

Infrastructure Approval

Section 5.19 of the *Environmental Planning & Assessment Act 1979*

I grant approval to the application for carrying out the specified development associated with the Critical State Significant Infrastructure (CSSI) project referred to in Schedule 1, subject to the conditions in Schedules 2 to 4.

These conditions are required to:

- prevent, minimise or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Minister for Planning

Sydney

2019

SCHEDULE 1

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| Application Number: | SSI 9208 |
| Proponent: | Snowy Hydro Limited |
| Approval Authority: | Minister for Planning |
| Land: | The land defined in Appendix 1 |
| Development: | Snowy 2.0 Exploratory Works |
| Critical State Significant Infrastructure | Development for the Snowy 2.0 and Transmission Project as described in schedule 5, clause 9 of <i>State Environmental Planning Policy (State and Regional Development) 2011</i> |

Red type represents 02 December 2019 Modification (MOD 1)

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DEFINITIONS

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| <p>BCA BCD Calendar year Conditions of this approval Construction</p> | <p>Building Code of Australia Biodiversity and Conservation Division A period of 12 months commencing on 1 January Conditions contained in schedules 2 to 4 inclusive All physical works associated with the development, including but not limited to demolition and removal of buildings or works, erection or installation of buildings and infrastructure, road upgrades, and the carrying out of works, but excluding pre-construction minor works</p> |
| <p>Date of commencement</p> | <p>The relevant date notified to the Department by the Proponent under condition 6 of schedule 2</p> |
| <p>Decommissioning</p> | <p>The demolition and/or removal of buildings, infrastructure and works installed for the development</p> |
| <p>Department Development</p> | <p>Department of Planning, Industry and Environment The development described in the EIS as modified by the conditions of this approval</p> |
| <p>Disturbance area DoI Water DPI - Fisheries EIS</p> | <p>The land described in the EIS where development may be carried out Department of Industry – Lands and Water Division Department of Primary Industries - Fisheries The Environmental Impact Statement titled <i>Environmental Impact Statement Exploratory Works for Snowy 2.0</i> dated July 2018, as modified by the:</p> <ul style="list-style-type: none"> • <i>Response to Submissions - Exploratory Works for Snowy 2.0</i> dated September 2018, the additional information titled <i>Exploratory Works for Snowy 2.0 – Amendment to Talbingo boat ramp and swimming area</i> dated 19 November 2018, and letter to the Department titled <i>Amendment to water supply</i> dated 21 December 2018; and • <i>Modification Report for the Snowy 2.0 Exploratory Works</i> dated 6 June 2019, <i>Response to Submissions - Exploratory Works Modification</i> dated 2 September 2019, and letter to the Department titled <i>Amendment to the hours of operation on upper Lobs Hole Ravine Road</i> dated 4 October 2019 |
| <p>EPA EP&A Act EP&A Regulation EPL Feasible Heavy vehicle</p> | <p>Environment Protection Authority <i>Environmental Planning and Assessment Act 1979</i> <i>Environmental Planning and Assessment Regulation 2000</i> Environment Protection Licence under the POEO Act Means what is possible and practical in the circumstances A vehicle that has a gross vehicle mass (GVM) or aggregate trailer mass (ATM) of more than 4.5 tonnes and a combination that includes a vehicle with a GVM or ATM of more than 4.5 tonnes (as defined under the Heavy Vehicle National Law (NSW))</p> |
| <p>Heritage item</p> | <p>An Aboriginal object or an Aboriginal place as defined under the <i>National Parks and Wildlife Act 1974</i>, or a place, building, work, relic, moveable object, tree or precinct of heritage significance, that is listed under any of the following: the State Heritage Register under the <i>Heritage Act 1977</i>, a state agency heritage and conservation register under section 170 of the <i>Heritage Act 1977</i>, or anything identified as a heritage item under the conditions of this approval</p> |
| <p>Incident</p> | <p>An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance</p> |
| <p>Land</p> | <p>Has the same meaning as the definition of the term in section 1.4 of the EP&A Act</p> |
| <p>Material harm</p> | <p>Is unauthorised harm that:</p> <ul style="list-style-type: none"> • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment) |
| <p>Maximise</p> | <p>Implement all reasonable and feasible measures to achieve the specified outcome</p> |
| <p>Minimise</p> | <p>Implement all reasonable and feasible measures to reduce the impacts of the development</p> |
| <p>Minister Mitigation</p> | <p>Minister for Planning (or delegate) Activities associated with reducing the impacts of the development prior to or during those impacts occurring</p> |

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| Non-compliance | An occurrence, set of circumstances or development that is a breach of this approval |
| NP&W Act | <i>National Parks and Wildlife Act 1974</i> |
| NPWS | National Parks and Wildlife Service |
| PAD | Potential Archaeological Deposit |
| PAF | Potentially Acid Forming |
| PMF | Probable Maximum Flood |
| POEO Act | <i>Protection of the Environment Operations Act 1997</i> |
| Planning Secretary | Planning Secretary under the EP&A Act, or nominee |
| Pre-construction minor works | Includes the following activities: <ul style="list-style-type: none"> • building/road dilapidation studies • survey works • installing groundwater bores in the Ravine beds on site for water supply • establishing a temporary site office • minor access roads to facilitate the pre-construction minor works • installation of environmental impact mitigation measures, including the installation of monitoring equipment, erosion and sediment controls, and fencing • archaeological salvage, test excavations and investigation works • minor clearing or translocation of native vegetation within the approved disturbance footprint for the pre-construction minor works |
| Proponent | Snowy Hydro Limited, or any person carrying out any development to which this approval applies |
| Public infrastructure | Linear and related infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc. It includes any infrastructure assets in the Kosciuszko National Park |
| RAPs | The Registered Aboriginal Parties for the development as identified in Appendix O of the EIS |
| Reasonable | Means applying judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements |
| Rehabilitation | The restoration of land disturbed by the development to a good condition, ensuring it is safe, stable and non-polluting |
| Remediation | Activities associated with partially or fully repairing or rehabilitating the impacts of the development or controlling the environmental consequences of this impact |
| RFS | Rural Fire Service |
| RMS | Roads and Maritime Services |
| Site | All land to which the development application applies as listed in Appendix 1 and shown in Appendix 2 |

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this approval, the Proponent must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable or feasible, minimise any material harm to the environment that may result from the construction and operation of the project, and any rehabilitation required under this approval.

TERMS OF APPROVAL

2. The Proponent must carry out the development:
 - (a) generally in accordance with the EIS; and
 - (b) in accordance with the conditions of this approval.

Note: The general layout of the development is shown in Appendix 2.

3. If there is any inconsistency between the documents in condition 2 above, the most recent document must prevail to the extent of the inconsistency. However, the conditions of this approval will prevail to the extent of any inconsistency.
4. The Proponent must comply with any reasonable requirement/s of the Planning Secretary arising from the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval (including any stages of these documents);
 - (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this approval; and
 - (c) the implementation of any actions or measures contained in these documents.

LAPSE OF APPROVAL

5. This approval will lapse if the Proponent does not physically commence the development within 5 years of the date on which it is granted.

NOTIFICATION

6. The Proponent must notify the Department and NPWS in writing of the date of commencement of:
 - (a) any public road closures;
 - (b) pre-construction minor works;
 - (c) road upgrade works;
 - (d) construction on site;
 - (e) the subaqueous emplacement trial;
 - (f) the completion of the exploratory tunnel works; and
 - (g) the decommissioning of the development and rehabilitation of the site.

STRUCTURAL ADEQUACY

7. The Applicant must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works; and*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

DEMOLITION

8. The Applicant must ensure that all demolition work is carried out in accordance with *AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

9. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused by the development.

OPERATION OF PLANT AND EQUIPMENT

10. The Applicant must ensure that all plant and equipment used on site, or to monitor the performance of the development is:
- (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.
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SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

IMPACT ON KOSCIUSZKO NATIONAL PARK

Offset

1. Prior to carrying out any development under this approval, unless the Planning Secretary agrees otherwise, the Proponent must pay the NPWS \$4,962,777.

Note: The NPWS will use these funds and any interest generated by these funds to enhance the Kosciuszko National Park and offset the impacts of the development on the conservation and recreational values of the park. The NPWS will:

- *develop a detailed program for the allocation of these funds to specific projects;*
- *monitor, evaluate and publicly report on the spending of these funds and the effectiveness of these projects.*

WORKER – RECREATIONAL MANAGEMENT PLAN

2. Prior to carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Worker – Recreational Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
 - (a) be prepared in consultation with the NPWS;
 - (b) identify the measures that would be implemented to minimise the impacts of workers on the values of the Kosciuszko National Park outside the approved disturbance area for the project, particularly the recreational activities of workers staying in the accommodation camp on site;
 - (c) include a program to monitor the impacts of the development outside the approved disturbance area;
 - (d) include a trigger action and response plan that would be implemented if monitoring shows the values of the Kosciuszko National Park are being adversely affected by the development.
3. The Proponent must implement the approved Worker – Recreational Management Plan.

TALBINGO RECREATIONAL AREA

4. Prior to installing the approved barge infrastructure at the northern end of the Talbingo Reservoir, unless the Planning Secretary agrees otherwise, the Proponent must develop a detailed plan for the new recreational area at the Talbingo Boat Ramp in consultation with Snowy Valleys Council and the NPWS, and to the satisfaction of the Planning Secretary. In preparing this plan, the Proponent must consider the feasibility and merits of incorporating a small area of the Kosciuszko National Park into the plan to enhance the new recreational area. The plan must include:
 - (a) the detailed layout of the new recreational area;
 - (b) a program to construct the new recreational area and minimise any disruption associated with the closure of the existing recreational area;
 - (c) an assessment of any additional impacts associated with the plan; and
 - (d) a program to keep the local community informed of any:
 - closures to the boat ramp;
 - closures to the existing swimming area; and
 - restrictions to waterway access on the Talbingo Reservoir.

BIODIVERSITY - TERRESTRIAL

Biodiversity Offset

5. Prior to carrying out any development under this approval, unless the Planning Secretary agrees otherwise, the Proponent must pay the NPWS \$5,548,222.
- 5A **Within 2 months of the approval of Modification 1, unless the Planning Secretary agrees otherwise, the Proponent must pay the NPWS an additional \$2,639,697.**

Note: The NPWS will use these funds and any interest generated by these funds to offset the biodiversity impacts of the development. These funds will be spent on activities to enhance the biodiversity values of the Kosciuszko National Park. The NPWS will:

- develop a detailed program for the allocation of these funds to specific projects;
- monitor, evaluate and publicly report on the spending of these funds and the effectiveness of these projects.

Biodiversity Management Plan

6. Prior to carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Biodiversity Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
- be prepared in consultation with the NPWS and BCD;
 - include a description of the measures that would be implemented to:
 - protect vegetation and fauna habitat outside the approved disturbance area;
 - minimise native vegetation clearing in the approved disturbance area;
 - minimise the loss of key fauna habitat;
 - undertake pre-clearance surveys of fauna;
 - minimise the impacts of the development on threatened flora and fauna species, including the:
 - Smoky Mouse (*Pseudomys fumeus*);
 - Boorolong Frog (*Litoria booroolongensis*);
 - Eastern Pygmy-possum (*Cercartetus nanus*);
 - maximise the salvage of resources within the approved disturbance area - including native vegetative material and top soil containing vegetative matter and native seed bank – for beneficial reuse in the rehabilitation of the site;
 - collect and propagate seed for use in rehabilitation;
 - control the spread of weeds and pathogens, including *Phytophthora cinnamomi* (*P. cinnamomi*);
 - control the spread of feral pests;
 - minimise the potential for erosion; and
 - minimise bushfire risk;
 - include a program to monitor and report on the effectiveness of these measures.
7. The Proponent must implement the approved Biodiversity Management Plan for the development.

BIODIVERSITY – AQUATIC

Aquatic Habitat Management Plan

8. Prior to carrying out any construction in Talbingo Reservoir, Yarrangobilly River, and Wallaces Creek, unless the Planning Secretary agrees otherwise, the Proponent must prepare an Aquatic Habitat Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
- be prepared in consultation with the NPWS and DPI Fisheries;
 - include a description of the measures that would be implemented to:
 - protect the aquatic habitat outside the approved disturbance areas;
 - minimise the loss of key aquatic habitat;
 - undertake surveys of the condition of aquatic habitat and the presence of any threatened aquatic species:
 - in and surrounding the approved disturbance areas prior to disturbing these areas; and
 - at suitable control sites within the reservoir;
 - minimise the impacts of the development on threatened fauna species, including the Murray crayfish (*Euastacus armatus*) and Macquarie Perch (*Macquaria australasica*);
 - minimise the impact of the development on fish habitat, particularly from the following activities:
 - in Talbingo Reservoir:
 - subaqueous emplacement;
 - dredging;
 - barge infrastructure;
 - water treatment outlet;
 - water intake pipe; and
 - seismic surveys.
 - in Yarrangobilly River, and Wallaces Creek:
 - Wallaces Creek temporary and permanent bridges;
 - Yarrangobilly River temporary and permanent bridges.
 - maximise the relocation of any large mobile invertebrates from the shallower parts of the approved disturbance areas prior to disturbing these areas;
 - salvage woody debris from the dredging area and the shallower parts of the designated subaqueous emplacement areas prior to disturbing these areas, and use this debris to enhance the habitat of other parts of the reservoir;
 - notify DPI – Fisheries of any fish kills;

- (c) include a trigger action and response plan for the Murray Crayfish, which would be implemented if monitoring shows the development is adversely affecting the species;
 - (d) include a program to restore and enhance the aquatic habitat of the approved disturbance area as soon as practicable following the completion of development in these areas;
 - (e) include a program to monitor and report on the effectiveness of these measures.
9. The Proponent must implement the approved Aquatic Habitat Management Plan.

Potential Offsets – Murray Crayfish

10. If the Planning Secretary determines, after reviewing monitoring results of the impacts of the development, that the development has had a significant impact on the Murray Crayfish in the Talbingo Reservoir, then the Proponent must offset these impacts to the satisfaction of the Planning Secretary.

ABORIGINAL HERITAGE

Protection of Aboriginal Heritage Items

11. The Proponent must ensure that the development does not affect any Aboriginal heritage items outside the approved disturbance area (see Appendix 3).

Archival Recording, Excavation and Salvage

12. The Proponent must undertake archival recording, test excavation and/or salvage of the items listed in Table 3-1 in Appendix 3, in accordance with the approved program under the Aboriginal Heritage Management Plan.

Damage

13. The Proponent may damage the Aboriginal heritage items listed in Table 3-2 of Appendix 3 without carrying out any further management or mitigation measures.

Aboriginal Heritage Management Plan

14. Prior to carrying out any development that could affect the Aboriginal heritage items listed in Table 3-1 in Appendix 3, unless the Planning Secretary agrees otherwise, the Proponent must prepare an Aboriginal Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
- (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;
 - (b) be prepared in consultation with the NPWS, BCD, RAPs, NPWS Tumut Brungle Gundagai Aboriginal Community Executive Advisory Committee;
 - (c) include a description of the measures that would be implemented to mitigate the impacts of the development on the Aboriginal heritage items listed in Table 3-1, including:
 - test excavation and salvage of certain sites; and
 - archival recording of cultural features within the approved disturbance area shown in Appendix 3;
 - (d) include a description of the measures that would be implemented to
 - consult the RAPs on the conservation and management of Aboriginal cultural heritage onsite;
 - maintain reasonable access for Aboriginal stakeholders to cultural heritage sites on site;
 - protect and monitor the Aboriginal heritage sites outside the approved disturbance area;
 - manage the discovery of human remains or previously unidentified Aboriginal artefacts;
 - store and manage any salvaged Aboriginal heritage items; and
 - ensure workers on site receive adequate training and inductions on Aboriginal heritage management.
15. The Proponent must implement the approved Aboriginal Heritage Management Plan for the development.

HISTORIC & NATURAL HERITAGE

Protection of Historic Items

16. The Proponent must ensure that the development does not affect:
- any historic heritage items outside the approved disturbance area (see Appendix 4); and
 - the historic heritage items listed in Table 4-2 in Appendix 4.

Archival Recording, Excavations and Salvage

17. The Proponent must undertake archival recording, test excavation and/or salvage of the items listed in Table 4-1 in Appendix 4 in accordance with the approved program under the Historic and Natural Heritage Management Plan.
18. Within one year of the completion of the archival recording, test excavation and salvage works required under this approval, unless the Planning Secretary agrees otherwise, the Proponent must:
- produce a detailed archival record, to publication standard, of the salvage, excavation and storage of heritage artefacts and history of settlement and mining in the Lobs Hole Ravine area; and
 - provide a copy of this record to the Heritage Council, NPWS, Department, and relevant local libraries.

Natural Heritage Items

19. The Proponent must:
- minimise the impact of the development on the:
 - fossiliferous beds and boulder streams on Lobs Hole Ravine Road;
 - for the fossiliferous beds disturbed by the Lobs Hole Ravine Road upgrade works:
 - retain a representative sample of spoil from the fossiliferous beds, and
 - carry out scientific research on this sample of spoil;
 - for the boulder streams disturbed by the Lobs Hole Ravine Road upgrade works:
 - undertake detailed mapping of the block stream extents and morphology; and
 - prepare a detailed archival record of the block streams, prior to disturbing the block streams;
 - ensure the development does not adversely affect the tufa deposits at Lick Hole Gully and Cave Gully shown in Appendix 3; and
 - carry out a detailed investigation of any unidentified karst features intercepted during the tunnel works.

Historic and Natural Heritage Management Plan

20. Prior to carrying out any development that could affect the historic or natural heritage items listed in conditions 16, 17 and 19 above, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Historic and Natural Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
- be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;
 - be prepared in consultation with the BCD and NPWS;
 - describe the measures that would be implemented to:
 - protect the historic heritage items outside the approved disturbance area;
 - mitigate the impacts of the development on the historic heritage items listed in Table 4-1, including a detailed archaeological research design and excavation program for the proposed test excavations;
 - protect or minimise the impacts of the development on the natural heritage items referred to in condition 19 above;
 - include a detailed program for the archival recording of the history of settlement and mining in the Lobs Hole Ravine area;
 - include a program to:
 - carry out scientific research on the representative sample of spoil from the fossiliferous beds disturbed by the Lobs Hole Ravine Road upgrade works and publicly report on the findings of this research;
 - undertake the field mapping and photographic recording of the block streams disturbed by the Lobs Hole Ravine Road upgrade works and publicly report on the findings of this research;
 - carry out a detailed investigation of any unidentified karst features intercepted during the tunnel works and publicly report on the findings of this investigation; and
 - provide educational interpretative signage of the fossiliferous beds and boulder streams;
 - describe the measures that would be implemented to:
 - manage the discovery of human remains and previously unidentified heritage items;
 - relocate moveable historic heritage items within the disturbance area;

- store and manage any salvaged heritage items;
 - investigate any unidentified karst features discovered during the tunnel works; and
 - ensure workers on site receive adequate training and inductions on historic and natural heritage management; and
- (g) include a program to:
- undertake baseline monitoring of the condition of the historic and natural heritage items that must be protected;
 - monitor the impacts of the development on the historic heritage items referred to in condition 16 above; and
 - monitor the impacts of the development on the natural heritage items referred to in condition 19 above.
21. The Proponent must implement the approved Historic and Natural Heritage Management Plan for the development.

EXCAVATED MATERIAL MANAGEMENT

Excavated Material

22. The Proponent must:
- (a) conduct detailed testing of the physical and chemical characteristics of the excavated material;
 - (b) classify, handle, store and/or dispose of this material in accordance with the results of this testing;
 - (c) not place dredge material in the eastern and western emplacement areas;
 - (d) only place excavated material in the western emplacement area that is non-reactive, has low geochemical risk and will be reused;
 - (e) develop and implement suitable procedures for handling, storing and disposing of any material from tunnel excavation:
 - potentially acid forming material;
 - asbestiform mineral fibres;
 - contaminated material; and
 - (f) avoid and/or minimise the water quality impacts of the emplacement areas.
23. Subject to obtaining the further approvals required under this approval, the Proponent may:
- (a) provide excavated material to the NPWS for reuse within the Kosciuszko National Park;
 - (b) reuse excavated material in the rehabilitation of the site;
 - (c) place excavated material in the designated subaqueous emplacement areas; and
 - (d) return the excavated material to the exploratory tunnel.

Removal of Excavated Material from the Kosciuszko National Park

24. Within 3 years of the completion of the exploratory tunnel works, unless the Planning Secretary directs otherwise, the Proponent must remove any remaining extractive material from the Kosciuszko National Park.

Note: In this condition, the remaining extractive material refers to the extractive material on site that cannot be disposed of under condition 23 above.

Subaqueous Placement of Excavated Material in Talbingo Reservoir - Trial

25. Prior to emplacing any excavated material from the development in the designated subaqueous emplacement areas in the Talbingo Reservoir, the Proponent must prepare a Subaqueous Emplacement Management Plan for the development to the satisfaction of the Planning Secretary. The plan is to focus initially on the proposed trial of emplacing up to 50,000m³ of excavated material into the designated subaqueous emplacement area in Plain Creek Bay, and must:
- (a) be prepared in consultation with the EPA, NPWS and DPI Fisheries;
 - (b) identify criteria for excavated material to be considered suitable for emplacement in the reservoir;
 - (c) include site specific water quality criteria for the trial;
 - (d) describe the measures that would be implemented to:
 - minimise the water quality impacts of the trial;
 - minimise the aquatic habitat and species impacts of the trial; and
 - stabilise the emplaced material within the subaqueous emplacement area;
 - (e) include a program to monitor the impacts of the trial on water quality, aquatic habitat and species and the bed of the reservoir in the subaqueous emplacement areas; and
 - (f) a plan to respond to any exceedances of the surface water trigger levels and/or assessment criteria and mitigate and/or offset any adverse surface water impacts of the development.

Note: The designated subaqueous emplacement areas in the Talbingo Reservoir are shown in the figures in Appendix 2.

26. The Proponent must implement the approved Subaqueous Emplacement Management Plan for the development.
27. Within 3 months of completing the trial emplacement of material in the designated subaqueous emplacement area in Plain Creek Bay, unless the Planning Secretary agrees otherwise, the Proponent must submit a Trial Review Report to the Planning Secretary that:
 - (a) documents the findings of the trial;
 - (b) evaluates the:
 - impacts and effectiveness of the trial;
 - whether more excavated material can be placed in the designated subaqueous emplacement area in Plain Creek Bay or the trial may be extended to the other two designated subaqueous emplacement areas; and
 - (c) includes recommendations on additional measures that could be implemented to further minimise the impacts of any future emplacement in the reservoir.
28. If, after considering the Trial Review Report, the Planning Secretary agrees that further excavated material from the development may be put in the designated subaqueous emplacement areas in Plain Creek Bay, Cascade Bay and Ravine Bay within Talbingo Reservoir, then the Proponent must update the Subaqueous Emplacement Management Plan for the development to the satisfaction of the Planning Secretary before any more excavated material from the development is put in Talbingo Reservoir.

Excavated Material Management Plan

29. Prior to carrying out any construction under this approval, the Proponent must prepare an Excavated Material Management Plan for the development to the satisfaction of the Planning Secretary/NPWS. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) identify opportunities for the reuse of excavated material in the construction of the development, rehabilitation of the site, or in other parts of the Kosciuszko National Park;
 - (c) describe the measures that would be implemented to comply with condition 22 above;
 - (d) describe the measures that would be implemented during dredging, and construction of barge and other infrastructure in Talbingo Reservoir to:
 - minimise the water quality impacts;
 - minimise the aquatic habitat and species impacts; and
 - (e) include a copy of the Subaqueous Emplacement Management Plan (once it has been approved); and
 - (f) include a program to monitor and review the effectiveness of these measures.
30. The Proponent must implement the approved Excavated Material Management Plan for the development.

WATER

Water Supply

31. The Proponent must ensure that it has sufficient water for all stages of the development; and if necessary, stage the development to match its available water supply.

Note: Under the Water Management Act 2000, the Proponent must obtain the necessary water licences for the development.

Water Pollution

32. Unless an environment protection licence authorises otherwise, the Proponent must comply with Section 120 of the POEO Act.

Note: Section 120 of the POEO Act makes it an offence to pollute any waters.

Operating Conditions

33. The Proponent must:
 - (a) minimise the use of clean water on site;
 - (b) maximise the diversion of clean water runoff around the approved disturbance areas on site;
 - (c) minimise the flow rates from any clean water runoff diversions to adjoining watercourses;
 - (d) minimise any soil erosion associated with the development;

- (e) ensure all chemical and hydrocarbon products are stored on site in bunded areas in accordance with the relevant Australian Standards.

