



Meander Valley Council

W O R K I N G T O G E T H E R

ORDINARY AGENDA

COUNCIL MEETING

Tuesday 14 August 2018

COUNCIL MEETING VISITORS

Visitors are most welcome to attend Council meetings.

Visitors attending a Council Meeting agree to abide by the following rules:-

- Visitors are required to sign the Visitor Book and provide their name and full residential address before entering the meeting room.
- Visitors are only allowed to address Council with the permission of the Chairperson.
- When addressing Council the speaker is asked not to swear or use threatening language.
- Visitors who refuse to abide by these rules will be asked to leave the meeting by the Chairperson.

SECURITY PROCEDURES

- Council staff will ensure that all visitors have signed the Visitor Book.
- A visitor who continually interjects during the meeting or uses threatening language to Councillors or staff, will be asked by the Chairperson to cease immediately.
- If the visitor fails to abide by the request of the Chairperson, the Chairperson shall suspend the meeting and ask the visitor to leave the meeting immediately.
- If the visitor fails to leave the meeting immediately, the General Manager is to contact Tasmania Police to come and remove the visitor from the building.
- Once the visitor has left the building the Chairperson may resume the meeting.
- In the case of extreme emergency caused by a visitor, the Chairperson is to activate the Distress Button immediately and Tasmania Police will be called.



PO Box 102, Westbury,
Tasmania, 7303

Dear Councillors

I wish to advise that an ordinary meeting of the Meander Valley Council will be held at the Westbury Council Chambers, 26 Lyall Street, Westbury, on **Tuesday 14 August 2018 at 1.30pm.**

Martin Gill
GENERAL MANAGER

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Evacuation and Safety:

At the commencement of the meeting the Mayor will advise that,

- *Evacuation details and information are located on the wall to his right;*
- *In the unlikelyhood of an emergency evacuation an alarm will sound and evacuation wardens will assist with the evacuation. When directed, everyone will be required to exit in an orderly fashion through the front doors and go directly to the evacuation point which is in the car-park at the side of the Town Hall.*

Agenda for an Ordinary Meeting of the Meander Valley Council to be held at the Council Chambers Meeting Room, 26 Lyall Street, Westbury, on Tuesday 14 August 2018 at 1.30pm.

PRESENT:**APOLOGIES:****IN ATTENDANCE:****CONFIRMATION OF MINUTES:**

Councillor xx moved and Councillor xx seconded, ***“that the minutes of the Ordinary Meeting of Council held on Tuesday 10 July, 2018, be received and confirmed.”***

COUNCIL WORKSHOPS HELD SINCE THE LAST MEETING:

Date :	Items discussed:
24 July 2018	<ul style="list-style-type: none">• Proposed Sale of Anglican Church Properties• TasCOSS Poker Machine Reform• LGAT General Meeting – Items for Decision• Deloraine & District Recreation Feasibility Study• Development Plan Strategic Project Implementation• Swimming Pool Management• Youth Workshop

ANNOUNCEMENTS BY THE MAYOR:

Tuesday 10 July 2018

Blackstone Heights Community news AGM

Wednesday 11 July 2018

NAIDOC Week celebrations

Tuesday 24 July 2018

Council Workshop

Annual Youth Liaison workshop

Wednesday 25 July 2018

LGAT AGM and General Meeting

Thursday 26 July 2018

LGAT Annual Conference

Friday 27 July 2018

LGAT Annual Conference

Wednesday 8 August 2018

Westbury Recreation Ground information session

Thursday 9 August 2018

TasWater owners Quarterly and regional briefing

DECLARATIONS OF INTEREST:

TABLING OF PETITIONS:

PUBLIC QUESTION TIME

General Rules for Question Time:

Public question time will continue for no more than thirty minutes for 'questions on notice' and 'questions without notice'.

At the beginning of public question time, the Chairperson will firstly refer to the questions on notice. The Chairperson will ask each person who has a question on notice to come forward and state their name and where they are from (suburb or town) before asking their question(s).

The Chairperson will then ask anyone else with a question without notice to come forward and give their name and where they are from (suburb or town) before asking their question.

If called upon by the Chairperson, a person asking a question without notice may need to submit a written copy of their question to the Chairperson in order to clarify the content of the question.

A member of the public may ask a Council officer to read their question for them.

If accepted by the Chairperson, the question will be responded to, or, it may be taken on notice as a 'question on notice' for the next Council meeting. Questions will usually be taken on notice in cases where the questions raised at the meeting require further research or clarification. These questions will need to be submitted as a written copy to the Chairperson prior to the end of public question time.

The Chairperson may direct a Councillor or Council officer to provide a response.

All questions and answers must be kept as brief as possible.

There will be no debate on any questions or answers.

In the event that the same or similar question is raised by more than one person, an answer may be given as a combined response.

Questions on notice and their responses will be minuted.

Questions without notice raised during public question time and the responses to them will not be minuted or recorded in any way with exception to those questions taken on notice for the next Council meeting.

Once the allocated time period of thirty minutes has ended, the Chairperson will declare public question time ended. At this time, any person who has not had the opportunity to put forward a question will be invited to submit their question in writing for the next meeting.

Notes

- Council officers may be called upon to provide assistance to those wishing to register a question, particularly those with a disability or from non-English speaking cultures, by typing their questions.
- The Chairperson may allocate a maximum time for each question, depending on the complexity of the issue, and on how many questions are asked at the meeting. The Chairperson may also indicate when sufficient response to a question has been provided.

- Limited Privilege: Members of the public should be reminded that the protection of parliamentary privilege does not apply to local government, and any statements or discussion in the Council Chamber or any document, produced are subject to the laws of defamation.

For further information please telephone 6393 5300 or visit www.meander.tas.gov.au

PUBLIC QUESTION TIME

1. PUBLIC QUESTIONS TAKEN ON NOTICE – JULY 2018

1.1 Mr Frank Nott, Prospect Vale

- a) From page 33 of the Budget could I be provided with details on the \$216,000 indicated for ongoing costs from 17-18 for –
 - i. Depreciation
 - ii. Operations
 - iii. Maintenance

Response by Jonathan Harmey, Director Corporate Services

Page 33 in the question relates to the July 2018 Council agenda related to item CORP 1, 2018-19 Budget Estimates, Long Term Financial Plan and Rating Recommendation. The \$216,000 refers to the advice provided to Council in the May 2017 agenda item INFRA 3, Capital Works Program 2017-18 where the financial impact of delivering the new and upgraded assets in the program was anticipated to result in an ongoing increase (each year) in depreciation, operation and maintenance estimated to be \$216,000 per annum. The details of which are ongoing Depreciation of \$78,000 Operating, Maintenance and Ownership costs of \$138,000.

- b) With the revenue that is lost (discontinued 278k Tas Water dividends and 43k NRM –
 - i. How was this revenue used?
 - ii. Does Council still need to continue doing it?

Response by Jonathan Harmey, Director Corporate Services

The question relates to two externally provided revenue sources that Council has been advised will no longer be received as of 1 July 2018. The Board of TasWater determined that commencing 1 July 2018 it will reduce and freeze annual distributions to Owner Councils. The removal of one third of Meander Valley's shareholder distribution results in a \$278,000 reduction of recurrent revenue to Council from 2018-19. This revenue was contained in the unallocated function where it is not tied to a specific service Council provides to the community. It was used in the same manner as general rates whereby are

subsidised those services that run at a net loss to Council such as Stormwater, Roads and Bridges.

NRM determined that commencing 1 July 2018 it will discontinue all facilitator support for NRM activities resulting in a \$43,000 reduction of recurrent revenue to Council from 2018-19. This revenue was used to fund NRM (Natural Resource Management) activities that deliver on the Meander Valley Council NRM Strategy and support the NRM committee. The expenditure of some NRM activities have been reduced for 2018-19 following the removal of this funding. Council considered that this is a service that is valued by the community and services will continue to be provided.

1.2 Mr Malcolm Eastley, Deloraine

Have the Mayor and Manager passed onto Councillors the concerns raised by small businesses at meetings with TasWater?

***Response by Martin Gill, General Manager
Yes we have***

2. PUBLIC QUESTIONS WITH NOTICE – AUGUST 2018

Nil

3. PUBLIC QUESTIONS WITHOUT NOTICE – AUGUST 2018

COUNCILLOR QUESTION TIME

1. COUNCILLOR QUESTIONS TAKEN ON NOTICE – JULY 2018

1.1 Cr John Temple

Could Council be updated on the steps that are being taken to provide free camping in the Meander Valley for the upcoming tourist season?

***Response by Lynette While, Director Community & Development Services
At the moment we are waiting for the response from the review by the State Government of the National Competition Policy. This is expected around late August. On receipt of this information, we would consider the next steps regarding provision of camping by Council.***

2. COUNCILLOR QUESTIONS WITH NOTICE – AUGUST 2018

2.1 Cr Deb White Question

In the July Council meeting agenda, the GM answered a question from Karen Hillman of MARRA about the proposed Meander Falls Road, saying that the Premier had turned down the request for co-funding in writing.

Was the correspondence from the Premier included in Council correspondence forwarded to Councillors, and if not, could it be included the next correspondence forwarded to Councillors?

Response from Martin Gill, General Manager

The letter from the Premier was included in the weekly elected member correspondence briefing paper for the week ending 25 May 2018.

3. COUNCILLOR QUESTIONS WITHOUT NOTICE – AUGUST 2018

DEPUTATIONS BY MEMBERS OF THE PUBLIC

NOTICE OF MOTIONS BY COUNCILLORS

Nil

CERTIFICATION

"I certify that with respect to all advice, information or recommendation provided to Council with this agenda:

1. the advice, information or recommendation is given by a person who has the qualifications or experience necessary to give such advice, information or recommendation, and
2. where any advice is given directly to Council by a person who does not have the required qualifications or experience that person has obtained and taken into account in that person's general advice the advice from an appropriately qualified or experienced person."

A handwritten signature in black ink, appearing to read 'M. Gill', followed by a long, sweeping horizontal line that extends across the page.

Martin Gill
GENERAL MANAGER

"Notes: S65(1) of the Local Government Act requires the General Manager to ensure that any advice, information or recommendation given to the Council (or a Council committee) is given by a person who has the qualifications or experience necessary to give such advice, information or recommendation. S65(2) forbids Council from deciding any matter which requires the advice of a qualified person without considering that advice."

COUNCIL MEETING AS A PLANNING AUTHORITY

The Mayor advises that for items C&DS 1 to C&DS 3 Council is acting as a Planning Authority under the provisions of the *Land Use Planning and Approvals Act 1993*.

C&DS 1 61 VETERANS ROW, WESTBURY - SUBDIVISION (2 LOTS)

1) Introduction

This report considers application PA\18\0256 for Subdivision (2 lots) on land located at 61 Veterans Row, Westbury (CT: 248138\1).

2) Background

Applicant

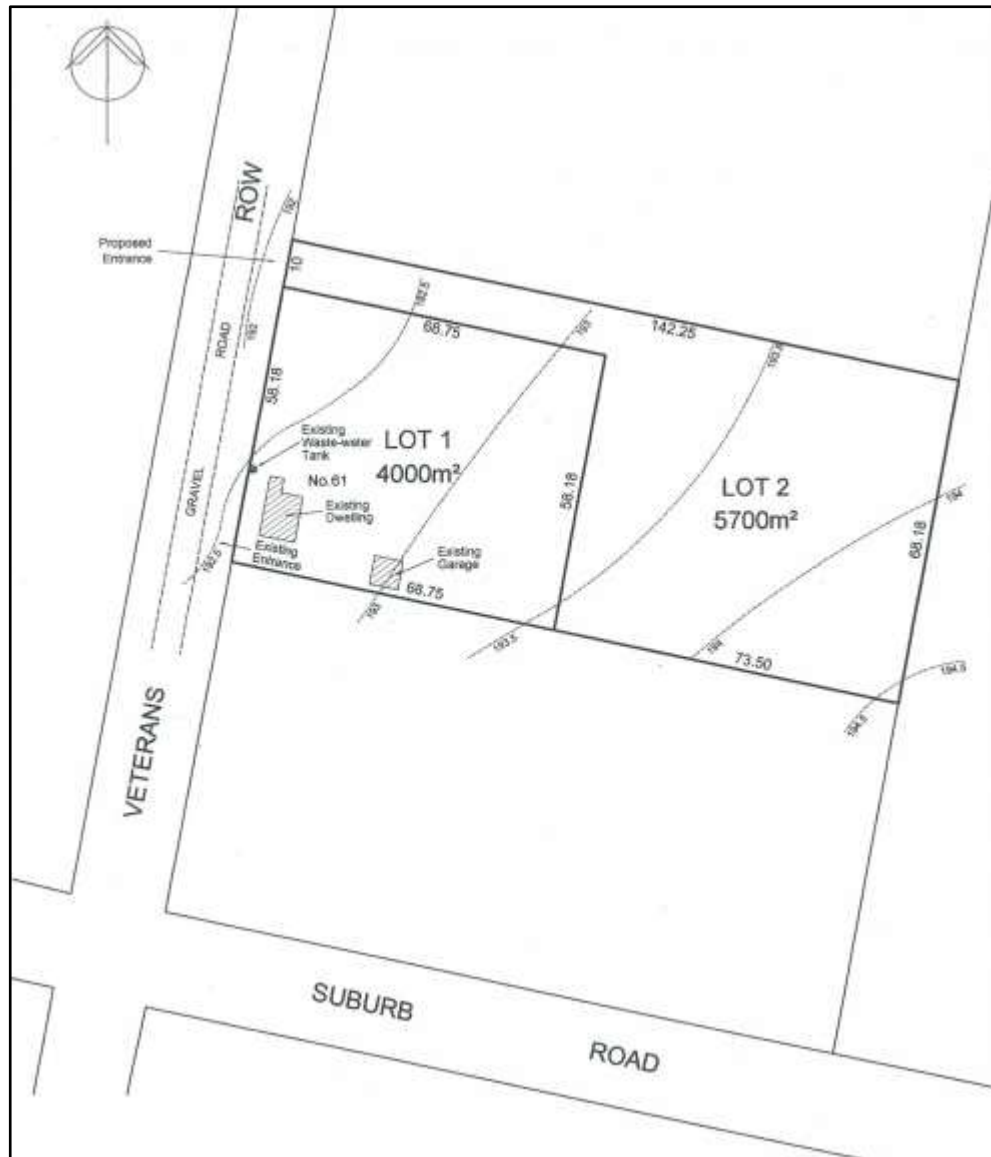
D J McCulloch Surveying

Planning Controls

The subject land is controlled by the *Meander Valley Interim Planning Scheme 2013* (referred to in this report as the 'Scheme').

Use & Development

This application proposes to subdivide an existing residential property into two (2) titles suitable for a residential use. Lot 1 will be 4000m² in area and will contain the existing single dwelling and outbuildings. Lot 2 will be a vacant, internal lot with an area of 5700m². An indicative plan of the proposed subdivision is included below, with greater detail of the proposal included in the attached documents.



Figure

1: plan of subdivision (D J McCulloch Surveying, 2018)

Site & Surrounds

The subject title is located within the residential area of Westbury and includes a single dwelling and a number of associated outbuildings in the south-west corner. A hawthorn hedge fronts much of the property, continuing along the north side boundary and crossing the property behind the existing house. The remainder of the title is vacant and largely clear of vegetation.

The neighbouring title to the north is currently vacant. The titles to the east, south and west all contain single dwellings.

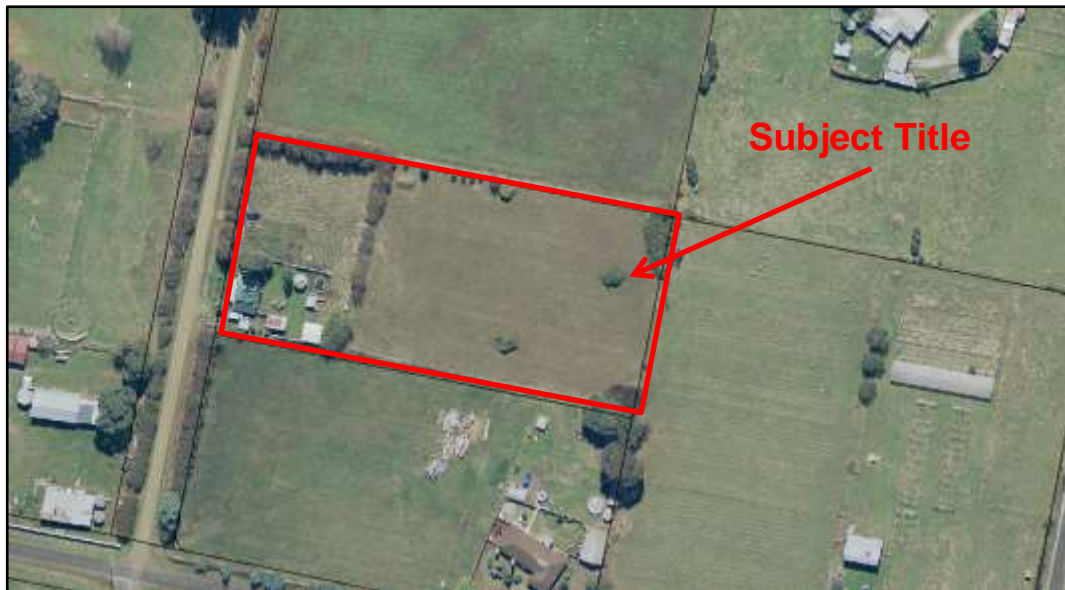


Photo 1: aerial photo of subject title and surrounding land



Photo 2: frontage of 61 Veterans Row, showing the existing dwelling and hawthorn hedge



Photo 3: existing dwelling at 61 Veterans Row



Photo 4: land to the rear of the existing dwelling, largely comprising proposed Lot 2

Statutory Timeframes

Date Received:	28 June 2018
Request for further information:	Not applicable
Information received:	Not applicable
Advertised:	7 July 2018

Closing date for representations:	23 July 2018
Extension of time granted:	26 July 2018
Extension of time expires:	15 August 2018
Decision due:	14 August 2018

3) Strategic/Annual Plan Conformance

Council has a target under the Annual Plan to assess applications within statutory timeframes.

4) Policy Implications

Not applicable.

5) Statutory Requirements

Council must process and determine the application in accordance with the *Land Use Planning Approval Act 1993 (LUPAA)* and its Planning Scheme. The application is made in accordance with Section 57 of LUPAA.

6) Risk Management

Risk is managed by the inclusion of appropriate conditions on the planning permit.

7) Consultation with State Government and other Authorities

The application was referred to TasWater. A Submission to Planning Authority Notice (TWDA 2018/01105 - MVC) was received on 10 July 2018 (attached document).

8) Community Consultation

The application was advertised for the statutory 14-day period.

Five (5) representations were received (attached documents). One (1) representation is in the form of a petition and includes 69 additional names. The representations are discussed in the assessment below.

9) Financial Impact

Not applicable.

10) Alternative Options

Council can either approve the application with amended conditions or refuse the application.

11) Officers Comments

Zone

The subject property is located in the Low Density Residential Zone. The land surrounding the site is located in the Low Density Residential Zone



Figure 2: zoning of the subject title and surrounding land

Use Class

Table 8.2 of the Scheme, categorises the proposed use class as:

- Residential

A Residential use is specified in Section 12.2 – Low Density Residential Use Table as being *No Permit Required*. Subdivision, however, is subject to Performance Criteria, making it *Discretionary*.

Applicable Standards

This assessment considers all applicable planning scheme standards.

In accordance with the statutory function of the State Template for Planning Schemes (Planning Directive 1), where use or development meets the Acceptable Solutions it complies with the planning scheme, however it may be conditioned if considered necessary to better meet the objective of the applicable standard.

Where use or development relies on performance criteria, discretion is applied for that particular standard only. To determine whether discretion should be used to grant approval, the proposal must be considered against the objectives of the applicable standard and the requirements of Section 8.10.

A brief assessment against all applicable Acceptable Solutions of the Low Density Residential Zone and Codes is provided below. This is followed by a more detailed discussion of any applicable Performance Criteria and the objectives relevant to the particular discretion.

Compliance Assessment

The following table is an assessment against the applicable standards of the Meander Valley Interim Planning Scheme 2013.

Low Density Residential Zone			
Scheme Standard		Comment	Assessment
12.3.1 Amenity			
A1	If for permitted or no permit required uses.	The lot is intended to be used for a residential use. This is a permitted use in the Low Density Residential Zone.	Complies
A2	Commercial vehicles for discretionary uses must only operate between 7.00am and 7.00pm Monday to Friday and 8.00am to 6.00pm Saturday and Sunday.	Not applicable	
12.4.3.1 General Suitability			
A1	No Acceptable Solution	No Acceptable Solution	Relies on Performance Criteria
12.4.3.2 Lot Area, Building Envelopes and Frontage			
A1	Each lot must: a) have a minimum area in accordance with Table 12.4.3.1; and	The Acceptable Solution for lot size in the Westbury Low	Relies on Performance Criteria

	<ul style="list-style-type: none"> a) be able to contain a 35 metres diameter circle with the centre of the circle not more than 35 metres from the frontage; and b) have new boundaries aligned from buildings that satisfy the relevant acceptable solutions for setbacks; or c) be required for public use by the Crown, a an agency, or a corporation all the shares of which are held by Councils or a municipality; or d) be for the provision of public utilities; or e) for the consolidation of a lot with another lot with no additional titles created; or g) to align existing titles with zone boundaries and no additional lots are created. 	<p>Density Residential Area is 5000m². Proposed lot 1 is 4000m² in area.</p> <p>Due to its internal nature, Lot 2 does not contain a 35m diameter circle within 35m of the frontage.</p> <p>The proposed new boundaries are setback from the existing buildings on Lot 1 a sufficient distance to comply with the Acceptable Solutions for setbacks (3m from the side boundaries and 5m from the rear boundaries).</p>	
A2	Each lot must have a frontage of at least 4 metres.	The proposed lots both have a frontage greater than 4m.	Complies
A3	Each lot must be connected to a reticulated: <ul style="list-style-type: none"> a) water supply; and b) sewerage system. 	The proposed lots are not connected to a reticulated water or sewage system.	Relies on Performance Criteria
A4	Each lot must be connected to a reticulated stormwater system.	The proposed lots will not be connected to a reticulated	Relies on Performance Criteria

		stormwater system.	
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Bushfire-Prone Areas Code

Scheme Standard		Comment	Assessment
E1.6.1 Subdivision: Provision of hazard management areas			
A1	<p>(a) TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of hazard management areas as part of a subdivision; or Certified insufficient increase in risk; or</p> <p>(b) The proposed plan of subdivision:</p> <ul style="list-style-type: none"> (i) shows all lots that are within or partly within a bushfire-prone area, including those developed at each stage of a staged subdivision; (ii) shows the building area for each lot; (iii) shows hazard management areas between bushfire-prone vegetation and each building area that have dimensions equal to, or greater than, the separation distances required for BAL 	<p>The application includes a bushfire hazard management plan prepared by a suitably qualified person.</p> <p>The bushfire hazard management plan certifies:</p> <ul style="list-style-type: none"> -that there is insufficient risk in relation to Lot 1 to warrant specific measures. As such the development complies with standard A1 (a). -that Lot 2 provides a building area with BAL 19 in accordance with standard A1 (b). 	Complies

	<p>19 in Table 2.4.4 of Australian Standard AS 3959 – 2009</p> <p>Construction of buildings in bushfire-prone areas; and</p> <p>(iv) is accompanied by a bushfire hazard management plan that addresses all the individual lots and that is certified by the TFS or accredited person, showing hazard management areas equal to, or greater than, the separation distances required for BAL 19 in Table 2.4.4 of Australian Standard AS 3959 – 2009</p> <p>Construction of buildings in bushfire-prone areas; and</p> <p>(c) If hazard management areas are to be located on land external to the proposed subdivision the application is accompanied by the written consent of the owner of that land to enter into an agreement under section 71 of the Act that</p>		
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	will be registered on the title of the neighboring property providing for the affected land to be managed in accordance with the bushfire hazard management plan.		
E1.6.2 Subdivision: public and fire fighting access			
A1	<p>(a) TFS or an accredited person certifies Certified Bushfire Hazard Management Plan; or</p> <p>(b) A proposed plan of subdivision showing the layout of roads, fire trails and the location of property access to building areas is included in a bushfire hazard management plan that:</p> <p>(i) demonstrates proposed roads will comply with Table E1, proposed private accesses will comply with Table E2 and proposed fire trails will comply with Table E3; and</p> <p>(ii) is certified by the TFS or accredited person.</p>	<p>The bushfire hazard management plan certifies:</p> <p>-that there is insufficient risk in relation to Lot 1 to warrant specific measures. As such the development complies with standard A1 (a).</p> <p>-that the access to Lot 2 complies with Tables E1, E2 and E3 and as such complies with A1 (b).</p>	Complies
E1.6.3 Subdivision: Provision of water supply for fire fighting purposes			
A1	In areas serviced with reticulated water by the water corporation...	Not applicable	
A2	<p>In areas that are not serviced by reticulated water by the water corporation:</p> <p>(a) The TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to</p>	<p>The bushfire hazard management plan certifies:</p> <p>-that there is insufficient risk in relation to Lot 1 to warrant</p>	Complies

	<p>warrant provision of a water supply for fire fighting purposes;</p> <p>(b) The TFS or an accredited person certifies that a proposed plan of subdivision demonstrates that a static water supply, dedicated to fire fighting, will be provided and located compliant with Table E5; or</p> <p>(c) A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for fire fighting purposes is sufficient to manage the risks to property and lives in the event of a bushfire.</p>	<p>specific measures. As such the development complies with standard A2 (a).</p> <p>-that the static water supply prescribed for Lot 2 complies with Tables E5 and as such complies with the standard A2 (b).</p>	
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Recreation and Open Space Code

Scheme Standard		Comment	Assessment
E10.6.1 Provision of Public Open Space			
A1	The application includes consent in writing from the General Manager that no land is required for public open space but instead there is to be a cash payment in lieu.	The General Manager has provided consent for a cash payment in lieu of public open space.	Complies

Road and Railway Assets Code

Scheme Standard		Comment	Assessment
E4.6.1 Use and road or rail infrastructure			
A1	Sensitive use within 50m of a category 1 or 2 road with a speed limit of more than 60km/h, a railway or future road or railway, does not	Not applicable	

	increase the annual average daily traffic movements by more than 10%.		
A2	For roads with a speed limit of 60km/h or less the use must not generate more than 40 movements per day.	The proposed development is for a residential subdivision. Each lot will generate less than 10 vehicle movements in accordance with the New South Wales Roads and Traffic Authority <i>Guide to Traffic Generating Development</i> .	Complies
A3	For roads with a speed limit of more than 60km/h the use must not increase the annual average daily traffic movements by more than 10%.	Not applicable	
E4.7.2 Management of Road Accesses and Junctions			
A1	For roads with a speed limit of 60km/h or less the development must include one access providing both entry and exit, or two accesses providing separate entry and exit.	Lot 2 includes only one access. Lot 1 will use the existing access.	Complies
A2	For roads with a speed limit of more than 60km/h the development must not include a new access or junction.	Not applicable	

E4.7.4 Sight Distance at Accesses, Junctions and Level Crossings			
A1	<p>Sight distances at</p> <ul style="list-style-type: none"> 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; or c) If the access is a temporary access, the written consent of the relevant authority has been obtained. 	More than 200m direct sight distance is available to the north and south of the access.	Complies

Car Parking and Sustainable Transport Code			
Scheme Standard		Comment	Assessment
6.6.1 Car Parking Numbers			
A1	<p>The number of car parking spaces must not be less than the requirements of:</p> <ul style="list-style-type: none"> a) Table E6.1; or b) a parking precinct plan. 	Two existing parking spaces will be retained with the existing dwelling. There is sufficient space on Lot 2 to accommodate the parking required for a single dwelling.	Complies

Performance Criteria

Low Density Residential Zone
12.4.3.1 General Suitability
<p>Objective</p> <p><i>The division and consolidation of estates and interests in land is to create lots that are consistent with the purpose of the Low Density Residential Zone.</i></p>

Performance Criteria P1

Each new lot on a plan must be suitable for use and development in an arrangement that is consistent with the Zone Purpose, having regard to the combination of:

- a) slope, shape, orientation and topography of land;*
- b) any established pattern of use and development;*
- c) connection to the road network;*
- d) availability of or likely requirements for utilities;*
- e) any requirement to protect ecological, scientific, historic, cultural or aesthetic values; and*
- f) potential exposure to natural hazards.*

Comment:

In this instance the Zone Purpose has been directly incorporated in the Performance Criteria and elevates the Zone Purpose to a standard that must be satisfied by the proposed development.

The purpose of the Low Density Residential Zone is:

- 12.1.1.1 To provide for residential use or development on larger lots in residential areas where there are infrastructure or environmental constraints that limit development.
- 12.1.1.2 To provide for non-residential uses that is compatible with residential amenity.
- 12.1.1.3 To ensure that development respects the natural and conservation values of the land and is designed to mitigate any visual impacts of development on public views.

Performance Criteria P1 requires that the subdivision is consistent with the Zone Purpose by providing larger lots for residential development where services are limited. Considering that a more specific standard addresses lot size in the zone (Clause 12.4.3.2 below), in this context “larger lots” is taken to relate to the size of lots typically provided in other zones, such as the General Residential Zone or Village Zone where much higher densities prevail.

With an area of 4000m² and 5700m² the proposed lots are substantially larger than the average residential lots that are typically found within residential zones that specifically support higher densities, such as the

General Residential Zone or Village Zone. Lots within the Westbury General Residential Zone, range between 700m² and 1500m². Both lots are also considered to be of sufficient size to accommodate on site wastewater treatment and stormwater management (see assessment below).

Council could consider conditioning the application to increase the size of Lot 1 to 4700m², making it larger. However, the benefits of doing this are marginal, as the overall density of dwellings and the visual appearance of the site would not be distinguishable from that resulting from the current proposal.

The development does not propose a non-residential use. Both lots are intended to be used for residential purposes.

The land has not been identified as having significant natural or conservation values. The visual impact of the subdivision alone will not significantly alter public views. Development facilitated by the subdivision will be considered if/when an application for additional development is made. It is noted that development of a dwelling on the proposed title will not compromise views from the public road. The area is characterised by clusters of development, comprising dwellings in relatively close proximity or dwellings and associated outbuildings. Proposed Lot 2 is partially screened behind the existing developed lot at 61 Veterans Row and development of the land for residential proposes will not significantly alter public views.

The slope, orientation, topography, established pattern of development, servicing, site values and natural hazards do not undermine the ability of the proposal to comply with the Zone Purpose.

The proposal is considered to be consistent with the purpose. The lots are relatively large, much larger than the average residential lots that are typically found within other residential zones that allow for higher lot densities such as the General Residential Zone or Village Zone. Both lots will have sufficient area to accommodate on-site services.

12.4.3.2 Lot Area, Building Envelopes and Frontage

Objective

To ensure:

- a) the area and dimensions of lots are appropriate for the zone; and*
- b) the conservation of natural values, vegetation and faunal habitats;*

- and*
- c) the design of subdivision protects adjoining subdivision from adverse impacts; and*
- d) each lot has road, access, and utility services appropriate for the zone.*

Performance Criteria P1

Each lot for residential use must provide sufficient useable area and dimensions to allow for:

- a) a dwelling to be erected in a convenient and hazard free location; and*
- b) on-site parking and manoeuvrability; and*
- c) adequate private open space; and*
- d) reasonable vehicular access from the carriageway of the road to a building area on the lot, if any; and*
- e) development that would not adversely affect the amenity of, or be out of character with, surrounding development and the streetscape.*
- f) additional lots must not be located within the Low Density Residential Zone at Hadspen, Pumicestone Ridge or Travellers Rest.*

Comment:

Proposed Lot 1 is less than 5000m² in area. Proposed Lot 2 does not have a 35m diameter circle within 35m of the frontage.

Both lots are of sufficient dimensions to allow a dwelling to be erected in a convenient and hazard free location. Although less than 5000m² in area, Lot 1 contains an existing single dwelling, wastewater treatment system, parking, private open space and associated outbuildings. More than 50% of the lot will remain free from development and the lot has not been identified as being subject to any significant hazard which would require additional space to address.

The new boundaries do not compromise the private open space or parking areas associated with the existing dwelling. Lot 1 maintains a flat, fenced yard in close proximity to the dwelling with an area greater than 400m², in addition to more than 3000m² of undeveloped land suitable for relaxation and recreation. The dwelling includes an existing garage and sufficient room for two (2) parking spaces

Lot 2 is an internal lot with a building area more than 35m from the frontage, however, this building area is larger than 5000m² with a minimum dimension of 68.18m. This is sufficient to provide a convenient and hazard free location for the erection of a dwelling, and ample opportunity for the

provision of private open space, parking and manoeuvring compliant with the Acceptable Solutions of the Planning Scheme.

Both lots are provided with reasonable vehicle access. The driveway for Lot 1 is immediately adjacent to the dwelling. The access handle for Lot 2 is 10m in width and crosses relatively flat ground, free of hazards. The width is sufficient to accommodate a standard 4m wide all weather access. A new driveway crossover to Council standards will be required onto Veterans Row.

The development of the lots will not adversely affect the amenity of the area or be out of character with surrounding development or the streetscape. The nearest dwelling, 76 Suburb Road, is 45m from the south boundary of proposed Lot 2, with a fenced private open space area approximately 34m away. This separation is considered sufficient to ensure the reasonable privacy and amenity of the neighbouring dwelling and associated private open space. A similar setback will be maintained between the existing dwelling on proposed Lot 1 and the west boundary of the vacant Lot 2. It is likely that separation will be greater once the setbacks and bushfire requirements for a new dwelling are taken into consideration.

Similar separation distances can be observed between other dwellings in the surrounding area (further detailed in the attached documents).



Figure 3: separation distances between the proposed Lot 2 (blue) and existing dwellings at 61 Veterans Row and 76 Suburb Road; along with that of other dwellings in the area



Figure 4: separation between 201 and 202 Veterans Row



Figure 5: separation distance between 251 Marriot Street, 200 Pensioners Row and 202 Pensioners Row

As such the proposed lots allow for development which will preserve a similar degree of amenity to other dwellings in the area.

The proposed lots allow for development which is in keeping with the

character of other developments in the area. Residential lots in this area generally comprise large detached dwellings. While the area does have a regular scatter of older character dwellings, they are outnumbered more than 2:1 by much newer, larger dwellings. Due to the flat topography dwellings are prominent in the landscape and rarely fully screened from view. Dwellings are rarely located in isolation and are often within a development cluster, including outbuildings or close to other dwellings. The flat topography increases the visibility of dwellings which do not front Veterans Row, increasing the clustered appearance.

The setbacks of dwellings from Veterans row, varies significantly. The neighbouring dwelling to the south, 76 Suburb Road, is more than 100m from its primary frontage on Veterans Row. The neighbouring dwelling to the north, 16 Allotment Parade, is also approximately 100m from the Veterans Row frontage. 92 Ritchie Street is more than 214m from its Veterans Row Frontage. The dwellings at 61 Veterans Row and 193 Veterans Row are both located less than 6m from the frontage. Although the internal nature of the lot will result in a dwelling located more than 35m from the frontage, this is consistent with the scattered pattern of development and the high variation of setbacks from Veterans Row.

In most instances, the older character dwellings are located close to the road frontage, with larger, newer dwellings often exhibiting a greater setback from the road. This pattern is replicated in the proposed subdivision, with the existing cottage located close to the frontage and the development area on the vacant lot being more than 68m from the frontage. A new dwelling, with a significant setback from the frontage, is not considered to be out of character with the existing pattern of development.

The development of the new lot will not adversely impact the streetscape. Due to the flat topography dwellings are highly visible in the landscape and tend to have a clustered appearance when viewed from public roads in the area. Outbuildings are also a prolific feature of this area and increase the presence of buildings within the streetscape. A new dwelling on the proposed vacant lot will not be out of place in the streetscape, given the high mix of modern and heritage style dwellings.

It is also noted that the application is for subdivision only. Further assessment of impacts on amenity and character will be assessed when/if an application for development is submitted on the lots.

The proposed development is consistent with the objective and provides lots which are appropriate for the zone, having regard to the area and dimensions, servicing and impact on local amenity.

Performance Criteria P3

Lots that are not provided with reticulated water and sewerage services must be:

- a) in a locality for which reticulated services are not available or capable of being connected; and*
- b) capable of accommodating an on-site wastewater management system.*

Comment:

The subject land is in an area of Westbury where sewer and water services are not available.

The application includes a wastewater assessment prepared by a suitably qualified person, demonstrating that the proposed Lot 2 has sufficient area to accommodate an on-site wastewater treatment system. Lot 1 has an existing, functioning wastewater system in place. Council's Environmental Health Officer's consider the new boundaries are sufficient distance from the dwelling that they will not interfere with the function of the existing system.

The proposal is consistent with the objective and each lot is capable of being serviced to a level appropriate to the zone.

Performance Criteria P4

Each lot must be capable of disposal of stormwater to a legal discharge point.

Comment:

The subject lots are of sufficient size that they will be able to accommodate an on-site method of stormwater disposal. Stormwater from the exiting dwelling is directed to tanks and then discharged to the public drain on Veterans Row.

It is also noted the land falls toward Veterans Row and the 10m wide access handle for Lot 2 is sufficient width to accommodate a drain connecting to the public drain, as well as a driveway. The existing stormwater network in this area has sufficient capacity to accommodate additional stormwater concentrated by a single dwelling.

The proposal is consistent with the objective and each lot is capable of being serviced to a level appropriate to the zone.

Representations

Five (5) representations were received during the advertising period (see attached documents). One of the representations is in the form of a petition with 69 additional names, however not all names include a signature. The representation states:

I/We object to the subdivision of land at 61 Veterans Row, Westbury, Tasmania, 7303, for the prospect of building purposes.

No specific planning matters are raised by the petition.

A summary of the concerns raised in the representations is as follows:

- The density of dwellings not in keeping with the character of the area;
- The development will impact the heritage values of the area;
- Impact of development on the road network;
- Management of stormwater and wastewater;
- Impact of further subdivision on surrounding primary industry activities and impacts on neighbouring businesses;
- Internal lot not in character with the area; and
- Property values.

Comment:

Density

Proposed Lot 1 does not comply with the Acceptable Solutions for lot size. However it is considered to comply with the corresponding Performance Criteria (see assessment above) and provides sufficient usable area to accommodate and service a dwelling, in keeping with the character of the streetscape and surrounding developments, without compromising the amenity of neighbouring dwellings.

From the ground and neighbouring properties, the proposed titles will not be distinguishable from a title that complies with the Acceptable Solution. Council could consider placing a condition on the planning permit to bring the lot sizes closer to 5000m², resulting in a 4700m² lot and a 5000m² lot, however there is no obvious benefit of doing so as the density of dwellings would not vary.

Given the relatively small deviation of the proposal from the Acceptable Solution of 5000m², the broad objection from the community to this

proposal appears to imply a more general objection to lots of this approximate size.

Heritage

The subject title is not on the Tasmanian Heritage Register and is not subject to the Heritage Code in the Meander Valley Interim Planning Scheme 2013. In 2006 Council undertook a Heritage Study for the entire municipality to identify properties and buildings with sufficient heritage significance to warrant listing on the State Heritage Register or a local register to be regulated through the planning scheme. The subject property was not identified in this study as having any significant local or State heritage value.

Impact on Road Network

The proposed development will not impact the road network. No changes are proposed to the road. A new access will be installed for the additional lot, however it will not impact the safety and efficiency of the road network and the additional volumes of traffic generated by a new residential lot are not significant enough to warrant any alterations to the road.

Management of Wastewater and Stormwater

Wastewater and stormwater management have been considered in the assessment above. It is considered that the lots are of sufficient size that a wastewater management system suitable for the specific soil conditions of the site can be accommodated. The area of the proposed vacant lot is also considered to be sufficient to manage stormwater onsite and is capable of connecting to the roadside drainage system if it is considered to be necessary by a plumbing surveyor assessing any future development.

Internal Lot

Although apparent on an aerial photograph or cadastral plan, an internal lot in this area will have minimal impact on the character of the area experienced on location, due to the range of setbacks exhibited by dwellings in relation to Veterans Row and the prevalence of dwellings and other buildings in the landscape (see assessment above).

The creation of a new access handle at the Veterans Row frontage will have minimal impact on the street scape and is not considered to be any different from any other dwelling with a long driveway.

Property Values

Property values are not a planning matter and cannot be considered as part of this assessment.

Impact on Primary Industry

The Low Density Residential Zone is specifically designed to protect and accommodate residential forms of use and development. Resource development uses are not protected in this zone and new resource development uses are prohibited by the planning scheme. The standards applicable to subdivision do not require consideration of these types of uses.

Response by the applicant

The landowner has submitted a response to the representations addressing some of the concerns raised in the representations. It is incorrectly stated that lots in this area will be able to subdivide down to 1500m². Although the public consultation and hearings associated with Meander Valley's version of the State Planning Scheme have not been undertaken, it is currently proposed that this area of Westbury be located in a Specific Area Plan, which maintains the 5000m² Acceptable Solution for lot size.

This 5000m² lot size is consistent with the current provisions for this zone and will continue to offer significant opportunity to subdivide in this area, despite the current prevalence of the original 2ha lots.

Conclusion

In conclusion, it is considered that the application for Use and Development for subdivision (2 lots) for land located at 61 Veterans Row, Westbury complies with the applicable standards of the planning scheme and should be approved.

AUTHOR: Justin Simons
TOWN PLANNER

12) Recommendation

That the application for Use and Development for Subdivision (2 lots) on land located at 61 Veterans Row, Westbury (CT: 248138\1) by D J McCulloch Surveying , requiring the following discretions:

- 12.4.3.1 General Suitability
- 12.4.3.2 Lot Area, Building Envelopes and Frontage
- 12.4.3.2 Not Connected to Reticulated Water, Sewerage or Stormwater

be APPROVED, generally in accordance with the endorsed plans:

- a) D J McCulloch Surveying – Job Number 1362-1838, Plan number 3818-01DA, dated 5 June 2018;***
- b) Rebecca Green & Associates – Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan – dated 24 June 2018;***

and subject to the following conditions:

- 1. Covenants or similar restrictive controls must not be included on or otherwise imposed on the titles to the lots created by the subdivision, permitted by this permit unless:**
 - a) Such covenants or controls are expressly authorised by the terms of this permit; or**
 - b) Such covenants or similar controls are expressly authorised by the consent in writing of Council.**
 - c) Such covenants or similar controls are submitted for and receive written approval by Council prior to submission of a Plan of Survey and associated title documentation is submitted to Council for sealing.**
- 2. The vehicular crossover servicing proposed Lot 2 must be constructed and sealed in accordance with LGAT standard drawing TSD-R03-V1 and TSD-R04-V1 (attached) and to the satisfaction of Council's Director Infrastructure Services.**
- 3. Prior to the sealing of the final plan of survey, the following must be completed to the satisfaction of Council:**
 - a) The driveway crossover is to be completed, as per Condition 2.**
 - b) The developer must pay to Council \$2,348.00, a sum equivalent to 5% of the unimproved value of the newly created lot, as a Public Open Space contribution.**
- 4. The development must be in accordance with the Submission to Planning Authority Notice issued by TasWater (TWDA 2018/01105 - MVC attached).**

Note:

- 1. Separate consent is required from Council acting at the Road Authority for any works within the road reserve. Prior to the commencement of any works within the road reserve, including**

the approved driveway crossover, a completed Application for Works in the Road Reservation form (attached) must be completed and returned to Council.

- 2. Any other proposed development and/or use, including amendments to this proposal, may require a separate planning application and assessment against the Planning Scheme by Council. All enquiries can be directed to Council's Community and Development Services on 6393 5320 or via email: mail@mvc.tas.gov.au.**
3. This permit takes effect after:
 - a) The 14 day appeal period expires; or
 - b) Any appeal to the Resource Management and Planning Appeal Tribunal is abandoned or determined; or.
 - c) Any other required approvals under this or any other Act are granted.
4. A planning appeal may be instituted by lodging a notice of appeal with the Registrar of the Resource Management and Planning Appeal Tribunal. A planning appeal may be instituted within 14 days of the date the Corporation serves notice of the decision on the applicant. For more information see the Resource Management and Planning Appeal Tribunal website www.rmpat.tas.gov.au.
5. If an applicant is the only person with a right of appeal pursuant to section 61 of the Land Use Planning and Approvals Act 1993 and wishes to commence the use or development for which the permit has been granted within that 14 day period, the Council must be so notified in writing. A copy of Council's Notice to Waive Right of Appeal is attached.
6. This permit is valid for two (2) years only from the date of approval and will thereafter lapse if the development is not substantially commenced. An extension may be granted if a request is received.
7. In accordance with the legislation, all permits issued by the permit authority are public documents. Members of the public will be able to view this permit (which includes the endorsed documents) on request, at the Council Office.
8. If any Aboriginal relics are uncovered during works;

- a) All works are to cease within a delineated area sufficient to protect the unearthed and other possible relics from destruction,
- b) The presence of a relic is to be reported to Aboriginal Heritage Tasmania Phone: (03) 6233 6613 or 1300 135 513 (ask for Aboriginal Heritage Tasmania Fax: (03) 6233 5555 Email: aboriginal@heritage.tas.gov.au); and
- c) The relevant approval processes will apply with state and federal government agencies.

DECISION:

APPLICATION FORM

PLANNING

- Application form & details MUST be completed **IN FULL**.
- Incomplete forms will not be accepted and may delay processing and issue of any Permits.

Index No.	14652
Doc No.	
RCVD	28 JUN 2018 MVC
Action Officer	SS
Dept.	COS
EP	
OD	✓

OFFICE USE ONLY

Property No:	14652	Assessment No:	50 - 3900 - 0160
DA\	18/0395	PA\	18/0256

- Is your application the result of an illegal building work? ☐ Yes ☒ No Indicate by ✓ box
- Is a new vehicle access or crossover required? ☒ Yes ☐ No

PROPERTY DETAILS:

Address:	61 VETERANS ROW	Certificate of Title:	248138
Suburb:	WESTBURY	Lot No:	1
Land area:	9700	m ² / ha	
Present use of land/building:	Residential	(vacant, residential, rural, industrial, commercial or forestry)	

Does the application involve Crown Land or Private access via a Crown Access Licence: ☐ Yes ☒ No

Heritage Listed Property: ☐ Yes ☒ No

DETAILS OF USE OR DEVELOPMENT:

- Indicate by ✓ box
- | | | |
|--|--|---|
| <input type="checkbox"/> Building work | <input type="checkbox"/> Change of use | <input checked="" type="checkbox"/> Subdivision |
| <input type="checkbox"/> Forestry | <input type="checkbox"/> Demolition | |
| <input type="checkbox"/> Other | | |

Total cost of development (inclusive of GST): \$ Includes total cost of building work, landscaping, road works and infrastructure

Description of work:

Use of building: (main use of proposed building – dwelling, garage, farm building, factory, office, shop)

New floor area: m² New building height: m

Materials: External walls: Colour:
Roof cladding: Colour:

SEARCH OF TORRENS TITLE

VOLUME 248138	FOLIO 1
EDITION 6	DATE OF ISSUE 14-May-2018

SEARCH DATE : 27-Jun-2018

SEARCH TIME : 07.56 PM

DESCRIPTION OF LAND

Town of WESTBURY

Lot 1 on Plan 248138

Derivation : Parts of Lot 61 Sec D.10 Gtd to MA Leary.

Prior CT 2828/16

SCHEDULE 1

M690038 TRANSFER to PETER LOUIS GROSS and JUDITH RAE GROSS
Registered 14-May-2018 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

248138

ORIGINAL - NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1002

TASMANIA

REAL PROPERTY ACT, 1962, as amended

NOTE - REGISTERED FOR OFFICE
CONVENIENCE TO REPLACE



CERTIFICATE OF TITLE

Register Book

Vol. Fol.

Cert. of Title Vol. 1028 Fol. 56

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

M. H. Muir
Recorder of Titles.



DESCRIPTION OF LAND

TOWN OF WESTBURY
TWO ACRES ONE HUNDRED TWENTY THREE PERCHES AND ONE HALF OF A PERCH and
FOUR TENTHS OF A PERCH on the Plan hereon

FIRST SCHEDULE (continued overleaf)

JAMES KENNETH RYAN of Parkham, Pensioner

SECOND SCHEDULE (continued overleaf)

N11

19 JUN 1995

466'8 1/4"

A. 2. R. 1. B. 23 1/2

466'8 1/4"

E. H. Holland & An^o Om.

SUBURB ROAD

Parts of Lot 61 Section D. 10 Gtd. to M.A. Leary - Meas. in Pt. & Ins.

FIRST Edition, Registered 2001 1970

Derived from C.T. Vol. 1028 Fol. 56 - Transfer A177296 H.S. Muir

Lot 1.2 of this plan consists of all the
land comprised in the above-mentioned
cancelled folio of the Register.

REGISTERED NUMBER

248138

NOT

VETERANS ROW

Lot 61

223'8 1/4"

223'5 1/4"

10'2 1/4"

425'2 1/4"

425'2 1/4"

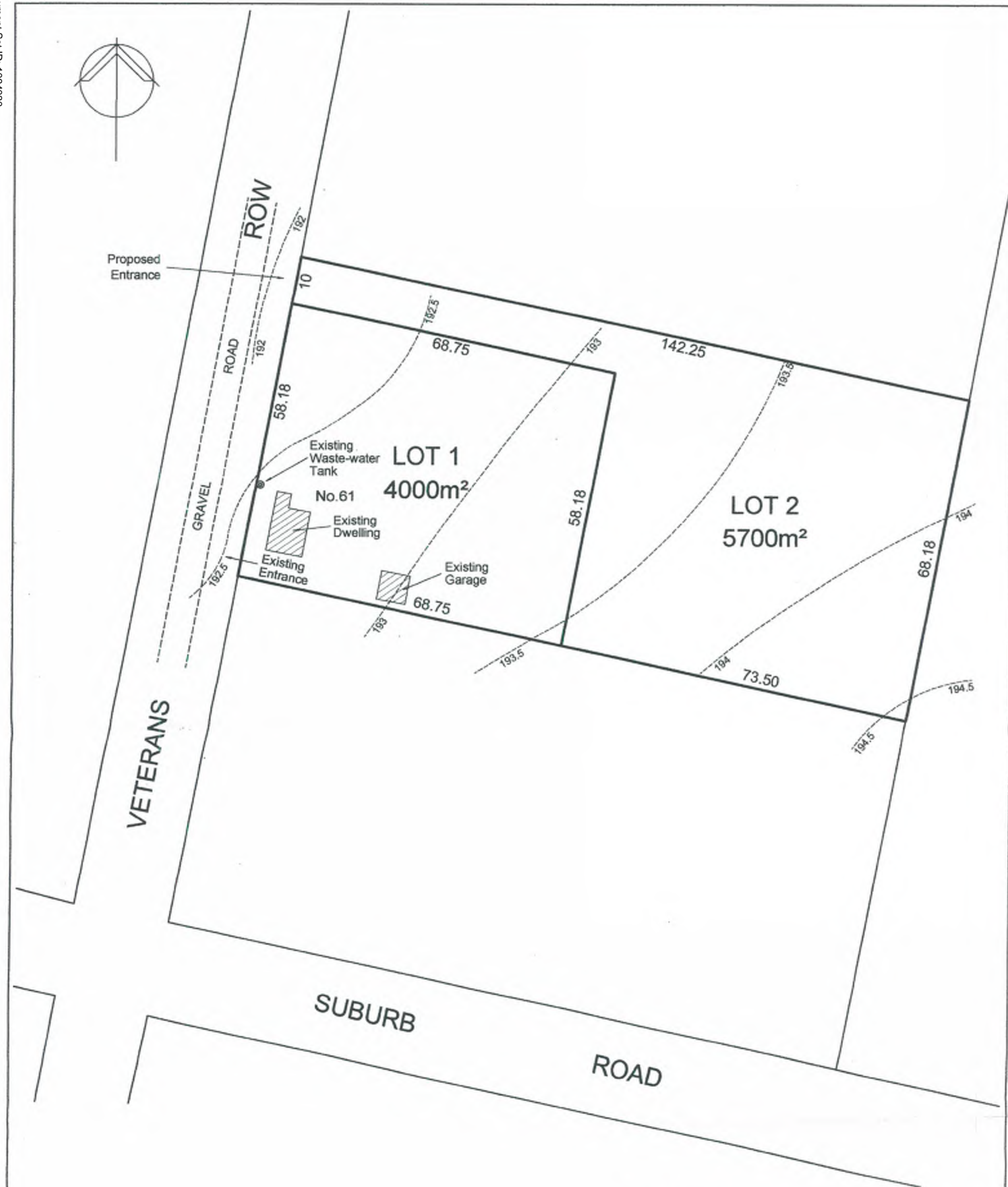
425'2 1/4"

425'2 1/4"

425'2 1/4"

425'2 1/4"

425'2 1/4"



NOTES

ALL STORMWATER DRAINAGE TO BE DIRECTED TO EXISTING TABLE DRAIN IN VETERANS ROW
CONTOUR VALUES ARE AUSTRALIAN HEIGHT DATUM
ALL DIMENSIONS ARE SUBJECT TO FINAL TITLE SURVEY DETERMINATION

D.J.McCULLOCH Surveying
AUTHORISED LAND, ENGINEERING & MINING SURVEYORS
PO BOX 725 RIVERSIDE TAS 7250
PHONE 03 63271394 MOBILE 0417526589
EMAIL: - mccoildj@bigpond.net.au

PROPOSED SUBDIVISION
61 Veterans Row, Westbury
Peter & Judith Gross Owners
Title Reference F/R 248138/1 PID 7016566
Development Application for Planning Permit
Meander Valley Council

SCALE 1:750 (A3)

Job No. 1362-1838

05/06/2018

Registered Land Surveyor Date

Plan Number
3818-01 DA

This plan has been prepared as a proposed subdivision plan to accompany an application to Council for Planning Approval and it should not be used for any other purpose. The dimensions, areas, boundary positions and number of lots are subject to final survey and also to the requirements of Council and any other authority acting under any relevant legislation. In particular no reliance should be placed on the information shown on this plan for any legal or financial dealings involving the subject or adjoining lands. This note is an integral part of this plan.



Meander Valley Council

W O R K I N G T O G E T H E R

Public Open Space contribution

In accordance with Clause E10.0 of the Meander Valley Interim Planning Scheme 2013 the General Manager gives consent that no land is required for public open space but instead there is to be a cash payment in lieu for PA\18\0256 Subdivision (2 lots) at 61 Veterans Row, Westbury CT 248138\1

Signed:

Martin Gill
GENERAL MANAGER

4 July 2018

D.J. McCulloch Surveying

AUTHORISED LAND, ENGINEERING & MINING SURVEYORS

A.B.N. 36 400 870 790

Dallas McCulloch, M.I.S.(Tas) M.I.S.(Vic.) M.S.S.I
Registered Land Surveyor (Tas.)



P.O. BOX 725

148 West Tamar Road
RIVERSIDE, TAS, 7250

Phone (03) 63271394

Mobile 0417 526589

Facsimile (03) 63272934

mcculldj@bigpond.net.au

Your ref :

3818GL1MVC

Our ref :

27 June, 2018

The Manager
Meander Valley Council
PO Box 102,
Westbury
Tas. 7303

Dear Sir,

**Re: - Proposed Development – Subdivision
61 Veterans Row, Westbury
Peter & Judith Gross owners**

Please find enclosed herewith, for Councils' consideration:

- Subdivision proposal plan 3818-01 DA
- Our planning report
- The completed Development Application Form
- Copy of the subject title and title plans
- Bushfire Hazard Assessment Report by Rececca Green & Associated
- On-site Wastewater Disposal Report by Geoton P/L

Please invoice us by email for the amount of the required planning fees and to request any other information that you may require.

Do not hesitate to contact us to arrange a meeting with your planning staff to discuss any issues in respect of this submission.

Yours sincerely,

Dallas McCulloch

D.J.McCulloch Surveying
Consulting Land & Engineering Surveyors

P.O.BOX 725 Riverside,
TAS, 7250

148 West Tamar Road Riverside,
TAS, 7250

Phone:---03 63271394

Mobile:-- 0417 526589

Facsimile :- 63272934

Wednesday 27th June 2018

Planning Report

Proposed Subdivision

Land at 61 Veterans Row, Westbury

Peter & Judith Gross owners

Planning Authority: - Meander Valley Council

Planning Scheme: - Meander Valley Interim Planning Scheme 2013

The Proposed Subdivision

It is proposed to subdivide the existing 9,700 square metre title to create 1 new low density residential title (Lot 2) and the balance of title (Lot 1).

Lot 1 includes the existing dwelling & outbuildings at No.61 Veterans Row, Westbury

No change in use of the existing buildings at No. 61 Veterans Row is proposed by this development application.

Zoning

The whole of the parent title is zoned Low Density Residential under the provisions of the Meander Valley Interim Planning Scheme 2013

Easements

No easements burden or benefit the parent title. No new easements are proposed by this development application.

**Compliance with the Development Requirements and
Standards for Development in the Low Density Residential**

12.4.3 SUBDIVISION

12.4.3.1 General Suitability

Each lot in the proposed subdivision is suitable for use and development that is consistent with the Zone Purpose having made due regard to criteria a) to f) listed in the Performance Criteria P1.

12.4.3.2 Lot Area, Building Envelopes and Frontage

Each lot in the proposed subdivision provides for:

- a) Provides area and dimensions that are appropriate for the zone.
- b) Ensures the conservation of natural values, vegetation and fauna habitats.
- c) The design of the subdivision does not adversely impact any adjoining subdivision.
- d) Each lot has road access and utility services appropriate for the zone.

A1 Acceptable Solutions

- a) Proposed Lot 1 does not have the required minimum area of 5000m².
- b) Proposed Lot 2 cannot contain a 35 metre diameter circle that has its centre not more than 35 metres from the frontage.
- c) All new boundaries satisfy the relevant acceptable solutions for setbacks from existing buildings.

P1 Performance Criteria

Each lot is for residential purposes and sufficient area and dimensions have been provided to allow for satisfaction of items a), b), c), d) & (e) of the performance criteria.

A2 Acceptable Solution Each lot has a frontage of at least 4 metres.

A3, A4 Acceptable Solution Reticulated water, sewerage & stormwater services are not available.

P3 Performance Criteria

- a) the proposed lots are in a locality where reticulated services are not available or capable of being connected.
- b) The proposed lots are capable of accommodating an on-site wastewater management system. A wastewater disposal evaluation by Geoton P/L has been undertaken and is included with the development application documentation.

P4 Performance Criteria

Each lot is capable of disposing of stormwater to existing roadside table drains in Veterans Row.

General

The proposed development complies with the objectives of the Meander Valley Interim Planning Scheme 2013 and satisfies the purposes of the Low Density Residential Zone thereof.



Dallas McCulloch

27th June 2018.

26 June 2018

Reference No. GL18272Ab

D J McCulloch Surveying
PO Box 725
RIVERSIDE TAS 7250

Attention: Mr Dallas McCulloch

Dear Sir

**RE: Preliminary On-site Wastewater Disposal Evaluation
61 Veterans Row, Westbury**

We have pleasure in submitting herein our report detailing the results of a preliminary on-site wastewater disposal evaluation conducted at the above site.

