment

- Establishment of site boundary with temporary fencing, rope or flagging to clearly delineate the construction corridor.
- Erection of site signage and pedestrian/traffic controls.
- Installation of erosion and sediment controls.

6.1.2 Machinery and Storage

- All equipment, machinery and vehicles used during construction of the Project must be cleaned prior to entry into the Park and prior to site mobilisation to ensure they are free of mud and vegetative propagules.
- Equipment, machinery, and vehicles must be regularly maintained and manoeuvred to prevent the spread of exotic vegetation.
- Storage of equipment, machinery, vehicles and material is to be restricted to existing disturbed areas (i.e. at the stockpile, formed roads and within the construction corridors) and avoid undisturbed areas.
- All vehicles and machinery entering Thredbo must adhere to the ***Standard Operating Procedure: Use and Maintenance of Wash Down Bay, March 2019 (KT055).***

6.2 Soil and Water Quality

6.2.1 Erosion and Sediment Control

Refer to Erosion and Sediment Control Plan in **Appendix B**.

6.2.2 Soil and Stockpile Management

- All stockpiles will be constructed and managed in accordance with *Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park* (OEH 2017) and Erosion and Sediment Control Plan (**Appendix B**).
- Temporary stockpile sites within the construction corridor should adhere to the following criteria (Landcom 2004; OEH 2007):
  - not exceed 2 m in height, have a slope <50% (26°)
  - be at least 2 m from vegetation, concentrated water flows, roads, publicly accessible areas or hazardous areas
  - avoid impacts to native vegetation and be located on disturbed areas
  - located directly adjacent to the works
  - located on relatively flat ground, where possible

  - in areas with sufficient room to accommodate the volume of material being stockpiled
  - be contained by appropriate erosion and sediment controls.
- Any excess excavated material will be removed from site and transported to the designated soil stockpiles sites.

6.2.3 Material Sourcing

Authorisation from NPWS is to be sought where imported gravel or fill material is required, unless the material is sourced from the following NPWS approved locations:

- McMahons Earthmoving quarry, located on Alpine Way, Crackenback NSW; or
- Kraft Earthmoving / Snowy Mountains Sand and Gravel quarry located on Kosciuszko Road, Jindabyne NSW.

6.3 Flora and Fauna

6.3.1 Vegetation and Habitat

Vegetation and Habitat Management		
Objective	To ensure compliance with legislative requirements and protect existing native vegetation. Minimise impacts to native vegetation.	
Mitigation Measures	All disturbance should be kept to the minimum required to achieve the proposal (ELA 2024).	During construction
	Vegetation to be cleared in the Middle Slopes tree island must be checked for fauna habitats and fauna by the Environmental Officer immediately prior to removal. Vegetation with active nests must not be removed until the young have left the nest. If fauna is present, contact NPWS to discuss mitigation actions.	Vegetation clearing within Middle Slopes Area
	The construction corridor is to be clearly identified with fencing/flagging tape to mark no-go/no clearing zones prior to construction.	During construction
	Appropriate safeguards should be in place during the proposed works to limit the potential for invasive plants or pathogens, chemicals or any other pollutants to enter the environment in association with the proposed development (ELA 2024).	During construction
	The Development should be constructed and implemented in accordance with best practice design standards to ensure that there are no adverse modifications to the hydrological environment that may impact on surrounding vegetation and associated habitats (ELA 2024).	During construction
	All machinery to be used during the construction phase should be limited to the existing disturbed areas and ski slopes.	During construction
	Progressive rehabilitation is to be undertaken in accordance with the Rehabilitation and Monitoring Plan. All rehabilitation should be undertaken in accordance with the *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (NGH 2007).	During construction, post-construction
Performance Criteria	No damage to site fencing. No damage to native vegetation (including vehicle tracks) associated with unauthorised access.	
Corrective Actions	Fencing to be repaired / reinstated by appointed contractor. Entry points for unauthorised access to be identified and access restricted through fencing or other appropriate barriers.	

6.3.2 Native Fauna

Native Fauna Management		
Objective	To minimise potential impacts to native fauna, their breeding places and habitat.	
Mitigation Measures		**Timing**
	Where trenches and excavations are left open overnight, structures should be placed at regular intervals to enable fauna to exit. Trenches and excavations should be inspected in the morning and late afternoon and any animals that have fallen into the trenches removed. Similarly, trenches should be checked for animals immediately prior to back-filling.	Construction
	Maintain a clean and tidy work area to ensure animals are not attracted to the site, including provision of covered bins during proposed works.	Construction
Performance Criteria	No death or injury to fauna as a result of on-site activities. No disturbance outside the approval disturbance area.	
Corrective Actions	Review and implement suitable strategies to dissuade fauna from coming to site. Contact NPWS / LAOKO if injured fauna is identified as a result of site activities.	

6.3.3 Exotic Species

Exotic Species Management		
Objective	To reduce the risk of introducing invasive/pest species.	
Mitigation Measures		**Timing**
	All relevant weed species that occur within the construction corridor and associated staging and stockpile sites must be treated prior to works commencing to ensure these weeds are not spread further at the site or within KNP.	Prior to vegetation clearing, prior to construction
	If an area of vegetation proposed for removal includes any relevant weed species then the vegetation must be removed completely from site, not spread out within the existing vegetation or used in rehabilitation and stabilisation works.	Prior to vegetation clearing, prior to construction
	All machinery and equipment used during construction must be cleaned prior to entry into KNP and prior to site mobilisation to ensure the machinery is free of mud, vegetative propagules, and pathogens. This includes machinery that may have been working in an area of the resort that contains weeds and is preparing to be redeployed in the construction corridor and associated stockpile and staging areas.	Construction
	All vehicles and machinery entering Thredbo must adhere to the **Standard Operating Procedure: Use and Maintenance of Wash Down Bay, March 2019 (KT055)**. The wash down bay is located at the Thredbo Waste Transfer Station for use by KT staff and contractors.	Construction
	All machinery and equipment must be stored on existing disturbed areas (i.e. at the stockpile and staging areas proposed on the ski slopes) and should not be stored on native vegetation.	Construction
	All machinery to be regularly maintained and manoeuvred to prevent the spread of weeds and pathogens.	Construction
Performance Criteria	No introduction of invasive species as a result of construction activities.	
Corrective Actions	Review existing biosecurity procedures (e.g. clean down procedure) and implement additional controls if required.	

6.4 Air Quality

Air Quality Management		
Objective	To minimise potential impacts on sensitive receivers from dust and other air pollution from construction activities.	
Mitigation Measures		**Timing**
	Minimise the number and extent of disturbed areas at any given time. When there is a risk of works creating dust nuisance, dust suppression measures are to be implemented i.e. the site is to be watered.	Vegetation clearing; Construction
	Plant and equipment to be maintained and operated in an efficient manner to reduce air pollution.	Construction
	Vehicles are to adhere to speed limits to minimise dust general and potential spill of hauled materials.	Construction
	All vehicles carrying spoil or rubble to/from site should be covered to prevent the escape of dust or other material. Covers are to be adequately secured.	Construction
Performance Criteria	No complaints received in relation to air pollution.	
Corrective Actions	If complaints are received, the following steps should be taken: • Investigate specific cause of complaint. • Review site activities/processes and identify the source of air emissions. • Implement immediate corrective actions on-site e.g. water site, replace equipment deemed to be poorly maintained. • If required, implement administrative controls e.g. additional staff training, alter construction methods or timing for undertaking dust generating activities.	