Water Management Plan

34. Prior to carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Water Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
- (a) be prepared in consultation with the EPA, NPWS, DoI Water and DPI - Fisheries by a suitably qualified and experienced person/s whose appointment has been approved by the Planning Secretary;
 - (b) include a Site Water Balance for the development and a program to review and update the site water balance each calendar year;
 - (c) include a Surface Water Management Plan with:
 - detailed baseline data on surface water flows and quality in the watercourses that could potentially be affected by the development;
 - a program to augment the baseline data during the development;
 - a description of the measures that would be implemented to minimise the impacts of:
 - any subaqueous emplacement;
 - the dredging within Talbingo Reservoir;
 - the barge infrastructure;
 - the water intake;
 - the water treatment pipes and outlets;
 - any in-stream works;
 - stockpiles;
 - eastern emplacement area;
 - western emplacement area;
 - construction portal;
 - accommodation camp;
 - **Lobs Hole substation**;
 - road upgrades, and in particular the road works in the vicinity of the Yarrangobilly River;
 - chemical and hydrocarbon storage.
 - surface water assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts of the development;
 - a description of the measures that would be implemented to minimise the surface water impacts of the development;
 - a program to monitor and report on the surface water impacts of the development including water monitoring locations, analytes and sampling frequency for each monitoring location;
 - a program to monitor and report on the surface water impacts of the development
 - a plan to respond to any exceedances of the surface water trigger levels and/or assessment criteria and mitigate and/or offset any adverse surface water impacts of the development;
 - (d) include a Dredging Management Plan with:
 - a description of the measures that would be implemented to minimise the generation and dispersion of sediments outside the identified works zone during dredging;
 - monitoring at representative locations to determine the extent of suspended sediment concentrations and any other potential pollutants dispersed by dredging;
 - a plan to respond to any exceedances of the surface water trigger levels and/or assessment criteria and mitigate and/or offset any adverse surface water impacts of the development;
 - (e) include a Groundwater Management Plan with:
 - detailed baseline data on groundwater levels, yield and quality on the aquifers that could be affected by the development;
 - a program to augment the baseline data during the development;
 - groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;
 - a description of the measures that would be implemented to minimise the groundwater impacts of the development
 - a program to monitor and report on:
 - groundwater inflows to the tunnel, including inflows to relevant water sources;
 - groundwater take from the groundwater bores;
 - the impacts of the development on:
 - regional and local (including alluvial) aquifers;
 - groundwater dependent ecosystems, stygofauna and riparian vegetation; and
 - base flow to surface water sources;
 - a plan to respond to any exceedances of the trigger levels and/or assessment criteria and mitigate and/or offset any adverse groundwater impacts of the development.
35. The Proponent must implement the approved Water Management Plan for the development.

TRANSPORT

Lobs Hole Ravine Road Upgrade – Fossiliferous Beds and Boulder Streams

36. The Proponent must implement Option 2 (Cut into existing face) in the EIS for upgrading the Lobs Hole Ravine Road adjacent to the fossiliferous beds.

Note: The layout of Option 2 is shown in Appendix 2.

37. The Proponent must implement the Wide Cut Design Option for any excavation required on the upside slope side into the boulder streams for upgrading Lobs Hole Ravine Road .

Note: The layout of upgrade is shown in Appendix 2.

- 37A. Prior to carrying out the upgrades to Lobs Hole Ravine Road within the boulder streams, the Proponent must prepare detailed plans for the proposed upgrades in consultation with the NPWS, and to the satisfaction of the Secretary. These plans must:
- avoid impacts on the downslope section of Block Stream B;
 - minimise the extent of excavation into the upslope block streams;
 - minimise moving or damaging blocks in areas beyond the excavation zone;
 - ensure the remaining sections of the boulder streams are safe and stable, using stabilisation measures that would maintain the landscape values of the streams to the greatest extent practicable and maximise their visibility for future viewing;
 - minimise the use of outside materials onto the block streams (such as soil or fill);
 - include suitable drainage controls to ensure water flow through the upslope block streams are not impeded; and
 - include a program to monitor the implementation of the plans; and if necessary, undertake corrective action to maintain the stability of the block streams.

The Proponent must implement the approved plans for these road upgrades.

Lobs Hole Road - Closure and Early Rehabilitation

38. Within 3 months of completing the upgrade of Lobs Hole Road, unless the Planning Secretary agrees otherwise, the Proponent must close the sections of Lobs Hole Road that are no longer required and rehabilitate the land to the satisfaction of the NPWS.

Note: The sections to be closed and rehabilitated are shown in Appendix 2.

Temporary Bridges – Wallaces Creek and Yarrangobilly River

39. The Proponent must:
- ensure the temporary bridges over Wallaces Creek and the Yarrangobilly River incorporate, to the greatest extent practicable, the requirements:
 - Guidelines for Controlled activities on Waterfront Land (NRAR, 2018)*; and
 - Policy and Guidelines for Fish Habitat Conservation (DPI 2013)* and *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003)*;
 - remove temporary bridges as soon as practicable after the construction of the permanent bridges, and rehabilitate the land to the satisfaction of the NPWS;
 - consider scheduling to minimise in stream works between October to January, the migratory period of the Macquarie Perch (*Macquaria australasica*).

Permanent Bridges – Wallaces Creek and Yarrangobilly River

40. The Proponent must:
- ensure that permanent bridges over Wallaces Creek and the Yarrangobilly River are designed and constructed to comply with the relevant requirements of the:
 - Guidelines for Controlled activities on Waterfront Land (NRAR, 2018)*; and
 - Policy and Guidelines for Fish Habitat Conservation (DPI 2013)* and *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003)*;
 - ensure that the permanent bridges over Wallace Creek and the Yarrangobilly River are designed and constructed to comply with the relevant requirements of the relevant Austroads Standards (such as elevating them above the 1% AEP flood level);
 - minimise in stream works between October to January, the migratory period of the Macquarie Perch (*Macquaria australasica*).

Miles Franklin Drive/Snowy Mountains Highway Intersection

41. The Proponent must ensure the Miles Franklin Drive/Snowy Mountains Highway intersection complies with the relevant Austroads sight distance requirements for a reaction time of 2.5 seconds for the posted speed limit, as amended by any relevant supplements adopted by the RMS.

Road Maintenance

42. The Proponent must:
- (a) prepare a dilapidation survey in accordance with guidelines and standards established by Austroads of the relevant section of Miles Franklin Drive, Link Road and Kings Cross Road:
 - prior to the commencement of any construction and/or decommissioning works;
 - within 2 months of the completion of any construction and/or decommissioning works;
 - (b) rehabilitate and/or make good any development-related damage:
 - identified during the carrying out of the relevant construction and/or decommissioning works if it could endanger road safety, as soon as possible after the damage is identified, but within 7 days at the latest; and
 - identified during any dilapidation survey carried out following the completion of the relevant construction and/or decommissioning works within 2 months of the completion of the survey, unless the relevant roads authority agrees otherwise, to the satisfaction of the relevant roads authorities.

If there is a dispute about the scope of any remedial works or the implementation of these works, then either party may refer the matter to the Planning Secretary for resolution.

Note: For the purposes of this condition Snowy Valleys Council/Crown Lands is the relevant road authority for Miles Franklin Drive and the NPWS is the relevant road authority for Link Road and Kings Cross Road.

Public Access Restrictions

43. During the development, the Proponent may close the following to the public:
- (a) Lobs Hole Ravine Road from the Blue Creek Trail intersection (in the north) to the Link Road (in the south);
 - (b) Ravine campground;
 - (c) Spillway Road;
 - (d) Talbingo Spillway and recreation area;
 - (e) Middle Bay hand-launching boat ramp.

Note: The roads to be closed to the public are shown in Appendix 2.

Heavy Vehicle Access Restrictions

44. All over-dimensional and heavy vehicles associated with the development must travel to and from the site via the:
- (a) Snowy Mountains Highway, Miles Franklin Drive and Spillway Road;
 - (b) Snowy Mountains Highway, Link Road, and Lobs Hole Ravine Road;
 - (c) **Snowy Mountains Highway, Coppermine Trail and Wallaces Creek Trail; or**
 - (d) **Snowy Mountains Highway, Tantangara Road and Quarry Trail.**

Note: The Proponent is required to obtain relevant permits under the Heavy Vehicle National Law (NSW) for the use of over-dimensional vehicles on the road network.

45. The Proponent must maximise the use of barge infrastructure on the Talbingo Reservoir to deliver heavy machinery, construction equipment and materials to the site.

Traffic Management Plan

46. Prior to carrying out any development, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Traffic Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
- (a) be prepared in consultation with the NPWS, RMS, Snowy Valleys Council and Snowy Monaro Regional Council;
 - (b) include a description of the measures that would be implemented to:
 - minimise the traffic safety impacts of the development on:
 - road users on Miles Franklin Drive and Link Road;
 - **road users on the Snowy Mountains Highway in proximity to the intersections with Link Road, Tantangara Road and Coppermine Trail during the borehole investigations at Tantangara and Marica;**
 - recreational water users in Talbingo Reservoir **and Tantangara Reservoir;**
 - notify the local community about development-related traffic impacts;
 - restrict the following along the Upper Lobs Hole Ravine Road:

- vehicle speeds to 40 km/h;
 - hours of operation to **between sunrise and sunset**;
 - **restrict vehicle speeds along Wallaces Creek Trail and access tracks in the Marica area to 20 km/h between sunrise and sunset**;
 - maintain suitable access to the site for NPWS vehicles required to carry out any park or emergency operations;
 - schedule the use of heavy vehicles to minimise convoy length or congestion on the public road network;
 - ensure loaded vehicles entering or leaving the site have their loads covered or contained;
 - minimise dirt being tracked on the public road network from development-related traffic;
 - minimise workers using private vehicles to get to and from the site;
 - minimise light vehicles using routes to the site other than the **Coppermine Trail, Wallaces Creek Trail, Tantangara Road, Quarry Trail**, Miles Franklin Drive, Spillway Road, Link Road and Lobs Hole Ravine Road to get to and from the site;
 - provide sufficient parking on-site for all development-related traffic;
 - manage any traffic safety risks associated with the use of the
- (c) include a detailed strategy for the use of over-dimensional vehicles, and the repair of any damage caused by these vehicles;
- (d) include a driver's code of conduct that addresses:
- travelling speeds;
 - procedures to ensure that drivers adhere to the designated over-dimensional and heavy vehicle routes;
 - procedures to ensure drivers implement safe driving practices;
- (e) include a program to monitor and report on the effectiveness of these measures and the code of conduct.

Note: Sunrise and sunset times are to be taken from the nearest Bureau of Meteorology centre

47. The Proponent must implement the approved Traffic Management Plan for the development.

AMENITY

Air

48. The Proponent must:
- (a) minimise the dust, odour, fume, and blast emissions of the development; and
 - (b) minimise the surface disturbance of the site.

Noise

49. The Proponent must:
- (a) minimise the noise of the development, including any associated traffic noise; and
 - (b) ensure that the noise generated by the development is managed in accordance with the best practice requirements outlined in the *Interim Construction Noise Guideline* (DECC, 2009), or its latest version.
50. Unless the Planning Secretary agrees otherwise, the Proponent may only carry out construction activities on those parts of the site that are located outside the Kosciuszko National Park between:
- 7 am to 6 pm Monday to Saturday; and
 - at no time on Sundays and NSW public holidays.

The following construction activities may be undertaken outside these hours without the approval of the Planning Secretary:

- the delivery of materials requested by the NSW Police Force or other authorities for safety reasons; or
- emergency work to avoid the loss of life, property and/or material harm to the environment.

Note: For the purposes of this condition, outside of Kosciuszko National Park relates to the parts of the site that are adjacent to the township of Talbingo

Blasting

51. The Proponent may:
- (a) carry out blasting underground at any time; and
 - (b) only carry out blasting on the surface of the site between 9am and 5pm Monday to Sunday.

Lighting

52. The Proponent must:
- (a) minimise the lighting impacts of the development;
 - (b) ensure that all external lighting associated with the development:
 - is consistent with the good lighting design principles in the *Dark Sky Planning Guideline*, (DPE 2016), or its latest version; and
 - complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version.

EMERGENCY MANAGEMENT

Asset Protection

53. The Proponent must:
- (a) include suitable asset protection measures into the final design of the development in accordance with the *Planning for Bushfire Protection* (RFS 2006) guidelines, or its latest version; and
 - (b) ensure any fire trails or asset protection zones associated with the development are wholly contained within the approved disturbance area.

Emergency Plan

54. Prior to carrying out the development on site, the Proponent must prepare an Emergency Plan for the development to the satisfaction of the NPWS. This plan must:
- (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the NPWS;
 - (b) be consistent with the *Kosciuszko National Park Fire Management Strategy 2008-2013* (NPWS 2008), or its latest version;
 - (c) describe the measures that would be implemented to:
 - minimise the risk of bushfires on site;
 - protect the assets on site from bushfires;
 - respond to any bushfires on or in the vicinity of the site
 - evacuate the site in an emergency
 - (d) monitor and review the effectiveness of these measures.

WASTE

55. The Proponent must:
- (a) minimise the waste generated by the development;
 - (b) classify all waste generated on site in accordance with the *Waste Classification Guidelines* (NSW EPA 2014), or its latest version;
 - (c) store and handle all waste generated on site in accordance with its classification; and
 - (d) ensure all waste is disposed of off-site at appropriately licenced facilities.

REHABILITATION

Rehabilitation Objectives

56. The Proponent must:
- (a) rehabilitate the site to the satisfaction of NPWS, and comply with the objectives in Table 2;
 - (b) ensure the rehabilitation of the site is substantially complete within 5 years of the completion of the exploratory tunnel works, unless the Planning Secretary agrees otherwise.

Note: The restoration of the land capability of the site required

Table 2: Rehabilitation Objectives

| Feature | Objective |
|----------------|---|
| Project site | <ul style="list-style-type: none">• Safe, stable and non-polluting• Remediate any contaminated land disturbed or caused by the project• Ensure final landforms are similar to the pre-development landforms unless otherwise agreed with NPWS• Final landforms to maximise surface drainage to the natural environment |

| Feature | Objective |
|---------------------------|--|
| Infrastructure | <ul style="list-style-type: none"> To be decommissioned and removed, unless NPWS agrees otherwise Design and construct all roads to be retained on site to the standard specified by NPWS |
| On-land emplacement areas | <ul style="list-style-type: none"> Remove all excavated material from the on-land emplacement areas |
| Land use | <ul style="list-style-type: none"> Restore land capability to pre-development use to a standard equivalent to the assessment in the Biodiversity Development Assessment Report in the EIS or better Restore and enhance the Lobs Hole campground to a standard specified by the NPWS |
| Community | <ul style="list-style-type: none"> Ensure public safety |

Progressive Rehabilitation

57. The Proponent must:
- rehabilitate the site progressively, as soon as reasonably practicable following disturbance;
 - minimise the disturbance area at any time;
 - employ interim rehabilitation strategies to minimise dust generation, soil erosion and weed incursion on parts of the site that cannot yet be permanently rehabilitated.

Rehabilitation Management Plan

58. Within 6 months of carrying out any development, unless otherwise agreed by the Planning Secretary, the Proponent must prepare a Rehabilitation Management Plan for the development to the satisfaction of NPWS. This plan must:
- include a detailed plan for rehabilitation of the site;
 - include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);
 - describe the measures that would be implemented to:
 - comply with the rehabilitation objectives and associated performance and completion criteria;
 - progressively rehabilitate the site;
 - include a program to monitor and report on the effectiveness of these measures.
59. The Proponent must implement the approved Rehabilitation Management Plan for the development.

SCHEDULE 4 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. Prior to carrying out any development, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:
 - (a) provide the strategic framework for environmental management of the development;
 - (b) identify the statutory approvals that apply to the development;
 - (c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (d) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the development being carried out;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (e) include:
 - copies of any strategies, plans and programs approved under the conditions of this approval; and
 - a clear plan depicting all the monitoring to be carried out in relation to the development.
2. The Proponent must implement the approved Environmental Management Strategy for the development.

Updating & Staging of Strategies, Plans or Programs

3. To ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development, the Proponent may submit revised strategies, plans or programs required under this approval at any time. With the agreement of the Planning Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis.

The Planning Secretary may approve a revised strategy, plan or program required under this approval, or the staged submission of any of these documents, at any time. With the agreement of the Planning Secretary, the Proponent may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this approval.

Notes:

- While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

Revision of Strategies, Plans and Programs

4. Within 3 months, unless otherwise agreed with the Planning Secretary, of:
 - (a) the submission of an incident report under condition 5 below;
 - (b) the submission of an audit report under condition 7 below; and
 - (c) the approval of any modification to the conditions of this approval; or
 - (d) a direction of the Planning Secretary under condition 4 of schedule 2;the Proponent must review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Planning Secretary.

Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Planning Secretary for approval, unless otherwise agreed with the Planning Secretary.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.

INCIDENT NOTIFICATION

5. The Department must be notified in writing **via the Major Projects portal** immediately after the Proponent becomes aware of incident on site. The notification must identify the development, including the application number, and set out the location and nature of the incident.

NON-COMPLIANCE NOTIFICATION

6. The Department must be notified in writing **via the Major Projects portal** within 7 days after the Proponent becomes aware of any non-compliance. The notification must identify the development, including the application number, set out the condition of approval that the development is non-compliant with, the way in which it does not comply, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.

REPORTING

Compliance Reporting

7. The Proponent must provide regular compliance reporting to the Department and NPWS on the development in accordance with the relevant *Compliance Reporting* requirements (DPE 2018).

Regular Reporting

8. The Proponent must provide regular reporting on the environmental performance of the development on its website in accordance with the reporting requirements in any strategies, plans or programs approved under the conditions of this approval.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within one year of the commencement of construction and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be conducted by a suitably qualified lead auditor and suitably qualified, experienced and independent team of experts in any field specified by the Planning Secretary, whose appointment has been endorsed by the Planning Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this approval, and any relevant EPL (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of any strategies, plans or programs required under the abovementioned approvals; and
 - (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under the abovementioned approvals; and
 - (f) be conducted and reported to the satisfaction of the Planning Secretary.

Note: This audit must be undertaken in accordance with the Independent Audit requirements (DPE 2018).

10. Within 12 weeks of commissioning this audit, or as otherwise agreed by the Planning Secretary, the Proponent must submit a copy of the audit report to the Planning Secretary, together with its response to any recommendations contained in the audit report and a timetable for the implementation of these recommendations as required.
11. The Proponent must implement these recommendations, to the satisfaction of the Planning Secretary.

ACCESS TO INFORMATION

12. From the commencement of development under this approval, the Proponent shall:
- (a) Make copies of the following information publicly available on its website:
 - the EIS;
 - current statutory approvals for the development;
 - approved strategies, plans or programs required under the conditions of this approval;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
 - a summary of complaints, which is to be updated monthly;
 - any independent environmental audit, and the Proponent's response to the recommendations in any audit;
 - any other matter required by the Planning Secretary; and
 - (b) keep this information up to date.
-

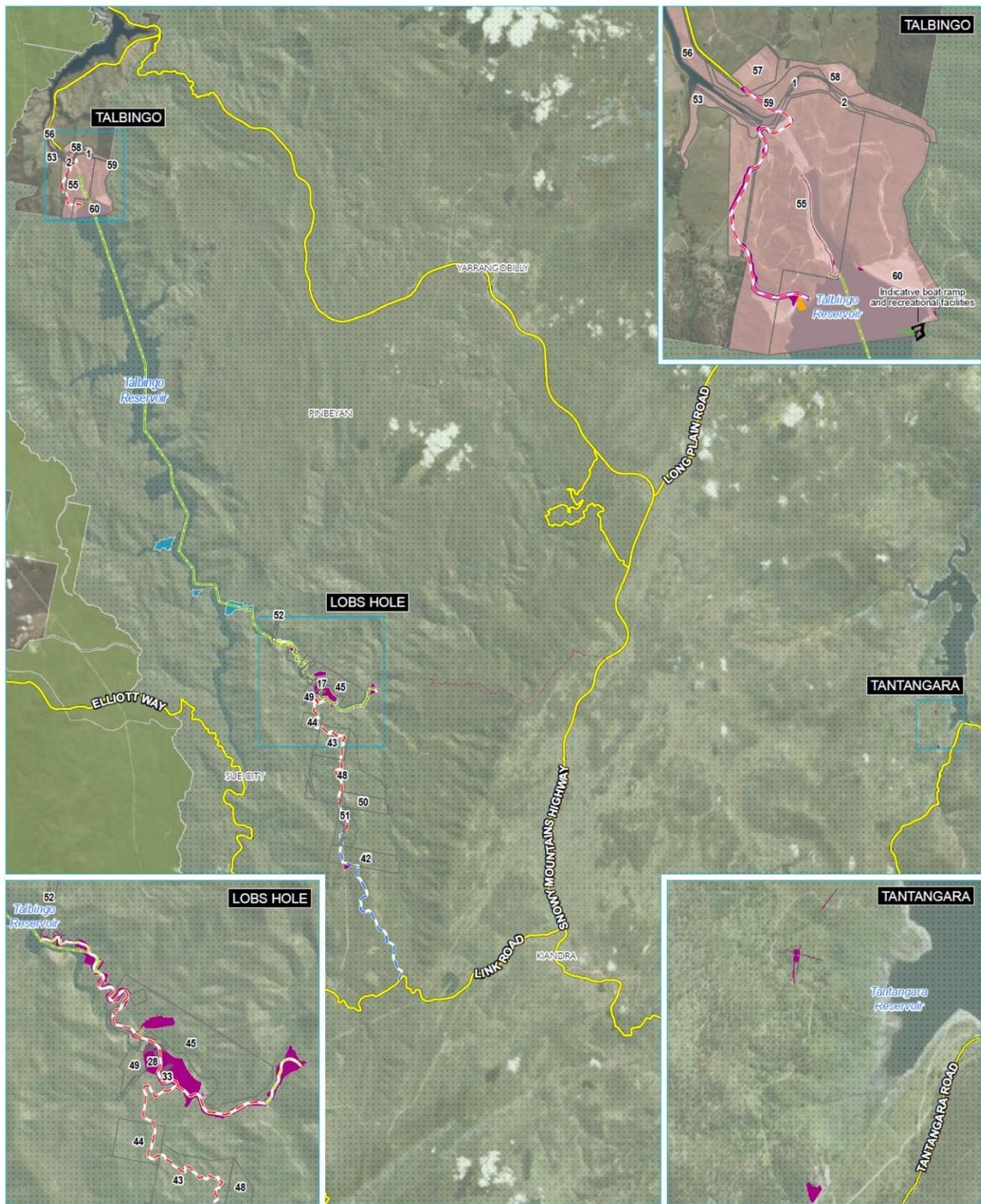
APPENDIX 1 – SCHEDULE OF LAND

| ID on Figures 1-1 and 1-2 | Lot Number | Section Number | DP |
|------------------------------|------------|----------------|---------|
| 1 | 1 | | 728290 |
| 2 | 18 | | 728290 |
| 3 | 1 | 1 | 758870 |
| 4 | 2 | 1 | 758870 |
| 5 | 3 | 1 | 758870 |
| 6 | 4 | 1 | 758870 |
| 7 | 5 | 1 | 758870 |
| 8 | 7 | 1 | 758870 |
| 9 | 6 | 1 | 758870 |
| 10 | 8 | 1 | 758870 |
| 11 | 9 | 1 | 758870 |
| 12 | 10 | 1 | 758870 |
| 13 | 11 | 1 | 758870 |
| 14 | 12 | 1 | 758870 |
| 15 | 2 | 4 | 758870 |
| 16 | 1 | 4 | 758870 |
| 17 | 3 | 4 | 758870 |
| 18 | 7 | 4 | 758870 |
| 19 | 5 | 4 | 758870 |
| 20 | 6 | 4 | 758870 |
| 21 | 5 | 2 | 758870 |
| 22 | 1 | 3 | 758870 |
| 23 | 2 | 3 | 758870 |
| 24 | 3 | 3 | 758870 |
| 25 | 6 | 3 | 758870 |
| 26 | 7 | 3 | 758870 |
| 27 | 8 | 3 | 758870 |
| 28 | 1 | 5 | 758870 |
| 29 | 2 | 5 | 758870 |
| 30 | 3 | 5 | 758870 |
| 31 | 4 | 5 | 758870 |
| 32 | 5 | 5 | 758870 |
| 33 | 7001 | | 1056249 |
| 34 | 1 | 6 | 758870 |
| 35 | 7 | 7 | 758870 |
| 36 | 6 | 7 | 758870 |
| 37 | 5 | 7 | 758870 |
| 38 | 4 | 7 | 758870 |
| 39 | 3 | 7 | 758870 |
| 40 | 2 | 7 | 758870 |
| 41 | 1 | 7 | 758870 |

| ID on Figures 1-1 and 1-2 | Lot Number | Section Number | DP |
|------------------------------|------------|----------------|---------|
| 42 | 53 | | 755888 |
| 43 | 12 | | 755888 |
| 44 | 21 | | 755888 |
| 45 | 3 | | 750996 |
| 46 | 4 | 2 | 758870 |
| 47 | 3 | 2 | 758870 |
| 48 | 13 | | 755888 |
| 49 | 16 | | 755888 |
| 50 | 25 | | 755888 |
| 51 | 52 | | 755888 |
| 52 | 15 | | 750996 |
| 53 | 3 | | 235380 |
| 55 | 5 | | 235380 |
| 56 | 1 | | 235381 |
| 57 | 50 | | 1091285 |
| 58 | 52 | | 1096317 |
| 59 | 53 | | 1096317 |
| 60 | 50 | | 1089353 |
| | 3 | | 756723 |
| | 4 | 3 | 758870 |
| | 5 | 3 | 758870 |
| | 9 | 3 | 758870 |
| | 7 | 5 | 758870 |
| | 6 | 5 | 758870 |
| | 8 | 5 | 758870 |
| | 9 | 5 | 758870 |
| | 14 | 5 | 758870 |
| | 15 | 5 | 758870 |
| | 16 | 5 | 758870 |
| | 13 | 5 | 758870 |
| | 12 | 5 | 758870 |
| | 11 | 5 | 758870 |
| | 10 | 5 | 758870 |
| | 6 | 2 | 758870 |
| | 7 | 2 | 758870 |
| | 2 | | 756723 |
| | 4 | | 235380 |

Notes:

1. The cadastral information for the lands to which the Application applies was sourced from EMM (27/11/2018).
2. The Development Application Area is shown in Appendix 1, Figures 1-1 and 1-2 as indicated by the project boundary.