Should you require clarification of any aspect of this report, please contact Brett Street or the undersigned on 03 6326 5001.

For and on behalf of

Geoton Pty Ltd



Tony Barriera

Director

1 INTRODUCTION

At the request of Mr Dallas McCulloch of D J McCulloch Surveying, Geoton Pty Ltd has carried out a limited scope investigation at the site of a proposed 2 lot residential subdivision at 61 Veterans Row, Westbury.

We understand that the proposed subdivision of the property will allocate all existing structures on the site to be contained within Lot 1 with the new proposed Lot 2 being the vacant balance.

The investigation is to determine if the proposed new vacant lot to be subdivided can support an on-site wastewater disposal system (in accordance with AS/NZS 1547:2012 "On-site domestic-wastewater management") for the purposes of subdivision approval.

It should be noted that this is a preliminary assessment for subdivision approval and that a site-specific assessment for the proposed new Lot 2 will be required by the developer/owner once the actual location and size of residential development is known.

A preliminary site plan was provided by D.J McCulloch Surveying (Plan Number 3818-01 DA, dated June 2018) showing the lot layout.

2 FIELD INVESTIGATION

The field investigation was conducted on 22 June 2018 and involved the drilling of 2 boreholes by 4WD mounted auger rig to the investigated depths of 2.0m. In addition, the permeability of the site was tested using a Constant Head Permeameter.

The logs of the boreholes are included in Appendix A and their locations are shown on Figure 1 attached.

3 SITE CONDITIONS

Proposed Lot 1 is currently developed with an existing dwelling, shed and gardens. The existing wastewater disposal area is located to the west of the existing dwelling.

Proposed vacant new Lot 2 is approximately 5700m² in size and is located within the eastern rear half of the site. The site is generally near level vacant paddocks with a low to medium grass cover.

The MRT Digital Geological Atlas 1:25,000 Series, indicates that the site is located on Tertiary aged sediments with this being generally confirmed by our field investigation.

Examination of the LIST Landslide Planning Map, indicates that the site is not mapped within a known landslide hazard band.

The investigation indicated that the soil profile is relatively uniform across the area assessed at the site. The boreholes generally encountered a clayey silt topsoil to depths of 0.15m and 0.3m, overlying clayey silt to the depths of 0.3m and 0.45m, underlain by high plasticity silty clay to the investigated depths of 2.0m.

The boreholes did not reveal any signs of seepage over the investigated depths.

Full details of the soil conditions encountered are presented on the borehole logs.

4 EFFLUENT DISPOSAL

4.1 Permeability of Soil and Soil Classification

The soil has been classified as follows:

- Texture – Heavy clay (Table E1 from AS1547-2012);
- Structure – Massive (Table E4 from AS/NZS1547-2012); and
- Category – 6 (Table E1 from AS/NZS1547:2012).

The permeability (K_{sat}) at the site was measured at 0.01m/day. For massive structured Category 6 soils the indicative permeability from AS1547 Table L1 is <0.06m/day. Therefore, the permeability is within the range for massive structured Category 6 soils.

- Adopted Permeability – 0.01m/day.

4.2 Disposal and Treatment Method

The soil within the proposed effluent disposal area is assessed as having sufficient depth and clay content to provide an adequate attenuation period for the breakdown of pathogens within the treated effluent.

As the site contains shallow category 6 soils that have a very low permeability primary treated effluent (eg septic tank and absorption trenches) are not suitable for disposal within these soils.

Therefore, provided the setback distances are adhered to, this site assessment indicates that the vacant Lot 2 is suitable for the disposal of secondary treated effluent by way of the following methods:

- Mounded Advanced Enviro-Septic (AES) system;
- Mounded Eljen Geotextile Sand Filter; or
- Aerated Wastewater Treatment System (AWTS) and sub-surface irrigation.

4.3 Setbacks

The minimum separation distance between the disposal area and downslope features is based on Appendix R from AS/NZS 1547:2012 "Recommended Setback Distances for Land Application Systems". As per Table R1 from AS/NZS 1547:2012 the following setbacks are required for secondary treated effluent:

- 15.0m from downslope sensitive features such as watercourses;
- 3.0m from downslope property boundaries and buildings;
- 1.5m from property boundaries situated cross slope or up-slope.

4.4 Examples of Minimum System Requirements

Based on the above setbacks the disposal area available for Lot 2 to support an on-site wastewater disposal is 4,320m², less the area required for the building and building setbacks.

Preliminary On-site Wastewater Disposal Evaluation

4.4.1 Advanced Enviro-Septic (AES) Systems

Based on the site conditions of the assessed area, about 420m² (210m² for the pipes and basal area, in addition to 210m² as a backup area) would be required for a septic tank and AES system to support a standard 4 bedroom dwelling within the assessed area of the site.

4.4.2 Eljen Geotextile Sand Filter System

Based on the site conditions of the assessed area, about 420m² (210m² for the bio-matt and basal area, in addition to 210m² as a backup area) would be required for a septic tank and AES system to support a standard 4 bedroom dwelling within the assessed area of the site.

4.4.3 Aerated Wastewater Treatment System (AWTS)

About 1050m² (525m² for the effluent disposal area and 525m² as a backup area) would be required for an AWTS and sub-surface irrigation system to support a standard 4 bedroom dwelling within the assessed area of the site.

5 CONCLUSIONS

The results of the investigation indicate that the proposed new Lot 2 has sufficient available area suitable for the disposal of domestic effluent by way of secondary treated wastewater via an advanced enviro-septic, eljen geotextile or aerated wastewater treatment system, including sufficient reserve area.

References:

AS/NZS 1547- 2012 On-site domestic-wastewater management

Attachments:

Limitations of report

Figure 1 – Site Plan

Appendix A – Borehole Logs & Explanation Sheets

Geotechnical Consultants - Limitations of report

These notes have been prepared to assist in the interpretation and understanding of the limitations of this report.

Project specific criteria

The report has been developed on the basis of unique project specific requirements as understood by Geoton and applies only to the site investigated. Project criteria are typically identified in the Client brief and the associated proposal prepared by Geoton and may include risk factors arising from limitations on scope imposed by the Client. The report should not be used without further consultation if significant changes to the project occur. No responsibility for problems that might occur due to changed factors will be accepted without consultation.

Subsurface variations with time

Because a report is based on conditions which existed at the time of subsurface exploration, decisions should not be based on a report whose adequacy may have been affected by time. For example, water levels can vary with time, fill may be placed on a site and pollutants may migrate with time. In the event of significant delays in the commencement of a project, further advice should be sought.

Interpretation of factual data

Site assessment identifies actual subsurface conditions only at those points where samples are taken and at the time they are taken. All available data is interpreted by professionals to provide an opinion about overall site conditions, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist, as it is virtually impossible to provide a definitive subsurface profile which includes all the possible variabilities inherent in soil and rock masses.

Report Recommendations

The report is based on the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until earthworks and/or foundation construction is almost complete and therefore the report recommendations can only be regarded as preliminary. Where variations in conditions are encountered, further advice should be sought.

Specific purposes

This report should not be applied to any project other than that originally specified at the time the report was issued.

Interpretation by others

Geoton will not be responsible for interpretations of site data or the report findings by others involved in the design and construction process. Where any confusion exists, clarification should be sought from Geoton.

Report integrity

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way.

Geoenvironmental issues

This report does not cover issues of site contamination unless specifically required to do so by the client. In the absence of such a request, Geoton take no responsibility for such issues.



Existing Wastewater
Disposal Area

Existing Dwelling




NOTES

SECONDARY TREATED EFFLUENT TO BE SETBACK AS FOLLOWS:
 1) 15m FROM DOWNHILL SENSITIVE FEATURES SUCH AS
 WATER COURSES.
 2) 3m FROM DOWNSLOPE PROPERTY BOUNDARIES AND BUILDINGS.
 3) 1.5m FROM PROPERTY BOUNDARIES SITUATED CROSS OR UP-SLOPE.

Legend

BH 1
 Approximate Borehole Location

 Area available for the disposal of
 secondary treated onsite wastewater
 Approximately 4320m²



GEOTON Pty Ltd				client: D.J.MCCULLOCH SURVEYING			
date	26/06/18	drawn	BS	project:	61 VETERANS ROW WESTBURY		
scale	As Shown	approved	TB	title:	SITE PLAN		
original size	A3	rev	*	project no:	GL18272A	figure no.	1



Plate 1 - Looking east across the site

GEOTON Pty Ltd				client: D.J.MCCULLOCH SURVEYING	
				project: 61 VETERANS ROW WESTBURY	
title: PHOTOGRAPH				project no: GL18272A	figure no. Plate 1
date: 22/06/2018	original size: A4	Meander Valley Council Ordinary Meeting Agenda - 14 August 2018		Page 55	

Appendix A

Borehole Logs

Geotechnical Consultants

PO Box 522 Prospect TAS 7250

Unit 24, 16-18 Goodman Court, Invermay TAS

Tel (03) 6326 5001

Borehole no. BH1

Sheet no. 1 of 1

Job no. GL18272A

Client : D.J McCulloch Surveying	Date : 22/06/18
Project : Preliminary Onsite Wastewater Site Evaluation	Logged By : BS
Location : 61 Veterans Row, Westbury	

Drill model : Drilltech	Easting:	Slope: 90°
Hole diameter : 150mm	Northing:	Bearing: -
		RL Surface :
		Datum :

Method	Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log	Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations
ADV	N				0.25		ML	TOPSOIL - Clayey Silt, medium plasticity, brown with fine grained sand & gravel	M	F	
							MH	CLAYEY SILT - high plasticity, dark brown	M	St	
					0.50		CH	SILTY CLAY - high plasticity, brown	M	St	
					0.75			becoming orange/brown, trace fine gravel			
					1.00						
					1.25			becoming red	M	VSt	
					1.50						
					1.75						
					2.00						
								BH1 terminated @ 2.0m.			
					2.25						

Client :		D.J McCulloch Surveying				Date :		22/06/18	
Project :		Preliminary Onsite Wastewater Site Evaluation				Logged By :		BS	
Location :		61 Veterans Row, Wesbuty							
Drill model :		Drilltech		Easting:		Slope: 90°		RL Surface :	
Hole diameter :		150mm		Northing:		Bearing: -		Datum :	

Method	Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations	
ADV	N					ML	TOPSOIL - Clayey Silt, medium plasticity, brown	M	F		
					0.25	MH	CLAYEY SILT - high plasticity, dark brown	M	St		
					0.50	CH	SILTY CLAY - high plasticity, brown	M	St		
					0.75						
					1.00						
					1.25						
					1.50						
					1.75						
					2.00			becoming grey mottled red/orange	M	VSt	
								BH2 terminated @ 2.0m.			

Investigation Log Explanation Sheet

METHOD – BOREHOLE

TERM	Description
AS	Auger Screwing*
AD	Auger Drilling*
RR	Roller / Tricone
W	Washbore
CT	Cable Tool
HA	Hand Auger
DT	Diatube
B	Blank Bit
V	V Bit
T	TC Bit

* Bit shown by suffix e.g. ADT

METHOD – EXCAVATION

TERM	Description
N	Natural exposure
X	Existing excavation
H	Backhoe bucket
B	Bulldozer blade
R	Ripper
E	Excavator

SUPPORT

TERM	Description
M	Mud
N	Nil
C	Casing
S	Shoring

PENETRATION

1	2	3	4	
				No resistance ranging to Refusal

WATER

Symbol	Description
	Water inflow
	Water outflow
	17/3/08 water on date shown

NOTES, SAMPLES, TESTS

TERM	Description
U ₅₀	Undisturbed sample 50 mm diameter
U ₆₃	Undisturbed sample 63 mm diameter
D	Disturbed sample
N	Standard Penetration Test (SPT)
N*	SPT – sample recovered
N _c	SPT with solid cone
V	Vane Shear
PP	Pocket Penetrometer
P	Pressumeter
B ₈	Bulk sample
E	Environmental Sample
R	Refusal
DCP	Dynamic Cone Penetrometer (blows/100mm)
PL	Plastic Limit
LL	Liquid Limit
LS	Linear Shrinkage

CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION

Based on AS 1726:2017

MOISTURE

TERM	Description
D	Dry
M	Moist
W	Wet

CONSISTENCY/DENSITY INDEX

TERM	Description
VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fr	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	Very dense

Soil Description Explanation Sheet (1 of 2)

DEFINITION

In engineering terms, soil includes every type of uncemented or partially cemented inorganic or organic material found in the ground. In practice, if the material can be remoulded or disintegrated by hand in its field condition or in water it is described as a soil. Other materials are described using rock description terms.

CLASSIFICATION SYMBOL AND SOIL NAME

Soils are described in accordance with the AS 1726: 2017 as shown in the table on Sheet 2.

PARTICLE SIZE DEFINITIONS

NAME	SUBDIVISION	SIZE (mm)
BOULDERS		>200
COBBLES		63 to 200
GRAVEL	Coarse	19 to 63
	Medium	6.7 to 19
	Fine	2.36 to 6.7
SAND	Coarse	0.6 to 2.36
	Medium	0.21 to 0.6
	Fine	0.075 to 0.21
SILT		0.002 to 0.075
CLAY		<0.002

MOISTURE CONDITION

Coarse Grained Soils

Dry Non-cohesive and free running.

Moist Soil feels cool, darkened in colour. Soil tends to stick together.

Wet As for moist but with free water forming when handling.

Fine Grained Soils

Moist, dry of Plastic Limit - $w < PL$

Hard and friable or powdery.

Moist, near Plastic Limit - $w = PL$

Soils can be moulded at a moisture content approximately equal to the plastic limit.

Moist, wet of Plastic Limit - $w > PL$

Soils usually weakened and free water forms on hands when handling.

Wet, near Liquid Limit - $w = LL$

Wet, wet of Liquid Limit - $w > LL$

CONSISTENCY TERMS FOR COHESIVE SOILS

TERM	UNDRAINED STRENGTH s_u (kPa)	FIELD GUIDE
Very Soft	≤ 12	Exudes between the fingers when squeezed in hand
Soft	12 to 25	Can be moulded by light finger pressure
Firm	25 to 50	Can be moulded by strong finger pressure
Stiff	50 to 100	Cannot be moulded by fingers
Very Stiff	100 to 200	Can be indented by thumb nail
Hard	>200	Can be indented with difficulty by thumb nail
Friable	—	Can be easily crumbled or broken into small pieces by hand

RELATIVE DENSITY OF NON-COHESIVE SOILS

TERM	DENSITY INDEX (%)
Very Loose	≤ 15
Loose	15 to 35
Medium Dense	35 to 65
Dense	65 to 85
Very Dense	> 85

DESCRIPTIVE TERMS FOR ACCESSORY SOIL COMPONENTS

DESIGNATION OF COMPONENT	IN COARSE GRAINED SOILS		IN FINE GRAINED SOILS	TERM
	% Fines	% Accessory coarse fraction	% Sand/ gravel	
Minor	≤ 5	≤ 15	≤ 15	Trace
	>5, ≤ 12	>15, ≤ 30	>15, ≤ 30	With
Secondary	>12	>30	>30	Prefix

SOIL STRUCTURE

ZONING		CEMENTING	
Layer	Continuous across the exposure or sample.	Weakly cemented	Easily disaggregated by hand in air or water.
Lens	Discontinuous layer of different material, with lenticular shape.	Moderately cemented	Effort is required to disaggregate the soil by hand in air or water.
Pocket	An irregular inclusion of different material.		

GEOLOGICAL ORIGIN

WEATHERED IN PLACE SOILS

Extremely weathered material	Structure and/or fabric of parent rock material retained and visible.
Residual soil	Structure and/or fabric of parent rock material not retained and visible.

TRANSPORTED SOILS

Aeolian soil	Carried and deposited by wind.
Alluvial soil	Deposited by streams and rivers.
Colluvial soil	Soil and rock debris transported downslope by gravity.
Estuarine soil	Deposited in coastal estuaries, and including sediments carried by inflowing rivers and streams, and tidal currents.
Fill	Man-made deposit. Fill may be significantly more variable between tested locations than naturally occurring soils.
Lacustrine soil	Deposited in freshwater lakes.
Marine soil	Deposited in a marine environment.

Soil Description Explanation Sheet (2 of 2)

SOIL CLASSIFICATION INCLUDING IDENTIFICATION AND DESCRIPTION

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 63 mm and basing fractions on estimated mass)					GROUP SYMBOL	PRIMARY NAME
COARSE GRAINED SOIL More than 65% of soil excluding oversize fraction is larger than 0.075 mm	GRAVEL More than half of coarse fraction is larger than 2.36 mm	CLEAN GRAVEL (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes		GW	GRAVEL
			Predominantly one size or a range of sizes with some intermediate sizes missing		GP	GRAVEL
		GRAVEL WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML and MH below)		GM	SILTY GRAVEL
			Plastic fines (for identification procedures see CL, CI and CH below)		GC	CLAYEY GRAVEL
	SAND More than half of coarse fraction is smaller than 2.36 mm	CLEAN SAND (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate sizes		SW	SAND
			Predominantly one size or a range of sizes with some intermediate sizes missing		SP	SAND
		SAND WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML and MH below)		SM	SILTY SAND
			Plastic fines (for identification procedures see CL, CI and CH below)		SC	CLAYEY SAND
FINE GRAINED SOIL More than 35% of soil excluding oversize fraction is smaller than 0.075 mm	(A 0.075 mm particle is about the smallest particle visible to naked eyes)					
	IDENTIFICATION PROCEDURES ON FRACTIONS <0.075 mm					
		DRY STRENGTH	DILATANCY	TOUGHNESS		
	SILT & CLAY (low to medium plasticity, LL ≤ 50)	None to Low	Slow to Rapid	Low	ML	SILT
		Medium to High	None to Slow	Medium	CL, CI	CLAY
		Low to Medium	Slow	Low	OL	ORGANIC SILT
	SILT & CLAY (high plasticity, LL > 50)	Low to Medium	None to Slow	Low to Medium	MH	SILT
		High to Very High	None	High	CH	CLAY
		Medium to High	None to Very Slow	Low to Medium	OH	ORGANIC CLAY
	Highly Organic Soil	Readily identified by colour, odour, spongy feel and frequently by fibrous texture.			Pt	PEAT

• LL – Liquid Limit

• LL – Liquid Limit.

COMMON DEFECTS IN SOILS

TERM	DEFINITION	DIAGRAM	TERM	DEFINITION	DIAGRAM
PARTING	A surface or crack across which the soil has little or no tensile strength. Parallel or sub parallel to layering (e.g. bedding). May be open or closed.		SOFTENED ZONE	A zone in clayey soil, usually adjacent to a defect in which the soil has a higher moisture content than elsewhere.	
FISSURE	A surface or crack across which the soil has little or no tensile strength, but which is not parallel or sub parallel to layering. May be open or closed. May include desiccation cracks.		TUBE	Tubular cavity. May occur singly or as one of a large number of separate or inter-connected tubes. Walls often coated with clay or strengthened by denser packing of grains. May contain organic matter.	
SHEARED SEAM	Zone in clayey soil with roughly parallel near planar, curved or undulating boundaries containing closely spaced, smooth or slickensided, curved intersecting fissures which divide the mass into lenticular or wedge-shaped blocks.		TUBE CAST	An infilled tube. The infill may be uncemented or weakly cemented soil or have rock properties.	
SHEARED SURFACE	A near planar curved or undulating, smooth, polished or slickensided surface in clayey soil. The polished or slickensided surface indicates that movement (in many cases very little) has occurred along the defect.		INFILLED SEAM	Sheet or wall like body of soil substance or mass with roughly planar to irregular near parallel boundaries which cuts through a soil mass. Formed by infilling of open defects.	

Unable to render file mcculldj.vcf

From: Dallas McCulloch
Sent: 27 Jun 2018 20:21:40 +1000
To: Planning @ Meander Valley Council
Subject: Proposed Subdivision 61 Veterans Row, Westbury - Bushfire Report
Attachments: Bushfire Assessment - 61 Veterans Row Westbury.pdf, mcculldj.vcf

The bushfire hazard assessment is attached

Regards

Dallas McCulloch

D.J.McCulloch Surveying
Registered Land Surveyors
PO Box 725, Riverside
TAS 7250
phone 63271394
mob 0417526589

begin:vcard
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n:McCulloch;Dallas
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email;internet:mcculldj@bigpond.net.au
tel;work:03 63271394
tel;fax:03 63272934
tel;cell:0417 526589
x-mozilla-html:FALSE
version:2.1
end:vcard

Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan

61 Veterans Row, Westbury



Prepared for (Client)

D.J. McCulloch Surveying

PO Box 725

RIVERSIDE TAS 7250

Assessed & Prepared by

Rebecca Green

Senior Planning Consultant & Accredited Bushfire Hazard Assessor

Rebecca Green & Associates

PO Box 2108 LAUNCESTON TAS 7250

Mobile: 0409 284 422

Version 1

24 June 2018

Job No: RGA-B873

Executive Summary

The proposed development at 61 Veterans Row, Westbury, is subject to bushfire threat. A bushfire attack under extreme fire weather conditions is likely to subject buildings at this site to considerable radiant heat, ember attack along with wind and smoke.

The site requires bushfire protection measures to protect the buildings and people that may be on site during a bushfire.

These measures include provision of hazard management areas in close proximity to the buildings, implementation of safe egress routes, establishment of a water supply and construction of buildings as described in AS 3959-2009 Construction of Buildings in Bushfire Prone Areas.

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Schedule 1 – Bushfire Report

1.0 Introduction

The Bushfire Attack Level (BAL) Report and Bushfire Hazard Management Plan (BHMP) has been prepared for submission with a Planning Permit Application under the *Land Use Planning and Approvals Act 1993; Bushfire-Prone Areas Code* and/or a Building Permit Application under the *Building Act 2016 & Regulations 2016*.

The Bushfire Attack Level (BAL) is established taking into account the type and density of vegetation within 100 metres of the proposed building site and the slope of the land; using the simplified method in AS 3959-2009 Construction of Buildings in Bushfire Prone Areas; and includes:

- The type and density of vegetation on the site,
- Relationship of that vegetation to the slope and topography of the land,
- Orientation and predominant fire risk,
- Other features attributing to bushfire risk.

On completion of assessment, a Bushfire Attack Level (BAL) is established which has a direct reference to the construction methods and techniques to be undertaken on the buildings and for the preparation of a Bushfire Hazard Management Plan (BHMP).

1.1 Scope

This report was commissioned to identify the Bushfire Attack Level for the existing property. ALL comment, advice and fire suppression measures are in relation to compliance with *Bushfire-Prone Areas Code* of the Meander Valley Interim Planning Scheme 2013, the Building Code of Australia and Australian Standards, AS 3959-2009, *Construction of buildings in bushfire-prone areas*.

1.2 Limitations

The inspection has been undertaken and report provided on the understanding that:-

1. The report only deals with the potential bushfire risk, all other statutory assessments are outside the scope of this report.
2. The report only identifies the size, volume and status of vegetation at the time the site inspection was undertaken and cannot be relied upon for any future development.
3. Impacts of future development and vegetation growth have not been considered.

No action or reliance is to be placed on this report; other than for which it was commissioned.

1.3 Proposal

The proposal is for the development of a 2 Lot Subdivision.

Lot 1 will have an area of 4000m² and comprise of the existing dwelling, and garage.

Lot 2 will have an area of 5700m² and will be vacant.

2.0 Site Description for Proposal (Bushfire Context)

2.1 Locality Plan



Figure 1: Location Plan of 61 Veterans Row, Westbury

2.2 Site Details

Property Address	61 Veterans Row, Westbury
Certificate of Title	Volume 248138 Folio 1
Owners	Peter Louis Gross and Judith Rae Gross
Existing Use	1 x dwelling and outbuildings
Type of Proposed Work	2 Lot Subdivision
Water Supply	On-site for fire fighting (Lot 2)
Road Access	Veterans Row

3.0 Bushfire Site Assessment

3.1 Vegetation Analysis

3.1.1 TasVeg Classification

Reference to Tasmanian Vegetation Monitoring & Mapping Program (TASVEG) indicates the land in and around the property is generally comprising of varying vegetation types including:



3.1.2 Site & Vegetation Photos





View looking to north from Veterans Row



View looking north along Veterans Row



View looking to northwest



View looking towards land to east from Suburb Road

3.2 BAL Assessment – Subdivision

The Acceptable Solution in Clause 1.6.1 of Planning Directive No. 5.1 Bushfire-Prone Areas Code requires all lots within the proposed subdivision to demonstrate that each lot can achieve a Hazard Management Area between the bushfire vegetation and each building on the lot with distances equal to or greater than those specified in Table 2.4.4 of AS3959-2009 Construction of Buildings in Bushfire Prone Areas for **BAL 19**.

Lot 1

Vegetation classification AS3959	North <input checked="" type="checkbox"/> North-East <input type="checkbox"/>	South <input checked="" type="checkbox"/> South-West <input type="checkbox"/>	East <input checked="" type="checkbox"/> South-East <input type="checkbox"/>	West <input checked="" type="checkbox"/> North-West <input type="checkbox"/>
Group A	<input type="checkbox"/> Forest	<input type="checkbox"/> Forest	<input type="checkbox"/> Forest	<input type="checkbox"/> Forest
Group B	<input type="checkbox"/> Woodland	<input type="checkbox"/> Woodland	<input type="checkbox"/> Woodland	<input type="checkbox"/> Woodland
Group C	<input type="checkbox"/> Shrub-land	<input type="checkbox"/> Shrub-land	<input type="checkbox"/> Shrub-land	<input type="checkbox"/> Shrub-land
Group D	<input type="checkbox"/> Scrub	<input type="checkbox"/> Scrub	<input type="checkbox"/> Scrub	<input type="checkbox"/> Scrub
Group E	<input type="checkbox"/> Mallee-Mulga	<input type="checkbox"/> Mallee-Mulga	<input type="checkbox"/> Mallee-Mulga	<input type="checkbox"/> Mallee-Mulga
Group F	<input type="checkbox"/> Rainforest	<input type="checkbox"/> Rainforest	<input type="checkbox"/> Rainforest	<input type="checkbox"/> Rainforest
Group G	<input checked="" type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Grassland
	<input type="checkbox"/> Managed Land	<input type="checkbox"/> Managed Land	<input type="checkbox"/> Managed Land	<input checked="" type="checkbox"/> Managed Land
Effective slope (degrees)	<input checked="" type="checkbox"/> Up/0° <input type="checkbox"/> >0-5° <input type="checkbox"/> >5-10° <input type="checkbox"/> >10-15° <input type="checkbox"/> >15-20°	<input checked="" type="checkbox"/> Up/0° <input type="checkbox"/> >0-5° <input type="checkbox"/> >5-10° <input type="checkbox"/> >10-15° <input type="checkbox"/> >15-20°	<input checked="" type="checkbox"/> Up/0° <input type="checkbox"/> >0-5° <input type="checkbox"/> >5-10° <input type="checkbox"/> >10-15° <input type="checkbox"/> >15-20°	<input checked="" type="checkbox"/> Up/0° <input type="checkbox"/> >0-5° <input type="checkbox"/> >5-10° <input type="checkbox"/> >10-15° <input type="checkbox"/> >15-20°
Likely direction of bushfire attack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Prevailing winds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
REQUIRED Distance to classified vegetation for BAL 19	10-<14m	10-<14m	10-<14m	10-<14m

LOT 2

Vegetation classification AS3959	North <input checked="" type="checkbox"/> North-East <input type="checkbox"/>	South <input checked="" type="checkbox"/> South-West <input type="checkbox"/>	East <input checked="" type="checkbox"/> South-East <input type="checkbox"/>	West <input checked="" type="checkbox"/> North-West <input type="checkbox"/>
Group A	<input type="checkbox"/> Forest	<input type="checkbox"/> Forest	<input type="checkbox"/> Forest	<input type="checkbox"/> Forest
Group B	<input type="checkbox"/> Woodland	<input type="checkbox"/> Woodland	<input type="checkbox"/> Woodland	<input type="checkbox"/> Woodland
Group C	<input type="checkbox"/> Shrub-land	<input type="checkbox"/> Shrub-land	<input type="checkbox"/> Shrub-land	<input type="checkbox"/> Shrub-land
Group D	<input type="checkbox"/> Scrub	<input type="checkbox"/> Scrub	<input type="checkbox"/> Scrub	<input type="checkbox"/> Scrub
Group E	<input type="checkbox"/> Mallee-Mulga	<input type="checkbox"/> Mallee-Mulga	<input type="checkbox"/> Mallee-Mulga	<input type="checkbox"/> Mallee-Mulga
Group F	<input type="checkbox"/> Rainforest	<input type="checkbox"/> Rainforest	<input type="checkbox"/> Rainforest	<input type="checkbox"/> Rainforest
Group G	<input checked="" type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Grassland	<input checked="" type="checkbox"/> Grassland
	<input type="checkbox"/> Managed Land	<input type="checkbox"/> Managed Land	<input type="checkbox"/> Managed Land	<input checked="" type="checkbox"/> Managed Land
Effective slope (degrees)	<input checked="" type="checkbox"/> Up/0°	<input checked="" type="checkbox"/> Up/0°	<input checked="" type="checkbox"/> Up/0°	<input checked="" type="checkbox"/> Up/0°
	<input type="checkbox"/> >0-5°	<input type="checkbox"/> >0-5°	<input type="checkbox"/> >0-5°	<input type="checkbox"/> >0-5°
	<input type="checkbox"/> >5-10°	<input type="checkbox"/> >5-10°	<input type="checkbox"/> >5-10°	<input type="checkbox"/> >5-10°
	<input type="checkbox"/> >10-15°	<input type="checkbox"/> >10-15°	<input type="checkbox"/> >10-15°	<input type="checkbox"/> >10-15°
	<input type="checkbox"/> >15-20°	<input type="checkbox"/> >15-20°	<input type="checkbox"/> >15-20°	<input type="checkbox"/> >15-20°
Likely direction of bushfire attack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Prevailing winds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
REQUIRED Distance to classified vegetation for BAL 19	10-<14m	10-<14m	10-<14m	10-<14m
REQUIRED Distance to classified vegetation for BAL 12.5	14-<50m	14-<50m	14-<50m	14-<50m

BAL – 12.5	The risk is considered to be LOW. There is a risk of ember attack. The construction elements are expected to be exposed to a heat flux not greater than 12.5 kW/m ² .
BAL – 19	The risk is considered to be MODERATE. There is a risk of ember attack and burning debris ignited by windborne embers and a likelihood of exposure to radiant heat. The construction elements are expected to be exposed to a heat flux not greater than 19 kW/m ² .

3.3 Outbuildings

Not applicable – existing.

3.4 Road Access

Roads are to be constructed to provide vehicle access to the site to assist firefighting and emergency personnel to defend the building or evacuate occupants; and provide access at all times to the water supply for firefighting purposes on the building site.

Private access roads are to be maintained from the entrance to the property cross over with the public road through to the buildings on the site.

Existing – Lot 1 Driveways	Access via existing direct road frontage Private access driveways are to be <u>maintained</u> from the entrance of the property cross over at the public road through to the buildings and on-site dedicated fire fighting water supply (if applicable). Private access roads are to be maintained to a standard not less than specified in Table E2B.
New – Lot 2 Driveways	Access via direct road frontage Private access driveways are to be <u>constructed</u> from the entrance of the property cross over at the public road through to the buildings and on-site dedicated fire fighting water supply (if applicable). Private access roads are to be maintained to a standard not less than specified in Table E2B.

Table E2: Standards for Property Access

The following design and construction requirements apply to property access length is 30 metres or greater or access for a fire appliance to a fire fighting point):

- (i) All weather construction;
- (ii) Load capacity of at least 20 tonnes, including for bridges and culverts;

- (iii) Minimum carriageway width of 4 metres;
- (iv) Minimum vertical clearance of 4 metres;
- (v) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
- (vi) Cross falls of less than 3 degrees (1:20 or 5%);
- (vii) Dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;
- (viii) Curves with a minimum inner radius of 10 metres;
- (ix) Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and
- (x) Terminate with a turning area for fire appliances provided by one of the following:
 - a) A turning circle with a minimum inner radius of 10 metres;
 - b) A property access encircling the building; or
 - c) A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long.

3.5 Water Supply

A building that is constructed in a designated bushfire prone area must provide access at all times to a sufficient supply of water for firefighting purposes on the building site.

The exterior elements of a Habitable building in a designated Bushfire prone area must be within reach of a 120m long hose (lay) connected to –

- (i) A fire hydrant with a minimum flow rate of 600L per minute and pressure of 200kpa; or
- (ii) A stored water supply in a water tank, swimming pool, dam or lake available for firefighting at all times which has the capacity of at least 10,000L for each separate building.

New – Lot 2	On-site water supply is required for any new habitable building
Lot 1	No increase in risk – 1 x existing dwelling

It should be recognised that although water supply as specified above may be in compliance with the requirements of the Building Code of Australia, the supply may not be adequate for all firefighting situations.

Table E5: Static Water Supply for Fire Fighting

Column 1		Column 2
Element		Requirement
A.	Distance between building area to be protected and water supply	The following requirements apply: <ul style="list-style-type: none"> (1) The building area to be protected must be located within 90 metres of the fire fighting water point of a static water supply; and (2) The distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.
B.	Static Water Supplies	A static water supply: <ul style="list-style-type: none"> (1) May have a remotely located offtake connected to the static water supply; (2) May be a supply for combined use (fire fighting and

		<p>other uses) but the specified minimum quantity of fire fighting water must be available at all times;</p> <p>(3) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems;</p> <p>(4) Must be metal, concrete or lagged by non-combustible materials if above ground; and</p> <p>(5) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2009 the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by:</p> <p>(a) Metal;</p> <p>(b) Non-combustible material; or</p> <p>(c) Fibre-cement a minimum 6mm thickness.</p>
C.	Fittings, pipework and accessories (including stands and tank supports)	<p>Fittings and pipework associated with a fire fighting water point for a static water supply must:</p> <p>(1) Have a minimum nominal internal diameter of 50mm;</p> <p>(2) Be fitted with a valve with a minimum nominal diameter of 50mm;</p> <p>(3) Be metal or lagged by non-combustible materials if above ground;</p> <p>(4) if buried, have a minimum depth of 300mm;</p> <p>(5) Provide a DIN or NEN standard forged Storz 65mm coupling fitted with a suction washer for connection to fire fighting equipment;</p> <p>(6) Ensure the coupling is accessible and available for connection at all times;</p> <p>(7) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220mm length);</p> <p>(8) Ensure underground tanks have either an opening at the top of not less than 250mm diameter or a coupling compliant with this Table; and</p> <p>(9) If a remote offtake is installed, ensure the offtake is in a position that is:</p> <p>(a) Visible;</p> <p>(b) Accessible to allow connection by fire fighting equipment;</p> <p>(c) At a working height of 450-600mm above ground level; and</p> <p>(d) Protected from possible damage, including damage from vehicles.</p>
D.	Signage for static water connections	<p>The fire fighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must:</p> <p>(1) Comply with water tank signage requirements within AS 2304-2011 Water storage tanks for fire protection systems; or</p> <p>(2) be:</p>

		<ul style="list-style-type: none"> (a) marked with the letter "W" contained within a circle with the letter in upper case of not less than 100mm in height; (b) in fade-resistant material with white reflective lettering and circle on a red background; (c) located within 1m of the fire fighting water point in a situation which will not impede access or operation; and (d) no less than 400mm above the ground.
E.	Hardstand	<p>A hardstand area for fire appliances must be provided:</p> <ul style="list-style-type: none"> (1) No more than 3m from the fire fighting water point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like); (2) No closer than 6m from the building area to be protected; (3) a minimum width of 3m constructed to the same standard as the carriageway; and (4) Connected to the property access by a carriageway equivalent to the standard of the property access.

4.0 Bushfire-Prone Areas Code Assessment Criteria

Assessment has been completed below to demonstrate the BAL and BHMP have been developed in compliance with the Acceptable Solutions and/or the Performance Criteria as specified in the Bushfire-Prone Areas Code.

E1.4 – Exemptions – No increase in risk to existing dwelling on Lot 1. Adequate separation to boundaries is existing. Any future additions to the dwelling on Lot 1 will require a separate assessment, however, it is demonstrated that the lot can provide for a BAL 19 building area.

E1.6.1 Subdivision

E1.6.1.1 Hazard Management Areas

	Comments
<input checked="" type="checkbox"/> A1 (a) & (b)	Specified distances for Hazard Management Areas for BAL 19 as specified on the plan are in accordance with AS3959. The proposal complies.
<input type="checkbox"/> P1	

E1.6.2 Public Access

	Comments
<input checked="" type="checkbox"/> A1 (a)	Lot 1 contains an existing dwelling. Adequate separation to boundaries is existing. There is insufficient increase in risk to the existing dwelling by the proposed subdivision.
<input checked="" type="checkbox"/> A1 (b)	The private driveway to Lot 2 will be constructed in accordance with Table E2B. The property access is likely to be greater than 200 metres.
<input type="checkbox"/> P1	
<input checked="" type="checkbox"/> A2	Not applicable.
<input type="checkbox"/> P2 No PC	

E1.6.3 Water supply for fire fighting purposes		
Comments		
<input checked="" type="checkbox"/> A1	(a)	No increase in risk to existing dwelling on Lot 1.
<input type="checkbox"/> P1	No PC	
<input checked="" type="checkbox"/> A2	(b)	Any new habitable building on Lot 2 is to be supplied with a stored water supply in a water supply tank at least 10,000 litres per building area to be protected, with a fitting suitable for TFS access in accordance with Table E5.
<input checked="" type="checkbox"/> A2	(c)	Not applicable.
<input type="checkbox"/> P2	No PC	

5.0 Layout Options

Not relevant to this proposal.

6.0 Other Planning Provisions

Not relevant to this proposal.

7.0 Conclusions and Recommendations

Mitigation from bushfire is dependent on the careful management of the site by maintaining reduced fuel loads within the hazard management areas and within the site generally and to provide sources of water supply dedicated for firefighting purposes and the construction and maintenance of a safe egress route.

The site has been assessed as demonstrating a building area that have the dimensions equal to or greater than the separation distance required for BAL 19 in Table 2.4.4 of AS 3959 – 2009 Construction of Buildings in Bushfire Prone Areas.

Access

Lot 1 – Existing access is not restricted.

Lot 2 - The driveway is to be constructed of all-weather construction, with a minimum width of access of 4 metres.

Water Supplies

Lot 1 – Insufficient increase in risk to existing dwelling.

Lot 2 - On-site water storage – 10,000 litre dedicated fire fighting water supply, water tank, swimming pool, dam or the like is to be provided to any future habitable building.

Fuel Managed Areas

Hazard Management Areas as detailed within the plan shall be constructed and maintained as detailed in Schedule 2.

Schedule 2 – Bushfire Hazard Management Plan



FIREFIGHTING WATER SUPPLY - REFER TO SECTION 3.5 OF BUSHFIRE HAZARD ASSESSMENT REPORT

PROPERTY ACCESS REQUIREMENTS - REFER TO SECTION 3.4 OF BUSHFIRE HAZARD ASSESSMENT REPORT

HAZARD MANAGEMENT AREA TO BE MAINTAINED IN A MINIMUM FUEL CONDITION - REFER TO SECTION 3.2 OF BUSHFIRE HAZARD ASSESSMENT REPORT

- * THIS BHMP MUST BE READ IN CONJUNCTION WITH BUSHFIRE HAZARD ASSESSMENT REPORT REF: RGA-8873, R. GREEN, 24 JUNE 2018
- * THIS BHMP HAS BEEN PREPARED TO SATISFY THE REQUIREMENTS OF THE DIRECTOR'S DETERMINATION - REQUIREMENTS FOR BUILDING IN BUSHFIRE PRONE AREAS (V2)



Rebecca Green
& Associates

Form 55

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

To: Owner /Agent
 Address
 Suburb/postcode

Form **55**

Qualified person details:

Qualified person:
Address: Phone No:
 Fax No:
Licence No: Email address:

Qualifications and Insurance details: (description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Speciality area of expertise: (description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Details of work:

Address: Lot No:
 Certificate of title No:
The assessable item related to this certificate: (description of the assessable item being certified)
Assessable item includes –
- a material;
- a design
- a form of construction
- a document
- testing of a component, building system or plumbing system
- an inspection, or assessment, performed

Certificate details:

Certificate type: (description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)

This certificate is in relation to the above assessable item, at any stage, as part of - (tick one)

building work, plumbing work or plumbing installation or demolition work: ☒

or

a building, temporary structure or plumbing installation: ☐

In issuing this certificate the following matters are relevant –

Documents:	Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan (Rebecca Green & Associates, 24 June 2018, Job No. RGA-B873)
Relevant	N/A
References:	<i>Planning Directive No 5.1, Bushfire-Prone Areas Code</i> <i>Australian Standard 3959-2009</i>

Substance of Certificate: (what it is that is being certified)

1. Assessment of the site Bushfire Attack Level (to Australian Standard 3959)
2. Bushfire Hazard Management Plan showing BAL-19 and BAL-12.5 solutions.

Scope and/or Limitations

Scope

This report and certification was commissioned to identify the Bushfire Attack Level for the existing property. All comment, advice and fire suppression measures are in relation to compliance with *Planning Directive No 5.1, Bushfire-Prone Areas Code* issued by the Tasmanian Planning Commission, the *Building Act 2016 & Regulations 2016, Building Code of Australia* and *Australian Standard 3959-2009, Construction of buildings in bushfire-prone areas*.

Limitations

The assessment has been undertaken and report provided on the understanding that:-

1. The report only deals with the potential bushfire risk all other statutory assessments are outside the scope of this certificate.
2. The report only identifies the size, volume and status of vegetation at the time the inspection was undertaken and cannot be relied upon for any future development.
3. Impacts of future development and vegetation growth have not been considered.
4. No assurance is given or inferred for the health, safety or amenity of the general public, individuals or occupants in the event of a Bushfire.
5. No warranty is offered or inferred for any buildings constructed on the property in the event of a Bushfire.

No action or reliance is to be placed on this certificate or report; other than for which it was commissioned.

I certify the matters described in this certificate.

Qualified person:	Signed: 	Certificate No: RG-748/2018	Date: 24 June 2018
-------------------	--	--------------------------------	-----------------------

Attachment 1 – Certificate of Compliance to the Bushfire-prone Area Code

BUSHFIRE-PRONE AREAS CODE

CERTIFICATE¹ UNDER S51(2)(d) LAND USE PLANNING AND APPROVALS ACT 1993

1. Land to which certificate applies²

Land that is the Use or Development Site that is relied upon for bushfire hazard management or protection.

Name of planning scheme or instrument: Meander Valley Interim Planning Scheme 2013

Street address: 61 Veterans Row, Westbury

Certificate of Title / PID: CT248138/1

Land that is not the Use or Development Site that is relied upon for bushfire hazard management or protection.

Street address:

Certificate of Title / PID:

2. Proposed Use or Development

Description of Use or Development:

2 Lot Subdivision

Code Clauses:

☒ E1.4 Exempt Development

☐ E1.5.1 Vulnerable Use

☐ E1.5.2 Hazardous Use

☒ E1.6.1 Subdivision

¹ This document is the approved form of certification for this purpose, and must not be altered from its original form.

² If the certificate relates to bushfire management or protection measures that rely on land that is not in the same lot as the site for the use or development described, the details of all of the applicable land must be provided.

3. Documents relied upon

Documents, Plans and/or Specifications

Title: Proposed Subdivision – Plan Number 3818-01 DA

Author: D.J. McCulloch Surveying

Date: 05/06/2018 Version:

Bushfire Hazard Report

Title: Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan

Author: Rebecca Green

Date: 24 June 2018 Version: 1

Bushfire Hazard Management Plan

Title: Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan

Author: Rebecca Green

Date: 24 June 2018 Version: 1

Other Documents

Title:

Author:

Date: Version:

4. Nature of Certificate

<input checked="" type="checkbox"/> E1.4 – Use or development exempt from this code			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input checked="" type="checkbox"/>	E1.4 (a)	Insufficient increase in risk	Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green, 24 June – Lot 1.
<input type="checkbox"/> E1.5.1 – Vulnerable Uses			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.5.1 P1	Residual risk is tolerable	
<input type="checkbox"/>	E1.5.1 A2	Emergency management strategy	
<input type="checkbox"/>	E1.5.1 A3	Bushfire hazard management plan	
<input type="checkbox"/> E1.5.2 – Hazardous Uses			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.5.2 P1	Residual risk is tolerable	
<input type="checkbox"/>	E1.5.2 A2	Emergency management strategy	
<input type="checkbox"/>	E1.5.2 A3	Bushfire hazard management plan	
<input checked="" type="checkbox"/> E1.6 – Development standards for subdivision			
E1.6.1 Subdivision: Provision of hazard management areas			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.1 P1	Hazard Management Areas are sufficient to achieve tolerable risk	
<input checked="" type="checkbox"/>	E1.6.1 A1 (a)	Insufficient increase in risk	Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green, 24 June 2018 – Lot 1.
<input checked="" type="checkbox"/>	E1.6.1 A1 (b)	Provides BAL 19 for all lots	Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan,

			prepared by Rebecca Green, 24 June 2018 – Lot 2.
<input type="checkbox"/>	E1.6.1 A1 (c)	Consent for Part 5 Agreement	

E1.6.2 Subdivision: Public and fire fighting access			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.2 P1	Access is sufficient to mitigate risk	
<input checked="" type="checkbox"/>	E1.6.2 A1 (a)	Insufficient increase in risk	Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green, 24 June 2018 – Lot 1.
<input checked="" type="checkbox"/>	E1.6.2 A1 (b)	Access complies with Tables E1, E2 & E3	Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green, 24 June 2018 – Lot 2.

E1.6.3 Subdivision: Provision of water supply for fire fighting purposes			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input checked="" type="checkbox"/>	E1.6.3 A1 (a)	Insufficient increase in risk	Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green, 24 June 2018 – Lot 1.
<input type="checkbox"/>	E1.6.3 A1 (b)	Reticulated water supply complies with Table E4	
<input type="checkbox"/>	E1.6.3 A1 (c)	Water supply consistent with the objective	
<input type="checkbox"/>	E1.6.3 A2 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.3 A2 (b)	Static water supply complies with Table E5	Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green, 24 June 2018 – Lot 2.
<input type="checkbox"/>	E1.6.3 A2 (c)	Static water supply is consistent with the objective	

5. Bushfire Hazard Practitioner³

Name:	Rebecca Green	Phone No:	0409 284 422
Address:	PO Box 2108	Fax No:	
		Email Address:	admin@rgassociates.com.au
	Launceston, Tas		7250
Accreditation No:	BFP – 116	Scope:	1, 2, 3A, 3B, 3C

6. Certification

I, certify that in accordance with the authority given under Part 4A of the Fire Service Act 1979 –

The use or development described in this certificate is exempt from application of Code E1 – Bushfire-Prone Areas in accordance with Clause E1.4 (a) because there is an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measure in order to be consistent with the objectives for all the applicable standards identified in Section 4 of this Certificate.



or

There is an insufficient increase in risk from bushfire to warrant the provision of specific measures for bushfire hazard management and/or bushfire protection in order for the use or development described to be consistent with the objective for each of the applicable standards identified in Section 4 of this Certificate.



and/or

The Bushfire Hazard Management Plan/s identified in Section 3 of this certificate is/are in accordance with the Chief Officer's requirements and can deliver an outcome for the use or development described that is consistent with the objective and the relevant compliance test for each of the applicable standards identified in Section 4 of this Certificate.



Signed:
certifier



Date: 24 June 2018 Certificate No: RGA-72/2018

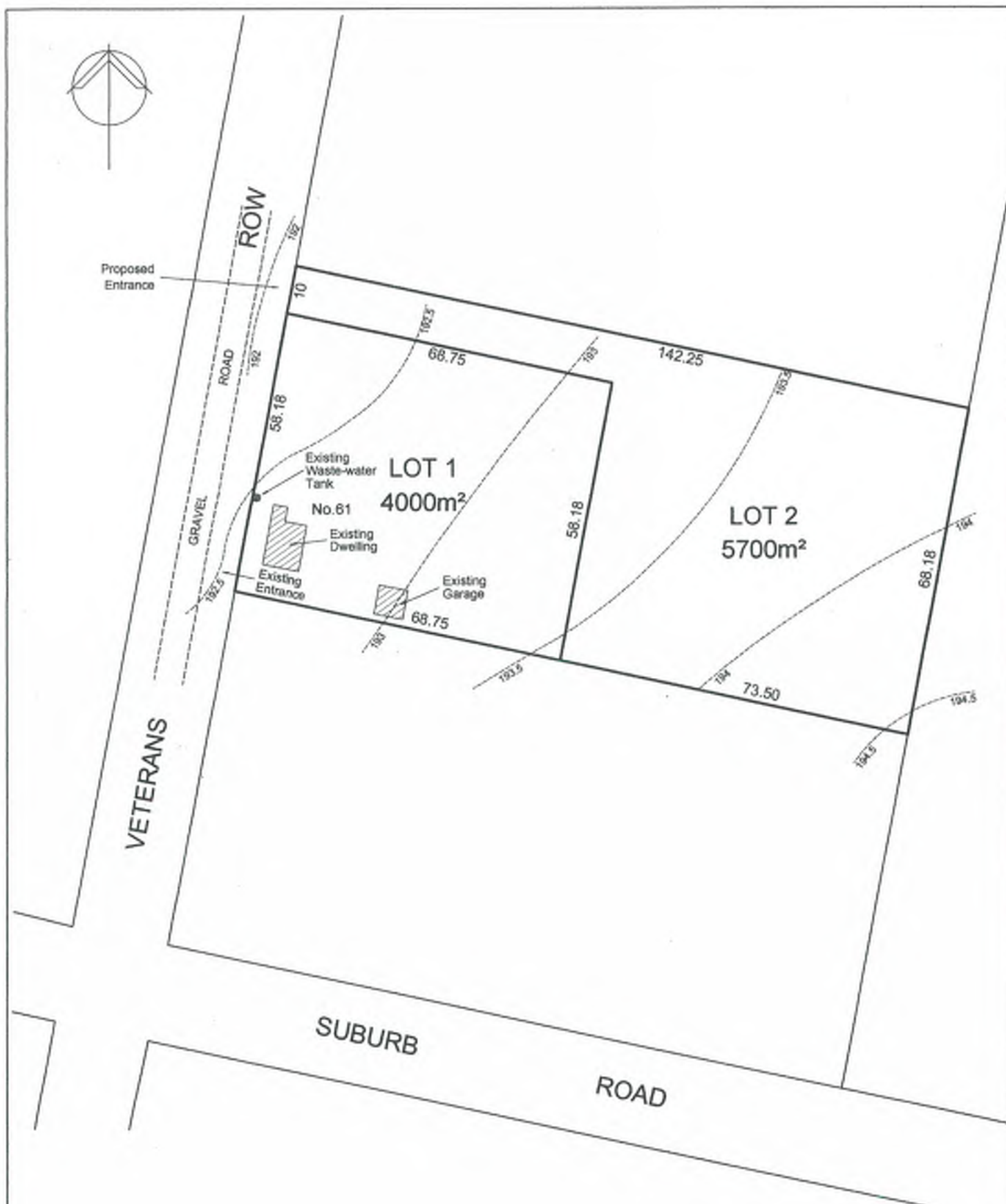
³ A Bushfire Hazard Practitioner is a person accredited by the Chief Officer of the Tasmania Fire Service under Part IVA of Fire Service Act 1979. The list of practitioners and scope of work is found at www.fire.tas.gov.au.

Attachment 2 – AS3959-2009 Construction Requirements

	BAL-LOW	BAL-12.5	BAL-19	BAL-29	BAL-40	BAL-FZ (FLAME ZONE)
SUBFLOOR SUPPORTS	No special construction requirements	No special construction requirements	The special construction requirements	1. Except for columns and girders, steel structural members must be protected against fire exposure for a minimum of 15 minutes for columns and 30 minutes for other members.	Steel joists, joist girders and columns shall meet ASTM A588 or use equivalent higher strength steel for column members in UL 1709 Class 1	Joist and joist girders must be protected by intumescent fire resistant paint or other fire resistant material to meet the UL 1709 Class 2
FLOORS	No special construction requirements	No special construction requirements	The special construction requirements	Concrete slab on ground, including its structural steel reinforcement, shall be designed to resist fire exposure for a minimum of 15 minutes for slabs on ground and 30 minutes for other members.	Concrete slab on ground, including its structural steel reinforcement, shall be designed to resist fire exposure for a minimum of 15 minutes for slabs on ground and 30 minutes for other members.	Concrete slab on ground shall be protected by intumescent fire resistant paint or other fire resistant material to meet the UL 1709 Class 2
EXTERNAL WALLS	No special construction requirements	At least 1 1/2" (38 mm)	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	Non-combustible exterior (including steel) must be protected by intumescent fire-resistance paint or other fire-resistance material to meet the UL 1709 Class 1	Non-combustible exterior (including steel) must be protected by intumescent fire-resistance paint or other fire-resistance material to meet the UL 1709 Class 1	Non-combustible exterior (including steel) must be protected by intumescent fire-resistance paint or other fire-resistance material to meet the UL 1709 Class 2
EXTERNAL WINDOWS	No special construction requirements	At least 1 1/2" (38 mm) Glass is required for fire protection. Glass is required for fire protection. Glass is required for fire protection.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.
EXTERNAL DOORS	No special construction requirements	At least 1 1/2" (38 mm) Glass is required for fire protection. Glass is required for fire protection. Glass is required for fire protection.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.
ROOFS	No special construction requirements	At least 1 1/2" (38 mm)	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.
VERANDAS DECKS ETC.	No special construction requirements	At least 1 1/2" (38 mm)	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.	External walls - Any fire-resistance rating above that of the floor is for fire-resistance rating only. External walls shall be protected by intumescent fire-resistance paint.

Attachment 3 – Proposed Subdivision

D.J. McCulloch Surveying



Attachment 4 – Tasmania Fire Service Water Supply Signage Guideline

Tasmania Fire Service Water Supply Signage Guideline

Guidelines for the design and
installation of water supply signs &
fire hydrant marking in bushfire-prone
areas

fire.tas.gov.au

Bushfire Planning & Policy

GPO Box 1526 Hobart Tasmania 7001

Phone (03) 6230 8600 | planning@fire.tas.gov.au | 14 August 2018

Meander Valley Council Ordinary Meeting Agenda

C&DS 1



Tasmania Fire Service



Tasmanian
Government

Tasmania Fire Service Water Supply Signage Guideline

Version 1.0, February 2017

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This Guideline has been developed in consultation with TasWater.



For further information

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Disclaimer

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1.0 Identification

1.1 Guideline Title

1.1.1 This Guideline is called the *Tasmania Fire Service Water Supply Signage Guideline*.

1.2 Composition of this Guideline

1.2.1 This Guideline consists of:

- (a) This document;
- (b) Design drawing TFS-WS01; and
- (c) Design drawing TFS-WS02.

2.0 Purpose

2.1 The purpose of this Guideline is:

- (a) To ensure that fire fighting water points are appropriately identified to reduce the risk to human life and property, and the cost to the community, caused by bushfires; and
- (b) To describe the water supply signage requirements which are referred to in the *Bushfire-Prone Areas Code*¹ and the *Directors Determination Requirements for Building in Bushfire-Prone Areas*².

3.0 Application

3.1 Where referenced by the relevant planning and building regulations, the content of this Guideline forms a statutory requirement for development within bushfire-prone areas.

3.2 This Guideline may be voluntarily adopted as required.

3.3 This Guideline applies to:

- (a) Private and water corporation owned or managed fire fighting water points;
- (b) Fire fighting water points servicing a bushfire-prone area; and
- (c) Fire fighting water points connected to:
 - i. A static water supply; or
 - ii. A reticulated water supply that does not comply with the design criteria of *reticulated water supply for fire fighting* as defined within the *Bushfire-Prone Areas Code*, and where a single fire fighting water point discharges a minimum of 5 L per second and a minimum of 150 kPa residual pressure.

¹ The *Bushfire-Prone Areas Code* can be accessed via www.iplan.tas.gov.au

² The *Directors Determination Requirements for Building in Bushfire-Prone Areas* can be accessed via <http://www.justice.tas.gov.au/building/publications>

4.0 Definition of Terms

In this Guideline:

bushfire-prone area	means: (a) land that is within the boundary of a bushfire-prone area shown on an overlay on a planning scheme map; and (b) i. where there is no overlay on a planning scheme map; or ii. where the land is outside the boundary of a bushfire-prone area shown on an overlay on such a map, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1 hectare.
bushfire-prone vegetation	means contiguous vegetation including grasses and shrubs but not including maintained lawns, parks and gardens, nature strips, plant nurseries, golf courses, vineyards, orchards or vegetation on land that is used for horticultural purposes.
carriageway	means the section of road formation which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulders.
fire hydrant	means a fire hydrant as described in <i>AS 2419.1-2005 Fire hydrant installations – System design, installation and commissioning</i> .
fire fighting water point	means the point where a fire appliance is able to connect to a water supply for fire fighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body.
property access	means the carriageway which provides vehicular access from the carriageway of a road onto land, measured along the centre line of the carriageway, from the edge of the road carriageway to the nearest point of the building area.
static water supply	means water stored in a tank, swimming pool, dam, or lake, that is available for fire fighting purposes at all times.
water corporation	means the corporation within the meaning of the <i>Water and Sewerage Corporation Act 2012</i> .

5.0 Referenced Documents

The following documents are referenced in this guideline:

AS 1743 Road signs—Specifications

AS 1744 Standard alphabets for road signs

AS 2700 Colour Standards for general purposes

AS 2419.1 Fire hydrant installations - System design, installation and commissioning

AS/NZS 1734 Aluminium and aluminium alloys—Flat sheet, coiled sheet and plate

AS/NZ 1906.1 Retroreflective materials and devices for road traffic control purposes
Part 1: Retroreflective Sheeting.

Australian Paint Approval Scheme Specifications AP-S0041, CSIRO

Bushfire-Prone Areas Code, Tasmanian Planning Commission, Department of Justice, Tasmania.

Determination Director of Building Control Requirements for Building in Bushfire-Prone Areas, Building Standards & Occupational Licencing, Department of Justice, Tasmania.

TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA, TasWater, Tasmania.

6.0 Design Standards for Marking Compliant Fire Hydrants

6.1 Compliant Hydrant Markings (General)

A fire hydrant connected to a reticulated water supply that complies with the design criteria of *reticulated water supply for fire fighting* as defined within the *Bushfire-Prone Areas Code* will be marked in accordance with water corporation specifications³.

Water corporation specified fire hydrant markings include a combination of:

- Fire Plug Indicator: a yellow, 250 mm x 450 mm triangle, marked on the pavement, and pointing towards the location of the hydrant;
- Fire Plug Kerb Marking: a yellow, 300 mm long rectangle, marked on the carriageway kerb, adjacent to the location of the fire hydrant;
- Two-Way Retroreflective Raised Pavement Marker: a blue, square marker, adhered to the pavement, and located perpendicular to the hydrant;
- Fire Plug Cover and Surround: a yellow, 400 mm x 400 mm square; surrounding the hydrant cover; and
- Marker Post: a yellow post with blue decals, located adjacent to the carriageway.

