PLAN 1

PLANNING APPLICATION P16-311

833 HOBART ROAD (PART OF MINING LEASE 1958P/M), BREADALBANE

ATTACHMENTS

A Application & plans

B Responses from referral agencies

C Representations & applicant's response

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ATTACHMENT A

COCKED HAT HILL QUARRY, BREADALBANE

AMENDED DEVELOPMENT APPLICATION SUPPORTING INFORMATION

Van Diemen CONSULTING

PO BOX 1, NEW TOWN, TAS 7008

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DEFINITION OF TERMS/ABBREVIATIONS

BMP	Blast Management Plan – Cocked Hat Hill Quarry
DA	Development Application
DPIPWE	Department of Primary Industries, Parks, Water and Environment
EMPCA	*Environmental Management and Pollution Control Act 1994*
EPA	Environment Protection Authority
EPN	Environment Protection Notice
(the) Land	That area of land shown in Figure 1 which comprises a portion of Mining Lease 1958P/M
LoA	Letter of Agreement – Quarry Operator and Launceston Airport Operator
LUPAA	*Land Use Planning and Approvals Act 1993* (Tas)
ML	Mining Lease
MRT	Mineral Resources Tasmania
NMC	Northern Midlands Council
QCP	Tasmanian *Quarry Code of Practice 1999*

PART A – BACKGROUND INFORMATION

The Cocked Hat Hill Quarry is proposed to be located on private freehold land at **833 Hobart Road Breadalbane**, in the Northern Midlands municipality (Figures 1, 2a and 2b).

A.1 ACTIVITIES IN MINING LEASE 1958P/M

The proposed Cocked Hat Hill Quarry is located within Mining Lease 1958P/M but it will be separated from McGraths Pit by a retained section of land, as shown in Figure 5a.

A.1.1 McGraths Pit

The Mining Lease (1958P/M) supports the existing *McGraths Pit* from which it is permitted to extract up to 50,000 cubic metres per annum (Permit to Operate No. 3534 and EPN 8742/3).

The *McGraths Pit quarrying operation* includes the following activities:

- surface site preparation by soil removal and stockpiling;
- excavation and ripping of rock and gravel material;
- blasting to liberate rock;
- crushing of material into various size classes;
- stockpiling of material in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and the
- transport of materials by truck with/without trailer.

A.1.2 Cocked Hat Hill Quarry

The Cocked Hat Hill Quarry will occur on the Land identified in Figures 2a and 2b, which represents a section of Mining Lease 1958P/M.

The *Cocked Hat Hill quarrying operation* will include the following activities:

- surface site preparation by soil removal and stockpiling;
- excavation and ripping of rock and gravel material;
- blasting to liberate rock;
- crushing of material into various size classes;
- stockpiling of material in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and the
- transport of materials by truck with/without trailer.

A.2 APPLICANT

The applicant, Mt Oriel Breadalbane Pty Ltd, owns and operates the Mt Oriel property which includes the existing Level 2 activity (known as 'McGraths Pit') permitted by permit and EPN 8742/3.

The contact details for the company are –

Mt Oriel Breadalbane Pty Ltd

Level 3, 302-320 Burwood Road

HAWTHORN VIC 3122

ACN 111 443 586

A.3 QUARRY DETAILS

Physical address – MT ORIEL, 833 HOBART RD BREADALBANE TAS 7258

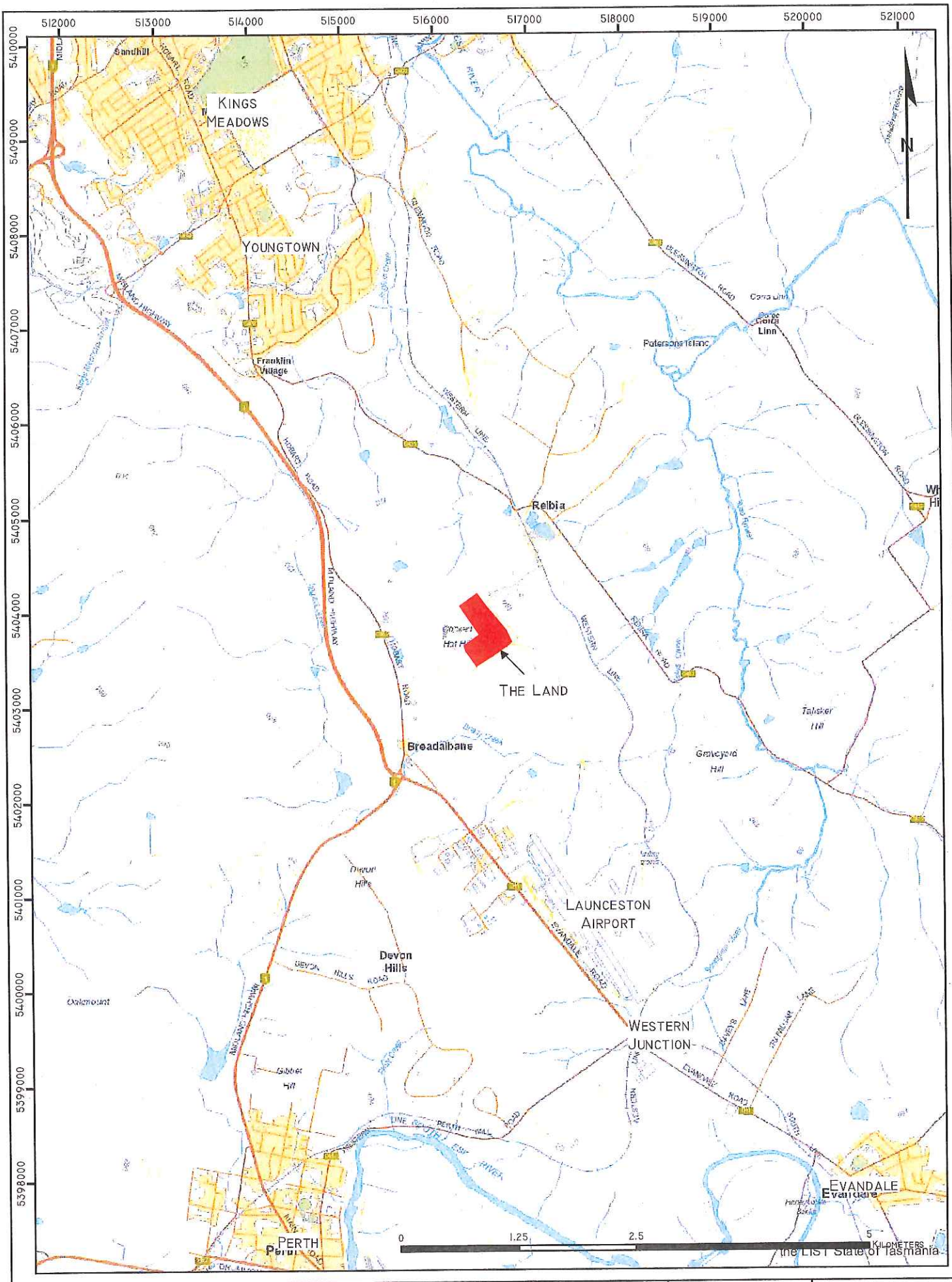
PID - 6393335

Land Titles – 144549/1

Planning Zones (*Northern Midlands Interim Planning Scheme 2000*) – Rural

Planning Overlays (*Northern Midlands Interim Planning Scheme 2000*) – Buffer Attenuation Area

Mining Lease Number – 1958 P/M



COCKED HAT HILL QUARRY - DEVELOPMENT APPLICATION

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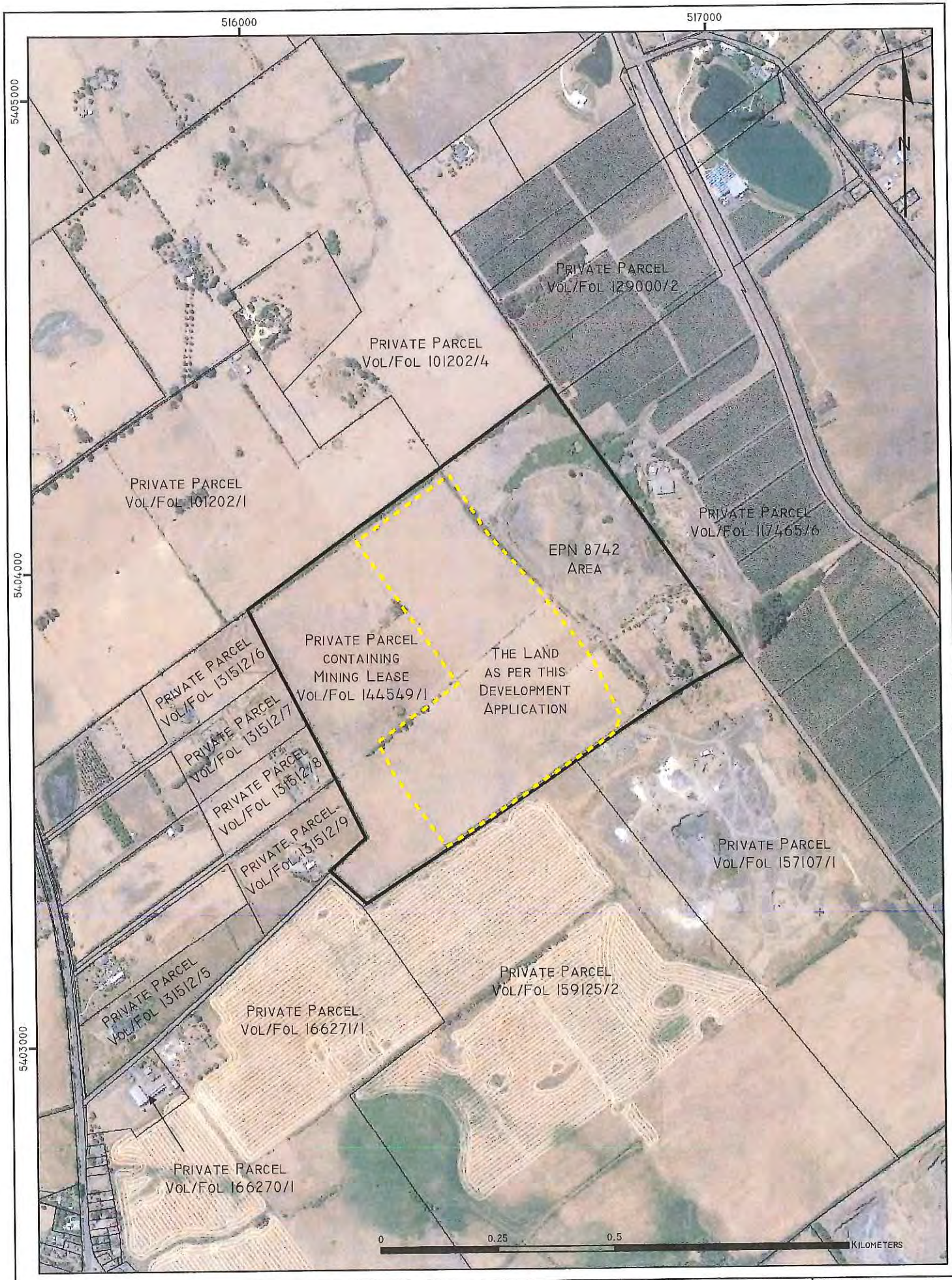
GRID: MGA ZONE 55

TASMAP: PROSPECT



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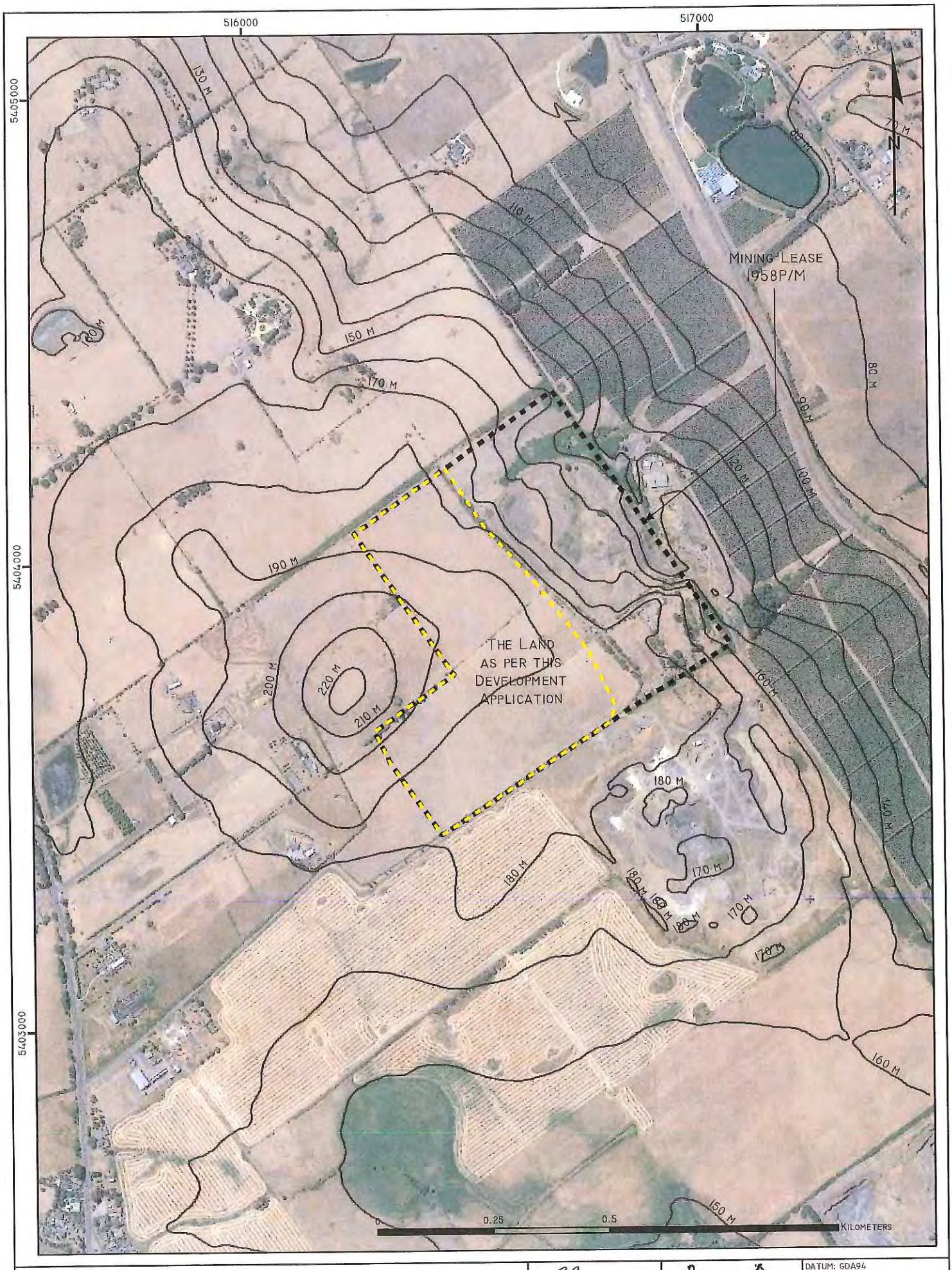

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PART B - PROJECT DESCRIPTION

B.1 DEVELOPMENT OVERVIEW

The Cocked Hat Hill Quarry is located at 833 Hobart Road Breadalbane TAS 7258 (Figures 1, 2a and 2b).

B.1.1 Volume extracted

The volume to be extracted is up to 200,000 cubic metres per annum, all of which may be crushed to reduce particle size and/or make a uniform particle size product.

B.1.2 Extraction Methods

The quarrying operation will include the following activities:

- surface site preparation by tree-felling and stockpiling;
- soil removal and stockpiling;
- excavation and ripping of rock and gravel material;
- drilling and blasting by licensed contractor and rock removal by means of an excavator/dozer;
- crushing of rock to reduce material size;
- stockpiling of material (crushed and uncrushed) in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and the
- transport of materials by truck with/without trailer.

Hard rock will be liberated by blasting. Drilling and blasting will be carried out by qualified contractors in consultation with the proponent to ensure the following:

- drilling will be carried out as specified by a blast contractor;
- all close neighbours will be notified at least 24 hours in advance of blasting activities;
- special notification measures will be developed with the Launceston Airport operator;
- blasting activities will be safe and meet all workplace health and safety requirements and
- blasting will be adequate to achieve rock fragmentation for extraction by excavator and crushing.

The blast fractured rock will be removed using an excavator and loaded into the hopper of a crusher. Crushers have jaws which are adjusted to achieve the desired gravel size. The crushed and screened (using a vibrating screen adjacent to the crushing unit) material will be stockpiled. After enough rock is crushed and screened into gravel the quarry will operate on a need basis with trucks loaded using a front loader.

B.1.3 Timeframe for development

It is anticipated that extraction will commence in the last quarter of the 2016-17 financial year (i.e. April to June 2017).

B.1.4 Extraction Plan

The mine extraction plan for the first 10 years of production (at full extraction of 200,000 cubic metres per annum) is shown in Figures 5a relative to the full maximum extent of the quarry.

The maximum quarry extent when the project is complete is shown in Figure 5b.

B.2 OPERATING HOURS

Operating hours for the quarry are outlined in Table 1.

Component activities of the extractive industry process have been identified and operating hours limited to hours which are unlikely to cause environmental nuisance or harm.

Table 1. Operating hours and times for blasting and crushing within the quarry

Operating Hours	Drilling and blasting	Crushing	Haulage
0600 to 1900 hrs Monday to Friday; 0800 to 1600 hrs on Saturday; and closed on Sunday and public holidays (those gazetted Statewide).	0800 and 1700 hrs Monday to Friday but closed on Sunday and public holidays (those gazetted Statewide).	0700 to 1700 hrs Monday to Friday but closed on Sunday and public holidays (those gazetted Statewide).	0700 to 1900 hrs Monday to Friday; 0800 to 1600 hrs on Saturday; and closed on Sunday and public holidays (those gazetted Statewide).

B.3 MINING LEASE

A Mining Lease (1958P/M) is in place for the area proposed for the Cocked Hat Hill Quarry.

B.4 QUARRY EQUIPMENT

The equipment likely to be used during the process of extracting blasted rock from the quarry to stockpiling of the various grades of gravel in the stockpile area is as follows:

Excavators

- Komatsu Pc300-8 (30ton exc)
- Caterpillar 320DL (20 ton exc)
- Komatsu Pc200-8 (20 ton exc)

Crusher equipment

- Powerscreen 1400 chieftan twin deck screen
- Powerscreen metrotrac jaw crusher

Loader

- Volvo L150E Loader – loadrite scales
- Komatsu WA380 loader – loadrite scales

Bulldozer

- Caterpillar D9R with SU Blade and ripper
- Caterpillar D8R II with SU Blade and ripper

Other

- Trucks for haulage
- 15,000L capacity water cart truck
- Light vehicles for worker transport

B.5 QUARRY ACCESS ROAD – JUNCTION WITH HOBART ROAD

Hobart Road is a main thoroughfare for transport movements for several industries and local vehicular traffic – it is the old Midlands Highway. Most material will be extracted from the quarry on a demand basis, as occurs for most quarries supplying a hard-rock product.

A **Traffic Impact Assessment** has been prepared for the development application (see Attachment 3).

B.5.1 Access Road

Gravel trucks are proposed to exit the access road onto Hobart Road (Figure 3).

The Access Road is located on private freehold land. Trucks turn left to join the Midlands Highway from Launceston to Hobart some 300m after the junction with Hobart Road. Advisory 20 km speed limit signs (on private land) past two houses adjoining the private road have been installed for the McGraths Pit and Raeburn Quarry activities in addition to speed bumps and passing bays.

B.5.2 Access Road junction with Hobart Road

Hobart Road is a sealed Council maintained road and connects Breadalbane to the Midlands Highway to the south and Youngtown to the north. Hobart Road is an arterial road that enables quick and easy access through to various locations for product sales (eg Perth, Longford, Western Junction, Deloraine) on major highways (eg Midlands, Tasman and Bass Highways).

B.5.3 Traffic Movements

Traffic movements for 200,000 cubic metre per annum production operation will consist of staff cars at a maximum of 6 per day (12 movements) and heavy vehicles consisting of gravel trucks to collect material. Trucks (with or without trailer) will be able to cart about 20m^3 (39.5 tonnes) capacity and comply with vehicle safety and regulation standards.

Table 2 outlines *examples* of supplies and the period over which that supply occur. These can be used to approximate/estimate the number of truck movements per supply and per day into the quarry.

Table 2. Examples of gravel supplies and associated truck generation

Type of Supply	Size of Supply	Period of Supply and Truck Movements
Campaign	20,000 tonnes using 30 t trucks (667 truckloads)	40 days = 17 trucks/day = 34 truck movements/day
Campaign	80,000 tonnes using 39.5 t trucks (2,025 truckloads)	60 days = 34 trucks/day = 68 truck movements/day

B.6 QUARRY PLANS

B.6.1 Proposed Layout

Infrastructure

A spur road will be constructed from the existing Access Road into McGraths Pit will be constructed as it provides the best possible route from the Access Road into the Cocked Hat Hill Quarry (Figure 5).