Source: EMM (2018); Snowy Hydro (2018); SMEC (2018); DFSI (2018); GA (2017); LPMA (2011)

KEY

- Access road upgrade - without widening
- Access road upgrade - with widening
- Access road extension
- Communications cable
- Disturbance footprint
- Dredging footprint
- Subaqueous rock emplacement area

- Impacted cadastral lot - land ownership
- Snowy Hydro-owned land
- NSW Government-owned land
- Indicative boat ramp and recreational facilities
- Existing beach area
- Existing gabion wall
- Foreshore reserve

- Main road
- Kosciuszko National Park
- State forest

Schedule of land

Snowy 2.0
Exploratory Works

Figure 1a



Figure 1-1: Schedule of land and land ownership

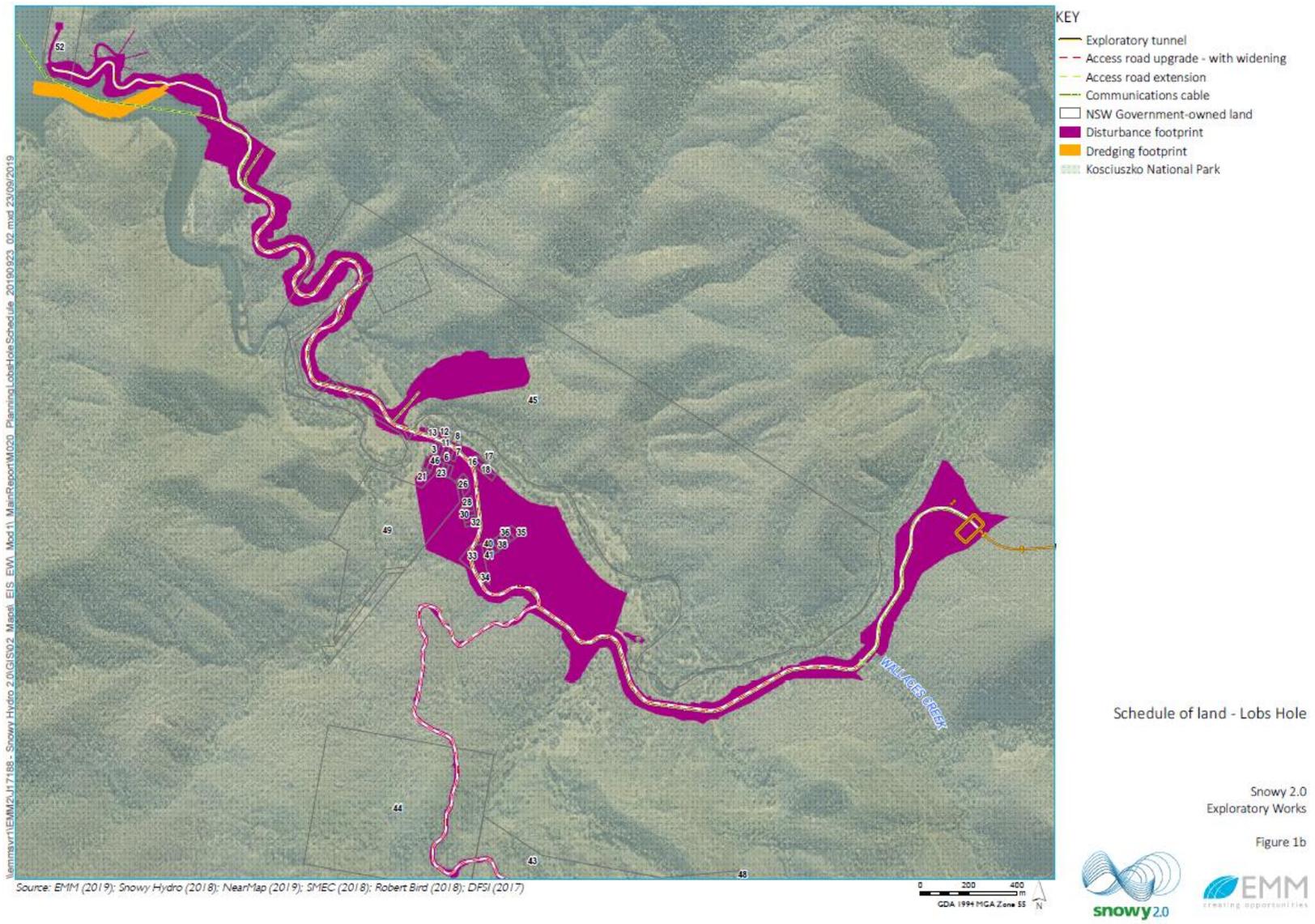
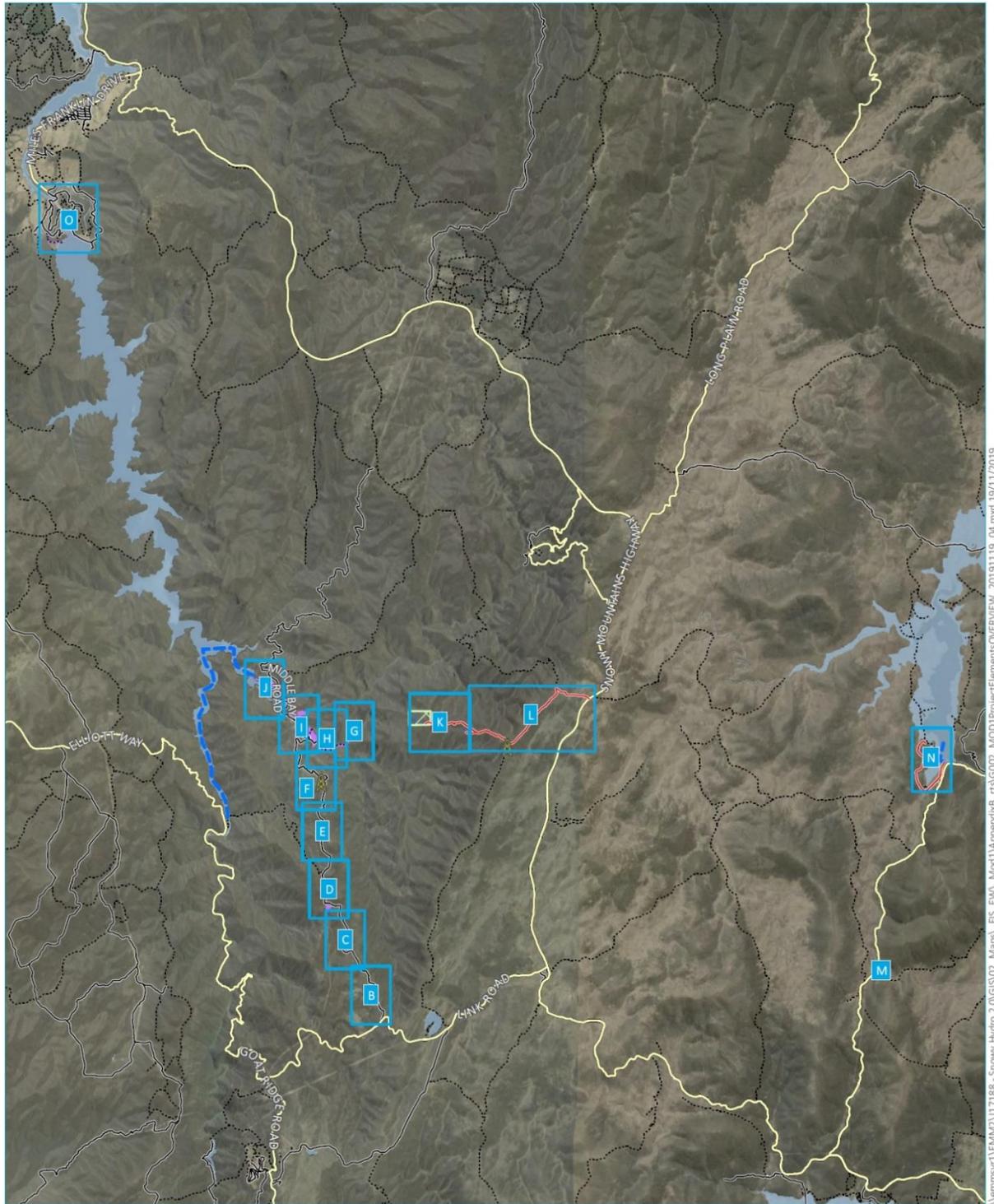


Figure 1-2: Schedule of land and land ownership – Lobs Hole

APPENDIX 2 – SITE LAYOUT



Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

- Proposed temporary communications upgrade location
- Existing access track
- Boat access
- Main road
- Local road
- Vehicular track

- Map index
- EW approved construction footprint
- EW modification construction footprint (additional)
- Boreholes requiring on-site adjustment
- Waterbody

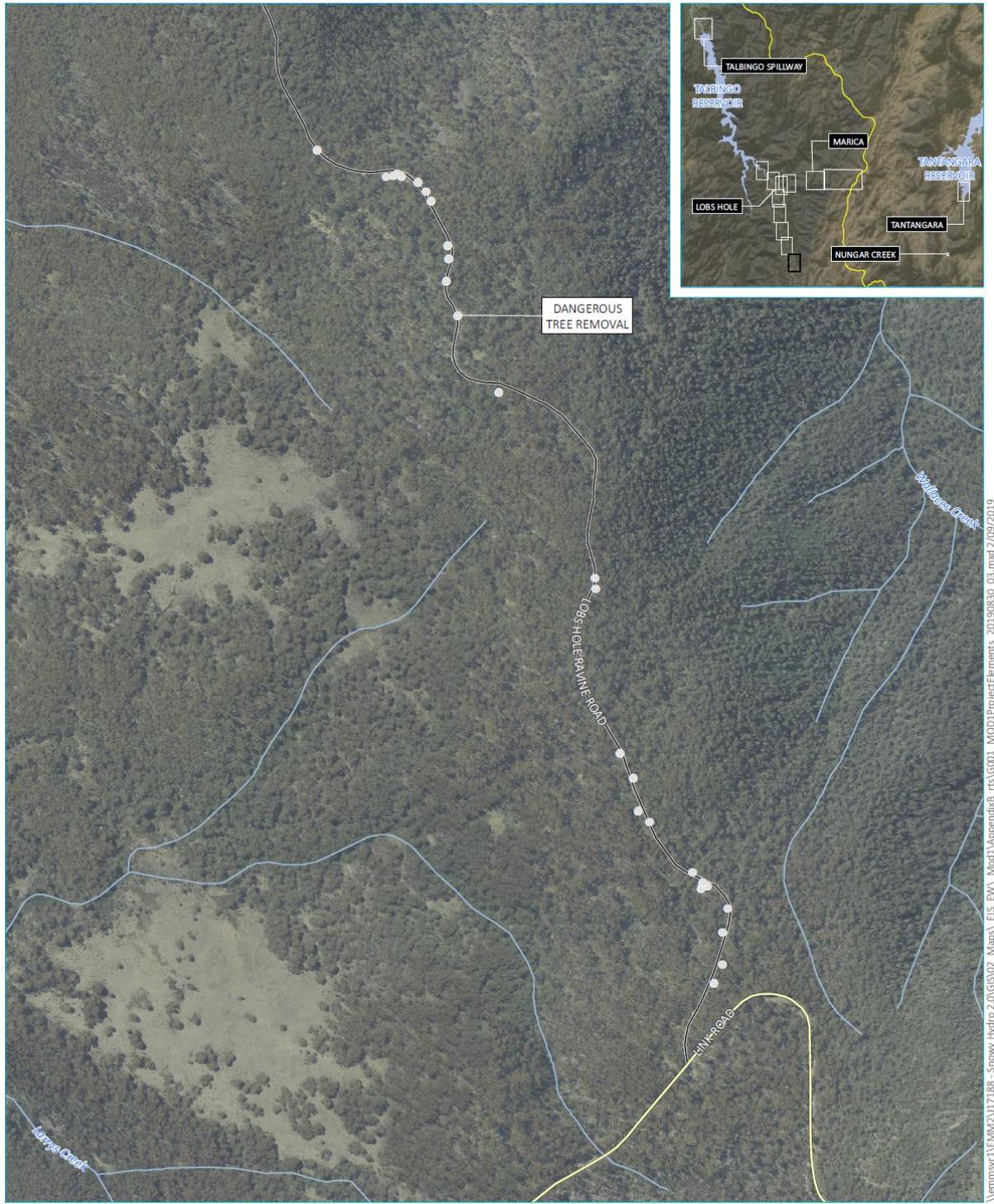
0 5 10 km
GDA 1994 MGA Zone 55

Exploratory Works project boundary
- overview

Snowy 2.0
Exploratory Works EIS
Modification 1
1 a



Figure 2-1: Project Boundary - Overview



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

- KEY**
- Dangerous tree
 - ══ Main road
 - Local road
 - Watercourse/drainage line

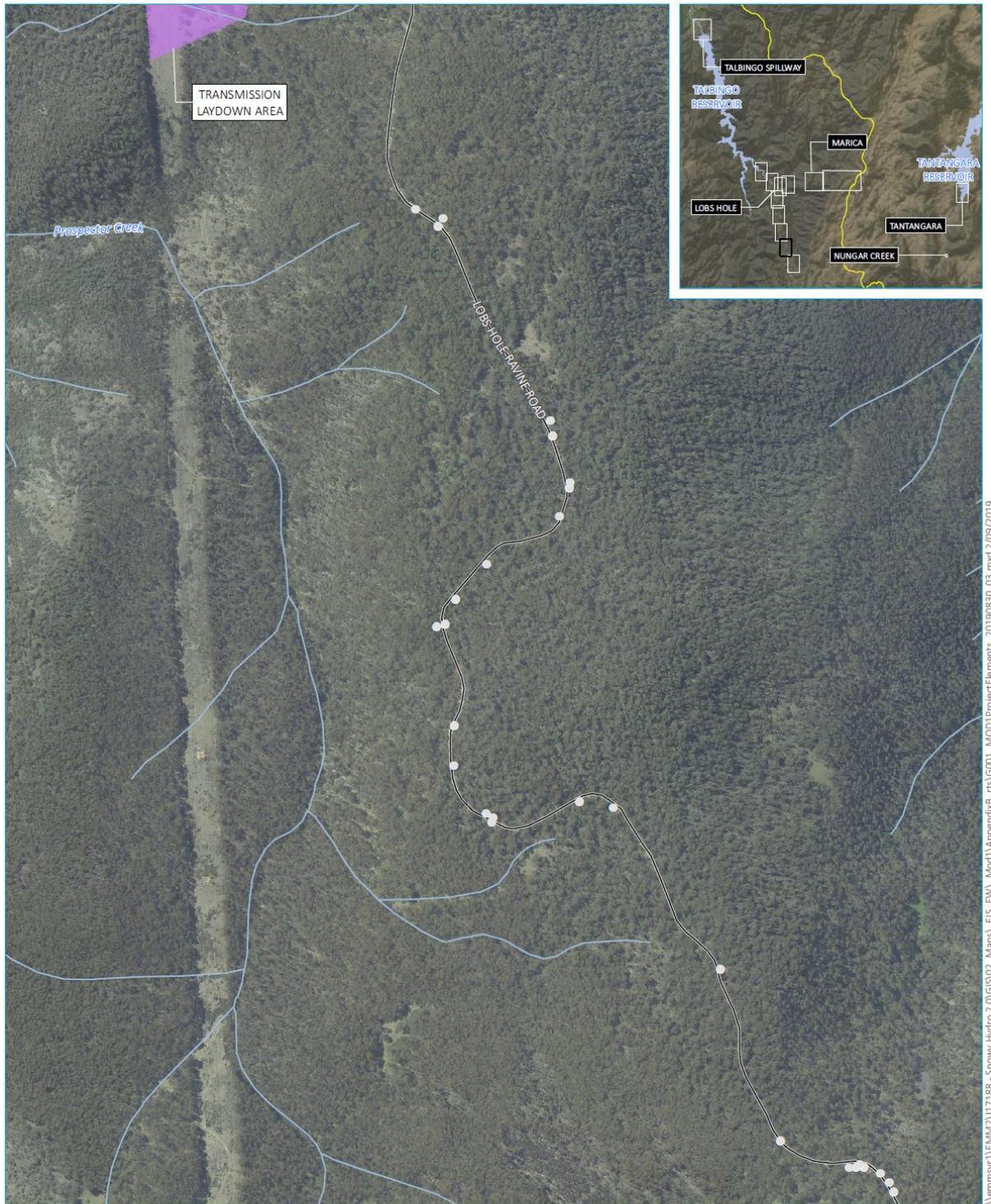
0 250 500
m
GDA 1994 MGA Zone 55

Exploratory Works project boundary
- Lobs Hole Ravine Road (Upper) 1

Snowy 2.0
Exploratory Works EIS
Modification 1
1 b



Figure 2-2: Project Boundary – Lobs Hole Ravine Road (Upper) 1



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

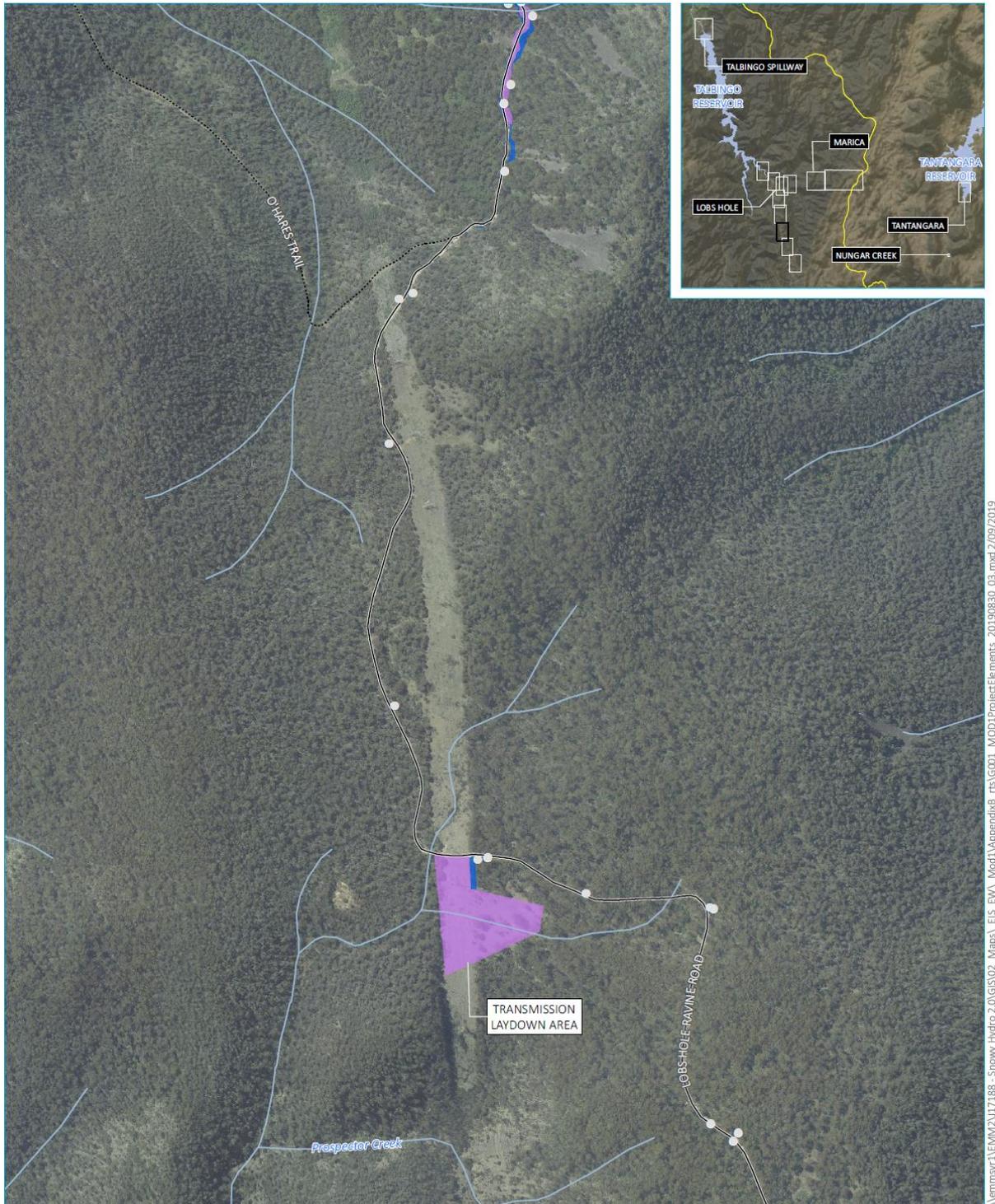
- KEY**
- Dangerous tree
 - Local road
 - Watercourse/drainage line
 - EW approved construction footprint

Exploratory Works project boundary
- Lobs Hole Ravine Road (Upper) 2

Snowy 2.0
Exploratory Works EIS
Modification 1
1 c



Figure 2-3: Project Boundary – Lobs Hole Ravine Road (Upper) 2



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

- Dangerous tree
- Local road
- Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)