³ TasWater specifications: <https://www.taswater.com.au/Development/Development-Standards>

7.0 Design Standards for Marking Non-Compliant Fire Hydrants

7.1 Marking Criteria

A fire hydrant connected to a reticulated water supply that:

- a) Otherwise complies with the design criteria of *reticulated water supply for fire fighting* as defined within the *Bushfire-Prone Areas Code*, except for flow and pressure; and
- b) Discharges a minimum of 5 L per second and a minimum of 150 kPa residual pressure;

shall have additional markings to those identified in 6.1, in accordance with the following:

7.2 Pavement Marking Material

Objective:	Pavement markings that identify fire fighting water points are clearly visible and durable.
7.2.1 Pavement marking materials shall conform to Australian Paint Approval Scheme Specifications <i>AP-S0041</i> , or similar.	

7.3 Post Marking Material

Objective:	Pavement markings that identify fire fighting water points are clearly visible and durable.
7.3.1 Post marking material shall be: <ul style="list-style-type: none"> (a) Class 1 retroreflective material, compliant with <i>AS/NZS1906.1</i>; or (b) A suitable outdoor, long-life, UV stabilised coating. 	

7.4 Pavement & Post Marking Design

Objective:	Fire fighting water points are clearly visible and identifiable.
7.4.1 Pavement and post marking shall comprise of a legend designed in accordance with design drawing TFS-WS02.	
7.4.2 The legend shall be: <ul style="list-style-type: none"> (a) Coloured red, 'Signal Red' (R13) in accordance with <i>AS2700</i> (or equivalent colour); and (b) Comprised of the letter 'W' within a circular band. 	
7.4.3 The letter 'W' in the legend shall be: <ul style="list-style-type: none"> (a) Uppercase; (b) No less than 44 mm in height; 	

- (c) Located in the centre of the circular band; and
- (d) Consistent with the form and dimensions of Series F, as defined in AS1744.

7.4.4 The circular band in the legend shall have:

- (a) An outer diameter of 100 mm; and
- (b) A line thickness of 6.5 mm.

7.5 Pavement & Post Marking

Objective:	Fire fighting water points are clearly visible and identifiable.
------------	--

7.5.1 Where fire hydrants are of the in-ground type (fire plug), the hydrant cover (lid) shall be marked in accordance with 7.2 and 7.4.

7.5.2 Where hydrant location is identified using a marker post, the post shall be marked:

- (a) In accordance with 7.3 and 7.4;
- (b) With legend facing the carriageway; and
- (c) No less than 400 mm above ground level (where practical).

8.0 Design Standards for Signs

Static water supplies shall be identified in accordance with the following:

8.1 Sign Materials

Objective:	Signs that identify fire fighting water points are durable and resilient against the elements.
------------	--

8.1.1 The signboard material shall be:

- (a) 1.6 mm thick aluminium alloy, type 5251 or 5052, of temper H36 or H38;
- (b) Free from scratches or other surface blemishes;
- (c) Have edges that are true and smooth; and
- (d) Compliant with AS/NZS1734.

8.1.2 The sign background material shall be:

- (a) Non-reflective;
- (b) Of uniform density;
- (c) Compatible with the material used for the legend both in application and durability; and
- (d) Applied to the sign face in accordance with AS1743.

8.1.3 The sign legend material shall be:

- (a) Class 1 retroreflective material, compliant with AS/NZS1906.1;
- (b) Of uniform density;

- (c) Compatible with the material used for the background in application and durability; and
- (d) Applied to the sign face in accordance with AS1743.

8.2 Sign Design

Objective:	Signs that identify fire fighting water points are clearly visible and identifiable.
8.2.1 The sign shall be designed in accordance with:	
(a) Design drawing TFS-WS01.	
8.2.2 The sign shall:	
(a) Be square;	
(b) Have rounded corners with a radii of 25 mm; and	
(c) Have a side length of 300 mm.	
8.2.3 The sign background shall be:	
(a) Coloured red, 'Signal Red' (R13) in accordance with AS2700 (or equivalent colour).	
8.2.4 The legend shall be:	
(a) Coloured white (N14) in accordance with AS2700 (or equivalent colour);	
(b) Comprised of the letter 'W' within a circular band; and	
(c) Visually centred on the sign.	
8.2.5 The letter 'W' in the legend shall be:	
(a) Uppercase;	
(b) No less than 100 mm in height;	
(c) Located in the centre of the circular band; and	
(d) Consistent with the form and dimensions of Series F, as defined in AS1744.	
8.2.6 The circular band in the legend shall have:	
(a) An outer diameter of 230 mm; and	
(b) A line thickness of 15 mm.	
8.2.7 The rear surface of the signboard shall be stamped or engraved with:	
(a) The designation of the sign manufacturer;	
(b) Four numerals indicating the month and year of manufacture (e.g. 01/17);	
(c) The design drawing identification (e.g. TFS-WS01); and	
(d) Letters & numerals no less than 5 mm high.	

8.3 Sign Mounting

Objective:	Signs that identify fire fighting water points are, and will remain, clearly visible.
------------	---

8.3.1 The sign shall be permanently mounted to:

- (a) A vertical surface;
- (b) A surface that cannot change orientation or position; and
- (c) A surface that is:
 - i. Non-flammable; and
 - ii. Non-heat deforming.

8.4 Sign Location

Objective:	Signs that identify fire fighting water points are located adjacent to the fire fighting water point, and are clearly visible.
------------	--

8.4.1 The sign shall be mounted in a location:

- (a) No further than 2 m vertically and 1 m horizontally from the fire fighting water point;
- (b) No less than 400 mm above ground level;
- (c) That will not impede access or operation of the fire fighting water point;
- (d) That will not become obscured by visual obstructions; and
- (e) That is visible from the property access on approach from a public road.

9.0 Design & Manufacture Tolerances of Sign & Legend

9.1 Dimensional tolerances of the signboard

- (a) Overall dimensions of signboard: ± 5 mm;
- (b) Maximum allowable warp, twist or departure from flatness: 1.5 mm; and
- (c) Squareness: corners < 2 mm from theoretical position relative to other corners.

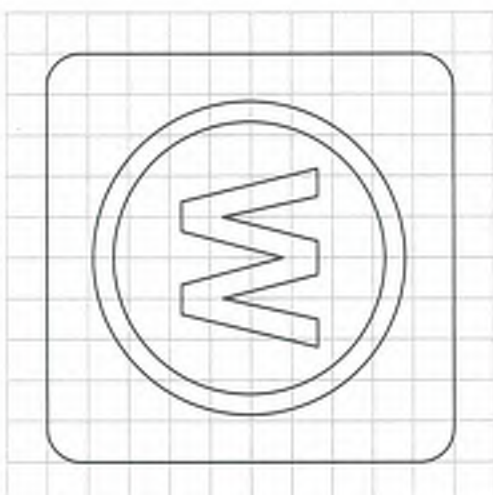
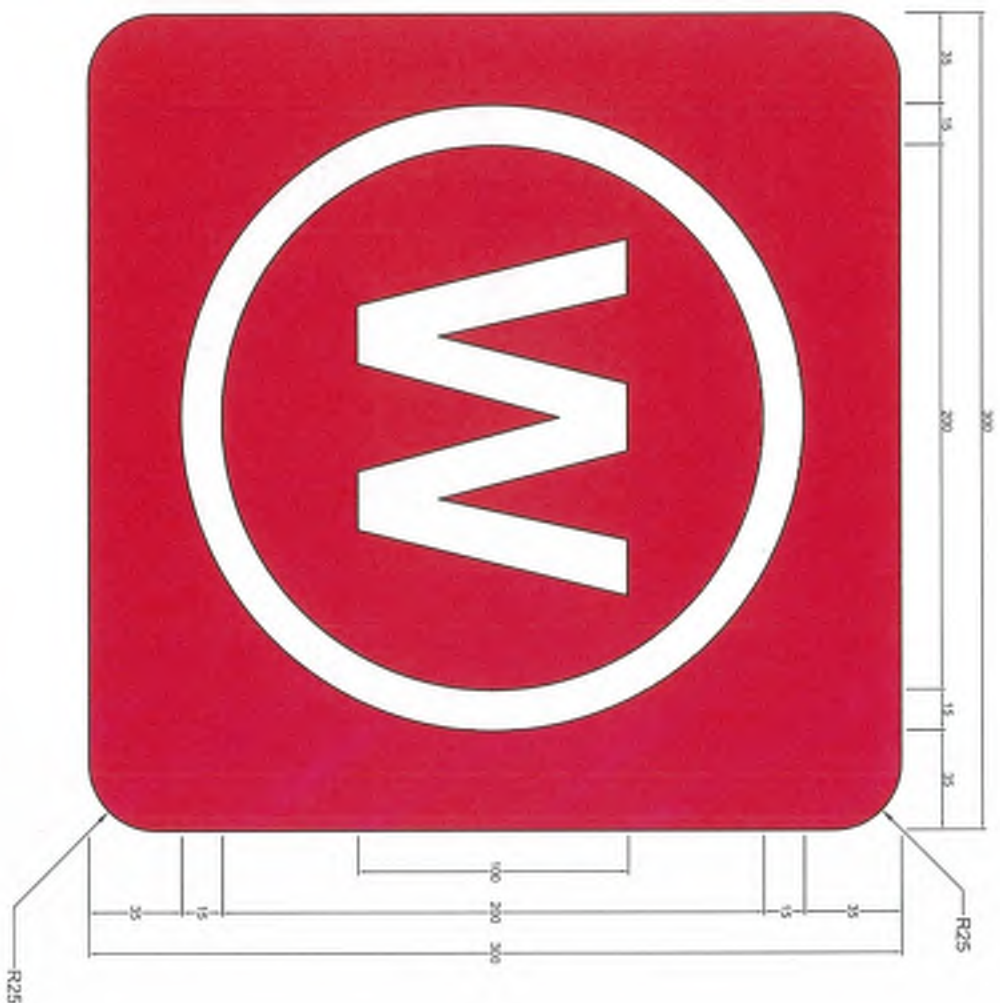
9.2 Dimensional tolerances of the legend

- (a) Shape, size and alignment of legend elements: ± 2 mm; and
- (b) Legend position: ± 2 mm.

ISSUE	APPROD	DATE	AMENDMENT
A			
B			
C			
D			

NOTES
- all dimensions are in mm - written dimensions take precedence over scaled measurements
DRAWN WH
APPROD CC
DATE 2/2/2017

TITLE
TASMANIA FIRE SERVICE WATER SUPPLY SIGN
FILE BRP
DWG NO. TFS-MS01
SCALE 1



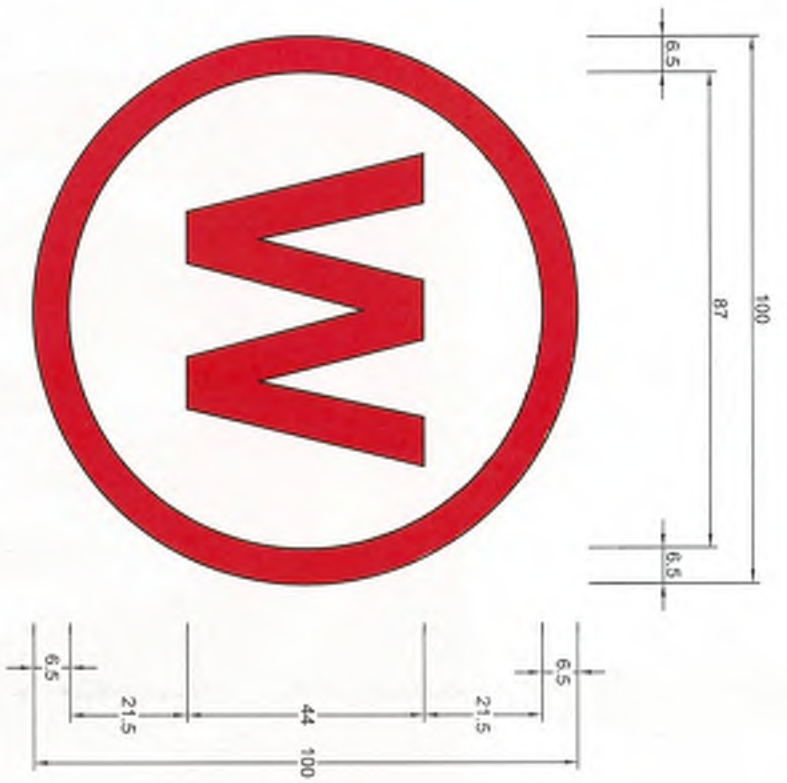
GRID MODULE X = 30mm Y = 30mm

OVERALL SIGN DIMENSIONS (mm): 300 x 300, +/- 5
SURFACE AREA OF SIGN (sq m) : 0.0895

LEGEND COLOUR: WHITE (N14) IN ACCORDANCE WITH AS2700,
WITH A RETROREFLECTIVE SURFACE FINISH
BACKGROUND COLOUR: SIGNAL RED (R13) IN ACCORDANCE WITH AS2700

FOR SIGN FIXING AND LOCATION REQUIREMENTS, REFER TO
TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

FOR LEGEND SPECIFICATIONS AND MANUFACTURING DETAIL
REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES



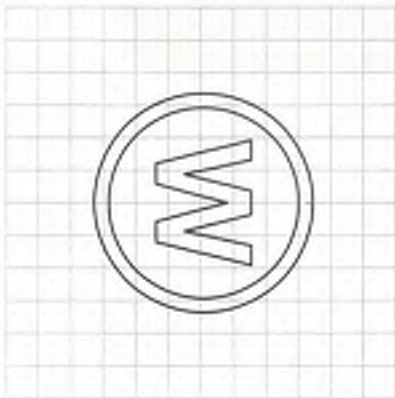
POST AND PAVEMENT DESIGN

OVERALL LEGEND DIMENSIONS (mm): 100 x 100, +/- 5

FOR TEMPLATE APPLICATION REQUIREMENTS, REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

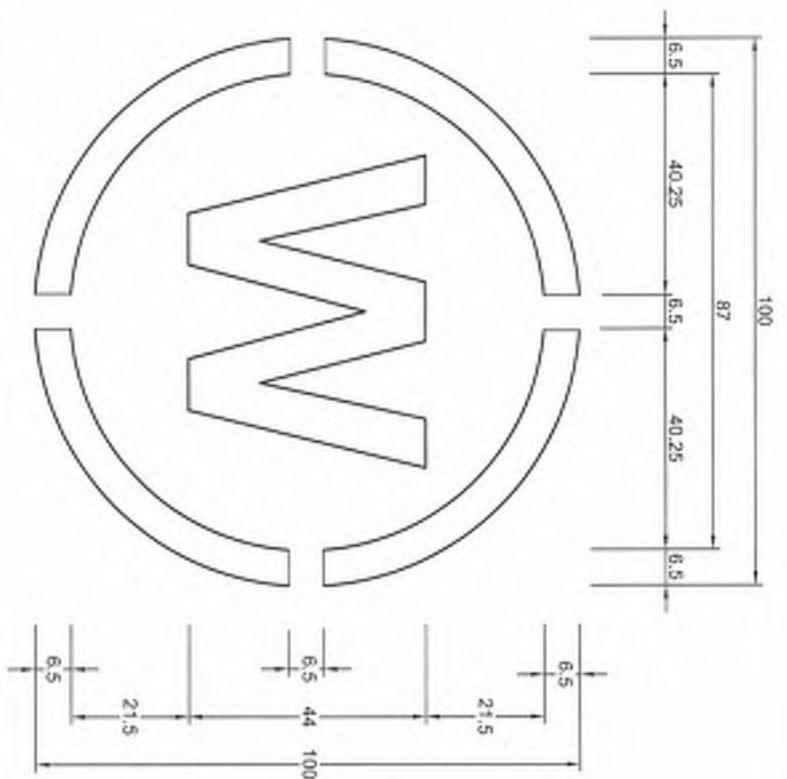
FOR LEGEND SPECIFICATIONS AND MANUFACTURING DETAIL, REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

GRID MODULE X = 15mm Y = 15mm



TEMPLATE

WHERE A TEMPLATE IS USED, THE CIRCULAR BAND MAY HAVE UP TO FOUR BREAKS OF UP TO 6.5MM IN WIDTH



ISSUE	APPROVED	DATE	AMENDMENT
A			
B			
C			
D			

NOTES
- all dimensions are in mm
- written dimensions take precedence over scaled measurements

TITLE
TASMANIA FIRE SERVICE NON-COMPLIANT FIRE HYDRANT MARKING
FILE
BPP
DWG NO.
TFS-WS02
SCALE
1

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Tasmania Fire Service



Tasmanian
Government


fire.tas.gov.au

Bushfire Planning & Policy GPO Box 1526 Hobart Tasmania 7001
Phone (03) 6230 8600 | Fax (03) 6231 6647 | planning@fire.tas.gov.au

References

- (a) Tasmanian Planning Commission 2017, *Tasmanian Planning Directive No. 5.1, Bushfire-Prone Areas Code*, Tasmania.
- (b) Australian Standards, AS 3959-2009, *Construction of buildings in bushfire-prone areas*, Standards Australia, Sydney NSW.
- (c) Resource Management & Conservation Division of the Department Primary Industry & Water September 2006, TASVEG, *Tasmanian Vegetation Map*, Tasmania.
- (d) Tasmanian Government, Land Information System Tasmania, www.thelist.tas.gov.au

Submission to Planning Authority Notice

Council Planning Permit No.	PA\18\0256	Council notice date	04/07/2018
TasWater details			
TasWater Reference No.	TWDA 2018/01105-MVC		Date of response
TasWater Contact	Amanda Craig	Phone No.	03) 6345 6318
Response issued to			
Council name	MEANDER VALLEY COUNCIL		
Contact details	planning@mvc.tas.gov.au		
Development details			
Address	61 VETERANS ROW, WESTBURY	Property ID (PID)	7016566
Description of development	Subdivision		
Schedule of drawings/documents			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
D J McCulloch Surveying	3818-01 DA	--	05/06/2018
Conditions			
Pursuant to the <i>Water and Sewerage Industry Act 2008 (TAS)</i> Section 56P(1) TasWater does not object to the proposed development and no conditions are imposed.			
Advice			
Nil			
Declaration			
The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.			
Authorised by  Jason Taylor Development Assessment Manager			
TasWater Contact Details			
Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au

From: Karen Murray
Sent: 20 Jul 2018 11:27:27 +1000
To: Planning @ Meander Valley Council
Subject: Planning Application PA\18\0256

Dated: 21/7/2018

Dear General Manager, Meander Valley Council

I, Beryl Murray of 96 Suburb Road Westbury, Tasmania 7303 object to the subdivision of land situated at 61 Veterans Row, Westbury Tasmania 7303 for the prospect of building purposes.

As a permanent long term resident of Westbury and an original land owner of land adjoining and surrounding the above mentioned address, I do not believe the area is sustainable to support the number of dwellings intended.

The area in question is zoned low density residential. To me, this means land comprised mainly of low density housing where the planning objective is to protect the locality's single dwelling character and landscape setting. These types of dwellings are often associated with rural residential areas where the housing density is very low.

In the area from Dexter Street heading due south along Veterans Row, from Colonization Row, Pensioners Row, Allotment Parade there are no dwellings on 1 acre or less - all other dwellings are on 2 1/2 acres plus per dwelling. The dwelling at 61 Veterans Row was originally 5 acres and from memory was subdivided into 2 x 2 1/2 acre blocks many years ago to pay an outstanding rates bill.

As an original land and property owner of the area, I am a believer that a property owner should be allowed to do as they wish with their land, however, in this particular instance I have to agree that this proposal is not in keeping with the character and landscape of the area.

The area originally known as Queenstown/Pensioners Bush has substantial Historic Military Importance and should be preserved as such as there is no other area or town like this. There is so much character in this area, that by allowing property owners to subdivide, the history and heritage of the area will be forever lost.

Veterans Row from Dexter Street to Suburb Road, Allotment Parade from Marriott Street to Ritchie Street are dirt. These streets are original and iconic to the area. The potential for them to be altered in any way, shape or form is not in keeping with the character of the area.

I have major concerns about the hawthorn hedge which is on the boundary of my land and 61 Veterans Row. This hedge serves many purposes such as being a windbreak for my livestock and protection for my crops. To have this altered in any way, shape or form could potentially have a detrimental effect on my livestock and crops. Not only are these

hedgerows pretty when in blossom, they are also exceptionally sacred and deserve Heritage Listing because they are all over 100 years old and extremely typical of the area when the first grants were given out to the Military Pensioners.

My other major concern with my land that adjoins and surrounds 61 Veterans Row - that is the drainage and waste water system for intended development. Being such a flat block and having battleaxe access to the property where is the water going to go? - not to my block directly adjoining said property or to my land directly opposite I hope. I would have thought it would be difficult to drain this particular block given the distance required and nature of the area. I have read the waste water report for intended site and note this particular property, with the soil types present that it is unsuitable for the conventional septic tank and soak drainage system. What happens in an extremely wet year such as 2016?

I also have major concerns with my land that adjoins and surrounds 61 Veterans Row is that I use that land for agricultural purposes. Am I going to have restrictions placed on me because of the machinery used or the noise my animals make? This is a working farm. There have been issues with the previous owner over the use of my ATV! I do hope I don't have to go through that again.

I strongly believe the Meander Valley Council is being very narrow-minded in allowing such developments to go ahead. What happened to limiting "Urban Sprawl" and keeping developments closer to the town centre? What happened to involving the rate payers in these decisions? Do we not have a voice anymore? And since when did the zoning change? - I certainly was not notified nor anyone else I have spoken with. I believe a public meeting needs to be held because I believe the Meander Valley Council has blindsided us all.

People purchase out here so that they can have their own personal space, their own escape to the country. By allowing these developments to occur we will all be living in top of each other. Talk about overcrowding and being overlooked.

If any of us wanted bright lights, nosey neighbours, noisy vehicles etc., we would have sold up years ago.

If council would like to go through their records and see just how long we have all been living here, I believe that only then will they understand why we live where we do.

Signed: Beryl Murray,
96 Suburb Road,
Westbury. Tasmania. 7303
Contact number: 0488 037 387.

This email sent by Karen Murray (Daughter)
24 Five Acre Row,
Westbury. Tasmania. 7303

Justin Simons

From: sharon earl <sharonearl83@hotmail.com>
Sent: Wednesday, 18 July 2018 12:33 PM
To: Planning @ Meander Valley Council
Subject: Fwd: Application for 61 Veterans Row Westbury

Get [Outlook](#)

Sent: Wednesday, July 18, 2018 11:20 am

To: sharonearl83@hotmail.com

Subject: Fwd: Application for 61 Veterans Row Westbury

----- Forwarded message -----

From: **sharon earl** <sharonearl83@hotmail.com>
Date: Tue, 17 Jul. 2018, 9:47 pm
Subject: Application for 61 Veterans Row Westbury Tas 7303

Dear Gernal Manager, Meander Valley Council,

I, Sharon Earl, resident and home owner of 76 Suburb Road Westbury for the past 15 years, writes to you in concern of 61 Veterans Row Westbury and the proposed application (PA\18\0256) to subdivide the land for building purposes.

The absurd decision to even consider a subdivision here would have devastating effects on the area in my opinion.

I fully object to the plans, having taken the time to read through the application supplied on the website.

Houses in this semi rural area of Westbury all have somewhat considerable land, of at least 1 acre plus. To imagine a house being built in the given space is completely out of proportion to the area. Given that this is right at my back door and my surrounding land is affected, which I have no plans of selling off, nor the neighboring land which consists of 5 acres used for stock and seasonal farming production. This too is owned by long term residents of the area, and definitely not for future sale and development.

One of my concerns is about flooding, given the land in the area is very flat and the soil reports I've read certainly doesn't support the suitability for appropriate drainage required. The proposed building would be built via an internal narrow access with no street frontage to support, therefore the water has limited scope to drain without effecting others. This property also fronts onto a gravel road with really no formed drains as such.

To consider that another house, in addition to the existing dwelling, which may I add is an est 1925s historical cottage that in my opinion could have been heritage listed, due to its existing characteristics and history to our area is what I'd say "over crowding", and to place a new house would not be sympathetic to the area. This would not be in keeping with surrounding space and existing homes. Does this mean a change in my property value and neighboring land value??

Also, as a small business owner I have concerns of privacy and noise. I run a registered child care business and wonder would this potentially be restricted in activities due to privacy? Would I have to limit our outside play due to the noise of children playing? The families I work for enjoy having the children attend here because of the setting and location, potentially this could be taken away. As you can respect, caring for children is a private job and the safety of the children must be considered. If a house were to be built do we have a say on who may be our neighbors?? No I think not. Therefore, my popular well serviced child care business of five years could be in jeopardy. If building activity should take place, the noise and destruction could have devastating effects on my business, as I offer the families a quiet country atmosphere for their choice of day care.

If there was building potential in this area by all means, I have no objection, but this particular arrangement would mean 2 houses in a situation unfitting with the surrounding area. Given there will be absolutely no building plans on surrounding land any time in the near future, surely the appearance would be out of place?

I would also like you to take the time to have a look at this neighbourhood and respectfully remind yourselves of the local history that still exists.

- * Pensioners Row Westbury, the old 1850s George Conboy Cottage still with land.

- * The Andrew Tynans 1850s Cottage, Ritchie St Westbury still with land.

This 61 Veterans Row property built in est 1925 still featuring original hedging, and a home built using old style split paling wood for the interior walls nailed together with hand made nails, a chimney containing convict bricks and a brick lined water well.

For most of us in the area this is what we enjoy. This is why we live here, quiet privacy, and most of all space. The history of Westbury is slowly losing its significance.

I respect there is a demand for our growing town however not this particular block situated at 61 Veterans Row. I 100% object. There are more suitable blocks for building within the town.

Yours sincerely

Sharon Earl

Get Outlook for iOS

Justin Simons

From: Brian Mitchelson <mbe450@gmail.com>
Sent: Tuesday, 17 July 2018 2:36 PM
To: Planning @ Meander Valley Council
Subject: Fwd: Planning application PA\18\0256

Dear General Manager, Meander Valley Council ,

I am very much a believer that a property owner should be allowed to do as they wish with their land, however I have some questions I'd like to be sure are discussed in reference to the above application number at 61 Veterans Row, Westbury.

Firstly I would ask how many houses in this area are on a block of 1 acre or less ? This area to my knowledge has blocks 2 1/2 acres plus per residence. Some 10 years ago I actually asked the question about the possibility of getting approximately 3 acres subdivided off a property very close to here that would have been available to me to buy and build on. I was told at that time it wouldn't be possible as it was not in keeping with the ideal of keeping development's closer to the town centre and therefore limiting the "urban sprawl". I accept that things have no doubt changed somewhat since then, including the planning scheme, as when I built I was not permitted to see the objection I received, let alone know by whom, and yet it is stated that this "objection" will be seen by the public !

I have to agree that this proposal now doesn't seem fitting with the area. A drive along both Dexter and Marriott streets reveals blocks perhaps a little more suited to this, although I accept that they may not wish to be sold. The properties such as the one involved in this application I think should be purchased by those actually wanting the space for their own personal use. If the purchaser/applicant wanted a house on 1 acre, surely that could have been gotten elsewhere ? I think what is really going on here is an attempt to sell off the land purely to subsidise the cost of what was originally paid for the property. Can't blame anyone for wanting to do so, but this particular proposal in this location doesn't seem right.

This particular subdivision basically makes the second lot what would be described as an "internal block" in any other setting, given the narrow street frontage used primarily for access. Had it have been the block either side just being dissected with plentiful street frontage then that perhaps would be more fitting for the area, and acceptable to me.

My other initial thoughts were about drainage and waste water ,being such a flat block and having such a narrow street access, so far away from where any residence would likely be built. I'm no expert on the levels on site, but I would have thought it would be difficult to drain the site to the street drains given the distance required. Said drains are also just the side of a gravel road anyway. I note from the waste water report that the property isn't suitable for the conventional septic tank and soak drainage systems for this reason and the soil types present. I also see that the systems suggested all require more than 10% of the land area to deal with the output of water. Question is, what happens in a wet period where the ground is full anyway ? Will that adversely effect the surrounding properties, including the front existing lot ?

Food for thought I hope.

Regards, B Mitchelson.

16 JULY '18

PA/18/0256

GENERAL MANAGER
MEANDER VALLEY COUNCIL
P.O. Box 102
WESTBURY, 7303

Index No. 14652			
Doc No.			
RCVD	20 JUL 2018	MVC	
Author (Initials)	JS	Dept.	CS
EO		OD	✓

RE- PLANNING NOTICE AT 61 VETERANS ROW

DEAR SIR,

I AM WRITING TO VOICE MY OBJECTION
TO THE PROPOSED PLANNING FOR SUBDIVISION
AT 61 VETERANS ROW, WESTBURY.

IN MY OPINION THE TOTAL LAND AREA
IS NOT SUFFICIENT TO WARRANT SUBDIVISION
IN THIS PART OF TOWN, LET ALONE NO SERVICES
AND A GRAVEL ROAD FRONTAGE.

THE AREA SHOULD MAINTAIN THE 'LARGER' OPEN
SPACE BLOCKS AND LOW DENSITY FEEL.

YOURS SINCERELY

PETER WRIGHT
197 VETERANS ROW
WESTBURY

0417 596674



From: Karen Murray
Sent: 20 Jul 2018 11:27:27 +1000
To: Planning @ Meander Valley Council
Subject: Planning Application PA\18\0256

Dated: 21/7/2018

Dear General Manager, Meander Valley Council

I, Beryl Murray of 96 Suburb Road Westbury, Tasmania 7303 object to the subdivision of land situated at 61 Veterans Row, Westbury Tasmania 7303 for the prospect of building purposes.

As a permanent long term resident of Westbury and an original land owner of land adjoining and surrounding the above mentioned address, I do not believe the area is sustainable to support the number of dwellings intended.

The area in question is zoned low density residential. To me, this means land comprised mainly of low density housing where the planning objective is to protect the locality's single dwelling character and landscape setting. These types of dwellings are often associated with rural residential areas where the housing density is very low.

In the area from Dexter Street heading due south along Veterans Row, from Colonization Row, Pensioners Row, Allotment Parade there are no dwellings on 1 acre or less - all other dwellings are on 2 1/2 acres plus per dwelling. The dwelling at 61 Veterans Row was originally 5 acres and from memory was subdivided into 2 x 2 1/2 acre blocks many years ago to pay an outstanding rates bill.

As an original land and property owner of the area, I am a believer that a property owner should be allowed to do as they wish with their land, however, in this particular instance I have to agree that this proposal is not in keeping with the character and landscape of the area.

The area originally known as Queenstown/Pensioners Bush has substantial Historic Military Importance and should be preserved as such as there is no other area or town like this. There is so much character in this area, that by allowing property owners to subdivide, the history and heritage of the area will be forever lost.

Veterans Row from Dexter Street to Suburb Road, Allotment Parade from Marriott Street to Ritchie Street are dirt. These streets are original and iconic to the area. The potential for them to be altered in any way, shape or form is not in keeping with the character of the area.

I have major concerns about the hawthorn hedge which is on the boundary of my land and 61 Veterans Row. This hedge serves many purposes such as being a windbreak for my livestock and protection for my crops. To have this altered in any way, shape or form could potentially have a detrimental effect on my livestock and crops. Not only are these

hedgerows pretty when in blossom, they are also exceptionally sacred and deserve Heritage Listing because they are all over 100 years old and extremely typical of the area when the first grants were given out to the Military Pensioners.

My other major concern with my land that adjoins and surrounds 61 Veterans Row - that is the drainage and waste water system for intended development. Being such a flat block and having battleaxe access to the property where is the water going to go? - not to my block directly adjoining said property or to my land directly opposite I hope.

I would have thought it would be difficult to drain this particular block given the distance required and nature of the area. I have read the waste water report for intended site and note this particular property, with the soil types present that it is unsuitable for the conventional septic tank and soak drainage system. What happens in an extremely wet year such as 2016?

I also have major concerns with my land that adjoins and surrounds 61 Veterans Row is that I use that land for agricultural purposes. Am I going to have restrictions placed on me because of the machinery used or the noise my animals make? This is a working farm. There have been issues with the previous owner over the use of my ATV! I do hope I don't have to go through that again.

I strongly believe the Meander Valley Council is being very narrow-minded in allowing such developments to go ahead. What happened to limiting "Urban Sprawl" and keeping developments closer to the town centre? What happened to involving the rate payers in these decisions? Do we not have a voice anymore? And since when did the zoning change? - I certainly was not notified nor anyone else I have spoken with.

I believe a public meeting needs to be held because I believe the Meander Valley Council has blindsided us all.

People purchase out here so that they can have their own personal space, their own escape to the country. By allowing these developments to occur we will all be living in top of each other. Talk about overcrowding and being overlooked.

If any of us wanted bright lights, nosey neighbours, noisy vehicles etc., we would have sold up years ago.

If council would like to go through their records and see just how long we have all been living here, I believe that only then will they understand why we live where we do.

Signed: Beryl Murray,
96 Suburb Road,
Westbury. Tasmania. 7303
Contact number: 0488 037 387.

This email sent by Karen Murray (Daughter)
24 Five Acre Row,
Westbury. Tasmania. 7303

12th July 2018

Petition

I/We object to the subdivision of land situated at 61 Veterans Row Westbury Tasmania
7303, For the prospect of building purposes

Name	Address	Phone	Signature
Sharon Earl	76 Suburb Rd Westbury	0439284670	[Signature]
Beryl Murray	96 Suburb Rd West	0488037387	[Signature]
Karen Murray	24 Five Acre Row Westbury	049574536	[Signature]
Sharla Williams	757 Harriott St Westbury	63931279	[Signature]
John Donaldson	96 Allotment Parade Westbury		[Signature]
Emma Parker	70 William St Westbury	0409555098	[Signature]
Joe Donaldson	Westbury	0487178170	
Cheryl-Ann Monk's	Westbury	0407803696	
Leanne Hudson	112 Reid St - W'bury	0409766468	
Sandra Rybarczyk	20 King St W'bury	63931771	[Signature]
LYNDON BARBER	43 SHADFORTH	63932524	
PETER WRIGHT	197 VETERANS ROW, WESTBURY	0417596674	
NIGEL VINEY	15 SUBURB ROAD, WESTBURY	63931183	[Signature]
Xvette Jory	15 Suburb Road, Westbury	63931183	[Signature]
Caro Verbraeken	477 Black Hills road. Westbury	7303. 0419123344	E.V.
Phylliss Pyke	144 SUBURB ROAD, WESTBURY	7303 PP 15/7/18	
DAVID PYKE	144 SUBURB ROAD WESTBURY	7303 0419511229	
Kelin Fahy	121 Manor St Westbury	63931183	[Signature]
Betty Richards	115 O'bannett St Westbury	63931183	[Signature]
Mc Keweney	87 MARTTIS ST		
LINDSAY TATNELL	55 FIVE ACRE ROW WESTBURY	6393131	
Michael Porter	26 Five Acre Row Westbury	042731284	

12th July 2018

Petition

I/We object to the subdivision of land situated at 61 Veterans Row Westbury Tasmania 7303, For the prospect of building purposes

Name	Address	Phone	Signature
KAREN PEDLEY	701 BLACKHULL RD	63922104	
Lee Warren	193 Pensioners Row	0451957410	
Bernadette Warren	193 Pensioners Row Westbury	0407338443	
Kyle Westwood	71 Ritchie St Westbury		
Kim Dane	202 pensioners row westbury		
Jon DANE	Conmemora Pensioners Row Westbury		
Dennis Tucker	Rid St westburg		
Alane	51 Veterans Row Westbury		
CRAIG VINAY	104 RITCHIE ST WESTBURY		
Mark John	16 Allotment Parade Westbury		
JOHN BAILLY	20 SUBURB ROAD WESTBURY		
Sandra Evans	4 Suburb Rd Westbury		
JEN BLACKETT	-113 Ritchie Street - Westbury		
Ken PARKER	701 BLACKHULL RD WESTBURY		
Rae Lindsey	160 Ritchie St Westbury		
Stephen Perkins	160 Ritchie St Westbury		
Bernadette Zeeman	242 Ritchie St Westbury		
Jim Zeeman	242 Ritchie St Westbury		
Jeffrey Sytens	202 VETERANS ROW WESTBURY	0408769974	
Samantha Bourke	149 Ritchie St, Westbury		
Alan Bourke	149 Ritchie St, Westbury		

12th July 2018

Petition

I/We object to the subdivision of land situated at 51 Veterans Row Westbury Tasmania 7303, For the prospect of building purposes

Pet. No. 119 OSMASTON RD WESTBURY 63931455
D. N. Frost 119 OSMASTON RD WESTBURY 63931455

Name	Address	Phone	Signature
Anne Sackley	161 Moore St	0400495091	[Signature]
KEITH WOODS	128 RITCHIE ST.	0418145101	K. Woods
Penny Hamer	" "	" "	P. Hamer
LOUISE GRANT	198 OSMASTON RD.	63931315	[Signature]
Michael Grant	" "	" "	[Signature]
LIES WARR	193 VETERANS ROW	63931710	[Signature]
Fay Wall	" "	" "	[Signature]

LISZ Kypred 202 Veterans Row 047682372

Leigh Dornauf 303 Mannuist 0418130805

Leanne Dornauf 303 Marriott St 0427931704

Bernard Atkins 273 Marriott St 0407811840

Kristin Blazley 115 Reid St. Westbury 0439032479

Tracy Slaughter 4 Quamby St 0404015165

Cassie madge 12 Franklin st westbury, Tas

W. Hutto 12 ALBIONA WESTBURY

Al. C. Ritter 2 adlbura st. Westbury.

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Al. C. Ritter 2 adlbura st. Westbury.

Get [Outlook for iOS](#)

Peter and Judy Gross
PO Box 12
Westbury 7303

0439 086706

26 July 2018

The Manager
Meander Valley Council

cc: D.J. McCulloch Surveying

PA18\0256 - SUBDIVISION – 61 VETERANS ROW

Dear sir/madam

As the owners of the property at 61 Veterans Row, Westbury, we are writing in response to representations by local residents to the subdivision proposal submitted on our behalf by D.J. McCulloch Surveying.

At the outset we should stress that the planning application was made in good faith, with no desire to circumvent Council planning laws or to derive advantage or profit by unfair means. Our motivation was to prepare the current dwelling for sale to a new owner on a suitably sized rural block, and to secure a block of a similar size on which we could build our new home. We very much like the setting and environment of Veterans Row and would do nothing that would degrade that amenity in any way. Due to our age and health limitations we do not wish to retain the existing cottage as our long-term dwelling but are currently completing renovations that would make it an excellent home for a younger family.

We are very satisfied with the professional manner in which Dallas McCulloch prepared the planning application, addressing key issues of the Interim Planning Scheme as well as wastewater and bushfire management.

Wastewater Management

Unfortunately, it would seem that some of the respondents may not have fully read or understood the technical content of the wastewater management report. Special provisions for absorption of wastewater have been detailed in the report to handle the low permeability of the clayey soil. This is not an unusual requirement for many areas in Tasmania and something that we would definitely comply with if we proceeded with building a new home. It is interesting to note that wastewater from the existing dwelling has been successfully managed for many years with a conventional septic tank and absorption trench, together with a grey water tank and land application system in the paddock beside the road. I have also noticed that even after recent heavy rain there has been no ponding of stormwater in areas around the house.

With regard to stormwater management from the new house block, the land has a slight fall grade north westerly towards the road and runoff would be unlikely with normal rain events in Tasmania. Certainly there is unlikely to be any stormwater drainage impact on adjoining titles.

As there is no reticulated water supply all roof water would be recovered in tanks for reuse.

Other Issues from Respondents

The main objections raised are to a perceived increase in housing density from the proposed development. It is acknowledged that the 4000 m² block size to be provided for the existing dwelling is slightly below the limit of 5000 m² for this zoning under the Interim Planning Scheme but it is much greater than the 1500 m² limit provided in section 10.6 of the proposed State Planning Provisions of the Tasmanian Planning Scheme for a Low Density Residential zone. The existing hedgerow and fence demarcate the paddock containing the current dwelling 44 metres from the road, providing an area of only 3000 m². Visually, most people would be unaware that the property extends another 98 metres beyond the hedgerow. The location of a new dwelling in the rear paddock would make very little difference to the visual amenity of the area, particularly if the hedgerow remained in place.

The development would make no changes to the existing hedgerow on Veterans Row, apart from removing a small section for the driveway.

One respondent was concerned about negative impact on farming operations on their property across the road. As the existing dwelling will remain in place and any new dwelling would be some 80 metres further away this is extremely unlikely. Speaking personally, we have lived in farming areas for many years adjacent to commercial vegetable growing farms and have never made a single complaint.

Another respondent on a neighbouring block raised concerns about the impact on her childcare business of another house some 70 metres away. The argument that this poses some threat is difficult to understand when many childcare facilities are in suburban locations with houses only a few metres away.

There were also some comments regarding the historic nature of the existing cottage and hedgerows. As mentioned previously there is no intention of removing or changing these. Current outside renovations of the cottage are mostly cosmetic, returning it to a more traditional appearance. Internal renovations are to mostly to improve the amenity of the kitchen and bathroom. We have been advised that the cottage and hedgerows are not suitable for heritage listing. The argument that a new dwelling will be out of keeping with the area is not logical when many of the neighbours are living in contemporary homes. In fact, if we were to build on the new block our intention would be to build in a traditional cottage style that would fit in with the setting.

I trust these remarks will be helpful as you give consideration to the development application prior to the Council meeting. We have no desire to upset our neighbours and were very disappointed to hear of the scale of their response. If anyone had taken the time to speak to us about the proposal we would have been able to allay many of their concerns.

Yours sincerely,



Peter and Judy Gross

C&DS 2 432 WESTBURY ROAD, PROSPECT VALE - DEMOLITION OF DWELLING AND OUTBUILDING

1) Introduction

This report considers application PA\18\0236 for the demolition of an existing dwelling and ancillary structures on land located at 432 Westbury Road, Prospect Vale (CT: 22803/19).

2) Background

Applicant

Meander Valley Council

Planning Controls

The subject land is controlled by the *Meander Valley Interim Planning Scheme 2013* (referred to in this report as the 'Scheme').

Use & Development

The application proposes to demolish an existing dwelling, a large residential outbuilding and other minor ancillary structures at 432 Westbury Road. The demolition will not prevent the land from being used in the future for any use permitted in the General Residential Zone, including single or multiple dwellings. Dwellings will remain the dominant building form in the area and the proposal and the creation of a vacant lot will not impact residential amenity.

Site & Surrounds

The subject property is located within the urban area of Prospect Vale and has been developed with a single dwelling, residential outbuilding, minor garden structures and a domestic garden. The land to the north contains multiple dwellings and the land to the south contains a single dwelling. Prospect Vale Park is to the immediate west of the title and the Bass Highway connector is to the immediate east.



Photo 1: aerial photo of subject title and surrounding land



Photo 2: subject dwelling to be demolished



Photo 3: outbuilding and ancillary structures to be demolished

Statutory Timeframes

Date Received:	6 June 2018
Request for further information:	Not applicable
Information received:	Not applicable
Advertised:	16 June 2018
Closing date for representations:	2 July 2018
Extension of time granted:	16 July 2018
Extension of time expires:	14 August 2018
Decision due:	14 August 2018

3) Strategic/Annual Plan Conformance

Council has a target under the Annual Plan to assess applications within statutory timeframes.

4) Policy Implications

Not applicable.

5) Statutory Requirements

Council must process and determine the application in accordance with the *Land Use Planning Approval Act 1993 (LUPAA)* and its Planning Scheme. The application is made in accordance with Section 57 of LUPAA.

6) Risk Management

Risk is managed by the inclusion of appropriate conditions on the planning permit.

7) Consultation with State Government and other Authorities

The application was referred to TasWater. A Submission to Planning Authority Notice (TWDA 2018/00948-MVC) was received on 19 June 2018 (attached).

8) Community Consultation

The application was advertised for the statutory 14-day period.

One (1) representation was received during the advertising period from three (3) property owners (attached documents). The representation is discussed in the assessment below.

9) Financial Impact

Not applicable.

10) Alternative Options

Council can either approve with amended conditions or refuse the application.

11) Officers Comments

Zone

The subject property is located in the General Residential Zone. The land surrounding the site is located in the General Residential, Utilities, Light Industrial and Recreation zones.

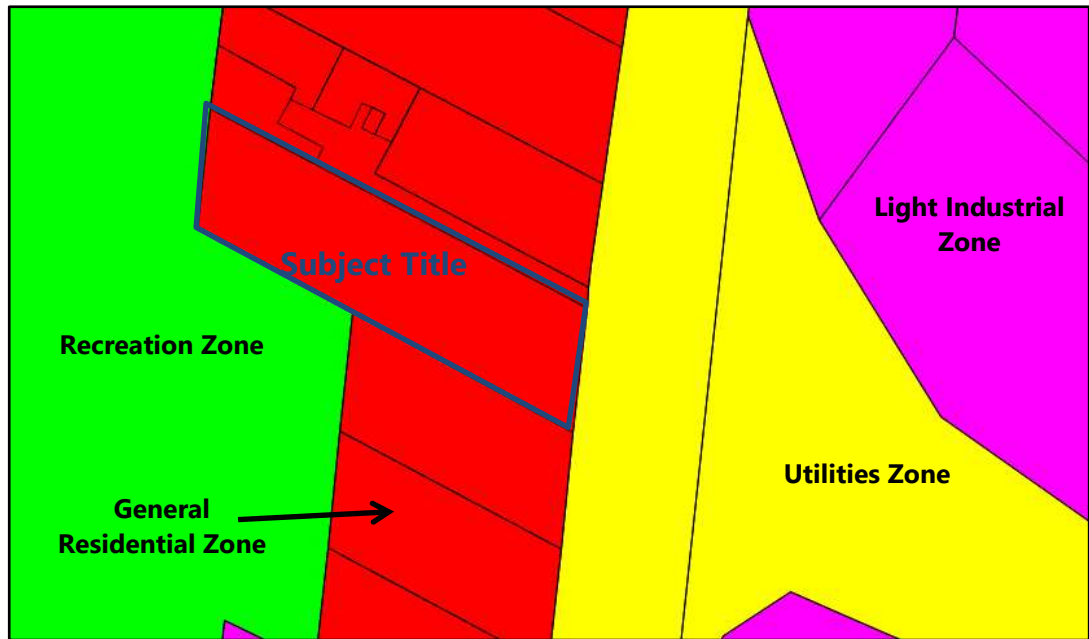


Figure 1: zoning of subject title and surrounding land

Use Class

In accordance with Table 10.2 in the Scheme the proposed use class is:

- Residential

A Residential use is specified in Section 10.2 – General Residential Use Table as being *No Permit Required*. Demolition, however, is *Discretionary* when not approved as part of another development.

Applicable Standards

A general discretion is provided for Council to consider the demolition of buildings. In making its assessment the planning authority may have regard to the purpose of the zone and any applicable local area objectives or desired future character statements. The following is an assessment of the standards of the Meander Valley Interim Planning Scheme 2013 considered to be most relevant to the application.

Part C –Special Provisions

9.4 Demolition

9.4.1 *Unless approved as part of another development or prohibited by another provision, an application for demolition may be approved at the discretion of the planning authority having regard to:*

- (a) *the purpose of the applicable zone;*
- (b) *any relevant local area objective or desired future character statement of the applicable zone;*
- (c) *the purpose of any applicable code; and*
- (d) *the purpose of any applicable specific area plan.*

Comment:

The application proposes to demolish an existing dwelling and ancillary buildings on land used for Residential Purposes. The demolition is not prohibited by any other provision of the Scheme and is not proposed as part of any other development at this time. The land will continue to be available for residential purposes. Any other use and development will require a separate application and assessment against the planning scheme and zone purpose.

The demolition is discussed in relation to the General Residential Zone below.

10.1 Zone Purpose**10.1.1 Zone Purpose Statements**

- 10.1.1.1 *To provide for residential use or development that accommodates a range of dwelling types at suburban densities, where full infrastructure services are available or can be provided.*
- 10.1.1.2 *To provide for compatible non-residential uses that primarily serve the local community.*
- 10.1.1.3 *Non-residential uses are not to be at a level that distorts the primacy of residential uses within the zones, or adversely affect residential amenity through noise, activity outside of business hours traffic generation and movement or other off site impacts.*
- 10.1.1.4 *To encourage residential development that respects the neighbourhood character and provides a high standard of residential amenity.*

10.1.2 Local Area Objectives

<i>Prospect Vale</i>	
<i>a) Prospect Vale will be maintained as a key centre of urban expansion. Where areas currently zoned General Residential adjoin the Particular Purpose Zone, development is to provide for the long term strategic outcomes in the design of urban environment;</i>	<i>a) Subdivision design is to consider the relationship and connectivity to future urban growth areas.</i>
<i>b) Promote opportunities to alter the urban environment to make more efficient use of alternative modes of transport.</i>	<i>b) Development design is to complement any public works to provide improved connectivity for alternative modes of transport.</i>

10.1.3 Desired Future Character Statements

Dwellings are to maintain as the predominant form of development with some higher densities encouraged near services and the business area. Some redevelopment sites may also be appropriate for higher density development. Typical residential and non residential development is to be detached, rarely exceeding two storeys and be setback from the street and property boundaries.

COMMENT:

The proposed demolition will not compromise the Purpose, Local Area Objectives or the Desired Future Character of the General Residential Zone. The demolition will not prevent the land from being used in the future for any use permitted in the General Residential Zone, including single or multiple dwellings. Dwellings will remain the dominant building form in the area and the proposal and the creation of a vacant lot will not impact residential amenity.

The demolition of the dwelling will require a building permit and will be overseen by a Building Surveyor and Council Officers, ensuring that it is undertaken in a responsible manner.

The proposal does not undermine the Local Area Objectives and Prospect Vale is maintained as a key centre for urban expansion. The proposal does not preclude new residential development.

Compliance Assessment

There are no codes in the Meander Valley Interim Planning Scheme 2013 which are considered to be relevant to the demolition of a building on the subject land.

Representations

One (1) representation was received during the advertising period from three (3) residents of the unit development at 430A Westbury Road (see attached document).

A summary of the representation is as follows:

- Concern regarding the treatment of the boundary fence, part of which is currently made up of the wall of the outbuilding to be demolished;
- Impacts on the fence; and
- Amenity and inconvenience during demolition.

Comment:

During a site meeting with the representors, Council's Infrastructure Department have committed to undertake the following in regard to the boundary fence:

- Remove the existing boundary fence between 432 and 430A Westbury Road from the entrance to the property (Westbury Road) to the outbuilding to be demolished (brick wall).
- Remove the outbuilding from 432 Westbury Road, including the entire extent of the brick wall;
- Remove all internal, non-boundary fencing from 432 Westbury Road;
- Replace the removed boundary fencing and brick wall with a 2.1m high lapped timber paling fence; and
- Retain the existing boundary fence from the outbuilding (to be demolished) for the remainder of the shared property boundary

This information has also been forwarded via email to the representors, however, a written response definitively indicating their satisfaction with the proposal has not been received.

Any inconvenience or impacts on amenity during the demolition of the buildings will be short-lived, restricted to normal business hours and will not be unreasonable.

Conclusion

In conclusion, it is considered that the application for Use and Development for the demolition of an existing dwelling and associated outbuildings at 432 Westbury Road, Prospect Vale is an acceptable development for the General Residential Zone and does not undermine the Zone Purpose, Local Area Objectives or Desired Future Character for the area.

AUTHOR: Justin Simons
TOWN PLANNER

12) Recommendation

It is recommended that the application for Use and Development for demolition of an existing dwelling and ancillary outbuildings on land located at 432 Westbury Road, Prospect Vale (CT: 22803/19) by Meander Valley Council, requiring the following discretions:

- 9.4 - Demolition

be APPROVED, generally in accordance with the endorsed plans:

- a) Meander Valley Council – 432 Westbury Road- Proposed Residential Demolition
- b) Email dated 11 July 2018 and replacement fence plan.

and subject to the following conditions:

1. The boundary fence shared with 430A Westbury Road is to be repaired in accordance with the email dated 11 July 2018, unless otherwise agreed between all relevant land owners.
2. The development must be in accordance with the Submission to Planning Authority Notice issued by TasWater (TWDA 2018/00948-MVC) attached.

Note:

1. Any other proposed development and/or use, including amendments to this proposal, may require a separate planning application and assessment against the Planning Scheme by Council. All enquiries can be directed to Council's Community and Development Services on 6393 5320 or via email: mail@mvc.tas.gov.au
2. This permit does not imply that any other approval required under any other by-law or legislation has been granted. The following additional approvals may be required before the use commences:

a) Building approval

All enquiries should be directed to Council's Permit Authority on 6393 5322 or a Building Surveyor.

3. This permit takes effect after:
 - a) The 14 day appeal period expires; or
 - b) Any appeal to the Resource Management and Planning Appeal Tribunal is abandoned or determined; or.
 - c) Any other required approvals under this or any other Act are granted.

4. A planning appeal may be instituted by lodging a notice of appeal with the Registrar of the Resource Management and Planning Appeal Tribunal. A planning appeal may be instituted within 14 days of the date the Corporation serves notice of the decision on the applicant. For more information see the Resource Management and Planning Appeal Tribunal website www.rmpat.tas.gov.au
5. If an applicant is the only person with a right of appeal pursuant to section 61 of the Land Use Planning and Approvals Act 1993 and wishes to commence the use or development for which the permit has been granted within that 14 day period, the Council must be so notified in writing. A copy of Council's Notice to Waive Right of Appeal is attached.
6. This permit is valid for two (2) years only from the date of approval and will thereafter lapse if the development is not substantially commenced. An extension may be granted if a request is received.
7. In accordance with the legislation, all permits issued by the permit authority are public documents. Members of the public will be able to view this permit (which includes the endorsed documents) on request, at the Council Office.
8. If any Aboriginal relics are uncovered during works;
 - a) All works are to cease within a delineated area sufficient to protect the unearthed and other possible relics from destruction,
 - b) The presence of a relic is to be reported to Aboriginal Heritage Tasmania Phone: (03) 6233 6613 or 1300 135 513 (ask for Aboriginal Heritage Tasmania Fax: (03) 6233 5555 Email: aboriginal@heritage.tas.gov.au); and
 - c) The relevant approval processes will apply with state and federal government agencies.

DECISION:

APPLICATION FORM

PLANNING

Land Use Planning and Approvals Act 1993

Index No.	11847		
Doc No.			
RCV'D	- 5 JUN 2018		MVC
Action Officer	SS	Dept.	ADS
EO		OD	✓



- Application form & details **MUST** be completed **IN FULL**.
- Incomplete forms will not be accepted and may delay processing and issue of any Permits.

OFFICE USE ONLY

Property No:	11847	Assessment No:	01 - 5175 - 1600
DA\	18/0364	PA\	18/0236

- Is your application the result of an illegal building work? ☐ Yes ☒ No Indicate by ✓ box
- Is a new vehicle access or crossover required? ☐ Yes ☒ No

PROPERTY DETAILS:

Address:	432 Westbury Rd	Certificate of Title:	22803
Suburb:	Prospect Vale	Lot No:	19
Land area:	0.18 ha	m ² / ha	
Present use of land/building:	Residential	(vacant, residential, rural, industrial, commercial or forestry)	

Does the application involve Crown Land or Private access via a Crown Access Licence: ☐ Yes ☒ No

Heritage Listed Property: ☐ Yes ☒ No

DETAILS OF USE OR DEVELOPMENT:

- Indicate by ✓ box
- | | | |
|--|--|--------------------------------------|
| <input type="checkbox"/> Building work | <input type="checkbox"/> Change of use | <input type="checkbox"/> Subdivision |
| <input type="checkbox"/> Forestry | <input checked="" type="checkbox"/> Demolition | |
| <input type="checkbox"/> Other | | |

Total cost of development (inclusive of GST): \$ Includes total cost of building work, landscaping, road works and infrastructure

Description of work: Demolition.

Use of building: removal. (main use of proposed building – dwelling, garage, farm building, factory, office, shop)

New floor area: — m² New building height: — m

Materials: External walls: — Colour: —
Roof cladding: — Colour: —

SEARCH OF TORRENS TITLE

VOLUME 22803	FOLIO 19
EDITION 3	DATE OF ISSUE 20-Jan-2014

SEARCH DATE : 04-Jun-2018

SEARCH TIME : 04.20 PM

DESCRIPTION OF LAND

Town of PROSPECT VALE

Lot 19 on Diagram 22803

Being the land described in Conveyance No. 65/7319

Derivation : Part of 251 Acres Gtd. to J. Fawns

Prior CT 4615/1

SCHEDULE 1

M449309 TRANSFER to MEANDER VALLEY COUNCIL Registered
20-Jan-2014 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

APPROVED FROM 17 APR 1984 <i>J. Brander</i>	CONVERSION PLAN	REGISTERED NUMBER D. 22803
ACTING DEPUTY RECORDER OF TITLES	GRANTEE PART OF 251 ^A 0 ^R 0 ^P GTD. TO JOHN FAWNS	
FILE NUMBER RE Y 2255	S.L. 13/4/84	

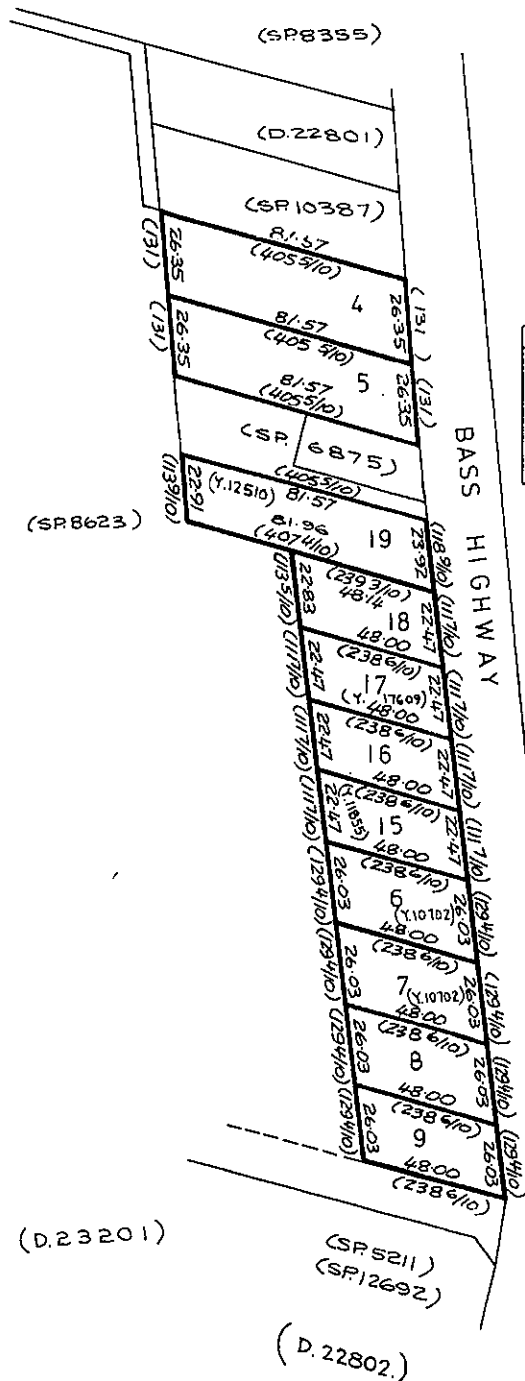
SKETCH BY WAY OF ILLUSTRATION ONLY

CITY/TOWN OF PROSPECT VALE

LAND DISTRICT OF

PARISH OF

LENGTHS ARE IN METRES NOT TO SCALE
LENGTHS IN BRACKETS IN LINKS/FEET & INCHES



LOT N°	AREA
4-5	(0 ^A 2 ^R - D ^P) 2023m ²
6-9	(0 ^A 1 ^R - 5 ^B 10 ^P) 1158m ²
15-17	(39 5/10 ^P) 999m ²
18	(39 9/10 ^P) 1009m ²
19	(0 ^A 1 ^R - 30 1/10 ^P) 1773m ²

(P. 113 5 8 3) CT.