Stockpiles

All material, whether crushed or not, will be stockpiled and stored within a bunded area of the quarry.

Sediment pond and associated drainage

Drainage from the quarry floor and associated disturbed area will be managed by the establishment of a sediment pond and cut-off drains.

The sediment pond will be sized to cater for the 1 in 20 year ARI.

The overflow will be directed towards the north where it would drain through agricultural land prior to entering a drainage line which flows eastwards.

Amenities

No amenities are proposed to be constructed for the quarry as these are available at the adjacent McGraths Pit.

B.6.2 Topsoil Removal and Management

There is a shallow topsoil (overburden) of about 0.3 - 0.5m on average across some of the area proposed to be quarried. Stripped topsoil will be stockpiled for re-use in rehabilitation works. The stockpiles and bunds made from the stockpiled soil will be progressively grassed to minimise the risk of weed infestation and wind and water induced erosion of the bare soil.

B.7 BLAST PLANNING

Rock may be liberated by blasting. Drilling and blasting will be carried out by qualified contractors. Rock extraction areas would be prepared for quarrying by removing and stockpiling the topsoil for later use in progressive rehabilitation works. The contractors will carry out the drilling and blasting operations in consultation with the quarry owner to ensure the following tasks occur:

- drilling is carried out as specified by a blast contractor;
- noise and vibration standards are met and reduced where possible (both drilling and blasting activities);
- all close neighbours are notified at least 24 hours in advance of blasting activities;
- special notification measures will be developed with the Launceston Airport operator;
- blasting activities are safe and meet all workplace health and safety requirements and
- blasting is adequate for rock fragmentation for extraction by excavator and crushing.

Blast monitoring and modelling at the adjacent McGraths Pit will be used to guide blasting practices at the Cocked Hat Hill Quarry.

The initial blasts ('establishment' blasts) will be within a dug pit established by

1. the excavation and stockpiling of topsoil and overburden; and
2. the extraction of in situ gravel/rock material for crushing or direct sale.

The walls (bunding) created by the excavation works can provide the means to deflect air blast over pressure and noise (drilling) upwards and away from the houses to the west. The first 10,000 cubic metres of blast liberated rock material may need to be crushed within the McGraths Pit to enable enough space to be created for the crusher to fit within the Cocked Hat Hill Quarry pit. This will be further assessed by the EPA in its assessment of noise/dust impacts from the proposed activity. Noise modelling is likely to be required by the EPA.

A draft Blast Management Plan has been developed for the quarry operation (Attachment 2).

Measures to be applied during the preparation of a blast will include –

Notifications before blast

All residents within a 1 km radius of a blast will be notified prior to that blast. This notification will be given at least 48 hours before such blasting is due to occur, and preferably before 72 hours. If the blast(s) cannot take place at the time specified, or because of blasting misfires, Mt Oriel Breadalbane Pty Ltd or their delegated agent will advise all those residents within 1 km of the quarry of the revised time at which blasting will take place.

Storage and handling of explosives

The transportation, storage and handling of explosives is conducted by the blast contractor in accordance with the Australian Explosives Code (1999), the Australian Code for the transport of explosives by road and rail (Third edition - 2009) and Australian Standard 2187 Explosives – Transport, storage and Use (parts 1 and 2).

Risk assessment and auditing

The blast contractor is responsible for conducting a risk assessment and safety audit of the quarry as part of each blast. This includes the drilling of the holes for explosives, handling explosives, operation of detonation devices and the safe detonation of the charges. Mt Oriel Breadalbane Pty Ltd or their delegated agent will receive a copy of the risk assessment and associated documentation that supports the placement of drill holes, levels of explosives used and the detonation devices.

Noise/vibration blast monitoring program

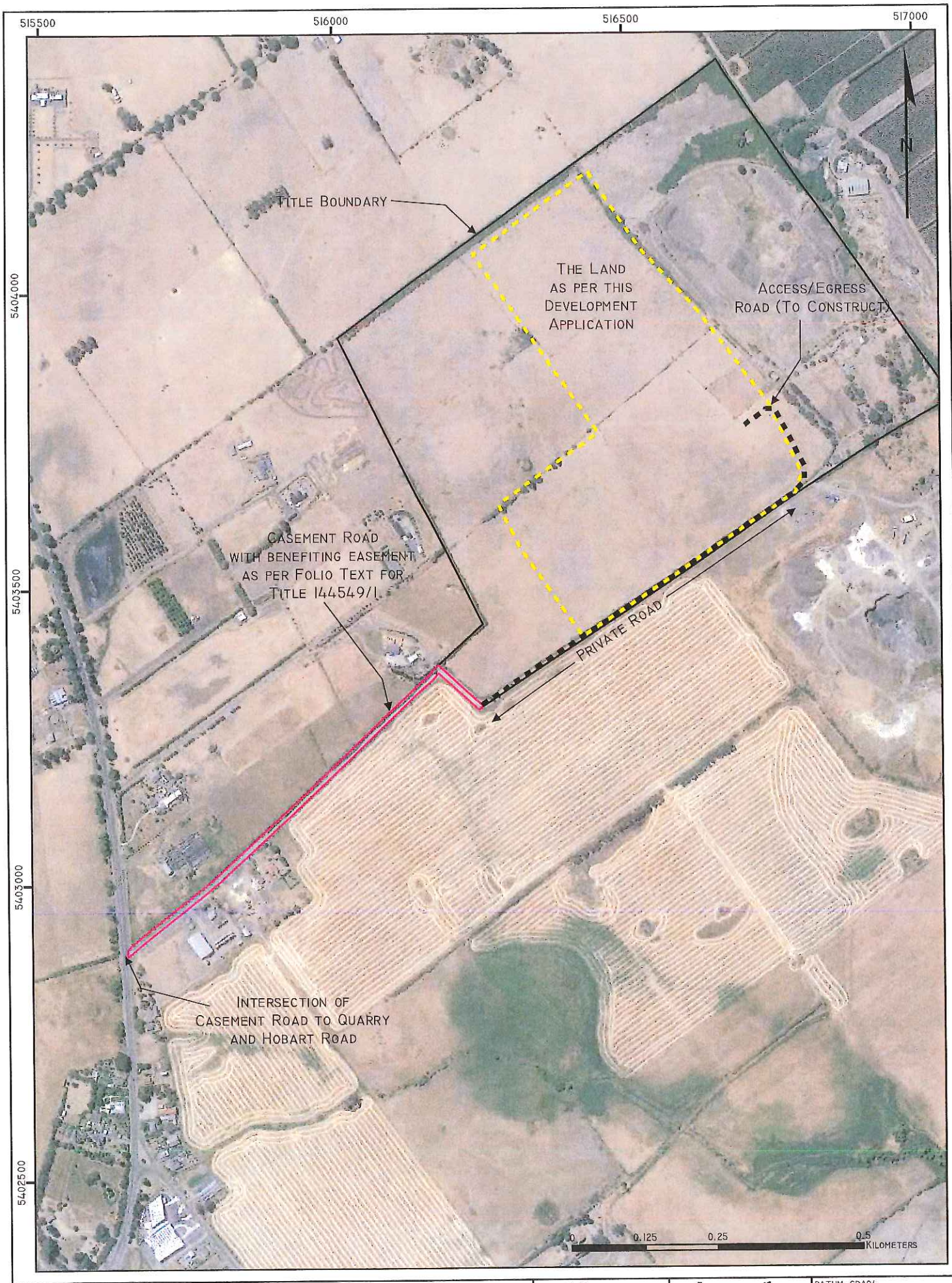
Measurements of air blast overpressure and peak particle velocity will be carried out by the blast contractor in accordance with the methods set down in *Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration,* Australian and New Zealand Environment Council, September 1990. The noise/vibration test results collected by the blast contractor will be securely held by Mt Oriel Breadalbane Pty Ltd or their delegated agent for 5 years from the date of the blast. If the blasting noise limits and/or vibrations as specified in the permit are exceeded, the EPA Director will be notified within 48 hours of the blasting event.

Incident Reporting

The blast contractor is responsible for reporting to Police/Fire any incident that requires their involvement or attendance at the quarry. Mt Oriel Breadalbane Pty Ltd is responsible for reporting any misfires to surrounding relevant landowners: if the blast(s) cannot take place at the time specified, or because of blasting misfires, Mt Oriel Breadalbane Pty Ltd or their delegated agent will advise all those residents within 1 km of the activities on the land of the revised time at which blasting will take place.

B.8 CRUSHING

Rock will be crushed and screened into various sized particles subject to the end use of the material.



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PART C – PLANNING SCHEME INFORMATION

C.1 CATEGORISATION OF USE/DEVELOPMENT

The development and use is consistent with the definition of Extractive Industry in the Scheme –

> '... use of land for extracting or removing material from the ground, other than Resource development, and includes the treatment or processing of those materials by crushing, grinding, milling or screening on, or adjoining the land from which it is extracted. Examples include mining, quarrying, and sand mining.'

C.2 ZONING AND OVERLAYS

A quarry is defined as an *Extractive Industry* in the *Northern Midlands Interim Planning Scheme 2013* which is a Discretionary use within the Rural Resource zone. All land immediately adjoining the land to be quarried is zoned Rural Resource (Figure 4a).

The Land intersects one Overlay – Airports Impact Management Code (Figure 4-B).

C.3 DETERMINING THE APPLICATION – PLANNING AUTHORITY

The planning authority has discretion, pursuant to the Scheme, to refuse or permit a use or development if:

(a) the use is within a use class specified in the applicable Use Table as being a use which is discretionary;

(b) the use or development complies with each applicable standard but relies upon a performance criterion to do so; or

(c) it is discretionary under any other provision of the planning scheme, and the use or development is not prohibited under any other provision of the planning scheme.

In determining an application *for any permit* the planning authority must, in addition to the matters required by ss51(2) of the Act, take into consideration:

(a) all applicable standards and requirements in this planning scheme; and

(b) any representations received pursuant to and in conformity with ss57(5) of the Act, but in the case of the exercise of discretion, only insofar as each such matter is relevant to the particular discretion being exercised.

In determining an application for a permit for a *discretionary use* the planning authority must, in addition to the matters referred to in subclause 8.10.1 of the Scheme, have regard to:

(a) the purpose of the applicable zone;

(b) any relevant local area objective or desired future character statement for the applicable zone;

(c) the purpose of any applicable code; and

(d) the purpose of any applicable specific area plan but only insofar as each such purpose is relevant to the particular discretion being exercised.

In determining an application for any permit the planning authority *must not* take into consideration matters referred to in clauses 2.0 and 3.0 of the Scheme.

C.4 ROLE OF THE ENVIRONMENT PROTECTION AUTHORITY

This application seeks approval for production levels of up to 200,000 cubic metres per annum, of which up to 200,000 cubic metres may be crushed and/or screened.

The proposed quarry operation includes two activities defined within Schedule 2 of the *Environmental Management and Pollution Control Act 1994 (Tas)* (EMPCA) –

- '5. Extractive Industries. (a) Quarries: the extraction of any rock or gravel and producing 5 000 cubic metres or more of rock or gravel per year'; and
- '6. Materials Handling. (a) Crushing, Grinding or Milling: processing (by crushing, grinding, milling or separating into different sizes by sieving, air elutriation or in any other manner) of ... (ii) rock, ores or minerals at a rate in excess of 1 000 cubic metres per year'.

Council is not required to assess any matter addressed by the EPA (s.25 (2) If the Board determines that it needs to assess the activity to which an application relates under this Act then, unless the application is refused under section 57(2) of the Land Use Planning and Approvals Act 1993 – ..... (f) the planning authority, notwithstanding any enactment to the contrary, is not required to assess any matter addressed in the Board's assessment under paragraph (a)).'

The environmentally-relevant aspects of the activity will be assessed by the Board administering the *Environmental Management and Pollution Control Act 1995* because the development comprises a Level 2 activity pursuant to Schedule 2 of the *Environmental Management and Pollution Control Act 1995.*

The EPA will conduct the assessment in consultation with the planning authority. Accordingly, the environmentally-relevant aspects of the activity will be more comprehensively described within the assessment documentation (ie a Development Proposal and Environmental Management Plan) requested by the EPA – the documentation will be advertised for public comment and will be available for Council in determining the application.

C.5 SCHEME USE STANDARDS

The following notes and comments are made about each **Use Standard** relevant to the development.

The numbers used to label each table below is the same as for the Scheme.

Clause 26.3.3 Discretionary Uses if not a single dwelling

Objective –

a) To provide for an appropriate mix of uses that support the Local Area Objectives and the location of discretionary uses in the rural resources zone does not unnecessarily compromise the consolidation of commercial and industrial uses to identified nodes of settlement or purpose built precincts.

b) To protect the long term productive capacity of prime agricultural land by minimising conversion of the land to non-agricultural uses or uses not dependent on the soil as a growth medium, unless an overriding benefit to the region can be demonstrated.

c) To minimise the conversion of non-prime land to a non-primary industry use except where that land cannot be practically utilised for primary industry purposes.

d) Uses are located such that they do not unreasonably confine or restrain the operation of primary industry uses.

e) Uses are suitable within the context of the locality and do not create an unreasonable adverse impact on existing sensitive uses or local infrastructure.

f) The visual impacts of use are appropriately managed to integrate with the surrounding rural landscape.

Performance Criterion	Comments
P1.1 It must be demonstrated that the use is consistent with local area objectives for the provision of non-primary industry uses in the zone, if applicable; and **P1.2** Business and professional services and general retail and hire must not exceed a combined gross floor area of 250 m^2 over the site.	**Development complies with P1.** • The use is consistent with the Primary Industries objectives as it can provide the materials needed for the agricultural sector to build, maintain and improve operational infrastructure as well as provide products to the non-primary industry sector without compromising agricultural uses; • The use will not interfere with or detract from the local area objectives for Tourism of Rural Communities; and • The use does not require the construction of buildings.
P2.1 Utilities, extractive industries and controlled environment agriculture located on prime agricultural land must demonstrate that the: i) amount of land alienated/converted is minimised; and ii) location is reasonably required for operational efficiency; and	**Development complies with P4.** • The amount of land to be temporarily used for the extractive industry is minimal compared to the land available in the immediate area for agricultural use. There is a requirement in the Mining Lease to maintain a small disturbed area. Once rehabilitated the land can be used for agricultural pursuits; • The location utilises the already well established road network for the two existing quarries – Raeburn and McGraths Pit – and the location of this new quarry provides efficient utilisation of machinery and workers.
P2.2 Uses other than utilities, extractive industries or controlled environment agriculture located on prime agricultural land, must demonstrate that the conversion of prime agricultural land to that use will result in a significant benefit to the region having regard to the economic, social and environmental costs and benefits.	**Not applicable** – development is an extractive industry.
P3 The conversion of non-prime agricultural to non-agricultural use must demonstrate that: a) the amount of land converted is minimised having regard to:	**Development complies with P3.** • There is no conversion of prime agricultural land; • The amount of land to be temporarily used for the extractive industry is minimal compared to the land available in the immediate area for agricultural use. There is a requirement in the Mining Lease to

i) existing use and development on the land; and ii) surrounding use and development; and iii) topographical constraints; or b) the site is practically incapable of supporting an agricultural use or being included with other land for agricultural or other primary industry use, due to factors such as: i) limitations created by any existing use and/or development surrounding the site; and ii) topographical features; and iii) poor capability of the land for primary industry; or c) the location of the use on the site is reasonably required for operational efficiency.	maintain a small disturbed area. Once rehabilitated the land can be used for agricultural pursuits; • The location utilises the already well established road network for the two existing quarries – Raeburn and McGraths Pit – and the location of this new quarry provides efficient utilisation of machinery and workers.
P4 It must be demonstrated that: a) emissions are not likely to cause an environmental nuisance; and b) primary industry uses will not be unreasonably confined or restrained from conducting normal operations; and c) the capacity of the local road network can accommodate the traffic generated by the use.	**Development complies with P4.** • Emissions are not likely to cause environmental nuisance – the extent, type and mitigation measures to be applied to prevent/minimise emissions will be assessed by the EPA in its assessment required under EMPCA; • Primary industries will not be fettered, confined or restrained from conducting normal operations; and • The local road network can accommodate the traffic generated by the use.
P5 It must be demonstrated that the visual appearance of the use is	**Development complies with P5.** • The quarry is not located on a ridgeline or a skyline such that it will be *obvious* in the landscape. The actual slopes associated with Cocked Hat Hill are to

consistent with the local area having regard to: a) the impacts on skylines and ridgelines; and b) visibility from public roads; and c) the visual impacts of storage of materials or equipment; and d) the visual impacts of vegetation clearance or retention; and e) the desired future character statements.	the west of the area proposed to be quarried as shown in Figure 2b; • The quarry will not be visible from a public road; • Stored products will be within the pit once established and otherwise it will be via storage as bunding around the pit – this will be grassed to blend in with the adjoining agricultural lands; and • Only one hedgerow of negligible height will be removed by the activity.

Clause 26.3.2 is not relevant as no dwelling is proposed.

Clause 26.3.3 is not relevant as the land is not located within an irrigation district proclaimed under Part 9 of the *Water Management Act 1999*.

C.6 SCHEME DEVELOPMENT STANDARDS

There are no relevant **Development Standards –**

- Clause 26.4.1 is not relevant as no buildings are proposed; and
- Subdivision (Clause 26.4.2) is not proposed.