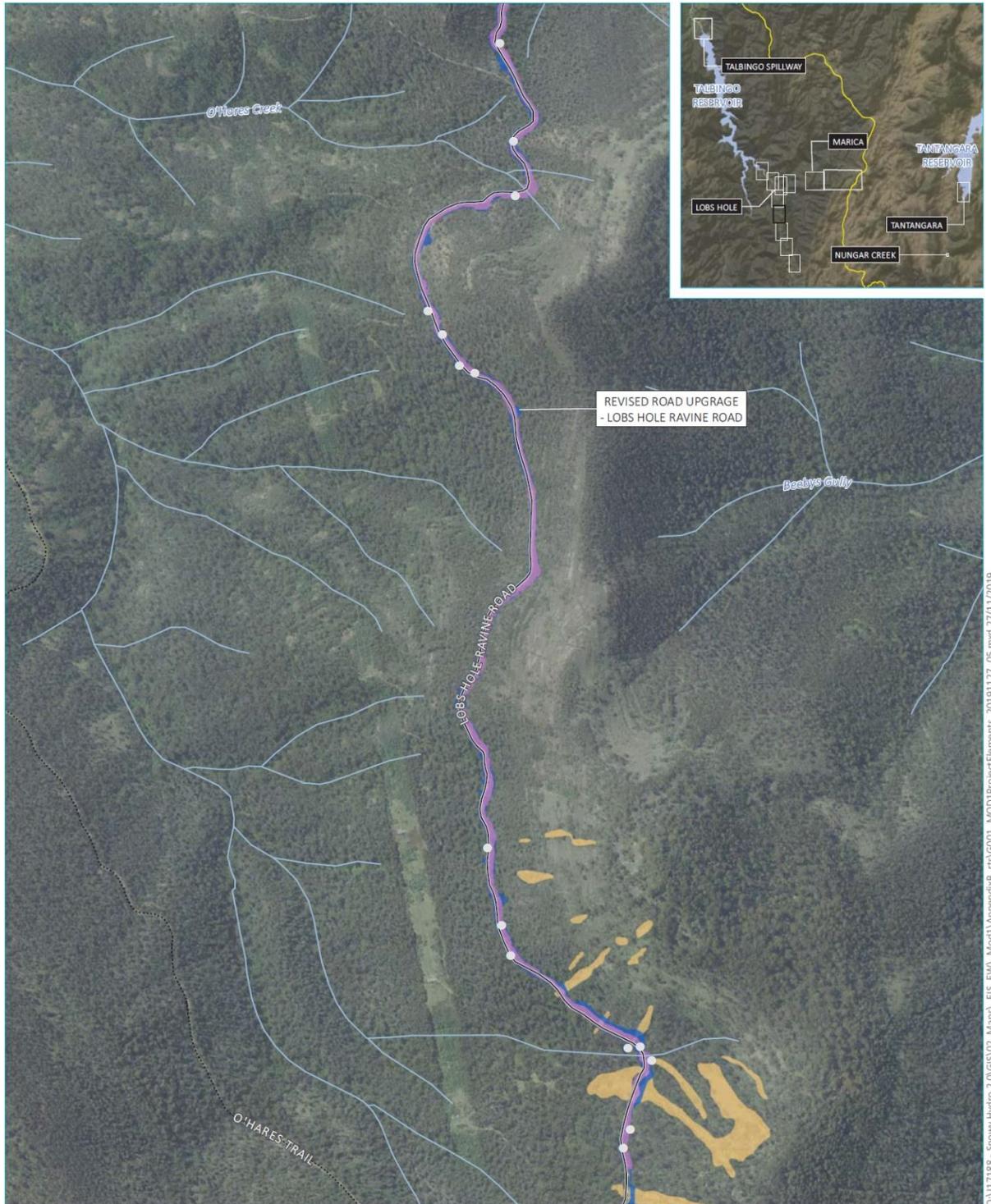
0 250 500
m
GDA 1994 MGA Zone 55

Exploratory Works project boundary
- Lobs Hole Ravine Road (Upper) 3

Snowy 2.0
Exploratory Works EIS
Modification 1
1 d



Figure 2-4: Project Boundary – Lobs Hole Ravine Road (Upper) 3



Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

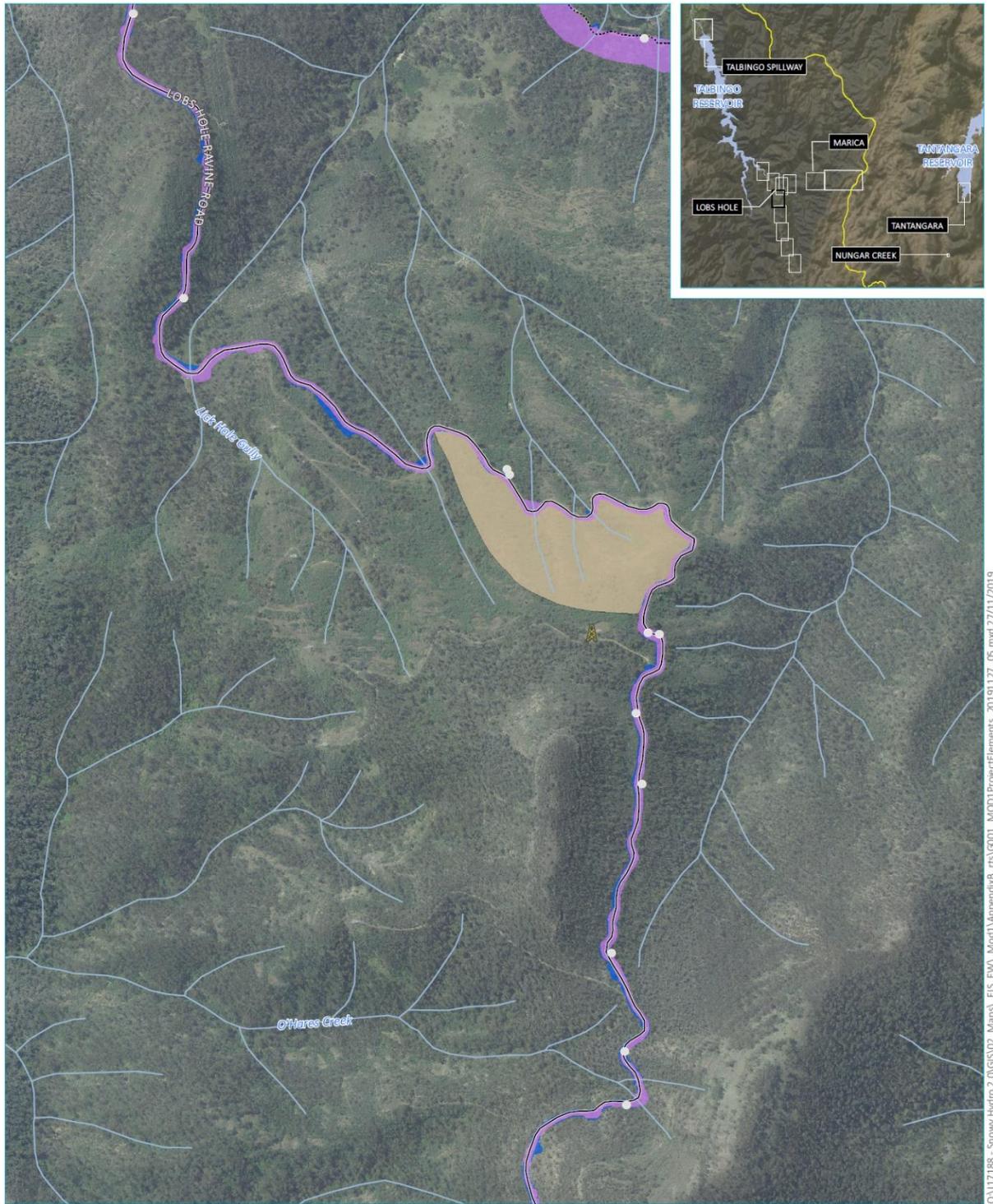
- Dangerous tree
- Local road
- Vehicular track
- Watercourse/drainage line
- █ EW approved construction footprint
- █ EW modification construction footprint (additional)
- █ Boulder stream

Exploratory Works project boundary
- Lobs Hole Ravine Road (Lower) 1

Snowy 2.0
Exploratory Works EIS
Modification 1
1 e



Figure 2-5: Project Boundary – Lobs Hole Ravine Road (Lower) 1



Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

- Dangerous tree
- ▲ Existing temporary communications
- Local road
- ⋯ Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Fossil area

0 50 100
m
GDA 1994 MGA Zone 55

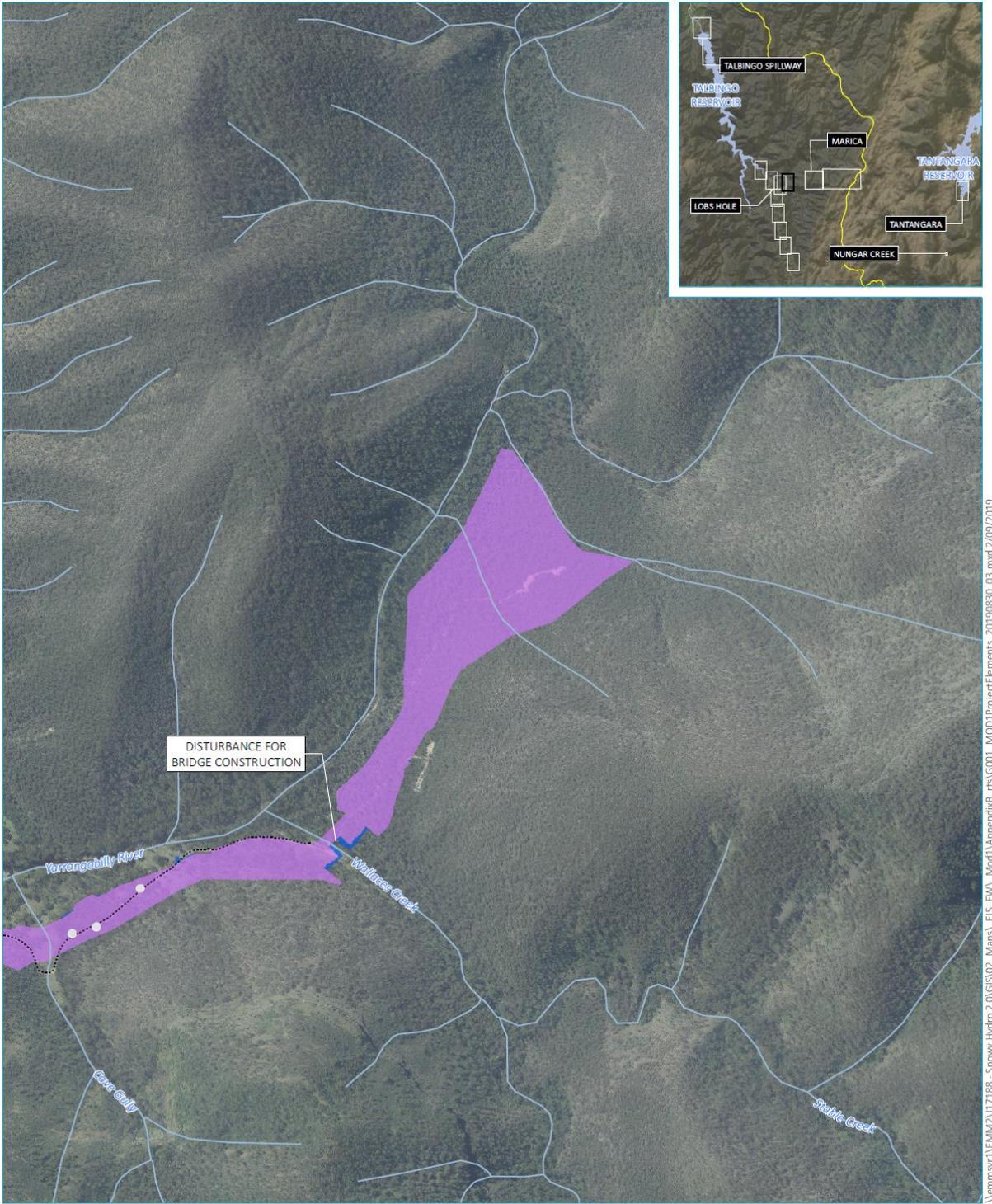
**Exploratory Works project boundary
- Lobs Hole Ravine Road (Lower) 2**

Snowy 2.0
Exploratory Works EIS
Modification 1
1 f



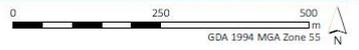
O:\J17188 - Snowy Hydro 2.0\GIS\02_Maps\EIS_EW_Mod1\AppendixE_r1s\G001_MOD1ProjectElements_20191117_05.mxd 27/11/2019

Figure 2-6: Project Boundary – Lobs Hole Ravine Road (Lower) 2



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

- KEY**
- Dangerous tree
 - Vehicular track
 - Watercourse/drainage line
 - EW approved construction footprint
 - EW modification construction footprint (additional)

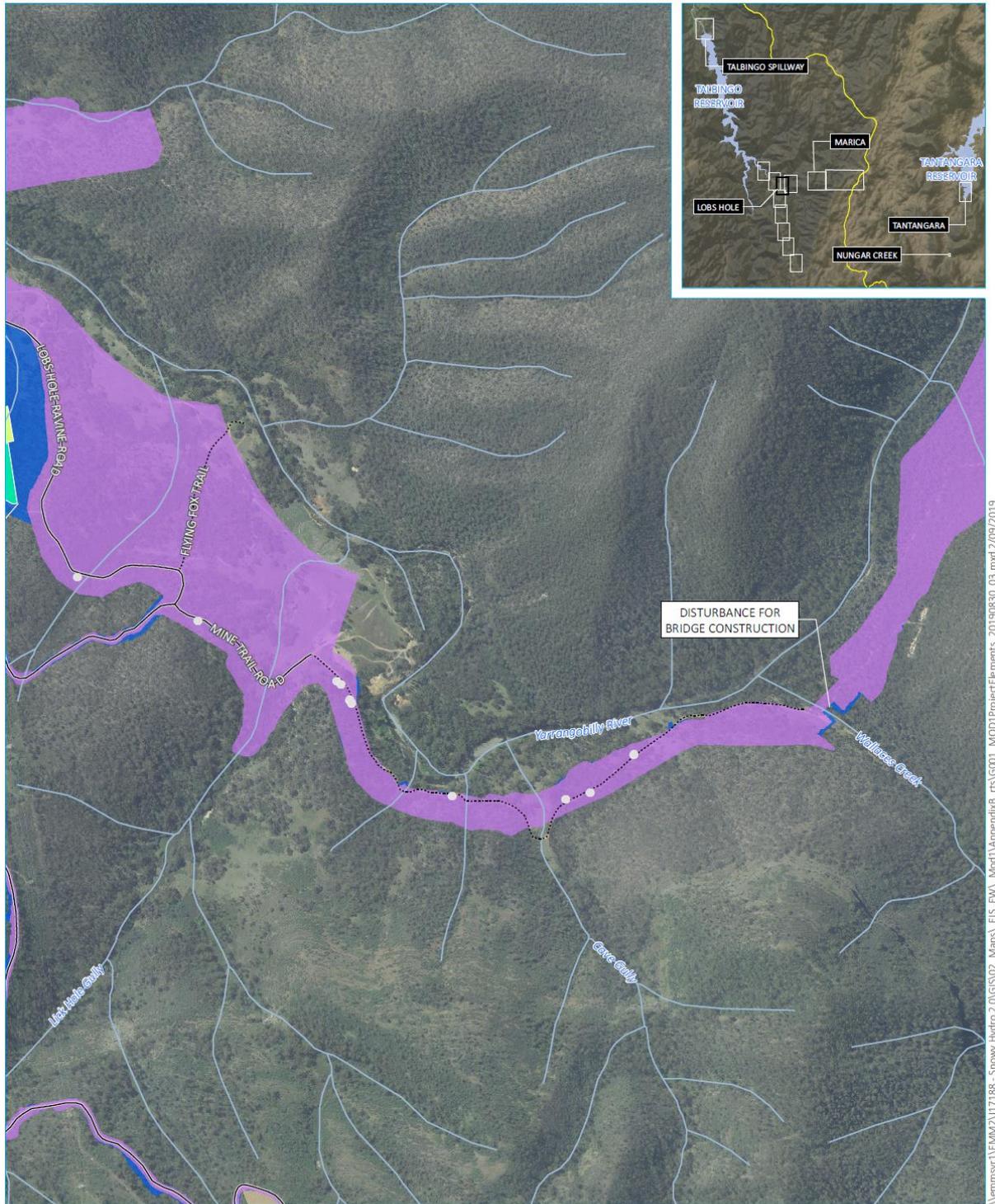


Exploratory Works project boundary
- Mine Trail Road 1

Snowy 2.0
Exploratory Works EIS
Modification 1
1 g



Figure 2-7: Project Boundary – Mine Trail Road 1



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

- Dangerous tree
- Local road
- ⋯ Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Indicative laydown area
- Proposed substation
- Fossil area

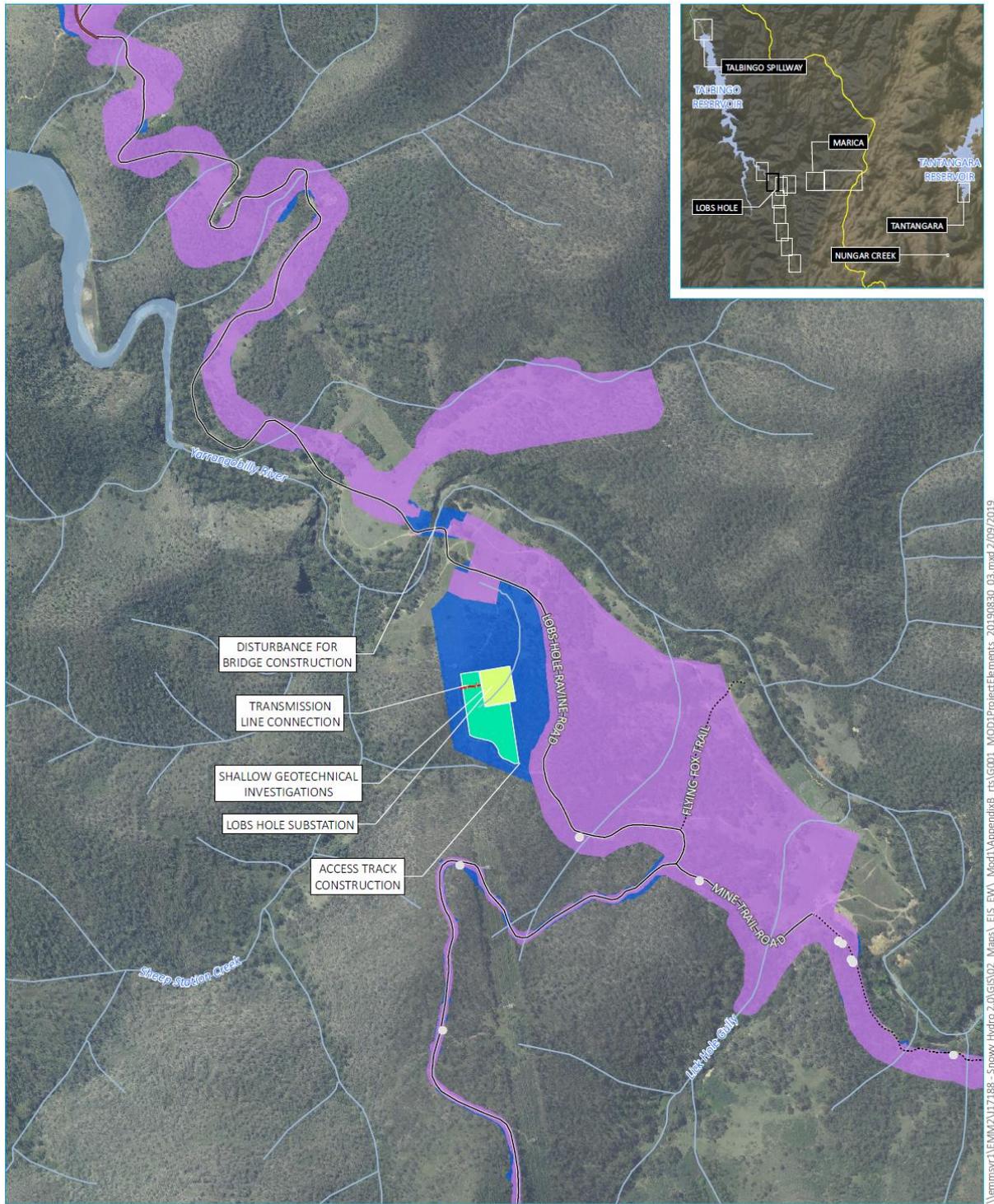


Exploratory Works project boundary
- Mine Trail Road 2

Snowy 2.0
Exploratory Works EIS
Modification 1
1 h



Figure 2-8: Project Boundary – Mine Trail Road 2



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

- Dangerous tree
- Approved EW access
- Transmission line connection
- Local road
- Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Indicative laydown area
- Proposed substation
- Waterbody

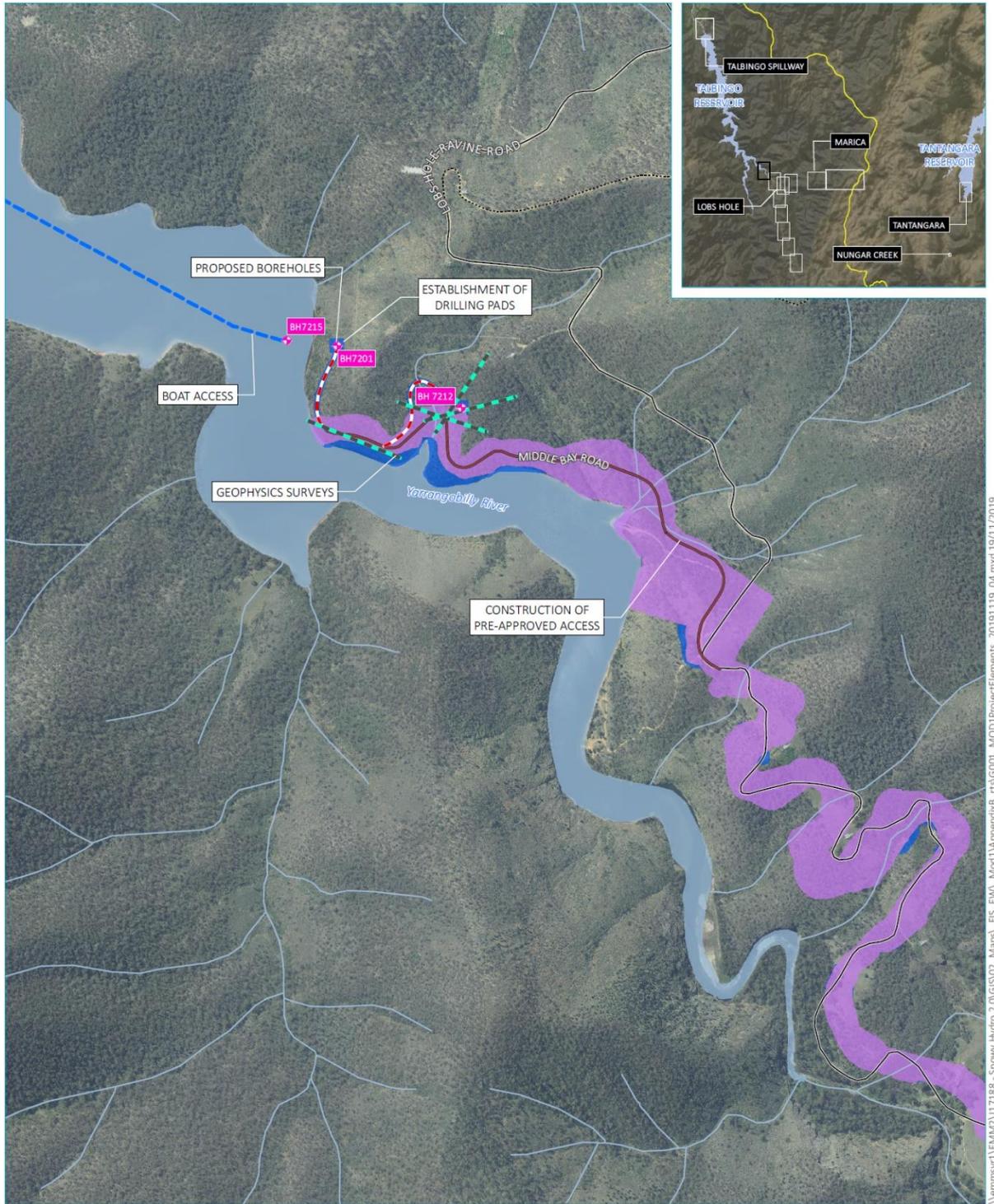
0 250 500
m
GDA 1994 MGA Zone 55

Exploratory Works project boundary
- Lobs Hole

Snowy 2.0
Exploratory Works EIS
Modification 1
1 i



Figure 2-9: Project Boundary – Lobs Hole



Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

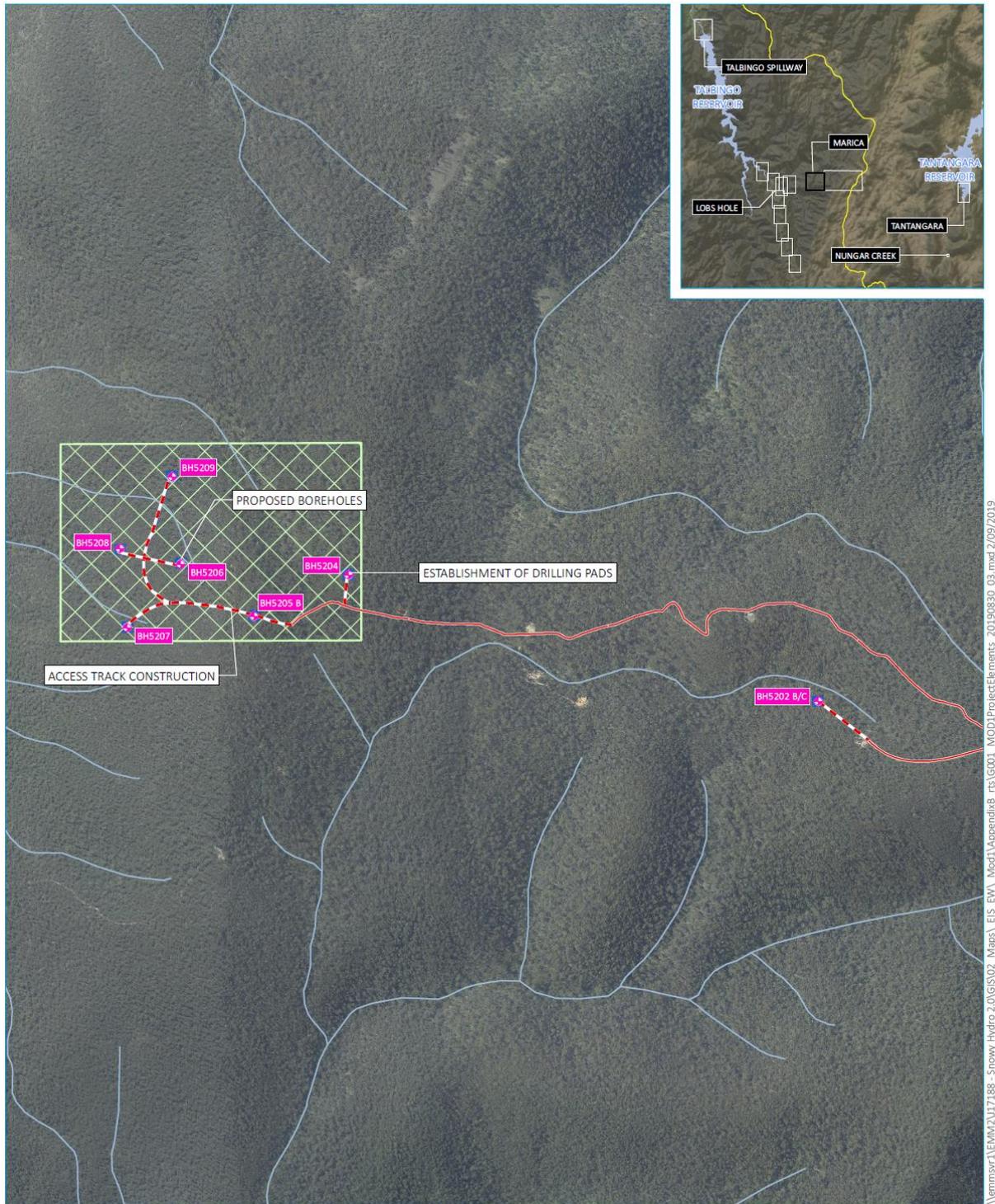
- ◆ Proposed borehole
- - - Proposed geophysics
- - - Proposed access track
- - - Boat access
- Local road
- - - Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Waterbody