432 Westbury Rd – Proposed Residential Demolition

Site Plan



Front View



Driveway View



Garage View



Demolition notes



Specifics of the demolition are:

- Removal of House
- Removal of Garage
- All pavers, old concrete slabs and footings to be removed, depressions left by excavation to be locally smoothed.
- Note, provisional item to allow for supply and installation of quarried road base material for the house and garage footprint area, to bring area level with surrounds.
- Existing driveway surface to remain
- All non-boundary fencing to be removed
- All miscellaneous debris to be removed from site (including but not limited to old air conditioner, bbq, trampoline, swing set, garden edging etc)
- Height of new fence to be 2.1m (three rails) Posts and rail on same side as existing.
- All vegetation (including stumps and root balls) to be cleared with the exception of that shown on the attached plan. Depressions left by excavation of root balls to be locally smoothed out.

Submission to Planning Authority Notice

Council Planning Permit No.	PA\18\0236	Council notice date	6/06/2018
TasWater details			
TasWater Reference No.	TWDA 2018/00948-MVC	Date of response	19/06/2018
TasWater Contact	David Boyle	Phone No.	6345 6323
Response issued to			
Council name	MEANDER VALLEY COUNCIL		
Contact details	planning@mvc.tas.gov.au		
Development details			
Address	432 WESTBURY RD, PROSPECT VALE	Property ID (PID)	7023563
Description of development	Demolition of dwelling & outbuildings		
Schedule of drawings/documents			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
Meander Valley Council	Site Plans		5/06/2018
Conditions			
<p>Pursuant to the <i>Water and Sewerage Industry Act 2008</i> (TAS) Section 56P(1) TasWater imposes the following conditions on the permit for this application:</p> <p>CONNECTIONS, METERING & BACKFLOW</p> <ol style="list-style-type: none"> Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost. <p>Advice:- If the applicant is not removing the property connections they must engage a registered plumber to temporarily cap and seal internal water (prior to water meter) and sewer (upstream of the inspection opening) connections under demolition works to protect TasWater's infrastructure from contamination.</p> <p>DEVELOPMENT ASSESSMENT FEES</p> <ol style="list-style-type: none"> The applicant or landowner as the case may be, must pay a development assessment and Consent to Register a Legal Document fee to TasWater, as approved by the Economic Regulator and the fees will be indexed, until the date they are paid to TasWater, as follows: <ol style="list-style-type: none"> \$206.97 for development assessment. <p>The payment is required within 30 days of the issue of an invoice by TasWater.</p> 			
Advice			
<p>General</p> <p>For information on TasWater development standards, please visit http://www.taswater.com.au/Development/Development-Standards</p> <p>For application forms please visit http://www.taswater.com.au/Development/Forms</p>			
Declaration			
The drawings/documents and conditions stated above constitute TasWater's Submission to Planning			

Authority Notice.

Authorised by



Jason Taylor

Development Assessment Manager

TasWater Contact Details

Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au

From: Debbie Morrison
Sent: 27 Jun 2018 11:20:02 +1000
To: Planning @ Meander Valley Council
Subject: ref number PA\18\0236

To whom this may concern
Sandi Scott

We, the residents of 430A Westbury Road. (I live in Unit 1). I am sending this email to you as we have some concerns about the demolition of the single building and outbuildings at 342 Westbury Road.

Our driveway runs along the side of the next residence and there is a brick wall about half the way along this driveway. Will this be knocked down, and if not how safe is it at the height that it is. Is any of the other part of the adjoining fences going to be affected?

Are the residents at this address going to be inconvenienced while this work is in progress?

I am able to be contacted between 9am and 2pm week days on 0427621171

Thank you

Mrs Deborah Morrison
1/430A Westbury Road
Prospect Vale
TAS 7250

Sandy Garwood Unit 2
Rose Phundt Unit3

From: Justin Simons
Sent: 10 Jul 2018 04:15:27 +0000
To: 'debbiem227@gmail.com'
Cc: 'rose.pfundt@gmail.com'; 'snadrajoyce1962@gmail.com'
Subject: PA\18\0236 - Re: quires - 432 Westbury Road, Prospect Vale - Demolition

Hi Deborah

I have discussed your concerns with Council's Infrastructure Department and as well as meeting with yourself, they have provided the following information relating to the proposed demolition of the house and outbuilding and the boundary fence at 430A Westbury Road.

During the demolition works of 432 Westbury Road Council intend to remove the fencing between 432 and 430A Westbury Road and as follows:

- Remove fence from the entrance to the property to the shed (brick wall)
- Remove the entire extents of the brick wall
- Remove all internal, non-boundary fencing
- Council will replace the removed boundary fencing and brick wall with 2.1m high overlap timber paling fence
- Retain boundary fence from the end of the shed brick wall to the end of the property boundary

At this stage the application is for the demolition of the dwelling and outbuilding only. Future development relating to access and parking for Prospect Vale Park will likely be part of a future application for use and development.

If the answers provided by Council are to your satisfaction and you do not intend your submission to be treated as a representation, please let us know. If you would prefer that your submission were treated as a representation, that is also perfectly acceptable and the application will likely be considered by a full Council Meeting prior to approval.

Kind regards

From: Natasha Szczyglowska
Sent: 2 Jul 2018 01:43:32 +0000
To: 'debbiem227@gmail.com'
Cc: Leanne Rabjohns; Peter Jones; Dino De Paoli
Subject: Council Response: PA\18\0236 - 432 Westbury Road, Prospect Vale - Demolition of House and Outbuildings - Deborah Morrison

Hello Debbie

Thank you for your time on the morning of Thursday 28 June 2018.
As discussed, please find a synopsis of our discussion below:

During the demolition works of 432 Westbury Road Council intend to remove the fencing between 432 and 430A Westbury Road and as follows:

- Remove fence from the entrance to the property to the shed (brick wall)
- Remove the entire extents of the brick wall
- Remove all internal, non-boundary fencing
- Council will replace the removed boundary fencing and brick wall with 2.1m high overlap timber paling fence
- Retain boundary fence from the end of the shed brick wall to the end of the property boundary

My colleague, Pete and I are meeting with yourself and the two other residents of the units at 430A Westbury Road this Wednesday 4 July at 9:00am. We will talk with you all about the roundabout design and potential impacts and suggested changes to your current driveway access.
Following these discussions Council should be better informed about the remaining boundary fencing between properties 432 and 430A Westbury Road.

Leanne will be in contact with you to follow up your email enquiry and ensure your query has been answered.

Please contact me if you have any further questions.
Kind regards
Natasha

To whom this may concern
Sandi Scott

We, the residents of 430A Westbury Road. (I live in Unit 1). I am sending this email to you as we have some concerns about the demolition of the single building and outbuildings at 342 Westbury Road.

Our driveway runs along the side of the next residence and there is a brick wall about half the way along this driveway. Will this be knocked down, and if not how safe is it at the height that it is. Is any of the other part of the adjoining fences going to be affected?

Are the residents at this address going to be inconvenienced while this work is in progress?

I am able to be contacted between 9am and 2pm week days on 0427621171

Thank you

Mrs Deborah Morrison
1/430A Westbury Road
Prospect Vale
TAS 7250

Sandy Garwood Unit 2
Rose Phundt Unit3

From: Natasha Szczyglowska
Sent: 11 Jul 2018 16:31:49 +1000
To: rose.pfundt@gmail.com
Cc: Justin Simons;debbiem227@gmail.com;snadrajoyce1962@gmail.com;Peter Jones
Subject: Council Response: PA\18\0236 - Fencing Quiries - 432 Westbury Road, Prospect Vale - Demolition - Rose Pfundt
Attachments: 432 Westbury Rd - Fence Replacement Location.JPG

Hello Rose

Thank you for your email enquiry in response to our site meeting and Justin's follow up email.

As discussed on site our intention is to replace the boundary fencing that will be removed as part of the building demolition works, approximately 40m, as follows:

- Boundary fence from driveway entrance to garage brick wall; and
- Garage brick wall.

I have attached a marked up map for clarification – see blue line for extents of new 2.1m overlapped paling fencing.

We were of the impression that the consensus between the unit owners was for a higher fence for security purposes, resulting in the decision to install a 2.1m high fence replacing the demolished brick wall and fencing.

The remaining boundary fence between 432 and 430A Westbury Road (which commences from the end of the garage) is outside of the scope of the demolition application and works and as such, we are not in a position to replace all of the boundary fencing as requested in your email below.

Any changes to this section of boundary fence will be addressed in further discussions with yourself, Sandy and Debbie as Council progresses the design of the new access road and roundabout.

As mentioned, the changes we discussed to the driveway access for the units at 430A Westbury Road are the opinions of Council officers.

The entrance road design and any ensuing proposed changes to the property title of 430A Westbury Road still need to be approved by Council and supported by the three unit owners.

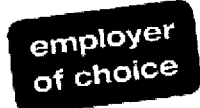
The final design and timeframe for design approvals is unknown and the new access road may be constructed in stages whilst the final design is confirmed.

Please contact me if you have any further questions.

Kind regards

Natasha

Natasha Szczyglowska | Project Manager Infrastructure
Meander Valley Council
working together



Please consider the environment before printing this email.

From: Rose Pfundt [<mailto:rose.pfundt@gmail.com>]
Sent: Wednesday, 11 July 2018 8:41 AM
To: Justin Simons
Cc: debbiem227@gmail.com; snadrajoyce1962@gmail.com
Subject: Re: PA\18\0236 - Re: quiries - 432 Westbury Road, Prospect Vale - Demolition

Hi Justin

Thank you for your advice for proposed demolition of 432 Westbury Rd. I'm unclear regarding Council's thinking with regards to the proposal to erect a 2.1m overlap paling fence to the end of the existing brick wall. In my mind it would make more economic sense to replace the entire existing boundary fence down to the boundary behind units 1 & 2 with a 1.2m side by side paling fence as a temporary measure pending completion of the proposed redevelopment of access to the sports complex.

Regards

Rose Pfundt

Sent from my iPad

On 10 Jul 2018, at 2:15 pm, Justin Simons <Justin.Simons@mvc.tas.gov.au> wrote:

Hi Deborah

I have discussed your concerns with Council's Infrastructure Department and as well as meeting with yourself, they have provided the following information relating to the proposed demolition of the house and outbuilding and the boundary fence at 430A Westbury Road.

During the demolition works of 432 Westbury Road Council intend to remove the fencing between 432 and 430A Westbury Road and as follows:

- Remove fence from the entrance to the property to the shed (brick wall)
- Remove the entire extents of the brick wall
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At this stage the application is for the demolition of the dwelling and outbuilding only. Future development relating to access and parking for Prospect Vale Park will likely be part of a future application for use and development.

If the answers provided by Council are to your satisfaction and you do not intend your submission to be treated as a representation, please let us know. If you would prefer that your submission were treated as a representation, that is also perfectly acceptable and the application will likely be considered by a full Council Meeting prior to approval.

Kind regards

Justin Simons | Town Planner
Meander Valley Council
working together

T: 03 6393 5346 | F: 03 6393 1474 | E: justin.simons@mvc.tas.gov.au | W: www.meander.tas.gov.au
26 Lyall Street (PO Box 102), Westbury, TAS 7303
<eocmail.gif>
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Views and opinions expressed in this transmission are solely those of the author and do not necessarily represent those of Meander Valley Council.



C&DS3 1240 WEEGENA ROAD AND LAND OFF BEAUMONTS ROAD, DUNORLAN - EXTRACTIVE INDUSTRY

1) Introduction

This report considers the planning application PA\18\0178 for an Extractive Industry – increase production of two (2) existing quarries for land located at 1240 Weegen Road, Dunorlan (CT 109390/1) and land off Beaumonts Road, Dunorlan (CT 143292/1), with road works on Beaumonts, Weegen and Dunorlan Roads.

2) Background

Applicant

Treloar Transport

Planning Controls

The subject land is controlled by the Meander Valley Interim Planning Scheme 2013 (referred to in this report as the 'Scheme').

The use and development is scheduled as a Level 2 Activity under the *Environmental Management and Pollution Control Act (EMPCA) 1994*, and as such is subject to the assessment of the Environmental Protection Authority (EPA) under that Act combined with the assessment under the Scheme.

Development

The proposal is to consolidate two (2) existing quarries located at Punches Terror Dunorlan and increase production of the existing quarries from 10,000m³ to 20,000m³ per annum. It is anticipated that all of the material will be crushed and screened. Extraction of 5,000 m³ or more triggers an assessment as a Level 2 Activity (as per the *Environmental Management and Pollution Control Act 1994*) and the applicant has prepared a Development Proposal and Environmental Management Plan (DPEMP).

The current and proposed quarrying activities include the following common features:

1. Excavation and ripping of material for crushing and screening;

2. Blasting;
3. Stockpiling of processed materials;
4. Loading of trucks using an excavator or wheel loader; and
5. The transport of materials by truck.

The proposed days and hours of operation are:

- Monday to Friday 7am – 5pm;
- Saturday 8am-3pm;
- The quarry is not intended to operate on Sunday.

The above operating days/hours are in keeping with the *Quarry Code of Practice 1999*, for quarries in the vicinity of a residential premises.

Indicative plans are provided below, with the proposal more fully described in the application documents attached.

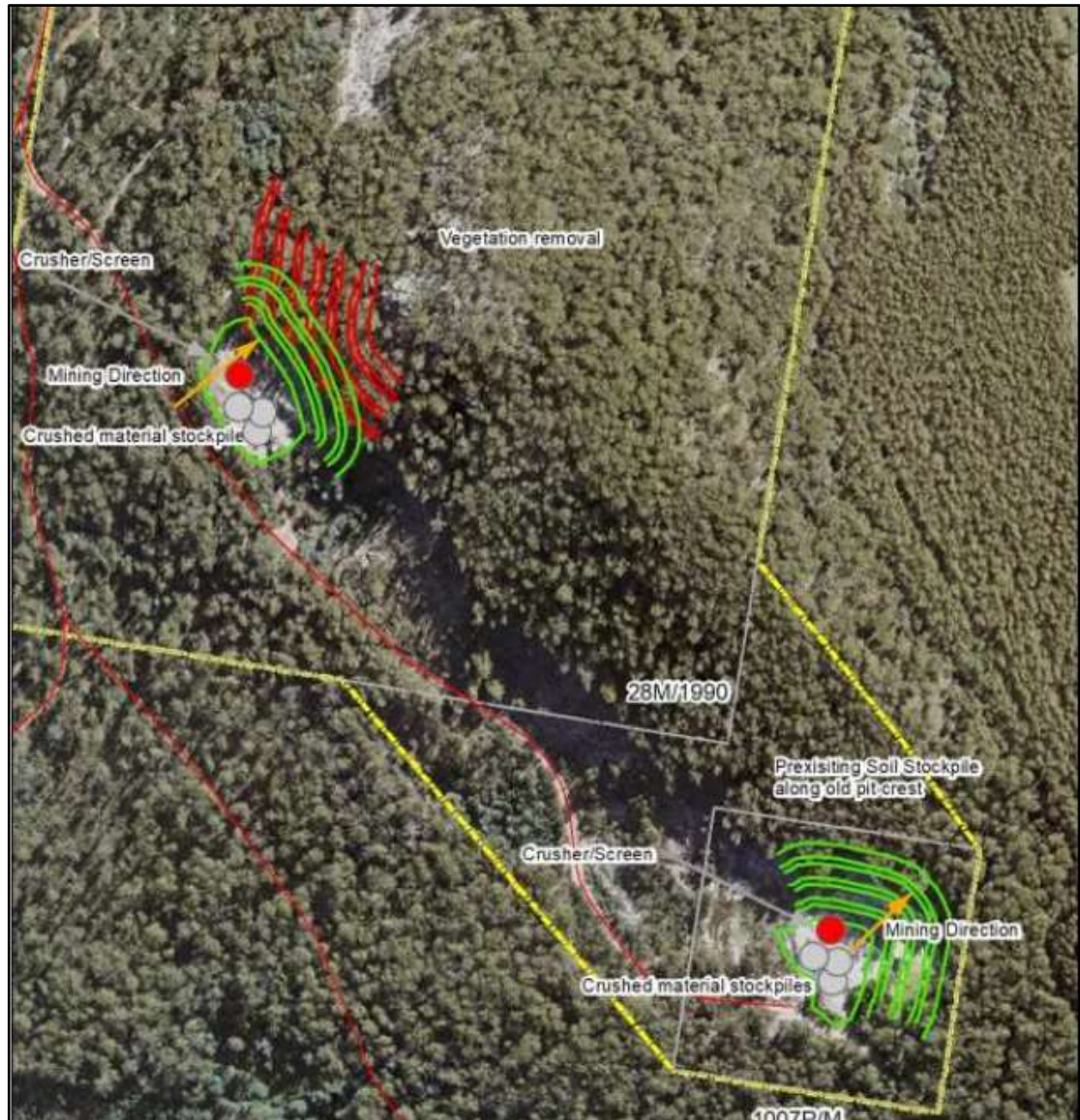


Figure 1: proposed quarry layout and extraction plan (source: Treloar Transport, DPMP page 15)

Vehicles will enter and exit the site via the existing access off Beaumonts Road. Some works are proposed to improve Council roads along the cartage route.

The proposal is an expansion of the existing operation and does not propose any additional parking or site buildings.

Site & Surrounds

The subject titles are located to the south-west of Dunorlan and both contain existing mining leases, 28M/1990 and 1007P/M (see Figure 2 below).

The surrounding land use is predominately resource development, with some scattered lifestyle lots.



Figure 2: shows the subject title boundaries in yellow and the mining leases (28M/1990 and 1007P/M) in red



Photo 1: existing face of south quarry (lease 1007P/M in Figure 2)



Photo 2: existing face of north quarry (lease 28M\1990 in Figure 1)

Statutory Timeframes

Date Environmental Protection Authority

Determination Received:

Request for further information:

9 July 2018

Not applicable

Information received:	Not applicable
Advertised:	24 March 2018
Closing date for representations:	26 April 2018
Extension of time granted:	Not applicable
Extension of time expires:	Not applicable
Decision due:	14 August 2018

3) Strategic/Annual Plan Conformance

Council has a target under the Annual Plan to assess applications for discretionary uses within statutory timeframes.

4) Policy Implications

Not applicable.

5) Statutory Requirements

Council must process and determine the application in accordance with the *Land Use Planning Approval Act 1993* (LUPAA) and its Planning Scheme. The application is made in accordance with Section 57 of LUPAA.

The application is for an extension of existing quarry operations beyond the threshold for a Level 1 Activity. Section 25(1) of EMPCA requires a planning authority to refer all Level 2 development applications to the Board of the EPA for assessment under EMPCA.

The application was advertised in conjunction with written advice from EPA. One (1) representation was received and forwarded to the EPA. Subsequently, the EPA completed their Determination (Environmental Assessment Report and Permit Part B Permit Conditions – Environmental No. 9701), with Council receiving these documents on 12 July 2018.

Statutory timeframes do not commence until the EPA's Determination has been received by the planning authority.

Any permit issued by the planning authority must include the EPA conditions. Permit conditions of the planning authority cannot be inconsistent or contradict those issued by the EPA. In accordance with Section 25(2)(f) of EMPCA, the planning authority is not to assess any matter addressed in the Board's assessment.

6) Risk Management

Risk is managed by the inclusion of appropriate conditions on the planning permit.

7) Consultation with State Government and other Authorities

The application was referred to the Board of Environmental Protection Authority Division on 8 March 2018. As directed by the EPA, the application was advertised on 24 March 2018 for 28 days. A Determination on the Environmental Impact Assessment and Permit Conditions were received by Council on 12 July 2018 (attached document).

8) Community Consultation

The application was advertised for the 28 day period required by the EPA. One (1) representation was received (attached document). The representation is discussed in the assessment below.

9) Financial Impact

Not applicable.

10) Alternative Options

Council can either approve the application with amended conditions or refuse the application.

11) Officers Comments

Zone

The subject property is zoned Rural Resource (see Figure 8 below). The land surrounding the site is located in the Rural Resource Zone.

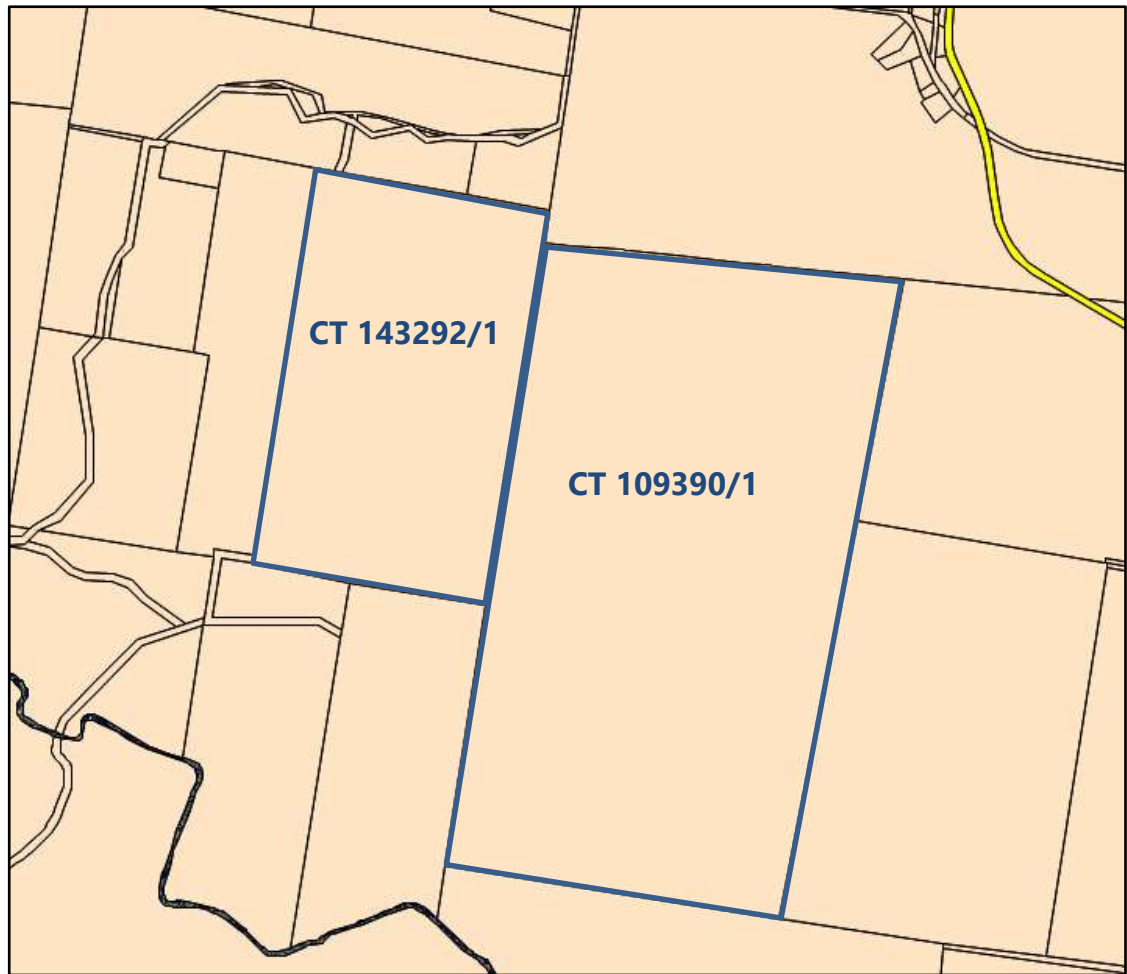


Figure 3: Zoning of subject property and surrounding land

Use Class

In accordance with Table 8.2 in the Scheme the proposed Use Class is:

- Extractive Industry (Level 2 Activity)

In the Rural Resource Zone, this use is listed as discretionary use under section 26.2 - Use Table. As such, the proposed use is assessed against the Zone Purpose including the Local Area Objectives and Desired Future Character Statements. The use standards in the zone and applicable codes are also considered relative to each applicable issue.

26.1 Zone Purpose

26.1.1 Zone Purpose Statements

26.1.1.1 To provide for the sustainable use or development of resources for agriculture, aquaculture, forestry, mining and other primary industries, including opportunities for resource processing.

26.1.1.2 To provide for other use or development that does not constrain or conflict with resource development uses.

26.1.1.3 To provide for economic development that is compatible with primary industry, environmental and landscape values.

26.1.1.4 To provide for tourism-related use and development where the sustainable development of rural resources will not be compromised.

26.1.2 Local Area Objectives

a) Primary Industries:

Resources for primary industries make a significant contribution to the rural economy and primary industry uses are to be protected for long-term sustainability.

The prime and non-prime agricultural land resource provides for variable and diverse agricultural and primary industry production which will be protected through individual consideration of the local context.

Processing and services can augment the productivity of primary industries in a locality and are supported where they are related to primary industry uses and the long-term sustainability of the resource is not unduly compromised.

b) Tourism

Tourism is an important contributor to the rural economy and can make a significant contribution to the value adding of primary industries through visitor facilities and the downstream processing of produce. The continued enhancement of tourism facilities with a relationship to primary production is supported where the long-term sustainability of the resource is not unduly compromised.

The rural zone provides for important regional and local tourist routes and destinations such as through the promotion of environmental features and values, cultural heritage and landscape. The continued enhancement of tourism facilities that capitalise on these attributes is supported where the long-term sustainability of primary industry resources is not unduly compromised.

c) Rural Communities

Services to the rural locality through provision for home-based business can enhance the sustainability of rural communities. Professional and other business services that meet the needs of rural populations are supported where they accompany a residential or other established use and are located appropriately in relation to settlement activity centres and surrounding

primary industries such that the integrity of the activity centre is not undermined and primary industries are not unreasonably confined or restrained.

26.1.3 Desired Future Character Statements

The visual impacts of use and development within the rural landscape are to be minimised such that the effect is not obtrusive.

Comment:

The application proposes to expand two (2) existing quarries. This is consistent with the Purpose of the Zone to provide for primary industry and the sustainable use and development of resources, including for mining. This use is not considered to constrain resource development on adjoining titles and provides for economic development which is compatible with primary industry, environmental and landscape values in the area. The quarries are fully contained within existing mining leases and are largely surrounded by standing vegetation. Environmental impacts will be managed by the EPA.

The area of the subject titles has limited capacity for agriculture due to the topography. As the quarries are within existing mining leases, no additional land will be converted to non-agricultural uses or further constrained.

The development does not undermine the Local Area Objectives relating to Community and Tourism. The quarries are largely screened by native vegetation and are not prominently visible from major roads. Due to topography and native vegetation screening the development will have minimal impact on the visual appearance of the rural landscape when viewed from outside the property.

The proposed use is consistent with the Zone Purpose and provides an alternative use which does not constrain or conflict with resource development uses in the area.

Applicable Standards

This assessment considers all applicable planning scheme standards.

In accordance with the statutory function of the State Template for Planning Schemes (Planning Directive 1), where use or development meets the Acceptable Solutions it complies with the planning scheme, however it may be conditioned if considered necessary to better meet the objective of the applicable standard.

Where use and development relies on performance criteria, discretion is used for that particular standard. To determine whether discretion should be exercised to grant approval, the proposal must be considered against the objectives of the applicable standard and the requirements of Section 8.10.

A brief assessment against all applicable Acceptable Solutions of the Rural Resource Zone and applicable Codes is provided below. This is followed by a more detailed discussion of any applicable Performance Criteria and the objectives relevant to the particular discretion.

Compliance Assessment

The following table is an assessment against the applicable standards of the Meander Valley Interim Planning Scheme 2013.

Rural Resource Zone			
Scheme Standard		Comment	Assessment
23.6.1 Uses if not a single dwelling			
A1	If for permitted or no permit required uses.	The proposed use is discretionary.	Relies on Performance Criteria
A2	If for permitted or no permit required uses.	Not applicable	
A3	If for permitted or no permit required uses.	The proposed use is discretionary.	Relies on Performance Criteria
A4	If for permitted or no permit required uses.	The proposed use is discretionary.	Relies on Performance Criteria
A5	The use must: a) be permitted or no permit required; or b) be located in an existing building.	The proposed use is discretionary.	Relies on Performance Criteria
26.3.3 Irrigation Districts			
A1	Non-agricultural uses are not located within an irrigation district proclaimed under Part 9 of the <i>Water Management Act 1999</i> .	The proposed use is not located on land within a proclaimed irrigation district.	Complies

Landslip Code			
Scheme Standard		Comment	Assessment
E.3.6.1 Development on Land Subject to Risk of Landslip			
A1	No acceptable solution.	The proposed work is located in a landslip prone area.	Relies on Performance Criteria

Road and Railway Assets Code			
Scheme Standard		Comment	Assessment
E4.6.1 Use and road or rail infrastructure			
A1	Sensitive use within 50m of a category 1 or 2 road with a speed limit of more than 60km/h, a railway or future road or railway, does not increase the annual average daily traffic movements by more than 10%.	Not applicable	
A2	For roads with a speed limit of 60km/h or less the use must not generate more than 40 movements per day.	Not applicable	
A3	For roads with a speed limit of more than 60km/h the use must not increase the annual average daily traffic movements by more than 10%.	The proposed development is anticipated to result in an increase in the number of vehicle movements at the access by more than 10%.	Relies on Performance Criteria
E4.7.2 Management of Road Accesses and Junctions			
A1	For roads with a speed limit of 60km/h or less the development must include one access providing both entry and exit, or two accesses providing separate	Not applicable	

	entry and exit.		
A2	For roads with a speed limit of more than 60km/h the development must not include a new access or junction.	The development does not include a new access or junction.	Complies

Car Parking and Sustainable Transport Code

Scheme Standard	Comment	Assessment
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6.6.1 Car Parking Numbers

A1	The number of car parking spaces must not be less than the requirements of: c) Table E6.1; or d) a parking precinct plan.	The application does not propose any additional parking spaces. Both quarries will be serviced by the existing parking areas. Although not clearly delineated, there is sufficient space for more than six (6) vehicles and the site is not limited for space should additional parking be required.	Complies
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Performance Criteria

Rural Resource Zone

23.6.1 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 Criteria P1

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 250m² over the site.

Comment:

The proposed expansion of the existing quarries is consistent with the Local Area Objective for the provision of primary industry activities. The proposal maintains the diversity of primary industry activities in the area.

The proposal is consistent with the objective and provides an appropriate mix of primary industry uses without converting or compromising the sustainability of prime agricultural land.

Performance Criteria 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:
 - (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.*

Comment:

The proposed development will convert a minimal area of non-prime agricultural land. The quarry expansions are limited to the areas immediately adjoining the quarries and within the existing mining leases. The land has minimal agricultural value due to topography and shallow soils.

The location is required for operational efficiency due to the location of the resources and the existing mining leases and infrastructure in place. The proposal concentrates the extractive industry in an area already being used for that purpose.

The proposal is consistent with the objective by providing a mix of primary industry activities while minimising the conversion of agricultural land.

Performance Criteria 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.*

Comment:

Emissions from the proposal have been assessed by the EPA and it is considered that the impacts can be effectively managed to avoid causing an environmental nuisance or impacting nearby sensitive uses.

Substantial vegetation buffers will be maintained between the quarries and adjoining primary industry activities and it is not anticipated that the proposal will increase any restraints on these activities.

The application includes a traffic impact assessment prepared by a suitably qualified person. The assessment recommends some improvements to

some local roads and intersections to ensure the safe and efficient use of the network. Impacts on the road network are further discussed below.

The proposed development is consistent with the objectives.

Performance Criteria P5

It must be demonstrated that the visual appearance of the use is 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.*

Comment:

The visual impacts of the use and development are acceptable. The proposed quarries will not extend beyond existing ridgelines and mature standing vegetation will be maintained surrounding the quarries.

The quarries are both located on south facing slopes and works will not extend onto or beyond the ridgelines to the north. As such, the development will not be visible from public roads and properties to the north.

While the site may be visible from properties to the south, existing vegetation cover and separation of more than 700m will largely screen the site and is sufficient to mitigate the visual impacts of the development.

The development complies with the Performance Criteria and is consistent with the objective.

Landslip Code

E.3.6.1 Development on Land Subject to Risk of Landslip

Objective

To ensure that development is appropriately located through avoidance of areas of landslip risk, or where avoidance is not practicable, suitable measures are available to protect life and property.

Performance Criteria P1

Development must demonstrate that the risk to life and property is mitigated to a low or very low risk level in accordance with the risk assessment in E3.6.2 through submission of a landslip risk management assessment.

Comment:

The application includes a geotechnical assessment prepared by a suitably qualified geotechnical consultant. Considering the nature of the use and activities undertaken at the site, the assessment generally assigns a risk profile of low to very low. Impacts are generally limited to the quarry operators and will not impact people or property outside of the lease areas. While it is considered that there is a moderate risk associated with rock fall on steeper slopes, the geotechnical assessment indicates that the risk can be mitigated satisfactorily through management prescriptions.

The geotechnical assessment and recommended risk mitigation will be endorsed as part of any planning permit approved by Council.

The development is consistent with the objective.

Road and Railway Assets Code**E4.6.1 Use and road or 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.

Performance Criteria 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.*

Comment:

The application includes a traffic impact assessment prepared by a suitably qualified person. The traffic impact assessment demonstrates that, with minor road improvements, the development will not impact the safety and efficiency of the road network.

The works include:

- a) Improvement of intersection alignment between the quarry road and Beaumonts Road;
- b) Install a Giveaway Sign on Chesney Road in advance of the intersection with Beaumonts Road;
- c) Maintain fence lines clear of vegetation at the intersection of Chesney Road and Beaumonts Road;
- d) Install a white hold line and Giveaway Sign at the intersection of Dunorlan Road and Weegeena Road;
- e) Construct localised pavement widening on the south side of Weegeena Road at the Dunorlan Road intersection;
- f) Drainage improvement works on Weegeena Road.

Council's Works and Infrastructure Departments have committed to undertaking drainage works on Weegeena Road. The other road improvements will be the responsibility of the applicant and will need to be completed prior to the commencement of use.

Recommended Condition:

1. *Prior to the commencement of use all works recommended in the endorsed Traffic Impact Assessment prepared by CSE Tasmania Pty Ltd are to be completed to the satisfaction of Council's Director Infrastructure Services, including:*
 - b) *Realignment of quarry road/Beaumonts Road intersection;*
 - c) *Installation of Give Way Sign on Chesney Road in advance of the intersection with Beaumonts Road;*
 - d) *Maintain fence lines clear of vegetation at the intersection of Chesney Road and Beaumonts Road;*
 - e) *Install a white hold line and Give Way Sign at the intersection of Dunorlan Road and Weegeena Road; and*
 - f) *Construct localised pavement widening on the south side of Weegeena Road at the Dunorlan Road intersection.*

Recommended Note:

1. *Councils Works Department will undertake drainage improvement work in Weegeena Road as per Recommendation 2 of the Traffic Impact Assessment.*
2. *Separate consent is required from Council acting as the Road Authority for any works within the road reserve. Prior to the commencement of any works within the road reserve a completed Application for Works in the*

Road Reservation form (attached) must be completed and returned to Council.

In accordance with the Meander Valley Interim Planning Scheme 2013 - E8 Biodiversity Code, E9 Water Quality Code and E11 Environmental Impacts and Attenuation Code are not applicable when the use and development is for a Level 2 activity subject to an assessment by the *Board of Environmental Management and Pollution Control*.

Representation

One (1) representation was received during the advertising period (see attached document). A summary of the representation is as follows:

- Noise from vehicles and quarry operations;
- Risk of rock fall and damage to dwellings caused by blasting;
- Dust emissions from quarry and road surface; and
- Damage to Beaumonts Road caused by truck movements.

COMMENT:

In accordance with the Meander Valley Interim Planning Scheme 2013 - E8 Biodiversity Code, E9 Water Quality Code and E11 Environmental Impacts and Attenuation Code are not applicable when the use and development is for a Level 2 activity subject to an assessment by the *Board of Environmental Management and Pollution Control*. As such, issues relating to noise, dust and blasting impacts cannot be considered by the Planning Authority. These issues have been considered by the EPA and conditions for management and mitigation they have recommended must be included on the permit (see attached *Environmental Assessment Report* by the Board of the EPA dated July 2018).

Council's Environmental Health Officer has also reviewed the application and EPA assessment and has provided the following advice:

The dust management methods committed to by the applicant in the Development Proposal and Environmental Management Plan (i.e. restriction on speed limit for vehicle movements and road dampening) are listed in the suggested measures within the Quarry Code of Practice 2017 for air pollution and dust control. Together with atmospheric permit conditions, namely A1, A2 and A3, it is considered that adequate measures are in place to mitigate the potential for

nuisance from dust emissions associated with quarry operations and traffic movements along Beaumonts Road, Dunorlan. If it is determined that an environmental nuisance is being caused, the EPA may take regulatory/enforcement action including alteration of the permit conditions.

Matters raised in the representations that can be addressed by the Planning Authority are limited to increased traffic and the impacts of the proposal on the road network. These matters have been discussed in the assessment above. With the improvement works recommended within the application, it is considered that the increased production and vehicle movements will not impact the safety and efficiency of the road network.

Conclusion

In conclusion, it is considered that the application for an expansion of the existing quarries at 1240 Weegeena Road and land off Beaumonts Road is an acceptable development in the Rural Resource Zone, can be effectively managed by conditions and should be approved.

AUTHOR: Justin Simons
TOWN PLANNER

12) Recommendation

It is recommended that the application for a use and development for an Extractive Industry – expansion of quarries, for land located at 1240 Weegeena Road, Dunorlan (CT 109390/1) and land off Beaumonts Road, Dunorlan (CT 143292/1), with road works on Beaumonts, Weegeena and Dunorlan Roads, by Treloar Transport, requiring the following discretions:

- ***26.3.1 Uses if not a single dwelling***
- ***E.3.6.1 Development on Land Subject to Risk of Landslip***
- ***E4.6.1 Use and road or rail infrastructure***
- ***E6.7.1 Construction of Car Parking Spaces and Access Strips***
- ***E6.7.2 Design and Layout of Car Parking***

be APPROVED, generally in accordance with the endorsed plans:

- a) Treloar Transport – Development Proposal and Environmental Management Plan;**

- b) Northbarker Ecosystem Services – Flora and Fauna Assessment (proposed intensification of use dated 9 September 2016 and new mining lease dated 27 July 2017);
- c) CSE Tasmania – Traffic Impact Assessment
- d) Tasman Geotechnics – Land Slip Risk Assessment

and subject to the following conditions:

1. EPA PERMIT REQUIREMENTS

The person responsible for the activity must comply with the Permit Conditions – Environmental No. 9701 contained in Schedule 2 of Permit Part B, which the Board of the Environmental Protection Authority (EPA) has required the planning authority to include in the permit, pursuant to Section 25(5) of the *Environmental Management and Pollution Control Act 1994*. Permit Part B is attached together with Schedules 1, 2 and 3 and forms part of this permit.

- 2. Prior to the commencement of use all works recommended in the endorsed Traffic Impact Assessment prepared by CSE Tasmania Pty Ltd are to be completed to the satisfaction of Council's Director Infrastructure Services, including:**
- a) Realignment of quarry road/Beaumonts Road intersection;
 - b) Installation of Give Way Sign on Chesney Road in advance of the intersection with Beaumonts Road;
 - c) Maintain fence lines clear of vegetation at the intersection of Chesney Road and Beaumonts Road;
 - d) Install a white hold line and Give Way Sign at the intersection of Dunorlan Road and Weegen Road; and
 - e) Construct localised pavement widening on the south side of Weegen Road at the Dunorlan Road intersection.

Note:

- 1. Councils Works Department will undertake drainage improvement work in Weegen Road as per Recommendation 2 of the Traffic Impact Assessment.**
- 2. Separate consent is required from Council acting as the Road Authority for any works within the road reserve. Prior to the commencement of any works within the road reserve a completed Application for Works in the Road Reservation form (attached) must be completed and returned to Council.**

3. **Any other proposed development and/or use, including amendments to this proposal, may require a separate planning application and assessment against the Planning Scheme by Council. All enquiries can be directed to Council's Community and Development Services on 6393 5320 or via email: mail@mvc.tas.gov.au.**
4. This permit takes effect after:
 - a) The 14 day appeal period expires; or
 - b) Any appeal to the Resource Management and Planning Appeal Tribunal is abandoned or determined; or.
 - c) Any other required approvals under this or any other Act are granted.
5. A planning appeal may be instituted by lodging a notice of appeal with the Registrar of the Resource Management and Planning Appeal Tribunal. A planning appeal may be instituted within 14 days of the date the Corporation serves notice of the decision on the applicant. For more information see the Resource Management and Planning Appeal Tribunal website www.rmpat.tas.gov.au.
6. If an applicant is the only person with a right of appeal pursuant to section 61 of the Land Use Planning and Approvals Act 1993 and wishes to commence the use or development for which the permit has been granted within that 14 day period, the Council must be so notified in writing. A copy of Council's Notice to Waive Right of Appeal is attached.
7. This permit is valid for two (2) years only from the date of approval and will thereafter lapse if the development is not substantially commenced. An extension may be granted if a request is received.
8. In accordance with the legislation, all permits issued by the permit authority are public documents. Members of the public will be able to view this permit (which includes the endorsed documents) on request, at the Council Office.
9. If any Aboriginal relics are uncovered during works;
 - a) All works are to cease within a delineated area sufficient to protect the unearthed and other possible relics from destruction,
 - b) The presence of a relic is to be reported to Aboriginal Heritage Tasmania Phone: (03) 6233 6613 or 1300 135 513 (ask for

Aboriginal Heritage Tasmania Fax: (03) 6233 5555 Email: aboriginal@heritage.tas.gov.au; and

- c) The relevant approval processes will apply with state and federal government agencies.

DECISION:



Punches Terror Quarry Expansion

Beaumont's Road, Dunorlan

(ML 1007 P/M & 28M/1990)

Development Proposal and Environmental Management Plan



This Development Proposal and Environmental Management Plan was prepared by:



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The DPMP will be submitted to:

Board of the Environment Protection Authority
GPO Box 1550
Hobart TAS 7001

Issue	Date	Recipient	Organisation
Draft 1	8 th December 2017	Internal	Urban Forest Consultancy
Draft 2	15 th December 2017	J Treloar/T Milham	Treloar Transport
Draft 3	19 th December 2017	Assessments Section	EPA Tasmania
Draft 4	08 th January 2018	Assessments Section	EPA Tasmania
Draft 5	30 th January 2018	Assessments Section	EPA Tasmania
Version 1	7 th February 2018	Assessments Section	EPA Tasmania

EXECUTIVE SUMMARY

Treloar Transport Pty Ltd (TT) seeks approval to increase production at Punches Terror Quarry, located at Beaumont's Road, Dunorlan Tasmania, (level one, located on freehold land - 1007 P/M), by merging with newly acquired Meander Valley Council (MVC) quarry (level two - 28M/1990) located on Crown Land. Combined, the proposal is to increase annual production from 11,000m³ to 20,000 m³. This would incorporate an allowance to blast, crush and screen as a part of usual operations.

There are two threatened species within the vicinity of quarry operations. However, neither species is expected to be directly affected by quarry operations. Protocols will be implemented to ensure all personnel, vehicles, plant and machinery remain clear of excluded zones.

Quarry operations are generally expected to be carried out in an easterly direction in both lease areas. All material within the quarry is chert-conglomerate with no expectation of acidic drainage, and a requirement for all of the product to be processed through a mobile crushing and/or screening plant.

Operations will be distributed roughly evenly between the two quarry locations, with 28M/1990 becoming the primary quarry within five years as 1007P/M approaches the lease boundaries to the north and east.

TT has operated the southern lease (1007P/M) since 2001, with no complaints from nearby residences. With no permanent structures (including fuel storages) on site, all plant and equipment will be removed at the conclusion of each campaign, with facilities erected, temporary in nature.

Increased production at the site is not expected to impact on the local community or transport segments. However, there may be some concern that by blasting, possible noise and dust pollution may affect local residents. TT will put in place control measures including notification of blasts to residents in the immediate vicinity, carrying out blasts during business hours and times consistent with the prescribed measures of the Tasmanian Quarry Code of Practice (QCP).

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LIST OF ABBREVIATIONS

ANFO	Ammonium Nitrate, Fuel Oil
BMP	Blast Management Plan
BOM	Bureau of Meteorology
BPEM	Best Practice Environmental Management
DPIPWE	Department of Primary Industries, Parks, Water and Environment
DPEMP	Development Proposal and Environmental Management Plan
DoSG	Department of State Growth
EMPCA	<i>Environmental Management and Pollution Control Act 1994</i>
Air EPP	<i>Tasmanian Environment Protection Policy (Air Quality) 2004</i>
Noise EPP	<i>Tasmanian Environment Protection Policy (Noise) 2009</i>
GDE	Groundwater Dependant Ecosystems
LOM	Life of Mine
LOMP	Life of Mine Plan
LUPAA	<i>Land Use Planning and Approvals Act 1993</i>
MRT	Mineral Resources Tasmania
MVC	Meander Valley Council
NBE Services	North Barker Ecological Services
PEV	Protected Environmental Values
PSG	Project Specific Guidelines
QCP	Quarry Code of Practice – May 2017
SPWQM	<i>State Policy on Water Quality Management 1997</i>
STT	Sustainable Timber Tasmania
TDS	Total Dissolved Solids
TT	Treloar Transport

LIST OF DEFINITIONS

Site	Leases 28M/1990 and 1007 P/M
Southern Lease/Quarry Area	Refers to the land owned by MC & B Atkins and mining lease 1007P/M
Northern Lease/Quarry Area	Refers to the newly acquired lease 28M/1990
Spotter	A spotter in the context of this proposal is an observer whose sole responsibility is to ensure that they monitor the high wall during repair of machinery and alert workers should they feel there is a risk of rock fall; a reliable form of communication must be maintained between the worker(s) and the spotter.

1. INTRODUCTION

This Development Proposal and Environmental Management Plan (DPEMP) provides information for the Environment Protection Authority (EPA) Tasmania and Meander Valley Council to assess this proposal by proponent Treloar Transport Pty Ltd (TT), to intensify and consolidate quarrying at the Punches Terror Quarry (leases 1007 P/M and 28M/1990).

Through consolidation of the two quarries, TT expects the mining volume to increase from 10,000 m³ to 20,000 m³ per annum (equating to 50,000 tonnes broken at density of 1.6). It is anticipated that all of this material will require crushing and screening.

The proposed operations include the following:

- Excavation and ripping of material for crushing and screening
- Blasting
- Stockpiling of processed materials
- Loading of trucks using an excavator or wheel loader
- Transport of material by trucks.

1.1. Treloar Transport Pty Ltd Overview

Table 1 - Proponent Details

Trading name	Treloar Transport Pty Ltd
Registered address	7 Spring St, Sheffield 7306
Postal address	PO Box 21, Sheffield 7306
ABN	83 009 541 986
ACN	009 541 986
Contact	John Treloar
Phone	03 6491 1686
Mobile	0428 140 466
Email	jr@treloartransport.com.au

Established in 1978, TT is a family owned business currently employing 65 employees, providing construction, earthmoving and quarrying operations and civil contracting services throughout Tasmania. TT operates a major quarry and crushing plant for civil construction materials at Shackley Hill near Sheffield, as well as several smaller intermittently operated quarries.

In addition to existing operations at Punches Terror Quarry, TT has extensive experience in the following:

- Quarry rehabilitation
- Effluent pond management
- Siltation control
- Landslip control
- Bridge construction
- Storm water control
- Silviculture
- Forestry road construction
- Unsealed road grading and watering
- Earthmoving and earthworks for subdivisions
- Agricultural earthmoving projects
- Department of State Growth (DoSG) and council road works, and

- Landfill and environmental projects.

Applicable environmental legislation, standards, guidelines and relevant Commonwealth, State and Local Government policies, strategies, or management plans with which the proposal would be expected to comply are given throughout the text of this document.

This document has been prepared using the generic and DPEMP Project Specific Guidelines (July 2017) provided by the EPA Board, following submission of a Notice of Intent in June 2017.

The Meander Valley Council (MVC) has determined the proposal will require a new planning permit and will be assessed against the *Meander Valley Interim Planning Scheme 2013*. The development application (supported by this DPEMP) will be publicly advertised as part of the assessment process.

1.2. Punches Terror Quarry Operational Overview

Punches Terror Quarry (M/L 1007 P/M) is an existing level one quarry, which has been operated by TT since 2001. The quarry is located on freehold land owned by M. C. and B Atkins, C/T109390-1.

TT recently acquired a level two quarry from MVC, which is on Sustainable Timber Tasmania (STT) managed Crown Land (28M/1990). TT seeks to operate these two leases under the same land use permit, and plans to consolidate the leases into one in the future.

TT has not yet initiated this process with Mineral Resources Tasmania (MRT). However, the intention is for the new land parcel/area to be represented as shown in Figure 1. Table 2 provides a list of the coordinates which define "The Land".

The proposed increase in production will not require increased overheads and/or capital expenditure by TT, with existing operational protocols in place at the quarry sufficiently suited to manage the increased production. The number of employees expected to be on site during campaigns will remain as one individual, with heavy vehicle traffic continuing as per existing operations.

Safety protocol is currently in place to ensure the excavator/loader operator parks the machine in a safe location away from blasting and/or other operations, and is stationed in a safe environment that allows for servicing and refuelling. The only other vehicles required to be on site are service vehicles in the event of a breakdown. These vehicles will park adjacent to the broken-down equipment.

The likely markets for the quarry products include construction, road building and project materials which will see the quarry mined on a campaign basis. There is enough material within the Life of Mine Plan (LOMP) to increase capacity at the site, with road going access and availability of projects being the limiting factors with an increased production potential.

The anticipated quarry life for the mine plans as shown in Figure 7 and Figure 8, is approximately 16 years. The likelihood is that the life will be closer to 20 years given the maximum proposed production is unlikely to be removed each year.

It is not anticipated that the intensification of use will impact on any other activities in the area.

Table 2 - X and Y coordinates which define "The Land"

X Coordinate	Y Coordinate
460059.162	5407099.146
459977.4272	5406596.899
460144.5462	5406380.472
460113.264	5406182.97
459915.125	5406214.062

X Coordinate	Y Coordinate
459665.2097	5406507.576
459376.2866	5406555.072
459479.201	5407203.217



Figure 1 – site plan showing the area of “The Land” and approximate distances to sensitive receptors

2. PROPOSAL DESCRIPTION

2.1. GENERAL

The proposal is based on mining between two existing hard rock (chert-conglomerate) quarries of conventional drill and blast operation. This will consist of benches 6 to 8m high, small topsoil and overburden stockpiles, drains and settlement ponds as shown in the drainage plan, Figure 5.

Mining will be conducted between both leases, in the mining areas shown in Figure 6. Figure 7 and Figure 8 show more detailed mining plans. Mining will primarily be contained to existing disturbances which amounts to less than two hectares between both lease areas. There may be a requirement to remove a small amount of vegetation above the former MVC quarry to ensure trees do not fall into the active quarry area.

The quarrying will be a conventional drill and blast benched operation. Figure 2 shows the five-stage process from drilling to haul from site. The extraction process consists of drilling and blasting, crushing and screening, stockpiling, load and dispatch. The crusher / screen is a mobile unit that can be positioned next to the shot rock and fed directly by the face excavator.

Typical equipment on site will be:

- Face loader: 20t Cat excavator
- Crusher: Terex mobile crusher / screen
- Stockpile Loader: Cat 950
- Trucks: Truck and dog combination 30t capacity.



Figure 2 - quarrying cycle showing the five-stage process from drilling to haul from site

Blasting will be conducted on an as-needs basis, with a typical blast liberating about 10,000 m³. At the maximum annual proposed production rate (20,000 m³), blasting is likely to be carried out twice per annum. Initial blasts in the northern lease (28M/1990) may need to be smaller in size, potentially only 5,000 m³, to re-establish upper benches. This could mean up to four blasts in the first three years of mine life, with two blasts per year expected thereafter.

Given the number of sensitive receptors within 1 kilometre of the working areas of the quarries, TT will endeavour to minimise blasting or conduct blasting at the two quarries simultaneously.

Mining volume between the two quarries combined is expected to be 20,000 m³ per annum (or 50,000 tonnes broken based on bank density of 2.6). It is anticipated that all this material will require crushing.

It is proposed that operating hours will be 0700 to 1700 Monday to Friday and 0800 to 1500 on Saturday. These operating times fall within the recommended hours of operation in the *Quarry Code of Practice (QCP) 2017*.

The heaviest concentration of traffic from expanded production would typically be 20 truck movements a day for several weeks over several campaigns per year.

TT has been operating lease southern lease (1007 P/M) as a level 1 activity for 16 years. This activity does not have a council permit or regulatory conditions associated with it. TT recently acquired 28M/1990 from MVC; this activity is regulated by permit (former Licence to Operate Scheduled Premises) 3866. Permitted material movement from 28M/1990 is 10,000 tonnes per annum. TT has only removed enough material from the quarry to conduct road base testing and start setting up benches and drainage for future production from the quarry.

2.2. CONSTRUCTION

Both quarries are operational in their existing state, with no construction or permanent structures required on site.

2.3. COMMISSIONING

No commissioning is required as part of the expansion.

2.4. GENERAL LOCATION MAP

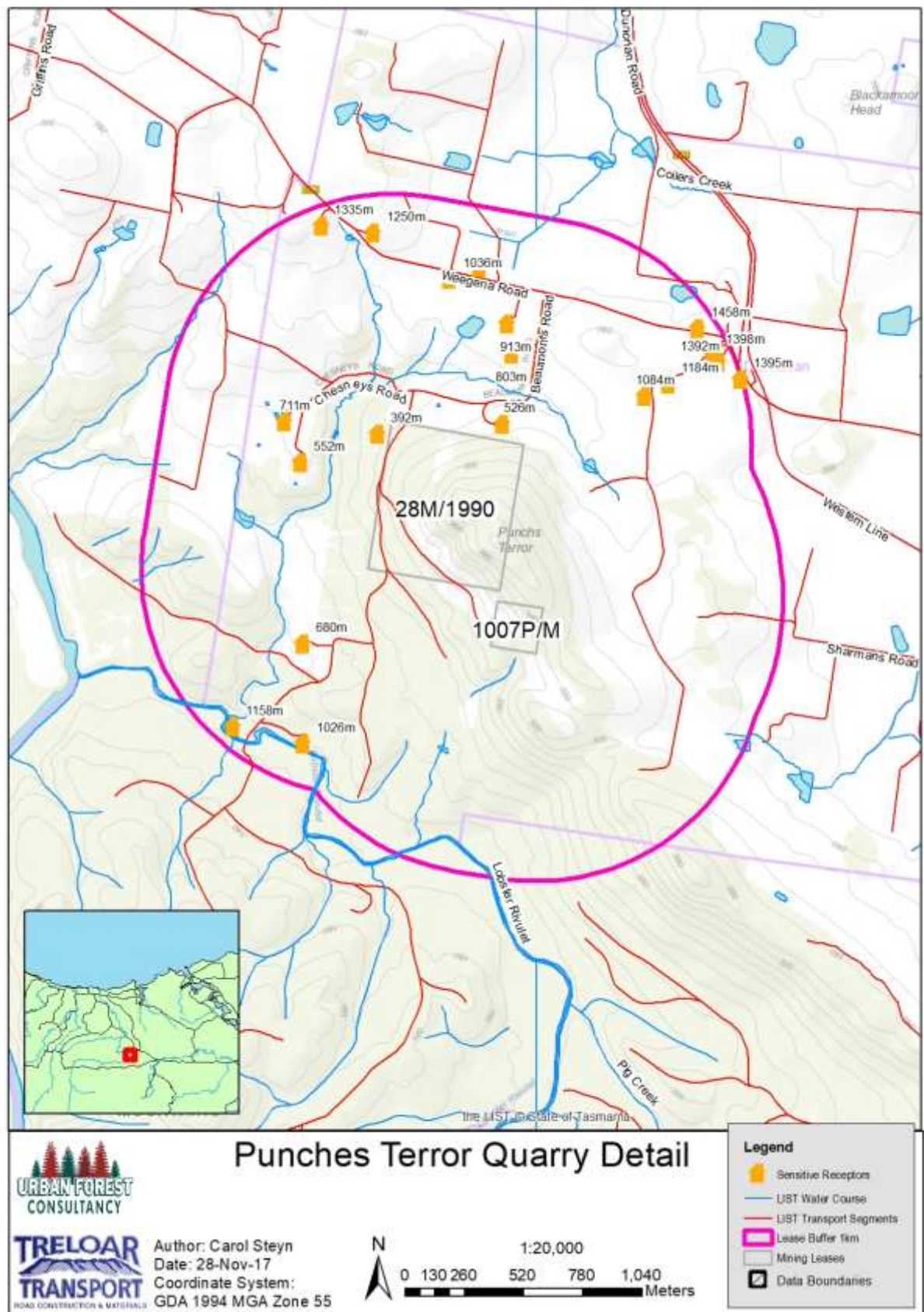


Figure 3 - general location map showing the proposed site, topographical features, roads to and from the site, distances to sensitive receptors within one kilometre.