6.5 Noise and Vibration

Noise and Vibration Management		
Objective	To ensure that noise and vibration from construction activities does not cause environmental nuisance in the locality.	
Mitigation Measures		**Timing**
	Awareness training and information will be provided to project personnel in relation to minimising noise pollution as much as practicable when in close proximity of sensitive receivers.	Site induction
	Selection of the most appropriate plant and equipment to minimise noise generation.	Prior to construction
	Construction works will be undertaken during standard work hours.	Construction
	Appropriate noise management strategies will be implemented for construction works and operation of plant in accordance with the Australian Standard AS 2436-2010 *Guide to noise and vibration control on construction, demolition and maintenance sites.*	Construction
	Regular checks are to be undertaken to ensure all equipment and vehicles are in good working order and are operated correctly.	Construction
	All plant will be maintained in accordance with the manufacturer's requirements.	Construction
Performance Criteria	No construction related noise and vibration complaints received. No unreasonable noise or vibration.	
Corrective Actions	If complaints are received, the following steps should be taken: • Investigate specific cause of complaint. • Review site activities/processes and identify the source of the noise emissions. • Implement immediate corrective actions e.g. swap out noisy equipment. • If required, implement administrative controls e.g. additional staff training or change work hours to minimise noise.	

6.6 Fuels and Chemicals

Fuels and Chemicals Management		
Objective	Eliminate the potential for release of fuels, chemicals and hazardous substances to the environment.	
Mitigation Measures		**Timing**
	Spill kits will be available onsite and all site personnel will be made aware of their locations in the site induction.	Construction
	In the event on an on-site spill, construction staff will follow KT's **Construction Site Incident and Emergency Procedures Thredbo Village.**	Construction
	Hazardous substances, toxic materials or dangerous goods must not be stored or processed on-site at any time without prior approval from the DPE Secretary or nominee.	Construction
	Fuel and chemicals will be appropriately stored and handled in accordance with relevant Australian Standards.	Construction
	Appropriate controls will be implemented when refuelling Project vehicles and machinery.	Construction
Performance Criteria	No fuel, chemical or hazardous substance spills.	
Corrective Actions	Corrective actions will be taken in accordance with the **Construction Site Incident and Emergency Procedures Thredbo Village**, including: immediate spill response, implementation of any necessary control measures as directed by authorities. Where required, an investigation will be undertaken to determine the root cause.	

6.7 Traffic and Access

Traffic and Access Management		
Objective	Minimise potential impacts on existing road network	
Mitigation Measures		**Timing**
	Traffic and construction vehicle access will be managed as per regular daily operation in the resort.	Construction
	All Project vehicles and machinery to adhere to speed limits and signage and stay within construction corridor.	Construction
	Temporary mountain bike trail diversions will be managed by KT MTB Operations as per the Mountain Bike Trail Diversions, Sheets 1 – 4.	Construction
Performance Criteria	No significant impacts to existing road network or users. No significant impacts to pedestrian and bike riders. No complaints in relation to traffic or vehicle operators.	
Corrective Actions	If complaints are received, traffic management procedures will be reviewed and amended (if necessary).	

6.8 Waste

The following waste receptacles will be provided for the storage and disposal of waste associated with the construction of the Project:

- General litter bins for waste such as food waste and non-recyclable plastic.
- Recycling bins for waste such as carboard packaging, paper, recyclable plastic.
- Skip bins.
- KT's waste transfer facility (materials to be segregated for re-use, recycling etc.).

Excess spoil from excavations will be taken off-site and placed within the resort's existing stockpile area located at the carpark adjacent to the Thredbo Waste Transfer Station for re-use within the resort. Waste pipe will be temporarily stockpiled at the nominated material storage areas and then transported from the site during construction to the upper tip carpark stockpile at Thredbo Waste Transfer Station for further segregation or disposal.

Waste Management		
Objective	Minimise construction waste as much as practicable. and Reduce the impact of waste on-site and beyond the site boundary.	
Mitigation Measures		**Timing**
	All waste will be managed and disposed of in accordance with the KT's waste management procedures.	Construction
	Where possible, construction materials will be salvaged for reuse to divert waste from landfill.	Construction
	All waste will be separated into waste streams and contained within appropriate receptacles and/or disposed of in accordance with the EPA guidelines.	Construction
	All receptacles will be in good condition.	Construction
	All waste transportation vehicles will be covered appropriately to ensure waste cannot spill, leak or escape onto the road or wash into stormwater drains.	Construction
Performance Criteria	No litter or waste material to be released from site in an uncontrolled manner.	
Corrective Actions	• Investigate cause of inappropriate waste disposal/management. • Review on-site waste handling facilities and implement corrective actions e.g. change in receptacle size and/or waste management signage. • If required, implement administrative controls e.g. additional waste management training for staff.	

6.9 Cultural Heritage

6.9.1 Unexpected Finds Procedure

Where unexpected items of potential archaeological, built or Aboriginal cultural heritage significance are discovered, Project personnel will follow the below procedure:

- **STOP:** Stop work and leave the site or item where it is.
- **NOTIFY:** Notify the Project Manager and NPWS to arrange for representatives to inspect the site. If human remains are found, the NSW Police must also be notified.
- **MANAGE:** Management may involve securing the find by erecting a no-go zone.
- **REPORT:** The Project Manager will complete any reporting requirements, as directed by NPWS.

7 Monitoring and Reporting

7.1 Environmental Monitoring and Reporting

The Environmental Officer will conduct monitoring during all project phases (pre-construction, during construction and post-construction) to ensure compliance with this SEMP, associated management plans and conditions of approval. The Environmental Officer will undertake regular inspections utilising the ***Site Environmental Management Measures Report***.

7.2 Environmental Incident Reporting

All incidents and near misses will be managed in accordance with KT's ***Construction site Incident and Emergency Procedures Thredbo Village***. The document provides procedures for responding to incidents and emergences, reporting and notification requirements and emergency contacts. The following information should be recorded:

- Time and date of the incident / near miss
- A description of the incident / near miss
- A sequence of events that led to the incident / near miss occurring
- Person/s involved in the incident / near miss (including witnesses)
- Written statements from person/s involved (as applicable)
- Details of corrective actions.

The ***Environmental Incident Report Form*** should be completed for all environmental incidents. All parts of the form must be completed in accordance with KT's incident procedure and following the instructions within the form. The form must be signed by the person making the report and the Project Manager/person in charge of the site/activity.

7.3 Non-conformance

A non-conformance is the failure to comply with the requirements of this SEMP and supporting management plans. Non-conformances identified via site inspection or during day to day activities will be documented on the ***Site Environmental Management Measures Report*** (or similar contractor's form) and closed out in subsequent inspections. The Environmental Officer is responsible for investigation and managing corrective and preventative actions in the event of non-conformance or a situation likely to cause environmental harm.