**Exploratory Works project boundary
- Lobs Hole Ravine Road**

Snowy 2.0
Exploratory Works EIS
Modification 1
1 j



Figure 2-10: Project boundary – Lobs Hole Ravine Road



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

- Proposed borehole
- Existing access track
- Proposed access track
- Watercourse/drainage line
- EW modification construction footprint (additional)
- Boreholes requiring on-site adjustment

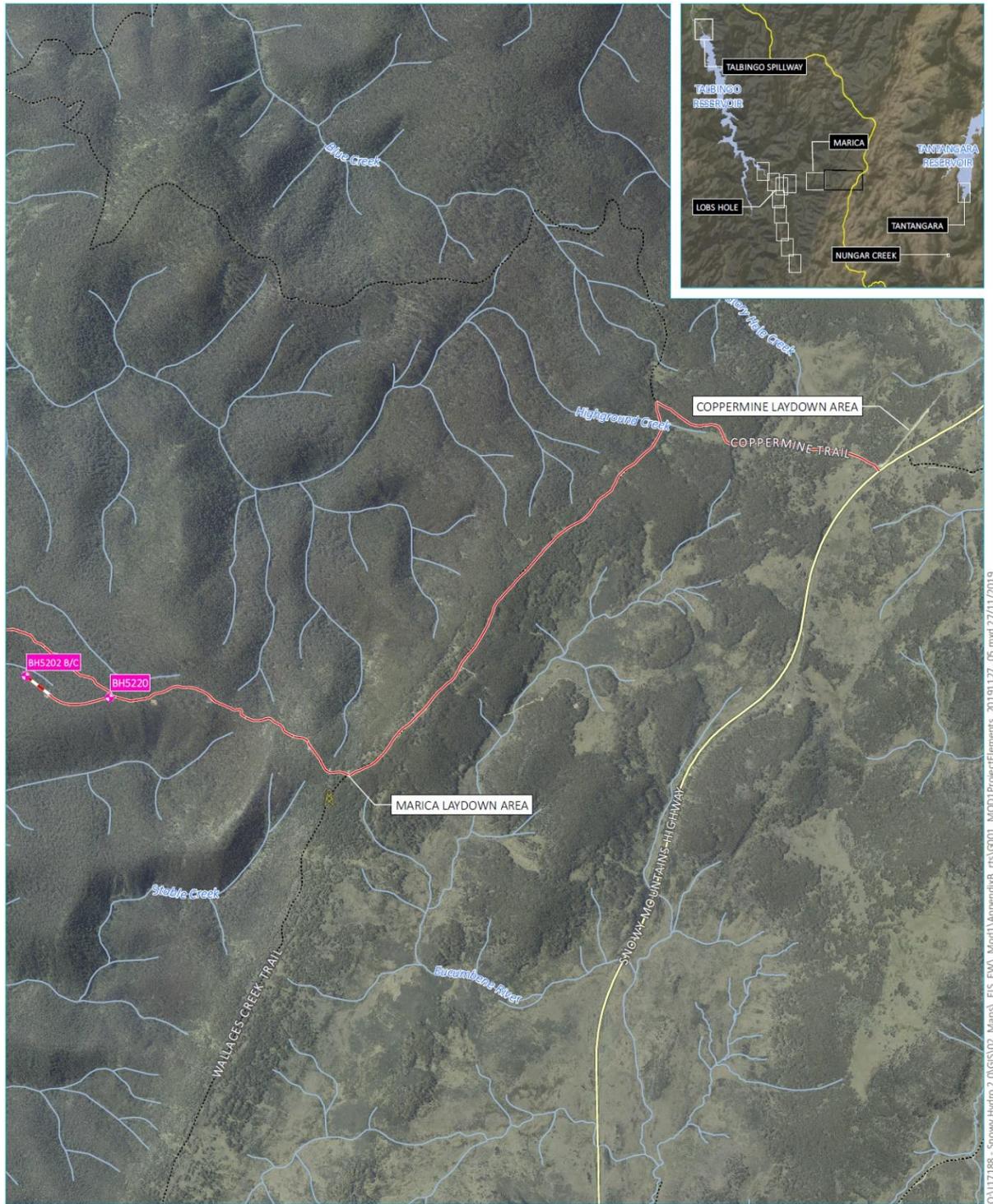
0 250 500
m
GDA 1994 MGA Zone 55
N

Exploratory Works project boundary
- Marica 1

Snowy 2.0
Exploratory Works EIS
Modification 1
1 k



Figure 2-11: Project boundary – Marica 1



Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

KEY

- ◆ Proposed borehole
- Existing temporary communications
- Existing access track
- Proposed access track
- Main road
- Vehicular track
- Watercourse/drainage line
- EW modification construction footprint (additional)

GDA 1994 MGA Zone 55

Exploratory Works project boundary
- Marica 2

Snowy 2.0
Exploratory Works EIS
Modification 1
11



Figure 2-12: Project boundary – Marica 2



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

- KEY**
- Proposed borehole
 - Main road
 - Watercourse/drainage line
 - Proposed work area

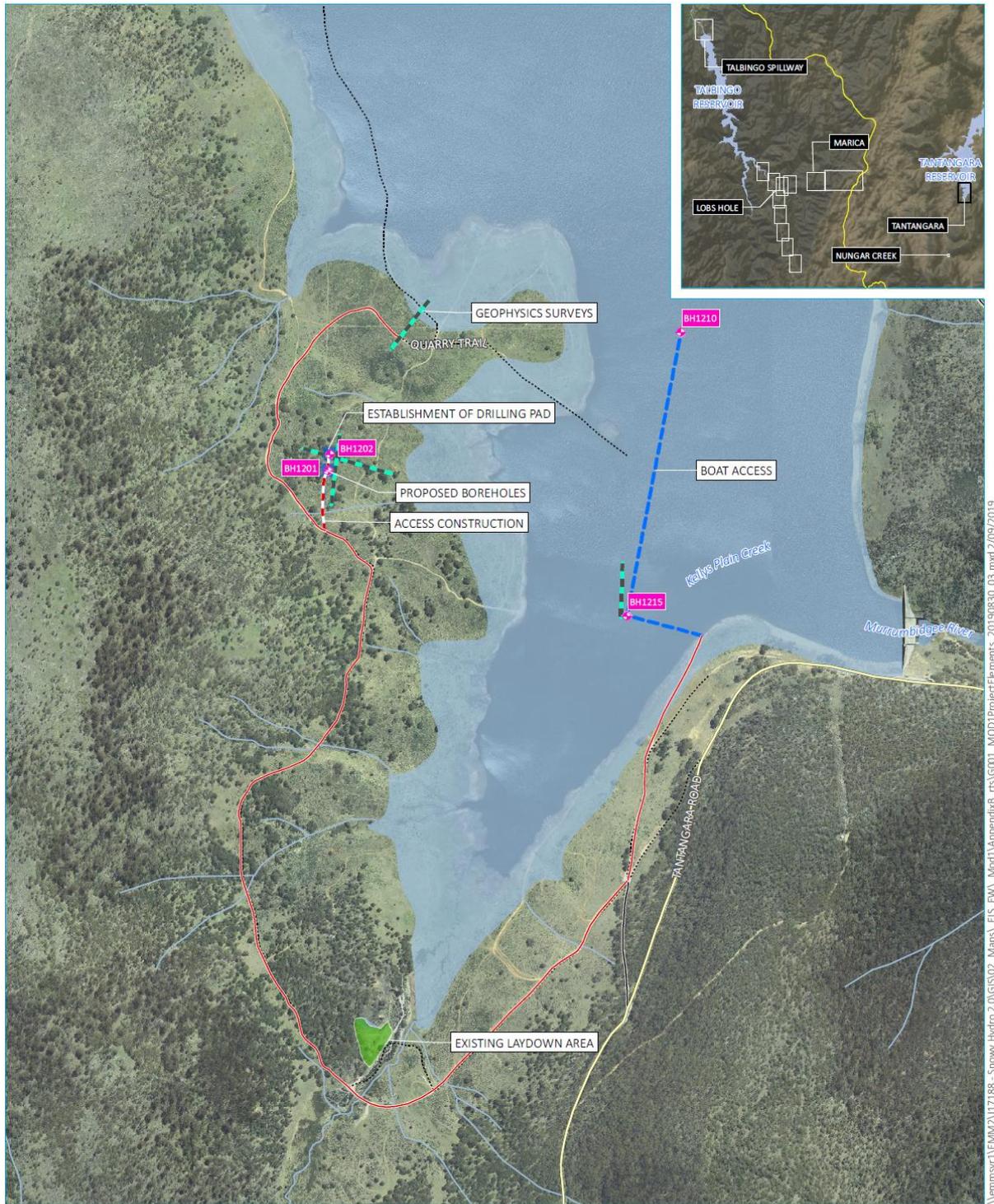


Exploratory Works project boundary
- Nungar Creek

Snowy 2.0
Exploratory Works EIS
Modification 1
1 m



Figure 2-13: Project boundary – Nungar Creek



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

- KEY**
- ◆ Proposed borehole
 - Proposed geophysics
 - Existing access track
 - - - Proposed access track
 - Boat access
 - Main road
 - Local road
 - - - Vehicular track
 - Watercourse/drainage line
 - EW modification construction footprint (additional)
 - Existing laydown area
 - Waterbody

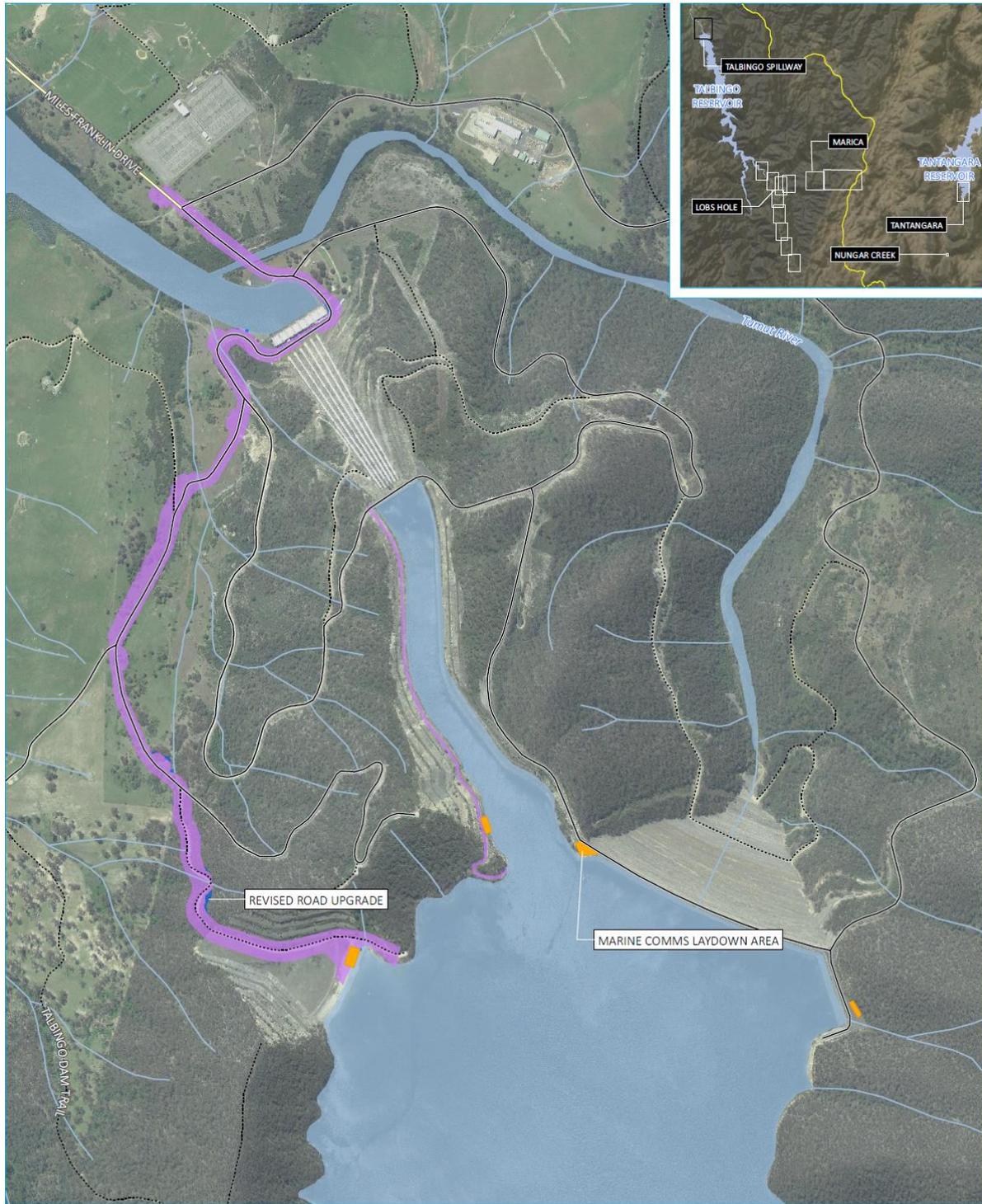


Exploratory Works project boundary
- Tantangara Reservoir

Snowy 2.0
Exploratory Works EIS
Modification 1
1 n



Figure 2-14: Project boundary – Tantangara Reservoir



Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

- KEY**
- Main road
 - Local road
 - Vehicular track
 - Watercourse/drainage line
 - EW approved construction footprint
 - EW modification construction footprint (additional)
 - Marine comms laydown (proposed)
 - Waterbody

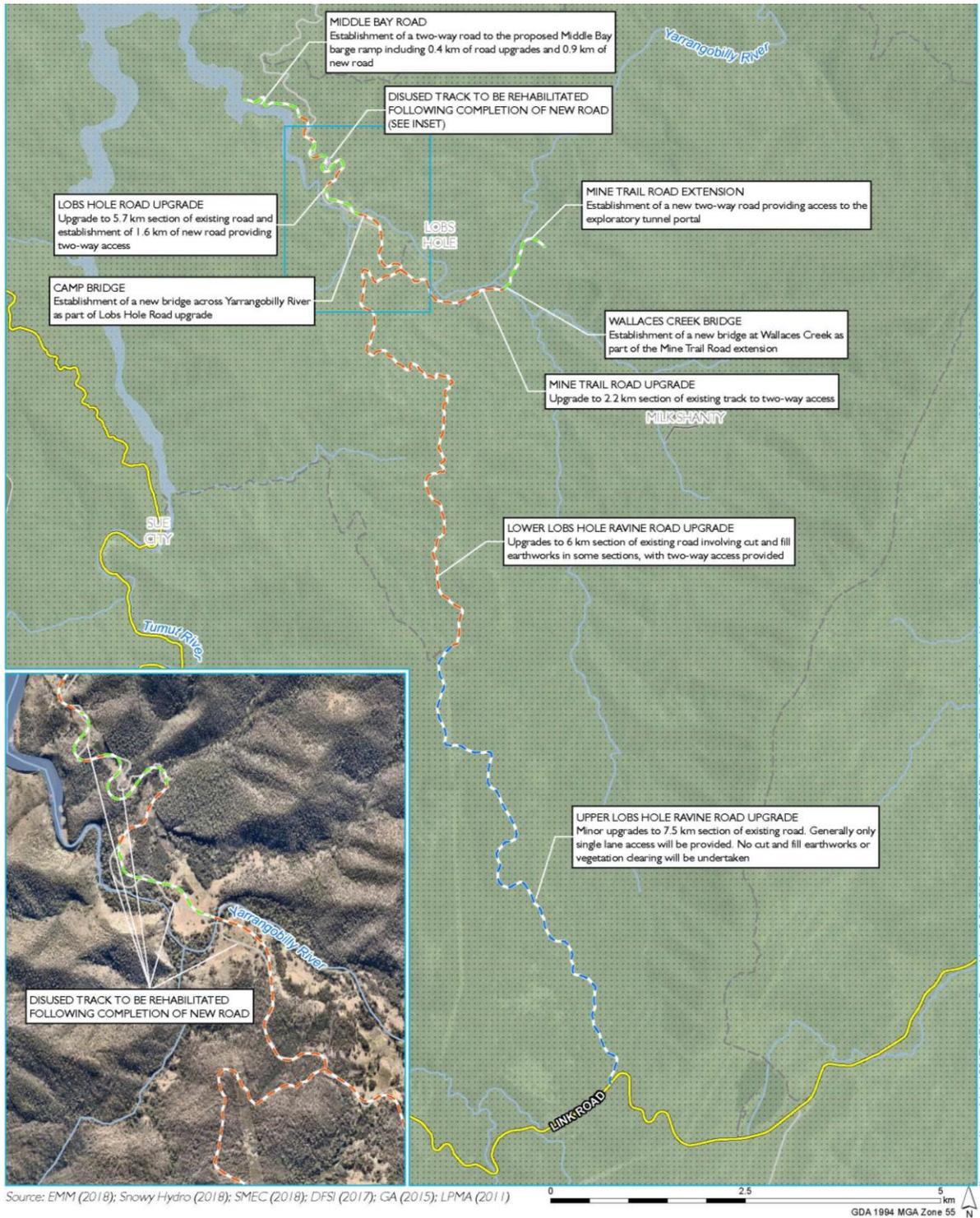
0 250 500
m
GDA 1994 MGA Zone 55
N

Exploratory Works project boundary
- Talbingo spillway

Snowy 2.0
Exploratory Works EIS
Modification 1
10



Figure 2-15: Project boundary – Talbingo spillway



Source: EMM (2018); Snowy Hydro (2018); SMEC (2018); DFSI (2017); GA (2015); LPMA (2011)

KEY

- - Access road upgrade - without widening
- - Access road upgrade - with widening
- - Access road extension
- - Main road
- - Local road
- - Vehicular track
- - Perennial watercourse
- - Scheme storage
- - Kosciuszko National Park
- - State forest

Road upgrades / new roads in the Ravine area

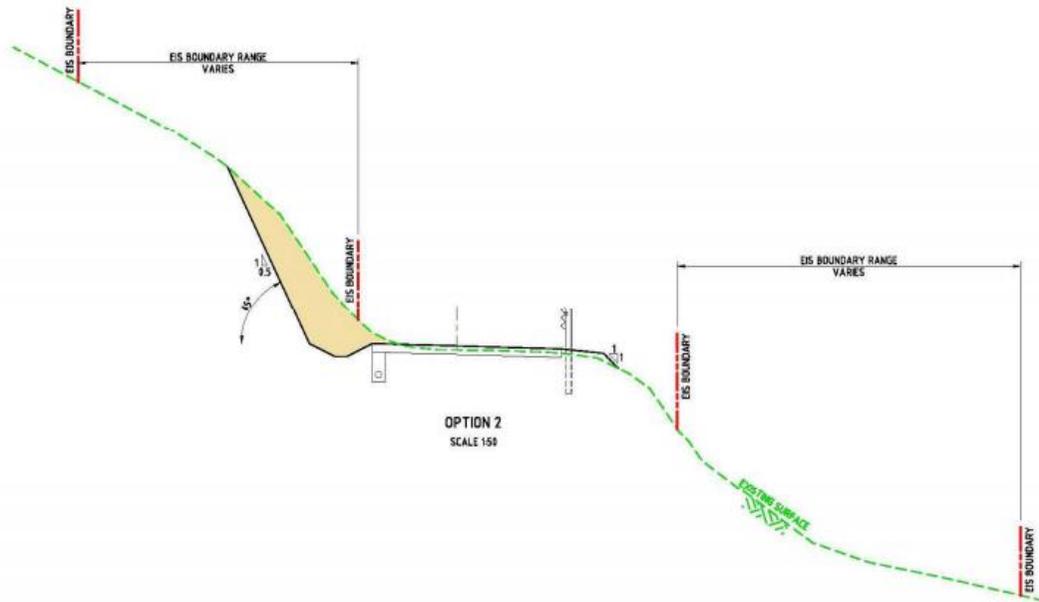
Snowy 2.0
Exploratory Works

Figure 3



Figure 2-16: Road Upgrades - Ravine

OPTION 2



NOT FOR CONSTRUCTION

SCALE 1:50

SNOWY 2.0
IMPACTS TO GEODIVERSITY - FOSSIL AREA
TYPICAL CROSS SECTIONS - SHEET 03

INFORMATION DOCUMENT

S2-180918-INF-KG-RVD-FA203



ISSUE NO: 001/018 / 001
V:_Work\Projects\2018\INF-KG-RVD-FA203\2018-09-18\IMPACTS_TO_GEODIVERSITY\IMPACTS_TO_GEODIVERSITY_SHEET_03.dwg