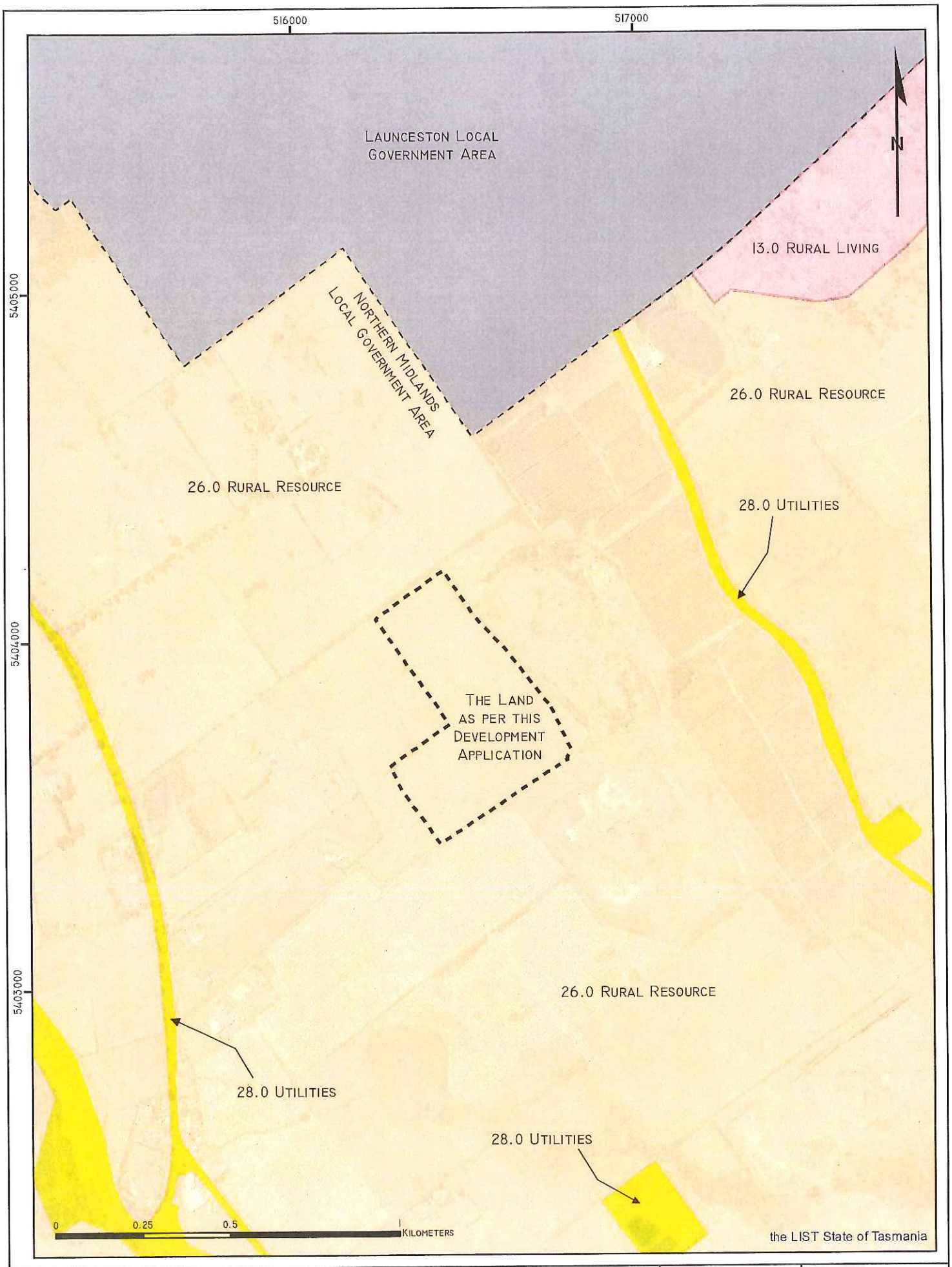

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FIGURE 4B: OVERLAY MAP

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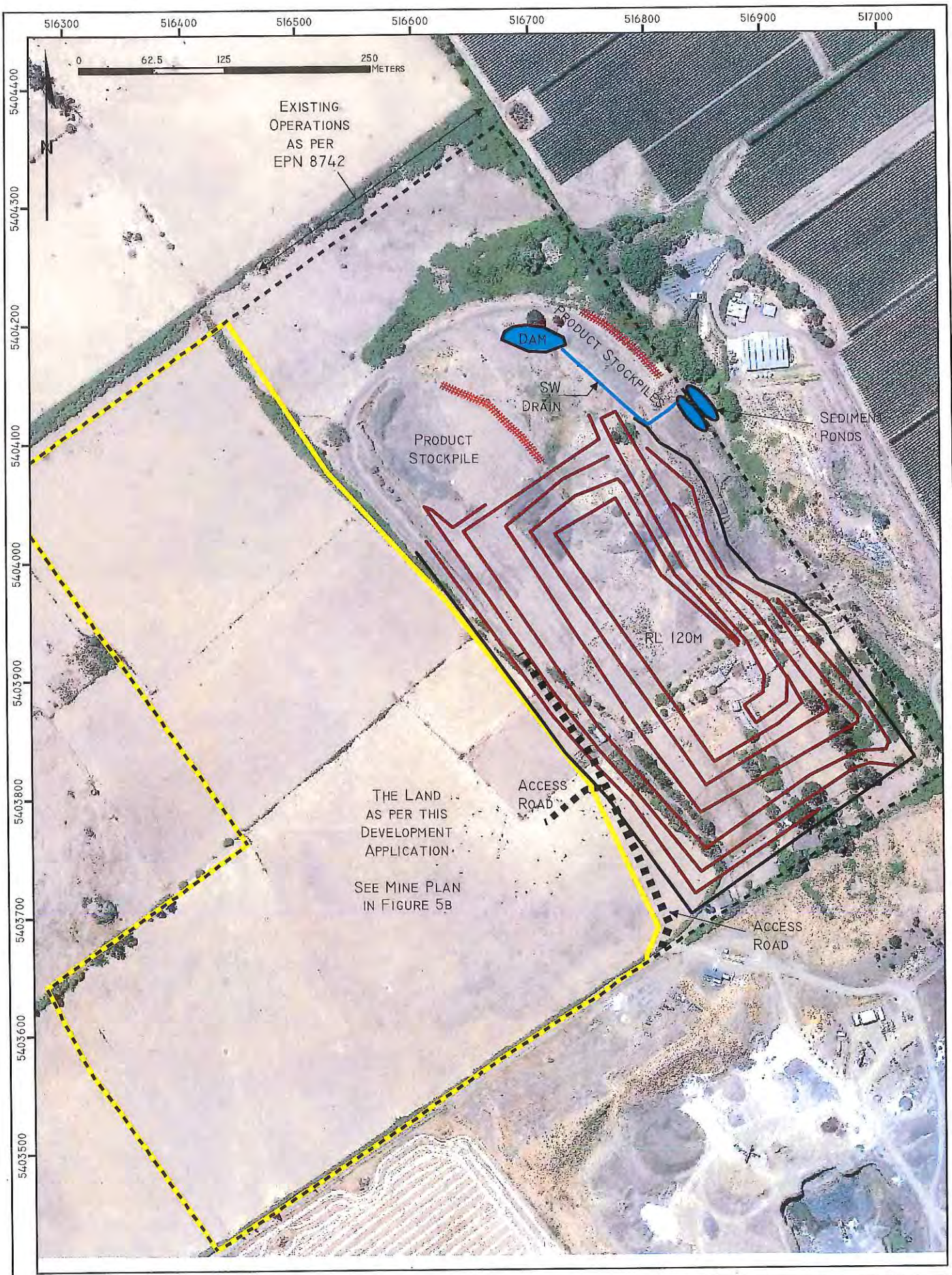

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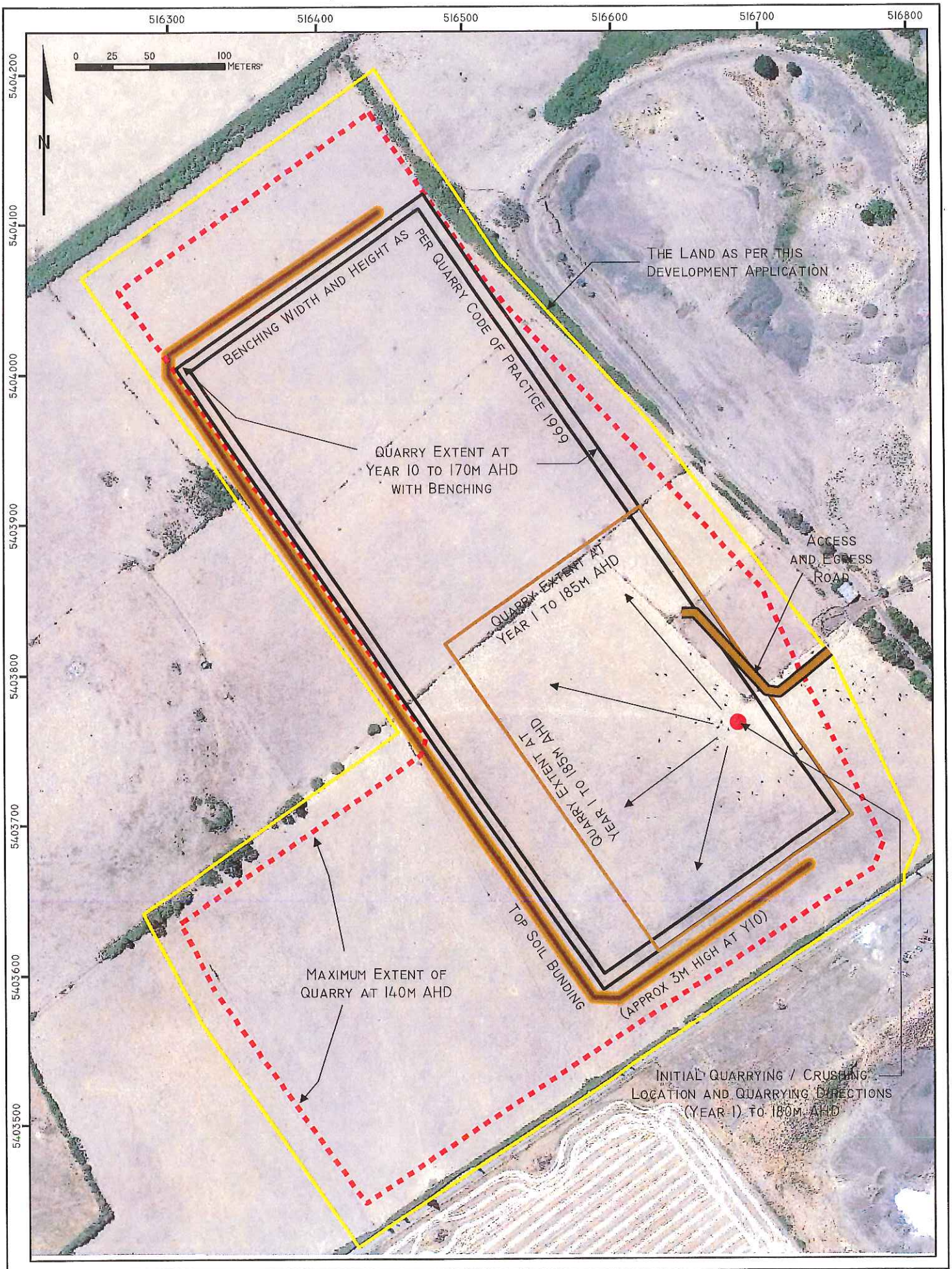

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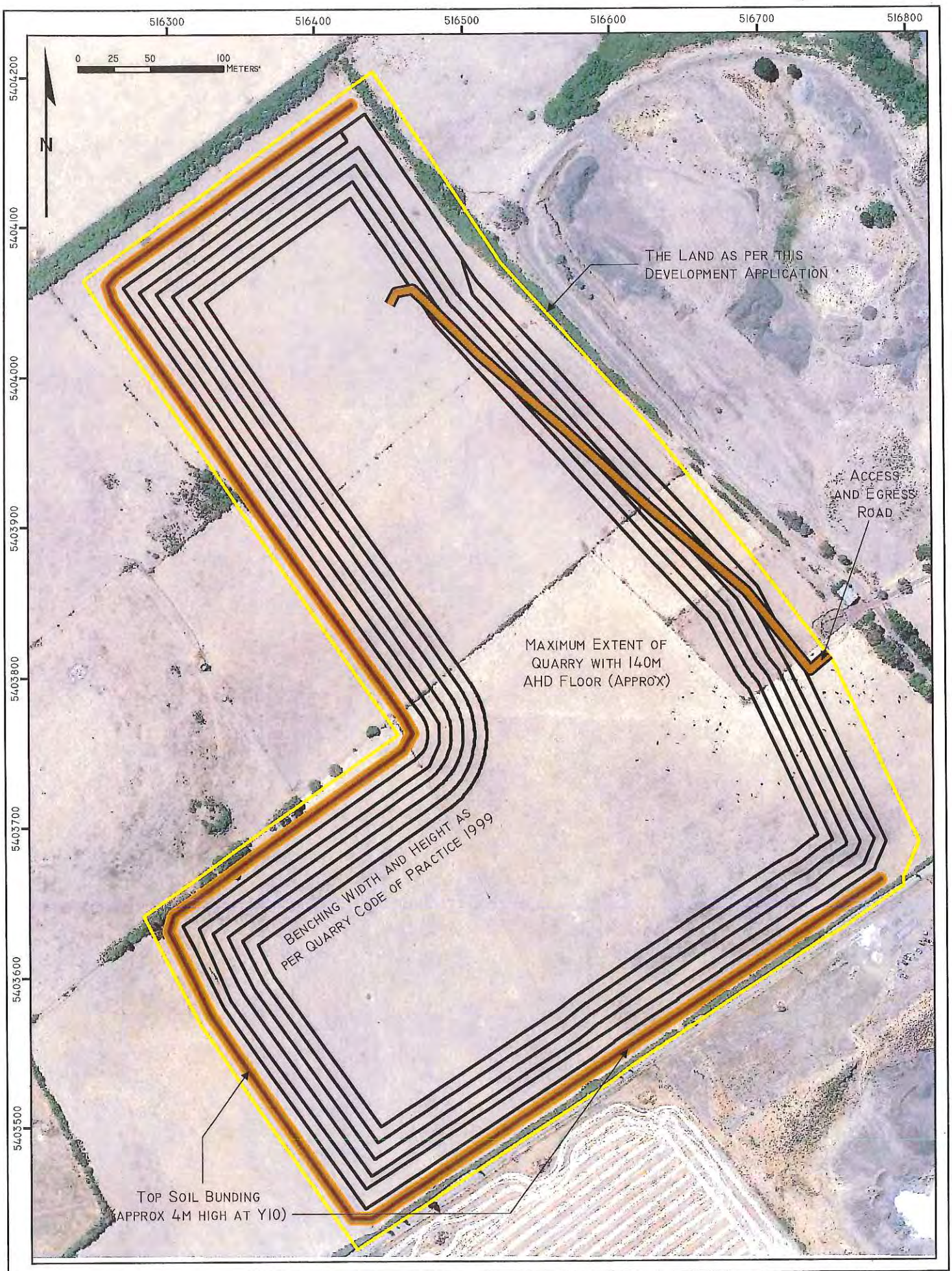

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C.7 SCHEME CODES AND OVERLAYS

C.7.1 Bushfire prone areas

The development is not a vulnerable use or hazardous use within the meaning of the Code.

The Code does not apply to this development.

C.7.2 Potentially contaminated land

The Code does not apply to this development.

C.7.3 Landslip

The purpose of this provision is to

a) ensure that use and development subject to risk from land instability is appropriately located and that adequate measures are taken to protect human life and property; and

b) ensure that use and development does not cause, or have the cumulative potential to cause an increased risk of land instability.

This Code applies to:

a) mapped as landslip hazard area on the planning scheme maps; or

b) even if not mapped under subparagraph (a) if:

i) it is potentially subject to a landslip hazard; or

ii) it is identified in a report prepared by a suitably qualified person in accordance with the development application which is lodged or required in response to a request under Section 54 of the Act as actually or potentially subject to a landslip hazard.

The Code is not relevant to the development as the Land does not intersect a landslip hazard area on a planning scheme map and the land is not subject to landslip.

C.7.4 Road and Railway Asset Code

The purpose of this provision is to:

a) ensure that use or development on or adjacent to a road or railway will not compromise the safety and efficiency of the road or rail network; and

b) maintain opportunities for future development of road and rail infrastructure; and

c) reduce amenity conflicts between roads and railways and other use or development.

This Code applies as the development and use will intensify the use of an existing access.

The following relevant **Use Standards** of this Code have been considered in this application.

A **Traffic Impact Assessment** was prepared for the application (see Attachment 3).

Clause E4.6 Use and road and rail infrastructure

Objective - To ensure that the safety and efficiency of road and rail infrastructure is not reduced by the creation of new accesses and junctions or increased use of existing accesses and junctions.

Acceptable Solution (A) or Performance Criterion(P)	Comments
A1 Sensitive use on or within 50m of a category 1 or 2 road, in an area subject to a speed limit of more than 60km/h, a railway or future road or railway	**Not relevant** – the development does not access a category 1 or 2 road.

must not result in an increase to the annual average daily traffic (AADT) movements to or from the site by more than 10%.	
A2 For roads with a speed limit of 60km/h or less the use must not generate more than a total of 40 vehicle entry and exit movements per day	**Not relevant** – the development accesses Hobart Road which has a posted speed limit of more than 60 km/hr.
P3 For limited access roads and roads with a speed limit of more than 60km/h: a) access to a category 1 road or limited access road must only be via an existing access or junction or the use or development must provide a significant social and economic benefit to the State or region; and b) any increase in use of an existing access or junction or development of a new access or junction to a limited access road or a category 1, 2 or 3 road must be for a use that is dependent on the site for its unique resources, characteristics or locational attributes and an alternate site or access to a category 4 or 5 road is not practicable; and c) an access or junction which is increased in use or is a new access or junction must be designed and located to maintain an adequate level of safety and efficiency for all road users.	**Complies with P3.** a) the development does not access a category 1 or limited access road; b) the access is existing (no new access is required), the use is dependent on the known resource in the Mining Lease (1958P/M) for which the ML was issued by MRT and there is no alternate access to a category 4 or 5 road; and c) the existing access is appropriately designed with turn in and turn out treatments and meets the SISD stipulated within the Code.

The following relevant **Development Standards** of this Code have been considered in this application.

E4.7.1 Development on and adjacent to Existing and Future Arterial Roads and Railways

Objective - To ensure that development on or adjacent to category 1 or 2 roads (outside 60km/h), railways and future roads and railways is managed to:

a) ensure the safe and efficient operation of roads and railways; and

b) allow for future road and rail widening, realignment and upgrading; and

c) avoid undesirable interaction between roads and railways and other use or development.

Acceptable Solution (A)	Comments
A1 The following must be at least 50m from a railway, a future road or railway, and a category	**Complies with P3.** a) No roadworks, buildings, alterations etc are within 50m from a railway, future road or

1 or 2 road in an area subject to a speed limit of more than 60km/h: a) new road works, buildings, additions and extensions, earthworks and landscaping works; and b) building envelopes on new lots; and c) outdoor sitting, entertainment and children's play areas	railway and a category 1 or 2 road in an area subject to a speed limit of more than 60km/h; b) No building envelopes or new lots are proposed; and c) There are no sitting areas, entertainment area or children's play area proposed.

E4.7.2 Management of Road Accesses and Junctions

Objective - To ensure that the safety and efficiency of roads is not reduced by the creation of new accesses and junctions or increased use of existing accesses and junctions.

Acceptable Solution (A) or Performance Criterion (P)	Comments
A1 For roads with a speed limit of 60km/h or less the development must include only one access providing both entry and exit, or two accesses providing separate entry and exit.	**Not relevant.** The road is a speed limit of more than 60km/h
A2 For roads with a speed limit of more than 60km/h the development must not include a new access or junction.	**Complies with A2.** No new access or junction is proposed.

E4.7.4 Sight Distance at Accesses, Junctions and Level Crossings

Objective - To ensure that use and development involving or adjacent to accesses, junctions and level crossings allows sufficient sight distance between vehicles and between vehicles and trains to enable safe movement of traffic.

Acceptable Solution (A)	Comments
A1 Sight distances at – a) an access or junction must comply with the Safe Intersection Sight Distance shown in Table E4.7.4; and b) rail level crossings must comply with AS1742.7 Manual of uniform traffic control devices - Railway crossings, Standards Association of Australia; or c) If the access is a temporary access, the written consent of the relevant authority has been obtained.	**Complies with A1.** The SISD exceed those required by Table E4.7.4.

C.7.5 Flood Prone Areas Code

The Code does not apply to this development.

C.7.6 Car Parking and Sustainable Transport Code

The purpose of this provision is to –

(a) ensure that an appropriate level of car parking facilities are provided to service new land use and development having regard to the operations on the land and the nature of the locality; and

(b) ensure that cycling, walking and public transport are encouraged as a means of transport in urban areas; and

(c) ensure access for cars and cyclists and delivery of people and goods is safe and adequate; and

(d) ensure that parking does not adversely impact on the amenity of a locality and achieves high standards of urban design; and

(e) ensure that the design of car and bicycle parking space and access meet appropriate design standards; and

(f) provide for the implementation of parking precinct plans.

One car space (E6.6.1) must be provided for every 2 employees that are associated with the development pursuant to Table E6.1 of the Scheme. **Three car spaces** will be formalised in the quarry site owing to the maximum 6 staff working in the quarry (excluding truck drivers).

One motorbike parking space (E6.6.4) is required.

One bicycle space is required as there are less than 10 employees (pursuant to Table E6.1).

The following relevant Development Standards have been considered in this application.

E6.7.1 Construction of Car Parking Spaces and Access Strip

Objective - To ensure that car parking spaces and access strips are constructed to an appropriate standard.

Performance Criterion(P)	Comments
A1 All car parking, access strips manoeuvring and circulation spaces must be: (a) formed to an adequate level and drained; and (b) except for a single dwelling, provided with an impervious all weather seal; and (c) except for a single dwelling, line marked or provided with other clear physical means to delineate car spaces.	**Development complies with P1.** • These matters were addressed in the Traffic Impact Assessment (Attachment 3).

C.7.7 Scenic Management Code

The Code does not apply to this development.

C.7.8 Biodiversity Code

No native vegetation is to be removed by the development. The Code does not apply to this development.

C.7.9 Water Quality Code

The Code does not apply to this development as it is exempt under Clause E9.4.1 - Level 2 activities assessed by the Board of Environmental Management and Pollution Control.

C.7.10 Recreation and Public Space Code

The Code does not apply to this development.

C.7.11 Environmental Impacts and Attenuation Code

The Code does not apply to this development as it is exempt under Clause E11.4.1 - Level 2 activities assessed by the Board of Environmental Management and Pollution Control.

C.7.12 Airport Impacts Management Code

The purpose of this provision is to –

(a) ensure that use or development within identified areas surrounding airports does not unduly restrict the ongoing security, development and use of airport infrastructure; and

(b) provide for management of the land use implications of those areas relevant to use and development under the scheme.

This Code applies to use or development of land –

(a) within Australian noise exposure forecast contours on the maps; and

(b) within prescribed air space.

The Use Standards (Clause 12.5.1) of the Code are not relevant to the extractive industry development – no buildings are proposed.

The following relevant **Development Standards** of this Code have been considered in this application.

Clause E12.6.1 Obstacles to aircraft

Objective - To ensure that development does not impact on the safety of prescribed airspace.

Acceptable Solution	Comments
A1 Development must be approved pursuant to the *Airports Act 1996* and the *Airport (Protection of Airspace) Regulations 1996* and the Manual of Standards.	**Development will comply with A1.** • A Letter of Agreement (LoA) will be sought with the Launceston Airport operators to enable blasting activities at the Cocked Hat Hill Quarry. • The existing LoA for blasting at the McGraths Pit will be used as the basis for the LoA for blasting activities at the proposed Cocked Hat Hill Quarry.

C.7.13 Local Historic Heritage Code

The Code does not apply to this development.

C.7.14 Coastal Code

The Code was not used in the Scheme.

C.7.15 Signs Code

The Code does not apply to this development as no signage is proposed.