7.4 Corrective Actions

Corrective actions should be prioritised on the following hierarchy of controls:

1. **Elimination** – can activities and processes be eliminated to reduce the risk of reoccurrence?
2. **Substitution** – can activities be substituted with another activity of lesser risk?
3. **Isolation** – can you isolate the hazard from any person exposed to it?
4. **Engineering controls** – can you reduce the risk of reoccurrence through engineering changes?
5. **Administrative controls** – can a change in work practices, additional training or additional checks reduce the risk?
6. **Personal Protective Equipment (PPE)** – can PPE be worn to protect personnel from harm?

The Construction Manager will be responsible for managing the implementation of corrective actions on-site.

7.5 Complaints Management

Should complaints be received from the public in relation to the Project they will be recorded using the ***Complaints Form*** (or similar contractor's form). The Project Manager will be responsible for investigating, recording and closing out any complaints received. All records will be stored within KT's files and distributed to relevant persons / regulatory authorities as required.

8 Record Keeping and Review

8.1 Document Control

All Project related documentation will be maintained within KT's Project file. Documents stored within the file include (but not limited to) the following:

- Copies of relevant planning approvals and documents, licences and permits.
- All completed induction forms and visitor sign-on register.
- Records of routine environmental inspections.
- Records of any environmental incidents, complaints, non-conformances and no-compliances.

8.2 SEMP Review

This SEMP is a live document and will undergo reviews and amendments as necessary. Reviews will generally be undertaken –

- If there is a change in the scope of the Project.
- Prior to commencement of construction to ensure any relevant conditions of consent and/or other approval, licence or permit requirements are incorporated.
- If there is a need to improve environmental controls to protect environmental values.
- If there is an increase or introduction of a new environmental risk or impacts.
- At the end of a Project to allow for improvements in subsequent Projects.

9 References

Department of Environment and Climate Change (DECC) 2009, Interim Construction Noise Guideline, July 2009, https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/noise/09265cng.pdf?la=en&hash=EF4576FD79DBB25D5AC22DFA1A883A2BADA1F77B

Department of Infrastructure, Planning and Natural Resources (DIPNR) 2004*, Guideline for the Preparation of Environmental Management Plans*, https://www.planning.nsw.gov.au/~/media/Files/DPE/Guidelines/guideline-for-the-preparation-of-environmental-management-plans-2004.ashx?la=en

NGH 2007, Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park, prepared for NSW Government Department of Environment and Climate Change (DECC)

Office of Environment and Heritage (OEH) 2017, *Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park, version 1.0, October 2017*, NSW National Parks and Wildlife Service.