2-17: Road Upgrades Option 2 Cross Section Lower Lobs Hole Ravine Road

Figure

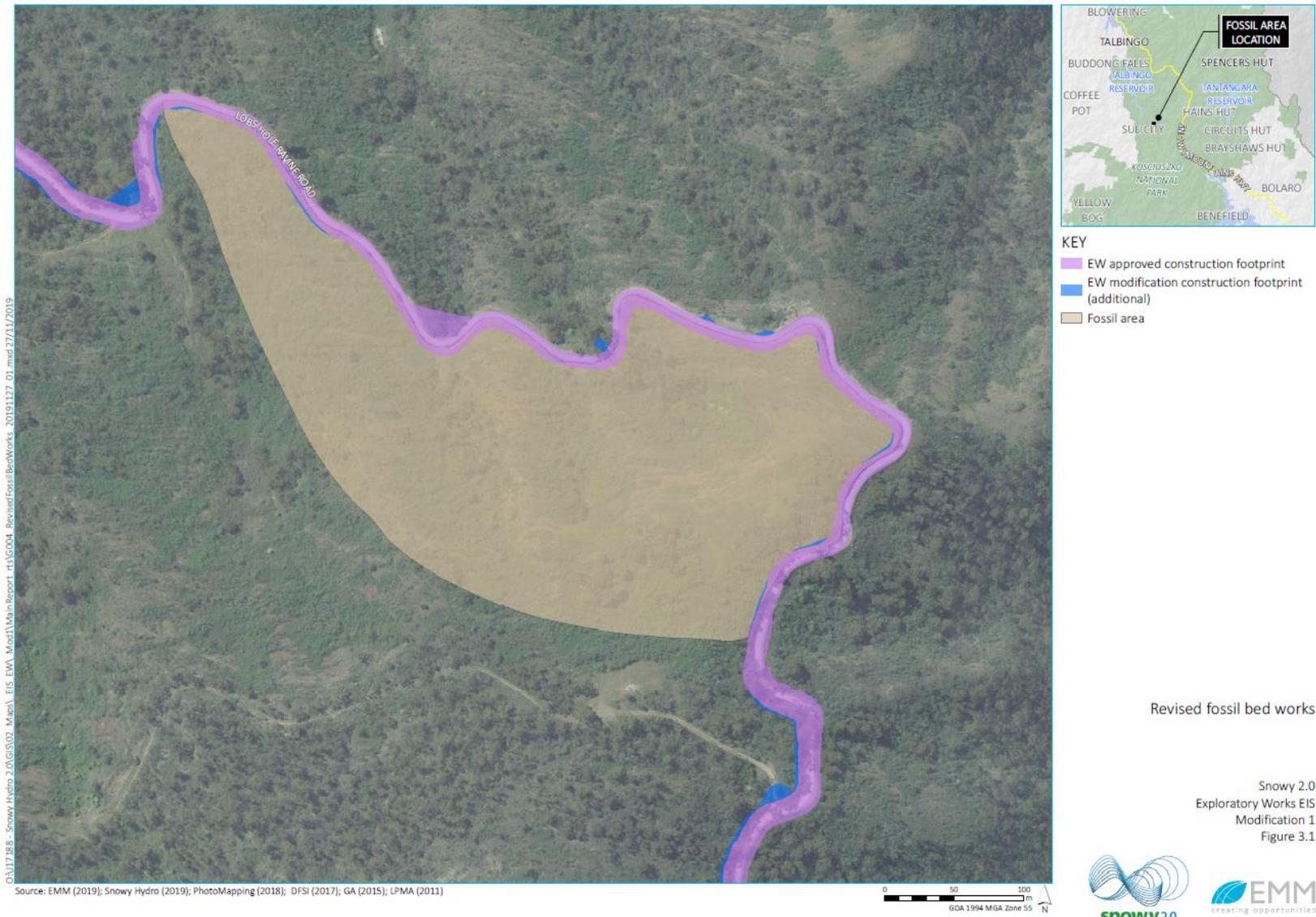
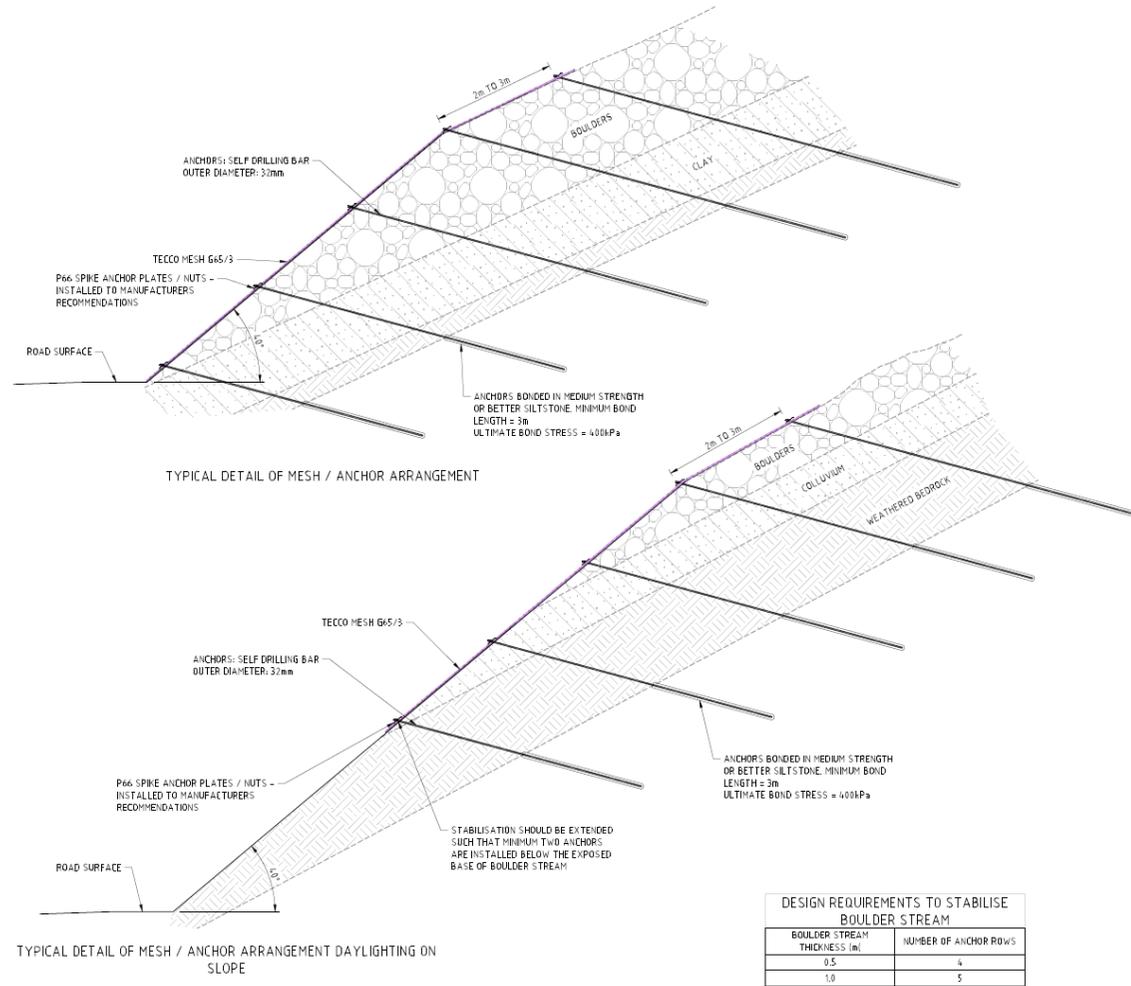


Figure 2-18: Road Upgrades Option 2 Layout Lower Lobs Hole Ravine Road



NOT FOR CONSTRUCTION

**SNOWY 2.0
TYPICAL BOULDERFIELD SECTION**

**INFORMATION DOCUMENT
S2-191121-INF-BOULDERFIELD-001**



M:\4198 FILE LOCATOR / NAME
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Figure 2-19: Road Upgrades – Boulder Streams – Lower Lobs Hole Ravine Road – Cross Section

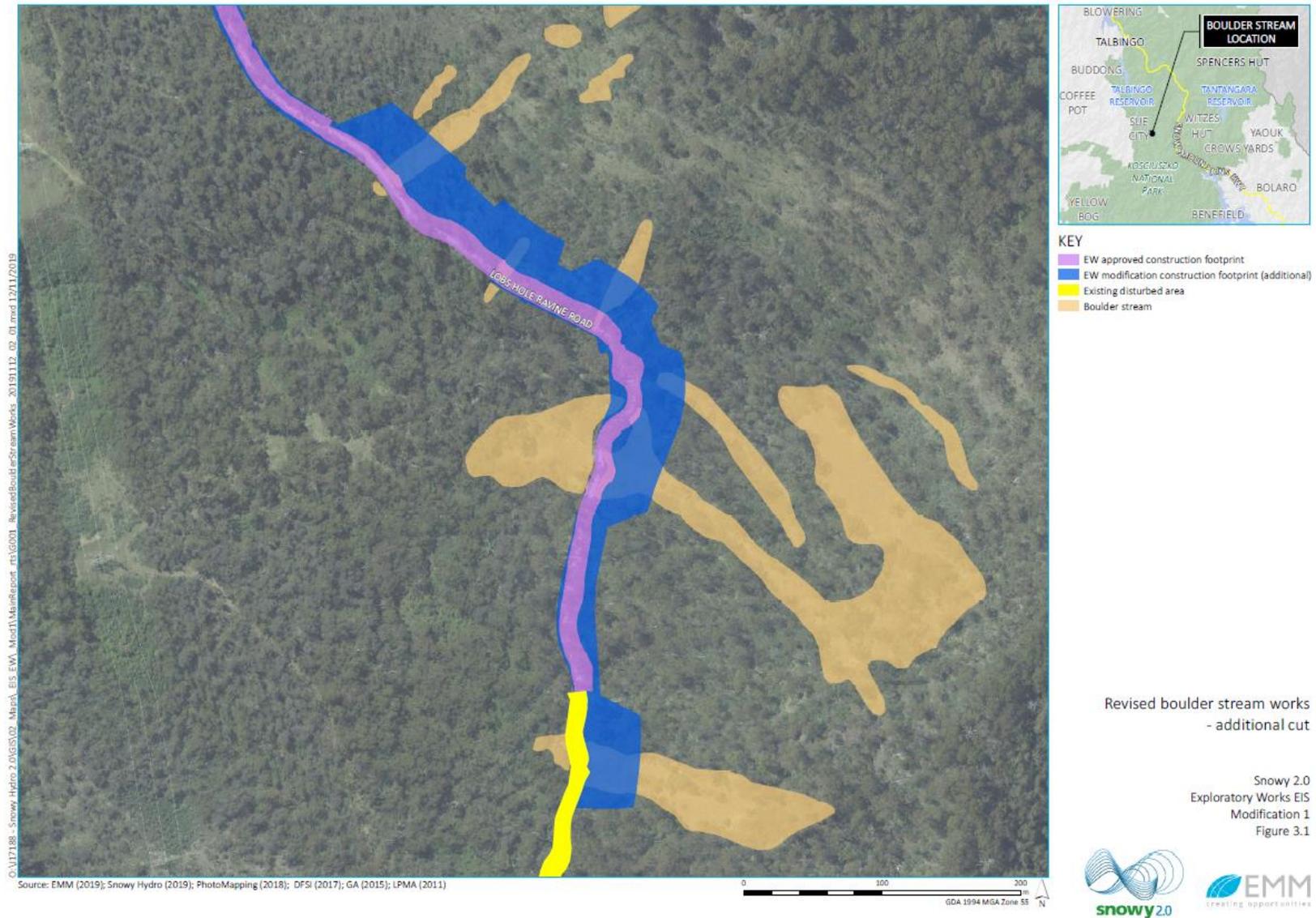
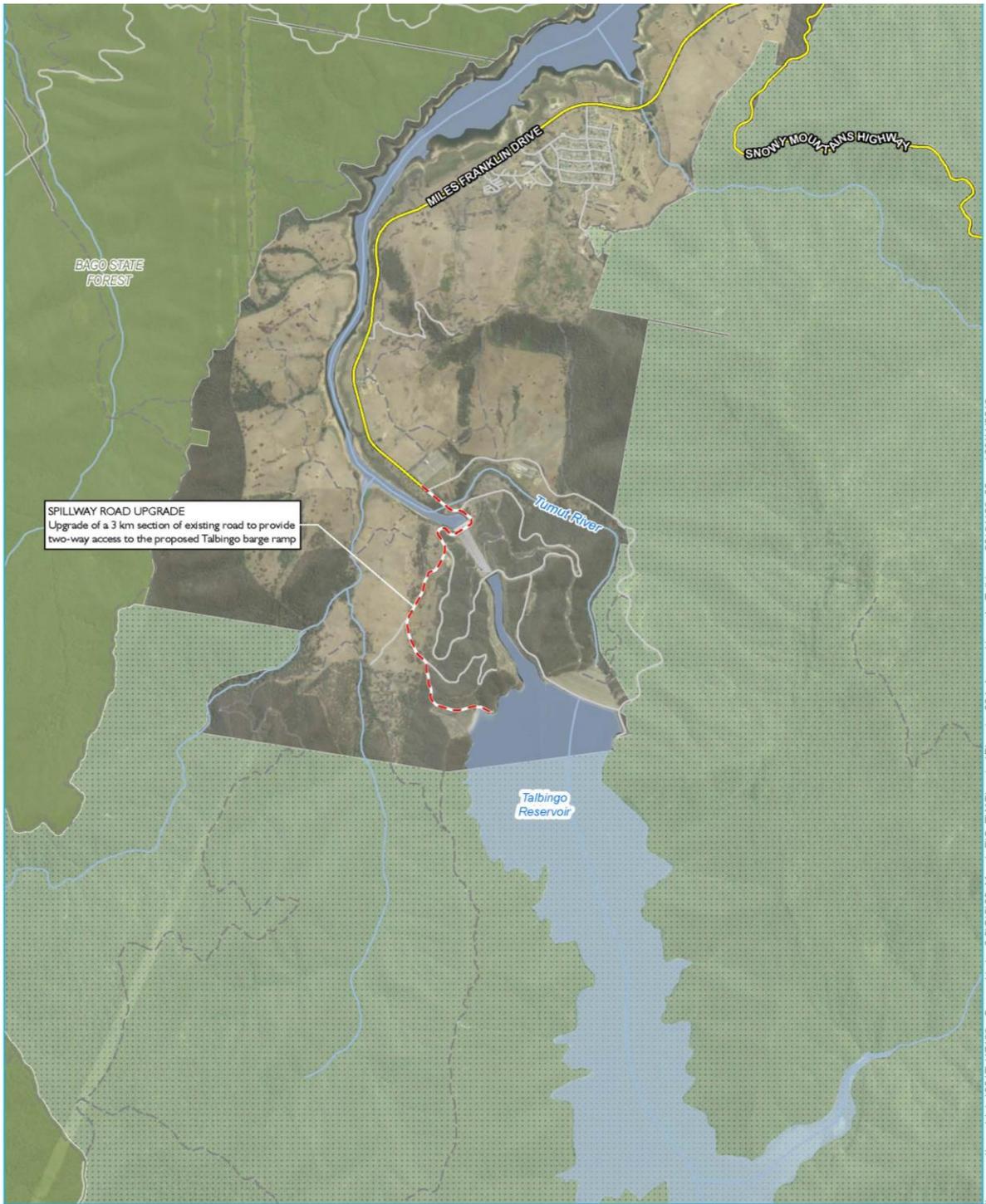


Figure 2-20: Road Upgrades – Boulder Streams – Lower Lobs Hole Ravine Road



Source: EMM (2018); Snowy Hydro (2018); SMEC (2018); DFSI (2017); GA (2015); LPMA (2011)



- KEY**
- - - Access road upgrade - with widening
 - Main road
 - Local road
 - - - Vehicular track
 - Perennial watercourse
 - Scheme storage
 - Kosciusko National Park
 - State forest

Road upgrades / new roads in the Talbingo area

Snowy 2.0 Exploratory Works

Figure 4



Figure 2-21: Road Upgrades – Talbingo

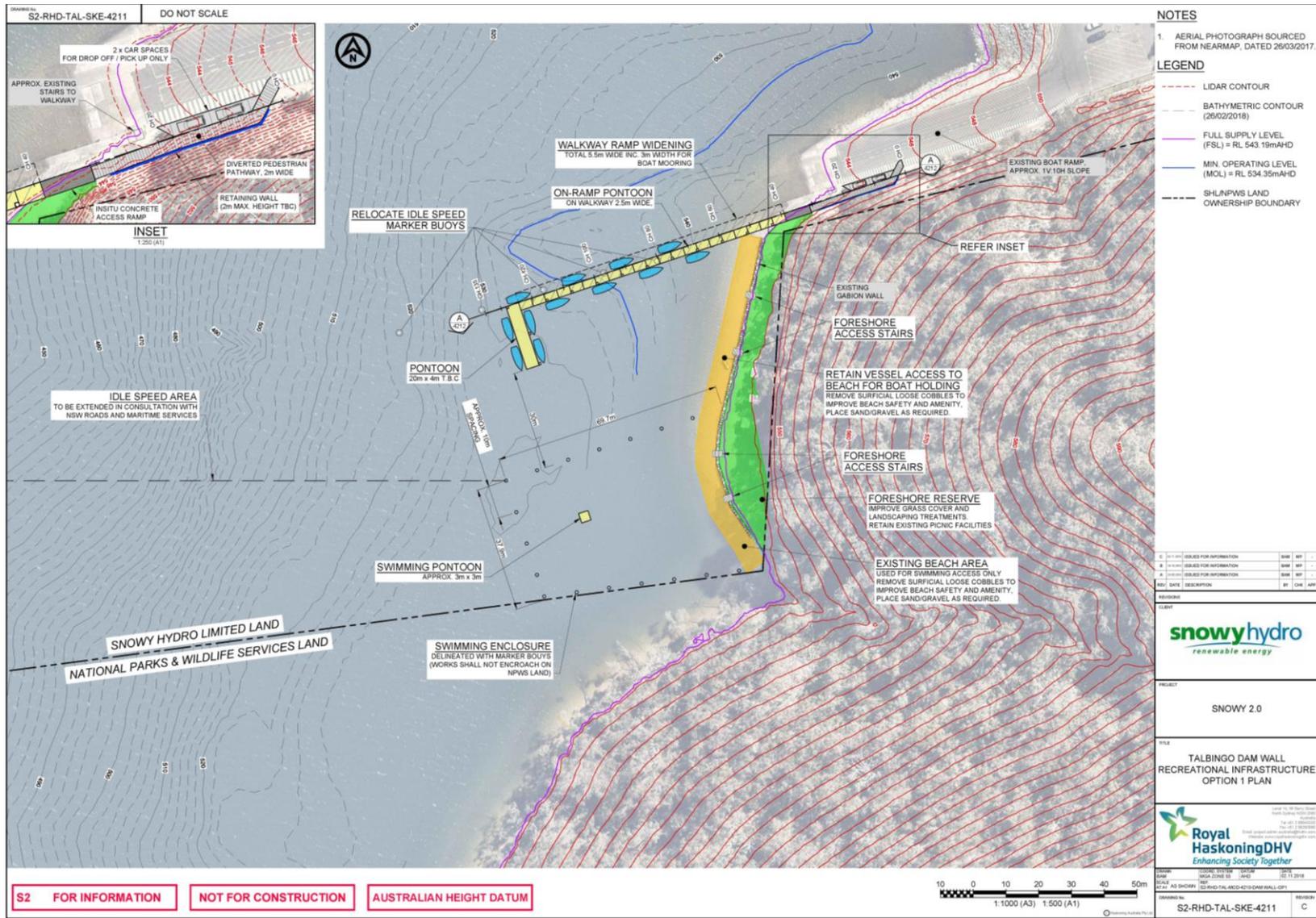


Figure 2-22a: Talbingo Recreational Area (Option 1)

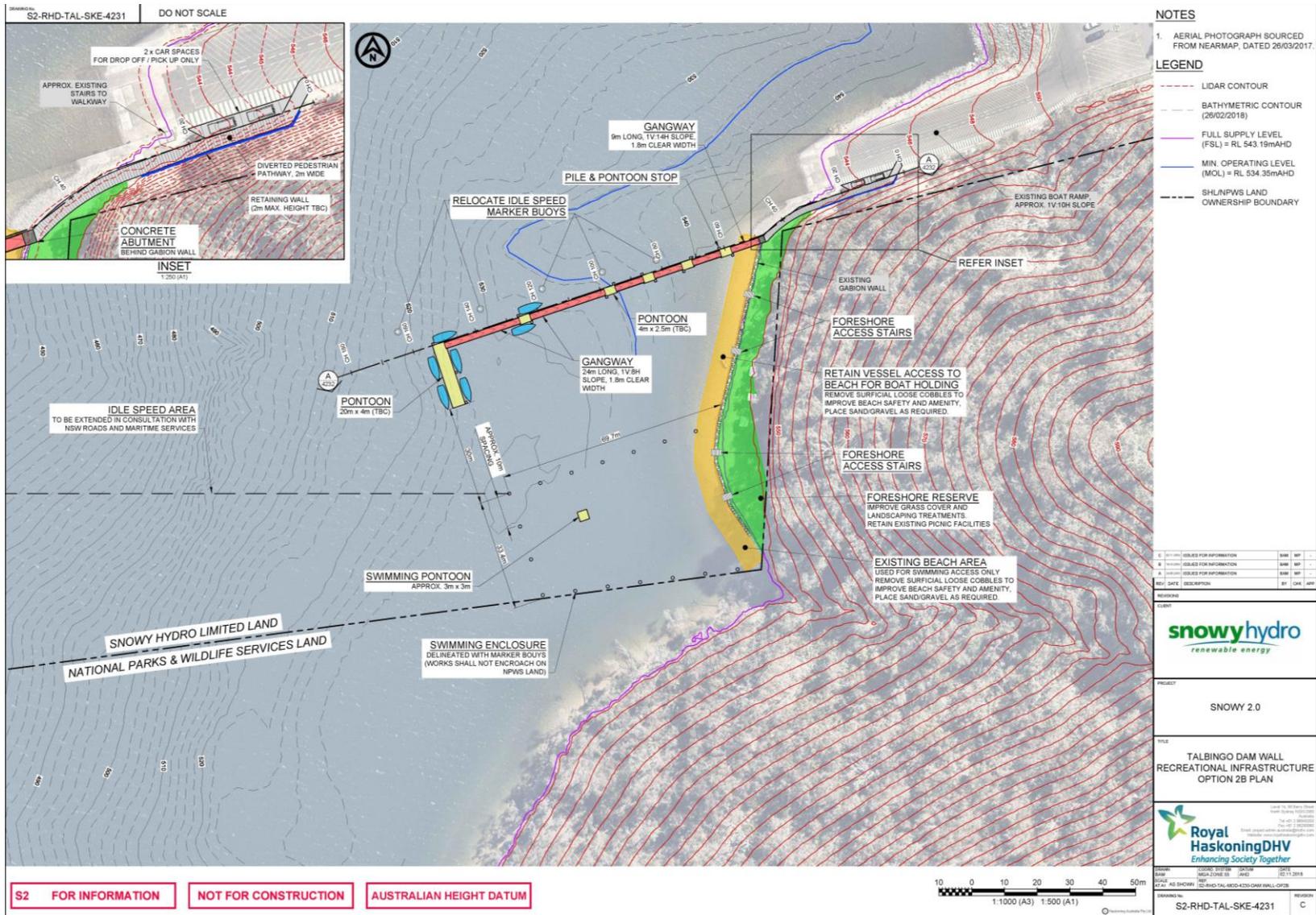


Figure 2-22c: Talbingo Recreational Area (Option 2B)