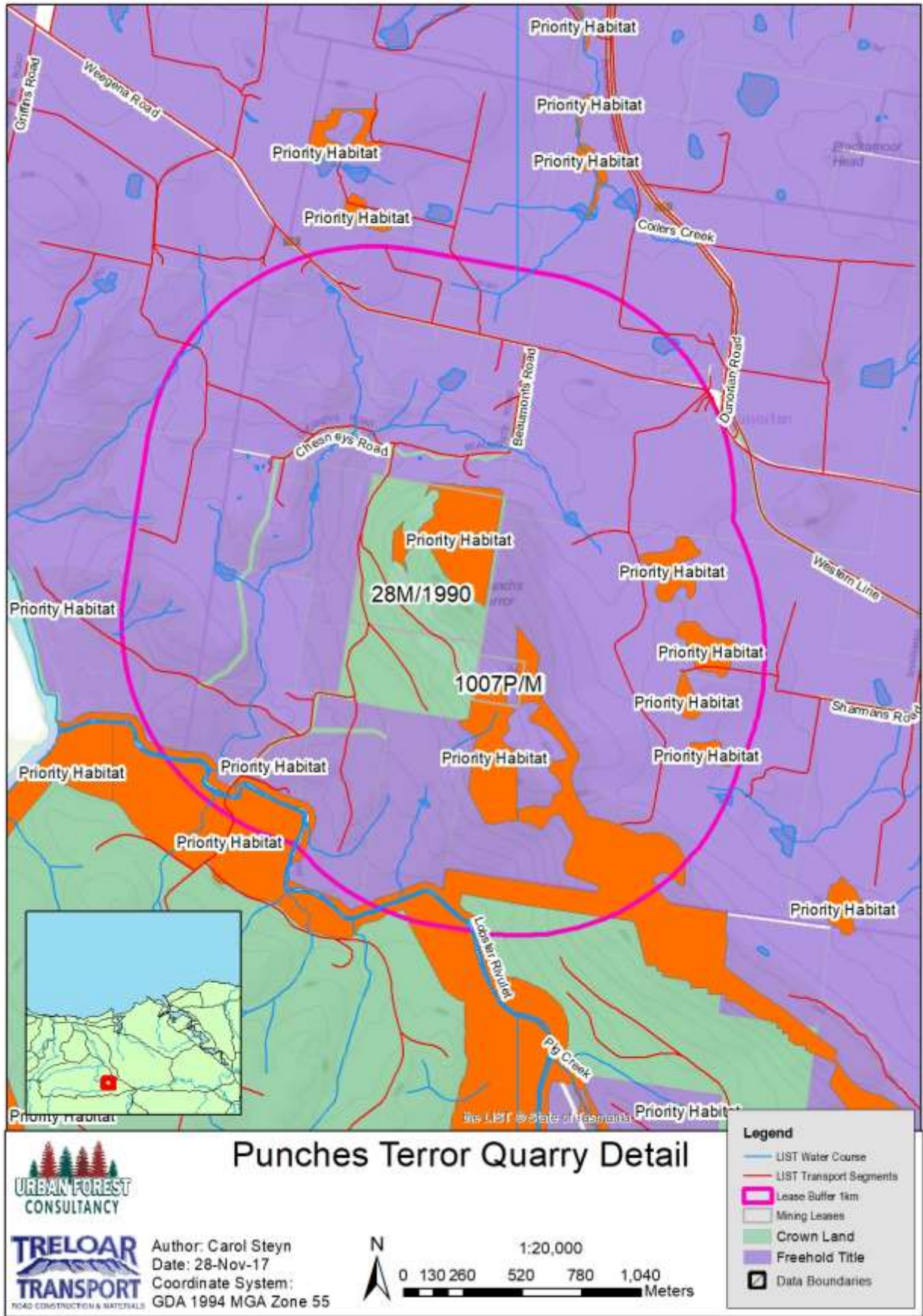


Figure 4 - general location map showing surrounding land tenure and land use. All areas within the plan are zoned "Rural Resource"

2.5. SITE PLAN

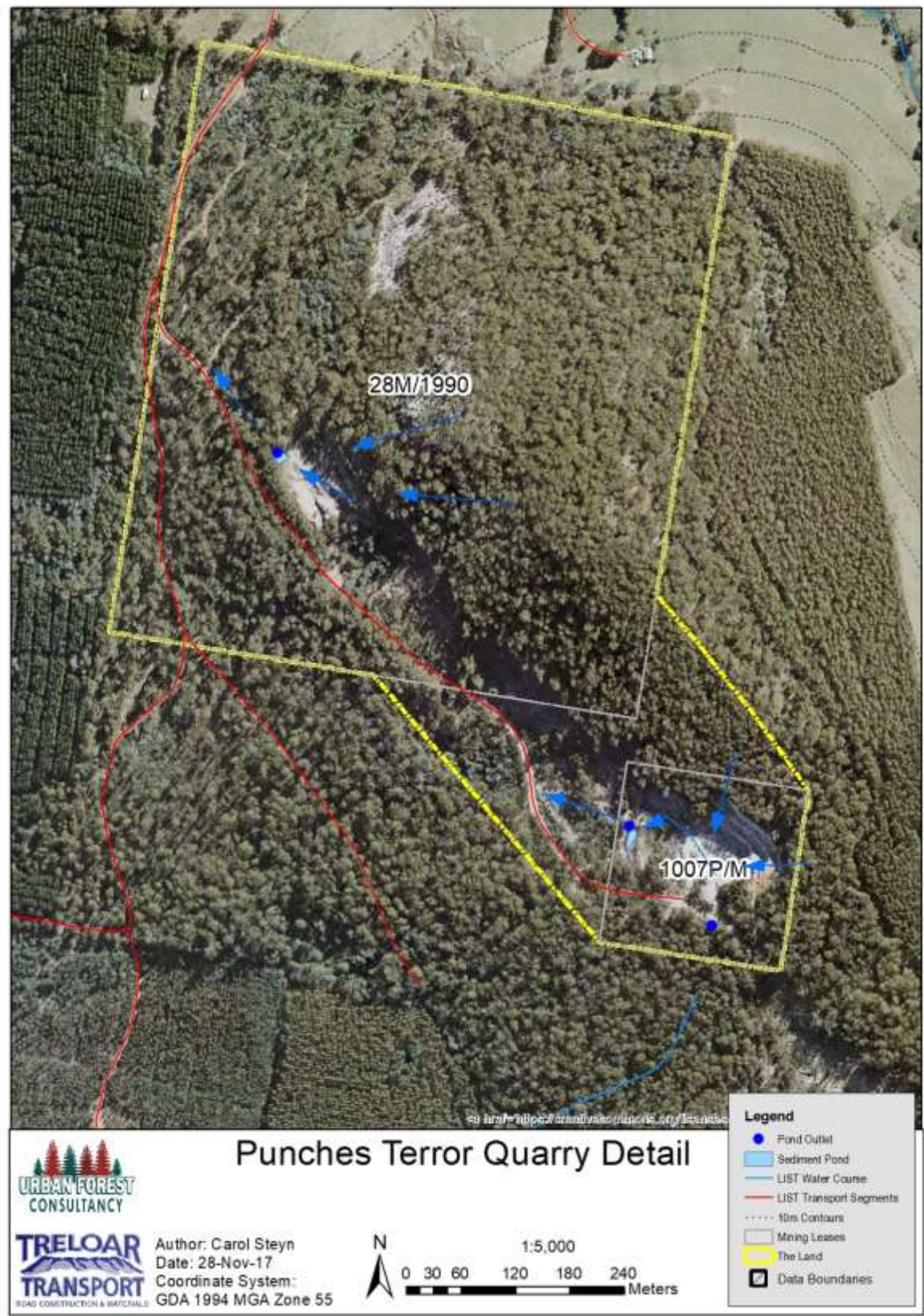


Figure 5 - Drainage plan showing ponds, pond outlets, and final drainage direction

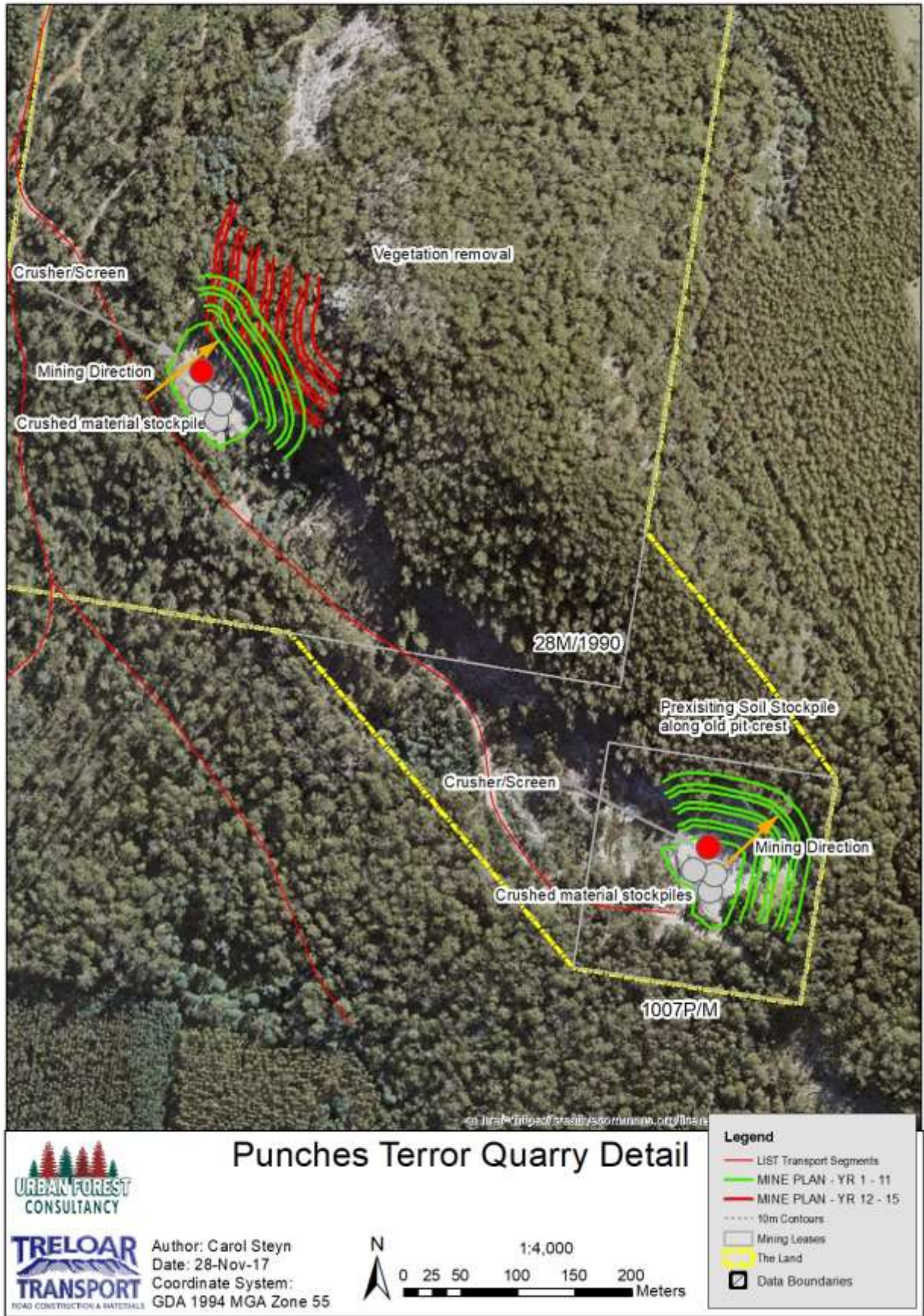


Figure 6 - Site plan showing boundary of the sites, major items of equipment, crushed material stockpiles, mining direction and mining plan

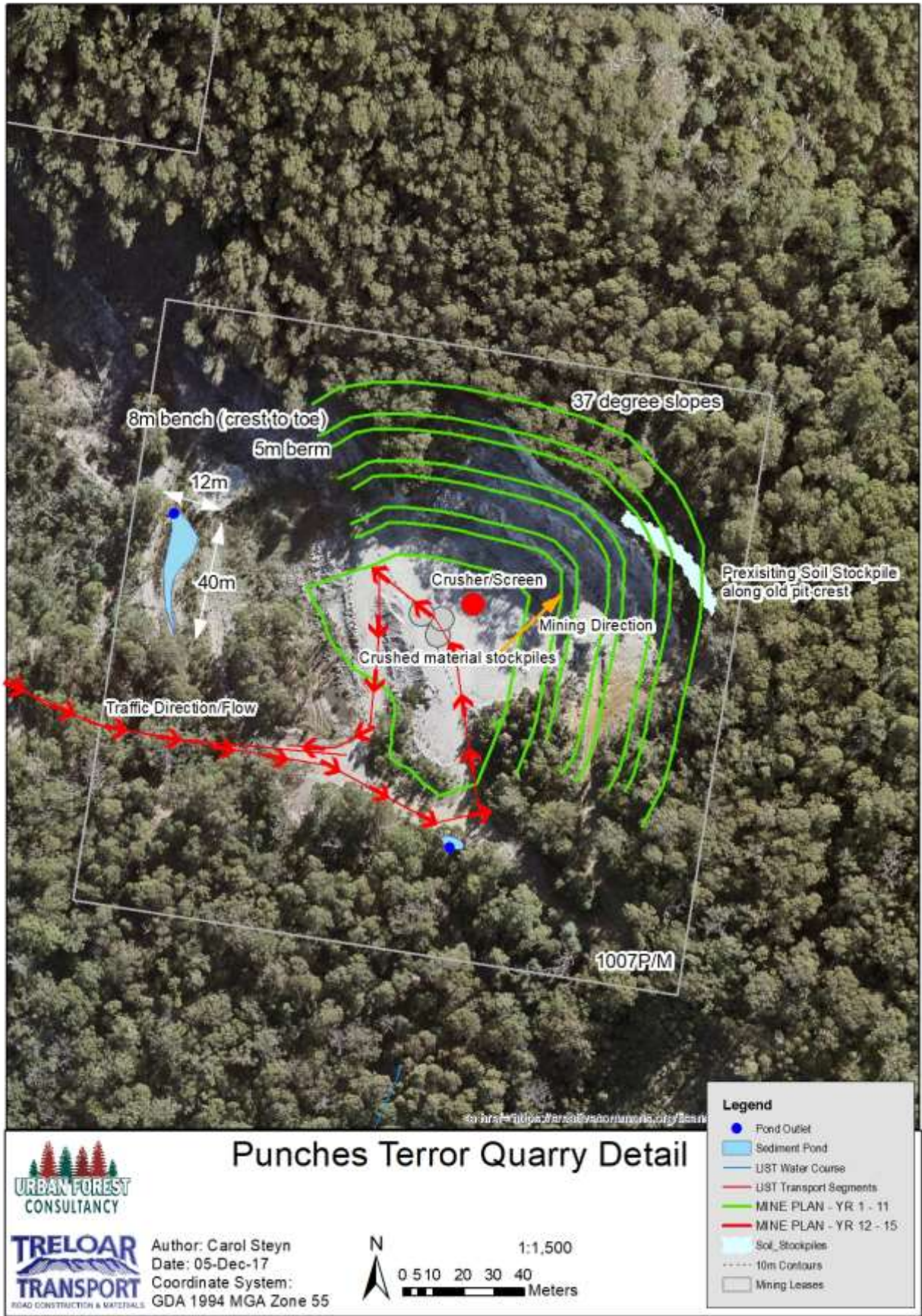


Figure 7 - detailed mining plan for the Atkins Quarry 1007P/M

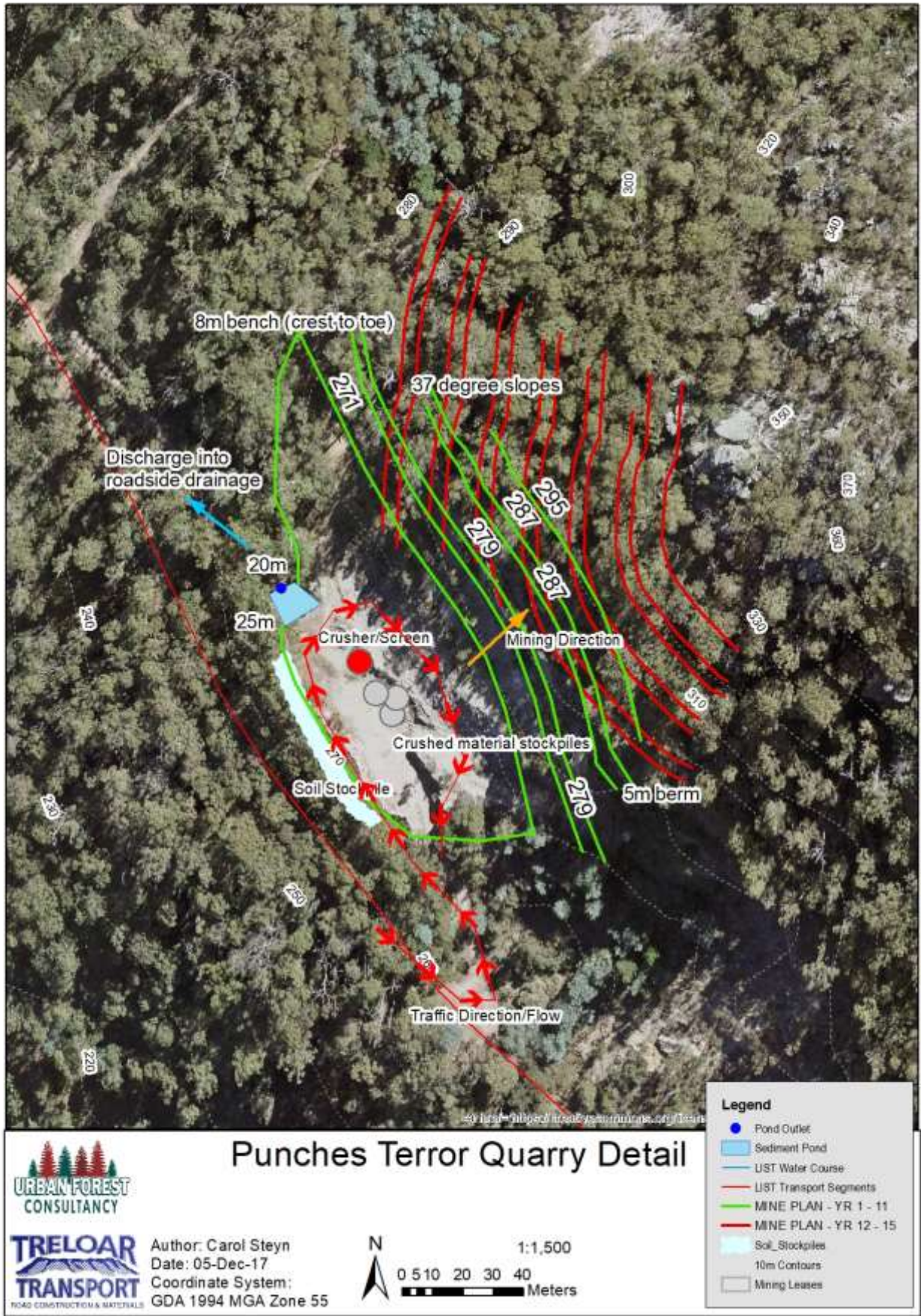


Figure 8 - detailed mining plan for the ex-Meander Valley Council quarry 28M/1990

2.6. OFF SITE INFRASTRUCTURE

No additional off-site infrastructure is required to facilitate this development.

3. PROJECT ALTERNATIVES

The site was chosen for development because of the existing quarry (1007P/M), and the recent acquisition of the former MVC lease 28M/1990, in an area which opens new business opportunities for TT. The intensification of use is required due to new markets opening up in the Meander Valley Region.

The material from the quarry is suitable for road, civil and dam construction.

4. PUBLIC CONSULTATION

The application to intensify use at Punches Terror quarry has included discussions and consultation with the following surrounding residences and agencies:

- Residents in the region
- MC and B Atkins as the land owner of lease 1007P/M
- STT as land manager of the Crown Land on lease 28M/1190
- Environment Protection Authority (EPA)
- Department of State Growth - Mineral Resources Tasmania (MRT)
- Meander Valley Council.

This application is for a Level 2 Activity which is 'discretionary' in the Rural Resource Zone, and as such the application will be advertised to the public. The EPA and the Meander Valley Council will take into account all comments and representations received through the public consultation period in the assessment of this proposal.

5. THE EXISTING ENVIRONMENT

5.1. PLANNING ASPECTS

Mining lease 1007P/M is located on a private parcel owned by MC and B Atkins and 28M/1990 is Crown Land, managed by STT. The leases fall within the Meander Valley Council Area and is zoned Rural Resource under the interim planning scheme.

There are no rights of way, easements or covenants affecting the proposal. The leases are off Beaumont's Road, to the south-west of the township of Dunorlan. A general locality plan is shown in Figure 3. The mining lease area and surrounding land is zoned *Rural Resource* (Figure 4). Mining is a discretionary use in the *Rural Resource* zone.

The lease areas are both on sites which have a long history of quarrying and are surrounded by production forests. The proposed mining areas lie within a low to medium landslide hazard band (LIST: Landslide Planning Map). A landslip risk assessment has been conducted by Tasman Geotechnics and is included as Appendix G – Landslip Risk Assessment. This is discussed further in section 6.13.

The site has no permanent structures and the planned development includes only infrastructure which is transportable in nature. There is no obvious contamination from previous working, nor is contamination expected to be caused by existing and proposed activities.

There are 19 residences within one kilometre of the lease boundaries, and no other facilities or businesses in the general locality. The nearest town with hospitals and schools is Deloraine, 10.5 kilometres to the south east. The general locality plan in Figure 3 shows nearest sensitive receptors and a one-kilometre boundary around the leases.

Planning details for the proposed quarry are:

Table 3 - planning details for the proposal

Mining Lease	1007P/M	28M/1990
Land Type	Private Freehold	Crown managed by STT
Property ID	6281755	2531016
Land Zoning	Rural Resource	
Surrounding land tenure	Private Freehold	

5.2. ENVIRONMENTAL ASPECTS

The site is located on the south-western side of a north – south running ridge. The eastern side of the ridge is classified as plantation in the TASVEG 3.0 layers with agricultural land further to the east. To the west of the ridge is primarily Crown managed *Eucalyptus Amygdalina* (TASVEG 3.0) forest. There is some mapped *Eucalyptus Ovata* forest, which North Barker Ecological (NBE) Services has described as low quality and outside the proposed area of disturbance.

The area of vegetation disturbance for re-opening 28M/1990 will be less than one hectare, with the only established vegetation to be removed around the crest of the old quarry. This vegetation will be removed to limit the risk of large regrowth falling into the working quarry. NBE Services has assessed both leases in separate visits over the past 12 months. In the region of 1007P/M, NBE Services identified one threatened species, *Gratiola pubescens*, however quarrying is not planned in the vicinity of the occurrence. With respect to a potential denning site for the Tasmanian Devil was identified on the north-eastern corner of the lease boundary, NBE Services state:

“Advice from the Policy & Conservation Advice Branch that further exploration into potential use of the soil mound as a den (through means such as remote camera surveillance) was not necessary, and that protective buffers are not required for unconfirmed den sites”

In the region of 28M/1990, NBE Services found that the vegetation was *Eucalyptus obliqua* codominant with *Eucalyptus amygdalina*. No *Eucalyptus ovata* forest was mapped and the TASVEG layers were updated. There were no threatened fauna species identified during the survey conducted by NBE Services within the planned area of disturbance. Both reports are attached as Appendix A.

The leases are situated on a band of thick bedded massive siliceous conglomerates, with minor quartz sandstone lenses. There are no acid sulphate soils mapped nearby the proposed mining areas. There is some evidence of a low level of acidity in water pooling on the quarry floor in the southern proposed mining area, this is discussed further in section 6.2. Climate data collected at Sheffield (farm school) show the annual median temperature for 2016 ranged from 10.9°C to 24.0°C. The annual median rainfall at Kimberly (Mersey River) is 969.3mm.

There are no natural processes of particular importance for the maintenance of the existing environment in the proposed area of mining. There are no reserves located within 500 metres of the proposed quarry. There are no high-quality areas identified in the *Tasmanian Regional Forest Agreement* in the vicinity of the proposed site.

5.3. SOCIO-ECONOMICAL ASPECTS

The population in the vicinity of the proposal comprises generally residences on moderately size rural living blocks. The township of Dunorlan is around one kilometre to the northeast and there is potential for the residents to be disturbed by blasting, although impacts are likely to be minimal. The township is shaded by the ridge. The residents to the west of the proposal are most likely to be affected by

blasting impacts from the quarry, however there have been no complaints from blasting in 1007P/M in the past.

6. POTENTIAL IMPACTS AND THEIR MANAGEMENT

6.1. AIR QUALITY

6.1.1. EXISTING CONDITIONS

TT has operated the level 1 quarry (1007P/M) since 2001 with no complaints with respect to dust emissions in this time.

Wind rose data from BOM sites at Round Hill Burnie and Launceston Airport is shown in Appendix F – BOM Wind Rose Data. The Launceston data shows predominantly north westerly prevailing winds, while the Burnie data shows westerly prevailing winds. There is no BOM data nearby the site, however it is anticipated that the winds will be primarily north westerly to westerly, which means dust is likely to be dispersed into the ridgeline immediately to the east of the quarry, limiting the potential for dust nuisance to the nearby sensitive receptors.

Rainfall data in nearby at Kimberly (Mersey River) is 969.3mm, which suggests the site will be frequently damp, limiting dust emissions due to operations.

6.1.2. PERFORMANCE REQUIREMENTS

The *Tasmanian Environment Protection Policy (Air Quality) 2004* (EPP) is a framework for management and regulation of point and diffuse emissions which affect air quality. The EPP is made pursuant to the provisions of section 96A-96O of the *Environmental Management and Pollution Control Act 1994*.

The environmental values covered by the EPP are:

- The life, health and well-being of humans at present and in the future
- The life, health and well-being of other forms of life, including the present and future health, wellbeing and integrity of ecosystems and ecological processes
- Visual amenity, and
- The useful life and aesthetic appearance of buildings, structures, property and materials.

6.1.3. POTENTIAL IMPACTS

Dust emissions will occur because all operating surfaces in the quarry are gravel. There are no metals or other contaminants in the host rock, therefore dust emissions should be benign in nature. Potential sources of dust within the operations include:

- Stripping of topsoil
- Ripping and dozing of material for stockpiling
- Crushing
- Drilling and blasting
- Stockpiling and loading
- Road use around the quarry
- Exhaust emissions.

6.1.4. AVOIDANCE AND MITIGATION MEASURES

The quarries will retain a vegetation buffer along transport routes where possible to limit dust emissions to the receiving environment.

Trucks will travel at 20 kilometres per hour along the gravel sections of Beaumont's Road¹ to limit dust emissions. A water cart will be used to dampen the road surface if required during particularly dry times to limit environmental dust emissions².

Mobile plant exhaust emissions will be controlled by maintaining plant exhaust systems to the manufacturer's recommendations.

6.1.5. ASSESSMENT OF NET IMPACTS

Dust emissions are expected to be low when the above mitigation measures are implemented. The mitigation measures will ensure that dust emissions do not cause environmental nuisance.

Any impacts which do arise due to poor dampening or vehicles travelling at over 20 km/h are still unlikely to cause environmental nuisance to residents in the area due to the setback of housing from the gravel Beaumont's Road.

Uncontrolled dust emissions from quarrying (crushing/screening and excavating/loading) are likely to cause environmental nuisance due to the north/south running ridge and predominantly westerly prevailing winds. Any dust during easterly winds will be mitigated by the vegetative buffer between the quarry and the nearby residences.

6.2. SURFACE WATER QUALITY

6.2.1. EXISTING CONDITIONS

There are no recognised creeks in the vicinity of the proposed mining areas. All water will discharge from the activity into unnamed tributaries to Lobster Rivulet, around one kilometre to the south west of 1007P/M. The catchment area below the site is mostly poor value native forest or production timber areas directly upslope from Lobster Rivulet.

Table 4 - water quality results for samples collected below 1007P/M on the 21st of September 2017

	Date	21-09-17	21-09-17
	Sample	Atkins Pit Floor	Atkins Final Pond
Field pH	pH unit	3.97	6.91
Field Conductivity	µs/cm	166.1	139.3
Suspended Solids (SS)	mg/L	6	13
Hydroxide Alkalinity as CaCO₃	mg/L	<1	<1
Carbonate Alkalinity as CaCO₃	mg/L	<1	<1
Bicarbonate Alkalinity as CaCO₃	mg/L	<1	27
Total Alkalinity as CaCO₃	mg/L	<1	27
Acidity as CaCO₃	mg/L	19	6
Sulfate as SO₄ Turbidimetric	mg/L	19	12
Aluminium	mg/L	3.3	1.8
Arsenic	mg/L	<0.001	0.001
Barium	mg/L	0.01	0.009
Cadmium	mg/L	<0.0001	<0.0001
Chromium	mg/L	0.002	0.004
Cobalt	mg/L	0.006	0.001
Copper	mg/L	0.068	0.006

¹ Commitment: Trucks to travel at 20 kilometres per hour to limit dust emissions

² Commitment: Use water cart as required to dampen road surface

	Date	21-09-17	21-09-17
	Sample	Atkins Pit Floor	Atkins Final Pond
Lead	mg/L	0.026	0.006
Manganese	mg/L	0.049	0.082
Molybdenum	mg/L	<0.001	<0.001
Nickel	mg/L	0.006	0.004
Selenium	mg/L	<0.01	<0.01
Zinc	mg/L	0.021	0.016
Iron	mg/L	0.23	1.77

Given the low pH of the surface water on the quarry floor in the 1007 P/M lease, water quality samples were collected on the quarry floor and downstream in the discharge pond. The results shown in Table 4 show marginally elevated levels of aluminium, copper and lead on the pit floor, while the discharge pond has negligible amounts of copper and lead, the aluminium remains elevated in the final pond. The elevated levels of these elements do not pose a significant environmental risk.

A drainage plan is shown in Figure 5. All drainage from both mining areas will travel via a series of settling ponds before being discharged into Lobster Rivulet, which reports to the Mersey River approximately 1 kilometre downstream.

Lobster Rivulet is used for irrigation up stream of the proposed development, however the area downstream of the development is heavily forested and not likely to be used for agricultural purposes. The *State of the River Report Water on Quality of Rivers in The Mersey Catchment (1997)* describes the Lobster Rivulet at Chudleigh (about 9.5 kilometres upstream of the proposal) as “highly degraded”. The report suggests that damage has primarily/largely been caused by livestock access to the river, resulting in poor benthic habitat quality, high turbidity and poor water quality.

The Mersey catchment has various land uses downstream of the Lobster Rivulet including agriculture, hydroelectric power generation and forestry. The *State of River Report on Mersey River Catchment Index of River Condition (1997)* describes the overall river condition as moderately impacted. The primary drivers of the degraded river condition include:

- Severe erosion due to destruction of streamside zones
- Uncontrolled stock access
- Choking of waterways from exotic species
- Pollution inputs, and
- Forestry practices including extensive plantations with no natural streamside zones and limited understorey.

The site runoff was estimated using the rational method equation. The estimated runoff on the Atkins lease (1007P/M) is 1.05ML per day for a 1 in 20-year rainfall event. The existing pond size is approximately 4.1ML when at full storage capacity. According to the *Australian Rainfall and Runoff: A Guide to Flood Estimation*, the calculated minimum size of the pond for 80% removal of sediment during a 1 in 20 year flood is 1.2ML. The expected detention time is slightly more than three days during a 1 in 20 year event.

6.2.2. PERFORMANCE REQUIREMENTS

The key legislation and policy requirements pertinent to this DPEMP for management of surface water quality are:

- *Water Management Act 1999*

- *State Policy on Water Quality Management 1997 (SPWQM)*
- *Inland Fisheries Act 1995*
- *Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act), and*
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.*

Protected environmental values (PEV) relevant to this proposal from the SPWQM identified are:

- Recreational Water Quality Aesthetics
 - Secondary contact.
- Agricultural Water Uses
 - Irrigation
 - Stock watering.

The minimum water quality should include management strategies to maintain water quality guidelines to protect and achieve all of the environmental values for the nominated water body.

6.2.3. POTENTIAL IMPACTS

The results shown in Table 4 show marginally elevated levels of aluminium, copper and lead on the pit floor, while the discharge pond has negligible amounts of copper and lead, the aluminium remains elevated in the final pond. The elevated levels of these elements do not pose a significant environmental risk.

The metal concentrations were reviewed against the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2000*. The downstream water use is predominantly agricultural, when compared to the long-term trigger values in section 4.2.6 of the guidelines³, the metal concentrations are below the trigger values.

The estimated runoff for the ex-MVC lease (28M/1990) is 0.8ML per day for a 1 in 20 year rainfall event. The calculated required pond size is 0.6ML, with a retention time of just under one day. The existing pond is undersized and will require enlargement upon approval of this application.

The pond size required can be reduced by using fingers, the use of sediment screens or having a long pond⁴.

6.2.4. AVOIDANCE AND MITIGATION MEASURES

Surface water monitoring will be undertaken in accordance with the proposed schedule in Table 11. Should the final discharge surface water quality be outside the PEV values, TT will lodge an incident report and investigate the likely cause.

Surface water will be directed away from both active quarry areas, both to minimise the risk of high wall failure and to prevent clean water entering the quarry area disturbances. The clean water redirection will be directed into the final settling ponds to ensure that sediment laden drainage is not released to the environment.

6.2.5. ASSESSMENT OF NET IMPACTS

Monitoring will be undertaken in accordance with the commitments made in section 7.1. TT will undertake periodic inspections of the site, with a section dedicated to run off and surface water

³ *Australian and New Zealand Guidelines for Fresh and Marine Water Quality: The Guidelines, 2000*, Volume 1, Table 4.2.10, pp 4.2–11

⁴ Commitment: Install larger sediment pond before activity commences

disposal system. Inspection records will be maintained electronically for a duration of two years and can be made available on request.

Flood events are most likely to cause discharge water to contain elevated solids by short circuiting the settling pond network. The ponds have been designed to cater for a once in 20-year flood event, floods larger than this are likely to have discharge water with elevated suspended solids. This discharge is not likely to cause environmental harm during large storm events. Under these conditions, the river networks in the region are likely to have high suspended solids, with volumes contributed from this proposed intensification unlikely to add any significant solids to the system.

The Southern lease (1007P/M) showed some elevated metals concentration and low pH on the quarry floor. The large area of watershed around the lease means that the concentrations are likely to be sufficiently diluted and not a cause for concern.

6.3. GROUNDWATER

6.3.1. EXISTING CONDITIONS

The regional geological setting for the proposal has been mapped by MRT as Cambrian aged and described as “*quartzite derived, massive pebble-cobble conglomerate with minor pink quartz arenite beds*” (Chester 2017)⁵. The ground water feature summary included in Appendix H identifies two main aquifers present; tertiary basalt and Cambrian aged.

The ground water plans prepared by the Tasmanian Government show that the tertiary basalt is highly permeable, with many groundwater bores in the region used for residential and stock water. Figure 9 shows the groundwater bores detailed in Appendix H with symbology showing aquifer geology. The aquifers surrounding the proposed development are almost exclusively tertiary basalt.

The surface water quality is discussed in section 6.2, with the surface water quality not expected to impact on the groundwater supply. All surface water is and will continue to be directed in a south westerly direction towards Lobster Rivulet, in the opposite direction of the surrounding residents’ groundwater bores.

The water feature summary (Appendix H) has one bore with a Total Dissolved Solids (TDS) value of 380ppm; it is unlikely to expect any large variation from this value for the purpose of this proposal. TT has operated the site since 2001 and has had no complaints from surrounding residences with regard to bore water quality degradation or the activity being perceived to draw down the aquifer.

There are no groundwater uses on either lease contained within this proposal. There is no requirement for use of groundwater for the planned proposal. The depth of excavations is not likely to intercept groundwater.

6.3.2. PERFORMANCE REQUIREMENTS

The proposal should be consistent with the objectives and requirements of all relevant water management policies and legislation, including the *Water Management Act 1999* and the SPWQM. It must be demonstrated that the proposal meets the PEV outlined in section 10.2 of the SPWQM.

The PEV for the proposal with respect to ground water will be for TDS below 1000 (mg/L) as per table 1 in the SPWQM. Environmental protection measures for drinking water quality should be met to maintain the existing water quality.

⁵ Chester, 2017, *LANDSLIDE RISK ASSESSMENT PROPOSED QUARRY, PUNCHES TERROR BEAUMONT'S ROAD, DUNORLAN*, Tasman Geotechnics, Launceston Tasmania.

6.3.3. POTENTIAL IMPACTS

The potential effects of the proposal on ground water quality are expected to be very low to negligible. The quality of surface water runoff shown in Table 4 is of a suitable standard to recharge the surrounding groundwater without any impact. The drainage will be directed towards the Lobster Rivulet, thereby avoiding recharge of the aquifers north of the proposed site.

The proposed site is located along the crest of a ridge, above the level of the water in any of the surrounding bores. The proposed development is not likely to drawdown the aquifer water level. The site will have no requirement for additional water input as part of normal activities.

6.3.4. AVOIDANCE AND MITIGATION MEASURES

Regular monitoring of surface water runoff and ensuring drainage flows in the appropriate direction will avoid impacts to groundwater quality. Should the surface water quality become consistently outside the PEV's in the SPWQM, and TDS remain elevated, TT will contact local residents and conduct water quality analyses to ensure its operations do not adversely impact the surrounding landholders.

TT will conduct regular surface water quality sampling as discussed in section 7.1 below. TT will advise the EPA should it feel that groundwater quality has been affected.

6.3.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that potential impacts on groundwater are controlled and monitored. Groundwater is not likely to be intercepted or affected by activities. Risk to the environment is considered negligible.

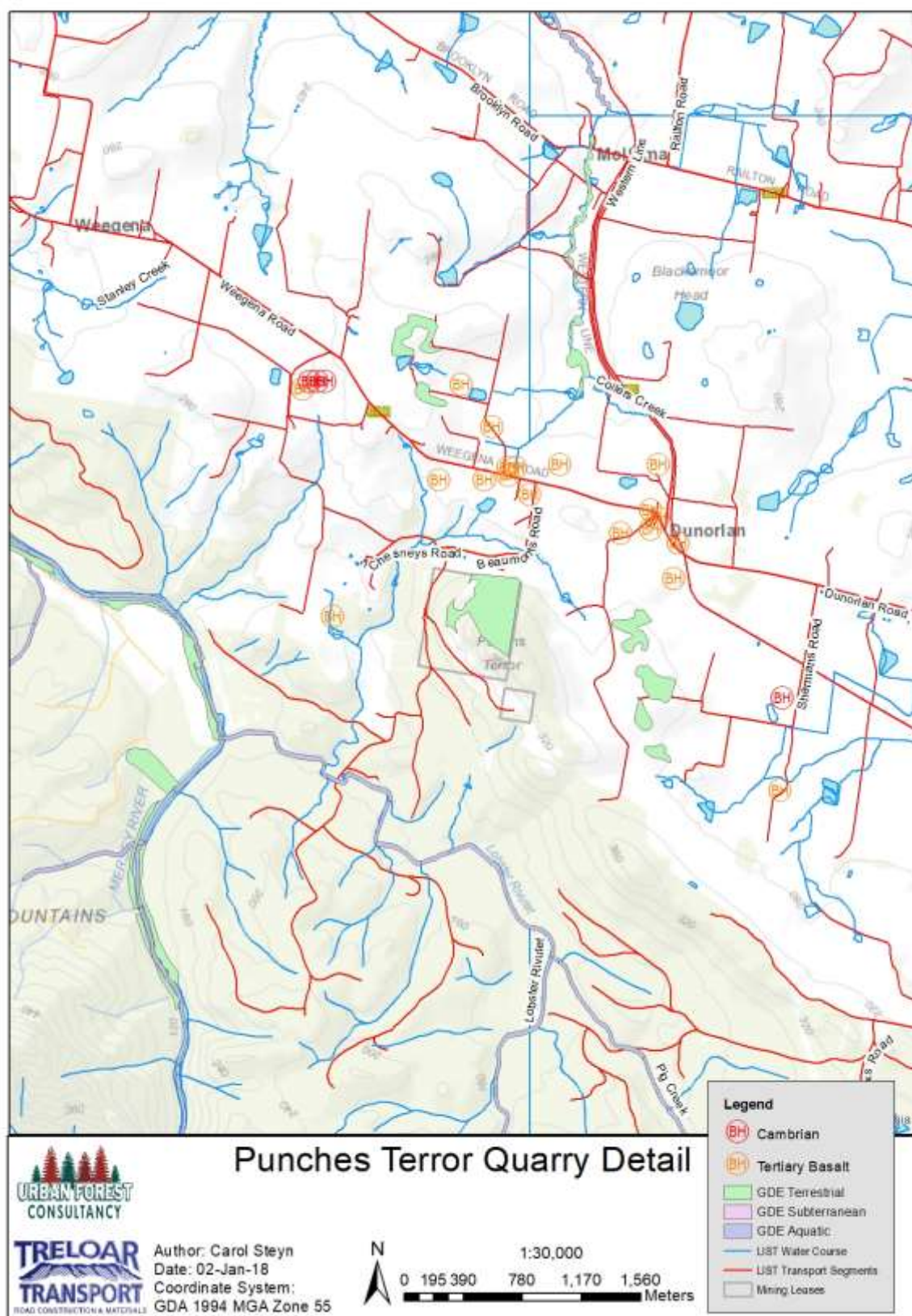


Figure 9 - Shows groundwater bores and ground water dependant ecosystems (GDE)⁶

⁶ Locations of groundwater bores sourced from <http://wrt.tas.gov.au/groundwater-info/> on 2nd January 2018. Data for Groundwater Dependant Ecosystems (GDE) was sourced and downloaded from <http://www.bom.gov.au/water/groundwater/gde/map.shtml> on the 2nd January 2018.

6.4. NOISE EMISSIONS

6.4.1. EXISTING CONDITIONS

The site is located on the western side of a north – south running ridge, with north and north-westerly prevailing winds.

Both proposed quarries are surrounded by some vegetative buffering, with the southern quarry (1007P/M) the most exposed, however the furthest from nearby residences. Extractive activity will be on a campaign basis with the activities expected to cause the most noise being crushing/screening and blasting.

The potential sources of noise emissions are listed in Table 5 below.

Table 5 – Machine power levels and calculated sound power output where available

Machine	Horse power	Sound power output (calculated by P. Terts)
Face loader: 20t Cat excavator	748	42 dB(A)
Crusher: Terex mobile crusher / screen	300	112 dB(A)
Stockpile Loader: Cat 950	130	
ATLAS COPCO ROC F7 (or similar)	240	
Blasting	See below with regard to blasting	

6.4.2. PERFORMANCE REQUIREMENTS

Consideration has been given to the below listed key legislation and policy guidance documents:

- *Quarry Code of Practice 2017*
- *Environmental Management and Pollution Control Act 1994*
- *Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2014 (EMPCR)*
- *Environment Protection Policy (Noise) 2009*, and
- *Guidelines for Community Noise 1999*.

The *Environment Protection Policy (Noise) 2009* (Noise EPP) establishes suitable benchmarks for acceptable levels of noise so people can enjoy the peace and solitude of Tasmania. The Noise EPP describes overarching principles and objectives to provide a basis for reducing health risks and unreasonable interference with human enjoyment of the environment by noise emissions.

6.4.3. POTENTIAL IMPACTS

Environmental Noise

A noise survey was conducted by Pearu Terts in September 2017 and is included as Appendix B. Two monitoring locations were used during the survey to record ambient noise. These are shown in Figure 10.

Based on the topographic profiles shown in the report attached and locations in Figure 11, noise levels were calculated and are listed below in Table 6. The noise levels estimated at the nearest residences suggest operations at the site are likely to comply with the noise emission criteria of the QCP, namely a daytime level of 45dB (A).

The quarry operating hours are consistent with the QCP and discussed in section 2.1. The distances from the quarry operations to the sensitive receptors within 1 kilometre of the quarry are shown in Figure 1.

Table 6 - noise levels at nearest residences calculated by Pearu Terts to be read in conjunction with plan in Figure 11

Quarry	Residence	Calculated Noise	Separation Distance (m)
1	1	31.2 dB(A)	734
2	1	30.6 dB(A)	972
1	2	36.9 dB(A)	605
2	2	30.5 dB(A)	1205
1	3	35.6 dB(A)	444
2	3	27.4 dB(A)	1043



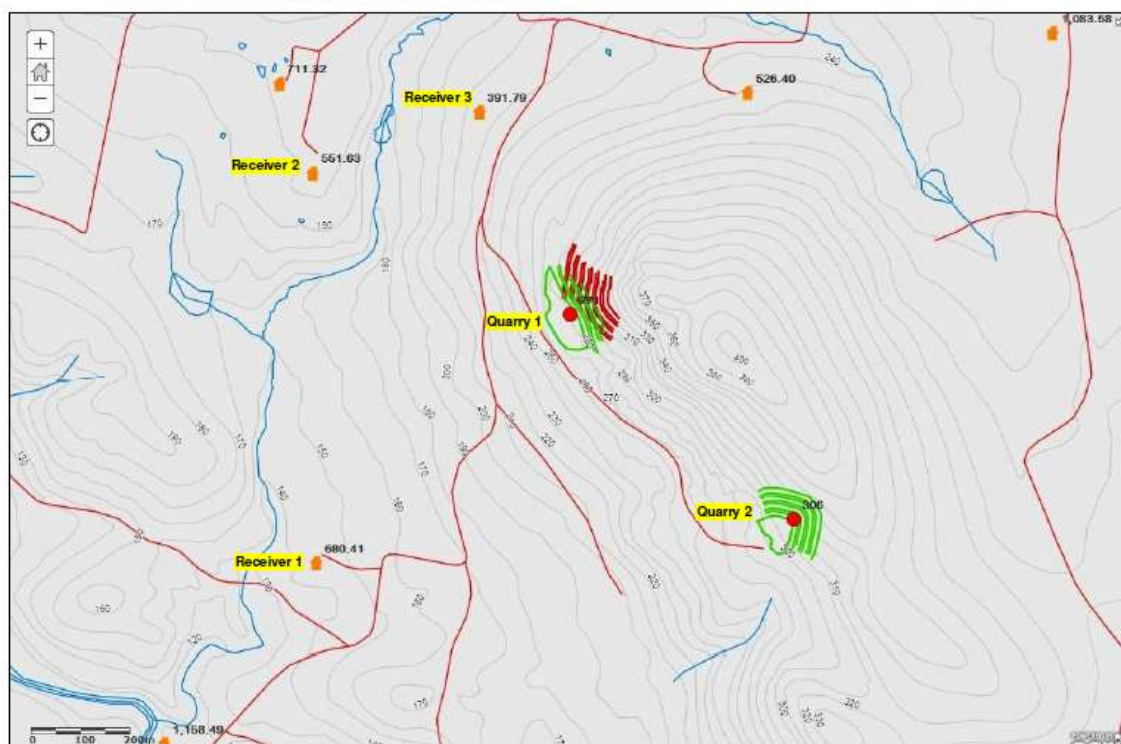
Monitoring locations plotted to approximation. Base image sourced from Google 30/7/2017. Note 200 m scale bar. Changes may have occurred since this image was captured by satellite.

Pearu Terts – Field Report – Treloar Punches Terror Quarry, Dunorlan – September 2017

Figure 10 - Noise monitoring locations during Pearu Tert's field assessment in September 2017

B2

Location – topographic map showing quarry crusher and nearest sensitive receiver locations

Sourced from ArcGIS <https://arcg.is/1Wvqgm> 14/12/2017

Pearu Terts – Topographic Report – Treloar Punches Terror Quarry, Dunorlan – December 2017

Figure 11 - Quarry and nearest residence locations for calculation of environmental (nuisance) noise

Based on the results of the noise study, the potential for noise nuisance to residents in the area is low. With the mitigation measures described above and the long history of quarrying in the area with no complaints received, it is anticipated that TT will be able to operate without affecting the residents of the area. Should quarrying activities be required in the northern section of 28M/1990, TT will conduct a further noise assessment.⁷

Blasting

Forze conducted a blasting assessment for the proposal, included as Appendix C – Blasting Impacts Report. The estimated ground vibration at each of the monitoring points (shown in its report in Appendix C – Blasting Impacts Report) is listed in Table 7 - blast ground vibration. The estimated air blast overpressure is 107dB at 870m from 1007P/M and 114dB at 390m from 28M/1990.

Table 7 - blast ground vibration from the quarries

Lease	Distance from blast	Vibration Site (PPV - mm/s)	Prediction	Vibration Monitor (PPV - mm/s)	Prediction
1007P/M	870	1.09		1.09	
28M/1990	390	2.90		2.90	

The QCP suggests that blasting should be carried out within the below conditions⁸:

- “for 95% of blasts, air blast overpressure must not exceed 115 dB (Lin Peak)
- air blast overpressure must not exceed 120 dB (Lin Peak) at all

⁷ Conduct noise assessment if operations are outside those described in Figure 7 and Figure 8

⁸ Quarry Code of Practice – May 2017, pp19

- c) for 95% of blasts, ground vibration must not exceed 5 mm/s peak particle velocity, and
- d) Ground vibration must not exceed 10 mm/s peak particle velocity at all."

The estimated air blast overpressure for both quarries falls within *a* and *b* above at the quoted distances. The ground vibration is estimated to be below 5mm/s for all blasts at 390m from the blast location. Only one sensitive receptor lies at about this distance, from the northern quarry. The Forze report suggests that TT will be able to comply with the blasting requirements of the QCP. TT will monitor all blasts and keep records for five years, and these will be supplied to the EPA Director upon request.

6.4.4. AVOIDANCE AND MITIGATION MEASURES

TT has, and will continue to, maintain a public complaint register for the duration of the project. There have been no complaints with respect to noise from operations of the quarry within lease 1007P/M.

Noise impacts will be mitigated by:

- ensuring that a vegetative buffer is maintained around quarrying operations
- operating and blasting within the hours stated in section 2.1
- keeping crusher/screening operations on lower benches
- minimising the frequency of blasting where possible, and
- using low traffic speed with no engine brakes on the gravel section of Beaumont's Road and through Dunorlan township.

Blasting will be monitored in accordance with the blast management plan (BMP) attached in Appendix C – Blasting Impacts Report.

6.4.5. ASSESSMENT OF NET IMPACTS

There is likely to be some noise and potential for nuisance to nearby sensitive receptors as a consequence of this proposal. The most likely noise nuisance during operations at the site will be caused by blasting. The impact of blasting to nearby residences will be a few minutes up to four times per year. TT will contact residents prior to blasting to ensure that this inconvenience will not cause nuisance and, where necessary, attempt to negotiate a more appropriate time to blast, providing this can be done in accordance with the BMP.

The noise report showed there would be some noise at the closest residences as a result of this proposal, however the estimated levels are below the noise requirements in the QCP. The level of noise still has potential to be of nuisance, however the risk of this is considered low.

6.5. WASTE MANAGEMENT

6.5.1. EXISTING CONDITIONS

There are no existing waste streams on the sites under existing operations. There are no waste disposal receptacles provided and there is no intention to do so with the proposed expansion. All solid and liquid effluent will be removed from site at the end of each day.

6.5.2. PERFORMANCE REQUIREMENTS

The key legislation relevant to the management of solid and controlled waste in Tasmania is the *EMPCA 1994* and its associated regulations, namely *EMPCA (Waste Management) Regulations 2010* and *EMPCA (Controlled Waste Tracking) Regulations 2010*.

6.5.3. POTENTIAL IMPACTS

LIQUID EFFLUENT

There will be no discharge of liquid effluent (excluding stormwater which is discussed above) as part of the proposal. There will be no permanent site-based amenities.

During mining campaigns, transportable amenities will be installed on site with all wastes removed by a licensed contractor.

SOLID WASTES

All machinery servicing which produces solid wastes will be conducted at the TT workshop in Sheffield. Waste generated by repair of equipment breakdowns is and will be removed from site after the repairs are conducted. Waste generated by workers is and will be removed at the end of the shift each day; no waste bins are provided on site.

6.5.4. AVOIDANCE AND MITIGATION MEASURES

All waste will be removed from site at the conclusion of each day. Controlled waste will be transported from the TT compound in Sheffield for disposal by a licenced contractor.

Quarry inspections will be conducted periodically to ensure that the workforce is removing all waste from site.

6.5.5. ASSESSMENT OF NET IMPACTS

The measures to be implemented as per above should ensure impacts to the environment are negligible.

6.6. DANGEROUS GOODS AND ENVIRONMENTALLY HAZARDOUS MATERIALS

6.6.1. EXISTING CONDITIONS

There are no existing hazardous materials stored on site.

6.6.2. PERFORMANCE REQUIREMENTS

The proposal will fulfil the requirements of the following legislation and policy in relation to dangerous goods and hazardous materials:

- Australian Code for the Transport of Dangerous Goods by Road and Rail, Edition 7.5, 2017
- *Dangerous Substances (Safe Handling) Act 2005* and associated regulations
- Australian Dangerous Goods Code (7th edition), and
- Relevant Australian Standards (e.g. AS 1940 and AS 3780).

6.6.3. POTENTIAL IMPACTS

There will be no storage of fuels and oils on site. All fuel and oil will be transported onto site each day by light vehicle. Each vehicle is equipped with spill kits and TT has a program in place to train employees in the use of spill kits. The maximum quantity of fuel and oil brought to site at any one time is 240L and unlikely to cause environmental harm should there be a spill. All chemicals brought to site will be stored in a bund with capacity 1.5 times greater than the amount transported to site.

Chemicals for the purpose of weed treatment will be on site during the annual weed management program. Contractor chemical storage will be assessed prior to work commencement on site to ensure that chemicals are stored appropriately.

Explosives will be transported to site by the explosives contractor. Loading and firing will occur on the same day, with no requirement to store explosives on site overnight.

To minimise the risk of toxic fumes from blasting, the contractor will not use Ammonium Nitrate, Fuel Oil (ANFO) when there is water present; regular density checks will be conducted to ensure product quality.

Appropriate records will be kept in line with the explosive contractor procedures.

6.6.4. AVOIDANCE AND MITIGATION MEASURES

Mitigation of risks associated with dangerous goods and environmentally hazardous materials are:

- Employee and contractor inductions which will include information on appropriate disposal methods of waste
- Safety Data Sheets (SDS) will be available and accompany any chemical used on site
- Spill clean-up kits will be available on any light vehicle carrying hazardous materials or in the vicinity of operating heavy machinery
- Any spills will be reported and cleaned up immediately, and
- Explosives will not be stored on site.

Quarry inspections will be conducted periodically to ensure hazardous materials are stored appropriately. A public complaints register will be maintained for the term of the proposal.

6.6.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects from dangerous goods and environmentally hazardous materials are managed appropriately, monitored and are unlikely to cause environmental harm.

6.7. BIODIVERSITY AND NATURAL VALUES

6.7.1. EXISTING CONDITIONS

NBE Services conducted biodiversity assessments during two visits in 2016 and 2017. The freehold lease, 1007 P/M was surveyed in September 2016. The results of both surveys are attached as Appendix A in section 12.1. A Natural Values Atlas (NVA) report was obtained from the NVA database and is attached as Appendix I – Natural Values Atlas Report. The report shows no threatened species within the lease areas, with the only notable feature within the search boundary a geoconservation site and threatened communities discussed in the section below. There is one verified listing of threatened fauna within 500m of the lease boundary, which was green and gold frog (*Litoria raniformis*). There have been ten raptor nest sighting within a 5000 km of the lease boundaries between 1985 and 2016. NBE Services have noted in their report that the habitat surrounding the site is not of suitable quality for WTE nesting site.

Vegetation Communities

The vegetation communities were mapped by NBE Services. Both lease areas contain the following TASVEG units:

- Dry *Eucalyptus obliqua* forest (DOB)
- Dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*, and
- Extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NBE Services, 2016).

The proposed intensification of the southern lease (1007P/M) will result in approximately one-hectare DAS and 0.4 hectare of DOB of vegetation removal over the life of the proposal. The proposed intensification of the northern lease (28M/1990) will result in the clearance of up to one hectare of DAS and no more than 0.2 ha of DOB. NBE Services classified this vegetation removal as insignificant in a local and regional scale.

The TASVEG layers show *E. ovata* mapped in the region, however NBE Services made no sightings of *E. ovata* during the field survey in either lease, and the TASVEG layers have been updated accordingly.

Table 8 - VEGCODE values used in Figure 12

VEGCODE
(DAC) <i>Eucalyptus amygdalina</i> coastal forest and woodland
(DAS) <i>Eucalyptus amygdalina</i> forest and woodland on sandstone
(DOB) <i>Eucalyptus obliqua</i> dry forest
(DOV) <i>Eucalyptus ovata</i> forest and woodland
(DSC) <i>Eucalyptus amygdalina</i> - <i>Eucalyptus obliqua</i> damp sclerophyll forest
(FAG) Agricultural land
(FPL) Plantations for silviculture
(FPU) Unverified plantations for silviculture
(FUM) Extra-urban miscellaneous
(FUR) Urban areas
(NAD) <i>Acacia dealbata</i> forest
(WOB) <i>Eucalyptus obliqua</i> forest with broad-leaf shrubs

Threatened Species

There was one occurrence of *Gratiola pubescens* in the vicinity of the final pond of the southern quarry area (50m SW of the active quarry area of 1007P/M). The area of occurrence will be barricaded⁹ to ensure there is no disturbance during pond repairs and cleaning. NBE Services noted that populations of the species are increasing and there is potential for it to be down listed or delisted.

NBE Services identified a soil mound on the north-western border of the lease 1007 P/M which could be suitable Tasmanian Devil (*Sarcophilus harrisii*) habitat. NBE Service indicated that since the mound is removed from the mining area and unlikely to be used, no further studies are required. NBE Services indicated it would be best to cordon the area off to ensure it is not disturbed¹⁰.

Weeds and Pathogens

NBE Services did not map any declared weeds under the *Weed Management Act 1999* in the vicinity of southern lease (1007 P/M) during its field visit. Sue Jennings of Forestry Tasmania also surveyed the lease for weeds and pathogens during May of 2017 surveying the lease (1007P/M) for weed species and *Phytophthora cinnamomi*. There were no weed issues noted during the survey.

Ms Jennings suspected the lease had an infection of *P. cinnamomi* due to deaths of indicator species. The sample results shown that there is no infection contained within the lease, however Ms Jennings made recommendations with regard to soil stockpiles until further testing is conducted in the future.

NBE Services mapped one declared weed, *Ulex europaeus* (gorse) and one woody environmental weed, *Pinus radiata* (radiata pine) during its field visit to the southern lease. TT has undertaken weed

⁹ Commitment: Delineate area of listed species

¹⁰ Commitment: Cordon off potential devil den

treatment activities on the site since the survey. TT has committed to a corporate weed management plan as part of this proposal.