10 Appendices

Appendix A Plans

Scale: 1:6,352

0 40 80 160 240 320

Meters

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

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THREDBO

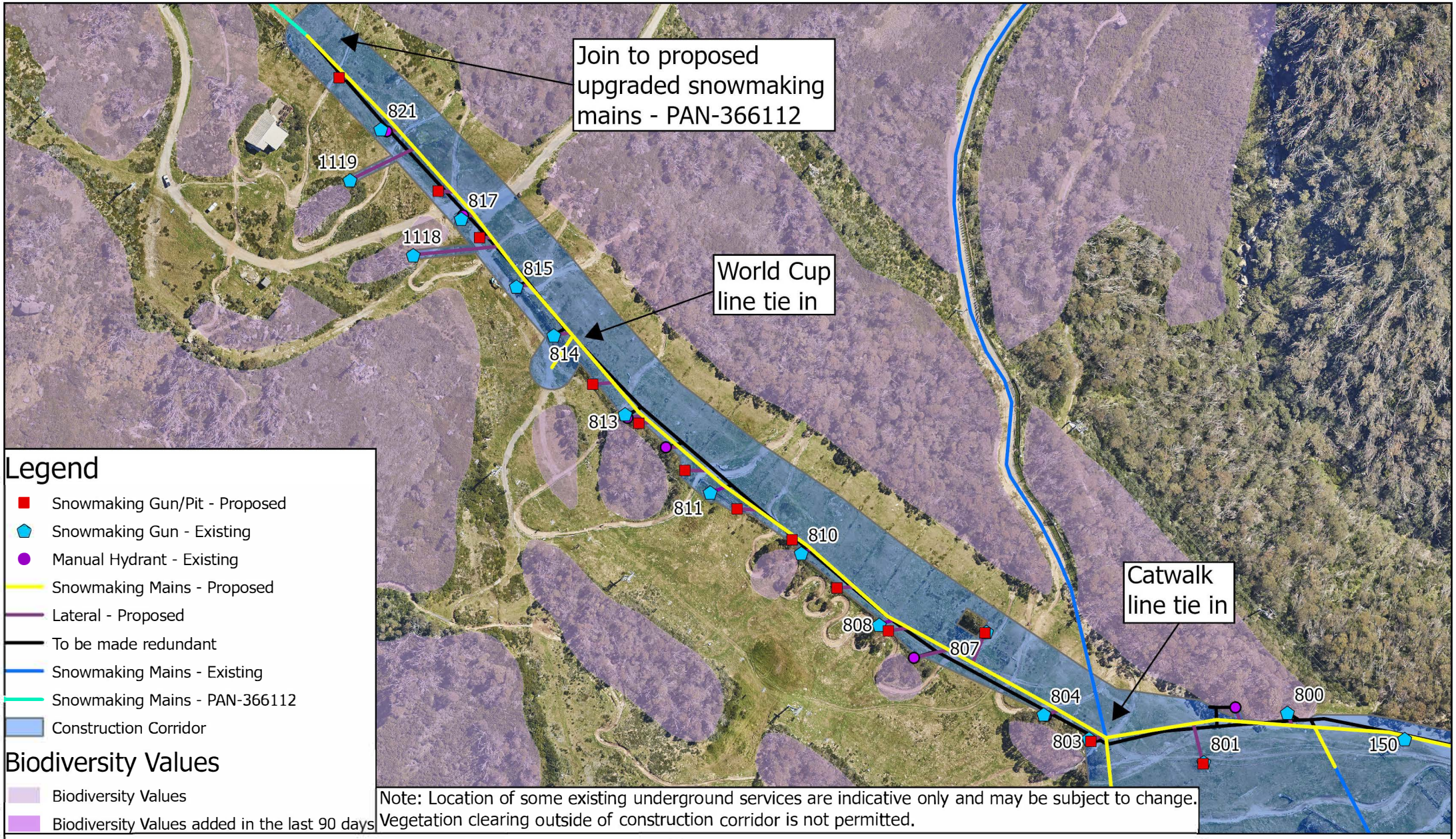
SITE OVERVIEW

Project: Snowmaking Upgrades
Upper Supertrail to Lower Sundance

Revision: 1

Date: 30/05/2024

Produced By: BB



Scale: 1:2,287

2512.5 0 25 50 75 100 Meters

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

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THREDBO

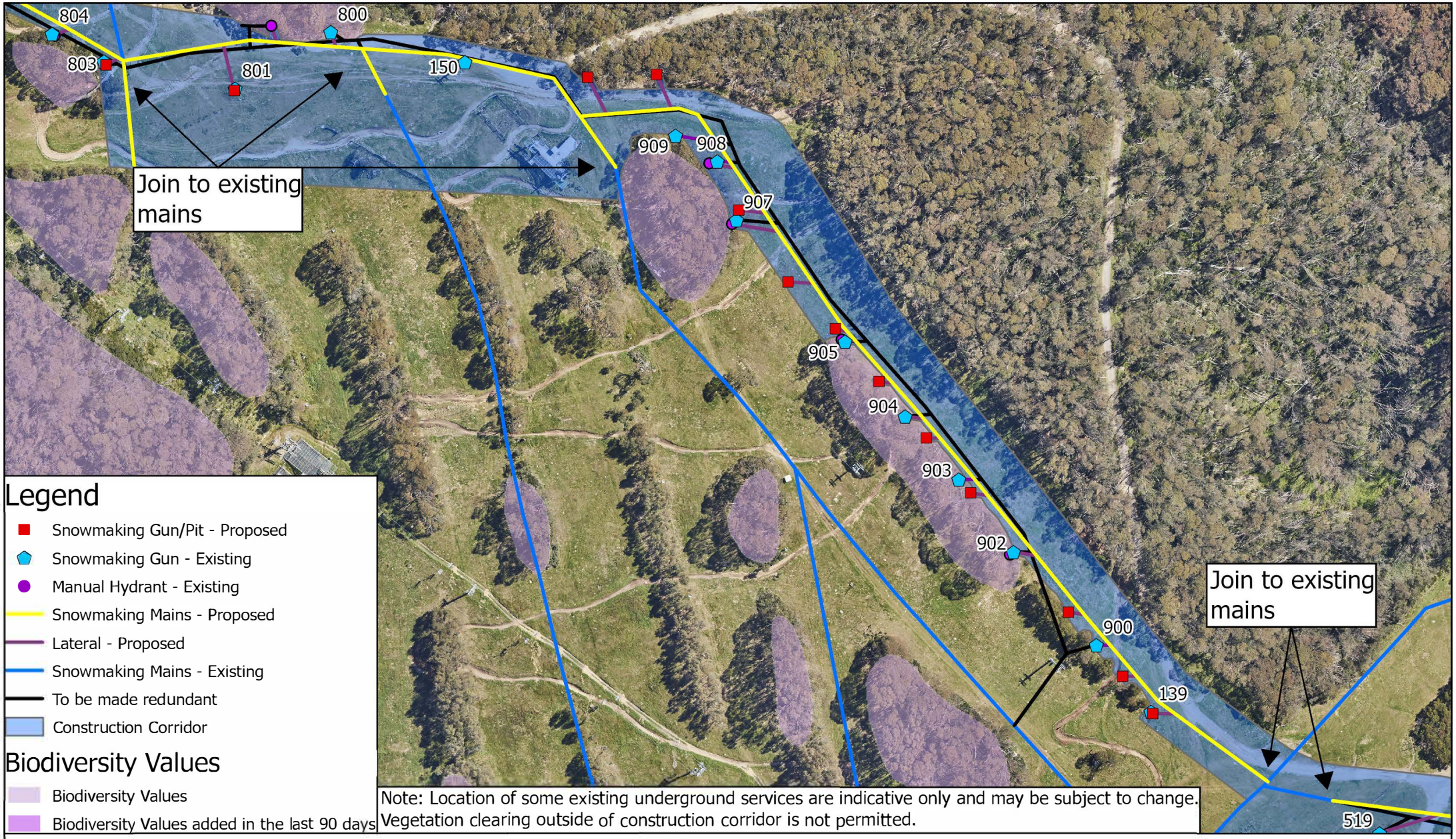
SITE PLAN - UPPER SUPERTRAIL

Project: Snowmaking Upgrades Upper Supertrail to Lower Sundance

Revision: 3

Date: 08/05/2024

Produced By: BB



Scale: 1:2,000

20 10 0 20 40 60 80

Meters

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

N

THREDBO

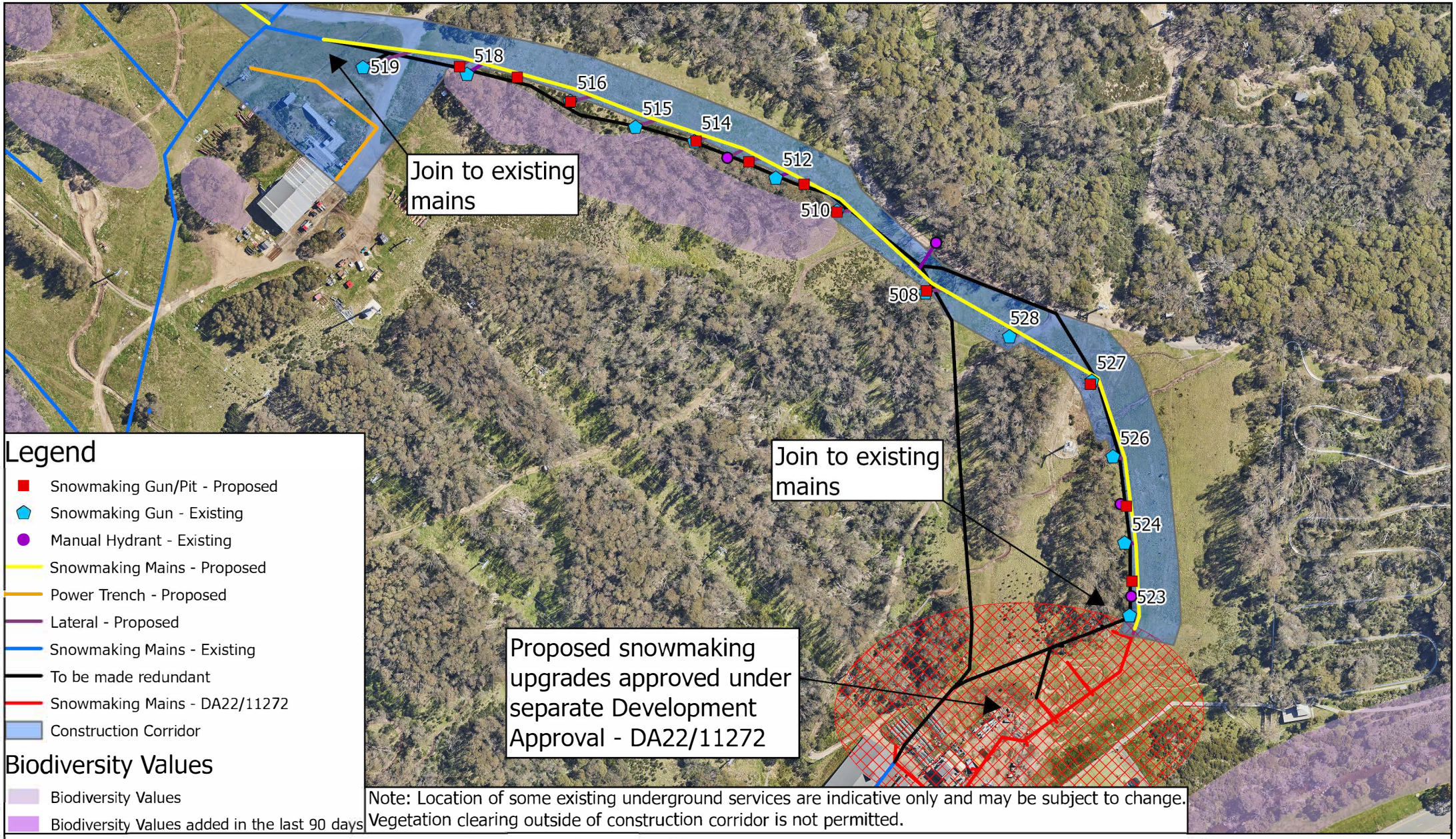
SITE PLAN - ROSSI RACECOURSE

Project: Snowmaking Upgrades Upper Supertrail to Lower Sundance

Revision: 4

Date: 08/05/2024

Produced By: BB



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2512.5 0 25 50 75 100 Meters