ATTACHMENTS

Attachment 1 Land Titles

Attachment 2: Draft Blast Management Plan – Cocked Hat Hill Quarry

Attachment 3: Traffic Impact Assessment (Traffic Engineering and Road Safety)

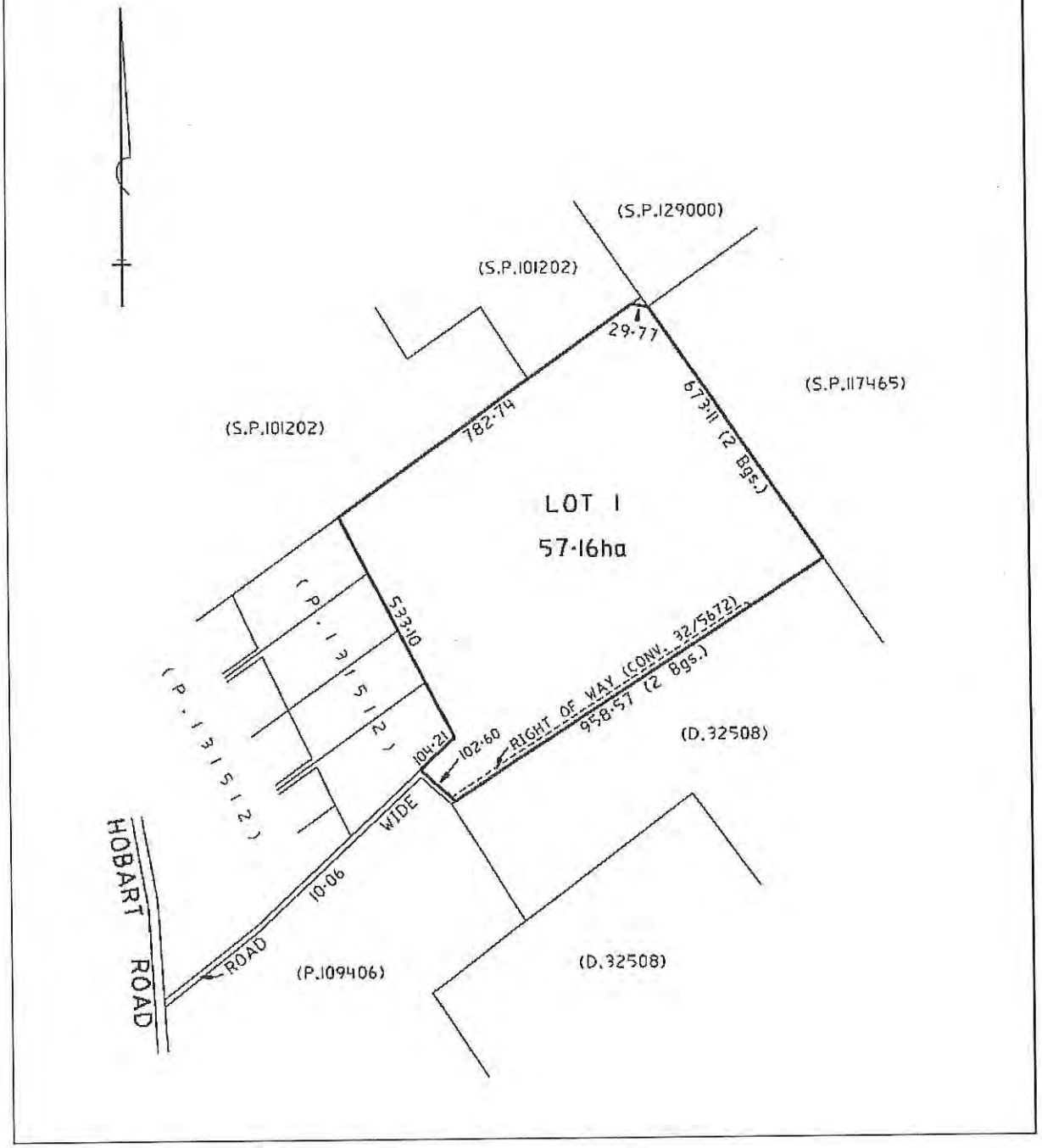
Attachment 1 Land Titles

FILE NUMBER Y20423 GRANTEE PART OF 584 ACRES GTD TO THOMAS SCOTT	**CONVERSION PLAN** LOCATION CORNWALL - BREADALBANE CONVERTED FROM GL1863 NOT TO SCALE LENGTHS IN METRES	Registered Number **P.144549** APPROVED 17 AUG 2005 Alice Kawa Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 123 (5040)	LAST UPI No. 4700014	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	DRAWN NJD

SKETCH BY WAY OF ILLUSTRATION ONLY

"EXCEPTED LANDS"



SEARCH OF TORRENS TITLE

VOLUME	FOLIO
144549	1
EDITION	DATE OF ISSUE
1	19-Aug-2005

SEARCH DATE : 25-Sep-2016
SEARCH TIME : 01.04 PM

DESCRIPTION OF LAND

Parish of BREADALBANE Land District of CORNWALL
Lot 1 on Plan 144549
Being the land described in Conveyance No.GL1863
Derivation : Part of 584A-0R-0P Gtd to Thomas Scott
Derived from Y20423

SCHEDULE 1

MT. ORIEL BREADALBANE PTY LTD

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
11/1240 CONVEYANCE: Benefiting Easement: Right of Carriageway over the Road 10.06 wide shown on Plan No.144549
32/5672 CONVEYANCE: Burdening Easement: Right of Carriageway (appurtenant to Lot 3 on Diagram No.32508)over the Right of Way shown on Plan No.144549

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA

Issued pursuant to the Valuation of Land Act 2001

PROPERTY ID:	6393335
MUNICIPALITY:	NORTHERN MIDLANDS
PROPERTY ADDRESS:	MT ORIEL 833 HOBART RD BREADALBANE TAS 7258
PROPERTY NAME:	MT ORIEL
TITLE OWNER:	144549/1 : MT. ORIEL BREADALBANE PTY LTD
INTERESTED PARTIES:	MT. ORIEL BREADALBANE PTY LTD
POSTAL ADDRESS: (Interested Parties)	MOUNT ORIEL 833 HOBART RD BREADALBANE TAS 7258

MAIN IMPROVEMENTS SUMMARY

Improvements: HSE, CTG, FARM IMPTS

Improvement Sizes (Top 3 by Size):	Improvement:	Area:
	DUTCH BARN	6000.0 square metres
	HOUSE	204.0 square metres
	HOUSE	98.0 square metres

Number of Bedrooms:

Construction Year of Main Building: 1950

Roof Material: Galvanised Iron

Wall Material: Weatherboard

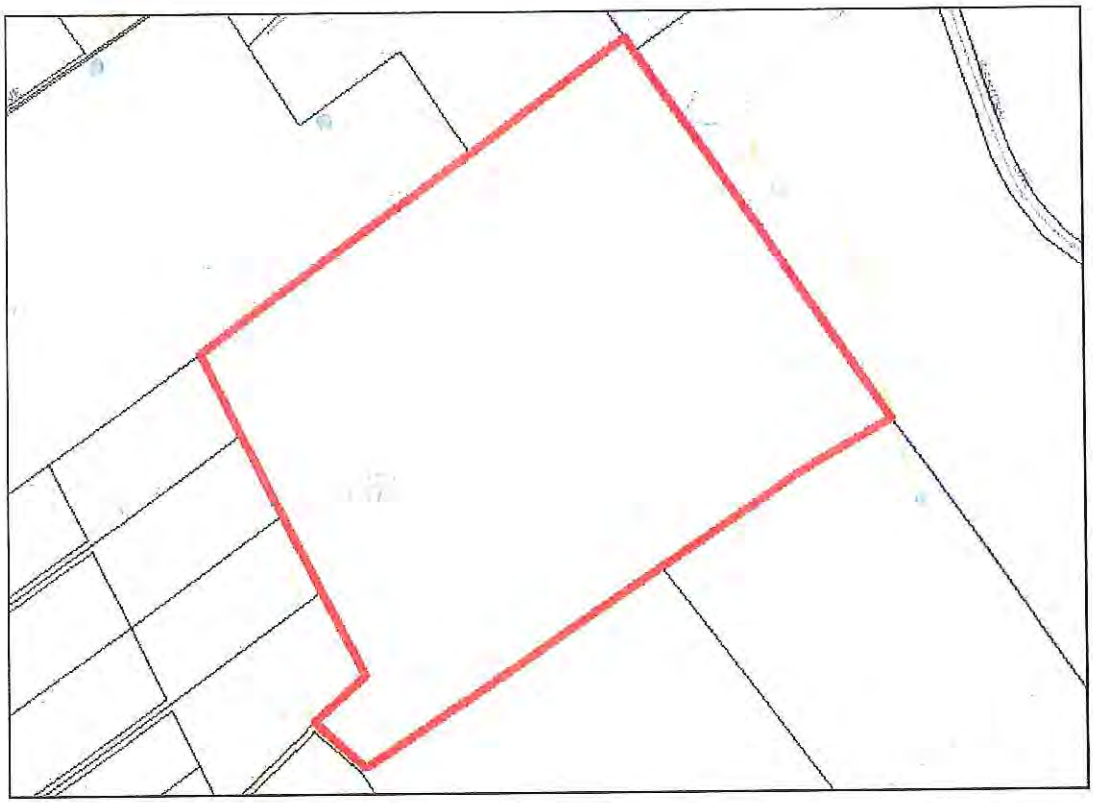
Land Area: 57.16 hectares

LAST SALES

Contract Date	Settlement Date	Sale Price
04/11/2004	23/12/2004	$620,000

LAST VALUATIONS

Date Inspected	Levels At	Land	Capital	A.A.V.	Reason
18/10/2012	01/07/2012	$925,000	$1,200,000	$48,000	Revaluation
19/01/2007	01/10/2006	$622,000	$870,000	$34,800	Revaluation



Explanation of Terms

Property ID - A unique number used for Valuation purposes.

Date Inspected - The date the property was inspected for the valuation.

Levels At - Levels At - or Levels of Valuation Date means the date at which values of properties are determined for all valuations in a Municipal Area.

Land Value - Land Value is the value of the property including drainage, excavation, filling, reclamation, clearing and any other invisible improvements made to the land. It excludes all visible improvements such as buildings, structures, fixtures, roads, standings, dams, channels, artificially established trees and pastures and other like improvements.

Capital Value - Capital Value is the total value of the property (including the land value), excluding plant and machinery.

AAV - Assessed Annual Value. AAV is the gross annual rental value of the property excluding GST, municipal rates, land tax and fixed water and sewerage, but cannot be less than 4% of the capital value.

Interested Parties - This is a list of persons who have been recorded by the Valuer-General as having interest in the property (ie owner or Government agency).

Postal Address - This is the last advised postal address for the interested parties.

Multiple Tenancies - Properties that have multiple tenants are assessed for separate AAV's. e.g. a house and flat.

OWNER: TARA PROPERTY INVESTMENTS PTY LTD

FOLIO REFERENCE: C.T.109406/1

GRANTEE: PART OF 556 ACRES GRANTED TO THOMAS SCOTT.

PLAN OF SURVEY

WOOLCOTT SURVEYS

BY SURVEYOR: COLIN STERLING SMITH

LOCATION: PARISH OF BREADALBANE

LAND DISTRICT OF CORNWALL

SCALE 1:1000 LENGTHS IN METRES

REGISTERED NUMBER

SP166270

APPROVED 13 AUG 2013

EFFECTIVE FROM

Alice Kawa

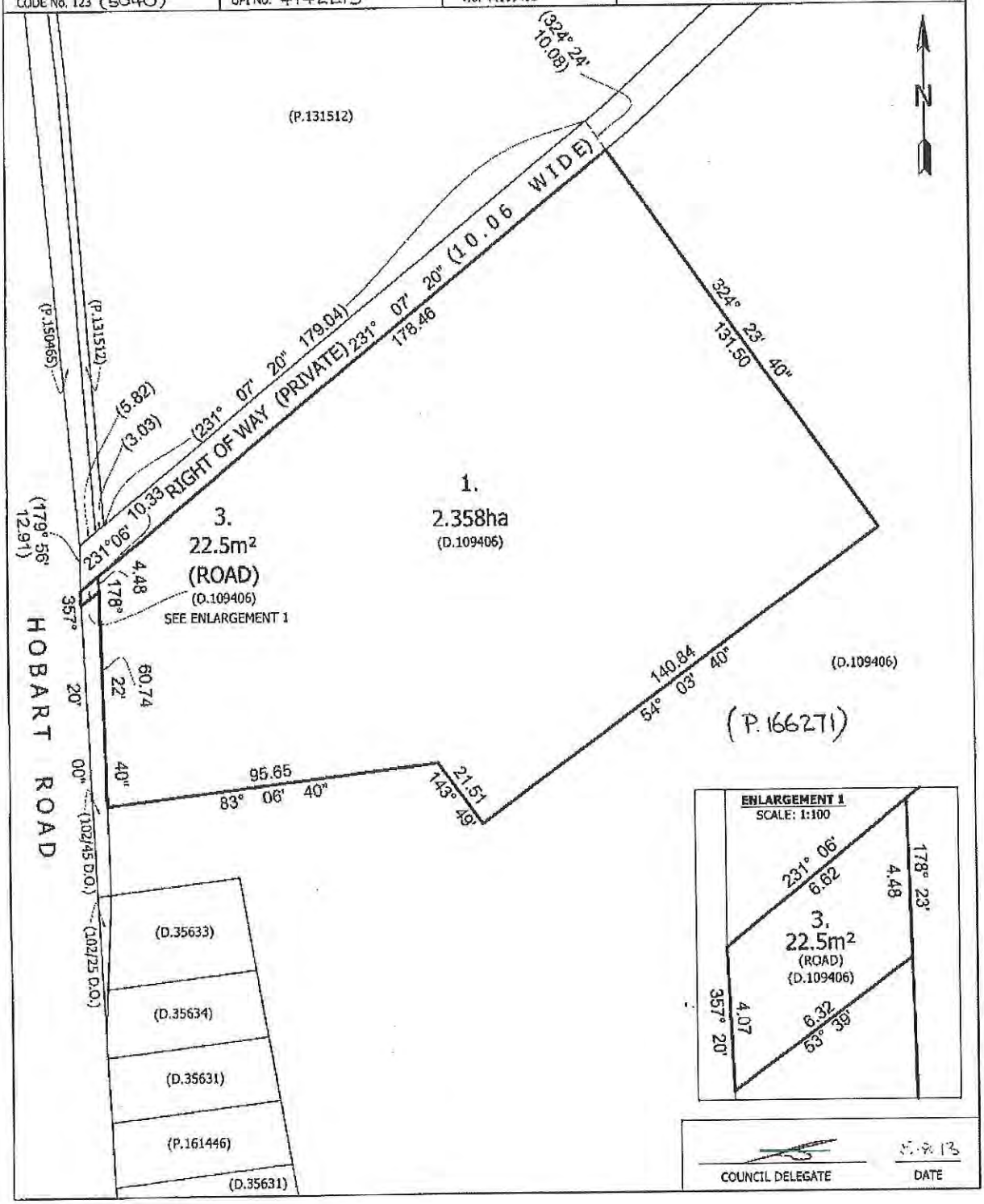
Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 123 (5040)

LAST UPI No. 4742213

LAST PLAN No. P.109406

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
166270	1
EDITION	DATE OF ISSUE
3	05-Oct-2015

SEARCH DATE : 23-Feb-2017
SEARCH TIME : 04.56 PM

DESCRIPTION OF LAND

Parish of BREADALBANE Land District of CORNWALL
Lot 1 on Sealed Plan 166270
Derivation : Part of 556 Acres Granted to Thomas Scott
Prior CT 109406/1

SCHEDULE 1

M456962 TRANSFER to RICHARD CHARLES GARDNER and EMILY ALISON GARDNER Registered 09-Sep-2014 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP166270 EASEMENTS in Schedule of Easements
SP166270 FENCING PROVISION in Schedule of Easements
D87392 AGREEMENT pursuant to Section 71 of the Land Use Planning and Approvals Act 1993 Registered 13-Aug-2013 at noon
E8303 MORTGAGE to Rabobank Australia Limited Registered 05-Oct-2015 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER: TARA PROPERTY INVESTMENTS PTY LTD

FOLIO REFERENCE: C.T.109406/1

GRANTEE: PART OF 556 ACRES GRANTED TO THOMAS SCOTT.

PLAN OF TITLE

WOOLCOTT SURVEYS

LOCATION: PARISH OF BREADALBANE
LAND DISTRICT OF CORNWALL
CONVERTED BY PLAN No. P.109406
COMPILED BY: WOOLCOTT SURVEYS

NOT TO SCALE — LENGTHS IN METRES

Registered Number

P166271

APPROVED 13 AUG 2013

Alice Kawa
Recorder of Titles

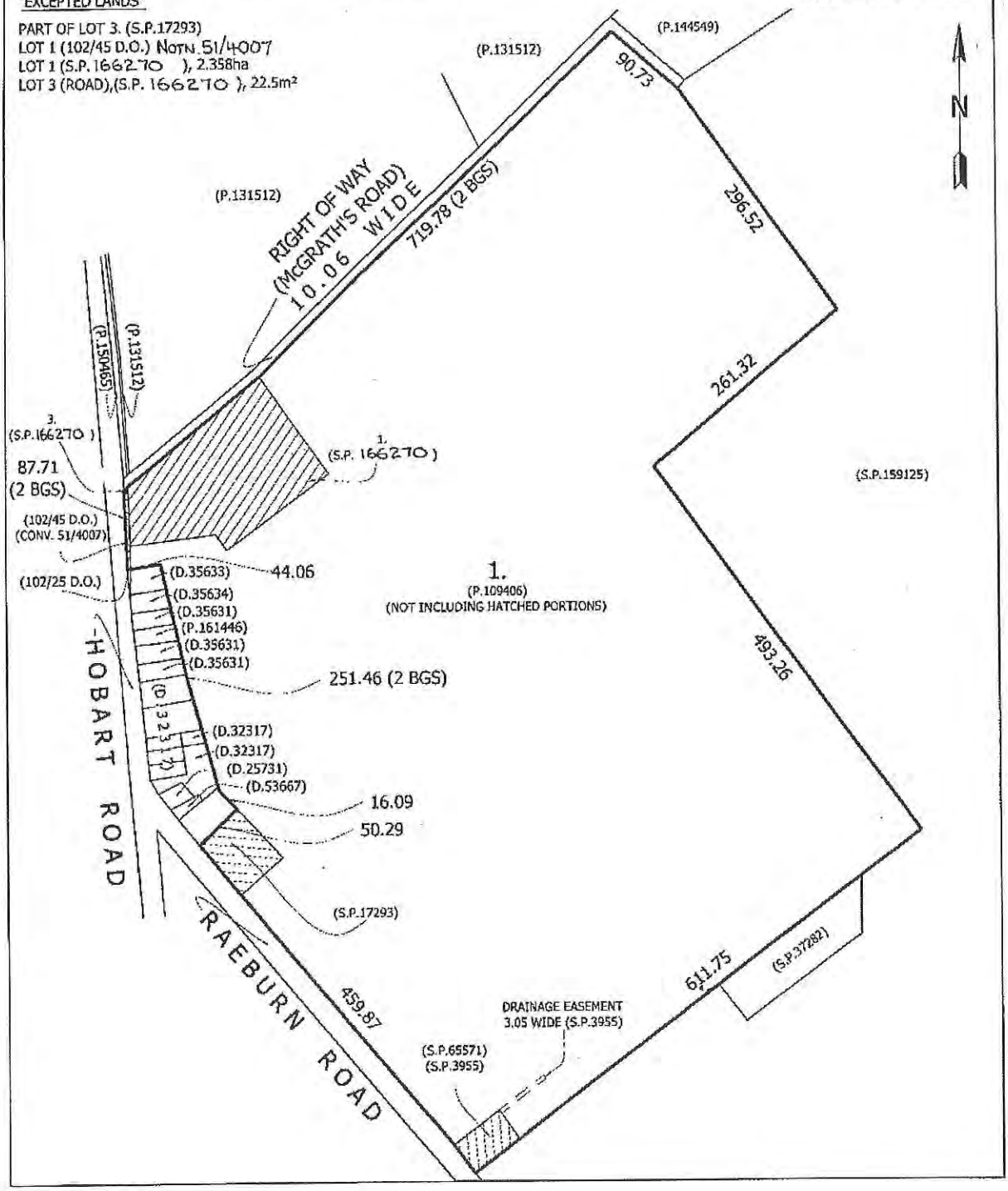
MAPSHEET MUNICIPAL Code No. 123 (5040)	LAST UPI No. 4742213	LAST PLAN No. P.109406	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

SKETCH BY WAY ILLUSTRATION ONLY

BALANCE PLAN

'EXCEPTED LANDS"

PART OF LOT 3. (S.P.17293)
LOT 1 (102/45 D.O.) NOTN. 51/4007
LOT 1 (S.P. 166270), 2.358ha
LOT 3 (ROAD),(S.P. 166270), 22.5m²



RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
166271	1
EDITION	DATE OF ISSUE
1	13-Aug-2013

SEARCH DATE : 23-Feb-2017
SEARCH TIME : 04.55 PM

DESCRIPTION OF LAND

Parish of BREADALBANE Land District of CORNWALL
Lot 1 on Plan 166271
Being the land firstly described in Conveyance 54/2834
Excepting thereout Part of Lot 3 (SP 17293), Lot 1 (102/45 D. O) NOTN 51/4007, Lot 1 (SP166270) 2.358ha and Lot 3 (ROAD) (SP 166270) 22.5m2
Derivation : Part of 556 acres Granted to Thomas Scott
Prior CT 109406/1

SCHEDULE 1

C983340 TRANSFER to TARA PROPERTY INVESTMENTS PTY LTD Registered 06-Oct-2010 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

11/1075 BENEFITING EASEMENT: a right to pass and repass over the strip of land marked Right of Way 10.06 Wide on Plan 166271

SP3955 BURDENING EASEMENT: a drainage right (appurtenant to Lot 1 on Sealed Plan 3955) over the Drainage Easement 3.05 Wide on Plan 166271

D87392 AGREEMENT pursuant to Section 71 of the Land Use Planning and Approvals Act 1993 Registered 13-Aug-2013 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Attachment 2: Draft Blast Management Plan – Cocked Hat Hill Quarry

COCKED HAT HILL QUARRY, BREADALBANE

BLAST MANAGEMENT PLAN

Van Diemen CONSULTING

PO BOX 1 NEW TOWN TAS 7008

CONTENTS

FIGURES

DEFINITION OF TERMS

Blast Exclusion Zone	the area immediately adjacent and surrounding the charging operations. Only personnel involved with firing, charging and tie-up are permitted in this area
EMPCA	*Environmental Management and Pollution Control Act 1994*
EPA	Environment Protection Authority
(the) Land	That area of land shown in Figure 1 which comprises a portion of Mining Lease 1958P/M
ML	Mining Lease
MRT	Mineral Resources Tasmania
(the) Plan	this Blast Management Plan
QCP	Tasmanian *Quarry Code of Practice 1999*
SSAN	Security Sensitive Ammonium Nitrate

1. SCOPE

The objectives of this Blast Management Plan (the Plan) for the Cocked Hat Hill Quarry (Figure 1) are to:

- Achieve best practice management for blasts;
- Notify neighbours and the Launceston Airport operator of impending blasts
- Establish measures to minimise conflict between adjoining and nearby land uses;
- Establish safe systems of work with explosives and blast preparation/implementation; and
- Monitor and record each blast for environmental attributes for compliance requirements.