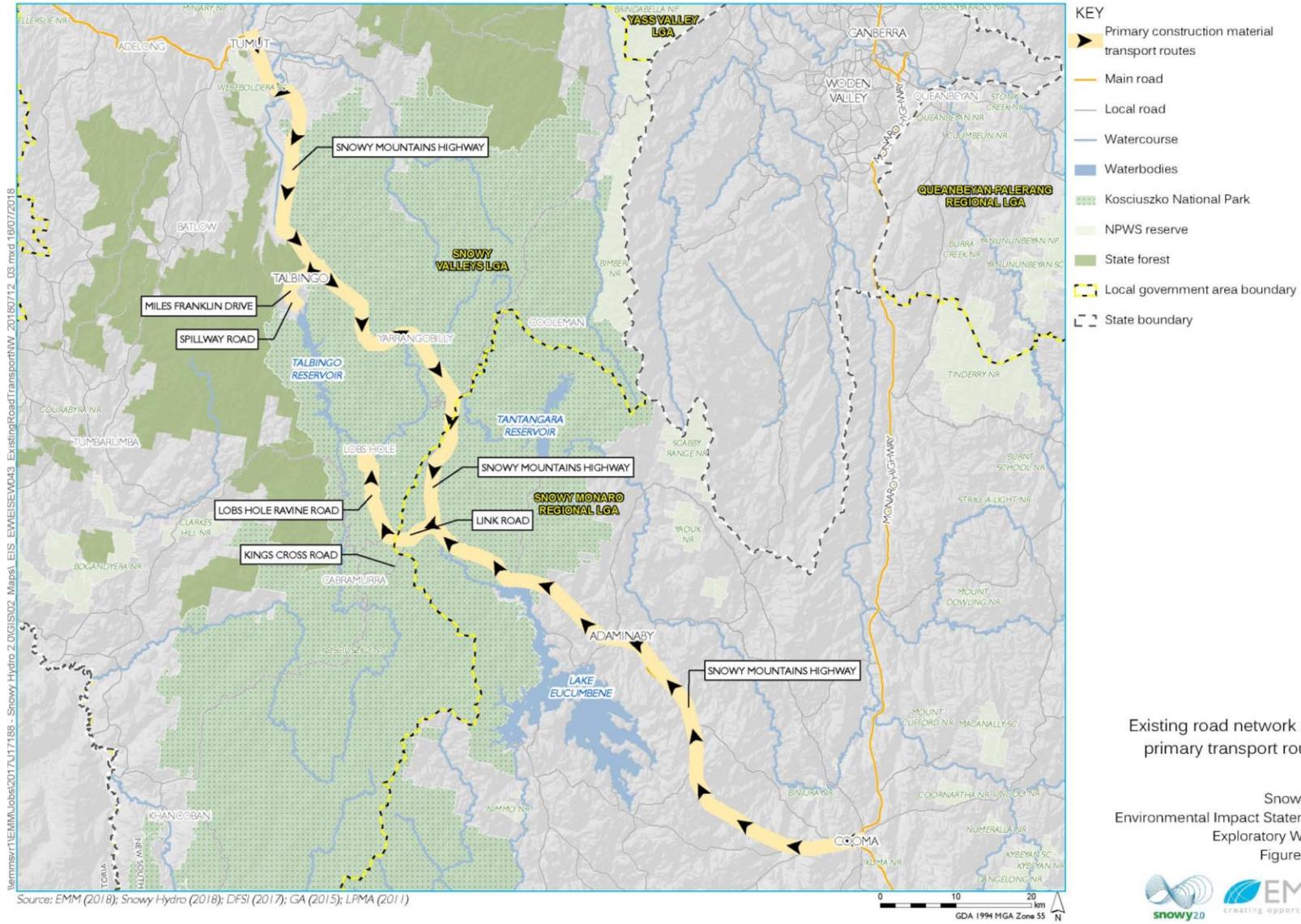
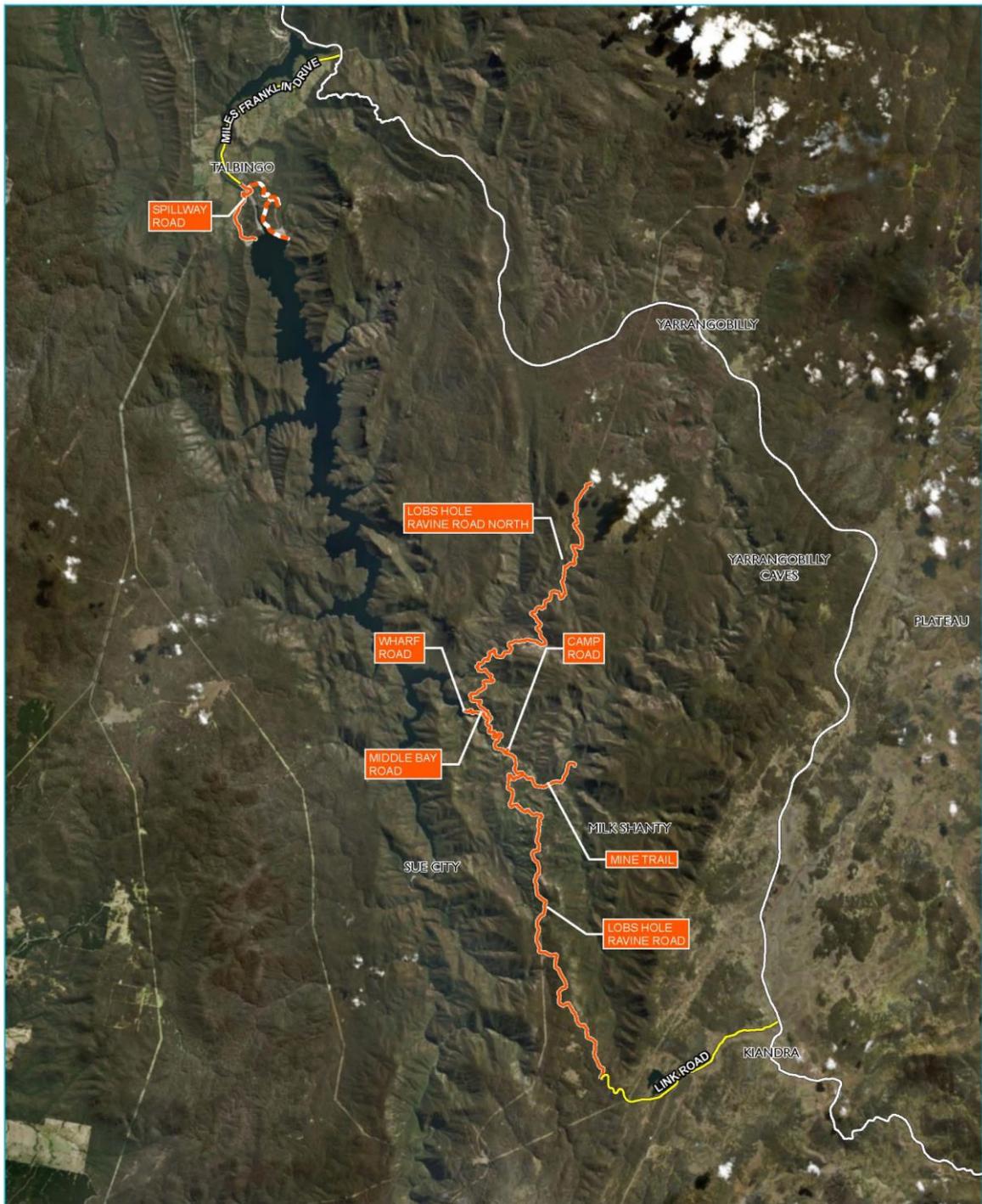


Figure 2-23: Construction material transport routes



Source: EMM (2018); Snowy Hydro (2018); SMEC (2018); DFSI (2017)

- KEY**
- Snowy Mountains Highway
 - Non-RMS roads requiring dilapidation assessment and maintenance
 - Local road
 - Construction access
 - Closed for public access during project construction
 - SHL access for construction of recreational facilities