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

N

THREDBO

SITE PLAN - SUNDANCE

Project: Snowmaking Upgrades
Upper Supertrail to Lower Sundance

Revision: 6

Date: 08/05/2024

Produced By: BB

Scale: 1:1,034

10 5 0 10 20 30 40

Meters

Map Projection: Universal Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 2020 MGA Zone 55

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THREDBO

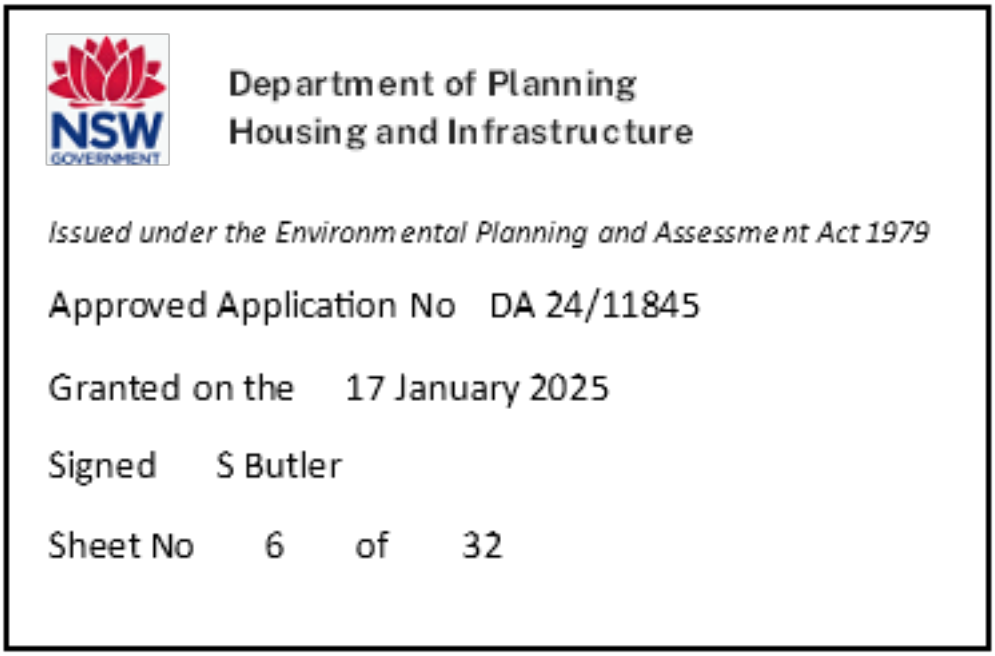
LOWER OVERFLOW CARPARK STOCKPILE SITE

Revision: A

Date: 20/03/2023

Produced By: BB

Appendix B Erosion and Sediment Control Plan



Erosion and Sediment Control Plan

Snowmaking Infrastructure Upgrades, Upper Supertrail to Lower Sundance

PURPOSE

The purpose of this Erosion and Sediment Control Plan is to outline the intentions and fundamental principles that will be followed in the planning and implementation of erosion and sediment control (ESC) measures for the duration of the project.

OBJECTIVES

To minimise potential impacts from construction works to receiving waters.

To reduce the potential for erosion and sediment moving offsite.

SCOPE OF THIS PLAN

Given the nature and scale of the Development, it is not practicable to specifically locate all erosion and sediment controls on a plan. This document identifies appropriate controls specific to project activities to prevent sedimentation and pollution of receiving waters, and minimise potential impacts on vegetation communities with and adjacent to the site.

GUIDELINES

- Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition (Landcom 2004)
- IECA Best Practice Erosion and Sediment Control
- Erosion and Sediment Control: A field Guide for Construction Site Managers (Catchments & Creeks Pty Ltd, 2012)

EROSION AND SEDIMENT CONTROLS

Implementation of appropriate controls and locations will be the responsibility of the construction contractor. Controls to be installed prior to any construction work (where required) and retain in place until exposed areas of soil or vegetation are stabilised/rehabilitated.

SITE ESTABLISHMENT

- Implement sediment control measures prior to any construction work and retain in place until exposed areas of soil or vegetation are stabilised/rehabilitated.

STOCKPILES AND STORAGE OF MATERIALS

- Soil stockpiles to be managed in accordance with the Soil Stockpile Guidelines.
- Refer **Attachment A** for recommended controls, including installation notes and examples.

TRENCHING

- Installation of services into common trench.
- Schedule trenching works for periods when rainfall is low.

- Minimise the area of soil disturbed and exposed to erosion. Ensure trench widths and depths are the minimum necessary, including installation notes and examples.
- Divert up-slope clean water away from trenches.
- Conserve topsoil for backfilling and rehabilitation works.
- Progressively rehabilitate disturbed land immediately post construction.
- Maintain ESCs during works until the site has been stabilised
- When excavating, place excavation soil on upslope of trench to divert water from away from the trench line.
- Excavation soil is not to be placed on roads, in areas of concentrated runoff.
- Limit the time trenches are left open and avoid trenching when the risk of adverse weather is high.
- Refer **Attachment A** for recommended controls, including installation notes and examples.

EXCAVATION AND BACKFILLING

- Ensure excavation depths and widths are the minimum necessary.
- Leave excavations open for the minimum practical time.
- Divert surface water away from excavation openings.
- Where excavations are to be left open overnight, provision shall be made so that any fauna entering the excavations can escape.
- Clean excavated material may be temporarily stockpiled on-site for reuse for backfilling, landscaping and rehabilitation works. Any unused material must be removed off-site and disposed of at an authorised site.
- Excavations are to be properly guarded and protected to prevent them from being dangerous.
- Refer **Attachment A** for recommended controls, including installation notes and examples.

PROGRESSIVE REHABILITATION AND STABILISATION

- All exposed areas shall be progressively stabilised/rehabilitated as soon as possible in accordance with the Rehabilitation and Monitoring Plan.
- Only weed-free or natural thatch/litter should be used in sediment control activities.
- All ESCs will remain in place until all exposed areas of soil are stabilised and/or revegetated.
- All landscaping and rehabilitation should be undertaken in accordance with the *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (DECC 2007) (ELA 2022), Rehabilitation Plan and approved Landscape Drawings.

MONITORING AND MAINTENANCE

During construction, all ESCs are to be checked regularly to ensure they remain in good working order at all times (e.g. prior to forecast rain, daily during extended periods of rainfall and after significant rainfall events). Regular monitoring and maintenance will be the responsibility of construction personnel. The Environmental Officer will undertake weekly inspections of controls for the duration of the works.