2. BACKGROUND INFORMATION

2.1 QUARRY OPERATOR

The responsible entity for the quarry operations is Mt Oriel Breadalbane Pty Ltd. The contact details for the company are –

Mt Oriel Breadalbane Pty Ltd

Address: 100 Section Road, Greenvale Victoria 3059 Australia

Phone: +61 3 9333 2400

Fax: +61 3 9 333 1258

2.2 DELEGATED OPERATOR

The delegated operator for the quarry operations is Van Diemen Quarries Pty Ltd. The contact details of the company are:

Van Diemen Quarries Pty Ltd

ACN 607 533 906

Registered Office – CROWE HORWATH, 62-66 PATERSON STREET, LAUNCESTON TAS 7250

Primary Place of Business - 79-81 ST LEONARDS ROAD, ST LEONARDS TAS 7250

Principal Contact for VDQ Pty Ltd

Mr Oliver Diprose, Director

Mobile – 0418 314 438

Phone – (03) 6337 0200

Fax – (03) 6339 2028

Email – odiprose@gradco.com.au

3. ROLES AND RESPONSIBILITIES

It is the responsibility of all management personnel to be aware of and conduct safe work.

For the plan to be successfully and accurately implemented there needs to be clearly defined roles and responsibilities for each and every blast that occurs at the quarry. These roles and responsibilities will apply across various contractors, staff and the owner to ensure that each blast is well planned, managed and executed such that the blasts are safe, effective and within best practice limits.

There are three main entities that have roles in the blast process. These are described below.

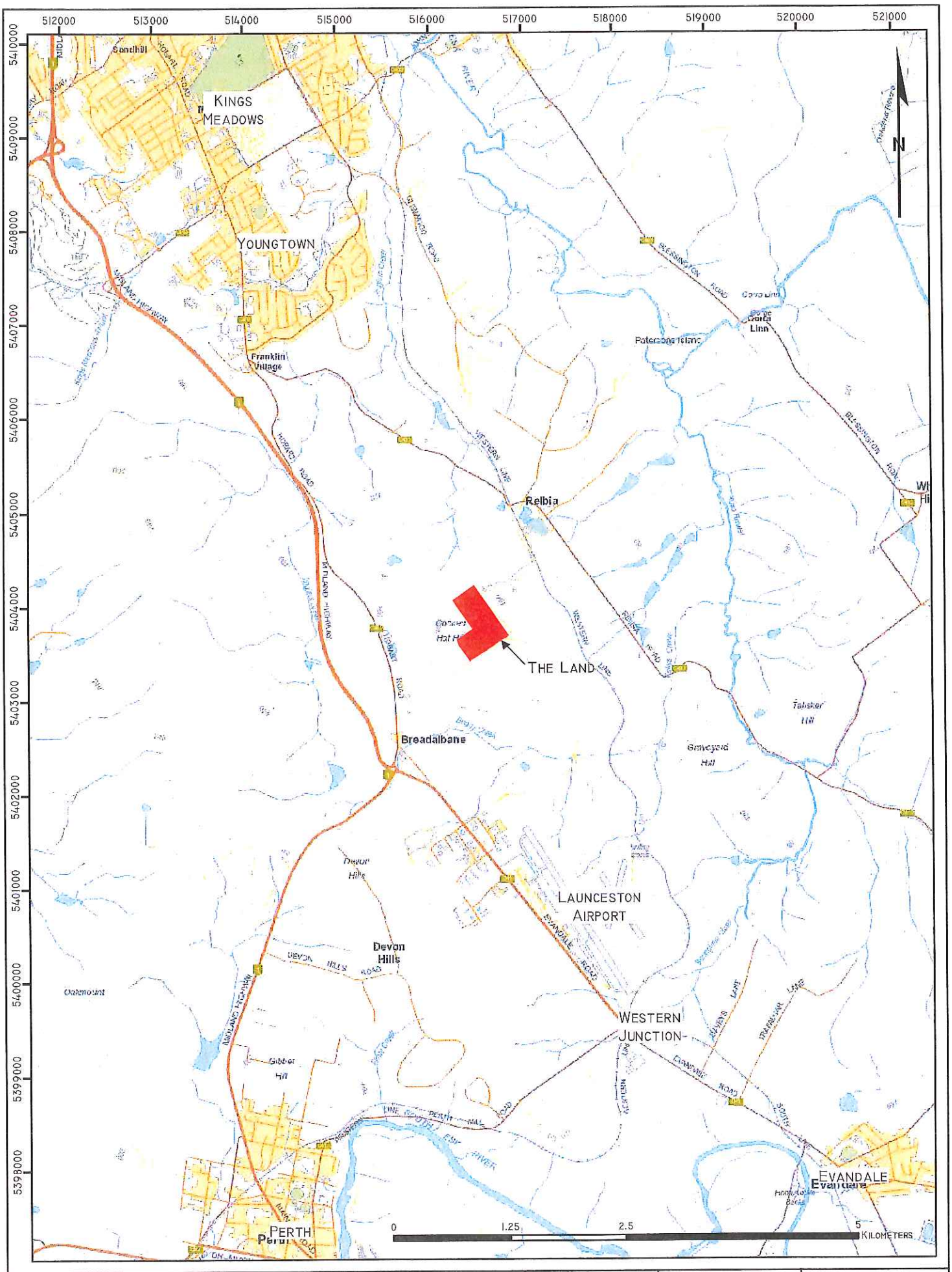
The **Quarry Operator** is the person/entity that has overall responsibility and control of the quarrying activity. They are to ensure that:

- the Blast Contractor (BC) is briefed on the requirements of the Plan and its importance to the worker/landowner safety and production success of the blast; and
- this Plan is complied with through assessments of the quarry and liaison with the BC;
- monitor operational performance of the BC to ensure compliance with license conditions;
- implement and update the Blast Management Plan as required;
- variations to this Plan are developed and provided to the Environment Protection Authority for approval;
- ensure that all notifications are made as required under this Plan;
- ensure all notifications are given in the event of a misfire or incident that would cause the Plan to be enacted for its emergency procedures or notifications to the EPA Director and/or neighbours and the Launceston Airport operator
- respond in a timely manner to any complaints received from the blasting activities at the quarry; and
- that noise/vibration test results are collected by the Contractor and securely held for 5 years from the date of the blast.

The **Blast Contractor** (BC) and their staff/representatives is to ensure:

- this Plan is complied with and appropriately implemented;
- coordination of the work of staff and contractors, including site inductions of sub-contractors and others required to implement the blast;
- advise the Quarry Operator or their delegated representative of any misfires or incidents that would cause the Plan to be enacted for its emergency procedures or notifications to the EPA Director and/or neighbours and the Launceston Airport operator;
- conducting appropriate risk assessments for the blast and mitigating those risks, and the safe and lawful handling and storage of dangerous goods;
- establishment of appropriate noise/vibration monitoring sites to collect data consistent with the requirements of the EPA for blast monitoring;
- conducting noise measurements for each blast consistent with this Plan; and
- timely and effective delivery of noise/vibration test results to the Quarry Operator.

The Blast Contractor is likely to have several staff which will have specified tasks and responsibilities for the pre and post blast process. These may include for example -



COCKED HAT HILL QUARRY - BLAST MANAGEMENT PLAN

Van Diemen Consulting

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: PROSPECT

Area Manager

The person who has overall responsibility and control over handling, and use of explosives when the BC is on site. The Area Manager is responsible for the scheduling of blast days and compliance related issues in regards to blasting operations.

Technical Services Officer

The BC technical specialists responsible for design and monitoring of blasting operations for the site. They report to the Area Manager.

Drill and Blast Supervisor

The Supervisor responsible for the day to day operations and management of loading and firing operations. Reports to the Area Manager.

Blast Controller

The person given responsibility, control and authority for the safety and coordination of each blast when initiated. Can be the Shotfirer if the task is appointed to him.

Shotfirer

The person in charge of the security, loading and firing of the blast on blast day. The Blast Controller and Shotfirer should not be the same person unless the site can be adequately cleared and the blast exclusion zone maintained concurrently. Reports to the Drill and Blast Supervisor.

Blast Guard(s)

The individual(s) supporting the Blast Controller in ensuring clearance distances are observed and the blast exclusion zone is secure. Generally, will be a site familiar person(s) who reports to the Quarry Operator.

Quarry Operator staff are to ensure that they:

- apply safety measures consistent with this Plan; and
- take reasonable direction from the Blast Contractor and/or the Quarry Operator (subject to their role in the blast process) during site preparation works for the blast and immediately during and after the blast.

4. OPERATIONAL PROCEDURES

4.1 LOCATION AND BLAST SCHEDULING

Blasts will occur on a needs basis.

4.2 BLAST CONTRACTOR

Only Blast Contractors with a valid Category 2 shot-firing permit (surface shot-firing - above-ground quarrying, road construction and open cut mining) issued under the *Explosives Regulations 2012* will be used.

4.3 BLASTING TIMES

Blasting will only take place between the hours of 1000 hours and 1600 hours Monday to Friday. It will not take place on Saturdays, Sundays or public holidays unless prior written approval of the EPA Director has been obtained.

4.4 BLAST PLANNING PROCEDURE

4.4.1 Blast Design

A comprehensive blast design and implementation procedure will be developed by the Blast Contractor to ensure compliance to the designated blast vibration limit.

4.4.2 Blast Procedures

The below task list has been prepared to guide the Blast Contractor.

Blast Set-Up

A Shotfirer shall be nominated in charge of the shot.

Blast Site preparation

All unnecessary tools and equipment shall be removed before bringing explosives to the collar of the blast holes.

Entry into Blast Area

There is to be no unauthorised entry to a blast area.

Any unauthorised person must make contact with the Shotfirer to seek approval to enter a blast area.

Measuring Blast holes

Every blast hole depth should be measured and recorded to nearest 100 mm (0.1 metre).

The Shotfirer shall record the depth of any short blast holes that cannot be re-drilled, anything unusual that may affect the blast performance (short, hot, damaged holes), and the location of such blast holes or features on the blast plan.

Loading and Stemming

Prior to loading activities commencing a preblast risk assessment shall be conducted of the blast area and access.

A Shotfirer shall be nominated as being in charge of the shot.

The load plan and burdens of free face blast holes should be made available before commencing loading.

All persons involved shall be made aware of the plan, hazards, work flow and any particular unique factors in the blast. When loading the blast, progress loading such that firing can be completed early

if necessary and any re-drilling can be conducted before the explosives are loaded in an area. Any damaged or blocked holes shall be reported to the Shotfirer

Priming

Should a booster or down-line be dropped down the hole and is irretrievable, it shall be reported to the Shotfirer.

Only prime enough holes as they are to be loaded. Do not leave explosives accessible to unauthorised persons.

Primers are to be prepared at the hole and lowered in a controlled manner. Accessories shall be inspected prior to ensure they are not damaged. The top primer shall not be made up until required to be inserted into the blast hole.

Avoid unnecessary force when inserting detonators into primers. Insert the detonator completely enclosing it in the primer to protect this sensitive component from impact, friction or bending forces.

Immediately after inserting the detonator into the primer, place the charge in the blast hole. If a primer becomes stuck in a blast hole never push or pull to remove.

Secure the downhole lead and ensure excess lead is coiled neatly.

Loading of Blast holes

Holes shall be loaded in a systematic pre-determined sequence.

Regularly measure the explosive column rise during charging to detect cavities and avoid overcharging blast holes.

All holes shall be dipped after loading to ensure correct column height and/or rise is achieved. This will also assist in control of vibrations due to potential for increase in MIG.

All processes shall be done in a way that minimises the risk of damage to down-lines. Decking of blast holes may need to be considered if loading circumstances require.

Stemming

Good quality stemming shall be used - crushed aggregate sourced from offsite. Only coarse aggregate approved by the Shotfirer may be used as stemming.

Blast holes shall be checked prior to stemming to ensure the blast hole is loaded to the correct column length.

Stem the blast holes carefully to avoid damaging down-lines, and slowly to avoid the material from bridging in the blast hole above the designed stemming height.

4.5 ESTABLISHING AND REMOVING THE BLAST EXCLUSION ZONE

Particular emphasis shall be placed on the safety of personnel. As such exclusion zones shall be established to ensure that the risk of impacting personnel is eliminated.

The procedure used for the establishment and removal of the blast exclusion zones includes:

- A description of the zone and method of implementation;
- Personnel tasks and responsibilities;
- A description of the means of communication;
- The control of radio transmissions that may influence the communication or security of the shot;
- Timings and procedures for notification of personnel on-site and off-site; Identification of the location of, and the method of manning of, control points;

- The method to establish and notify the Shotfirer that the exclusion zones have been cleared; Method for immediate notification of and dealing with trespassers;
- Warning procedures prior to firing;
- What must occur if a misfire occurs during firing;
- The method of notification to return the whole of the exclusion zone to normal;
- Site briefings shall be conducted for personnel involved with the establishment and removal of the exclusion zone.

When a blast cannot be initiated and is to remain loaded overnight, the firing control shall be made safe. When a site requires guarding, personnel shall be engaged to ensure that the Shotfirer has sufficient rest prior to firing the next day. Such personnel shall be briefed on hazards and a procedure for contacting a responsible person in the case of trespass.

The exclusion zone shall not be returned to normal until the 'all clear' for the blasting operation is given by the Shotfirer.

4.6 STORAGE AND HANDLING OF EXPLOSIVES

The transportation, storage and handling of explosives is conducted by the Blast Contractor in accordance with the Australian Explosives Code (1999), the Australian Code for the transport of explosives by road and rail (Third edition - 2009) and Australian Standard 2187 Explosives – Transport, storage and Use (parts 1 and 2).

4.6.1 Procurement of Explosives

The person ordering explosives and SSAN for use at Mt Oriel must be an authorised person.

The person ordering explosive product shall determine quantities from the plan produced by the Blast Contractor.

4.6.2 Storage

There shall be no storage of explosives or explosive precursors at the McGraths Quarry. All explosives or explosive precursors shall be transported to site and any residual removed to Blast Contractor operated and licensed magazine and storage facilities after blasting.

4.6.3 Transport of Explosives to site

All explosive products and precursors shall be under the control of the Blast Contractor at all times. The explosives and precursors will be transported to site in a MSU and an explosives carry vehicle from the Blast Contractor's Depot.

All vehicles used for the transport of explosives shall comply with the AEC (for explosives) and the ADGC (for Dangerous Goods - SSAN). Regular inspections of vehicles shall be conducted to ensure compliance.

Vehicles carrying SSAN or explosives shall be secured from access, including product and vehicle, when left unattended.

All explosives shall be kept in their original boxes and transported in separate lockable receptacles for Class 1.1B, 1.4S and 1.1D explosives.

Any maintenance carried out in secure areas, on SSAN vehicles or equipment that contain residual product shall be authorised to do so and either under constant surveillance or be an authorised secure person.

Towing or extraction of explosive equipment shall only be done under supervision and in compliance with site or Blast Contractor procedures.

4.6.4 Product information

All products delivered shall have TDS, SDS and EPG information available.

4.6.5 Additional Safety Points

There shall be no smoking or naked flames within 10 metres of an explosive vehicle. Explosives are not to be dropped or mishandled.

Only personnel trained and passed out as competent in the use of handling explosives and their transport, may operate an explosives vehicle.

ALL SSAN and explosives must be accounted for including the recording of spills, usage and waste.

No person under the age of 18 years is permitted to work with or handle, charge or fire any explosive or blasting agent.

4.7 BLASTING - NOISE AND VIBRATION LIMITS

Blasting will be carried out in accordance with blasting best practice environmental management (BPEM) principles, and must be carried out such that, when measured at the curtilage of any residence (or other noise sensitive premises) in other occupation or ownership, air blast and ground vibration comply with the following:

- for 95% of blasts, air blast over pressure must not exceed 115dB (Lin Peak);
- air blast over pressure must not exceed 120dB (Lin Peak);
- for 95% of blasts ground vibration must not exceed 5mm/sec peak particle velocity; and
- ground vibration must not exceed 10mm/sec peak particle velocity.

All measurements of air blast overpressure and peak particle velocity must be carried out in accordance with the methods set down in *Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration,* Australian and New Zealand Environment Council, September 1990.

4.8 NOTIFICATION OF BLASTING

A video/camera system will be used to record each blast with it focused specifically on the creation or otherwise of fly-rock into the adjoining land or other land. This is a means to capture real-time footage of the blast to determine if fly-rock has been created and to which direction it may have been directed.

4.8.1 Residential neighbours

All residents within a 1 km radius of a blast (Figure 2) must be **notified in writing** prior to that blast. This notification must be given at least 48 hours before such blasting is due to occur.

In the event that the blast(s) cannot take place at the time specified, or as a result of blasting misfires, Mt Oriel Breadalbane Pty Ltd or their delegated agent (Van Diemen Quarries) will advise all those residents within 1 km of the Quarry (Figure 2) of the revised time at which blasting will take place.

4.8.2 Business Premises

The two nearby relevant business premises (Josef Chromy Wines and Stornoway Quarries) will be **notified in writing** prior to that blast (see Figure 3).

This notification must be given at least 48 hours before such blasting is due to occur.

In the event that the blast(s) cannot take place at the time specified, or as a result of blasting misfires, Mt Oriel Breadalbane Pty Ltd or their delegated agent (Van Diemen Quarries) will advise the two businesses) of the revised time at which blasting will take place.

4.8.3 Launceston Airport operator

The Launceston Airport is to the south of the quarry (Figure 4).

A letter of agreement will be developed and signed with the Launceston Airport which will outline the way notifications between the parties will be served.

Airport Blasting approval procedure

To ensure the safety of blasting operations (with regard to air traffic) VDQ must adopt the following procedures.

Blasting shall not proceed if contact cannot be made with the Control Tower.

- Shot minus 30 minutes VDQ contacts Tower to negotiate an approximate time for the shot
- Shot minus two minutes VDQ contacts Tower to seek approval for the shot. Dependent upon traffic disposition at the time along with duty runway, Tower will either grant approval or provide a suggested time to call back for approval.
- After Shot as soon as practicable after the shot, VDQ contacts the Tower to advise the shot has been completed and advise 'All Clear'.
- In the event of a misfire VDQ is to contact the tower immediately and advise estimated resolution time.

Blasting procedure – Launceston Tower

Once Launceston Tower has provided approval for a blast, until the time VDQ advise 'All Clear', all aircraft movements shall be kept clear of the affected airspace.