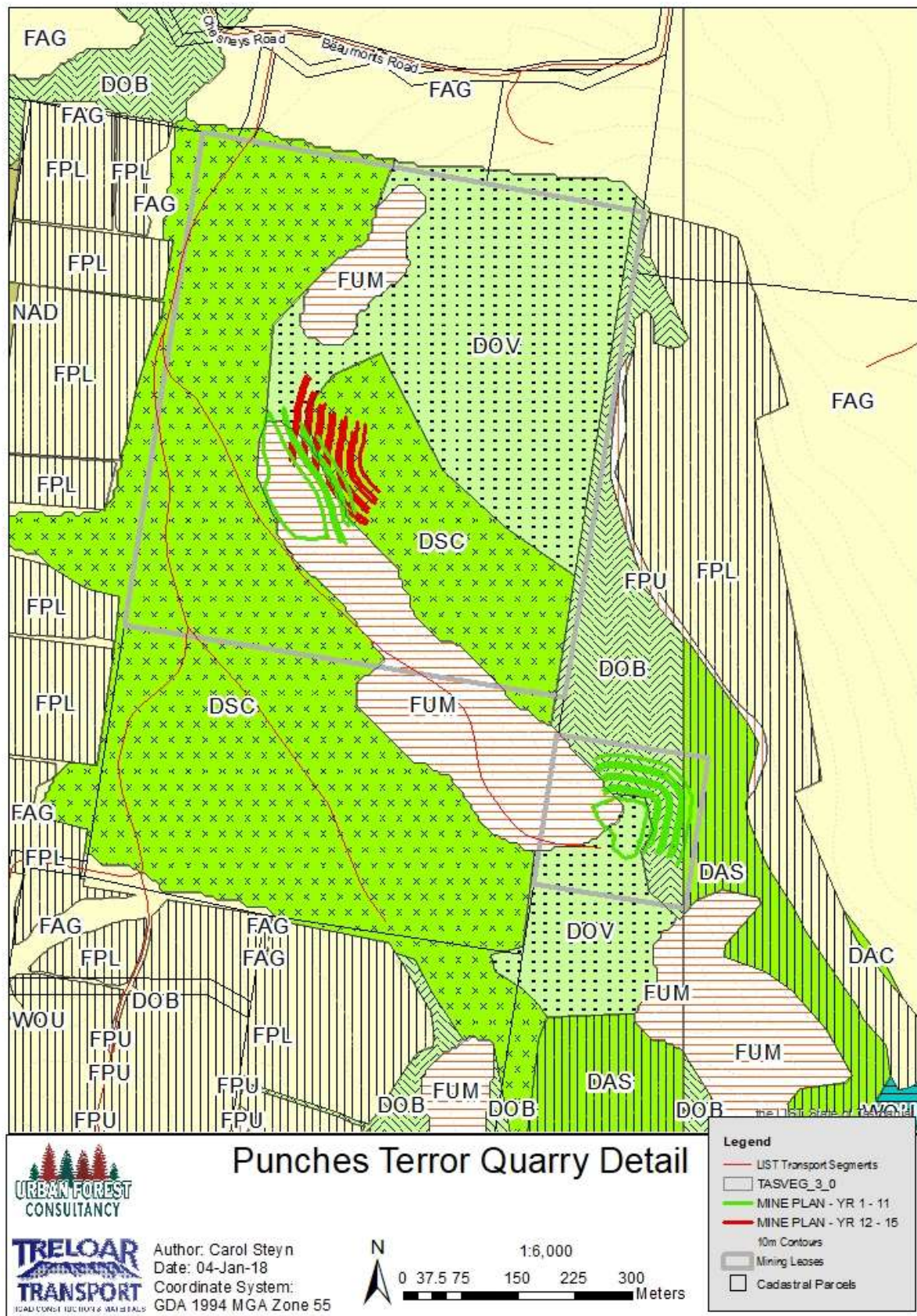


Figure 12 - Vegetation communities in the vicinity of the proposed expansion (to be read in conjunction with Table 8)

6.7.2. PERFORMANCE REQUIREMENTS

The key legislation relevant to protecting flora and ecological communities contained in this proposal are:

- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
- Tasmanian *Threatened Species Protection Act 1995*
- Tasmanian *Weed Management Act 1999*
- Tasmanian *Nature Conservation Act 2002*
- *Forest Practices Act 1985 and associated regulations, and*
- *Meander Valley Interim Planning Scheme 2013.*

In addition to the above legislative requirements, consideration has been given to *Australia's Biodiversity Conservation Strategy 2010-2030*, Tasmania's *Nature Conservation Strategy Draft (2001)* and *Threatened Species Strategy for Tasmania (2000)*.

6.7.3. POTENTIAL IMPACTS

Vegetation Communities

The primary risk to vegetation communities from the proposed activity expansion is vegetation removal for expansion of the pit. NBE Services did not anticipate that the level of vegetation removal from either lease would be significant on a local or regional scale. At the conclusion of quarrying activities, these areas will be rehabilitated.

Threatened Species

NBE Services identified threatened species *Gratiola pubescens* in the vicinity of the quarry area (1007P/M). NBE Services makes note in its report that *Gratiola pubescens* has become more frequently recorded in Tasmanian and is likely to be nominated for down-listing or de-listing. Should the area of *Gratiola pubescens* need to be disturbed, TT will need to apply for a permit to take from DPIPWE.

A potential Tasmanian Devil (*Sarcophilus harrisii*) den site was observed by NBE Service during its field study on the northern edge of the mining lease 1007P/M. NBE Services contacted DPIPWE's Policy & Conservation Advice Branch, which advised that further investigation of the soil mound was unnecessary. The habitat surrounding the soil mound is not ideal devil habitat.

Weeds and Pathogens

The weed species present on site are unlikely to have any measurable impacts on the regional biodiversity. The *P. cinnamomi* status of the quarry will be monitored biennially into the future.

6.7.4. AVOIDANCE AND MITIGATION MEASURES

Vegetation Communities

Vegetation removal will be minimised where possible, and progressive rehabilitation will be conducted if possible. Soil stockpiles will be maintained along the crest of each quarry, as a safety windrow and source of rehabilitation material.

Threatened Species

Occurrences of *Gratiola pubescens* will be flagged for the duration of the proposal and a ground based observer will be used during pond cleaning to ensure that the excavator operator does not disturb the occurrences of *Gratiola pubescens*. If removal is required to maintain drainage, a 'permit to take' will be sought from DPIPWE.

The soil mound, which is a potential Tasmanian Devil (*Sarcophilus harrisii*) den site will be flagged for the duration of the proposal.

Weeds and Pathogens

The *P. cinnamomic* status of the quarry will be monitored biennially into the future. Appropriate weed management practices will be used to ensure that weed incursions at the site are minimised and where possible, eradicated.

6.7.5. ASSESSMENT OF NET IMPACTS

Vegetation Communities

The removal of vegetation is likely to cause habitat loss to some species, however insignificant to local populations that might be. The vegetation loss around the proposal has been assessed as low-quality habitat for any endangered species. The proposed avoidance and mitigation measures will ensure that the likelihood of environmental harm is negligible.

Threatened Species

There are two species listed under the Tasmanian *Threatened Species Protection Act 1995*, and some likelihood these species may be disturbed (particularly *Gratiola pubescens*) during quarrying. However, the net impact would be negligible on a more global scale. NBE Services has noted the occurrences of *Gratiola pubescens* are becoming more common in Tasmania.

Weeds and Pathogens

The measures outlined above should ensure that the potential impacts from weeds and pathogens are unlikely to cause environmental harm.

6.8. GREENHOUSE GAS EMISSIONS AND OZONE DEPLETING SUBSTANCES

6.8.1. EXISTING CONDITIONS

Operation of mobile plant will cause greenhouse gas emissions. Greenhouse gas emissions arise from blasting; as only two to four blasts per year are forecast, greenhouse gas emissions from this source will be minimal over the life of mine (LOM).

There is minimal need to remove vegetation over the LOM, and with areas being revegetated, overall vegetation levels at the end of mining should exceed the existing levels, therefore increasing the CO₂ consuming potential of vegetated areas.

6.8.2. PERFORMANCE REQUIREMENTS

The impacts of climate change and greenhouse gas emissions and targets are set in the *Climate Change State Action Act 2008* and *Climate Smart Tasmania: A 2020 Climate Change Strategy*. TT does not meet the thresholds for reporting under the *National Greenhouse and Energy Reporting Act 2007*.

The *Climate Change State Action Act 2008* sets a limit of 60% below the 1990 greenhouse gas emissions baseline by 2050.

6.8.3. POTENTIAL IMPACTS

Exhaust emissions will generate greenhouse gasses within the proposal area and the road corridors approaching the area of proposed operations. Impacts include respiratory effects on workers and surrounding residents. TT recognises that its activities product greenhouse gas emissions which contribute to local, regional and global air sheds.

6.8.4. AVOIDANCE AND MITIGATION MEASURES

Machinery owned and operated by TT is modern and well maintained, which will ensure that emissions of greenhouse gases are minimised. TT will consider greenhouse gas emissions when procuring new equipment.

6.8.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects from greenhouse gas emissions and ozone depleting substances is managed appropriately, monitored and are a low risk to cause environmental harm.

6.9. HERITAGE

6.9.1. EXISTING CONDITIONS

The Tasmanian Heritage Register has been consulted and there are no listed heritage features within the vicinity of the leases. The closest heritage features shown on the LIST are in the Dunorlan township over 2.5 kilometres away.

A search was conducted of the Aboriginal heritage website, which did not identify any registered Aboriginal relics or apparent risk of affecting Aboriginal relics.

6.9.2. PERFORMANCE REQUIREMENTS

Relevant legislation to protect Aboriginal and European heritage in Tasmania includes:

- *Aboriginal Heritage Act 1975*
- *Aboriginal Relics Act 1975, and*
- *Historic Cultural Heritage Act 1995.*

In Tasmania, Aboriginal Heritage Tasmania provides resources, standards and guidelines for heritage investigations. European Heritage information is available from the Tasmanian Heritage Register.

6.9.3. POTENTIAL IMPACTS

The site has no significant Aboriginal or European Heritage or risk of encountering them.

6.9.4. AVOIDANCE AND MITIGATION MEASURES

An Unanticipated Discovery Plan will be kept on record by TT to ensure it complies with the *Aboriginal Heritage Act 1975* should any aboriginal relics be uncovered during operations.

6.9.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects to heritage features is managed appropriately.

6.10. LAND USE AND DEVELOPMENT

6.10.1. EXISTING CONDITIONS

Both mining leases (1007P/M & 28M/1990) are located within the Meander Valley Council planning area, therefore a planning application to council is required for the proposal. The proposed mining areas fall within the Rural Resource planning zone under the *Meander Valley Interim Planning Scheme 2013*, for which the purpose is:

- “26.1.1.1 To provide for the sustainable use or development of resources for agriculture, aquaculture, forestry, mining and other primary industries, including opportunities for resource processing.
- 26.1.1.2 To provide for other use or development that does not constrain or conflict with resource development uses.”

Land use in the immediate vicinity of the proposed development includes plantation forestry, agriculture and residential plots.

6.10.2. PERFORMANCE REQUIREMENTS

The legislative and state policy requirements include:

- *Meander Valley Interim Planning Scheme 2013*, and
- *Land Use Planning and Approvals Act 1993*

This proposed activity will require a planning permit under the *Land Use Planning and Approvals Act 1993*.

6.10.3. POTENTIAL IMPACTS

The proposed mining areas have several sensitive receptors close by, with the closest, a residence, at 570m north of the mining area in lease 28M/1990. The residences are most likely to be affected by an increase in traffic passing by on Beaumont’s Road and from blasting events, two to four times per year. There are some production forest areas to the southwest, which STT does not intend to harvest in the next three years (STT website).

The proposed quarrying areas are surrounded by agricultural areas; however the ridgeline and remnant vegetation are unsuitable for conversion into agricultural land. The past quarrying in the area has also made the ridgeline unsuitable for use as production forest. The best land use outcome is to mine the land into a suitable landform for safe rehabilitation. The past use and abandonment of the quarries has left steep slopes, which although stable in appearance, will be difficult to rehabilitate. TT plans to quarry the areas in accordance with the QCP, to leave stable landforms for rehabilitation and return to native forest.

There is expected to be no impact on tourism or availability of recreation activities for the public.

There are no industrial activities in the general vicinity.

6.10.4. AVOIDANCE AND MITIGATION MEASURES

Traffic impacts are discussed further in section 6.19. However, TT will implement a speed limit reduction for heavy vehicle traffic on the gravel Beaumont’s Road, which will reduce nuisance dust and environmental noise for surrounding residents.

6.11. VISUAL IMPACTS

6.11.1. EXISTING CONDITIONS

The site is visible to the west from the Gog Range and residences to the west. The visual impact will be restricted to local residents and keen hikers. It is anticipated that by the end of the quarry life, the landform will be more visually pleasing than it currently is. The quarrying activities are not visible from the north, south and east, due to shading from the ridgeline. It is anticipated that with retention of some vegetative screening the quarrying activities will be difficult to notice from any vantage points, other than to the west.

6.11.2. PERFORMANCE REQUIREMENTS

Revegetation and quarry design should be conducted in accordance with the QCP to achieve a sustainable, stable and rehabilitated final landform.

6.11.3. POTENTIAL IMPACTS

Quarrying slopes outside the suggested batter angles described in the QCP could leave the site difficult to rehabilitate and scar the landscape.

6.11.4. AVOIDANCE AND MITIGATION MEASURES

TT plans to quarry the slopes to final landform in accordance with the QCP and where possible progressively rehabilitate. This will limit visual impacts for bushwalkers and the few residents to the west who can see the quarry operations.

6.11.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects of this proposal provide a more visually pleasing landform than currently exists post operations. During operations the impact of this proposal poses no risk for environmental nuisance.

6.12. SOCIO-ECONOMIC ISSUES

6.12.1. EXISTING CONDITIONS

Socio-economic issues arising from the proposed increase in production are not expected to be measurable due to the relatively small-scale nature of the proposal. The quarry is not expected to have any impact on the labour or construction markets in the region. There is potential for a marginal increase in employment for the proponent as the quarry provides new business opportunities. The quarry is expected to be operated with one to two operators and serviced by up to five trucks on an ad-hoc campaign basis.

6.13. HEALTH AND SAFETY ISSUES

6.13.1. EXISTING CONDITIONS

TT has operated the southern quarry (1007P/M) since 2001 without any public complaints or reportable environmental or safety incidents.

6.13.2. PERFORMANCE REQUIREMENTS

TT is committed to ensuring compliance against the *Workplace Health and Safety Act 2012*¹¹ and associated *Workplace Health and Safety Regulations 2012*. TT plans to manage health and safety risks by complying with its health and safety management plan, and working in accordance with AS/NZS 4801 procedures. TT has maintained triple International Standards Organisation (ISO) accreditation since 2014.

6.13.3. POTENTIAL IMPACTS

In the event that the quarry is not operated in a safe manner, there is risk to worker and community health and safety. There are a number of health and safety risks associated with the proposed development. These health and safety risks are controlled with appropriate operator training and internal procedures, as well as adherence to relevant state and federal legislation.

¹¹ Commitment: Abide by the *Workplace Health and Safety Act 2012* and *Workplace Health and Safety Regulations 2012*

6.13.4. AVOIDANCE AND MITIGATION MEASURES

The appropriate drainage will mitigate storm water runoff, which will result in minimal risk to public health from the operations of quarry. There will be no fuel storage on site, as discussed in section 6.6.

6.13.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects to health and safety will not pose a risk to the environment.

6.14. HAZARD ANALYSIS AND RISK ASSESSMENT

6.14.1. EXISTING CONDITIONS

TT has a long history of quarrying at the site, in particular the southern lease (1007P/M) having operated there since 2001. There have been no significant safety or environmental incidents at the site during these operations.

6.14.2. PERFORMANCE REQUIREMENTS

A hazard identification and risk assessment has been undertaken for the proposal based on the processes outlined in Australian/New Zealand Standard AS/NZS 4360:1999 *Risk management*. The legislative requirements for the proposal are compliance against the *Workplace Health and Safety Act 2012*¹² and associated *Workplace Health and Safety Regulations 2012*.

Major risks were assessed using the proprietary TT risk matrix shown in Table 9 below.

Table 9 - TT proprietary risk matrix

	Consequence				
	Trivial	Environmental Nuisance or First Aid Treatment	Material Environmental Harm or Lost Time Injury	Serial Material Environmental Harm or Serious Injury	High Level Serious Environmental Harm or Fatality
Likelihood	1	2	3	4	5
A (Almost Certain)	M	H	H	E	E
B (Likely)	L	M	H	E	E
C (Moderate)	L	M	H	E	E
D (Unlikely)	L	L	M	H	E
E (Rare)	L	L	M	H	H

Risk levels are quantified by;

- Material environmental harm is an impact upon health of humans or \$5,000 damage
- Serious environmental harm is a high impact or wide scale damage to health or humans or >\$50,000 damage

¹² Commitment: Abide by the *Workplace Health and Safety Act 2012* and *Workplace Health and Safety Regulations 2012*

- High level serious environmental harm is high impact and wide scale damage to the health of humans or >\$50,000 damage.

The below risk assessment summaries the potential hazards, risks, consequences and mitigation actions for quarrying at Punches Terror.

The highest risks for the quarry are:

- Rock falls and landslips; which will be mitigated in accordance with Appendix G – Landslip Risk Assessment
- Machinery interaction with personnel and the public; will be managed by operator training, signage where required
- Blasting: blasting will be managed in accordance with blast contractor procedures defined in Appendix C – Blasting Impacts Report.

6.14.3. POTENTIAL IMPACTS

TT has managed these risks for business wide quarry operation and civil works with very few major incidents. TT has the systems and processes in place to minimise risk to employees and the public.

Table 10 - Risk assessment for quarrying activities at Punches Terror

Event	Consequence	Risk	Mitigation	Mitigated Risk
Rock fall/landslip	Consequences of rock fall can vary from death or disabling injury to minor asset damage	Extreme	Work with bunds established against the highwall where possible. Keep bench heights in compliance with QCP if possible (note low benches and slope angle in the QCP will make this risk negligible).	Low
Machinery Operation	Over turn of machinery. Collision between machinery/public. Environmental harm (spills, fire etc). Loss (Machine damage)	High	Ensure machinery operators are licenced and trained to use equipment (maintain these records). Maintain hazardous material clean-up equipment on each site/vehicle carrying hazardous materials.	Medium
Spill of hazardous substance	Environmental harm	Medium	Maintain hazardous material clean-up equipment on each site/vehicle carrying hazardous materials. Train appropriate personnel in use of clean-up gear.	Low
Slips/Trips/Falls	Cuts, scrapes and bruises	Medium	Ensure suitable footwear and stable ground.	Low

Event	Consequence	Risk	Mitigation	Mitigated Risk
Bites and Stings	Major injury or death (snake bite) to minor discomfort (insect bite)	High	Ensure that at least one person on site is trained to provide first aid treatment. Ensure that there is consistent access to first aid supplied (fit to all machinery/vehicles).	Medium
Interaction with public	Personnel or machinery interaction with public. Loss of public image, damage to property or public vehicles.	High	Adherence to speed limits, reduction in speed limits where there is likely interaction between people and machinery. Use spotter for personnel and machinery are working close proximity to each other.	Medium
Blasting	Unplanned explosion, misfire.	Extreme	Adhere to blasting contractor management plan and safety requirements. Ensure blasting contractor is licenced and experienced.	Medium
Working alone	Difficult to make contact if major injury or incident occurs	Medium	Maintain UHF/mobile phone contact. Ensure workers finished work each day (admin).	Low
Dust	Environmental or respirable dust. Environmental nuisance. Adverse health outcomes for workers	Medium	Maintain low vehicle speed/water road during high dust times. Ensure machinery is maintained and windows remain closed during dusty mining.	Low

TT engaged Tasman Geotechnics to conduct a landslip risk assessment; the full report is included as Appendix G – Landslip Risk Assessment. The risk assessment shows the risk with regard to rock falls is rated as LOW, which complies with Clause E3.6.1 of the *Meander Valley Interim Planning Scheme 2013*.

6.14.4. AVOIDANCE AND MITIGATION MEASURES

Tasman Geotechnics recommended the following summary of control measures to alleviate the risk with respect to rockfalls on the site:

- No public access onto the quarry site, unless visitors are accompanied by Site Foreman.
- No work allowed within 2m of the rock face without a spotter. Where possible, work on a broken-down vehicle to be carried out such that the vehicle is between the person and the rock face.
- Faces in soil to be no more than 5m high, and at angle of no steeper than 1V:1H. This will also assist in rehabilitation of the site.

- Faces in rock to be no more than 8m high.
- Loose rocks should be 'cleaned' from rock faces that are steeper than 1V:1H.
- Surface runoff on benches above soil slopes to be directed away from the slope to open drains.
- Maintenance of surface runoff, vegetation, retaining structures and other measures described above are the responsibility of the quarry operator.

TT will incorporate the above corrective actions into its induction¹³ for the quarry and review and amend relevant procedures as necessary.

Regular safety audits will be conducted and held on record at TT's head office in Sheffield. TT will maintain a training register for the duration of the proposal.

A public complaints register will be maintained for the duration of the proposal.

6.14.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that work on site is conducted in a safe manner and worker health and safety is maintained. TT have had no incidents with respect to rock falls/landslip on this site and when the control measures listed above are implemented, there is negligible risk to workers or the environment.

6.15. FIRE RISK

6.15.1. EXISTING CONDITIONS

The risk of fire starting on the site is very low, with the nature of TT operations on site unlikely to provide an ignition source. The potential sources of fire are primarily machinery and vehicles operating on site; all TT equipment is fitted with fire extinguishers. Both mining areas are surrounded by native vegetation, however there is more than a 20m buffer around these areas from creating stockpiles or from previous quarry operations. These buffer zones will provide adequate protection to surrounding native forest if there is an equipment fire.

6.15.2. PERFORMANCE REQUIREMENTS

The proposed development is required to comply with the *Fire Services Act 1979* and the *Workplace Health and Safety Act 2012*. The proponent plans to address fire risks emanating from both inside and outside the site by:

- Maintaining a small vegetation buffer around all active mining areas
- Ensuring that pre-start checks include a check of fire suppression equipment, and
- Ensuring that staff are trained in use of fire suppression equipment.

The site has been reviewed against "Bushfire Prone Areas" according to the *Meander Valley Interim Planning Scheme 2013* LIST layers and no part of the proposed development falls within a "Bushfire Prone Areas". According to the LUPAA, the site does not require a specific Bushfire Management Plan.

6.15.3. POTENTIAL IMPACTS

A fire originating from the site has the potential to affect the surrounding biodiversity values, property, and agricultural income potential and endanger lives.

¹³ Commitment: Incorporate risk control measures with regard to rock fall risk into site induction

6.15.4. AVOIDANCE AND MITIGATION MEASURES

The steps to manage a fire on site are described below:

- Assess the risk to site personnel
- Where safe, attempt to extinguish the fire with appropriate extinguisher
- Call 000
- Call site management, and
- Evacuate equipment if safe to do so.

Site activities will cease, and the site will be evacuated if a wildfire is in the region and expected to pass within a one kilometre radius of the site.

Scheduled maintenance will include review of on board fire suppression components to ensure that they are well maintained.

Staff will be trained as part of the induction process on fire preparedness. All staff undertake fire extinguisher training.

6.16. INFRASTRUCTURE AND OFF-SITE ANCILLARY FACILITIES

6.16.1. POTENTIAL IMPACTS

Increased production from the quarries will primarily impact Beaumont's Road, Weegen Road and Dunorlan Road (north and south bound). The increase in traffic and likely impacts are discussed in section 6.19.

There is no planned permanent infrastructure or offsite ancillary facilities planned to be installed as part of the increase in production.

6.17. ENVIRONMENTAL MANAGEMENT SYSTEMS

6.17.1. OVERALL ENVIRONMENTAL MANAGEMENT SYSTEMS

TT is ISO 14001 accredited and committed to having sound environmental management systems (EMS). Some relevant environmental management procedures are included in Appendix E – Relevant Company Procedures. All employees are trained in relevant EMS during their inductions and onsite training for job specific tasks.

6.17.2. ORGANISATIONAL STRUCTURE AND RESPONSIBILITIES

The General Manager will be the Management Representative for environmental policy and implementation, and is responsible for ensuring that the operation is managed in accordance with Best Practice Environmental Management (BPEM).

6.17.3. PROCEDURES AND INSTRUCTIONS TO EMPLOYEES

TT has a comprehensive set of standard operating procedures, with a subset of relevant procedures included in Appendix E – Relevant Company Procedures. TT has a company induction process, which is reviewed and updated at least annually. TT is currently rolling out a content management system to improve its safety, environment and quality outcomes within the business.

6.18. CUMULATIVE AND INTERACTIVE IMPACTS

The proposed development is small in nature. No further impacts are anticipated which have not already been considered in the rest of this DPEMP. The DPEMP has reviewed socio-economic, environmental and cultural impacts for this development.

6.19. TRAFFIC IMPACTS

6.19.1. EXISTING CONDITIONS

A traffic impact assessment was conducted by Chris Martin of CRE Tasmania Pty Ltd and is included as Appendix D – Traffic Impacts Study. The proposed increase in production will result in around 1000 truck movements, an increase of around 450 truck movements per annum. The heaviest truck movement is anticipated to be 20 truck movements per day during mining campaigns.

The main roads to be affected by the proposal will be Beaumont's Road, with a right turn onto Weegen Road, followed by 50% of the traffic turning northbound onto Dunorlan Road and the other 50% of the traffic turning southbound onto Dunorlan Road.

6.19.2. PERFORMANCE REQUIREMENTS

CRE assessed the "site conditions to The Austroads AGRD04A/09 Guide to Road Design Part 4A: Unsignalised and Signalised Intersections" (Martin, 2017). CRE also used *Guide to Road Design Part 3: Geometric Design section 5.3* to assess stopping conditions.

6.19.3. POTENTIAL IMPACTS

It is likely that truck movements will create dust, which can be minimised by limiting truck speeds and dampening of the road surface during dry weather. CRE noted that houses on the transport routes are well back from the gravelled Beaumont's Road and are unlikely to be affected by additional noise or dust.

6.19.4. AVOIDANCE AND MITIGATION MEASURES

CRE made a number of recommendations, which include;

- maintain fence lines clear of vegetation, install a give way sign making it clear that the Chesneys road traffic does not have priority to enter the intersection
- provide adequate table drains to remove water from the pavement at this location
- provide white hold line and a giveway sign at the Dunorlan intersection to formalize priority to the through road. Extend pavement to reduce edgebreak

These improvements all lie within council responsibility.

TT will mandate heavy vehicle traffic travel at 20 kilometres per hour on the gravel section of Beaumont's Road to limit environmental dust and noise. TT will also advise truck drivers to avoid use of engine brakes around surrounding residences.

TT will include road surface, drainage and signage inspections as part of routine quarry inspections.

A public complaints register will be maintained for the duration of the proposal.

6.19.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects of increased traffic are minimised. TT do not have control over council roads, therefore it is possible/likely that if the CRE recommendations are not there could be an impact to the local community from the increased traffic. These impacts are likely to be degradation of the road surface and water accumulation on the road surface.

7. MONITORING AND REVIEW

7.1. WATER QUALITY

TT will monitor discharge water quality from the final ponds according to parameters listed in Table 11 below. There is some concern with regard to low pH and marginally elevated metals.

Sampling of selected metals will occur for two years to ascertain if there is a likelihood of environmental harm any environmental harm from metal contamination.

Table 11 - suggested monitoring parameters for both final discharge ponds

Parameter	Frequency
Field pH	Quarterly
Field electrical conductivity	
Total suspended solids	Six monthly
Acidity	
Alkalinity	
Sulphate	
Metals (Cu, Fe, Al, Pb, Mn, Zn)	Annually for two years

7.2. WEEDS

TT is currently reviewing its weed management plan.¹⁴ However, an annual inspection of the quarry will allow for inspection of weeds. The southern quarry (1007P/M) has been checked by Sue Jennings for *Phytophthora cinnamomi* biennially. This inspection regime will continue for the LOM.

7.3. SETTLING PONDS

TT is implementing a companywide settling pond maintenance and inspection routine¹⁵. TT intends to inspect settling ponds at least biannually¹⁶ in autumn and spring, with active operations inspected monthly to ensure that capacity is maintained for a 1:20 year flood event. All records will be kept in the TT office and entered into an inspection register.

7.4. BLASTING

TT will monitor all blasts¹⁷ for ground vibration and air blast over pressure. Blast monitoring points will be in accordance with the blast management plan attached in Appendix C – Blasting Impacts Report.

7.5. COMPLAINTS REGISTER

TT maintains a public complaint register for all operations. To date, this operation has not attracted any public complaints.

7.6. TRUCK/MATERIAL MOVEMENTS

All TT trucks are fitted with GPS and their movements are tracked using software. TT will monitor truck movements for the LOM.

All material movements are captured and reportable if requested.

¹⁴ Commitment: provide updated Weed Management Plan before 30th June 2018

¹⁵ Commitment: ensure 28M/1990 & 1007P/M are inserted into inspection register

¹⁶ Commitment: monitor settling ponds biannually to maintain 1:20 year flood capacity

¹⁷ Commitment: monitor all blasts for ground vibration and blast overpressure in accordance with BMP

8. DECOMMISSIONING AND REHABILITATION

The site has a long history of quarrying on the western side of the slope, which remains as a steep, while stable, slope. The existing slopes (batters) are not consistent with the acceptable standards given in the QCP, and are sparsely vegetated.

TT's mining plan will lay the slopes back to achieve compliance with the QCP, with revegetation occurring on benches, which will screen batters. TT will stockpile any top soil¹⁸ for future revegetation works. It may be necessary to import material for rehabilitation of the 28M/1990 lease as there were no top soil stockpiles at the quarry when TT took over use of it during 2017.

While it is ideal to undertake progressive rehabilitation, TT would like to maintain the option with the northern lease (28M/1990) to take another 15m wide cut from the face once the existing planned mining has been completed. The Atkins (1007P/M) pit will be progressively closed according to the QCP, with top soil spread on the benches and local tree species planted. Initially the sites will be allowed to naturally seed, with assisted seeding after two years if the natural seed bank does not take.

The primary steps to undertake rehabilitation of the site are:

1. Site clean-up: remove any temporary structures, rip any roadways and prohibit vehicular site access
2. Site preparation: slopes will be quarried to achieve a final slope which meets the standards cited in section 8.3.2 of the QCP, top soil will be spread along berms and around quarry crests. Floor areas will be graded and sloped to ensure that site drainage is contoured and sustainable. Any topsoil which is imported will be tested for weeds and pathogens such as *Phytophthora cinnamomi*
3. Erosion prevention: site drainage infrastructure will be retained, including settling ponds. Additional drainage will be installed to slow down water and direct it to the settling ponds. A pond inspection/clean-out regime will be implemented for 12 to 24 months after initial revegetation. Top soil should be mulched to prevent erosion before vegetation uptake.
4. Revegetation: TT has previously engaged a suitably qualified contractor to review sites requiring revegetation for seeding rates, species selection and application method. TT will undertake the same process with respect to revegetation for both quarries contained within this proposal.
5. Weed control: the quarry will be inspected periodically for weed species, with any treatment required performed as part of the annual weed management program.
6. Monitoring and maintenance: TT will undertake monitoring at regular intervals during the first 24 months after rehabilitation has taken place, with annual inspections undertaken after that until MRT is prepared to classify the site as rehabilitated

TT will notify the Director EPA when rehabilitation works are planned with details of seeding mixes, seeding rates and if imported top soil is required. Rehabilitation works will be monitored biannually for two years, then annually for a further three years¹⁹.

Signage will be placed around the top of both pits with an earthen bund to prevent unintended/accidental access into the quarry from the east²⁰.

¹⁸ Commitment: stockpile top soil where possible

¹⁹ Commitment: monitor revegetation biannually for two years, then annually for a further three years

²⁰ Commitment: maintain earthen bund and "open pit" signs after closure

The site is only visible from the west; it is anticipated that after revegetation works the quarry will have less visual impact than it currently does. TT plans to finish the mine areas with more aesthetic appeal than currently exists.

9. COMMITMENTS

Number	Commitment	When	Who	DPEMP Section
1	Trucks to travel at 20 kilometres per hour on Beaumont's Road to limit dust emissions	Ongoing	J Treloar	6.1
2	Use water cart as required to dampen road surface	Ongoing	J Treloar	6.1
3	Install larger sediment pond in lease 28M/1990	before activity commences	J Treloar	6.2
4	Conduct noise assessment if quarry operations are likely to occur on northern slope of Punches Terror	If deviation from mining plan	J Treloar	6.4
5	Delineate areas of listed threatened species	before activity commences	J Treloar	6.7
6	Cordon off potential devil den	before activity commences	J Treloar	6.7
7	Abide by the <i>Workplace Health and Safety Act 2012</i> and <i>Workplace Health and Safety Regulations 2012</i>	Ongoing	J Treloar	6.13
8	Incorporate risk control measures with regard to rock fall risk into site induction	before activity commences	J Treloar	6.14
9	Provide updated weed management plan	30th June 2018	J Treloar	7.2
10	Ensure 28M/1990 & 1007P/M are inserted into inspection register	30th June 2018	J Treloar	7.3
11	Monitor settling ponds biannually to maintain 1:20 year flood capacity	Bi-annual starting March 2018	J Treloar	7.3
12	Monitor all blasts for ground vibration and blast overpressure	Each blast	J Treloar	7.4
13	Stockpile top soil where possible for the purpose of rehabilitation	Ongoing	J Treloar	8
14	Monitor revegetation biannually for two years, then annually for a further three years	Two yearly	J Treloar	8
15	Maintain earthen bund and "open pit" signs after closure	Ongoing	J Treloar	8

10. CONCLUSION

The Proponent plans to increase the annual production and consolidate quarrying operations at Punches Terror Quarry from the existing (combined) annual movement of 11,000m³ to 20,000m³. This elevates the operations from a Level 1 activity in 1007P/M to a Level 2 activity under Schedule 2 of the *Environmental Management and Pollution Control Act 1994*.

The operations at 28M/1990 constitute a level 2 activity, however there is no allowance for blasting, crushing or screening within the existing permit. It is anticipated that the final landform will be more stable and revegetated appropriately so as not to cause any visual impacts in the region.

There will be a small amount of vegetation removal, primarily to ensure safety of the operation; the estimated area is about 2.6 hectares between both quarries (site vegetation removal). There are two endangered species in the region of the proposal, however they are away from the planned operations area. These areas will be barricaded for the duration of LOM and operations are not expected to have any impact on either species.

There are no permanent structures required on site. All plant and equipment will be transportable in nature. All hazardous materials will be stored in compliant containers and there will be no storage facilities on site. Dust can be minimised by a program of dampening the road surfaces when required and reducing vehicles speeds as required.

Environmental noise from operations and blasting activities are unlikely to cause community nuisance. The operational noise at the nearest and most 'at risk' residences show that the noise levels expected are below the noise emission criteria in the QCP. The predicted blasting impacts are low, with ground vibration below the acceptable standard in the QCP. Noise levels from quarrying may cause environmental nuisance should quarry operations be conducted on the northern end of the ridge in 28M/1990; should TT wish to quarry in this area, the company will seek the permission of the Regulator.

Table 12 below includes a list of the PSG's provided by the EPA in July 2017 and further requirements from the Meander Valley Council via email on the 10th July 2017. The Proponent has provided some brief commentary on each guideline.

Table 12 - mapping and commentary for project specific guidelines (PSG's)

DPEMP Section	Project Specific Guideline	Commentary
2.1	A statement about the expected life of quarrying operations.	Discussed in section 1.2
2.1	A brief description about the geology/ies being quarried.	Discussed in section 5.2 and the Tasman Geotechnics report attached as Appendix G – Landslip Risk Assessment
2.1	Planned operating hours for the site, annual rates of extraction and production, annual number of blasts and estimated number of product haulage truck movements per day.	Discussed in section Error! Reference source not found.

DPEMP Section	Project Specific Guideline	Commentary
2.1	A description of chosen method(s) for quarrying and processing of target material, including a list/table of all major items of equipment to be used (e.g. crushers, screens, rock breakers, excavators, haulage trucks, drill etc.).	Discussed in section 2.1
2.1	The locations and dimensions of any sediment ponds and stormwater management infrastructure. Any off-site infrastructure that may be used must be detailed.	Shown in Figure 5
2.5	A map showing the locations of all mining leases associated with the proposal.	Shown in Figure 5
2.5	A quarry plan which includes, but is not necessarily limited to; the direction(s) of quarrying, bench heights, working face(s), locations of all major items of equipment (e.g. crushing machinery), product storage areas, sediment ponds and internal haul roads.	Shown in Figure 7 for 1007 P/M and Figure 8 for 28M/1990
2.5	A site plan or map(s) depicting the access routes to all working areas.	Shown in Figure 7 for 1007 P/M and Figure 8 for 28M/1990
2.5	Identification of areas to be progressively rehabilitated during the operating life of quarrying.	No progressive rehab in this mine plan due to steep slopes and rehab in upper levels causing a safety risk
2.5	A plan of the site drainage, including (where relevant) principle discharge points from the activity to the receiving environment.	Shown in Figure 5 and more detailed discharges in Figure 7 for 1007 P/M and Figure 8 for 28M/1990
6.1	Identify and describe all major sources of dust emission contained within the areas of the proposed quarrying expansion. This should include emissions of dust generated by expansion of quarrying and should examine activities like blasting, rock processing (extraction, crushing, screening), storage of material in stockpiles, emissions from disturbed areas and from traffic movements on and off site.	Discussed in section 6.1 paragraph 1
6.1	Measures to minimise the potential impact of dust generated by the proposal, such as watering or sealing of roads, covering of truck loads, reduced vehicle speeds, and road maintenance, water sprays or windbreaks, revegetation/stabilisation.	Discussed in section 6.1 paragraph 3
6.1	Provide details regarding how the potential impact of dust generation from the activity on nearby sensitive receptors will be minimised.	Discussed in section 6.1 paragraph 2
6.2	A description of the receiving environment for site runoff.	Discussed in section 6.2 paragraph 1
6.2	A suitable figure(s) to show site hydrology/drainage and the locations of all cut-off drains	Shown in Figure 5 and more detailed discharges in Figure 7 for

DPEMP Section	Project Specific Guideline	Commentary
	which will serve to separate clean from contaminated water.	1007 P/M and Figure 8 for 28M/1990
6.2	Management measures to prevent sediment movement into water courses. This should include contingencies in case control measures fail, e.g. a breach of a sediment pond during heavy rainfall or flooding.	Discussed in section 6.2
6.2	Estimation of volume of runoff from the site, the treatment capacity of the sediment pond(s) and expected detention time(s).	Discussed in section 6.2
6.4 - operational noise	A noise survey of existing noise in the area including measurements of sound level at noise sensitive receptors would be an advantage. In the absence of any measurements, limits of 45, 40 and 35 dB (A) for day, evening and night are likely to be applied. Major existing sources of noise in the area should be identified.	Report attached as Appendix B – Noise Survey and summarised in section 6.4 Operating hours are discussed in section 2.1
6.4 - operational noise	A description of all proposed major noise sources (fixed and mobile), e.g. any equipment such as a rock drill, rock breaker, crusher, screener, and activities such as handling of material (i.e. loading and transportation of the material within the land). Wherever practicable, for all major equipment, provide details of make, model, engine power ratings, sound power output levels, throughput capacity and any associated noise attenuation.	Discussed in section 6.4 and shown in Table 5
6.4 - operational noise	Topographical maps and area plans showing the existing and future proposed locations of all major noise sources associated with the proposal; potentially affected residences (showing precise distances between quarries and any noise sensitive areas for each stage of the proposal).	Report attached as Appendix B – Noise Survey and summarised in section 6.4
6.4 - operational noise	Noise modelling for each phase of the development identifying the 30, 35, 40 and 45 dB (A) noise contours and predicted noise levels at each sensitive premise potentially affected.	Report attached as Appendix B – Noise Survey
6.4 - operational noise	Operating hours, and details regarding expected duration (in days over the course of 12 months) of use of all major noise generating equipment on site.	Report attached as Appendix B – Noise Survey and summarised in section 6.4
6.4 - operational noise	Any proposed measures to mitigate noise impacts.	Discussed in section 6.4

DPEMP Section	Project Specific Guideline	Commentary
6.4 - operational noise	For all potential noise sensitive receptors, an assessment of the potential to cause a noise nuisance during any period during the life of quarrying, taking into account any noise survey data and all the required modelling results.	Report attached as Appendix B – Noise Survey and summarised in section 6.4
6.4 - blasting noise	A proposed blasting scheme, including blast size and intended blast frequency.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A prediction of blast peak particle velocity at sensitive receptors within 1 kilometre.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A map showing contours for peak particle velocity of 2.5, 5, 7.5 and 10mm/s.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A prediction of air-blast overpressure at residences within 1 kilometre.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A map showing contours for air-blast overpressure of 110, 115 and 120dB (Lin Peak).	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	An assessment of blasting impacts on identified residences and any other noise and vibration sensitive activities.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.7	A threatened flora and fauna survey in accordance with the Guidelines for Natural Values Surveys – Terrestrial Development Proposals must be undertaken for lease 28M/1990. The survey should include details of the nature and extent (in hectares) of any vegetation/habitat that is proposed to be cleared.	Surveys conducted on two site visits, results discussed in section 6.7 and reports attached as Appendix A – North Barker Report
6.7	Results and discussion of any ecological surveys conducted within the previous five years, relevant to the proposed areas of extraction, should be included with the results and discussion of the survey required for lease 28M/1990.	Surveys conducted on two site visits, results discussed in section 6.7 and reports attached as Appendix A – North Barker Report Also addressed email from Assessments Section relating to Wedge Tailed Eagle (WTE) sightings on the day of the site inspection in the report
6.7	Details of any measures that will be adopted to mitigate potential impacts to flora and fauna, including threatened and vulnerable species.	Surveys conducted on two site visits, results discussed in section 6.7 and reports attached as Appendix A – North Barker Report
6.20	Information on traffic associated with the proposal; vehicle type, expected tonnages and any alternative access roads (routes).	Discussed in sections 2.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study

DPEMP Section	Project Specific Guideline	Commentary
6.20	Maximum number of vehicle movements per day.	Discussed in sections 2.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study
6.20	Discussion of the potential impacts to nearby residences (noise and dust) due to vehicle movements to and from the site.	Discussed in sections 6.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study
6.20	Details of management measures proposed to mitigate any adverse effects due to traffic.	Discussed in sections 2.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study
Council	Crown consent for PID 2531016	Will be attached to planning application
Council	Parking for employees	Only vehicle required to park is operator vehicle, discussion around parking in section 1.2
Council	Landslip risk assessment by an appropriately qualified person	Land slip risk assessment completed by Tasman Geotechnics and included as Appendix G – Landslip Risk Assessment. The report is summarised in 6.14

11. REFERENCES

- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality: The Guidelines*, 2000, Volume 1, Australian and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand.
- Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors), 2016, *Australian Rainfall and Runoff: A Guide to Flood Estimation*, Commonwealth of Australia
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- Bobbi, C., 1997, *State of the River Report Water on Quality Of Rivers In The Mersey Catchment*, Land and Water Assessment Branch, Department of Primary Industry and Fisheries, Hobart Tasmania.
- Nelson, M, 1997, *State of River Report on Mersey River Catchment Index of River Condition*, Land and Water Assessment Branch, Department of Primary Industry and Fisheries, Hobart Tasmania.
- Environment Protection Authority, 2017, *Quarry Code of Practice 3rd Edition*, EPA Tasmania, Hobart, Tasmania.

12. APPENDICIES

12.1. Appendix A – North Barker Report

Punchs Terror Quarry – Proposed Intensification of Use

FLORA AND FAUNA ASSESSMENT

9th September 2016
For Treloar Transport (TRE001)

Andrew North anorth@northbarker.com.au **Philip Barker** pbarker@northbarker.com.au

163 Campbell Street Hobart TAS 7000 Telephone 03. 6231 9788 Facsimile 03. 6231 9877

Meander Valley Council Ordinary Meeting Agenda - 14 August 2018

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Summary

The proponent is seeking a permit for the intensification of activities at Punchs Terror quarry in northern Tasmania. North Barker Ecosystem Services (NBES) have been engaged to undertake a threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed intensification and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

Vegetation

The lease area was found to contain the following TASVEG units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA. No *Eucalyptus ovata* forest or woodland (DOV) is found on site.

The proposed intensification will result in the clearance of 1 ha of DAS and 0.4 ha of DOB, neither of which is considered to be significant at the local, regional, state or national scale.

Threatened Flora

One threatened flora species is known from the site. Under the regulations of the Tasmanian *Threatened Species Protection Act 1995*, if the observed location of *Gratiola pubescens* is to be impacted, the proponent is required to obtain a permit to take from DPIPWE. The current proposal however does not include intensification in this area and thus the species will not be directly impacted. Mitigation measures have been provided to prevent inadvertent impacts.

Threatened Fauna

A soil mound on the edge of the lease area has been identified as having potential as a den site for either the Tasmanian devil or the spotted tailed quoll. The proponent however cannot impact within 10 m of the edge of their lease and thus will not destroy this location. Mitigation measures in the form of marking and/or cordoning off the area have been suggested to prevent inadvertent impacts to the location.

If the location is ever going to be destroyed/impacted, the proponent will be required to undertake further investigation to establish if the location is used as a den site and if mitigation or additional compliance is required based on the nature of that use.

Summary

Our field survey has established that the lease area contains one threatened native plant community, one threatened plant species, and a potential den site for threatened fauna. The latter two values will not be directly impacted by actions under the present proposal and mitigation measures have been provided to reduce the potential for indirect impacts. Losses of the threatened native plant community are considered to be negligible.

Acknowledgments

Project management: Grant Daniels

Field work and photographs: Grant Daniels

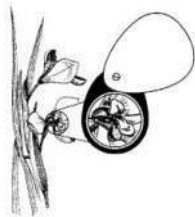
Report: Grant Daniels

Mapping: Grant Daniels

Proponent consultation: Nigel Beeke

Specialist flora advice: Richard Schahinger, Threatened Species Section Botanist, DPIWE

Specialist advice on mitigation of potential Tasmanian devil dens: Alastair Morton, Acting Section Head, Conservation Assessment, Policy & Conservation Advice Branch



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1. Introduction and Methods

1.1. Background

The proponent is seeking to increase the licenced production of crushed rock from Mining Lease 1007 P/M. The lessee currently operates a level one quarry with a permitted output of 5000 m³ of crushed rock per annum. An application has been made to increase the permitted production to 20,000 m³ of crushed rock per annum, which would constitute a level two operation. As part of their assessment of environmental effects under the *Environmental Management and Pollution Control Act 1994*, the board of the Environment Protection Authority have requested the proponent undertake a threatened flora and fauna survey in accordance with the *Guidelines for Natural Values Surveys – Terrestrial Development Proposals*¹.

The proponent has commissioned North Barker Ecosystem Services (NBES) to undertake the present survey to fulfil the requirements of the threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed works and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

1.2. Study Area and Methods

1.2.1. Study Area

The existing quarry, known as Punchs Terror Quarry (or the Atkin's Pit), is located off Beaumont's Road, Weegen, (Figure 1), approximately 4.5 km southwest of Elizabeth Town. The mining lease of 4 ha is on freehold land: C/T109390-1. Existing operations cover around 1 ha (with additional disturbance from past operations in the lease covering < 1 ha). Following the proposed intensification, the total potential disturbed land within the lease will be around 3.15 ha. The land is zoned Rural Resource under the *Meander Valley Interim Planning Scheme 2013* and is part of the Tasmanian Northern Slopes bioregion².

The quarry is located on the western side of a north to south trending ridge. Site geology is dominated by quartz sandstone and chert conglomerate talus derived from Owen Group correlates. The lease also includes pink pebble-cobble siliceous conglomerate, with quartz sandstone lenses (Roland conglomerate or correlate).

Altitude across the study area is between 300 and 350 m AHD. Average annual rainfall is around 1050 mm³.

¹ Natural and Cultural Heritage Division, 2015

² IBRA7 - Commonwealth of Australia 2012

³ Sheffield, Northwest Coast, Tasmania; 41.3886 ° S, 146.3219 ° E, 294 m AMSL; commenced 1996

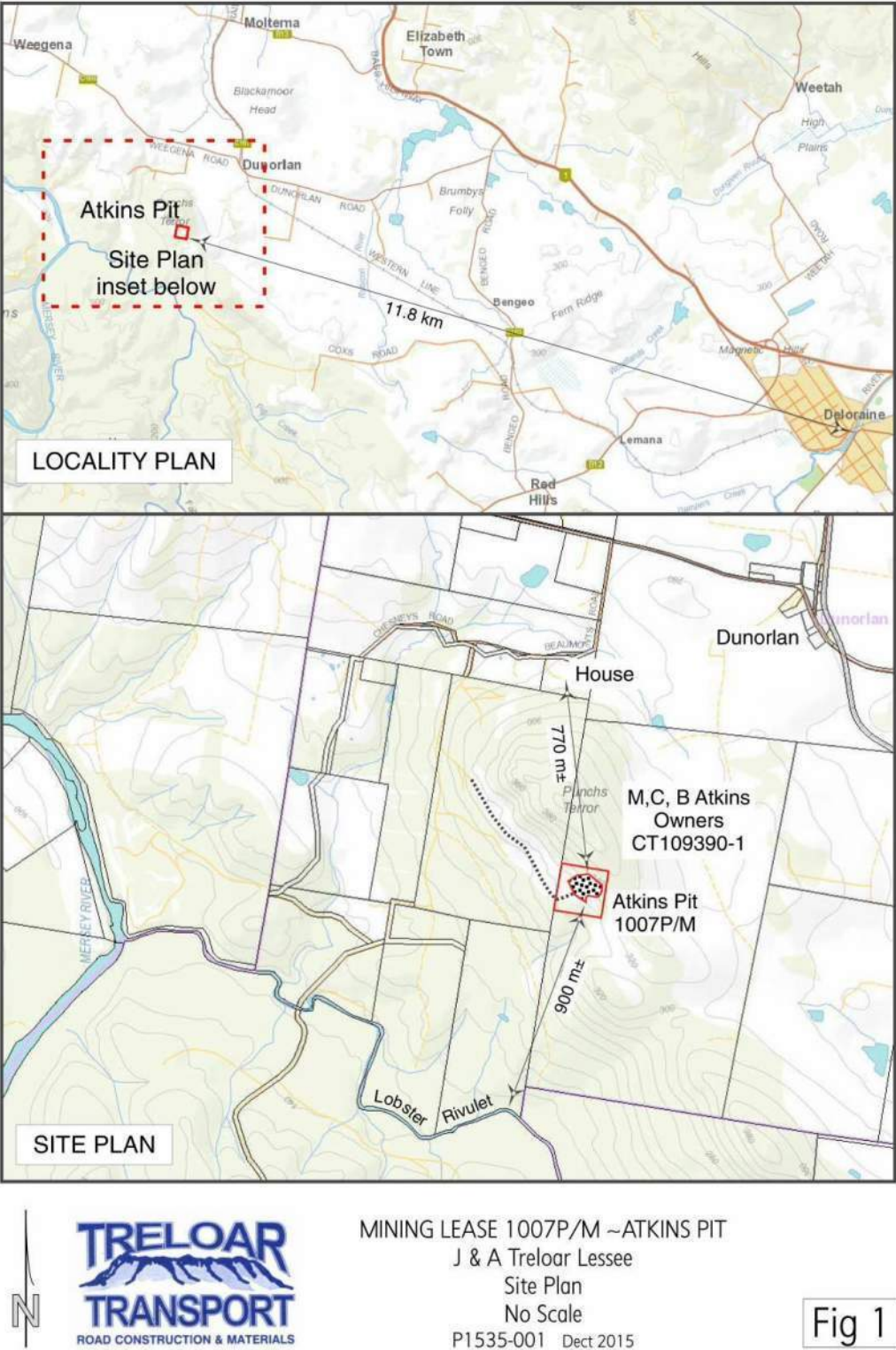


Figure 1: Site location

1.2.2. Field Survey

Field work was undertaken on foot by one observer on the 17th of August, 2016. Vegetation was mapped throughout the entire lease in accordance with units defined in TASVEG 3.0⁴. Within all vegetation types, plant species lists were compiled according to nomenclature within the current census of Tasmanian plant census⁵, using a meandering area search based on the Timed Meander Search Procedure⁶. Observations of habitat suitability for fauna, as well as direct or indirect indicators of presence (*i.e.* sightings, scats, tracks, dens, *etc.*) were made concurrently. Disproportionate survey effort was applied to the proposed intensification area and areas considered suitable for threatened values.

Observations of elements that would later be mapped, including threatened species (Tasmanian *Threatened Species Protection Act 1995* [TSPA] and/ or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* [EPBCA]) and their habitats, were recorded with a handheld GPS.

1.2.3. Limitations

Due to seasonal variations in detectability and identification, there may be some species present within the study area that have been overlooked. To compensate for these limitations to some degree, data from the present survey are supplemented with data from the Tasmanian Natural Values Atlas⁷ (NVA) and the EPBC Significant Matters database (PMST_ S3CHQK). From these sources, all threatened species known to occur in the local area (5 km) are considered in terms of habitat suitability on site.

2. Results - Biological Values

2.1. Vegetation

Our survey has resulted in some corrections to the community data held within the TASVEG v3.0 database. Specifically, we established that there is no *Eucalyptus ovata* forest and woodland (DOV) present on site, with the area mapped as this community actually being dominated by *Eucalyptus obliqua*; in addition, we made boundary corrections to the areas of other communities. The lease was found to contain three community units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA.

Distributions of TASVEG units within the lease are presented in Figure 2. Floristics are presented in Appendix A, while each unit is described briefly below, with representative photos in Plates 1-4.

The site has no likelihood of supporting alpine sphagnum bogs and associated fens, as predicted as possible by the EPBC protected matters database.

⁴ Kitchener and Harris 2013

⁵ de Salas and Baker 2015

⁶ Goff *et al.* 1982

⁷ nvr_3_11-August-2016



Figure 2: Distribution of TASVEG units within the lease area – note that the proposed limit of intensification (provided by the proponent) is indicative only and, in accordance with the requirements of mining lease agreements, no disturbance will occur within 10 m of the lease boundary

Dry *Eucalyptus obliqua* forest (DOB) – Plate 1

The occurrences of this community on site are highly typical examples of the moist facies of the community that occurs in the transition zone between wet and dry forest. The canopy is almost exclusively dominated by *Eucalyptus obliqua*, with only occasional *E. amygdalina*, particularly on patch margins. No *E. ovata* were observed and it is unlikely any meaningful patches of this species were overlooked. The understorey of this community was shrub dominated with a mix of tall and short species, both broad leaved and sclerophyllous. Frequent species included *Pultenaea juniperina*, *Exocarpos cupressiformis*, *Acacia terminalis*, *Monotoca glauca*, *Cassinia aculeata*, *Olearia lirata* and *Acacia melanoxylon*. Ground layer vegetation was dominated by *Pteridium esculentum*, with lesser patches of more moisture reliant ferns, as well as *Lomandra longifolia* and various herbs and graminoids.

Dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS) – Plates 2 and 3

The occurrences of this community on site are relatively species poor in contrast to examples of the community on Tertiary sandstone elsewhere in the State, but not atypical for examples on conglomerate. The canopy is almost exclusively dominated by *Eucalyptus amygdalina*, with only occasional *E. obliqua*, particularly on patch margins. The understorey of this community was largely dominated by *Pteridium esculentum*, with occasional tall patches of *Leptospermum*. Other frequent shrubs included *Leucopogon collinus*, *Allocasuarina monilifera* and *Monotoca glauca*. Small species included *Amperea xiphoclada*, *Hibbertia procumbens*, *Dianella tasmanica* and *Aotus ericoides*.

Extra-urban miscellaneous (FUM) – Plates 4 and 5

This community includes the active quarry face and an area of past disturbance in which near surface material was extracted. Resultantly, vegetation in this area is largely dominated by ruderal exotics such as *Conium maculatum*, *Silybum marianum* and *Brassica x napus*. Native species within the area of FUM are largely adventive individuals that have colonised the area from the adjacent native communities, although it does also include some disturbance colonising natives that were not observed in the forests, including *Acaena novae-zealandiae* and the listed species *Gratiola pubescens*.



Plate 1: *Eucalyptus obliqua* dry forest on the edge of the proposed intensification area



Plate 2: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 3: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 4: The current active quarry area – mapped as extra-urban miscellaneous

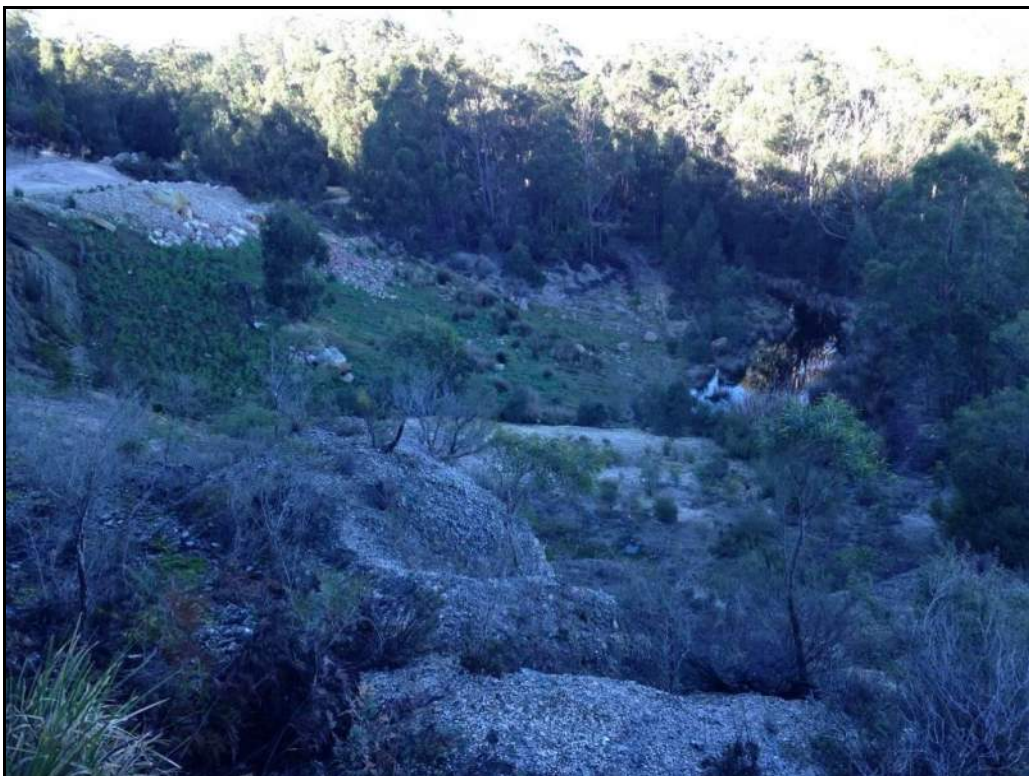


Plate 5: An area of past quarrying disturbance within the lease area, including a settling pond – all of which was mapped as extra-urban miscellaneous

2.2. Plant Species of Conservation Significance

In total, 59 species of vascular plants were recorded during our field survey (Appendix A). This included one species listed as threatened under the schedules of the TSPA (Table 1, Figure 3). This species, *Gratiola pubescens* (TSPA vulnerable), occurred in two patches on the edge of the settling pond within the area of past disturbance (Plate 5); extent of occurrence was 4 m² with percentage cover between 10 and 25 % (Plate 6). As this area has had rock extracted in the past, the proponent does not intend to intensify operations within this area as part of the current proposal. In any case, this species has become much more frequently recorded in Tasmania in the past 15 years. The increased number of records and expanded known distribution has prompted discussions that it should be nominated for down-listing or delisting from the TSPA. It is frequently a disturbance coloniser and can persist within a variety of human-modified environments.

Several other threatened species have previously been recorded within 5 km of the site⁸, or have the potential to do so based on habitat mapping. None of these species are considered likely to have been overlooked to any meaningful degree and thus have a very low likelihood of impact from the proposed works (Table 1).