PERFORMANCE INDICATOR

No significant sediment deposition observed leaving the site.

CORRECTIVE ACTIONS

If sediment is observed leaving the site, identify the source and amend the ESCs on-site to ensure appropriate controls are in place. If required, additional ESCs to be installed.

ATTACHMENT A – CONTROL INSTALLATION AND CONSTRUCTION NOTES

Control	Project Activity	Location	Purpose	Timing	Standard Drawing Reference[1]
Sediment fence	Excavation, trenching for pipe laying and stockpiling	Downslope side of any excavations; wetter areas; downslope of earth stockpiles; need to be placed following contours where possible.	To prevent sediment run-off by filtering medium to coarse-grained sediment from runoff	Install prior to, or in conjunction with earthworks. Retain in place until exposed areas of soil are stabilised.	Sediment fence (SD 6-8)
Straw bale filter fencing[2]	Excavations and trenching for pipe laying	Drier areas of excavation, across or at the toe of slope, where required.	To prevent sediment run-off (suitable for low flows of water)	Install prior to, or in conjunction with earthworks. Retain in place until exposed areas of soil are stabilised.	Straw bale filter (SD 6-7)
Straw bales[2]	Cross-slope excavations	To be installed on the uphill side of excavations running cross-slope, where required.	Divert water around and away from excavation works. Suitable for low flows of water to reduce water velocity.	Install prior to, or in conjunction with earthworks. Retain in place until exposed areas of soil are stabilised.	Straw bale filter (SD 6-7)
Earth bank/ flow diversion banks	Excavation and trenching for pipe laying	Running across grade (parallel with surrounding contours). Upslope or downslope of the trench or excavation, where required.	Prevent polluted stormwater from accumulating by directing water around and away from the excavation.	Install prior to, or in conjunction with excavation works. Excavated topsoil can be stripped and used to form flow diversion banks either upslope and/or downslope of soil disturbance.	Earth bank (low flow) (SD 5-5)
Trench breakers (such as sand bags)	Trenching for pipe laying	Across the trench invert during trenching, where required.	Reduce erosion and flow velocity	During trenching, where required.	-
Temporary geofabric filter pond	Dewatering excavation	Where required, on flat area away from drainage lines/watercourses and native vegetation. Equipment and pumping operation to be confined to construction corridor.	To capture sediment and pollutants and prevent them leaving the filter pond	In the event water enters an excavation and its required to be pumped out prior to recommencement of works	Control installation notes provided below. Refer best practice guidelines such as IECA.

[1]Landcom 2004; NSW DECC 2008 & IECA Best Practice Erosion and Sediment Control (BPESC) document

[2]All straw bales used for sediment and erosion control or rehabilitation must be weed free.

CONTROL INSTALLATION NOTES

Cross Drainage and Sediment Barriers

The recommended spacing for cross drainage and sediment barriers is provided below:

Slope Grade (%)	Cross Drain / Sediment Barrier (m)
5-10	15-20
10-15	10-15
15-25	8-10
>25	5-8

Source: NPWS 2007; Parr-Smith and Polley (1998)
Note: To calculate the grade of a slope: (rise/run) x 100 = slope grade

Trench breakers

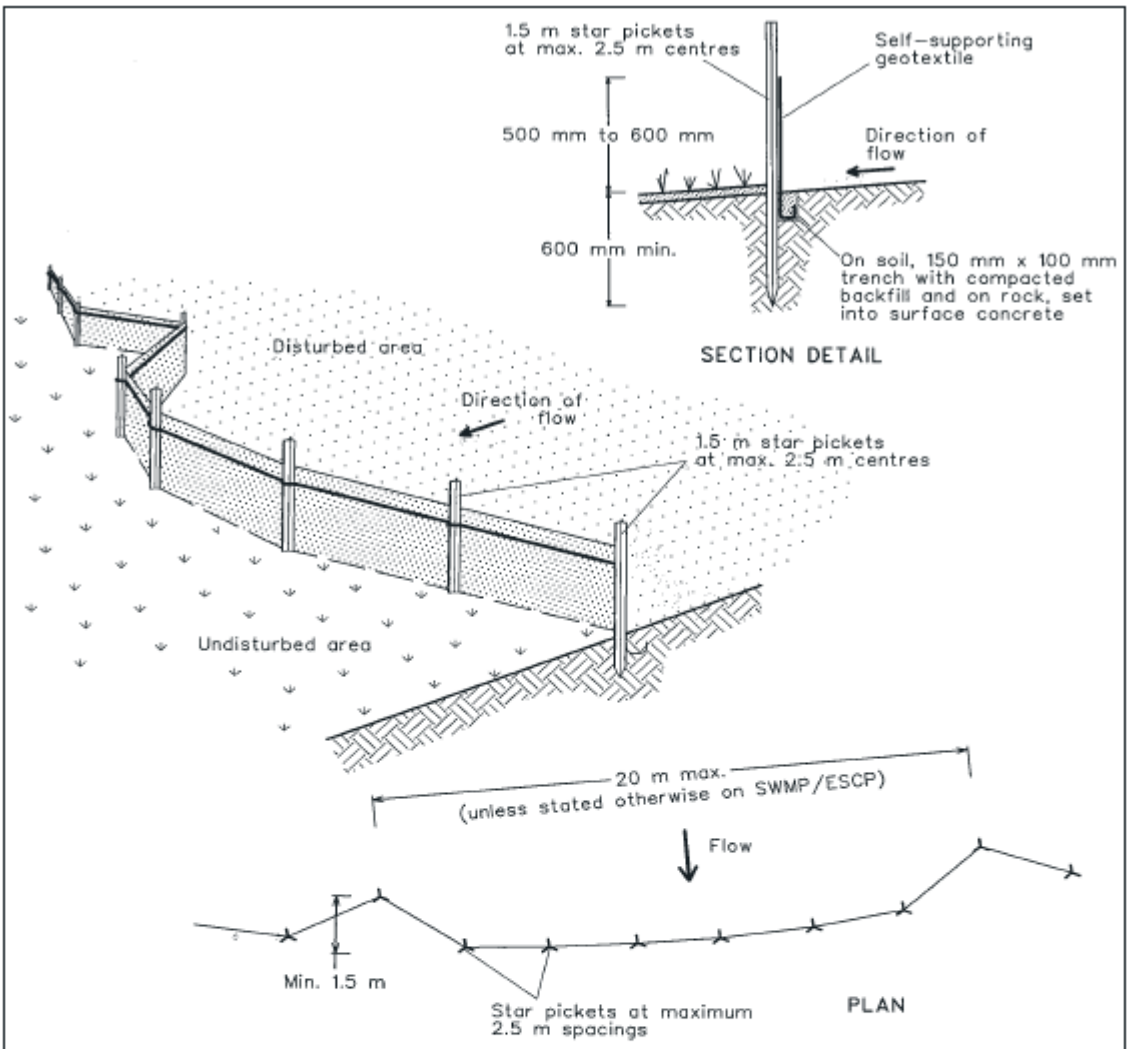
Construction notes:

- Trench breakers may comprise soil or straw bales (or a combination).
- The recommended spacing of trench breakers to be determined on-site according to the slope and potential for subsurface flow, refer to table above for recommended spacing.