Launceston Tower contact

Contact with the Control Tower is:

Primary 03 6391 6992 (recorded line)

Secondary 03 6391 6993

Van Diemen Quarries contact

Contact with Mt Oriel Quarry is:

Primary - Neil Armstrong 0417 112 090 or 03 6339 2535

Oliver Diprose 0418 314 438 or 03 6339 2535

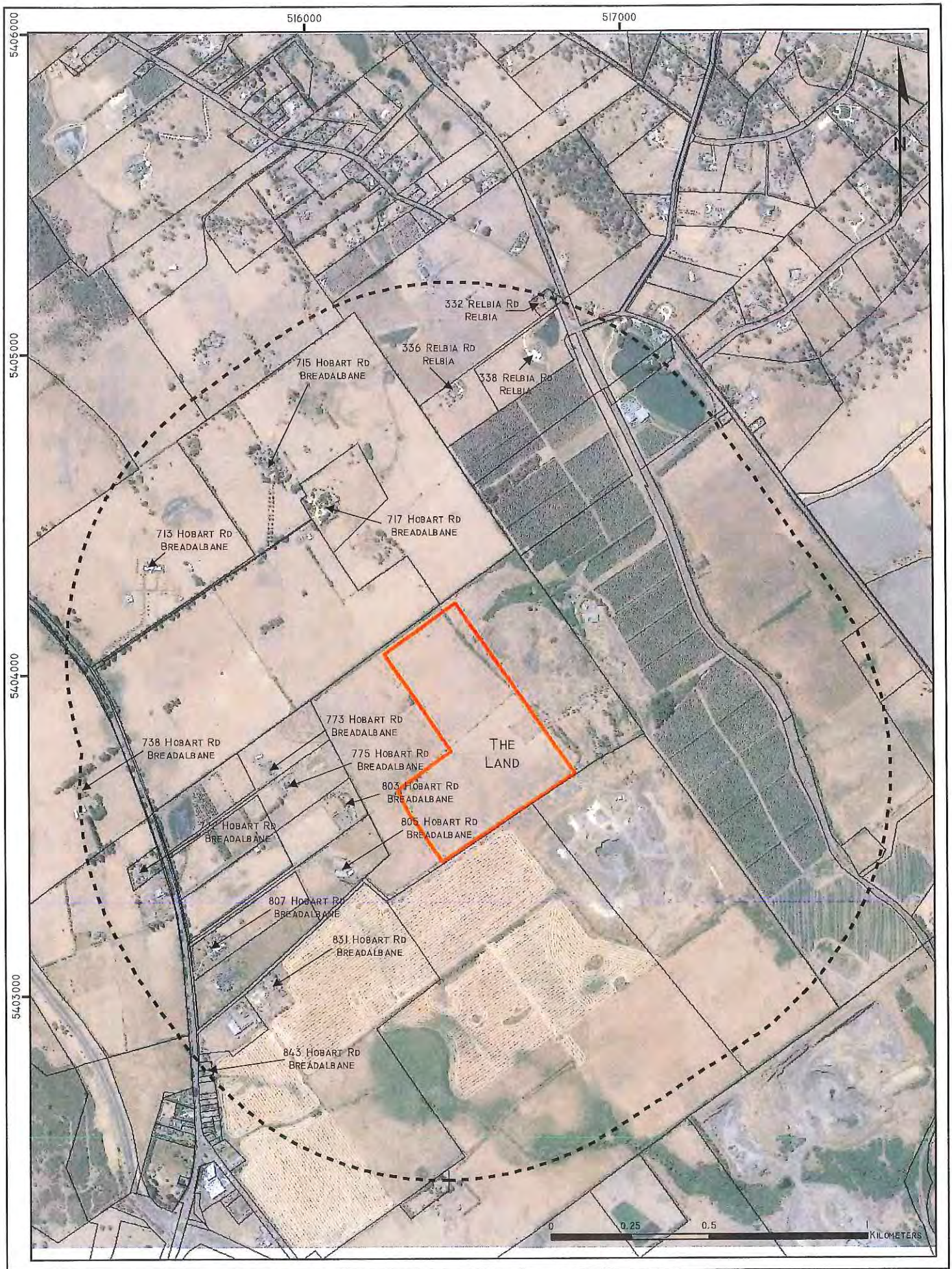
Blasting outside Tower hours of operation

Outside the normal activation hours of Launceston Tower or when it is unmanned, VDQ must contact CASA Office of Airspace Regulation (OAR) on 02 6217 1177 (24-hour line). In these circumstances, no blasting shall be conducted without the approval of CASA OAR.

If VDQ staff are unsure if the Tower is activated or not, or if there is no answer from the Tower, VDQ staff may contact the Melbourne Operations Room Manager on 03 9235 7420 (24-hour line) to ascertain the status of the Tower.

4.8.4 Tasrail

Train Control at Tasrail will be notified at least 48 hours prior to any blasting on The Land.

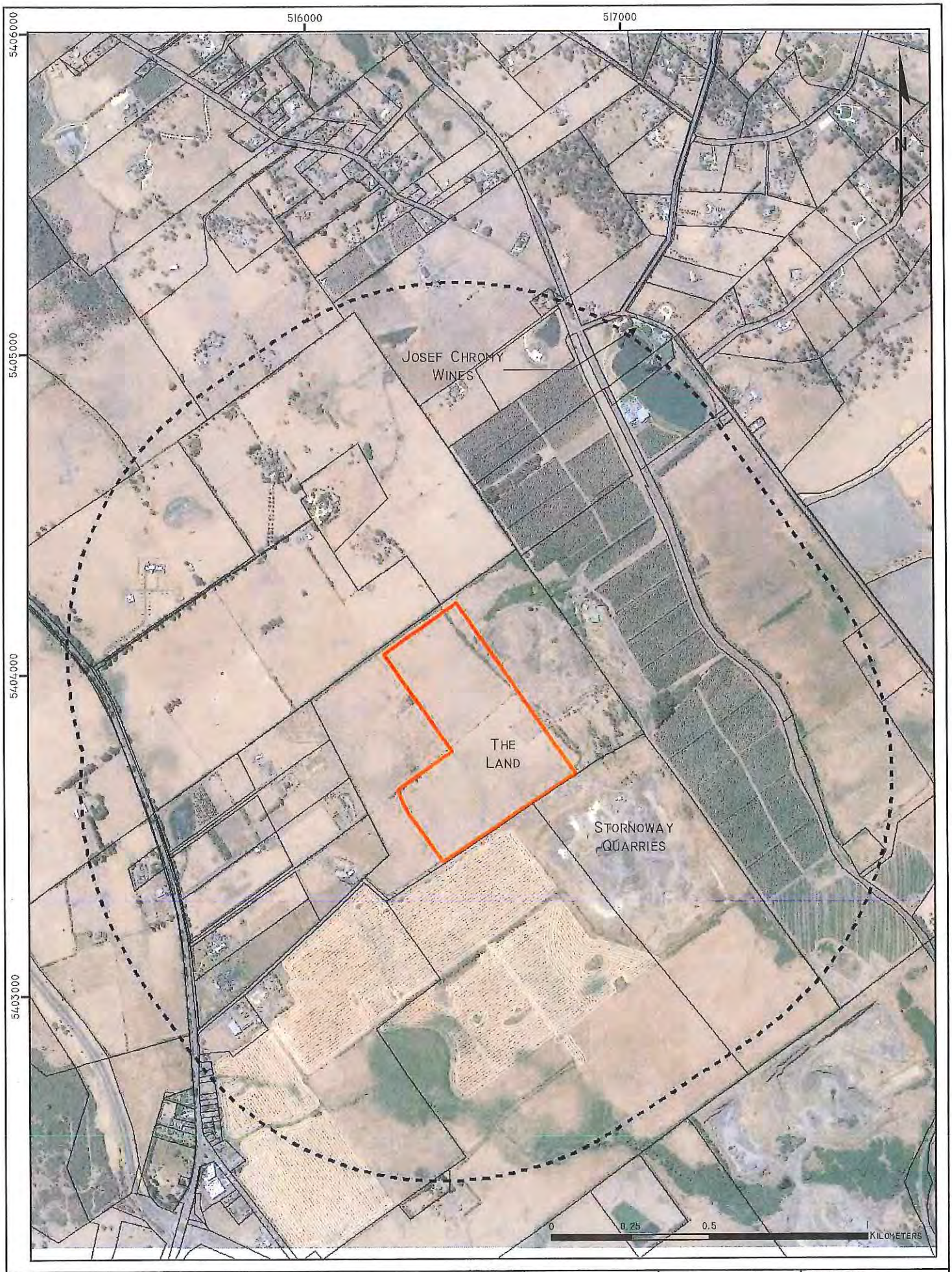


Cocked Hat Hill Quarry - Blast Management Plan

Van Diemen Consultants

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: PROSPECT

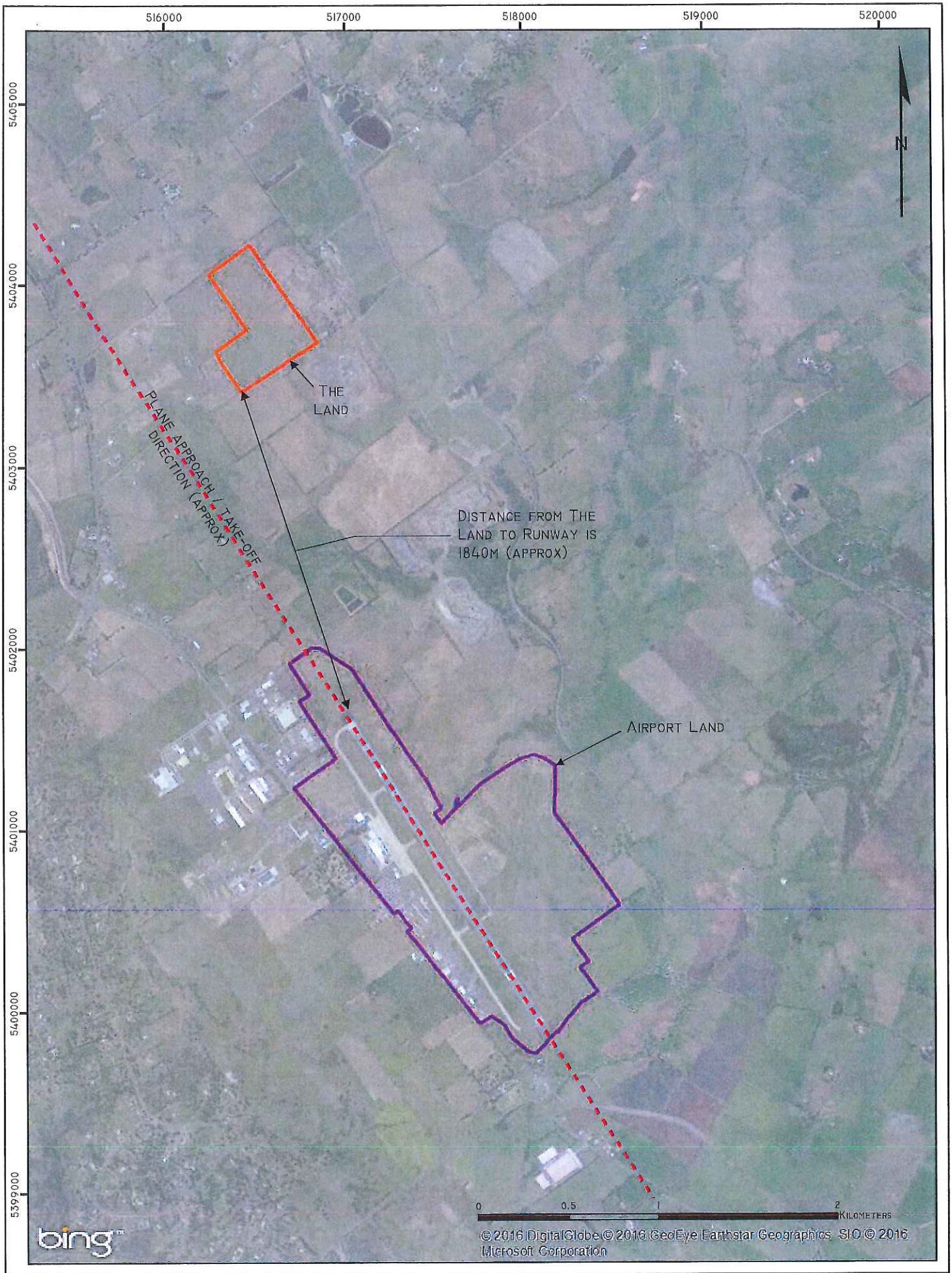


COCKED HAT HILL QUARRY - BLAST MANAGEMENT PLAN

van Diemen CONSULTING

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: PROSPECT



COCKED HAT HILL QUARRY - BLAST MANAGEMENT PLAN

Van Diemen Consulting

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: PROSPECT

5. MONITORING AND REVIEW

5.1 RISK ASSESSMENT AND AUDITING

The Blast Contractor is responsible for conducting a risk assessment and safety audit of the Quarry as part of the blast activity. This includes the drilling of the holes for explosives, handling explosives, operation of detonation devices and the safe detonation of the charges.

The following safety precautions will be applied -

- Ensure all persons have exited the quarry prior to any blast being conducted with the exception of blast contractor personnel involved in the detonation of charges.
- Ensure all blast relevant roads surrounding the quarry are free of vehicles and persons.

5.2 NOISE/VIBRATION MONITORING PROGRAM

Blast monitoring locations will be identified by the Blast Contractor and operator of the quarry to suit the location of the blast within the quarry. A noise/vibration monitoring station will be established at the Winery Shed (Josef Chromy Winery) in accordance with the permit.

Other noise/vibration monitoring sites would include -

- 338 and/or 336 Relbia Road or other residence/residential property on Relbia Road; **and**
- 717 and/or 715 Hobart Road or other residence/residential property on Hobart Road (see Figure 2)
- subject to the location of the blast and direct ion of potential impact of that blast.

The site selection would be determined by the Blast Contractor and the quarry operator to suit the blast design.

All measurements of air blast overpressure and peak particle velocity must be carried out in accordance with the methods set down in *Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration,* Australian and New Zealand Environment Council, September 1990.

The noise/vibration test results collected by the Blast Contractor will be securely held by Mt Oriel Breadalbane Pty Ltd for 5 years from the date of the blast.

When the blasting noise limits and/or vibrations as specified in the permit are exceeded, the Director will be notified within 24 hours of the blasting event.

5.3 INCIDENT REPORTING

The Blast Contractor is responsible for reporting to Police/Fire any incidents that require their involvement and/or attendance to the Quarry.

Mt Oriel Breadalbane Pty Ltd or their delegated agent (Van Diemen Quarries) is responsible for reporting any misfires or delayed firings to the EPA Director and surrounding relevant landowners and the Launceston Airport operator: in the event that the blast(s) cannot take place at the time specified, or as a result of blasting misfires, the Mt Oriel Breadalbane Pty Ltd or their delegated agent (Van Diemen Quarries) will advise all those residents within 1 km of the activities on the land of the revised time at which blasting will take place.

5.4 REVIEW OF PLAN

This Plan will be reviewed in the event of an incident, change to the timing/location of the blast within the Quarry or another significant event.

Any variations to this Plan will be made available to the Director EPA for approval before the alteration is made to the Plan. In the event that the Director, by notice in writing to Mt Oriel Breadalbane Pty Ltd,

either approves a minor variation to the approved plan or approves a new plan in substitution for the plan originally approved, Mt Oriel Breadalbane Pty Ltd and its agents will implement and act in accordance with the varied plan or the new plan, as the case may be.

Van Diemen Consulting Pty Ltd

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This document has been prepared in accordance with the scope of services agreed upon between Van Diemen Consulting (VDC) and the Client.

To the best of VDC's knowledge, the report presented herein represents the Client's intentions at the time of completing the document. However, the passage of time, manifestation of latent conditions or impacts of future events may result in changes to matters that are otherwise described in this document. In preparing this document VDC has relied upon data, surveys, analysis, designs, plans and other information provided by the client, and other individuals and organisations referenced herein. Except as otherwise stated in this document, VDC has not verified the accuracy or completeness of such data, surveys, analysis, designs, plans and other information.

No responsibility is accepted for use of any part of this document in any other context or for any other purpose by third parties.

This document does not purport to provide legal advice. Readers should engage professional legal advisers for this purpose.

Document Status

Revision	Author	Review/Comments	Date
1	R Barnes, C McCoull	R Barnes, VDC Pty Ltd	16-12-2016
1	R Barnes, C McCoull	Mt Oriel Breadalbane Pty Ltd and Van Diemen Quarries Pty Ltd	19-12-2016

Attachment 3: Traffic Impact Assessment (Traffic Engineering and Road Safety)

MILAN PRODANOVIC B.E. PEng
TRAFFIC ENGINEERING & ROAD SAFETY

TRAFFIC IMPACT ASSESSMENT

PROPOSED

COCKED HAT HILL

QUARRY DEVELOPMENT

833 HOBART ROAD

BREADALBANE

JANUARY 2017

MILAN PRODANOVIC B.E. PEng
TRAFFIC ENGINEERING & ROAD SAFETY

TRAFFIC IMPACT ASSESSMENT

PROPOSED
COCKED HAT HILL
QUARRY DEVELOPMENT

833 HOBART ROAD
BREADALBANE

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CONTENTS

REFERENCES:

- Australian Standard AS 1742.2-2009 – Manual of uniform traffic control devices Part 2: Traffic control devices for general use
- AUSTROADS – Guide to Road Safety Part 6: Road Safety Audit (2009)
- AUSTROADS – Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (2009)
- Northern Midlands Planning Scheme 2013
- Development Application – supporting information report (author Richard Barnes)

1. INTRODUCTION

A development application has been lodged with the Northern Midlands Council for a basaltic rock quarry development located at 833 Hobart Road in Breadalbane.

In considering the application, the Council has requested further information related to traffic matters as follows:

> *A traffic impact assessment is required to demonstrate compliance with clause 26.3.1 P4 (c) and with the road & railway Assets Code. The TIA that must demonstrate the capacity of the local road network can accommodate the traffic generated by the use, effects of the increased movements on the road network for safety, efficiency and amenity. It includes recommendations on measures to be taken to maintain the safety and efficiency of the road or railway networks. A TIA for roads must be undertaken in accordance with Traffic Impact Assessment Guidelines, Department of Infrastructure, Energy and Resources September 2007. Australian Guidelines and Australian Standards are to be used as the basis for any required road or junction design.*

This Traffic Impact Assessment (TIA) report considers the existing road and traffic characteristics along Hobart Road and the private access road leading to the quarry site in the area of the development site. An assessment is made of the traffic activity that the proposed quarry development will generate and the effect that this traffic will have on Hobart Road as well as other affected roads and intersections.

Consideration is given to the required intersection management and available sight distances along Hobart Road at the junction of the private access road and along the private access road to the development site.

The report is based on current Department of State Growth (DSG) - Traffic Impact Assessment Guidelines. The techniques used in the investigation and assessment incorporate best practice road safety and traffic management principles.

2. SITE DESCRIPTION

The proposed development site is located on the eastern side of Hobart Road along a private road (McGraths Road) that junctions with Hobart Road some 0.6km to the north of the roundabout controlled Midland Highway/Evandale Main Road/Hobart Road intersection.

The proposed quarry location is located in a rural area where the predominant activity is farming, but where there also is some mixed industrial businesses, residential dwellings and other quarry activities.

The location of the development site has been highlighted on the extract from the street atlas as seen in Figure 2.1.

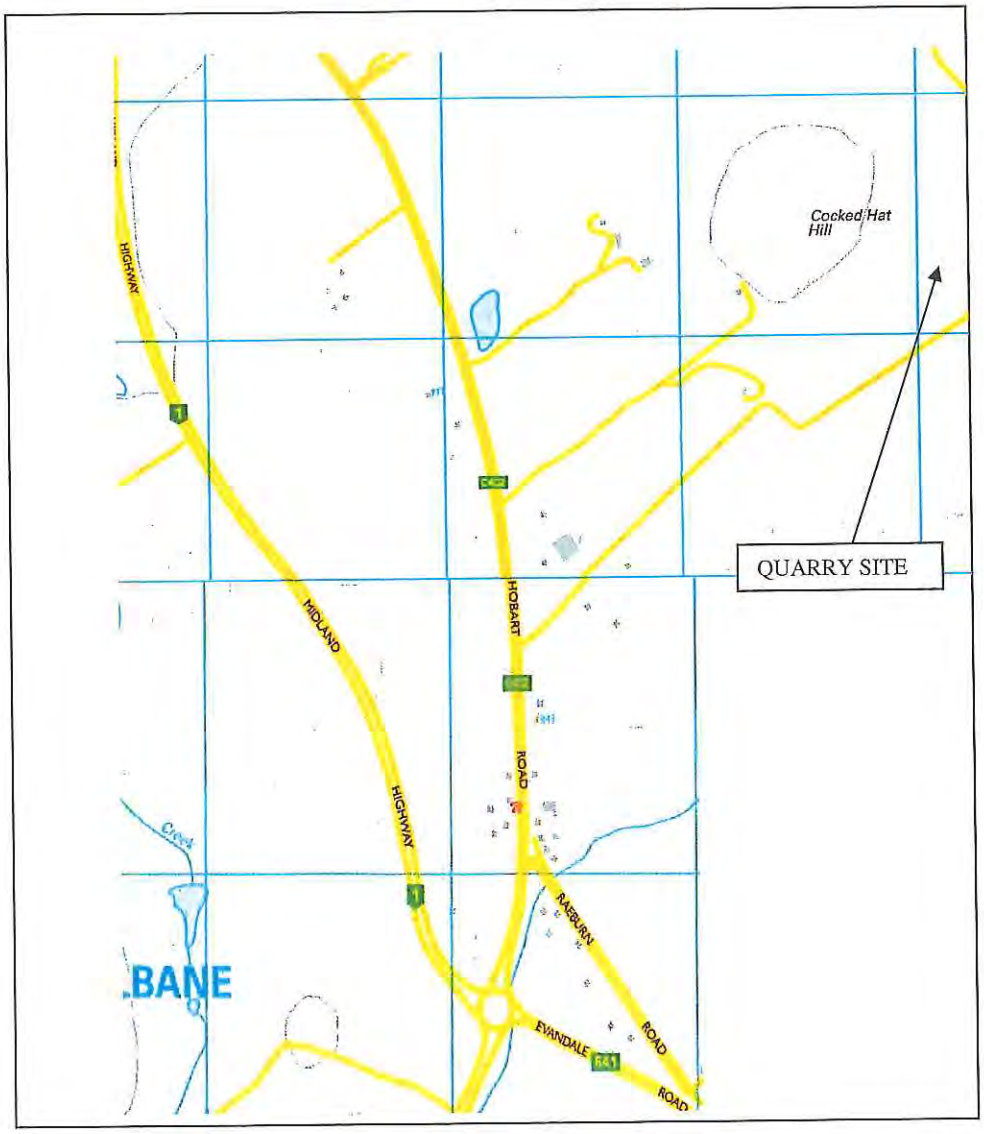


Figure 2.1: Location of proposed quarry development site

3. DEVELOPMENT PROPOSAL

The proposed development is the establishment and operation of the Cocked Hat Hill quarry which will have a maximum permitted production level of 200,000 cubic metres produced per annum.