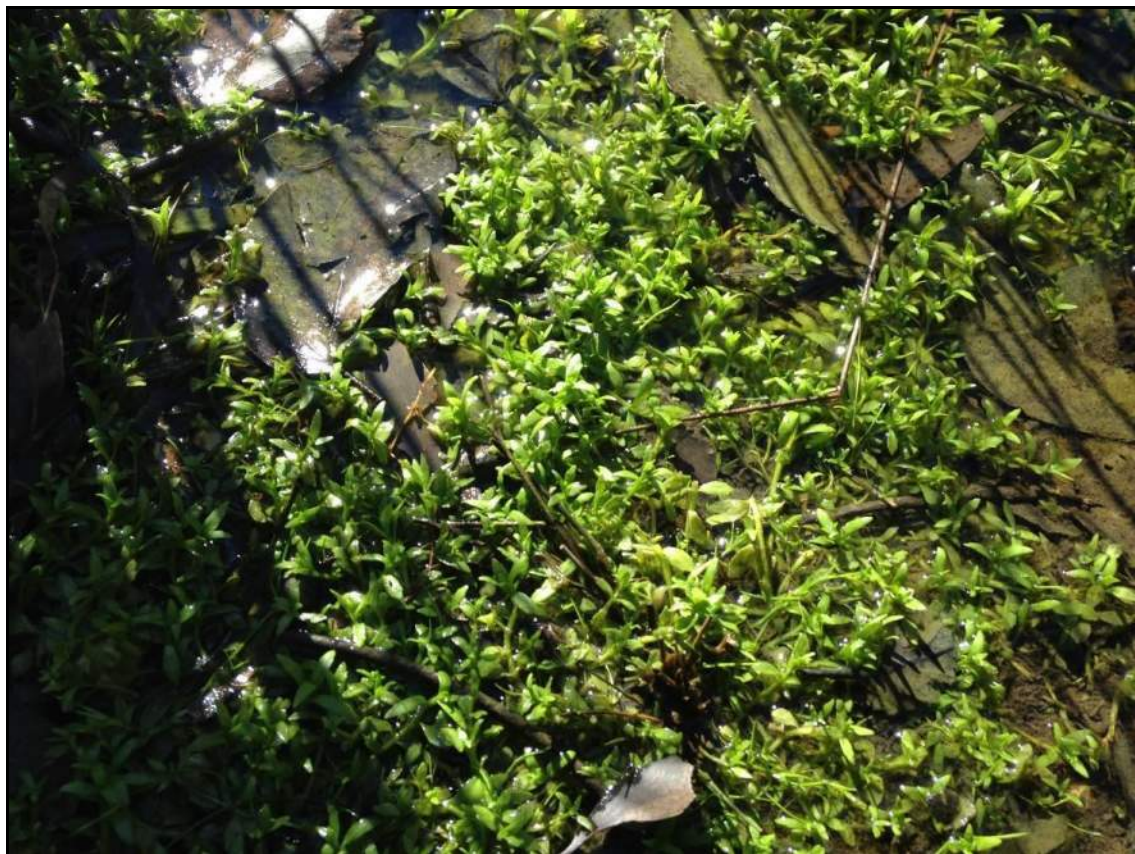


Plate 6: Mat-forming *Gratiola pubescens* on the edge of the settling pond within a previously disturbed area mapped as extra-urban miscellaneous

⁸ nvr_3_11-August-2016

Table 1: Flora species of conservation significance known within a 5 km radius of the study area, or predicted by habitat mapping⁹

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹⁰
KNOWN FROM STUDY AREA			
<i>Gratiola pubescens</i> hairy brooklime	Vulnerable/ -	-	A small, mat-forming herb that colonises bare ground disturbance niches within saturated soils. Frequently observed in highly modified environments such as the present quarry. Re-assessment of its status under the TSPA is likely to occur in the near future and the species is likely to be down-listed or delisted from the Act.
REPORTED FROM WITHIN 5 km¹¹			
<i>Desmodium gunnii</i> southern ticktrefoil	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
<i>Epilobium pallidiflorum</i> showy willowherb	Rare/ -	None	A floriferous perennial herb of creeks and swamps, particularly in the north of the State. Settling pond on site is very low in suitability and the species is unlikely to have been overlooked within it. No suitable habitat was observed elsewhere on site.
<i>Glycine microphylla</i> small leaf glycine	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
<i>Gynatrix pulchella</i> fragrant hempbush	Rare/ -	None	No suitable riparian habitat present. A highly distinctive species unlikely to have been overlooked.
<i>Pimelea curviflora</i> (incl. var. <i>gracilis</i>) (slender) curved rice flower	Rare/ -	None	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.

⁹ nvr_3_11-August-2016

¹⁰ Includes statements from Threatened Species Link summaries and note sheets

¹¹ nvr_3_11-August-2016

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹⁰
PREDICTED AS POSSIBLE BY HABITAT MAPPING ONLY¹²			
<i>Barbarea australis</i> native wintercress	Endangered/ ENDANGERED	None	<i>Barbarea australis</i> is a riparian plant species found near river margins, creek beds and along flood channels adjacent to the river. It has not been found on steeper sections of rivers, and tends to favour slower reaches. It occurs in shallow alluvial silt deposited on rock slabs or rocky ledges, or between large cobbles on sites frequently disturbed by fluvial processes. Some of the sites are a considerable distance from the river in flood channels scoured by previous flood action, exposing river pebbles. No suitable habitat occurs on site.
<i>Caladenia caudata</i> tailed spider orchid	Vulnerable/ VULNERABLE	Very low	<i>Caladenia caudata</i> (tailed spider-orchid) is a terrestrial orchid, found mainly in dry heathland and heathy woodland habitats, in lowland areas of northern, eastern and south-eastern Tasmania. Habitat on site is suitable within the DAS community, but none of the orchid leaves observed during the survey could possibly belong to this species.
<i>Colobanthus curtisiae</i> grassland cupflower	Rare/ VULNERABLE	Very low	Typically a species of grassy habitats, but can occur on rocky knolls. Some suitable habitat (of the latter type) present on site, but the species was not observed and is not likely to have been overlooked even outside of the flowering season.
<i>Epacris exserta</i> South Esk heath	Endangered/ ENDANGERED	None	Strictly a riparian species of dolerite substrates. No suitable habitat present on site.
<i>Glycine latrobeana</i> clover glycine	Vulnerable/ VULNERABLE	None	Habitat low in suitability. Can be detected by foliage at any time of the year and is not likely to have been overlooked.
<i>Lepidium hyssopifolium</i> peppercress	Endangered/ ENDANGERED	None	Occurs in the growth suppression zone of large trees in grassy areas. No suitable habitat present.

¹² EPBCA protected matters report – PMST_S3CHQK

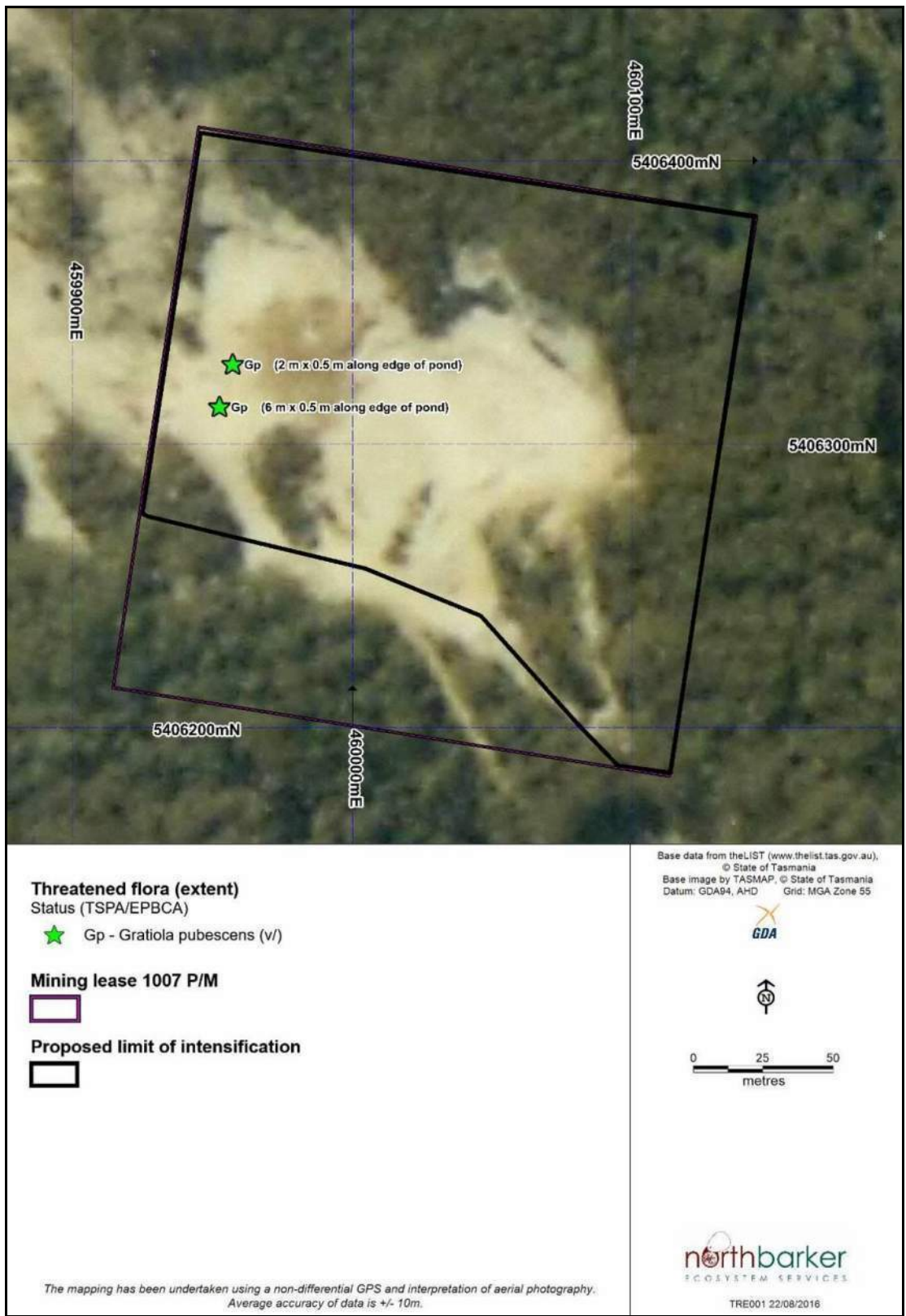


Figure 3: Threatened flora observations within the lease area – note that the proposed limit of intensification (provided by the proponent) is indicative only and, in accordance with the requirements of mining lease agreements, no disturbance will occur within 10 m of the lease boundary

2.3. Introduced Plants

No declared weeds or woody environmental weeds have been observed on site.

2.4. Plant Pathogens

The quarry has previously been assessed as free of cinnamon root rot fungus *Phytophthora cinnamomi* (PC) (Appendix B). That assessment did identify one pile of soil that appeared to exhibit symptomatic evidence of PC, but the location tested negative. The same location was investigated during our assessment and noted to support healthy specimens of the PC-sensitive species *Epacris impressa* (Plate 6).

Much of the habitat within the proposed intensification area is unsuitably well-drained for PC and no potential symptomatic evidence was observed elsewhere.



Plate 7: Healthy *Epacris impressa* plants growing on a soil mound previously suspected (but which tested negative) to support PC

2.5. Fauna Species of Conservation Significance

No threatened fauna species have been directly or indirectly observed on site. A number of threatened fauna are however known to occur within 5 km of the site, or have the potential to do so based on habitat mapping¹³. The majority of these species are not considered to have viable habitat on site (particularly nesting habitat) or the habitat is considered to be relatively unimportant to the persistence of species at even a local scale should they be present (Table 2). Special consideration was however given to a mound of soil located on the margin of the lease area and

¹³ nvr_3_11-August-2016

with characteristics that could make it suitable for use as a den site by the Tasmanian devil or (less likely) the spotted tailed quoll.

The soil mound was observed to have two potential entrance holes. One hole (Plate 8) is considered to be too small for use by either the Tasmanian devil or spotted tailed quoll; the shape and nature of the excavation suggest it may have been created by a native rodent, although the size is on the upper limits for likely species such as the long-tailed mouse *Pseudomys higginsi*. The second entrance (Plates 9 and 10) is more suitable in size for a devil or quoll and near the entrance there were fresh fur scraps and a skull of a Tasmanian pademelon *Thylogale billardierii* (potential live and/or scavenged prey of the devil in particular) (Plate 11). The soil mound has other desirable features from the perspective of denning, in the form of dense surrounding vegetation for shelter and an adjacent west facing slope with open areas suitable for sunning.

The location of the soil mound (Figure 4) on the margin of the lease area means that it will not be destroyed as part of the current proposal (because the proponent is not permitted to disturb within 10 m of their lease boundary). Given that the location will not be destroyed, we received advice from the Policy & Conservation Advice Branch that further exploration into potential use of the soil mound as a den (through means such as remote camera surveillance) was not necessary, and that protective buffers are not required for unconfirmed den sites (Alastair Morton pers. comm.).



Plate 8: Smaller entrance in soil mound, with pen for scale



Plate 9: Larger entrance, with A4 clipboard for scale



Plate 10: General location of larger entrance, amongst bracken



Plate 11: Pademelon skull and fresh patches of pademelon fur near larger entrance

Table 2: Fauna species of conservation significance previously recorded within a 5 km radius of the study area, or with the potential to do so based on habitat mapping¹⁴

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
BIRDS			
<i>Accipiter novaehollandiae</i> grey goshawk	Endangered/ -	Very low	No suitable nesting habitat is found on site. If the area is used by this species it is only likely to represent a minor part of a foraging range.
<i>Aquila audax fleayi</i> wedge-tail eagle	Endangered/ ENDANGERED	Foraging: Very low Nesting: None	Requires sheltered old-growth trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests are known within 500 m or within 1 km line of sight. Nearest known nest is around 3 km away.

¹⁴ nvr_3_11-August-2016

¹⁵ Bryant & Jackson 1999

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
<i>Apus pacificus</i> fork-tailed swift	-/ MIGRATORY	Very low	Uncommonly recorded in Tasmania. An aerial insectivore that would most likely only fly over the site if present. Potential presence and habitat use would not be affected by proposal.
<i>Ardea alba</i> great egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Ardea ibis</i> cattle egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Botaurus poiciloptilus</i> Australasian bittern	-/ ENDANGERED	None	No suitable permanent aquatic habitat.
<i>Ceyx azureus</i> subsp. <i>diemenensis</i> azure kingfisher	Endangered/ ENDANGERED	None	Species primarily utilises major rivers within western Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Gallinago hardwickii</i> Latham's snipe	-/ MARINE – MIGRATORY	None	A wide-ranging shorebird that frequently utilises the margins of subalpine lakes and tarns, and less frequently farm dams. No suitable habitat present on site.
<i>Haliaeetus leucogaster</i> white-bellied sea eagle	Vulnerable/ MIGRATORY	None	Requires large coastal or lakeside trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests known within 500 m or within 1 km line of sight.
<i>Hirundapus caudacutus</i> white-throated needletail	-/ MIGRATORY	Very low	An aerial species most likely unaffected by terrestrial habitat alteration outside of its Northern Hemisphere breeding range. Potential presence and habitat use would not be affected by proposal.
<i>Lathamus discolor</i> swift parrot	Endangered/ ENDANGERED	Very low	For nesting, this species requires tree hollows within 10 km of mature stands of food plants, which are blue gums (<i>E. globulus</i>) and black gums (<i>E. ovata</i>). No food trees have been observed on site and there is a very low likelihood the site could be utilised for nesting. Given the current operations at the site it is considered highly likely that any hollows in the area would be occupied by disturbance tolerant edge species such as possums and sugar gliders. Nearest known nest is around 2.5 km away but NW breeding areas are not

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
			classified as swift parrot important breeding areas ¹⁶ .
<i>Myiagra cyanoleuca</i> satin flycatcher	-/ MIGRATORY	Low	An interstate migrant of which some of the population spends the summer breeding months in Tasmania. Widely distributed across forested environments but is sensitive to fragmentation and canopy thinning and not generally associated with small remnants or edge habitats. Regional populations not likely to be impacted by a proposal of this scale.
<i>Pterodroma leucoptera leucoptera</i> Gould's petrel	-/ ENDANGERED	None	A pelagic species. No suitable habitat present.
<i>Tyto novaehollandiae</i> masked owl	Endangered/ VULNERABLE	Nesting: None Foraging: Low	The site is within the core habitat range for this species, which includes all land below 600 m AHD. Requires a mosaic of forest and open areas for foraging, and large old-growth, hollow-bearing trees for nesting. The forest habitat on site is moderately suitable for foraging, but no viable nesting hollows were observed nor are likely to have been overlooked.
<i>Tringa nebularia</i> common greenshank	-/ MIGRATORY	None	A shorebird species. No suitable habitat present.
MAMMALS			
<i>Dasyurus maculatus</i> ssp. <i>maculatus</i> spotted-tailed quoll	Rare/ VULNERABLE	Low - moderate	This naturally rare forest-dweller most commonly inhabits wet forest but also occurs in dry forest and occasionally grassy areas. The study area does not occur within the core range for the species (as defined on the NVA) and only four records are known from within 5 km. Given that the only viable den site observed within the lease area will not be destroyed by this proposal, the species is unlikely to be measurably impacted by a proposal of this scale should it be present.

¹⁶ Forest Practices Authority 2010

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
<i>Dasyurus viverrinus</i> eastern quoll	-/ ENDANGERED	Very low	Species is extinct on mainland Australia and was recently listed on the EPBCA as a result of the decline in the Tasmanian population during the last decade. Currently the eastern quoll is not listed on the Tasmanian TSPA and remains widespread across eastern Tasmania in particular, with a preference for high soil fertility and grassy open habitats. Only two observations of this species are known within 5 km of the site and the habitat is low in suitability. If the species is present it is unlikely to be measurably impacted by a proposal of this scale.
<i>Perameles gunnii</i> eastern barred bandicoot	- / VULNERABLE	None	Predicted based on habitat mapping only. However, no suitable habitat is present on site for this species and it is more likely to be present in the surrounding rural landscape.
<i>Sarcophilus harrisii</i> Tasmanian devil	Endangered/ ENDANGERED	Moderate	The study area does not occur within the core range for the species (as defined on the NVA) and only six records are known from within 5 km. No scats were observed on site. Given that the only viable den site observed within the lease area will not be destroyed by this proposal, the species is unlikely to be measurably impacted by a proposal of this scale should it be present.
OTHER SPECIES			
<i>Astacopsis gouldi</i> giant freshwater crayfish	Vulnerable/ VULNERABLE	None	Species primarily utilises major rivers within northern Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Engaeus granulatus</i> Central North burrowing crayfish	Endangered/ ENDANGERED	None	Predicted based on habitat mapping only. Soil conditions not suitable on site.
<i>Galaxiella pusilla</i> eastern dwarf galaxias	Vulnerable/ VULNERABLE	None	No suitable aquatic habitat present.
<i>Galaxias fontanus</i> Swan galaxias	Endangered/ ENDANGERED	None	No suitable aquatic habitat present.
<i>Hickmanoxymma gibbergunyar</i> Mole Creek cave harvestman	Rare/ -	None	Only known from caves within the Mole Creek karst system. No suitable karst habitat is known on site.

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
<i>Litoria raniformis</i> green and gold frog	Vulnerable/ VULNERABLE	Very low	Occurs in large, permanent, well vegetated wetlands. No suitable habitat within study area.
<i>Prototroctes marina</i> Australian grayling	Vulnerable/ VULNERABLE	None	No suitable river habitat present.
<i>Pseudemoia pagenstecheri</i> tussock skink	Vulnerable/ -	None	Occurs in <i>Poa</i> tussock grassland and <i>Themeda</i> grassland without trees. Known to occur in the northwest, but not within 5 km the study area. No suitable habitat present on site.

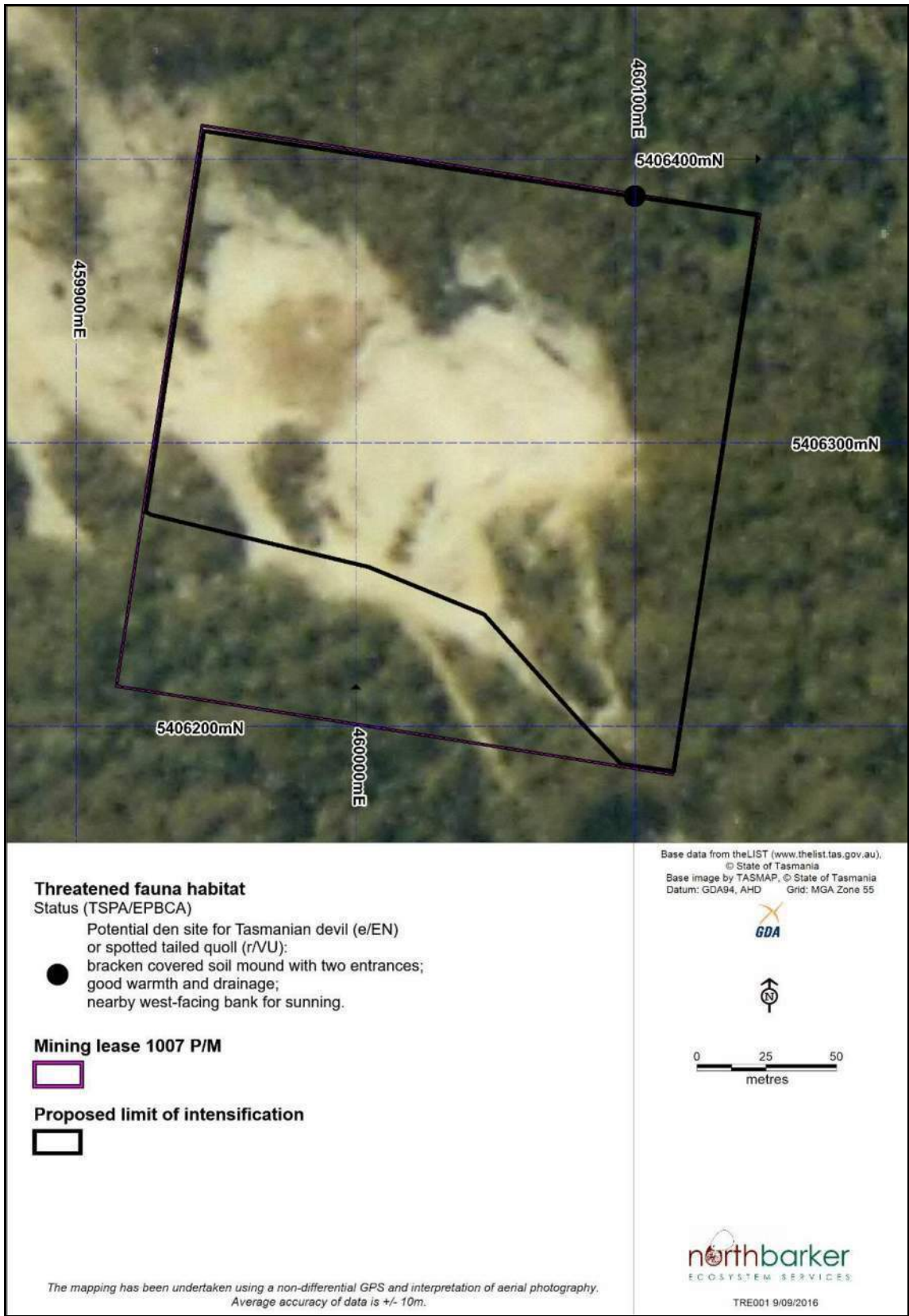


Figure 4: Observations of potential threatened fauna habitat within lease area

3. Summary of Potential Impacts to Natural Values

Our field survey has established that the lease area contains a threatened plant species, one threatened native plant community, and a potential den site for threatened fauna. Potential quantitative and qualitative impacts to natural values are summarised in Table 3.

Table 3: Summary of potential impacts to natural values from proposed intensification

Conservation Significant Value	Potential Impacts	Context ¹⁷
Threatened Plants		
<i>Gratiola pubescens</i> hairy brooklime TSPA rare	2 locations on edge of settling pond – approx. 4 m ² at 10-25 % cover	Widespread across north and east Tasmania, with over 190 observations lodged on the NVA, representing over 30 known sites and hundreds of plants. In excess of three-quarters of all known sites have been discovered since the species was listed in 1995, leading to suggestions that it was under-reported in the past and may not warrant listing as vulnerable on the TSPA. The proponent does not intend to include the location of this plant within their intensification.
Extent of native vegetation communities within intensification area (ha) – asterisk denotes communities listed as threatened under Tasmanian <i>Nature Conservation Act 2002</i>		
(DAS) <i>Eucalyptus amygdalina</i> forest and woodland on sandstone*	1.0	Total extent in Tasmanian reserve estate: 13,500 Total extent in Tasmania: 42,200 Total extent in reserves in Meander Valley Council: 3,200 Total extent in Meander Valley Council: 5,200 Total extent in reserves in Northern Slopes bio-region: 4,700 Total extent in Northern Slopes bio-region: 9,100
(DOB) <i>Eucalyptus obliqua</i> dry forest	0.4	Total extent in Tasmanian reserve estate: 76,900 Total extent in Tasmania: 173,200 Total extent in reserves in Meander Valley Council: 2,100 Total extent in Meander Valley Council: 4,600 Total extent in reserves in Northern Slopes bio-region: 15,500 Total extent in Northern Slopes bio-region: 30,700
Total area of potential impact to native vegetation	1.40	Negligible impacts anticipated at local, regional and statewide level.

¹⁷ Includes statements from Threatened Species Link summaries and note sheets

Conservation Significant Value	Potential Impacts	Context ¹⁷
Threatened Fauna Habitat		
Potential den site for: Tasmanian devil TSPA and EPBCA endangered and/or spotted tailed quoll TSPA rare and EPBCA vulnerable	Potential den site will not be impacted Small loss of potential foraging habitat	Loss of potential foraging habitat considered to be negligible at a local, regional and statewide scale.

4. Recommendations for Avoidance, Compliance and Mitigation

4.1. Threatened Fauna

- To ensure that the potential den site (soil mound) is not inadvertently impacted, the land manager should make all contractors aware of the location prior to any works and if necessary mark and/or cordon off the area with prominent flagging tape or similar.
- If the location of the soil mound is ever to be disturbed the proponent will be required to undertake additional assessment to ascertain occupation of the potential den.

4.2. Weeds and Pathogens

- The containment principles of the *Tasmanian Weed Management Act 1999* should be sufficiently met with best practice construction hygiene that prevents the introduction of contaminated material from beyond the study area, such as tool and machinery wash-down before entry, and by only importing materials from verified weed and PC free locations.
- The proponent should continue their control of *Pampas* sp. on adjacent land in order to prevent incursion of the species, as well as continuing the control of environmental weeds on site.

4.3. Threatened Flora

- Avoid indirect impacts to locations of threatened flora species, which in this case are limited to the margins of the settling pond.
- Ensure threatened flora in close proximity to works areas are adequately flagged or that construction workers are aware of their locations, in order to avoid inadvertent and unnecessary impact.
- Stockpiling materials has the potential to smother threatened flora. To minimise potential impacts in relation to this factor we suggest the proponent avoids stockpiling material within 5 m of the existing settling pond.

- If this location cannot be avoided at some point in the future (at least while *Gratiola pubescens* remains listed under the TSPA), the proponent must apply for a permit to take from DPIPWE (see section 5).

4.4. Threatened Vegetation Communities

- No mitigation is considered to be necessary given the nature of the proposal and the potential scale of impacts.

4.5. General Natural Values

- In addition, where possible avoid stockpiling dense material around the base of retained trees, in order to prevent root smothering.

5. Legislative Requirements

5.1. Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The EPBCA is structured for self-assessment; the proponent must indicate whether or not the project is considered a 'controlled action', which, if confirmed, would require approval from the Commonwealth Minister.

A soil mound on site has been identified on site as potential denning habitat for fauna listed under this Act. However, the soil mound will not be impacted and losses in potential foraging habitat are considered to be negligible.

Consequently, referral to the Minister is not considered to be necessary for this proposal.

5.2. Tasmanian Threatened Species Protection Act 1995

Any impact on threatened plant species listed under the TSPA will require a 'permit to take' from the Policy and Conservation Assessments Branch (PCAB) at the Department of Primary Industries, Parks, Wildlife and the Environment (DPIPWE). Thus, if the proponent ever intends to intensify or modify management around the settling pond, they will be required to obtain a permit to take for *Gratiola pubescens*.

No other threatened flora are likely to be impacted.

Given that the soil mound (potential den site) will not be impacted, the proponent is not at this point required to obtain a permit to take products of wildlife.

5.3. Tasmanian Weed Management Act 1999

No declared species are known on site; thus, no action is required to eradicate or control species under this Act. Appropriate construction hygiene should be applied in order to avoid the introduction of species listed under this Act. This may include machinery washdown following use at contaminated sites and before entering the site.

5.4. Meander Valley Interim Planning Scheme 2013

The current proposal is exempt from the provisions of the Biodiversity Code (E8) as it is a level 2 activity that will be assessed by the Board of Environmental Management and Pollution Control.

6. Conclusion

Our field survey has established that the lease area contains one threatened native plant community, one threatened plant species, and a potential den site for threatened fauna. The latter two values will not be directly impacted by actions under the present proposal and mitigation measures have been provided to reduce the potential for indirect impacts. Losses of the threatened native plant community are considered to be negligible at a local, regional and statewide scale.

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Appendix A - Vascular Plant Species by Community

DAS

Grid Reference: 460025E, 5406354N
Accuracy: within 50 metres
Recorder: Grant Daniels
Date of Survey: 17 Aug 2016

Trees: *Acacia melanoxylon*, *Eucalyptus amygdalina*, *Eucalyptus obliqua*
Tall Shrubs: *Allocasuarina monilifera*, *Exocarpos cupressiformis*, *Leptospermum scoparium* var. *scoparium*, *Monotoca glauca*
Shrubs: *Amperea xiphoclada* var. *xiphoclada*, *Epacris impressa*, *Leptomeria drupacea*, *Leucopogon collinus*
Low Shrubs: *Aotus ericoides*, *Hibbertia procumbens*
Herbs: *Acianthus* sp., *Caladenia* sp., *Dianella tasmanica*, *Pterostylis melagramma*, *Pterostylis* sp., *Stylidium graminifolium*
Graminoids: *Lomandra longifolia*
Ferns: *Pteridium esculentum* subsp. *esculentum*
Weeds: *Acetosella vulgaris*, *Cerastium* sp., *Hypochaeris radicata*, *Poa annua*

DOB

Grid Reference: 460093E, 5406237N
Accuracy: within 50 metres
Recorder: Grant Daniels
Date of Survey: 17 Aug 2016

Trees: *Acacia melanoxylon*, *Eucalyptus obliqua*
Tall Shrubs: *Acacia dealbata* subsp. *dealbata*, *Banksia marginata*, *Exocarpos cupressiformis*, *Monotoca glauca*, *Olearia argophylla*
Shrubs: *Acacia terminalis*, *Cassinia aculeata* subsp. *aculeata*, *Epacris impressa*, *Leptomeria drupacea*, *Olearia lirata*, *Pultenaea juniperina*
Herbs: *Acianthus* sp., *Euchiton japonicus*, *Hydrocotyle hirta*, *Pterostylis* sp., *Wahlenbergia*
Graminoids: *Lomandra longifolia*, *Luzula* sp.
Grasses: *Ehrharta stipoides*
Ferns: *Histiopteris incisa*, *Polystichum proliferum*, *Pteridium esculentum* subsp. *esculentum*
Weeds: *Hypochaeris radicata*

FUM

Grid Reference: 459982E, 5406326N
Accuracy: within 50 metres
Recorder: Grant Daniels
Date of Survey: 17 Aug 2016

Trees: *Eucalyptus amygdalina*, *Eucalyptus obliqua*
Tall Shrubs: *Leptospermum scoparium* var. *scoparium*, *Pultenaea daphnoides*
Shrubs: *Cassinia aculeata* subsp. *aculeata*, *Epacris impressa*, *Pultenaea juniperina*
Low Shrubs: *Aotus ericoides*
Herbs: *Acaena novae-zelandiae*, *Euchiton japonicus*, *Gratiola pubescens*, *Oxalis* sp., *Stylidium graminifolium*
Graminoids: *Juncus procerus*, *Juncus sarophorus*, *Schoenus apogon*
Grasses: *Ehrharta stipoides*
Ferns: *Blechnum nudum*, *Histiopteris incisa*
Weeds: *Acetosella vulgaris*, *Brassica X napus*, *Callitriche stagnalis*, *Cardamine hirsuta*, *Centaureum erythraea*, *Conium maculatum*, *Dipsacus fullonum*, *Holcus lanatus*, *Lysimachia arvensis*, *Poa annua*, *Silybum marianum*, *Typha latifolia*, *Verbascum virgatum*, *Veronica arvensis*

Appendix B - Vascular Plant Species List

Status codes:

ORIGIN	NATIONAL SCHEDULE	STATE SCHEDULE
i - introduced	EPBC Act 1999	TSP Act 1995
d - declared weed WM Act	CR - critically endangered	e - endangered
en - endemic to Tasmania	EN - endangered	v - vulnerable
t - within Australia, occurs only in Tas.	VU - vulnerable	r - rare

Sites:



1	DAS - E460025, N5406354	17-08-2016 Grant Daniels
2	DOB - E460093, N5406237	17-08-2016 Grant Daniels
3	FUM - E459982, N5406326	17-08-2016 Grant Daniels

Site Status	Name	Common name	
	DICOTYLEDONAE		
	APIACEAE		
3	<i>Conium maculatum</i>	hemlock	i
2	<i>Hydrocotyle hirta</i>	hairy pennywort	
	ASTERACEAE		
2 3	<i>Cassinia aculeata subsp. aculeata</i>	dollybush	
2 3	<i>Euchiton japonicus</i>	common cottonleaf	
1 2	<i>Hypochaeris radicata</i>	rough catsear	i
2	<i>Olearia argophylla</i>	musk daisybush	
2	<i>Olearia lirata</i>	forest daisybush	
3	<i>Silybum marianum</i>	variegated thistle	i
	BRASSICACEAE		
3	<i>Brassica Xnapus</i>	rape	i
3	<i>Cardamine hirsuta</i>	hairy bittercress	i
	CALLITRICHACEAE		
3	<i>Callitriche stagnalis</i>	mud waterstarwort	i
	CAMPANULACEAE		
2	<i>Wahlenbergia sp.</i>	bluebell	
	CARYOPHYLLACEAE		
1	<i>Cerastium sp.</i>	mouse-ear chickweed	i
	CASUARINACEAE		
1	<i>Allocasuarina monilifera</i>	necklace sheoak	en
	DILLENIACEAE		
1	<i>Hibbertia procumbens</i>	spreading guineaflower	
	DIPSACACEAE		
3	<i>Dipsacus fullonum</i>	wild teasel	i
	EPACRIDACEAE		
1 2 3	<i>Epacris impressa</i>	common heath	
1	<i>Leucopogon collinus</i>	white beardheath	
1 2	<i>Monotoca glauca</i>	goldey wood	

EUPHORBIACEAE			
1	<i>Amperea xiphoclada</i> var. <i>xiphoclada</i>	broom spurge	
FABACEAE			
1 3	<i>Aotus ericoides</i>	golden pea	
3	<i>Pultenaea daphnoides</i>	heartleaf bushpea	
2 3	<i>Pultenaea juniperina</i>	prickly beauty	
GENTIANACEAE			
3	<i>Centaurium erythraea</i>	common centaury	i
MIMOSACEAE			
2	<i>Acacia dealbata</i> subsp. <i>dealbata</i>	silver wattle	
1 2	<i>Acacia melanoxylon</i>	blackwood	
2	<i>Acacia terminalis</i>	sunshine wattle	
MYRTACEAE			
1 3	<i>Eucalyptus amygdalina</i>	black peppermint	en
1 3	<i>Eucalyptus obliqua</i>	stringybark	
1 3	<i>Leptospermum scoparium</i> var. <i>scoparium</i>	common teatree	
OXALIDACEAE			
3	<i>Oxalis</i> sp.	woodsorrel	
POLYGONACEAE			
1 3	<i>Acetosella vulgaris</i>	sheep sorrel	i
PRIMULACEAE			
3	<i>Lysimachia arvensis</i>	scarlet pimpernel	i
PROTEACEAE			
2	<i>Banksia marginata</i>	silver banksia	
ROSACEAE			
3	<i>Acaena novae-zelandiae</i>	common buzzy	
SANTALACEAE			
1 2	<i>Exocarpos cupressiformis</i>	common native-cherry	
1 2	<i>Leptomeria drupacea</i>	erect currantbush	
SCROPHULARIACEAE			
3	<i>Gratiola pubescens</i>	hairy brooklime	v
3	<i>Verbascum virgatum</i>	twiggy mullein	i
3	<i>Veronica arvensis</i>	wall speedwell	i
STYLIDIACEAE			
1 3	<i>Stylidium graminifolium</i>	narrowleaf triggerplant	
MONOCOTYLEDONAE			
CYPERACEAE			
3	<i>Schoenus apogon</i>	common bogsedge	
JUNCACEAE			
3	<i>Juncus procerus</i>	tall rush	
3	<i>Juncus sarophorus</i>	broom rush	
2	<i>Luzula</i> sp.	luzula	
LILIACEAE			
1	<i>Dianella tasmanica</i>	forest flaxlily	
ORCHIDACEAE			
1 2	<i>Acianthus</i> sp.	mosquito orchid	

1	<i>Caladenia sp.</i>	spider-orchid	
1	<i>Pterostylis melagramma</i>	blackstripe greenhood	
1 2	<i>Pterostylis sp.</i>	greenhood	
	POACEAE		
2 3	<i>Ehrharta stipoides</i>	weeping grass	
3	<i>Holcus lanatus</i>	yorkshire fog	i
1 3	<i>Poa annua</i>	winter grass	i
	TYPHACEAE		
3	<i>Typha latifolia</i>	great reedmace	i
	XANTHORRHOACEAE		
1 2	<i>Lomandra longifolia</i>	sagg	
	PTERIDOPHYTA		
	ASPIDACEAE		
2	<i>Polystichum proliferum</i>	mother shieldfern	
	BLECHNACEAE		
3	<i>Blechnum nudum</i>	fishbone waterfern	
	DENNSTAEDTIACEAE		
2 3	<i>Histiopteris incisa</i>	batswing fern	
1 2	<i>Pteridium esculentum subsp. esculentum</i>	bracken	

Appendix C – Previous PC Assessment

 Forestry Tasmania <i>Phytophthora cinnamomi</i> -status of quarries			
Quarry:	Punch's Terror (Atkins Pit)	Date of inspection:	4 th Dec 2015
Altitude:	320 m	Location:	Beaumont's Rd, Wegeena
Substrate:	Quartz Conglomerate	Type:	Hard rock
Grid Ref:	460040 E, 5406300 N.	Leasee:	Treloar Transport
			
<p>Figure 1. Punch's terror is a steep mid-elevation quarry, well-managed with several benches.</p>			
<p>Drainage: Good</p> <p>The quarry floor is hard and dry and slopes away from the active face. It is effectively metalled with quarried material (Figure 1). However, drainage from the top of the quarry is uncontrolled and surface water runoff flows into the active quarry area.</p>			
<p>Overburden:</p> <p>The overburden has been scalped back during previous operations but the top edge of the quarry is now recolonising with vegetation. A pile of topsoil is present on the southern edge of the active quarry.</p>			
<p>Weed issues: No declared weeds were observed within the quarry.</p> <p>Agricultural weeds such as variegated thistle, hemlock and wild radish were present on the north-western edge of the quarry area in an area of imported topsoil. A spray program is in place for this quarry.</p>			

Punch's Terror Quarry

***P. cinnamomi* field symptoms:**

The quarry contains plentiful *P. cinnamomi* indicator species including golden pea (*Aotus ericoides*), trigger plant (*Stylidium graminifolium*), common heath (*Epacris impressa*), native broom spurge (*Amperea xiphoclada*) and Guinea flower (*Hibbertia procumbens*). In most areas these were healthy (Figure 2), but on the southern edge of the quarry there is a pile of overburden where the *Aotus ericoides* and *Amperea xiphoclada* are sick and dead (Figure 3).

Soil samples were taken from the root zone of these plants for laboratory analysis but these returned a **negative** result for *P. cinnamomi*.

Samples tested for *P. cinnamomi*:

This quarry is currently considered to be *P. cinnamomi*-free. It is suitable for use where a requirement for *P. cinnamomi*-free gravel has been specified.



Figure 2. Healthy trigger plant, golden pea and common heath can be found in most areas around the quarry.



Figure 3. An unhealthy bank of topsoil with dead golden pea and native broom spurge, however this tested negative for *P. cinnamomi*.

Management issues/recommendations:

It is recommended that any piles of topsoil are moved from within the active quarry area and that the scalping of the overburden across the top edge of the quarry is improved to minimise any likelihood of organic matter contamination of the quarry. Drainage should be improved so that surface water run-off does not flow into the quarry.

Sue Jennings Forest Management Services Forestry Tasmania Smithton. sue.jennings@forestrytas.com.au	Environmental risk	Moderate
	Management risk	Moderate
	Quarry assessment valid until:	Dec 2016

Punch's Terror Quarry

Punchs Terror Quarry – new mining lease

FLORA AND FAUNA ASSESSMENT

27th July 2017
For Treloar Transport (TRE002)



Andrew North anorth@northbarker.com.au **Philip Barker** pbarker@northbarker.com.au

163 Campbell Street Hobart TAS 7000 Telephone 03. 6231 9788 Facsimile 03. 6231 9877

Meander Valley Council Ordinary Meeting Agenda - 14 August 2018

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Summary

The proponent is seeking a permit for the reactivation of the one of the quarries under the recently acquired mining lease (28M/1990) at the Punchs Terror quarry in northern Tasmania. North Barker Ecosystem Services (NBES) have been engaged to undertake a threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed reuse and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

Vegetation

The lease area was found to contain the following TASVEG units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA. No *Eucalyptus ovata* forest or woodland (DOV) is found on site.

The proposed intensification will result in the clearance of between 0 and 1 ha of DAS and no more than 0.2 ha of DOB, neither of which is considered to be significant at the local, regional, state or national scale. The current plan will impact no community however it is understood the longer term plan will impact higher on the slope hence we have included a projected upper limit of impact for future activities.

Threatened Flora & Fauna

No threatened flora or significant fauna habitat occurs onsite or close by. Two wedge-tailed eagles were seen flying in the locality on the day of survey however our assessment has determined there is no optimal nesting habitat or known nests within 1km of the site.

Summary

Our field survey has established that the lease area contains one threatened native plant community, no threatened plant species, and no confirmed habitat for threatened threatened fauna within 50m of the quarry. Losses of the threatened native plant community are considered to be negligible at a local, regional and statewide scale, and the community is not that typical of the threatened vegetation found on sandstone rock. Weed infestations are minor and can be eradicated by good weed management planning.

Acknowledgments

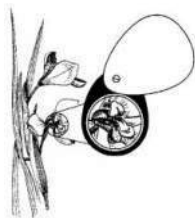
Project management: Dave Sayers

Field work and photographs: Dave Sayers

Report: Dave Sayers

Mapping: Dave Sayers

Proponent consultation: Nigel Beeke



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1. Introduction and Methods

1.1. Background

The proponent is seeking to begin production of crushed rock from a Mining Lease 28M/1990 recently acquired. The lessee currently operates a quarry just to the south east of the new lease (Atkins Pit). The proponent has requested a threatened flora and fauna survey in accordance with the *Guidelines for Natural Values Surveys – Terrestrial Development Proposals*¹ over the lease focussed around the proposal.

North Barker Ecosystem Services (NBES) has been commissioned to undertake the present survey to fulfil the requirements of the threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed works and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

1.2. Study Area and Methods

1.2.1. Study Area

The existing quarry, known as Punchs Terror Quarry, is located off Beaumont's Road, Weegen, (Figure 1), approximately 4.5 km southwest of Elizabeth Town. The mining lease (28M/1990) of 39 ha is owned by Meander Valley Council (category 3 with lease expiry 19/04/2021). Previous operations cover around 3.6 ha. Following the proposed re-use and intensification, the total potential disturbed land within the current proposal will be around 0.7 ha. The land is zoned Rural Resource under the *Meander Valley Interim Planning Scheme 2013* and is part of the Tasmanian Northern Slopes bioregion².

The quarry is located on the western side of a north to south trending ridge. Site geology is dominated by fine grained chert conglomerate composed of sub rounded to rounded quartzite pebbles and cobbles. The chert is believed to be of sedimentary origin with pink colourations due to high concentrations of haematite³.

Altitude across the study area is between 260 and 300 m AHD. Average annual rainfall is around 1050 mm⁴.

¹ Natural and Cultural Heritage Division, 2015

² IBRA7 - Commonwealth of Australia 2012

³ Coffey (2017) page of Geology sampling report provided by Nigel Beeke

⁴ Sheffield, Northwest Coast, Tasmania; 41.3886 ° S, 146.3219 ° E, 294 m AMSL; commenced 1996

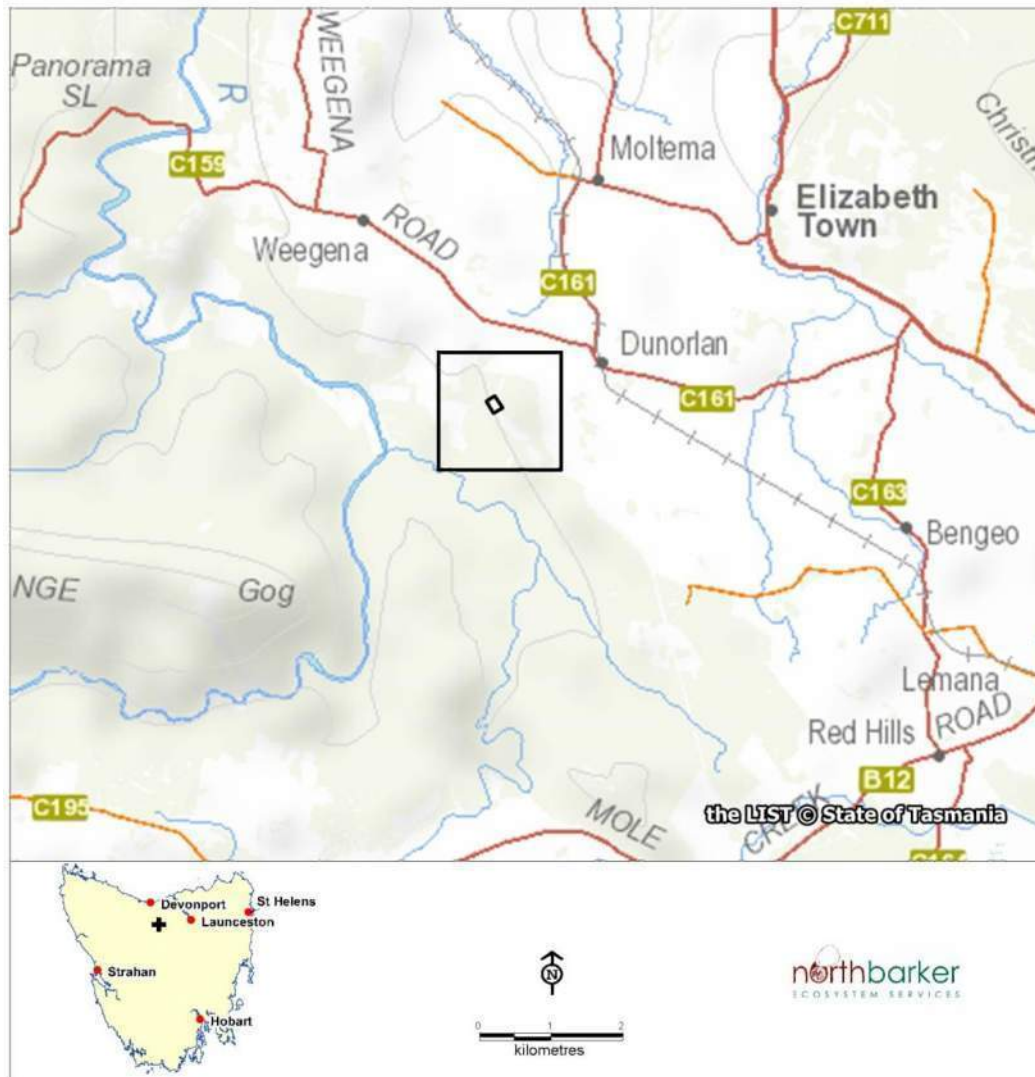


Figure 1: Site location

1.2.2. Field Survey

Field work was undertaken on foot by one observer on the 10th of July, 2017. Vegetation was mapped throughout a large portion of the lease in accordance with units defined in TASVEG 3.0⁵. Within all vegetation types, plant species lists were compiled according to nomenclature within the current census of Tasmanian plant census⁶, using a meandering area search based on the Timed Meander Search Procedure⁷. Observations of habitat suitability for fauna, as well as direct or indirect indicators of presence (i.e. sightings, scats, tracks, dens, etc.) were made concurrently. Disproportionate survey effort was applied to the proposed intensification area and areas considered suitable for threatened values within 50m of the proposal. Observations were recorded with a handheld GPS.

⁵ Kitchener and Harris 2013

⁶ de Salas and Baker 2015

⁷ Goff *et al.* 1982

1.2.3. Limitations

Due to seasonal variations in detectability and identification, there may be some species present within the study area that have been overlooked. To compensate for these limitations to some degree, data from the present survey are supplemented with data from the Tasmanian Natural Values Atlas⁸ (NVA) and the EPBC Significant Matters database (PMST_91PQHG). From these sources, all threatened species known to occur in the local area (5 km) are considered in terms of habitat suitability on site.

2. Results - Biological Values

2.1. Vegetation

Our survey has resulted in some corrections to the community data held within the TASVEG v3.0 database. Specifically, we established that there is no *Eucalyptus ovata* forest and woodland (DOV) present on site, with the area mapped as this community actually being dominated by *Eucalyptus obliqua*. *Eucalyptus amygdalina* on sandstone (DAS) also is present where *Eucalyptus amygdalina* – *Eucalyptus obliqua* damp sclerophyll forest was mapped albeit this community occurs on chert and is not the usual example of DAS; in addition, we made boundary corrections to the areas of communities. The lease was found to contain three community units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA.

Distributions of TASVEG units within the lease are presented in Figure 2. Floristics are presented in Appendix A, while each unit is described briefly below, with representative photos in Plates 1-4.

The site has no likelihood of supporting alpine sphagnum bogs and associated fens, as predicted as possible by the EPBC protected matters database.

⁸ nvr_2_24-July-2017

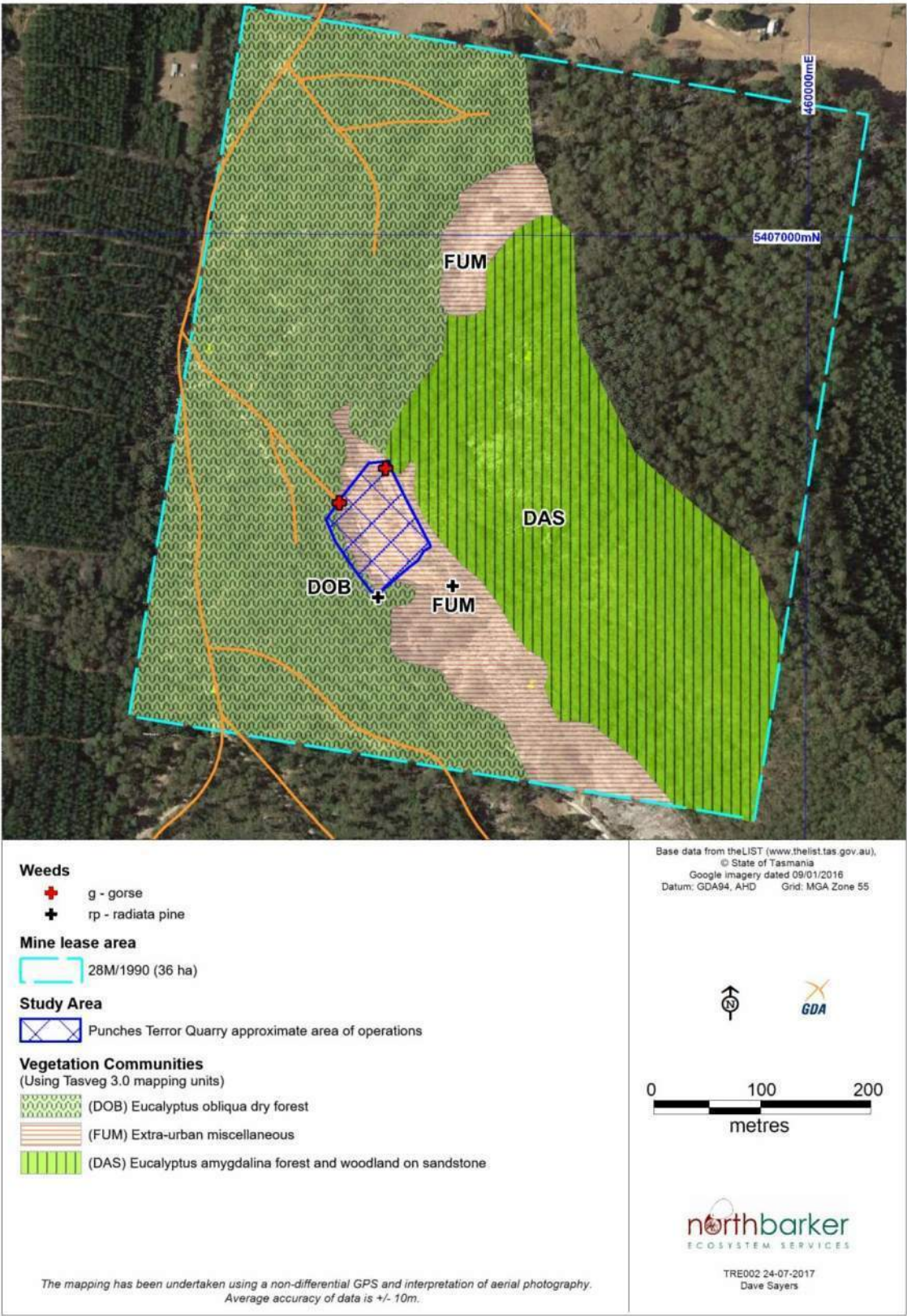


Figure 2: Distribution of TASVEG units within the lease area – note that the proposed limit of intensification (provided by the proponent) is indicative only and, in accordance with the requirements of mining lease agreements, no disturbance will occur within 10 m of the lease boundary

Dry *Eucalyptus obliqua* forest (DOB) – Plate 1

The occurrences of this community on site are highly typical examples of the moist facies of the community that occurs in the transition zone between wet and dry forest. The canopy is almost exclusively dominated by *Eucalyptus obliqua*, with only occasional *E. amygdalina*, particularly on patch margins. No *E. ovata* were observed and it is unlikely any meaningful patches of this species were overlooked. The understorey of this community was shrub dominated with a mix of tall and short species, both broad leaved and sclerophyllous. Frequent species included *Pultenaea juniperina*, *Exocarpos cupressiformis*, *Acacia terminalis*, *Monotoca glauca*, *Cassinia aculeata*, *Olearia lirata* and *Acacia melanoxylon*. Ground layer vegetation was dominated by *Pteridium esculentum*, with lesser patches of more moisture reliant ferns, as well as *Lomandra longifolia* and various herbs and graminoids.

Dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS) – Plates 2 and 3

The occurrences of this community on site are relatively species poor in contrast to examples of the community on Tertiary sandstone elsewhere in the State, but not atypical for examples on conglomerate. The geology of this community is the sedimentary rock chert which is not typical of the threatened communities which occur on sandstone. The canopy is almost exclusively dominated by *Eucalyptus amygdalina*, with only occasional *E. obliqua*, particularly on patch margins on the lower slopes. The understorey of this community was largely dominated by *Pteridium esculentum*, with occasional tall patches of *Leptospermum*. Other frequent shrubs included *Leucopogon collinus*, *Allocasuarina monilifera* and *Monotoca glauca*. Small species included *Amperea xiphoclada*, *Hibbertia* species (likely *H. procumbens*), *Dianella tasmanica* and *Aotus ericoides*.

Extra-urban miscellaneous (FUM) – Plates 4 and 5

This community includes the quarry face and an area of past disturbance in which near surface material was extracted. Resultantly, vegetation in this area is largely dominated by exotics such as *Cirsium vulgare* and native regrowth. Native species within the area of FUM are largely adventive individuals that have colonised the area from the adjacent native communities.



Plate 1: *Eucalyptus obliqua* dry forest on the southern edge of the proposed intensification area



Plate 2: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 3: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 4: The current quarry area – mapped as extra-urban miscellaneous



Plate 5: Part of the old quarry face

2.2. Plant Species of Conservation Significance

In total, 50 species of vascular plants were recorded during our field survey (Appendix A). This included no species listed as threatened under the schedules of the TSPA. Several threatened species have previously been recorded within 5 km of the site⁹, or have the potential to do so based on habitat mapping. None of these species are considered likely to have been overlooked to any meaningful degree and thus have a very low likelihood of impact from the proposed works (Table 1). *Gratiola Pubescens* (hairy brookline) was recorded within the Atkins Pit during 2016 surveys however was not observed within the current survey.

Table 1: Flora species of conservation significance known within a 5 km radius of the study area, or predicted by habitat mapping¹⁰

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹¹
KNOWN FROM THE ATKINS PIT JUST SOUTH			
<i>Gratiola pubescens</i> hairy brooklime	Vulnerable/ -	Not observed,	A small, mat-forming herb that colonises bare ground disturbance niches within saturated soils. Frequently observed in highly modified environments such as the Atkins Pit but was not recorded at this site. Re-assessment of its status under the TSPA is likely to occur in the near future and the species is likely to be down-listed or delisted from the Act.
REPORTED FROM WITHIN 5 km¹²			
<i>Desmodium gunnii</i> southern ticktrefoil	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
<i>Epilobium pallidiflorum</i> showy willowherb	Rare/ -	None	A floriferous perennial herb of creeks and swamps, particularly in the north of the State. Pond on site is very low in suitability and the species is unlikely to have been overlooked within it. No suitable habitat was observed elsewhere on site.
<i>Glycine microphylla</i> small leaf glycine	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.

⁹ nvr_2_24-July-2017

¹⁰ nvr_2_24-July-2017

¹¹ Includes statements from Threatened Species Link summaries and note sheets

¹² nvr_2_24-July-2017

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹¹
<i>Gynatrix pulchella</i> fragrant hempbush	Rare/ -	None	No suitable riparian habitat present. A highly distinctive species unlikely to have been overlooked.
<i>Hypolepis muelleri</i> harsh groundfern	Rare/ -	Very Low	Generally found along watercourses, swampy areas or deep rich alluvial soils. Habitat not present onsite and unlikely to occur.
<i>Pimelea curviflora</i> (incl. var. <i>gracilis</i>) (slender) curved rice flower	Rare/ -	None	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
PREDICTED AS POSSIBLE BY HABITAT MAPPING ONLY¹³			
<i>Barbarea australis</i> native wintercress	Endangered/ ENDANGERED	None	<i>Barbarea australis</i> is a riparian plant species found near river margins, creek beds and along flood channels adjacent to the river. It has not been found on steeper sections of rivers, and tends to favour slower reaches. It occurs in shallow alluvial silt deposited on rock slabs or rocky ledges, or between large cobbles on sites frequently disturbed by fluvial processes. Some of the sites are a considerable distance from the river in flood channels scoured by previous flood action, exposing river pebbles. No suitable habitat occurs on site.
<i>Caladenia caudata</i> tailed spider orchid	Vulnerable/ VULNERABLE	Very low	<i>Caladenia caudata</i> (tailed spider-orchid) is a terrestrial orchid, found mainly in dry heathland and heathy woodland habitats, in lowland areas of northern, eastern and south-eastern Tasmania. Habitat on site is suitable within the DAS community, but none of the orchid leaves observed during the survey could possibly belong to this species.
<i>Colobanthus curtisiae</i> grassland cupflower	Rare/ VULNERABLE	Very low	Typically a species of grassy habitats, but can occur on rocky knolls. Some suitable habitat (of the latter type) present on site, but the species was not observed and is not likely to have been overlooked even outside of the flowering season.