Temporary geofabric filter pond

Construction notes:

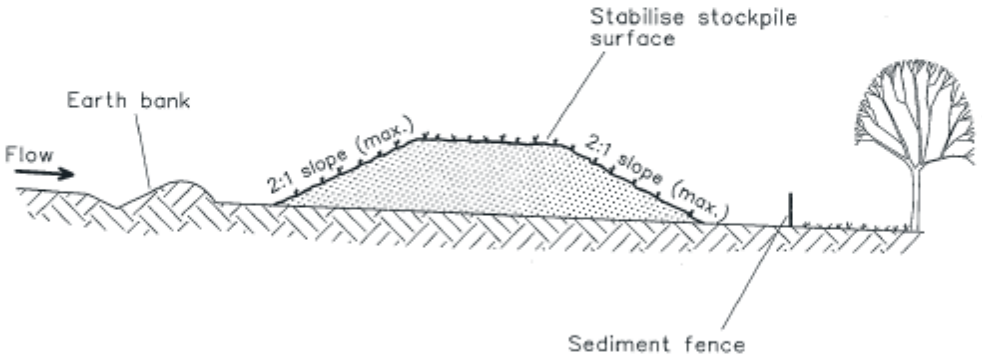
1) Where practicable, locate the filter dam at least 50 m from the edge of a waterbody.
2) Suitably clear and prepare the surface where the filter dam will be installed.
3) Arrange straw bales to form an enclosure and securely anchor each bale with at least one (1) star picket or stake.
4) Securely attach the filter fabric to the straw bales and reinforce with stakes. If more than one sheet of fabric is used, then overlap within a minimum of 600 mm at all joints.



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

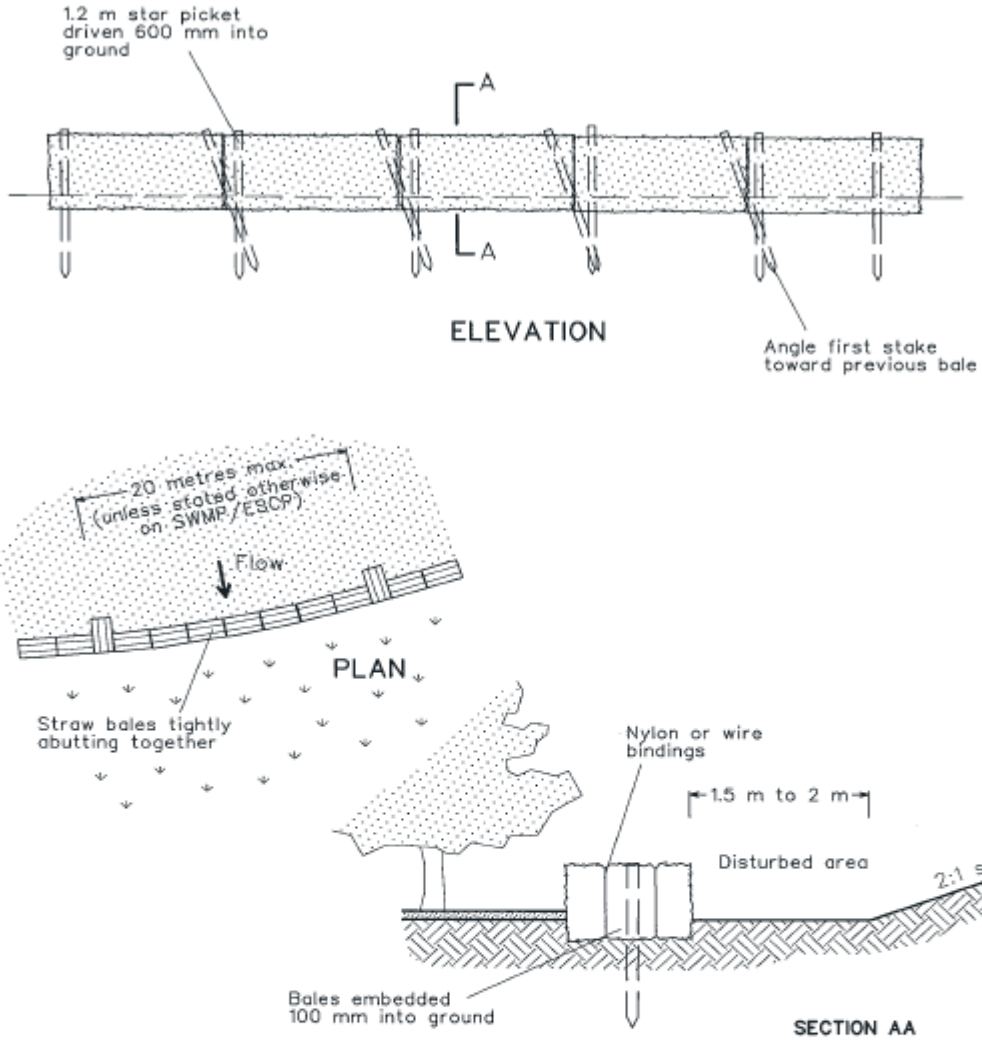
SEDIMENT FENCE **SD 6-8**



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

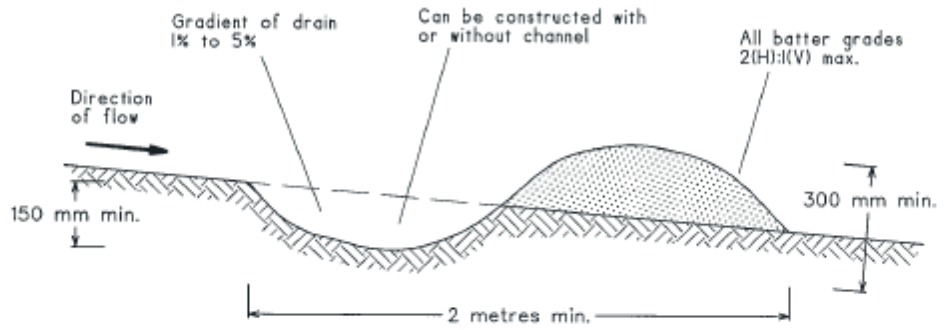
STOCKPILES **SD 4-1**



Construction Notes

1. Construct the straw bale filter as close as possible to being parallel to the contours of the site.
2. Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws are to be placed parallel to ground.
3. Ensure that the maximum height of the filter is one bale.
4. Embed each bale in the ground 75 mm to 100 mm and anchor with two 1.2 metre star pickets or stakes. Angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600 mm into the ground and, if possible, flush with the top of the bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
5. Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
6. Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months.

STRAW BALE FILTER **SD 6-7**



NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW) **SD 5-5**

Appendix C Environmental Schedules

Kosciuszko Thredbo Pty Ltd

Environmental Incident Reporting Form

Confidential document after first entry

The purpose of this form is to report any incident that may have resulted in Environmental harm on Kosciuszko Thredbo Pty Ltd premises. Remember to be succinct, stick to the facts and do not make assumptions. Only record information you know to be correct.

The only persons authorised to contact external agencies eg EPA in relation to environmental incidents are the Kosciuszko Thredbo General Manager and Environmental Services Manager or their approved delegates.