0 2.5 5 km
GDA 1994 MGA Zone 55

Construction access

Snowy 2.0
Exploratory Works
Figure 2



Figure 2-24: Public Access Closures

APPENDIX 3 – HERITAGE FIGURES, MAPS & TABLES

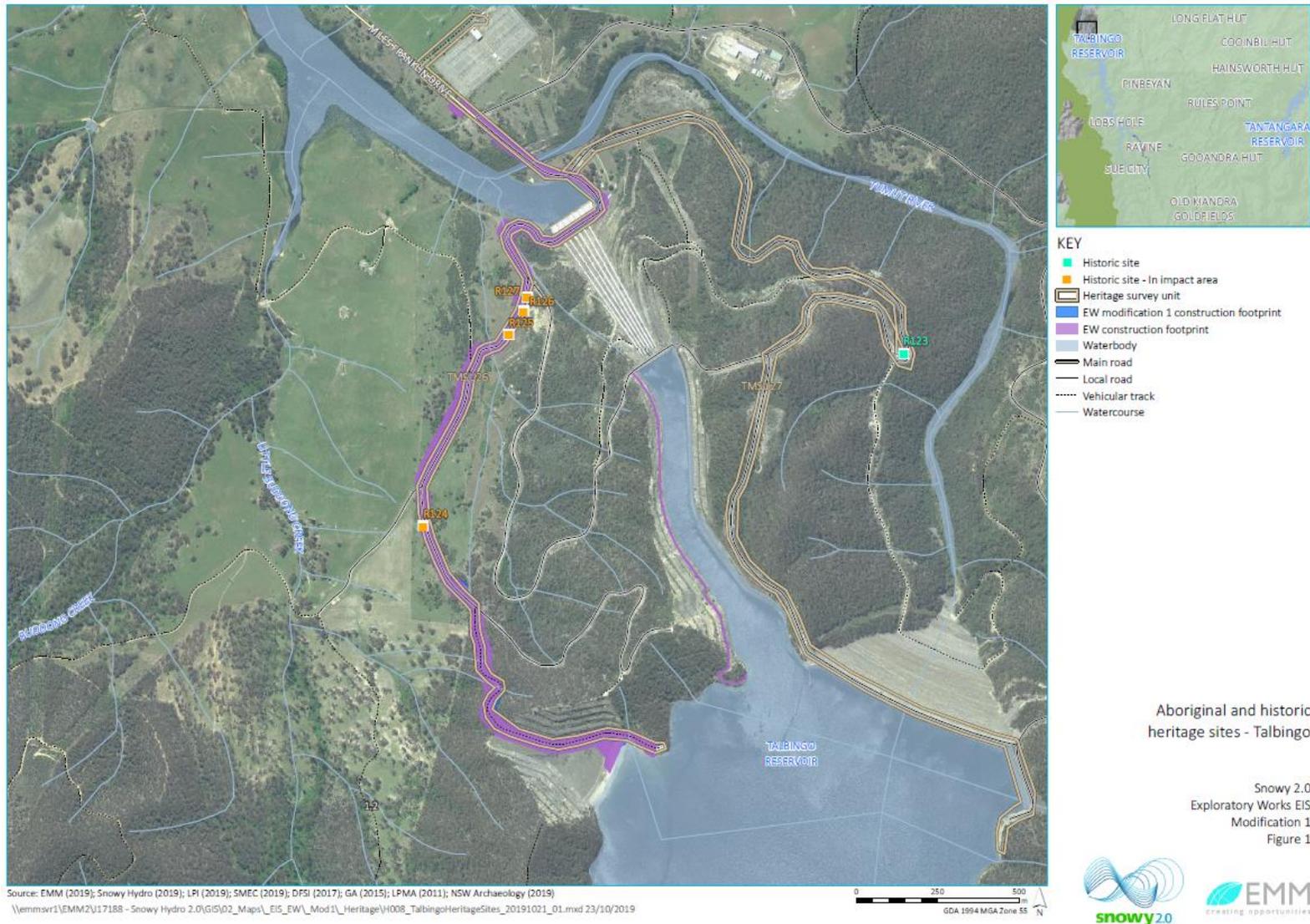


Figure 3-1: Aboriginal and historic heritage sites – Talbingo

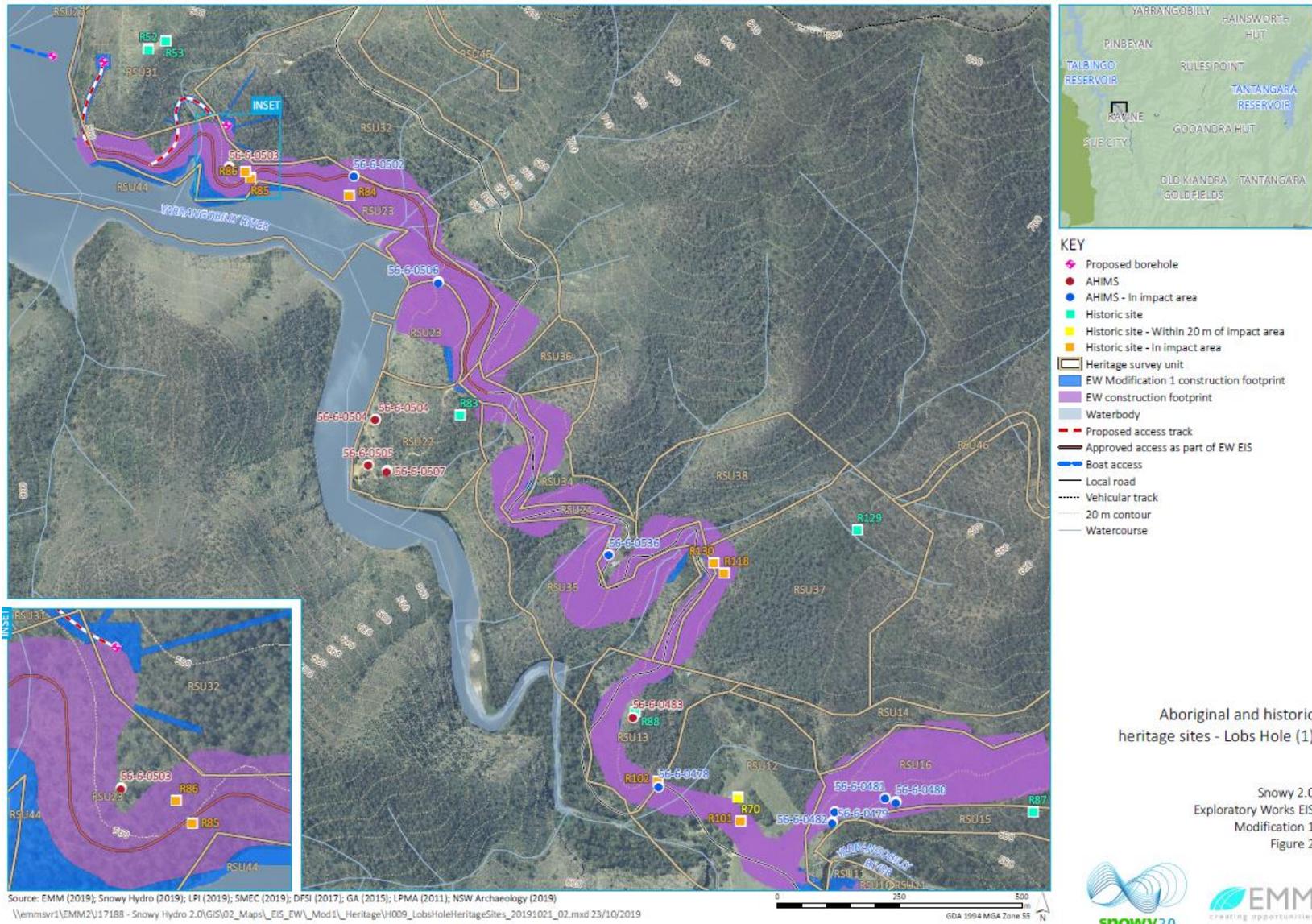


Figure 3-2: Aboriginal and historic heritage sites – Lobs Hole

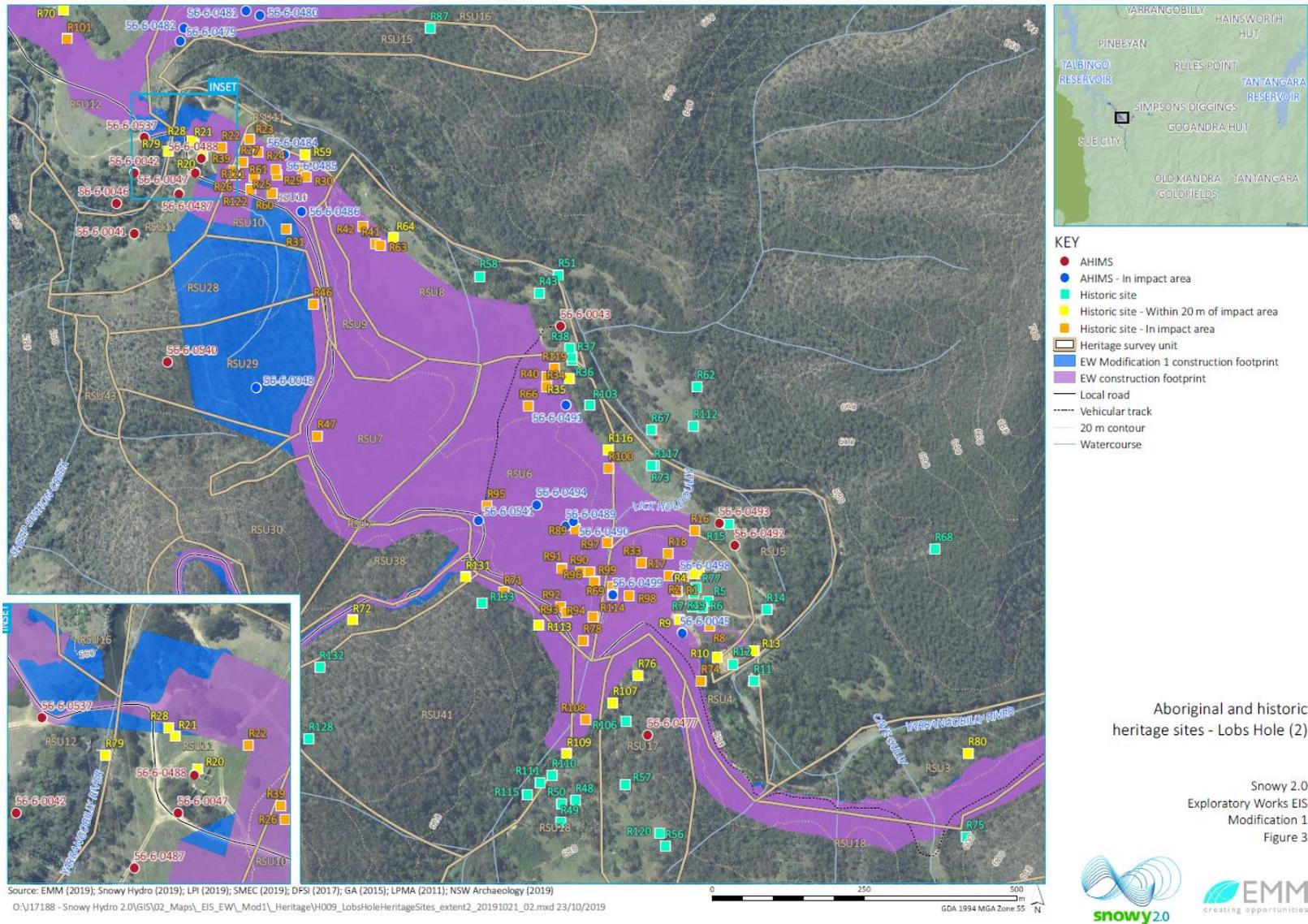


Figure 3-3: Aboriginal and historic heritage sites – Lobs Hole

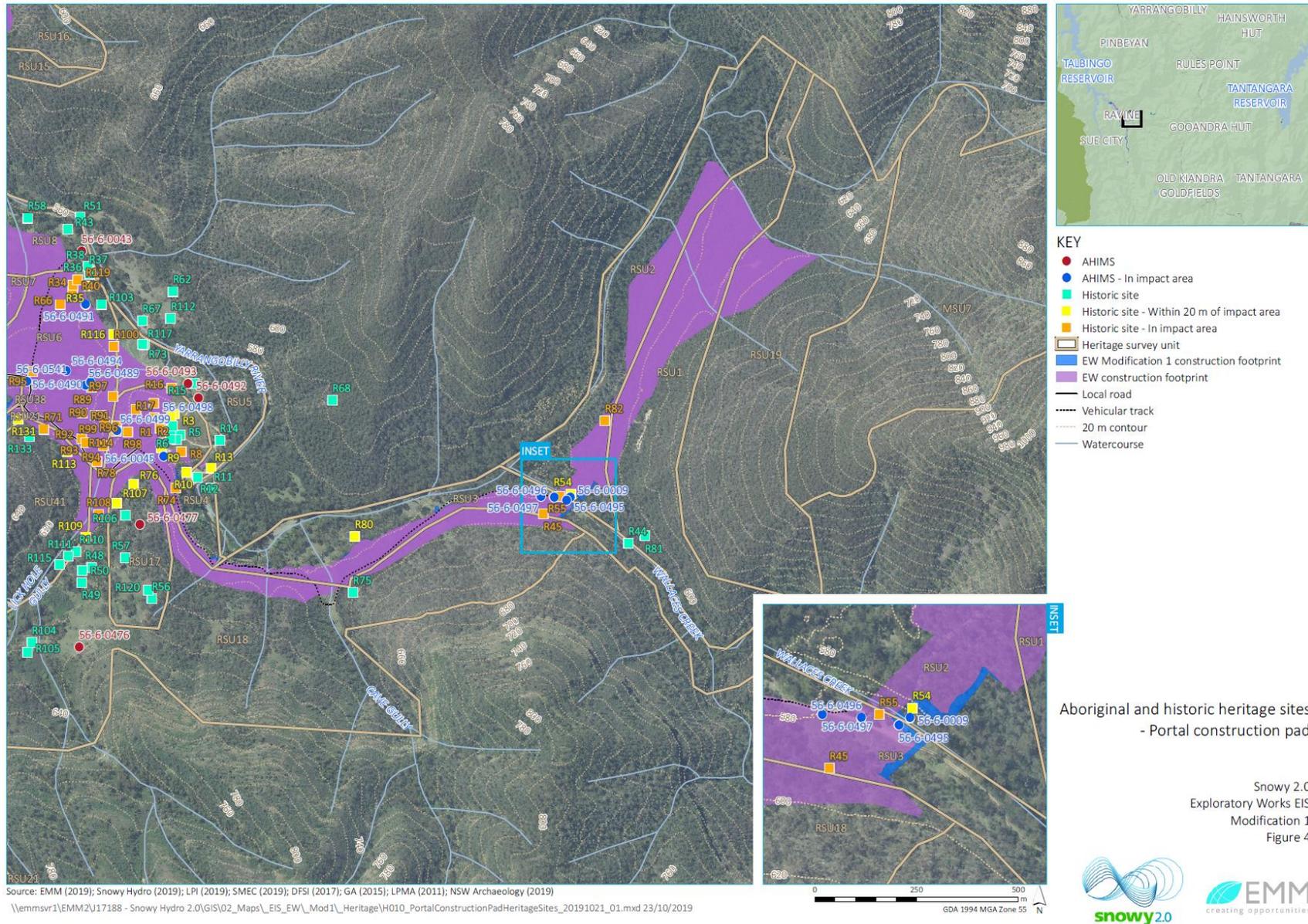


Figure 3-4: Aboriginal and historic heritage sites – Lobs Hole



Figure 3-5: Aboriginal and historic heritage sites – Lobs Hole Ravine Road

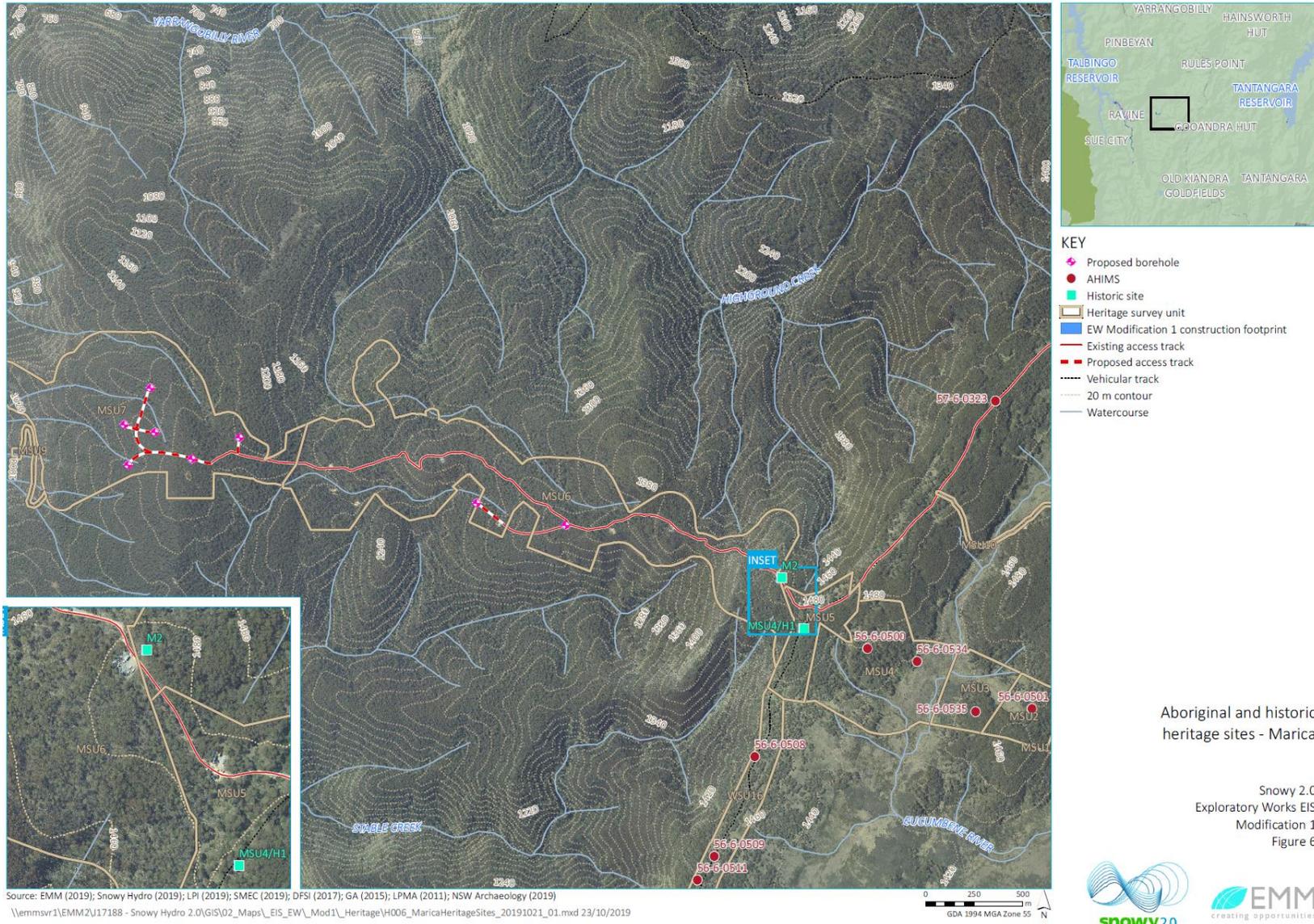


Figure 3-6: Aboriginal and historic heritage sites – Marica

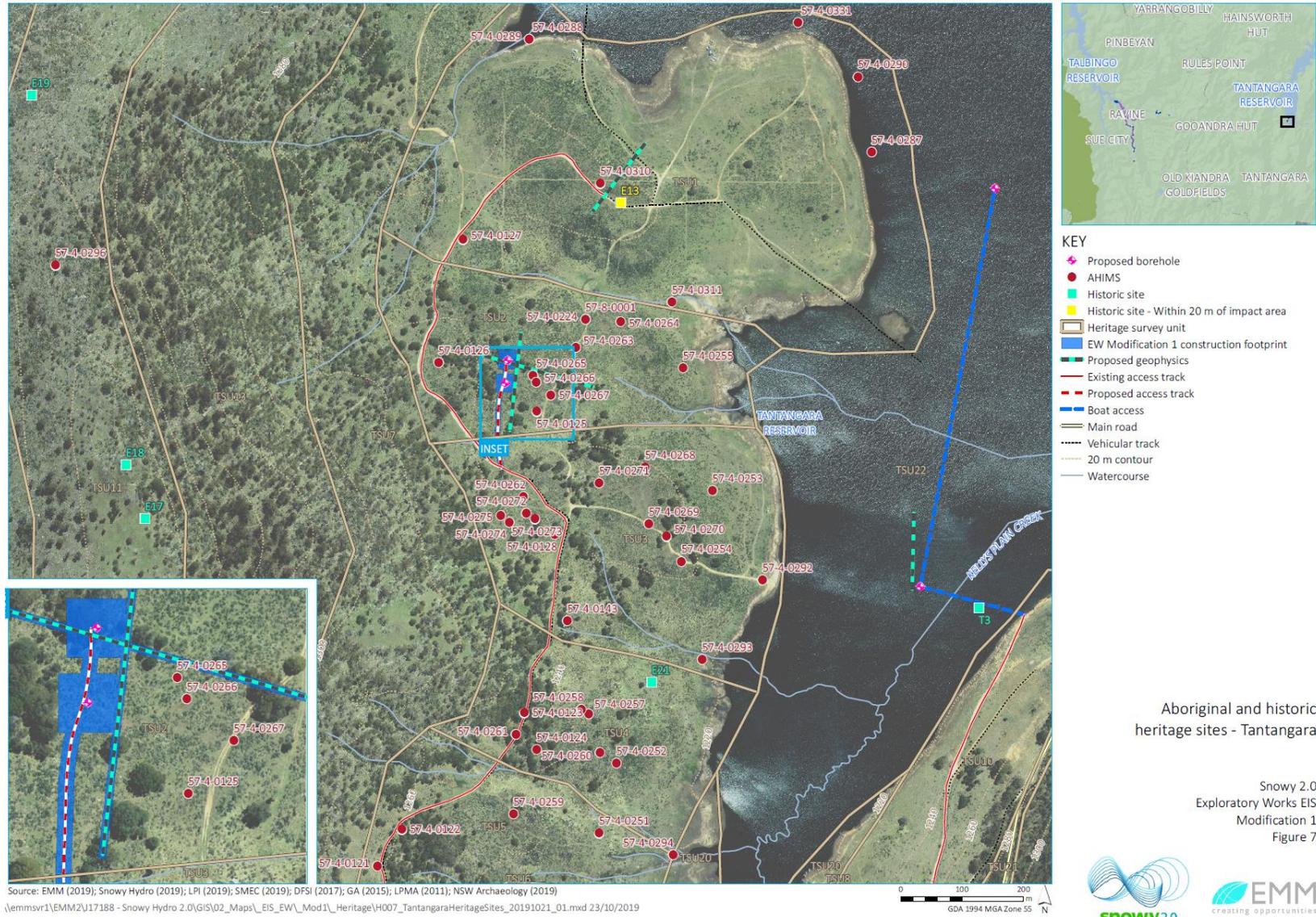


Figure 3-7: Aboriginal and historic heritage sites – Tantangara

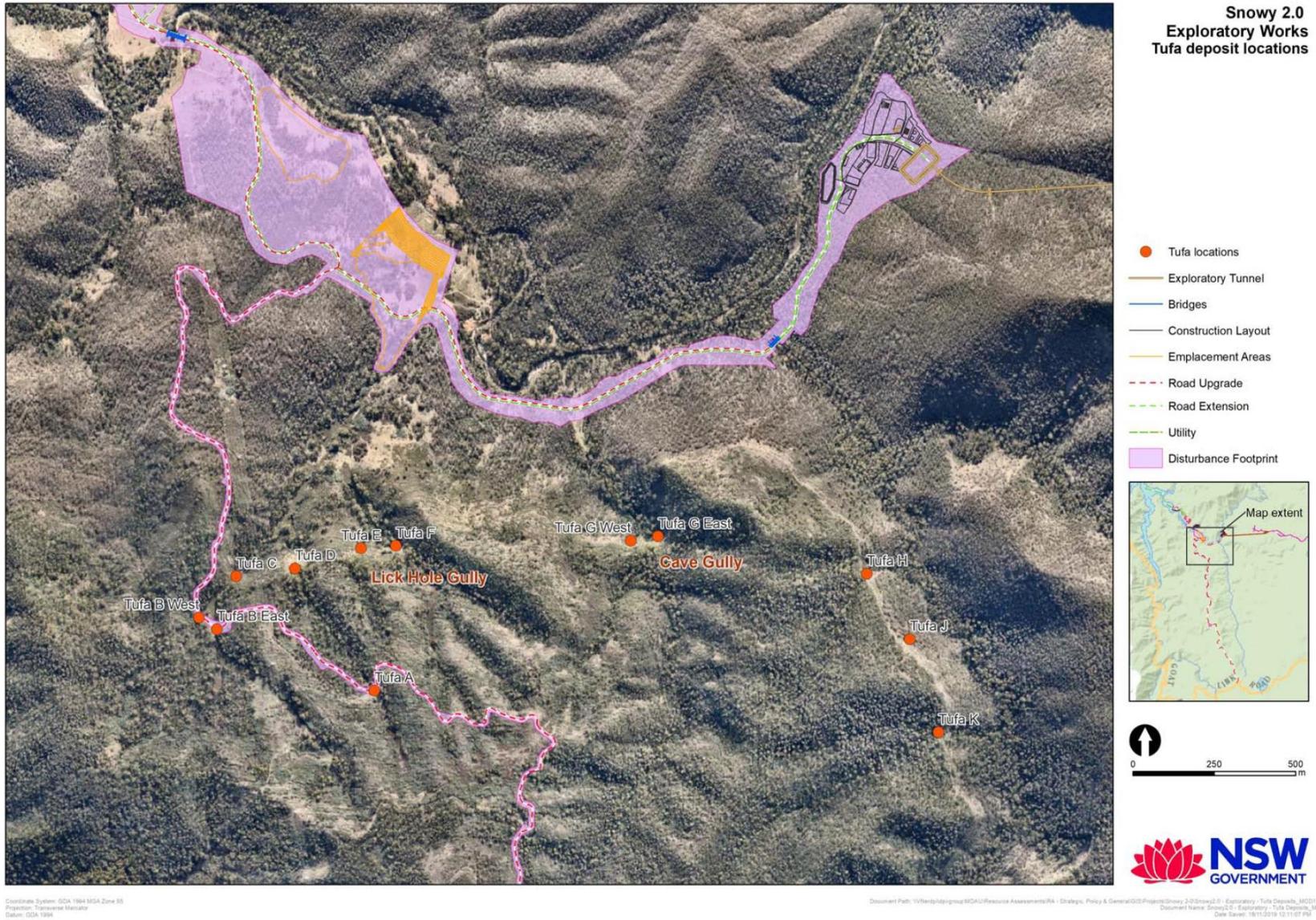


Figure 3-8: Tufa deposit locations

Table 3-1 – Aboriginal Sites in Area of Disturbance – Salvage

| ID | Aboriginal Objects | Area | Significance | Impact | Nature of Impact | Management and mitigation |
|------|--|-------------------------------------|---|--------|------------------|--|
| SU2 | - | Construction Pad Mine Trail Road | Potentially moderate local significance | Direct | Partial | Monitoring after vegetation clearance and salvage excavation |
| SU6 | AHIMS 56-6-0494 (SU6/L1) AHIMS 56-6-0491 (SU6/L2) AHIMS 56-6-0489 (SU6/L3) AHIMS 56-6-0490 (SU6/L4) Test Transect 1 Test Transect 2 | Excavated material stockpile | Moderate local significance | Direct | Partial | Monitoring after vegetation clearance and salvage excavation |
| SU7 | Nil recorded | Excavated material stockpile | Potentially moderate local significance | Direct | Partial | Monitoring after vegetation clearance and salvage excavation |
| SU10 | AHIMS 56-6-0484 (SU10/L1) AHIMS 56-6-0485 (SU10/L2) AHIMS 56-6-0486 (SU10/L3) Test Transect 1 Test Transect 2 | Lobs Hole Ravine Road Upgrade | Moderate local significance | Direct | Partial | Salvage excavation |
| SU12 | AHIMS 56-6-0537 (RSU12/L1) AHIMS 56-6-0042 AHIMS 56-6-0046 Test Transect 1 Test Transect 2 Test Transect 3 Test Transect 4 Test Transect 5 Test Transect 6 | Lobs Hole Ravine Road Upgrade | Moderate local significance | Direct | Partial | Depending on the extent of impacts, salvage excavations may be appropriate |

| ID | Aboriginal Objects | Area | Significance | Impact | Nature of Impact | Management and mitigation |
|------|---|---------------------------------------|------------------------|--------|------------------|---------------------------|
| | Test Transect 7 Test Transect 8 | | | | | |
| SU25 | AHIMS 56-6-0038 AHIMS 56-6-0039 AHIMS 56-6-0040 | Lobs Hole Ravine Road Upgrade Laydown | Low local significance | Direct | Partial | Salvage excavation |

Table 3-2 – Aboriginal Sites in Area of Disturbance – Unmitigated impact

| ID | Aboriginal Objects | Area | Significance | Impact | Nature of Impact | Management and mitigation |
|-------|---|---|---------------------------------|--------|------------------|---|
| SU1 - | Nil recorded | Construction Pad Mine Trail Road Extension | - | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU3 | AHIMS 56-6-0009 AHIMS 56-6-0495 (SU3/L1) AHIMS 56-6-0496 (SU3/L2) AHIMS 56-6-0497 (SU3/L3) Test Transect 1 Test Transect 2 Test Transect 3 Test Transect 4 | Mine Trail Road Upgrade | Low/moderate local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU4 | AHIMS 56-6-0045 AHIMS 56-6-0498 (SU4/L1) AHIMS 56-6-0499 (SU4/L2) | Mine Trail Road Upgrade Excavated material stockpile | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU5 | AHIMS 56-6-0492 (SU5/L1) AHIMS 56-6-0493 (SU5/L2) Test Transect 1 | Excavated material stockpile | Moderate local significance | Direct | Partial | Nil required; Impacts minimal |

| ID | Aboriginal Objects | Area | Significance | Impact | Nature of Impact | Management and mitigation |
|------|---|-------------------------------------|------------------------|--------|------------------|--|
| | Test Transect 2 Test Transect 3 Test Transect 4 Test Transect 5 | | | | | |
| SU8 | AHIMS 56-6-0043 Test Transect 1 Test Transect 2 Test Transect 3 Test Transect 4 | Excavated material stockpile | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU9 | Nil recorded | Excavated material stockpile | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU11 | AHIMS 56-6-0041 AHIMS 56-6-0047 AHIMS 56-6-0487 (SU11/L1) AHIMS 56-6-0487 (SU11/L2) SU11/L3 Test Transect 1 Test Transect 2 Test Transect 3 | Lobs Hole Ravine Road Upgrade | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU13 | AHIMS 56-6-0483 (SU13/L1) AHIMS 56-6-0478 (SU13/L2) | Lower Lobs Hole Ravine Road Upgrade | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU15 | Nil recorded | Accommodation camp | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU16 | AHIMS 56-6-0479 (SU16/L1) AHIMS 56-6-0480 (SU16/L2) | Accommodation camp | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |

| ID | Aboriginal Objects | Area | Significance | Impact | Nature of Impact | Management and mitigation |
|------|---|--|------------------------|--------|------------------|--|
| | AHIMS 56-6-0481 (SU16/L3) AHIMS 56-6-0482 (SU16/L4) | | | | | |
| SU18 | AHIMS 56-6-0476 (SU18/L1) | Mine Trail Road Upgrade Rock emplacement Area | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU19 | Nil recorded | Construction Pad | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU21 | Nil recorded | Lobs Hole Ravine Road upgrade | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU22 | AHIMS 56-6-0507 (SU22/L1) AHIMS 56-6-0505 (SU22/L2) AHIMS 56-6-0504 (SU22/L3) | Lower Lobs Hole Ravine Road Upgrade | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU23 | AHIMS 56-6-0506 (SU23/L1) AHIMS 56-6-0503 (SU23/L2) AHIMS 56-6-0502 (SU23/L3) | Middle Bay Wharf Access Wharf laydown | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU24 | AHIMS 56-6-0536 (SU24/L1) | Lower Lobs Hole Ravine Road Upgrade | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |
| SU26 | Nil recorded | Talbingo access | Low local significance | Direct | Partial | Unmitigated impact: Avoidance or salvage not required |

Table 3-3 – Historic Heritage Items – Avoid impact

| ID | Item Name | Significance | Complex | Impact | Management measure |
|-----------|-------------------------------|---------------------|------------------------------|---------------------------------------|---|
| R9 | Lobbs Hole Copper Mine Shafts | Local | Lobbs Hole Copper Mine | Potential direct impact (within 20 m) | Include in a no-go buffer Archival recording |
| R14 | Site of reverberatory furnace | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording Implement measures to protect moveable heritage |
| R20 | Washington Hotel | Local | Ravine Township | Potential direct impact (within 20 m) | Archival recording Ensure no inadvertent impacts Determine curtilage around the item Assess the significance of component parts Test excavation Salvage if warranted |
| R48 | Excavation possible shed | Contributory | Yan Farm Infrastructure | No impact | Include in a no-go buffer Archival recording Implement measures to protect moveable heritage |
| R49 | Circular stone wall | Contributory | Yan Farm Infrastructure | No impact | Include in a no-go buffer Archival recording Implement measures to protect moveable heritage |
| R50 | Shed with bullock wagon frame | Contributory | Yan Farm Infrastructure | No impact | Include in a no-go buffer Archival recording Implement measures to protect moveable heritage |
| R56 | Excavated ditch | Contributory | Struggle Street | No impact | Include in a no-go buffer Archival recording Implement measures to protect moveable heritage |
| R57 | Old road alignment | Local | Struggle Street | No impact | Include in a no-go buffer Archival recording Implement measures to protect moveable heritage |
| R58 | Large metal pipes | N/A | Lobs Hole historic landscape | No impact | Include in a no-go buffer Archival recording Implement measures to protect moveable heritage |
| R74 | Metal water pipe | Contributory | Lobbs Hole Copper Mine | Potential direct impact (within 20 m) | Archival recording Ensure no inadvertent impacts |
| R79 | Bridge remains | N/A | SMA | Potential direct impact (within 20 m) | Include in a no-go buffer Archival recording |
| R88 | Artificial mound of stone | Contributory | Lobs Hole historic landscape | No impact | Archival recording Ensure no inadvertent impacts |
| R118 | Ravine cemetery | Contributory | Ravine Township | Direct impact | Archival recording Test excavation Salvage if warranted |

Table 3-4 – Historic Heritage Items – Impact mitigation

| ID | Item Name | Significance | Complex | Impact | Management measure |
|-----------|--------------------------------------|---------------------|---------------------------------|---------------------------------------|--|
| R1 | 1885 West Pinbeyan Station Homestead | Local | West Pinbeyan Station Homestead | Direct impact | Archival recording Test excavation, salvage if warranted |
| R2 | Metal water pipe | Contributory | West Pinbeyan Station Homestead | Direct impact | Archival recording Test excavation. salvage if warranted Implement measures to protect moveable heritage |
| R3 | Possible building structure | Contributory | West Pinbeyan Station Homestead | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R4 | Rectilinear depression | Contributory | West Pinbeyan Station Homestead | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R5 | Slag | N/A | Lobbs Hole Copper Mine | No impact | Archival recording |
| R6 | Stone flagging | Contributory | West Pinbeyan Station Homestead | No impact | Archival recording |
| R7 | Depression | N/A | Lobs Hole historic landscape | No impact | Archival recording |
| R8 | Depression | N/A | Lobs Hole historic landscape | No impact | Archival recording |
| R10 | Lobbs Hole Copper Mine | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R11 | Mullock and metal ore bucket | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R12 | Foundations for Pelton Wheel | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R13 | Tramway cutting | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R15 | Stone channel | Contributory | Yan Farm Infrastructure | No impact | Archival recording |
| R16 | Pile of rocks and drums | Contributory | West Pinbeyan Station Homestead | Direct impact | Archival recording Test excavation, salvage if warranted. Implement measures to protect moveable heritage |
| R17 | Levelled area | Contributory | West Pinbeyan Station Homestead | Direct impact | Archival recording Test excavation, salvage if warranted |
| R18 | Fallen fence | Contributory | Yan Farm Infrastructure | Direct impact | Archival recording Test excavation, salvage if warranted |
| R19 | Levelled pad | Contributory | West Pinbeyan Station Homestead | No impact | Archival recording |
| R21 | Depression and debris | Contributory | Ravine Township | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |

| ID | Item Name | Significance | Complex | Impact | Management measure |
|-----------|--|---------------------|-------------------------|---------------------------------------|---|
| R22 | Potential earthen feature | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R23 | Excavation | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R24 | Depression | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R25 | Building platform | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R26 | Mound | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R27 | Depression with rock | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R28 | Pisé ruin | Contributory | Ravine Township | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R29 | Mound of stone and brick | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R30 | Rectilinear earth feature | Contributory | Ravine Township | Direct impact | Archival recording Test excavation Salvage if warranted |
| R31 | Water race | Contributory | Ravine Township | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R33 | Excavation and bricks | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R34 | Mound of stone | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R35 | Rabbit proof fence | Contributory | Yan Farm Infrastructure | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R36 | Hole | N/A | SMA | No impact | Archival recording |
| R37 | Flying fox | N/A | SMA | No impact | Archival recording |
| R38 | Yarrangobilly Stream Gauging Station 2 | N/A | SMA | No impact | Archival recording |
| R39 | Excavation | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R40 | Cutting for building platform | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R41 | Parallel stone alignment | Contributory | Ravine Township | Direct impact | Archival recording Test excavation Salvage if warranted |
| R42 | Rosie Cook's place | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R43 | Yan's farm - rabbit proof fence | Contributory | Yan Farm Infrastructure | No impact | Archival recording |
| R44 | Stable Creek stream gauging station | N/A | SMA | No impact | Archival recording |

| ID | Item Name | Significance | Complex | Impact | Management measure |
|-----------|-----------------------------------|---------------------|------------------------------|---------------------------------------|---|
| R45 | Lobbs Hole Copper Mine water race | Contributory | Lobbs Hole Copper Mine | Direct impact | Archival recording Test excavation, salvage if warranted |
| R46 | Large excavation | N/A | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R47 | Ravine Public School site | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R51 | Adit in cliff Coronation mine | N/A | Lobbs Hole Copper Mine | No impact | Archival recording |
| R52 | Survey mark | N/A | SMA | No impact | Archival recording |
| R53 | Old road | N/A | Lobs Hole historic landscape | No impact | Archival recording |
| R54 | Site of bridge | N/A | SMA | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R55 | Brick hearth | N/A | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R59 | Domestic metal glass | Contributory | Ravine Township | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R60 | Police Station site | Contributory | Ravine Township | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R61 | Well | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R62 | Possible shaft | Unverified | Lobbs Hole Copper Mine | No impact | Archival recording |
| R63 | Pile of Shale | Unverified | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R64 | Water race | Contributory | Ravine Township | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts expected |
| R65 | Thomas house | Contributory | Ravine Township | No impact | Archival recording |
| R66 | House platform | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R67 | Lobbs Hole Central Mine | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R68 | Shaft and mullock | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R69 | Brick kiln | Contributory | Lobbs Hole Copper Mine | Direct impact | Archival recording Test excavation, salvage if warranted Implement measures to protect moveable heritage |
| R70 | Concrete fire place | Contributory | Lobs Hole historic landscape | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R71 | Butcher shop | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, |

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|-----------|---|---------------------|------------------------------|---------------------------------------|---|
| | | | | | salvage if warranted. Implement measures to protect moveable heritage |
| R72 | Stone furnace | N/A | Lobs Hole historic landscape | Potential direct impact (within 20 m) | Archival recording Test excavation, Salvage if warranted and impacts are expected |
| R73 | Rabbit proof fence | Contributory | Yan Farm Infrastructure | No impact | Archival recording |
| R75 | Mine shaft on ML 31 | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R76 | Scatter of tin, glass and brick | Contributory | Struggle Street | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R77 | Site of meteorological station | N/A | SMA | No impact | Archival recording |
| R78 | Pine tree | N/A | Lobs hole historic landscape | Direct Impact | Archival recording |
| R80 | Elizabeth Frazer's orchard | Contributory | Struggle Street | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts expected |
| R81 | Yarrangobilly River water race/road | Contributory | Lobbs Hole Copper Mine | Direct impact | Archival recording Test excavation, salvage if warranted |
| R82 | Front seat of car ~ 1960s | N/A | Lobs Hole historic landscape | Direct impact | Archival recording |
| R83 | Pile of sheet metal | N/A | Lobs Hole historic landscape | No impact | Archival recording |
| R84 | Possible old road | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R85 | Possible old road | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R86 | Possible old road | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R87 | Tree with scar and axe | Contributory | Lobs Hole historic landscape | No impact | Archival recording |
| R89 | Artificial mound of stone | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R90 | Lobbs Hole Copper Mine - Lick Hole Gully Adit | Contributory | Lobbs Hole Copper Mine | Direct impact | Archival recording Test excavation, salvage if warranted |
| R91 | Mine Shaft (? No. 4) | Contributory | Lobbs Hole Copper Mine | Direct impact | Archival recording Test excavation, salvage if warranted |
| R92 | Building platforms | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R93 | Fence | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |

| ID | Item Name | Significance | Complex | Impact | Management measure |
|-----------|----------------------------------|---------------------|---------------------------------|---------------------------------------|--|
| R94 | Road alignment | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R95 | Road alignment | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R96 | Open Cut in Lick Hole Gully | Contributory | Lobbs Hole Copper Mine | Direct impact | Archival recording Test excavation, salvage if warranted |
| R97 | Exotic trees | Contributory | West Pinbeyan Station Homestead | Direct impact | Archival recording |
| R98 | Excavated pit | Contributory | Lobbs Hole Copper Mine | Direct impact | Archival recording Test excavation, salvage if warranted |
| R99 | Well | Contributory | Yan Farm Infrastructure | Direct impact | Archival recording Test excavation, salvage if warranted |
| R100 | Single furrow plough | Contributory | Yan Farm Infrastructure | Direct impact | Archival recording Test excavation, salvage if warranted |
| R101 | Possible building site | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R102 | Stone culverts | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R103 | Levelled platform | Contributory | Yan Farm Infrastructure | No impact | Archival recording |
| R104 | Lick Hole Gully water race | Contributory | Yan Farm Infrastructure | No impact | Archival recording |
| R105 | Ditch | Contributory | Lobs Hole historic landscape | No impact | Archival recording |
| R106 | Old Road | Contributory | Struggle Street | No impact | Archival recording |
| R107 | Building platform | Contributory | Struggle Street | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts expected |
| R108 | Old road | Contributory | Struggle Street | Direct impact | Archival recording Test excavation, salvage if warranted |
| R109 | House platform with wooden cross | Contributory | Struggle Street | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R110 | Building platform | Contributory | Struggle Street | No impact | Archival recording Avoid impacts if possible |
| R111 | Path to creek | Contributory | Struggle Street | No impact | Archival recording |
| R112 | Possible shaft | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R113 | Shed platforms | Local | Yan Farm Infrastructure | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R114 | Excavation | Contributory | Lobs Hole historic landscape | Direct impact | Archival recording Test excavation, salvage if warranted |
| R115 | Stone lined channel | Contributory | Struggle Street | No impact | Archival recording |

| ID | Item Name | Significance | Complex | Impact | Management measure |
|-----------|---------------------------|---------------------|------------------------|---------------------------------------|--|
| R116 | House site | Contributory | Ravine Township | Potential direct impact (within 20 m) | Archival recording Test excavation, salvage if warranted and impacts are expected |
| R117 | Possible shaft | Contributory | Lobbs Hole Copper Mine | No impact | Archival recording |
| R119 | SH weather station | N/A | Snowy Hydro | Direct impact | Weather station in use but can be relocated |
| R120 | Building platform | Contributory | Struggle Street | No impact | Archival recording |
| R121 | Depression | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R122 | Fireplace platform | Contributory | Ravine Township | Direct impact | Archival recording Test excavation, salvage if warranted |
| R123 | Survey marker | N/A | SMA | No impact | Archival recording |
| R124 | SMA laydown area | N/A | SMA | Direct impact | Archival recording |
| R125 | SMA quarry | N/A | SMA | Direct impact | Archival recording |
| R126 | SMA survey marker | N/A | SMA | Direct impact | Archival recording |
| R127 | SMA survey marker | N/A | SMA | Direct impact | Archival recording |
| R128 | First school at Lobs Hole | Contributory | Ravine Township | No impact | Archival recording |