Access to the quarry will be via a private road (McGraths Road on Google Earth) which junctions with Hobart Road. A new site access road will be constructed off the northern side of McGraths Road at its eastern end, which is around 1.5km to the east of Hobart Road.

The extracted product will be basaltic rock and the quarry is expected to have a life of at least two decades.

When operating at full capacity it will employ 6 people on the site, not including truck drivers transporting the product from the quarry.

Operating hours for the quarry will be 6:00am -7:00pm Monday to Friday and 8:00am to 4:00pm on Saturday.

4. EXISTING ROAD AND TRAFFIC ENVIRONMENT

4.1 Road Characteristics

The one public road of relevance to the proposed quarry development under consideration is Hobart Road. Access to the quarry site will be via private road (McGraths Road) which junctions with the eastern side of Hobart Road.

As seen in Figure 2.1, McGraths Road follows a generally eastward direction from Hobart Road and currently terminates around 1.5km from Hobart Road where the access to the quarry site will be located as well as where the access to the Stornoway Quarry is located.

In the area of the McGraths Road junction, Hobart Road is sealed to a width of around 12.0m with around 0.8m wide gravel shoulder along the eastern side and 2.2m wide gravel shoulder along the western side of the road. There is a barrier line marking along the middle of Hobart Road and edgelines along both sides of the road, but not along the western side of the road for a distance of around 225m (it seems this edgeline has not been maintained for a considerable period of time).

There are two traffic lanes for southbound traffic with the transitional merge markings to one lane through the junction and one lane for northbound traffic. As a result, at the junction the markings define 3.2m and 3.4m wide lanes for southbound travel and a 5.0m wide lane (to edge of seal) for northbound travel.

Views of Hobart Road at the McGraths Road junction are seen in Photographs 4.1 and 4.2.

The speed limit along this section of Hobart Road is 80km/h.

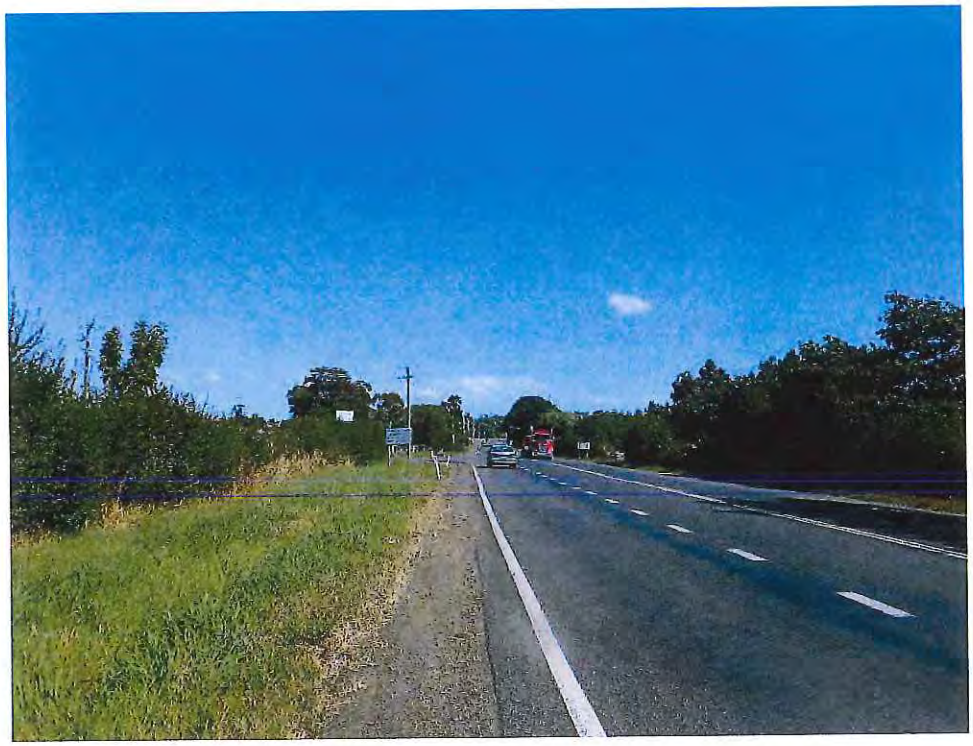
McGraths Road is a private road serving a number of businesses. It follows an east north-east direction and has a generally straight horizontal alignment over its whole length apart from a reverse turn around midway along its length.

McGraths Road is sealed to a width of around 7.3m just east of the Hobart Road junction. The sealed width reduces to around 2.8m within an overall trafficable road width of around 4m (seal section along middle of the road) where the seal more or less ends some 350m from Hobart Road. Beyond this it is a gravel road to its eastern end, around another 1.15km further east.

Most of the road length is one lane in width and there are a series of passing bays for this full length. There are also several road humps over a distance of around 150m from the western end of the one lane section and signs to warn drivers of the existence of the passing bays.

Photographs 4.3 to 4.8 provide views along McGraths Road.

Photograph 4.1: View to north along Hobart Road with junction of McGraths Road on right

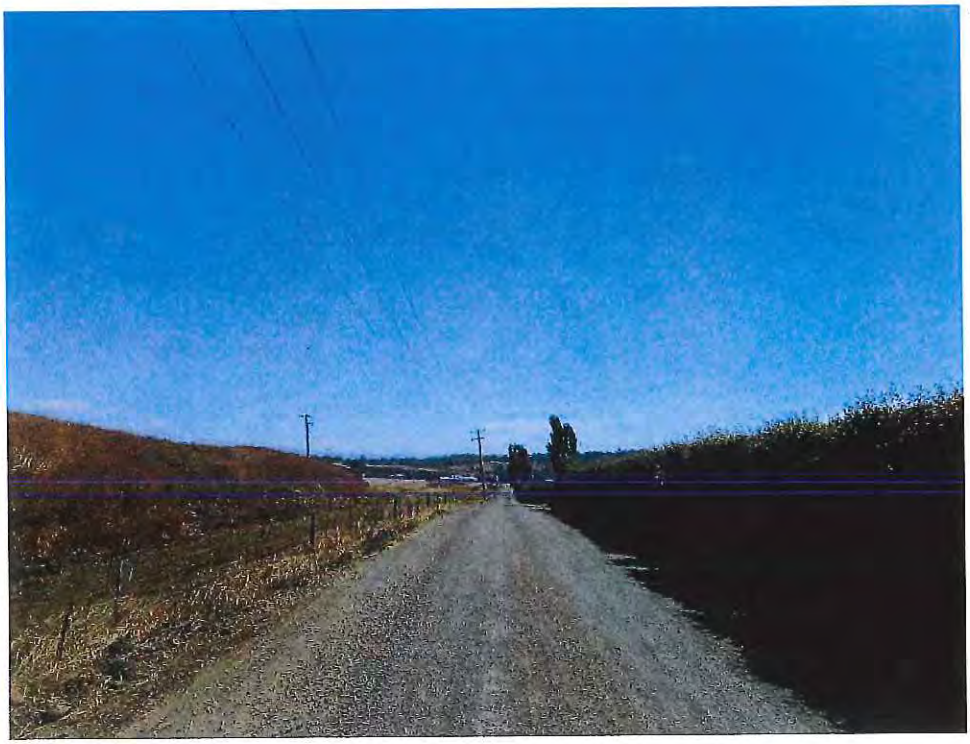


Photograph 4.2: View to south along Hobart Road with junction of McGraths Road on left

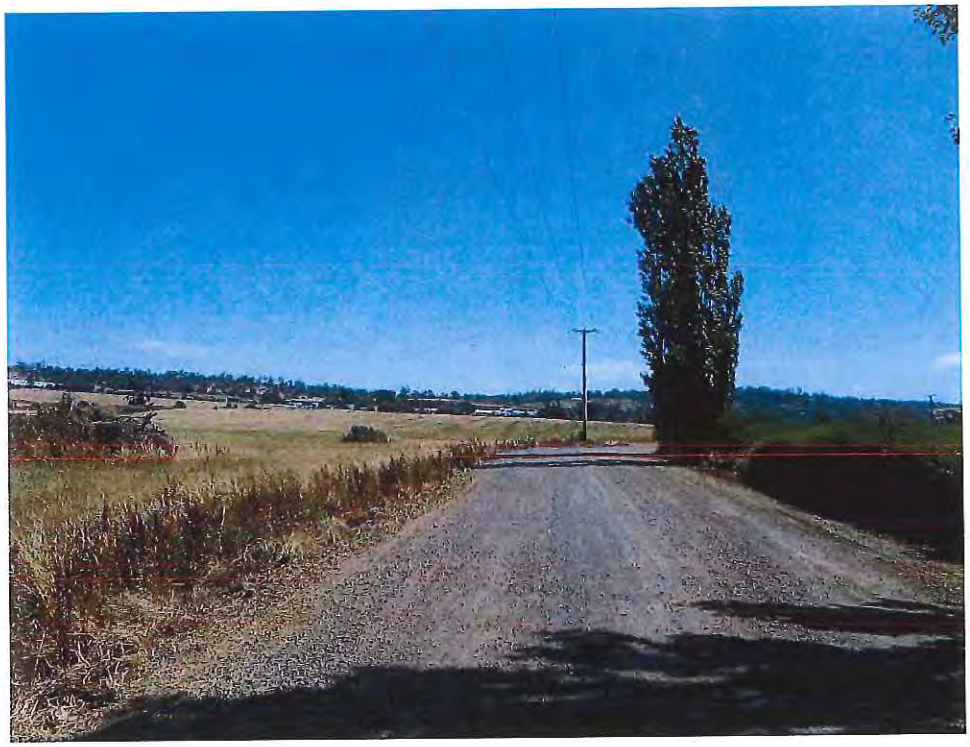
Photograph 4.3: View to east along McGrath Road around 200m east of Hobart Road

Photograph 4.4: View to east along McGrath Road around 260m east of Hobart Road

Photograph 4.5: View to east along McGrath Road around one kilometre east of Hobart Road



Photograph 4.6: View to west along McGrath Road around 1.3km east of Hobart Road

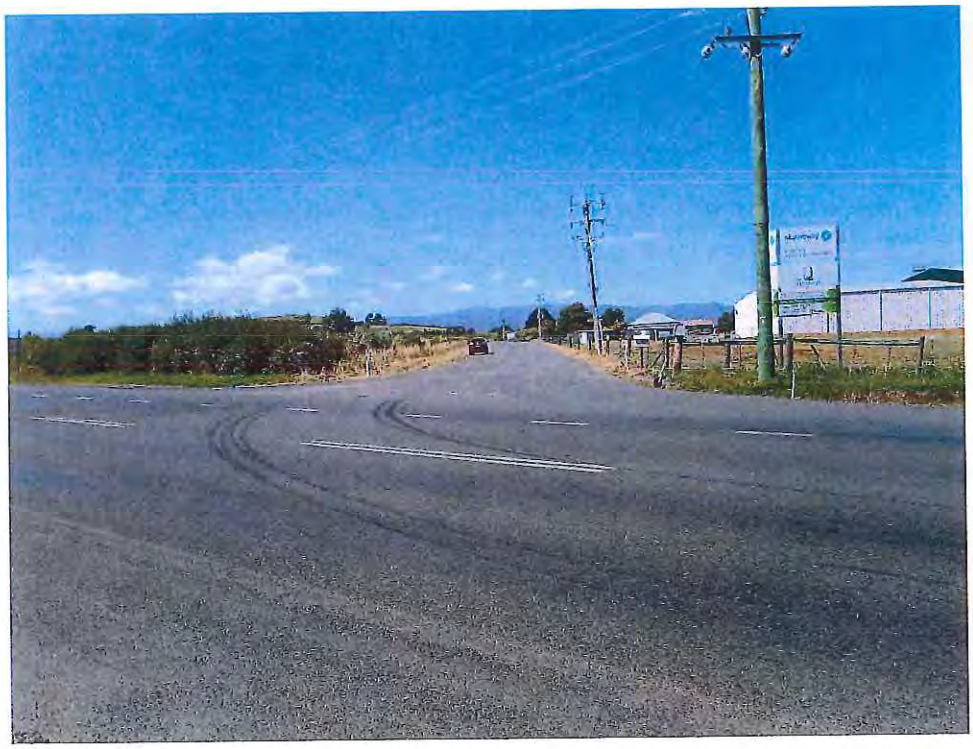


Photograph 4.7: View to west along McGrath Road at start of approach to reverse turn

Photograph 4.8: View to west along McGrath Road at reverse turn

McGraths Road approaches Hobart Road at an angle of around 55 degrees, squaring up with Hobart Road over the last 10m, as may be appreciated from the view in Photograph 4.9.

It can be seen in Photographs 4.9 and 4.10 that there is a worn holding line at the junction but no 'give way' sign facing approaching McGrath Road motorists.



Photograph 4.9: View to east along McGraths Road from Hobart Road

Photograph 4.10: View to west along McGraths Road towards Hobart Road

4.2 Traffic Activity

Enquires with the Northern Midlands Council regarding available traffic data for Hobart Road resulted in traffic volume data being obtained for a site around 3.5km to the north of McGraths Road. The traffic survey was undertaken in October 2008.

The following average traffic volumes were recorded over three weekdays:

Average weekday traffic - 4,890 vehicles/day;

Morning weekday peak hour traffic (8-9am) - 343 vehicles/hour two way;

Afternoon weekday peak hour traffic (4-5pm) - 450 vehicles/hour two way.

The hourly distribution of traffic volumes for the three day average weekday in October 2008 has been presented graphically in Figure 4.1.

The traffic volume would be quite representative of the traffic passing the McGraths Road junction as there are not many accesses along Hobart Road between the survey site and McGraths Road.

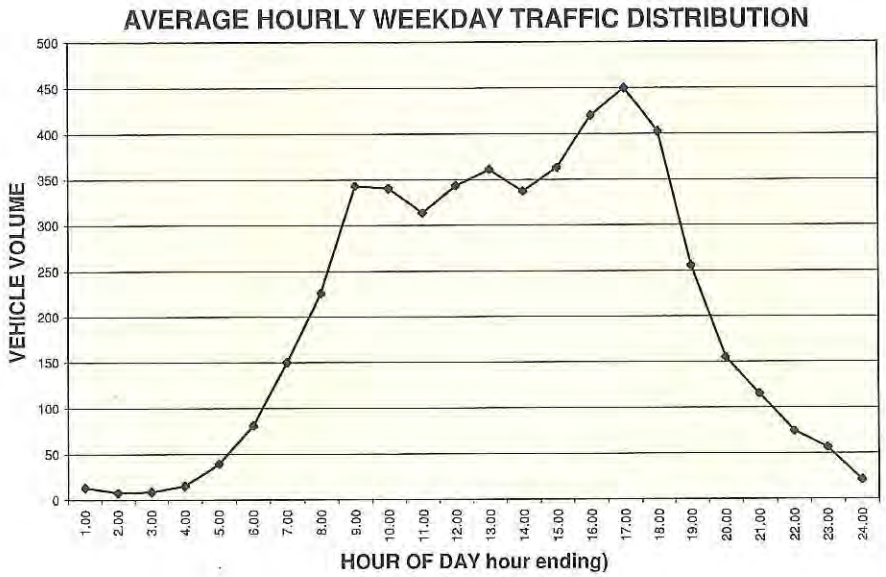


Figure 4.1: Average Hourly Weekday Traffic Volume on Hobart Road to north of Breadalbane – October 2008

Due to the age of the above data, a turning traffic volume survey was undertaken at the Hobart Road/McGraths Road junction during the 4:00 – 5:00pm period on Thursday 12 January 2017. This hour of the day was selected as it was the peak hour during the afternoon and also the highest traffic hour of the day for Hobart Road, based on the Council survey data.

The results from this survey have been summarised in Figure 4.2.

As can be seen from this survey data, the recorded traffic volume along Hobart Road to the north of the junction was 497 vehicles/hour, which is some 47 vehicles/hour more than recorded by council some nine years ago, at its survey site. It represents a 1% p.a. growth in the traffic volume.

The turning movement survey during the afternoon peak hour recorded 25 vehicle movements to and from McGraths Road. Some 60% of these vehicles were trucks.

If this hourly traffic volume is 10% of the daily traffic, as is normally found in suburban areas, the daily traffic along McGraths road would be around 250 vehicles/day.

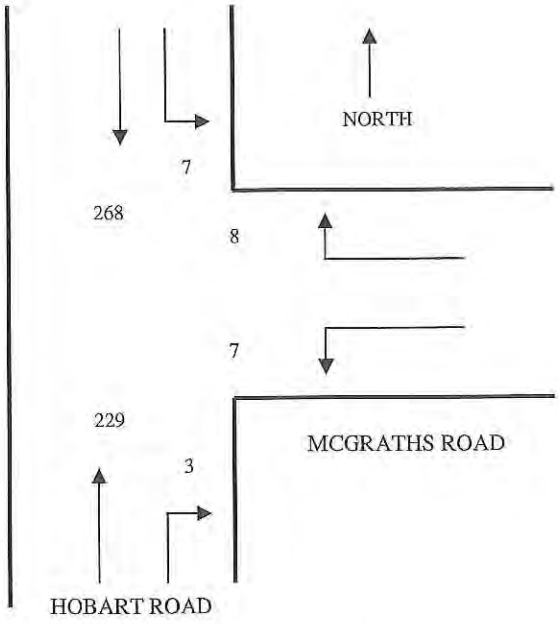


Figure 4.2: Turning traffic volumes at Hobart Road/McGraths Road junction - 4:00 to 5:00pm

4.3 Crash Record

All crashes that result in personal injury are required to be reported to Tasmania Police. Tasmania Police record all crashes that they attend. Any crashes that result in property damage only, which are reported to Tasmania Police, are also recorded even though they may not visit the site.

Details of reported crashes are collated and recorded on a computerised database that is maintained by DSG.

Information was requested from DSG about any reported crashes along Hobart Road between the Midland Highway and Marchington Drive. Advice has been received that for the last five years since January 2012, the database has record of 16 reported crashes at the Midland Highway intersection and six link crashes along this section of Hobart Road.

The Midland Highway/Hobart Road/Evandale Road intersection area is currently under reconstruction which will change traffic patterns and improve safety.

The link crashes along Hobart Road all occurred to the north of the McGraths Road junction with three crashes resulting from loss of vehicle control and the others due to different incidents. One of the loss of control crashes (in 2013) resulted in injury.

Overall the crash record is not of significant concern.

5. TRAFFIC GENERATION BY THE QUARRY DEVELOPMENT

As outlined in Section 3 of this report, the development being proposed is a quarry at the end of McGraths Road from which basaltic rock will be extracted.

The maximum production will be 200,000 cubic metres per year, which is around 320,000 tonnes of product to be transported from the site each year.

The material will be transported using a truck and trailer combination of 30 tonne payload capacity. This translates to around 10,667 truck/trailer vehicle movements per year.

Based on 290 days of operations over one year, there would be on average 74 loaded trucks/day or 148 truck movements per day.

Furthermore, based on a 10-hour working day, there will be some 15 truck movements/hour; (say) 8 trucks to and 8 trucks from the quarry site.

The above calculations are based on the maximum possible production levels. It is understood this is not achieved at most quarries as production levels are dependant on the demand for the product and contracts being secured.

The quarry will employ 6 people who will generate up to 12 car movements each day.

It is understood all of the truck traffic movements to and from the proposed quarry site will be along McGraths Road and then Hobart Road to the south of the McGraths Road junction; i.e. to and from the Midland Highway.

Based on the above truck traffic generation by the quarry (employee traffic will occur at other times of the day), the expected future traffic activity at the Hobart Road/ McGraths Road junction in 10 years' time during the peak hour of the day with the quarry in full operation is as shown in Figure 5.1.