Return completed form to the Environmental Services Manager as soon as practicle, on completion of the Environmental incident.

Date of Incident:	**Time of incident:**
Reported by:	**Department:**

Location of Incident

EXACT location of the incident (include landmarks and features, nearest cross street etc to make it easier to identify later)		
Site:	Building:	Room:

Description of incident

Provide description and extent of incident: …… …… …… …… ……
Have relevant photos been taken and attached? Yes ☐ No ☐
If 'No', provide sketch and attach to the rear of this document.
What was the estimated duration of the incident?

Type of incident

☐ Spill (including fuel,oil,waste material or other polluting substance)	☐ Erosion and sedimentation incident	☐ Contaminated water discharge
☐ Noise emission/complaint	☐ Unauthorised/accidental damage to heritage item	☐ Unauthorised/accidental vegetation removal or harm
☐ Air Emission	☐ Wildlife habitat/nesting area disturbed	☐ Other (specify)

Environmental Incident Reporting Form

Level of incident

Level	Example
☐ Minor	eg. No material has escaped the site or caused material harm to the environment – it is easy to clean up without additional assistance.
☐ Major	eg. Material has escaped the site causing pollution downhill/downstream areas, which will require clean up involving other agencies and/or additional resources not available to local site management. Damage has occurred or is likely to occur to the environment.

Hazardous Material Spilt

☐ Petroleum based products/ Hydrocarbons	☐ Chemicals domestic or industrial grade
☐ Biological waste / Clinical and related waste	☐ PCB insulating liquids
☐ CFC containing equipment	☐ Paints or paint products
☐ Radioactive waste	☐ Other (specify)
Detail type/ingredient spilt: (UN, MSDS details)	
Detail concentration of material spilt:	
Detail quantity of material spilt:	

Type of Spill

☐ Spilt onto ground	☐ Spilt into stormwater drain
☐ Spilt into waterway	☐ Poured down sink
☐ Poured down sewer	☐ Released into atmosphere
☐ Caused odour	☐ Caused fire/explosion
☐ Caused infectious contamination	☐ Other (specify)

Immediate Actions

Was spill contained? Yes ☐ No ☐
Detail immediate actions/controls measures taken to rectify or contain the incident …… …… …… …… …… …… …… ……

Environmental Incident Reporting Form

Corrective Actions

Detail corrective clean up action taken

……

……

……

……

Disposal

Detail disposal method/plans and location

……

……

……

Recommended follow up and preventative actions

Detail recommendations

……

……

……

Persons present at Incident

Were there any witnesses to the accident? Yes ☐ No ☐ If 'Yes', please provide names

……

……

Declaration

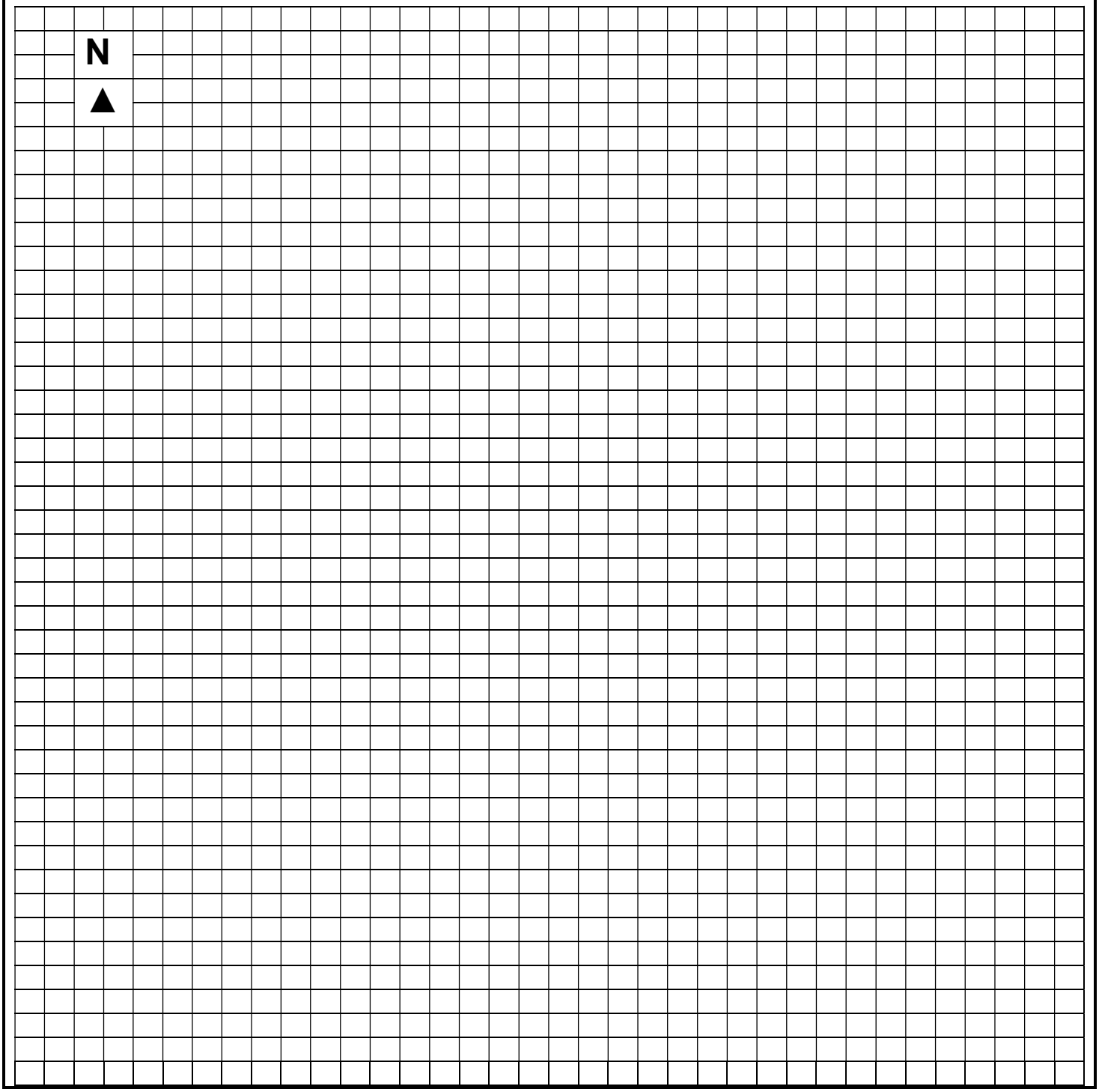
The information and answers given above are true in every detail and no information has been withheld.

Departmental Supervisors Name	
Departmental Supervisors signature	*Date*

Departmental Managers Name	
Departmental Managers signature	*Date*

Environmental Incident Reporting Form

Diagram: (do not scale)



Created By: Paul Corcoran
Created Date: 24 Mar 2009
Review Date: 24 Mar 2017
Reviewed Date: 7th January 2020, by E Diver

THREDBO ENVIRONMENTAL SERVICES

Record of complaint

Sheet _____of_____

Project: _____ Date / Time: _____

Received by: _____ Reference Number: _____

Complainant details:	Witness details:

Nature of complaint:

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..... Complainant sign:

Action taken:

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