The Hobart Road traffic volumes are those in Figure 4.2 but increased to allow for a 1% p.a. growth over the next decade as well as some increase in other traffic along McGrath Road from possible increased activity at other businesses along the road.

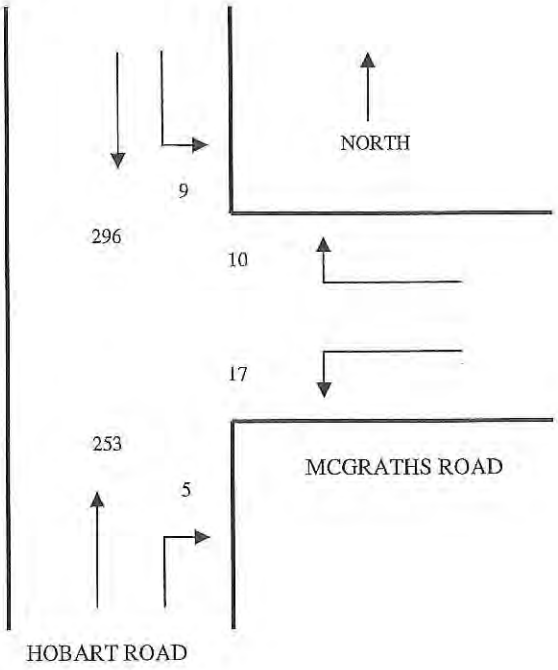


Figure 5.1: Expected hourly turning traffic volumes at Hobart Road/ McGraths Road junction - January 2027

6. TRAFFIC ASSESSMENT AND IMPACT

This section of the report evaluates the impact that the expected traffic from the proposed quarry development will have on Hobart Road and McGrath Road leading to the quarry.

An assessment has also been made of the adequacy of available intersection sight distances along Hobart Road at McGrath Road junction, traffic management at the junction and other relevant factors.

6.1 Operational Impact of Increased Traffic Activity

The total future traffic activity at the Hobart Road/McGraths Road junction with the quarry at full production will be as indicated in Figure 5.1.

The traffic conflict volume during the peak hour of the day is expected to be approaching 600 vehicles/hour.

Traffic volumes of up to 1,500 vehicles/hour can generally be accommodated between conflicting traffic streams at intersections or junctions before traffic problems can begin to arise.

There clearly will not be any traffic flow efficiency issues at this junction and therefore also along McGraths Road with the traffic flow continuing to operate efficiently at acceptable Level of Service A well into the future.

With the current changes that are being made to the Midland Highway and connection to the Evandale Min Road/Hobart Road intersection, the additional traffic generated by the quarry will have a minimal effect on the future traffic operations in this area.

6.2 Hobart Road/McGraths Road Junction Layout

As well as the consideration of sight distances which are addressed below, junctions also need to be considered in terms of the safe movement of vehicles through the junction and in particular whether any passing or auxiliary lanes may be required.

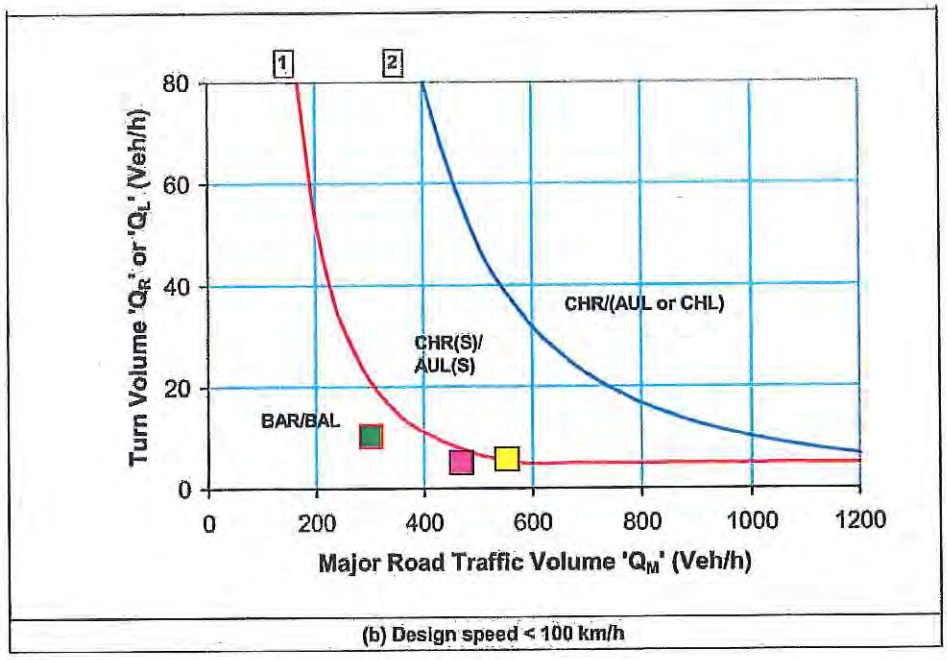
In order to determine what junction treatment is required for Hobart Road/McGraths Road Junction with the expected future level of traffic activity, consideration is normally given to the advice given in the Austroads Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections.

Reference is made to Figure 6.1 which is an extract from the Guide that gives advice on the turn lane requirements at sign controlled road intersections and junctions.

The expected future traffic volumes at the McGraths Road junction, as detailed in Figure 5.1 have been applied to the graph in Figure 6.1.

From Figure 6.1 it can be seen that the McGraths Road junction should have at least a BAR type treatment for northbound traffic. It can also be seen from Figure 6.1 that the junction should have such a treatment with current traffic movements. The junction has a BAL treatment.

It may be likely that, while the passing traffic volumes along Hobart Road are somewhat less than in Figure 5.1 at other times of the day, turning traffic volumes into McGraths Road are higher so that there is a high requirement for a BAR treatment through the day.



LEFT TURN MOVEMENT 2027

RIGHT TURN MOVEMENT 2027

RIGHT TURN MOVEMENT 2017

Figure 6.1: Warrant for turn treatments at sign controlled junctions McGraths Road junction – 2027

As seen in Photograph 6.1 and described in Section 4.1, the northbound traffic lane has a sealed width of 5.0m and an adjacent 2.2m wide gravel shoulder along the western side of the road (total of 7.2m).

It is therefore recommended the seal along the western side of the road be widened to create a standard sealed BAR treatment with a 6.0m width opposite the McGraths Road junction plus 0.6m wide sealed shoulder and an edge line installed along the sealed shoulder for the length of the BAR treatment.

Photograph 6.1: View of sealed and gravel sections on northbound section of Hobart Road

6.3 Assessment of Available Sight Distances

The only junction of relevance for this development is the McGraths Road junction with Hobart Road.

The available sight distances between vehicles turning at the Hobart Road/McGraths Road junction and approaching vehicles along Hobart Road have been measured to be over 300m to the north and to the south (for eye heights of 1.1m to 1.25m).

Views along Hobart Road at this junction are seen in Photographs 6.2 to 6.5.

While the speed limit along Hobart Road is 80km/h, a radar speed gun survey of approach vehicle speeds during a one hour period of the turning movement survey found the 85th percentile approach vehicle speeds are 78km/h for northbound traffic and 89.5km/h for southbound traffic.

The required safe intersection sight distances for these 85th percentile approach speeds, based on current Austroads Guidelines, are 213m to the north and 176m to the south. The available sight distances exceed these minimum requirements.

The Austroads sight distance requirements are generally more demanding than the sight distances in the current interim planning scheme.

Photograph 6.2: View to north along Hobart Road from McGraths Road

Photograph 6.3: View to south along Hobart Road from McGraths Road

Photograph 6.4: View to north along Hobart Road from vehicle turning right into McGraths Road

Photograph 6.5: View to south along Hobart Road from rear of vehicle turning right into McGraths Road

6.4 Other Considerations

Additional Traffic along McGraths Road

As indicated earlier in this report, McGraths Road carries some 25 vehicles/hour during the afternoon peak hour at the Hobart Road junction. This would progressively reduce along the road beyond each access driveway to businesses that operate along McGraths Road.

The quarry will increase the traffic by up to 16 vehicles/hour so that in the future the hourly traffic volume will be around 40 – 50 vehicles/hour allowing for some additional traffic to and from existing businesses.

The additional traffic will not adversely impact on the efficient movement of vehicles along the road.

There clearly will not be any issue where the road is wide enough to accommodate two lanes of traffic.

Where the road is wide enough for only one lane of traffic, there are regular passing areas along the road (every 100m or less on initial section and up to 200m or less beyond the reverse turn) of sufficient length to allow trucks to pass one another without incurring any significant delay or queuing with the expected future traffic flow along the road.

Car Parking

The Development Application report outlines that the necessary parking arrangements for employees and other traffic will be provided on-site in accordance with the Northern Midlands Interim Planning Scheme.

Normally sites such as this have much more open space for vehicle parking and manoeuvring than required to meet all such requirements.

Amenity Considerations

The previous sections of this TIA report have considered the safety and efficiency of the road network that will be affected by traffic from the development site. The Council has requested consideration also be given to potential amenity issues.

The location of the quarry site is within a non-residential area with other industrial activity nearby and McGraths Road is a private road servicing industrial sites along this road.

Hobart Road is a collector road; it passes a small number of mixed commercial and residential developments to the south of McGraths Road, around Raeburn Road.

Due to the function of Hobart Road, the low number and setback of the dwellings in the Raeburn Road area, the quarry traffic will not have any adverse amenity impact in the area.

Planning Scheme Requirements

The relevant clauses of E4 Road and Railway Assets Code as well as Clause 26.3.1 P4 (c) of the Northern Midlands Interim Planning Scheme (2013) have been addressed in this report.

7. SUMMARY AND RECOMMENDATIONS

This Traffic Impact Assessment has been prepared in support of the development application to the Northern Midlands Council for the construction of a basaltic rock quarry at the end of McGraths Road.

The assessment has reviewed the existing road and traffic environment along Hobart Road in the area of the development site and the local private road (McGraths Road) that will provide access to the quarry site. No traffic issues have been identified in the area around Hobart Road or McGraths Road, where the quarry traffic will pass.

In the area of the McGraths Road junction, Hobart Road is sealed to a width of around 12.0m with around 0.8m wide gravel shoulder along the eastern side and 2.2m wide gravel shoulder along the western side. There are two traffic lanes for southbound traffic with the transition merge markings to one lane through the junction and one lane for northbound traffic.

McGraths Road is sealed to a width of around 7.3m just east of the Hobart Road junction. The sealed road ends some 350m east of Hobart Road and the gravel road continues around another 1.15km further east. Most of the road length is one lane in width and there are a series of passing bays for the full length of this one lane section.

The average weekday traffic volume on Hobart Road past McGraths Road is around 5,000 vehicles/day. It has been estimated the daily traffic along McGraths road would currently be around 150 vehicles/day.

The DSG crash database has record of 16 reported crashes at the Midland Highway intersection and six link crashes along the section of Hobart Road between the Midland Highway and Marchington Drive for the last five years since January 2012.

The Midland Highway/Hobart Road/Evandale Road intersection area is currently under reconstruction which will result in changed traffic patterns and improved safety.

All the link crashes along Hobart Road occurred to the north of the McGraths Road junction with three crashes due to loss of control, one resulting in injury.

Overall the crash record is not of significant concern.

It has been estimated that the proposed quarry development will generate on average some 148 trucks/day and (say) up to 16 trucks/hour over a 10-hour working day.

The origin and destination for these vehicles will be via McGraths Road and along Hobart Road between the McGraths Road junction and the Midland Highway/Evandale Main Road intersection i.e. to south of McGraths Road.

The traffic conflict volume at the junction of McGraths Road with Hobart Road in ten years' time with the quarry at full production will be approaching 600 vehicles/hour.

Traffic volumes of up to 1,500 vehicles/hour can generally be accommodated between conflicting traffic streams at intersections or junctions before traffic problems can begin to arise.

There clearly will not be any traffic flow efficiency issues at this junction or at any other junction in the immediate area that will be used by quarry traffic.

Overall the traffic in the area will continue to operate efficiently well into the future.

Consideration has also been given to the safe movement of vehicles through the junction and in particular whether any passing or auxiliary lanes may be required.

Based on the current and future conflicting through and turning traffic volumes at the McGraths Road/Hobart Road junction, there should be at least a BAR type treatment on Hobart Road for northbound traffic. Such a treatment is justified with current traffic movements.

It is therefore recommended the seal along the western side of the road be widened to create a standard sealed BAR treatment with a 6.0m width opposite the McGraths Road junction plus 0.6m wide sealed shoulder and an edge line installed along the sealed shoulder for the length of the BAR treatment.

An assessment has been undertaken of the available sight distances at the junction of McGraths Road with Hobart Road. The available sight distances were found to exceed these minimum requirements.

The quarry will increase the traffic volume along McGraths Road by up to 16 vehicles/hour so that in the future the hourly traffic volume will be around 40 – 50 vehicles/hour, allowing for some additional traffic to and from existing businesses.

The additional traffic will not adversely impact on the efficient movement of vehicles along the road. There clearly will not be any issue where the road is wide enough to accommodate two lanes of traffic. Where the road is wide enough for only one lane of traffic, there are regular passing areas along the road to allow trucks to pass one another without incurring any significant delay or queuing with the expected future traffic flow along the road.

Overall requirements of the planning scheme have been addressed in this report and it has been concluded that the proposed quarry development can be supported on traffic grounds as it will not give rise to any adverse safety or operational traffic issues

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This document has been prepared in accordance with the scope of services agreed upon between Van Diemen Consulting (VDC) and the Client.

To the best of VDC's knowledge, the report presented herein represents the Client's intentions at the time of completing the document. However, the passage of time, manifestation of latent conditions or impacts of future events may result in changes to matters that are otherwise described in this document. In preparing this document VDC has relied upon data, surveys, analysis, designs, plans and other information provided by the client, and other individuals and organisations referenced herein. Except as otherwise stated in this document, VDC has not verified the accuracy or completeness of such data, surveys, analysis, designs, plans and other information.

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Document Status

Revision	Author	Reviewer and Organisation	Date
1	R Barnes C McCoull	R Barnes	15-12-2016
1	R Barnes C McCoull	G Adams, The Adams Group (Mt oriel Breadalbane Pty Ltd)	17-12-2016
Amended	R Barnes C McCoull	R Barnes	23-2-2017
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COCKED HAT HILL QUARRY, BREADALBANE

DEVELOPMENT PROPOSAL AND ENVIRONMENTAL MANAGEMENT PLAN

Van Diemen CONSULTING

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Attachment 7	Cocked Hat Hill quarry - environmental noise, ground vibration and air blast overpressure assessment
Attachment 8	Unanticipated Discovery Plan – Aboriginal Heritage Tasmania
Attachment 9	Technical memo – Proposed dwelling at 805 Hobart Road Breadalbane
Attachment 10	House location for 805 Hobart Road, Breadalbane

DEFINITION OF TERMS/ABBREVIATIONS

Access Road	The access provided by the benefiting easement on CT144549/1
BMP	Blast Management Plan – Cocked Hat Hill Quarry
DA	Development Application
DPIPWE	Department of Primary Industries, Parks, Water and Environment
EMPCA	*Environmental Management and Pollution Control Act 1994*
EPA	Environment Protection Authority
EPN	Environment Protection Notice
(the) Land	The land shown in Figure A-2A which comprises a portion of Mining Lease 1958P/M
LoA	Letter of Agreement – Quarry Operator and Launceston Airport Operator
LUPAA	*Land Use Planning and Approvals Act 1993* (Tas)
ML	Mining Lease
MRT	Mineral Resources Tasmania
NMC	Northern Midlands Council
QCP	Tasmanian *Quarry Code of Practice 1999*

PREFACE

FUNCTION OF THE DEVELOPMENT PROPOSAL AND ENVIRONMENTAL MANAGEMENT PLAN

The Development Proposal and Environmental Management Plan (DPEMP) has been prepared to support a Development Application by Mt Oriel Breadalbane Pty Ltd for a Planning Permit to establish a hard-rock quarry on the property known as Mt Oriel located at 833 Hobart Road Breadalbane, in the Northern Midlands municipality.

THE DEVELOPMENT PROPOSAL

This application is to seek approval for production and extraction levels of up to 200,000 m^3/annum.

The quarry operation includes two activities defined within Schedule 2 of the *Environmental Management and Pollution Control Act 1994 (Tas)* (EMPCA) –

- '5. Extractive Industries. (a) Quarries: the extraction of any rock or gravel and producing 5 000 cubic metres or more of rock or gravel per year' [**ie. Maximum 200,000 cubic metres per annum**]; and
- '6. Materials Handling. (a) Crushing, Grinding or Milling: processing (by crushing, grinding, milling or separating into different sizes by sieving, air elutriation or in any other manner) of ... (ii) rock, ores or minerals at a rate in excess of 1 000 cubic metres per year' [**ie. Maximum 200,000 cubic metres per annum**].

Level 2 Activities must be referred by the Planning Authority (in this case, Northern Midlands Council) and to the Environment Protection Authority (the EPA), for assessment under EMPCA.

This DPEMP follows the generic and specific guidelines (Attachment 1) provided to the proponent by the Environment Protection Authority and provides information on -

1. the present environment of the quarry, including such matters as zoning, land use, flora, fauna, soils and climate. It also describes the current and proposed intensified quarry operation in detail, the emissions sources, and the development timetable; and
2. each of the potential environmental issues associated with the quarry, and provides detail regarding the mitigation measures that will be undertaken to address each issue. Infrastructure matters of the expanded operation are also discussed.

STATUTORY ROLES IN THE ASSESSMENT PROCESS

The EPA will use the DPEMP to assess the activity in accordance with the Environmental Impact Assessment Principles provided in S74 of *EMPCA*. The DPEMP will be referred to other relevant State agencies as part of this process to seek comments in relation to the proposed development. The EPA assessment will generate environmental conditions that are to be included in the Planning Permit that may be issued by Council.

The Northern Midlands Council (NMC) will use the DPEMP as the basis for assessing the Development Application and for drafting conditions under which a Permit may be granted.

When the EPA is satisfied that sufficient information regarding the proposed development has been received, the Director will provide written notice to the Council to advertise the application. The Council will advertise the application for a 28-day period within which anyone can make a representation about the project.

Representations should be directed to the Northern Midlands Council as described in the advertisement they issue.

When the representation period has closed the Council will forward all representations to the EPA, which will complete the assessment of the environmental aspects of the project. The EPA takes into consideration the representations and the comments received from other State agencies to which the

DPEMP was referred. An addendum or 'supplement' to the DPEMP may be required of the project proponent to respond to representations and comments from referral agencies.

When the EPA has made its decision about environmental aspects of the development it advises Council of its decision, which may include specific conditions that relate to environmental management and mitigation measures. Council then determines whether a Planning Permit will be issued. Following the decision of Council, the proponent and those members of the pubic whom made a representation have 14 days to appeal the decision of issuing a Planning Permit to the Resource Management and Planning Appeals Tribunal.

EXECUTIVE SUMMARY

PROPOSED ACTIVITY

The Development Proposal and Environmental Management Plan (DPEMP) has been prepared to support a Development Application by Mt Oriel Breadalbane Pty Ltd for a Planning Permit to establish a hard-rock quarry on the property known as Mt Oriel located at 833 Hobart Road Breadalbane, in the Northern Midlands municipality.

This application is to seek approval for production and extraction levels of up to 200,000 m^3/annum.

The quarrying operation will include the following activities:

- surface site preparation by tree-felling and stockpiling;
- soil removal and stockpiling;
- excavation and ripping of rock and gravel material;
- drilling and blasting by licensed contractor and rock removal by means of an excavator/dozer;
- crushing and screening of rock to reduce material size;
- stockpiling of material (crushed and uncrushed) in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and the
- transport of materials by truck with/without trailer.

Hard rock will be liberated by blasting. Drilling and blasting will be carried out by qualified contractors in consultation with the proponent to ensure the following:

- drilling will be carried out as specified by a blast contractor;
- all close neighbours will be notified at least 24 hours in advance of blasting activities;
- special notification measures will be developed with the Launceston Airport operator;
- blasting activities will be safe and meet all workplace health and safety requirements and
- blasting will be adequate to achieve rock fragmentation for extraction by excavator and crushing.

LOCATION

The proposed Cocked Hat Hill Quarry is located on private freehold land at **833 Hobart Road Breadalbane**, in the Northern Midlands municipality. The proposed Cocked Hat Hill Quarry is located within Mining Lease 1958P/M but it will be separated from McGrath Quarry (syn. McGraths Pit) by a retained section of land.

PROPONENT

The applicant, Mt Oriel Breadalbane Pty Ltd, owns and operates the Mt Oriel property which includes the existing Level 2 activity (known as 'McGraths Pit') permitted by permit and EPN 8742/3.

INFRASTRUCTURE TO BE INSTALLED

The quarry activity will require the installation of the following infrastructure –

- a formal sediment pond to receive and discharge stormwater from the pit;
- a within-pit sediment basin to capture and hold water in the pit from which water will be pumped as required to the formal sediment basin;
- internal haul roads within the pit including an area for machinery (ie crusher and screen);