¹³ EPBCA protected matters report – PMST_ 91PQHG

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹¹
<i>Epacris exserta</i> South Esk heath	Endangered/ ENDANGERED	None	Strictly a riparian species of dolerite substrates. No suitable habitat present on site.
<i>Glycine latrobeana</i> clover glycine	Vulnerable/ VULNERABLE	None	Habitat low in suitability. Can be detected by foliage at any time of the year and is not likely to have been overlooked.
<i>Lepidium hyssopifolium</i> peppercress	Endangered/ ENDANGERED	None	Occurs in the growth suppression zone of large trees in grassy areas. No suitable habitat present.

2.3. Introduced Plants

One declared weed, gorse (*Ulex europaeus*) and one woody environmental weeds, radiata pine (*Pinus radiata*) occur on site. Their distribution is shown in Figure 2. Unspringingly there is also a dense patch of spear thistle (*Cirsium vulgare*).



Plate 6 – Some Pines have been cut and treated however some are still present around the quarry



Plate 7 - gorse

2.4. Plant Pathogens

The Atkins Pit has previously been assessed as free of cinnamon root rot fungus *Phytophthora cinnamomi* (PC). Symptomatic evidence of PC has been recorded however the location has tested negative twice. Much of the habitat within the proposed intensification area is unsuitably well-drained for PC and no potential symptomatic evidence was observed however a detailed PC assessment has not been undertaken.

2.5. Fauna Species of Conservation Significance

No threatened fauna species have been directly observed on site. A number of threatened fauna are known to occur within 5 km of the site, or have the potential to do so based on habitat mapping¹⁴. The majority of these species are not considered to have viable habitat on site (particularly nesting habitat) or the habitat is considered to be relatively unimportant to the persistence of species at even a local scale should they be present (Table 2). Potential denning for Tasmanian devils may be present outside of the area surveyed along the ridgeline within the DAS community however this is outside of the proposed impact of the quarry.

¹⁴ nvr_2_24-July-2017

Table 2: Fauna species of conservation significance previously recorded within a 5 km radius of the study area, or with the potential to do so based on habitat mapping¹⁵

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
BIRDS			
<i>Accipiter novaehollandiae</i> grey goshawk	Endangered/ -	Very low	No suitable nesting habitat is found on site. If the area is used by this species it is only likely to represent a minor part of a foraging range.
<i>Aquila audax fleayi</i> wedge-tail eagle	Endangered/ ENDANGERED	Foraging: low Nesting: None	Requires sheltered old-growth trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests are known within 500 m or within 1 km line of sight. Nearest known nest is around 3 km away. Two WTE were observed flying on the day of survey.
<i>Apus pacificus</i> fork-tailed swift	-/ MIGRATORY	Very low	Uncommonly recorded in Tasmania. An aerial insectivore that would most likely only fly over the site if present. Potential presence and habitat use would not be affected by proposal.
<i>Ardea alba</i> great egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Ardea ibis</i> cattle egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Botaurus poiciloptilus</i> Australasian bittern	-/ ENDANGERED	None	No suitable permanent aquatic habitat.
<i>Ceyx azureus</i> subsp. <i>diemenensis</i> azure kingfisher	Endangered/ ENDANGERED	None	Species primarily utilises major rivers within western Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Gallinago hardwickii</i> Latham's snipe	-/ MARINE – MIGRATORY	None	A wide-ranging shorebird that frequently utilises the margins of subalpine lakes and tarns, and less frequently farm dams. No suitable habitat present on site.

¹⁵ nvr_2_24-July-2017

¹⁶ Bryant & Jackson 1999

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
<i>Haliaeetus leucogaster</i> white-bellied sea eagle	Vulnerable/ MIGRATORY	None	Requires large coastal or lakeside trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests known within 500 m or within 1 km line of sight.
<i>Hirundapus caudacutus</i> white-throated needletail	-/ MIGRATORY	Very low	An aerial species most likely unaffected by terrestrial habitat alteration outside of its Northern Hemisphere breeding range. Potential presence and habitat use would not be affected by proposal.
<i>Lathamus discolor</i> swift parrot	Endangered/ CRITICALLY ENDANGERED	Very low	For nesting, this species requires tree hollows within 10 km of mature stands of food plants, which are blue gums (<i>E. globulus</i>) and black gums (<i>E. ovata</i>). No food trees have been observed on site and there is a very low likelihood the site could be utilised for nesting. Given the current operations at the site it is considered highly likely that any hollows in the area would be occupied by disturbance tolerant edge species such as possums and sugar gliders. Nearest known nest is around 2.5 km away but NW breeding areas are not classified as swift parrot important breeding areas ¹⁷ .
<i>Myiagra cyanoleuca</i> satin flycatcher	-/ MIGRATORY	Low	An interstate migrant of which some of the population spends the summer breeding months in Tasmania. Widely distributed across forested environments but is sensitive to fragmentation and canopy thinning and not generally associated with small remnants or edge habitats. Regional populations not likely to be impacted by a proposal of this scale.
<i>Pterodroma leucoptera leucoptera</i> Gould's petrel	-/ ENDANGERED	None	A pelagic species. No suitable habitat present.
<i>Tyto novaehollandiae</i> masked owl	Endangered/ VULNERABLE	Nesting: None Foraging: Low	The site is within the core habitat range for this species, which includes all land below 600 m AHD. Requires a mosaic of forest and open areas for foraging, and large old-growth, hollow-bearing trees for nesting. The forest habitat on site is moderately suitable for foraging, but no viable nesting

¹⁷ Forest Practices Authority 2010

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
			hollows were observed nor are likely to have been overlooked.
<i>Tringa nebularia</i> common greenshank	-/ MIGRATORY	None	A shorebird species. No suitable habitat present.
MAMMALS			
<i>Dasyurus maculatus</i> ssp. <i>maculatus</i> spotted-tailed quoll	Rare/ VULNERABLE	Low - moderate	This naturally rare forest-dweller most commonly inhabits wet forest but also occurs in dry forest and occasionally grassy areas. The study area does not occur within the core range for the species (as defined on the NVA) and only four records are known from within 5 km. The species is unlikely to be measurably impacted by a proposal of this scale should it be present.
<i>Dasyurus viverrinus</i> eastern quoll	-/ ENDANGERED	Very low	Species is extinct on mainland Australia and was recently listed on the EPBCA as a result of the decline in the Tasmanian population during the last decade. Currently the eastern quoll is not listed on the Tasmanian TSPA and remains widespread across eastern Tasmania in particular, with a preference for high soil fertility and grassy open habitats. Only two observations of this species are known within 5 km of the site and the habitat is low in suitability. If the species is present it is unlikely to be measurably impacted by a proposal of this scale.
<i>Perameles gunnii</i> eastern barred bandicoot	- / VULNERABLE	None	Predicted based on habitat mapping only. However, no suitable habitat is present on site for this species and it is more likely to be present in the surrounding rural landscape.
<i>Sarcophilus harrisii</i> Tasmanian devil	Endangered/ ENDANGERED	Moderate	The study area does not occur within the core range for the species (as defined on the NVA) and only six records are known from within 5 km. No scats were observed on site. The species is unlikely to be measurably impacted by a proposal of this scale should it be present. Potential denning habitat higher up the slopes which were not thoroughly investigated as apart of this survey
OTHER SPECIES			

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
<i>Astacopsis gouldi</i> giant freshwater crayfish	Vulnerable/ VULNERABLE	None	Species primarily utilises major rivers within northern Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Engaeus granulatus</i> Central North burrowing crayfish	Endangered/ ENDANGERED	None	Predicted based on habitat mapping only. Soil conditions not suitable on site.
<i>Galaxiella pusilla</i> eastern dwarf galaxias	Vulnerable/ VULNERABLE	None	No suitable aquatic habitat present.
<i>Galaxias fontanus</i> Swan galaxias	Endangered/ ENDANGERED	None	No suitable aquatic habitat present.
<i>Hickmanoxymomma gibbergunyar</i> Mole Creek cave harvestman	Rare/ -	None	Only known from caves within the Mole Creek karst system. No suitable karst habitat is known on site.
<i>Litoria raniformis</i> green and gold frog	Vulnerable/ VULNERABLE	Very low	Occurs in large, permanent, well vegetated wetlands. No suitable habitat within study area.
<i>Prototroctes marina</i> Australian grayling	Vulnerable/ VULNERABLE	None	No suitable river habitat present.
<i>Pseudemoia pagenstecheri</i> tussock skink	Vulnerable/ -	None	Occurs in <i>Poa</i> tussock grassland and <i>Themeda</i> grassland without trees. Known to occur in the northwest, but not within 5 km the study area. No suitable habitat present on site.

Wedge-tailed eagle (*Aquila audax fleayi*)

Survey Results

The nearest known nest record is 3.5km to the south, last confirmed as present in 2015. This nest is well beyond the range of likely disturbance.

Two wedge-tailed eagles were observed flying in the general locality on the day of survey. The habitat within the study area and a 1 km buffer is considered to support low quality eagle habitat²¹. Figure 3 shows the study area, known nest locations and the FPA WTE habitat modelling.

The study area is therefore most likely to be part of a larger foraging territory, but has a low likelihood of containing nests. The immediate area is considered too exposed to winds and generally lacks suitable nesting trees.

General discussion

Wedge-tailed eagles nest in a range of old growth native forests and the species is dependent on forest for nesting. It nests almost exclusively in mature eucalypts capable of supporting their nests, which can develop after many years of use into massive structures over 2m in diameter. The eagles choose old growth trees in relatively sheltered sites for locating their nests. Territories can contain multiple nests and up to five alternate nests have been located. Nests within a territory are usually close to each other but may be up to 1 km apart where habitat is locally restricted. Wedge-tailed eagles prey and scavenge on a wide variety of fauna including fish, reptiles, birds and mammals.

The Tasmanian subspecies of the wedge-tailed eagle (*Aquila audax subsp. fleayi*) is regarded as being larger than the mainland birds with a wingspan of 2m and a body weight up to 5.5kg.¹⁸ However, there is an overlap in size between the two populations. Tasmanian juvenile and immature birds also differ in plumage colour from mainland birds¹⁹, they lack the rufous-brown markings on the nape, hind neck and wing coverts²⁰. DNA studies²¹ have been undertaken to resolve the uncertain taxonomic status of the Tasmanian subspecies. Adults are resident, highly territorial and have very large home ranges. Although considered to be widespread but uncommon at the time of European settlement, the population has been estimated to number less than 1,000 individuals occupying an estimated 220 breeding territories²².



Plate 8 – Two wedge-tailed eagles seen flying over the study area.

¹⁸ Bryan & Jackson (1999)

¹⁹ Marchant & Higgins (1993)

²⁰ Marchant & Higgins (1993)

²¹ Debus (2009)

²² DSEWPC (2012b)

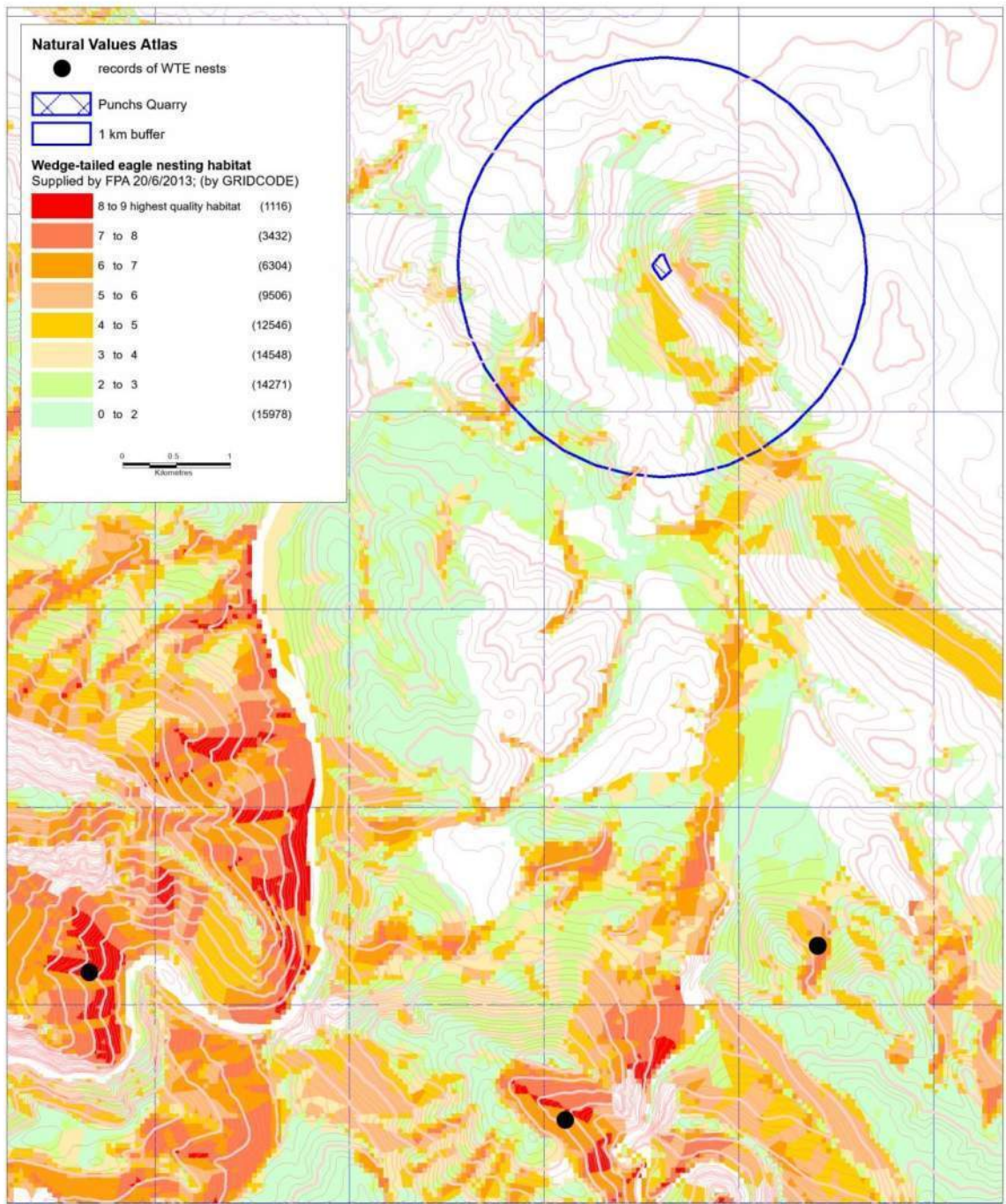


Figure 3 – WTE habitat modelling surrounding the Punchs Terror quarry.

3. Summary of Potential Impacts to Natural Values

Our field survey has established that the lease area contains one threatened native plant community (however not typical of the examples of DAS typically protected on sandstone). No additional threatened flora or fauna habitat occur in or near the proposal. Potential quantitative and qualitative impacts to natural values are summarised in Table 3.

Table 3: Summary of potential impacts to natural values from proposed intensification

Conservation Significant Value	Potential Impacts	Context ²³
Extent of native vegetation communities within intensification area (ha) – asterisk denotes communities listed as threatened under Tasmanian <i>Nature Conservation Act 2002</i>		
(DAS) <i>Eucalyptus amygdalina</i> forest and woodland on sandstone*	Minimum 0 but up to 1.0 ha potential	Total extent in Tasmanian reserve estate: 13,500 Total extent in Tasmania: 42,200 Total extent in reserves in Meander Valley Council: 3,200 Total extent in Meander Valley Council: 5,200 Total extent in reserves in Northern Slopes bio-region: 4,700 Total extent in Northern Slopes bio-region: 9,100
(DOB) <i>Eucalyptus obliqua</i> dry forest	Max 0.2 ha	Total extent in Tasmanian reserve estate: 76,900 Total extent in Tasmania: 173,200 Total extent in reserves in Meander Valley Council: 2,100 Total extent in Meander Valley Council: 4,600 Total extent in reserves in Northern Slopes bio-region: 15,500 Total extent in Northern Slopes bio-region: 30,700
Total area of potential impact to native vegetation	0 to 1.20 ha	Negligible impacts anticipated at local, regional and statewide level.

²³ Includes statements from Threatened Species Link summaries and note sheets

4. Recommendations for Avoidance, Compliance and Mitigation

4.1. Threatened Fauna

- Should works be planned for higher up the ridgeline, a targeted devil den survey should be carried out to determine suitability of habitat and potential for dens.
- No mitigation is necessary based on the current proposal.

4.2. Weeds and Pathogens

- The containment principles of the *Tasmanian Weed Management Act 1999* should be sufficiently met with best practice construction hygiene that prevents the introduction of contaminated material from beyond the study area, such as tool and machinery wash-down before entry, and by only importing materials from verified weed and PC free locations.
- The proponent should continue weed control in order to prevent incursion of the species, as well as continuing the control of environmental weeds on this lease including gorse and radiata pine
- Continue work with PC testing and remediation works as required.

4.3. Threatened Flora

- No threatened flora recorded within the quarry and buffer of this proposal.

4.4. Threatened Vegetation Communities

- No mitigation is considered to be necessary given the nature of the proposal and the potential scale of impacts.

4.5. General Natural Values

- In addition, where possible avoid stockpiling dense material around the base of retained trees, in order to prevent root smothering.

5. Legislative Requirements

5.1. Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The EPBCA is structured for self-assessment; the proponent must indicate whether or not the project is considered a 'controlled action', which, if confirmed, would require approval from the Commonwealth Minister.

No habitat for EPBCA listed fauna have been identified. Consequently, referral to the Minister is not considered to be necessary for this proposal.

5.2. Tasmanian Threatened Species Protection Act 1995

No issues identified under this act.

5.3. Tasmanian Weed Management Act 1999

One declared species (gorse) occurs onsite. This should be eradicated from the site. Appropriate construction hygiene should be applied in order to avoid the introduction of species listed under this Act. This may include machinery washdown following use at contaminated sites and before entering the site.

5.4. Meander Valley Interim Planning Scheme 2013

The current proposal is understood to be exempt from the provisions of the Biodiversity Code (E8) as it is a level 2 activity that will be assessed by the Board of Environmental Management and Pollution Control.

6. Conclusion

Our field survey has established that the lease area contains one threatened native plant community, no threatened plant species, and no confirmed habitat for threatened threatened fauna within 50m of the quarry. Losses of the threatened native plant community are considered to be negligible at a local, regional and statewide scale, and the community is not that typical of the threatened vegetation found on sandstone rock. Weed infestations are minor and can be eradicated by good weed management planning.

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Appendix A - Vascular Plant Species by Community

Site: 1 Punchs Quarry - DOB

Grid Reference:	459584E, 5406693N
Accuracy:	GPS (within 10 metres)
Recorder:	Dave Sayers
Date of Survey:	10 Jul 2017
Trees:	<i>Acacia melanoxylon</i> , <i>Bursaria spinosa</i> subsp. <i>spinosa</i> , <i>Eucalyptus amygdalina</i> , <i>Eucalyptus obliqua</i>
Tall Shrubs:	<i>Acacia dealbata</i> subsp. <i>dealbata</i> , <i>Acacia mearnsii</i> , <i>Bedfordia salicina</i> , <i>Exocarpos cupressiformis</i> , <i>Leptospermum scoparium</i> var. <i>scoparium</i> , <i>Monotoca glauca</i> , <i>Olearia argophylla</i>
Shrubs:	<i>Cassinia aculeata</i> subsp. <i>aculeata</i> , <i>Epacris impressa</i> , <i>Leptomeria drupacea</i> , <i>Olearia lirata</i> , <i>Pimelea linifolia</i> , <i>Pomaderris elliptica</i> , <i>Pultenaea juniperina</i>
Herbs:	<i>Euchiton japonicus</i>
Graminoids:	<i>Juncus australis</i> , <i>Juncus procerus</i> , <i>Lomandra longifolia</i> , <i>Luzula</i> sp.
Grasses:	<i>Deyeuxia</i> sp., <i>Ehrharta distichophylla</i>
Ferns:	<i>Gleichenia dicarpa</i> , <i>Histiopteris incisa</i> , <i>Polystichum proliferum</i> , <i>Pteridium esculentum</i> subsp. <i>esculentum</i>
Weeds:	<i>Dactylis glomerata</i> , <i>Hypochaeris radicata</i>

Site: 2 Punchs Quarry - E. amygdalina on sandstone

Grid Reference:	459618E, 5406782N
Accuracy:	GPS (within 10 metres)
Recorder:	Dave Sayers
Date of Survey:	10 Jul 2017
Trees:	<i>Eucalyptus amygdalina</i> , <i>Eucalyptus obliqua</i>
Tall Shrubs:	<i>Allocasuarina monilifera</i> , <i>Exocarpos cupressiformis</i> , <i>Leptospermum scoparium</i> var. <i>scoparium</i> , <i>Monotoca glauca</i>
Shrubs:	<i>Amperea xiphoclada</i> var. <i>xiphoclada</i> , <i>Epacris impressa</i> , <i>Leucopogon collinus</i>
Low Shrubs:	<i>Aotus ericoides</i> , <i>Hibbertia</i> sp.
Herbs:	<i>Correa lawrenceana</i> var. <i>lawrenceana</i> , <i>Dianella tasmanica</i> , <i>Libertia pulchella</i> var. <i>pulchella</i>
Graminoids:	<i>Lomandra longifolia</i>
Grasses:	<i>Poa</i> sp.
Ferns:	<i>Pteridium esculentum</i> subsp. <i>esculentum</i>
Weeds:	<i>Acetosella vulgaris</i> , <i>Centaureum erythraea</i> , <i>Poa annua</i>

Site: 3 Punchs - FUM (cleared areas)

Grid Reference:	459571E, 5406743N
Accuracy:	GPS (within 10 metres)
Recorder:	Dave Sayers
Date of Survey:	10 Jul 2017
Trees:	<i>Eucalyptus amygdalina</i> , <i>Eucalyptus obliqua</i>
Tall Shrubs:	<i>Exocarpos cupressiformis</i>
Shrubs:	<i>Cassinia aculeata</i> subsp. <i>aculeata</i>
Grasses:	<i>Poa labillardierei</i>
Weeds:	<i>Callitriche stagnalis</i> , <i>Centaureum erythraea</i> , <i>Cerastium</i> sp., <i>Cirsium vulgare</i> , <i>Lysimachia arvensis</i> , <i>Taraxacum officinale</i> , <i>Ulex europaeus</i>

Appendix B - Vascular Plant Species List

Species list - project: TRE002

Status codes:

ORIGIN	NATIONAL SCHEDULE	STATE SCHEDULE
i - introduced	EPBC Act 1999	TSP Act 1995
d - declared weed WM Act	CR - critically endangered	e - endangered
en - endemic to Tasmania	EN - endangered	v - vulnerable
t - within Australia, occurs only in Tas.	VU - vulnerable	r - rare

Sites:



1	Punches Quarry - DOB - E459584, N5406693	10-07-2017 Dave Sayers
2	Punches Quarry - E. amygdalina on sandstone - E459618, N5406782	10-07-2017 Dave Sayers
3	Punches - FUM (cleared areas) - E459571, N5406743	10-07-2017 Dave Sayers

Site	Name	Common name	Status
	DICOTYLEDONAE		
	ASTERACEAE		
1	<i>Bedfordia salicina</i>	tasmanian blanketleaf	en
1 3	<i>Cassinia aculeata subsp. aculeata</i>	dollybush	
3	<i>Cirsium vulgare</i>	spear thistle	i
1	<i>Euchiton japonicus</i>	common cottonleaf	
1	<i>Hypochaeris radicata</i>	rough catsear	i
1	<i>Olearia argophylla</i>	musk daisybush	
1	<i>Olearia lirata</i>	forest daisybush	
3	<i>Taraxacum officinale</i>	common dandelion	i
	CALLITRICHACEAE		
3	<i>Callitriche stagnalis</i>	mud waterstarwort	i
	CARYOPHYLLACEAE		
3	<i>Cerastium sp.</i>	mouse-ear chickweed	i
	CASUARINACEAE		
2	<i>Allocasuarina monilifera</i>	necklace sheoak	en
	DILLENIACEAE		
2	<i>Hibbertia sp.</i>	guinea-flower	
	EPACRIDACEAE		
1 2	<i>Epacris impressa</i>	common heath	
2	<i>Leucopogon collinus</i>	white beardheath	
1 2	<i>Monotoca glauca</i>	goldey wood	
	EUPHORBIACEAE		
2	<i>Amperea xiphoclada var. xiphoclada</i>	broom spurge	
	FABACEAE		
2	<i>Aotus ericoides</i>	golden pea	
1	<i>Pultenaea juniperina</i>	prickly beauty	

3	<i>Ulex europaeus</i>	gorse	d
	GENTIANACEAE		
2 3	<i>Centaurium erythraea</i>	common centaury	i
	MIMOSACEAE		
1	<i>Acacia dealbata</i> subsp. <i>dealbata</i>	silver wattle	
1	<i>Acacia mearnsii</i>	black wattle	
1	<i>Acacia melanoxylon</i>	blackwood	
	MYRTACEAE		
1 2 3	<i>Eucalyptus amygdalina</i>	black peppermint	en
1 2 3	<i>Eucalyptus obliqua</i>	stringybark	
1 2	<i>Leptospermum scoparium</i> var. <i>scoparium</i>	common teatree	
	PITTOSPORACEAE		
1	<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	prickly box	
	POLYGONACEAE		
2	<i>Acetosella vulgaris</i>	sheep sorrel	i
	PRIMULACEAE		
3	<i>Lysimachia arvensis</i>	scarlet pimpernel	i
	RHAMNACEAE		
1	<i>Pomaderris elliptica</i>	yellow dogwood	
	RUTACEAE		
2	<i>Correa lawrenceana</i> var. <i>lawrenceana</i>	mountain correa	en
	SANTALACEAE		
1 2 3	<i>Exocarpos cupressiformis</i>	common native-cherry	
1	<i>Leptomeria drupacea</i>	erect currantbush	
	THYMELAEACEAE		
1	<i>Pimelea linifolia</i>	greater slender riceflower	
	MONOCOTYLEDONAE		
	IRIDACEAE		
2	<i>Libertia pulchella</i> var. <i>pulchella</i>	pretty grassflag	
	JUNCACEAE		
1	<i>Juncus australis</i>	southern rush	
1	<i>Juncus procerus</i>	tall rush	
1	<i>Luzula</i> sp.	luzula	
	LILIACEAE		
2	<i>Dianella tasmanica</i>	forest flaxlily	
	POACEAE		
1	<i>Dactylis glomerata</i>	cocksfoot	i
1	<i>Deyeuxia</i> sp.	bent grass	
1	<i>Ehrharta distichophylla</i>	hairy ricegrass	
2	<i>Poa annua</i>	winter grass	i
3	<i>Poa labillardierei</i>	silver tussockgrass	
2	<i>Poa</i> sp.	poa	
	XANTHORRHOEACEAE		
1 2	<i>Lomandra longifolia</i>	sagg	
	PTERIDOPHYTA		

ASPIDIACEAE		
1	<i>Polystichum proliferum</i>	mother shieldfern
DENNSTAEDTIACEAE		
1	<i>Histiopteris incisa</i>	batswing fern
1 2	<i>Pteridium esculentum subsp. esculentum</i>	bracken
GLEICHENIACEAE		
1	<i>Gleichenia dicarpa</i>	pouched corallfern

Appendix C – Previous PC Assessment of Atkins Pit

 Forestry Tasmania <i>Phytophthora cinnamomi</i> -status of quarries			
Quarry:	Punch's Terror (Atkins Pit)	Date of inspection:	11/05/2017
Altitude:	320 m	Location:	Beaumont's Rd, Weegen
Substrate:	Quartz Conglomerate	Type:	Hard rock
Grid Ref:	460040 E, 5406300 N.	Owner:	Treloar Transport
			
<p>Figure 1. Punch's Terror is a large active hard-rock quarry at moderate altitude.</p>			
<p>Drainage: Good</p> <p>There is seepage of ground water in this quarry, but it is effectively quarantined from the active quarry area by a large bund. The quarry floor is hard and dry and metalled with quarried material (Figure 2).</p>			
<p>Overburden: The overburden has recently been scalped back from the top of the active face, and a substantial spoon drain constructed to divert all surface water from above the active quarry area into the surrounding bush. This has been done to a very high standard (Figure 3).</p>			
<p>Weed issues: None seen.</p>			
<p><i>P. cinnamomi</i> field symptoms:</p> <p>Suspicious deaths of <i>P. cinnamomi</i> indicator species were seen in the topsoil bank on the southern corner of the quarry. These included trigger plant (<i>Stylidium graminifolium</i>) and native broom spurge (<i>Amperea xiphoclada</i>) (Figure 4).</p>			

Punch's Terror (Atkins Pit)

Samples tested for *P. cinnamomi*: Yes

A soil sample was taken from the root zone of the dead and dying plants but tested negative for *P. cinnamomi*. This quarry is currently considered to be *P. cinnamomi*-free. It is suitable for use where a requirement for *P. cinnamomi*-free gravel has been specified.



Figure 2. Drainage within the quarry is good, with ground-water seepage contained within a bund.

The active floor is hard and dry.



Figure 3. The overburden has recently been scalped from the top edge of the quarry.



Figure 4. Dead native broom spurge on the southern edge of the quarry.

Sue Jennings Forest Management Services Forestry Tasmania Smithton. sue.jennings@forestrytas.com.au	Environmental risk	Moderate
	Management risk	Low
	Quarry assessment valid until:	May 2020

12.2. Appendix B – Noise Survey

PEARU TERTS

BA, Grad. Dip. Env. Stud. (Hons.), MIE Aust., CPENG, MAAS
Consulting Engineer

33 Falcon Rd
Claremont 7011
Tasmania AUSTRALIA

**ARCHITECTURAL ACOUSTICS
NOISE CONTROL**

Phone 03 6249 7165
Fax 03 6249 1296
Email pterts@southcom.com.au

Dunorlan Punch's Terror Quarry Treloar

22/12/2017

NOISE ISSUES

S U M M A R Y.

1. The measured noise level during calm conditions (quarry not operating) was $L_{90} = 25.3 \text{ dB(A)}$ and $Leq = 50.4 \text{ dB(A)}$ at gate of 56 Chesneys Road.. House is about 750 m from the quarry 28M/1990 =Q 1
2. During quarry operations, the calculated Leq is less than 45 dB(A)
3. During quarry operations, at 28 m from the crusher, the following was measured: $L_{90} = 71.8 \text{ dB(A)}$, $Leq = 74.6 \text{ dB(A)}$ and 86.9 dB(C).
4. The following equipment was operating in the quarry: Jaw Crusher (300 HP) + Loader (180 HP) + excavator (120 HP) = total 600 HP
5. The operation of the quarry is likely to meet the "Quarry Code of Practice" requirement that the quarry operation noise level not to exceed 45 dB(A) during the daytime.

CLIENT: Mr. Nigel Beeke
Treloar Transport
P.O. Box 21
Sheffield
Tasmania 7306

Mobile 0409 067 573
e-mail: nbeeke@bigpond.net.au

Cc Carol Steyn, carols@urbanforestconsultancy.com

BRIEF:

Estimate the likely in noise due to a 120 HP P1 320B CAT excavator and a P22 Pegson Jaw crusher and the wheel loader as reported in the 7/4/2014 noise report. In addition, comment on the likely compliance of the quarry operation with the requirements of the May 2017 Quarry Code of Practice.

INTRODUCTION:

Noise annoyance depends on the following factors:

1. the level of the existing ambient noise
2. the level of the new noise with the quarry in operation
3. whether the new noise has tonal components
4. whether the new noise has impulsive components
5. the time of the day the new noise occurs
6. whether the new noise carries unwanted intelligence such as warning announcements
7. noise annoyance is also dependent on the listener's perception of whether the noise is regretfully caused, imposed in ignorance or inflicted as an act of aggression.

The Tasmania Quarry Code of Practice (May 2017), page 17, paragraph 7.2.2.2 Level of noise states states: "Noise from quarrying and associated activities, including equipment maintenance, when measured at any neighbouring sensitive use must not exceed the greater of:

The A-weighted 10 minute L90, excluding noise from the quarry, plus 5 dB(A) , or
45 dB(A) from 0700 to 1900 hours (daytime).....
when measured as a 10 minute Leq".

Treloar Transport is submitting a DFPEMP to the EPA seeking permission to blast at this quarry.

DEFINITIONS:

See appendix A.

Background noise is indicated by L90. This L90 is a good descriptor of the base or background noise level. For example (see page A6, Loc 2, column 3), where $L90 = 25.3 \text{ dB(A)}$ then that means that for 90 % of the 10 minute sample, that is, 9 minutes, the noise level was 25.3 dB(A) or more. Similarly, L10 is a good descriptor of the average of the higher noise events encountered. If, for example, $L10 = 44.5 \text{ dB(A)}$ then that means that for 10 % or 1 minute, the noise level was 44.5 dB(A) or more.

Leq is the equivalent 'A' weighted noise level. A fluctuating noise having an $Leq = 50.4 \text{ dB(A)}$ has the same acoustic energy as a steady noise of 50.4 dB(A).

ESTIMATED BACKGROUND NOISE LEVELS:

Australian Standard AS 1055.2-1997 "Acoustics – Description and measurements of environmental noise Part 2: Application to specific situations," in Appendix A, the estimated L90 background sound pressure level in areas with low density transportation, between 0700 h to 1800 h, Mon. to Sat. is 45 dB(A). This estimate is a guide only for use where actual measurements are not obtained.

RESULTS:

See appendices A and B. The main results are shown on pages A 6.

Previously, (Field Report, Forthside, 27/11/2013) at 28 m from the crusher we measured $Leq = 74.6 \text{ dB(A)}$, and 86.9 dB(C) and $L90 = 71.8 \text{ dB(A)}$.

The difference between Leq and $L90 = 74.6 - 71.8 = 2.8 \text{ dB(A)}$

The difference between the dB(C) and dB(A) is $86.9 - 74.6 = 12.3$ dB.

JAW CRUSHER, LOADER and EXCAVATOR

The table on page A 9 (report of 27/11/2013) gives the results of 10 minute measurements at 28 m from the crusher which was fed by a loader and excavator as shown on page A 7.

The calculated sound power level is:

$$\begin{aligned} \text{SWL} &= \text{SPL} + 20 \log r + 8 \\ &= 74.6 + 20 \log 28 + 8 = 111.54 \text{ or say } 112 \text{ dB(A)} \end{aligned}$$

Similarly, the calculated sound power level in terms of dB(C) is:

$$\text{SWL} = 86.9 + 20 \log 28 + 8 = 123.8 \text{ dB(C) or say } 124 \text{ dB(C)}$$

The difference between the dB(C) and dB(A) noise levels is $124 - 112 = 12$ dB and so no penalty for low frequency components is applicable.

The P22 Pegson Jaw Crusher is rated at 300 HP. The sound pressure level at 437 m (see Q 1 to R 3 on pages B 2 and B 5), due only to geometric spreading and NOT taking into account atmospheric absorption, noise barriers, excess attenuation due to ground cover and trees, would be:

$$\begin{aligned} \text{SPL} &= \text{SWL} - 20 \log r - 8, \\ &\text{where } r \text{ is the distance in meters.} \end{aligned}$$

$$\text{SPL} = 112 - 20 \log 437 - 8 = 51.2 \text{ dB(A)}$$

From the above noise level we need to calculate the excess noise attenuation as the sound travels through the atmosphere and over ground cover and diffracts over natural or man made barriers. The above noise was calculated using geometric spreading to 437 m

Using the topographic profile on page B 5, the barrier effect was calculated as 15.6 dB

Hence the likely noise level at R 3 is $51.2 - 15.6 = 35.6$ dB(A)

The above calculations do not take into account the excess attenuation for sound travelling over the ground, ground cover and through the atmosphere. These will reduce the noise levels further.

Hence the noise level due to the quarry operation is likely to be 36 dB(A) using the above mentioned equipment.

Similar calculations were performed for the receivers shown on page B 2 to quarries Q 1 and Q 2. using the profiles shown on pages B 3 to B 5.

The results are shown on the next page. The calculations assume a crusher height of 3 m and a receiver height above ground of 1.5 m.:

Location Q to R	Barrier ht metres	Source ht metres	receiver ht metres	Hor source barrier dist	Hor barrier receiver dist	Atten dB
Q 1 to R 3	273	273	216.5	100	337	15.6
Q 2 to R 1	308	307	146.5	30	940	13.7
Q 1 to R 2	272.5	273	201.5	45	535	11.8
Q 2 to R 2	310	309	201.5	55	1130	12.1
Q 2 to R 3	340	373	216.5	385	650	16.3
Q 1 to R 1	272.5	273	146.5	70	660	15.5

The geometric spreading of the noise is calculated as follows for the various above combinations:

Q 1 to R 3	$112 - 20 \log 437 - 8 - 15.6 = 35.6 \text{ dB(A)}$
Q 2 to R 1	$112 - 20 \log 970 - 8 - 13.7 = 30.6 \text{ dB(A)}$
Q 1 to R 2	$112 - 20 \log 580 - 8 - 11.8 = 36.9 \text{ dB(A)}$
Q 2 to R 2	$112 - 20 \log 1185 - 8 - 12.1 = 30.4 \text{ dB (A)}$
Q 2 to R 3	$112 - 20 \log 1035 - 8 - 16.3 = 27.4 \text{ dB(A)}$
Q 1 to R 1	$112 - 20 \log 730 - 8 - 15.5 = 31.2 \text{ dB(A)}$

DISCUSSION:

With the calculated noise levels below 45 dB(A), the quarry operation is likely to meet the 'Quarry Code of Practice requirement of 45dB(A) during the day time. The quarry operates only during daylight.

CONCLUSION:

The calculated noise level based on measured ambient and background noise levels indicate that the 45 dB(A) daylight requirement of the Quarry Code of Practice, noise level with the quarry operating, is likely to be met at the nearest neighbour.

The World Health Organization's (WHO) Guideline for noise levels outside bedrooms is that with the window open, $L_{eq} = 45 \text{ dB(A)}$ and $L_{max} = 60 \text{ dB(A)}$. These conditions too, are likely to be met during the operation of the quarry.

Pearu Terts

Treloar Punchs Terror Quarry, Dunorlan
Preliminary field report for site visit September 2017
Appendix A to be read in conjunction with main report

General

The quarry site at Punchs Terror, Dunorlan appears to have a history, based on maps and the regrowth. The excavations lie on the western side of the hill, and there are a number of neighbours surrounding the site. The conglomerate quarry is currently in intermittent use by Treloar.

This report describes the findings of preliminary ambient noise measurements and observations from the site visit 15:20-17:00, Friday 1/9/2017.

Instruments used

- Brüel & Kjær Sound Level Calibrator Type 4230 s/n 1169836, Laboratory Certified May 2017;
- Norsonic Precision Sound Level Meter Nor131, s/n 1312829, Laboratory Certified May 2017;
- Weather Instruments (Aneroid barometer, Zeal Wet/Dry bulb Psychrometer, Suunto KB-14/360R compass, Kaindl Windmaster 2 wind speed meter);

Location definitions

The locations for measurements were defined as follows:

Location	Definition/comment
Loc 1	Approximate centre of recently used quarry floor, Microphone at 1.2 m height GR (AMG UTM 1966) 459469 m E, 5406543 m N
Loc 2	Fencepost at road bend, opposite gate to "Whispering Hills Retreat", 56 Chesneys Rd, Microphone at 1.2 m height. GR (AMG UTM 1966) 458991 m E, 5407098 m N

Positions plotted on aerial photo and photographs of locations are on the following pages.

Weather observations

Conditions suitable for noise measurements.

Details are shown alongside.

Weather observations	
Date	1/09/2017
Location	Loc 1
Time	15:30
Temp °C	11
Relative Humidity %	66
Pressure hPa	997
Wind speed average m/s	0.4
Wind speed maximum m/s	3.1
Wind direction	NW
Cloud cover x/8	7

[Last revised 5/9/2017]

Sourced from MemoryMap; Tasmap 1:25000 series, 30/7/2017



Sourced from MemoryMap; Tasmap 1:25000 series, 30/7/2017

Location – plotted airphoto indicating monitoring positions



Monitoring locations plotted to approximation. Base image sourced from Google 30/7/2017. Note 200 m scale bar.
Changes may have occurred since this image was captured by satellite.

Panorama photograph



View of sweeping NW-SE arc of quarry from a small stockpile at edge of the floor. Location 1 to right of vehicle, 1/9/2017
Note the 4-photo composite has minor join error and distortion

Site photograph



View to SE at Location 2, opposite gate to 56 Chesneys Rd, 1/9/2017

Noise descriptions

For this location, ambient noise by source noted during the site visit is listed (in descending order of significance by loudness, noticeability, duration and incidence):

Location 1

- Breeze in eucalypt trees dominates noise in between calm lulls;
- Bird calls including crows, geese
- Distant traffic including truck
- Sheep
- Aircraft

Location 2

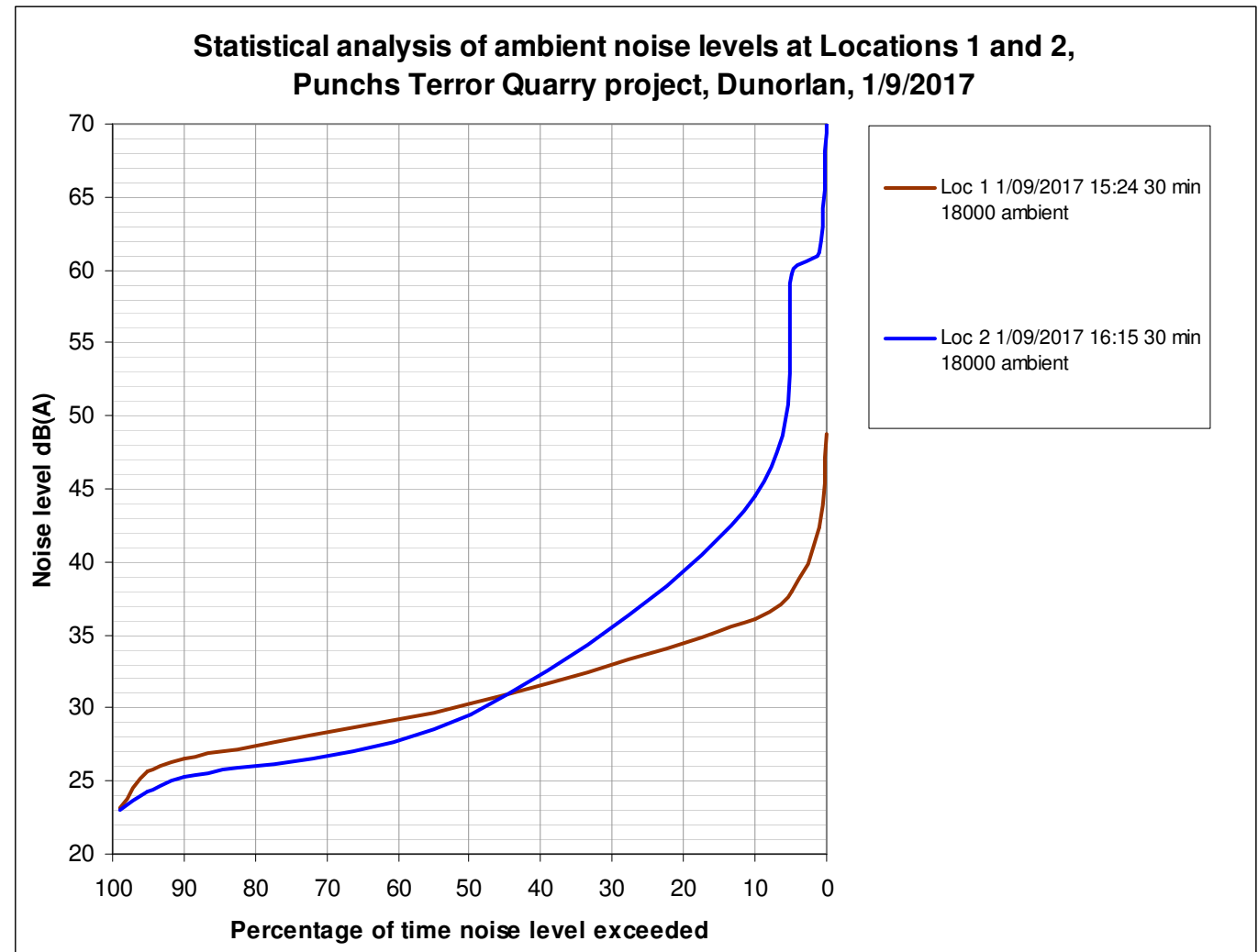
- Two neighbours' vehicles passed the monitoring location, one diesel 4WD stopped very near by and idled for a period and the driver engaged us in conversation
- Bird calls including currawongs, crows, wattlebirds, plovers, rooster
- Frogs
- Breeze in trees at times
- Distant traffic
- Horses

Comments

- During this preliminary visit some daytime ambient noise measurements were conducted under suitable conditions.
- No machinery was present at the quarry, though fresh caterpillar and truck tracks indicated recent activity.
- The quarry lies on the western side of the ridge, thus it is the western neighbours that have the potential for exposure to quarrying noise. One of the neighbour sites to the NW was visited; other/s lying to the W and NW were not visited on this occasion.

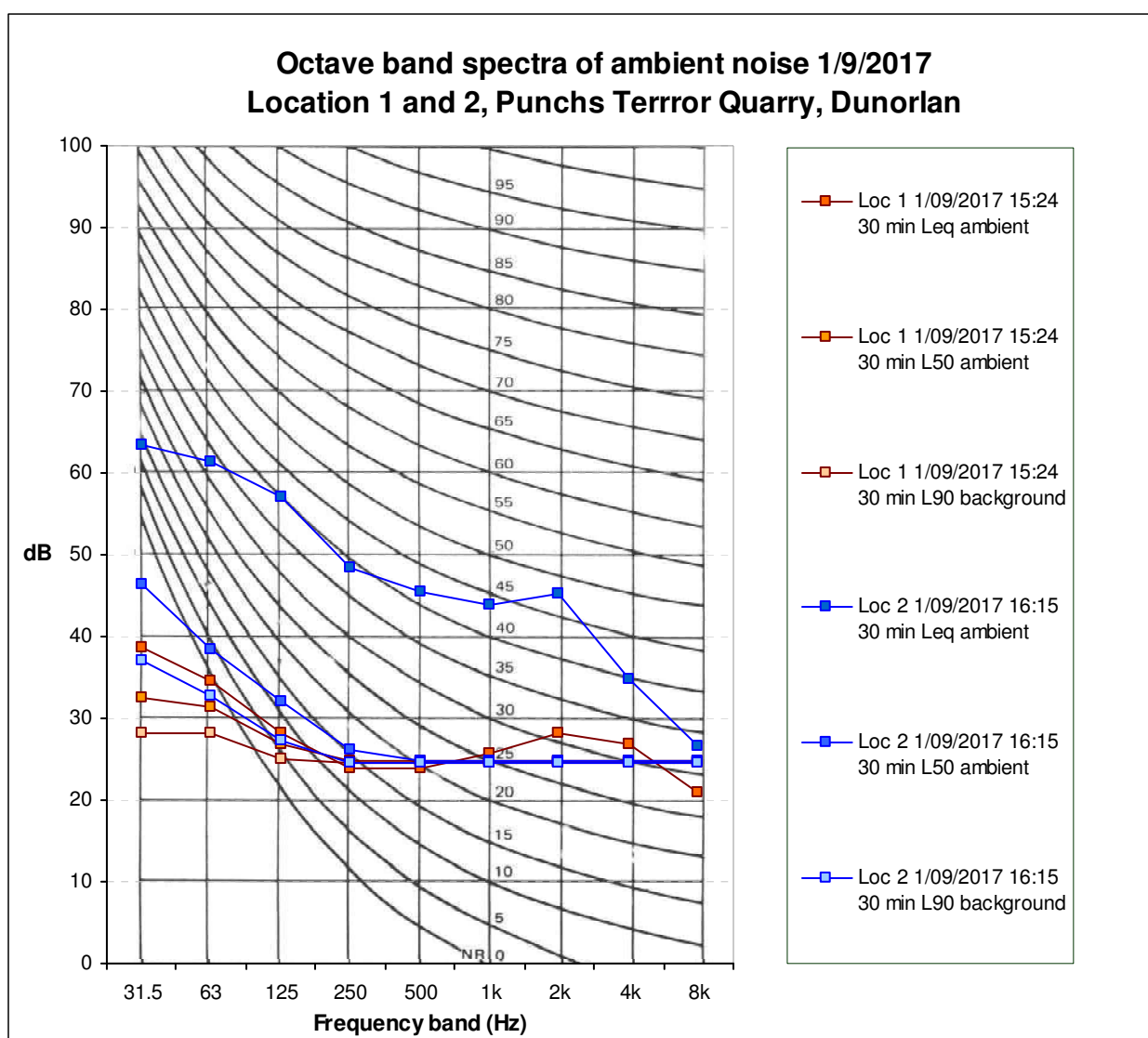
Measurements and statistical analysis of noise over 30 min periods, dB(A)

Location	Loc 1	Loc 2
Date	1/9/2017	1/9/2017
Time	15:24	16:15
Duration	30 min	30 min
Samples	18000	18000
Test	ambient	ambient
Lmax	56.3	73.3
L0.1	48.8	70.6
L1	42.3	61.2
L5	38.0	59.7
L10	36.1	44.5
L50	30.3	29.6
L90	26.5	25.3
L95	25.6	24.3
L99	23.1	23.0
Lmin	21.7	21.0
Leq A	33.3	50.4

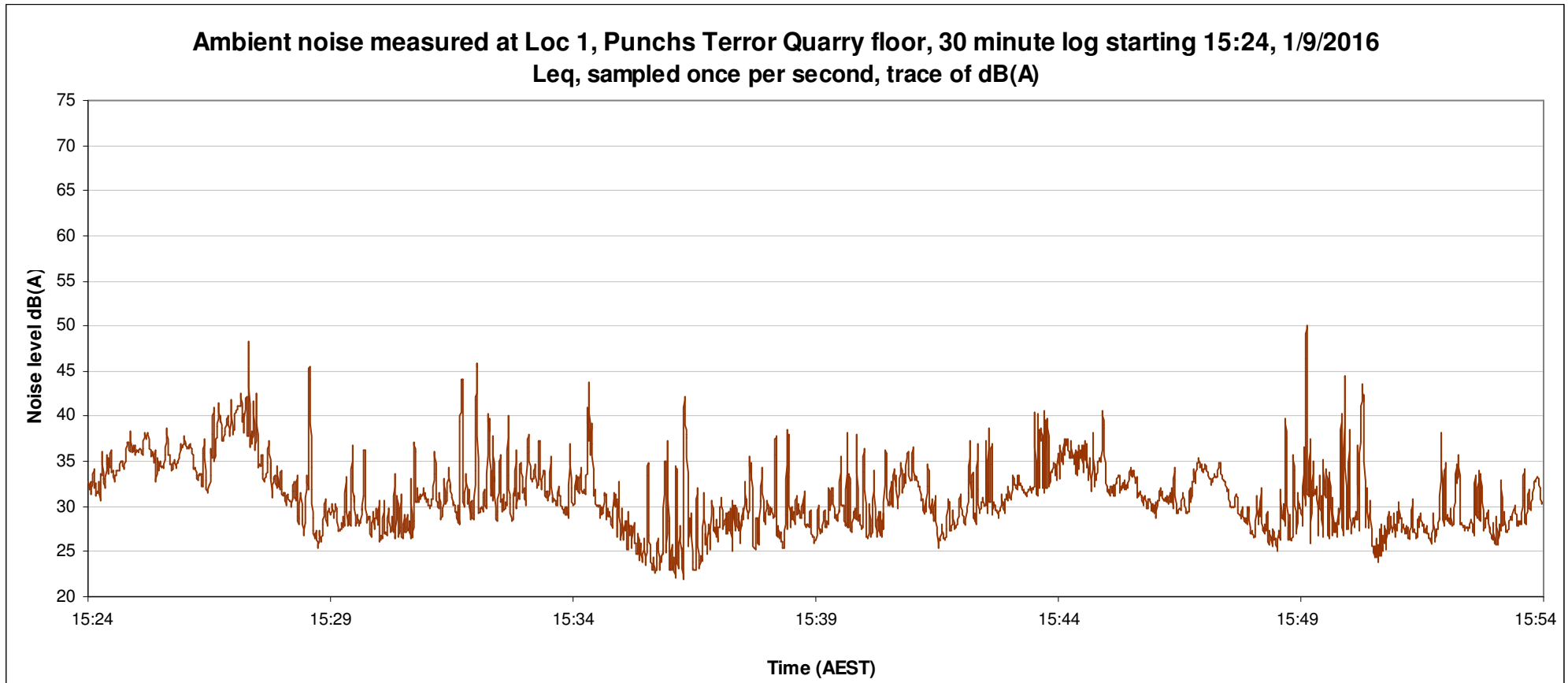


Spectral analysis of ambient day time noise

Location	Loc 1			Loc 2		
Date	1/09/2017			1/09/2017		
Time	15:24			16:15		
Duration	30 min			30 min		
Measure	Leq	L50	L90	Leq	L50	L90
Test	ambient	ambient	background	ambient	ambient	background
Overall A	33.3	30.3	26.5	50.4	29.6	25.3
C	41.6	37.2	34.3	64.8	52.3	42.0
Octave band Hz 31.5	38.5	32.4	28.3	63.5	46.3	37.1
63	34.5	31.3	28.1	61.3	38.5	32.6
125	28.1	26.8	24.9	57.0	32.0	27.2
250	23.8	<24.7	<24.6	48.5	26.1	<24.6
500	23.9	<24.7	<24.6	45.4	<24.7	<24.6
1k	25.6	<24.7	<24.6	43.9	<24.7	<24.6
2k	28.3	24.8	<24.6	45.2	24.8	<24.6
4k	26.8	<24.7	<24.6	34.8	<24.7	<24.6
8k	20.9	<24.7	<24.6	26.5	<24.7	<24.6

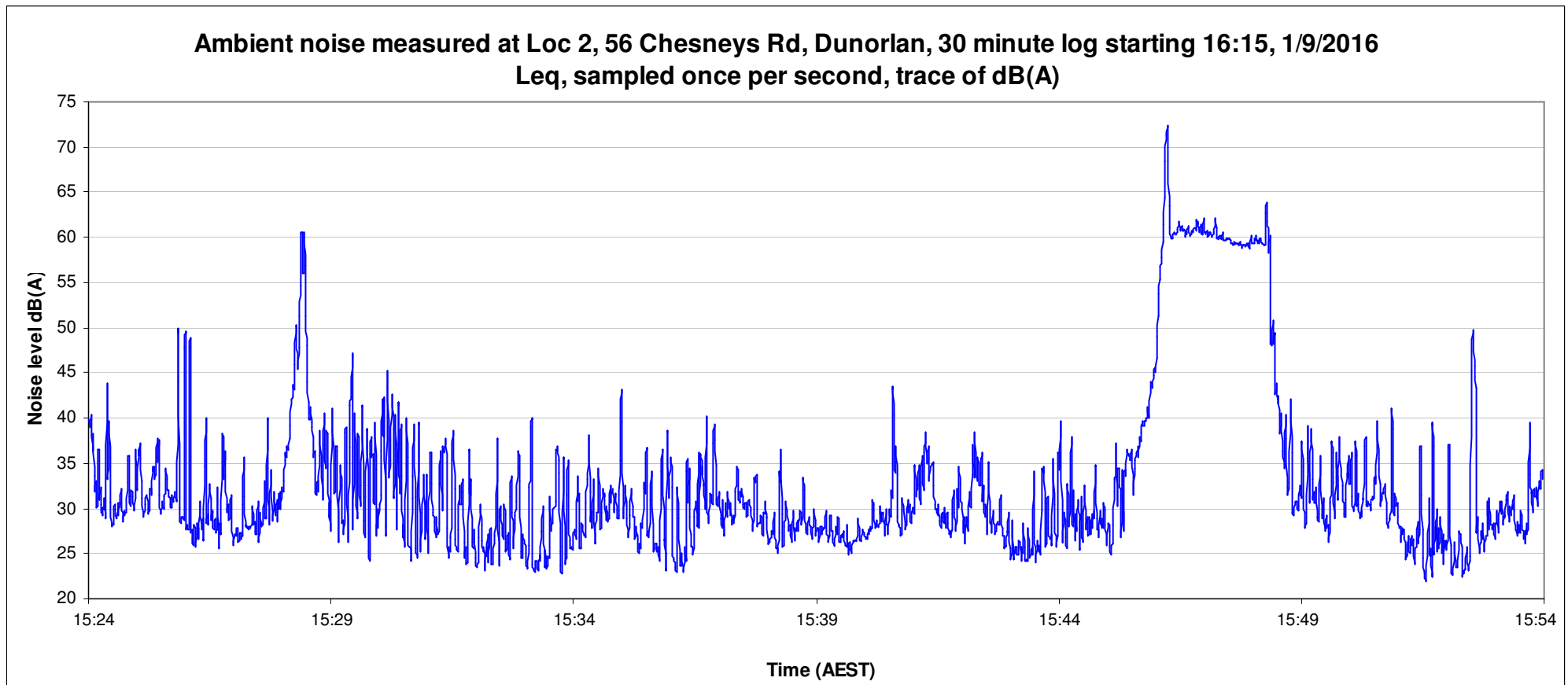


Monitoring trace of day time noise at Location 1



Variation in baseline noise level reflects variation in breeze in eucalypt trees; with superimposed spikes due to bird calls.
 Occasional distant traffic events included a truck.

Monitoring trace of day time noise at Location 2



Variation in baseline noise level reflects variation in breeze in trees and distant traffic; with superimposed spikes mainly due to bird calls.

Two significant events were local traffic passes; the first was a hatchback passed the microphone 1 m away.

The second passed 1 m away, a diesel 4WD that stopped about 5 m away and idled for a period while the driver engaged us in conversation before departing.

Treloar Punchs Terror Quarry, Dunorlan
Topography report December 2017
Appendix B to be read in conjunction with main report

General

The quarry site at Punchs Terror, Dunorlan appears to have a substantial history of operation, based on maps and the regrowth. The excavations lie on the western side of the hill, and there are a number of neighbours surrounding the site. The conglomerate quarry is currently in intermittent use by Treloar.

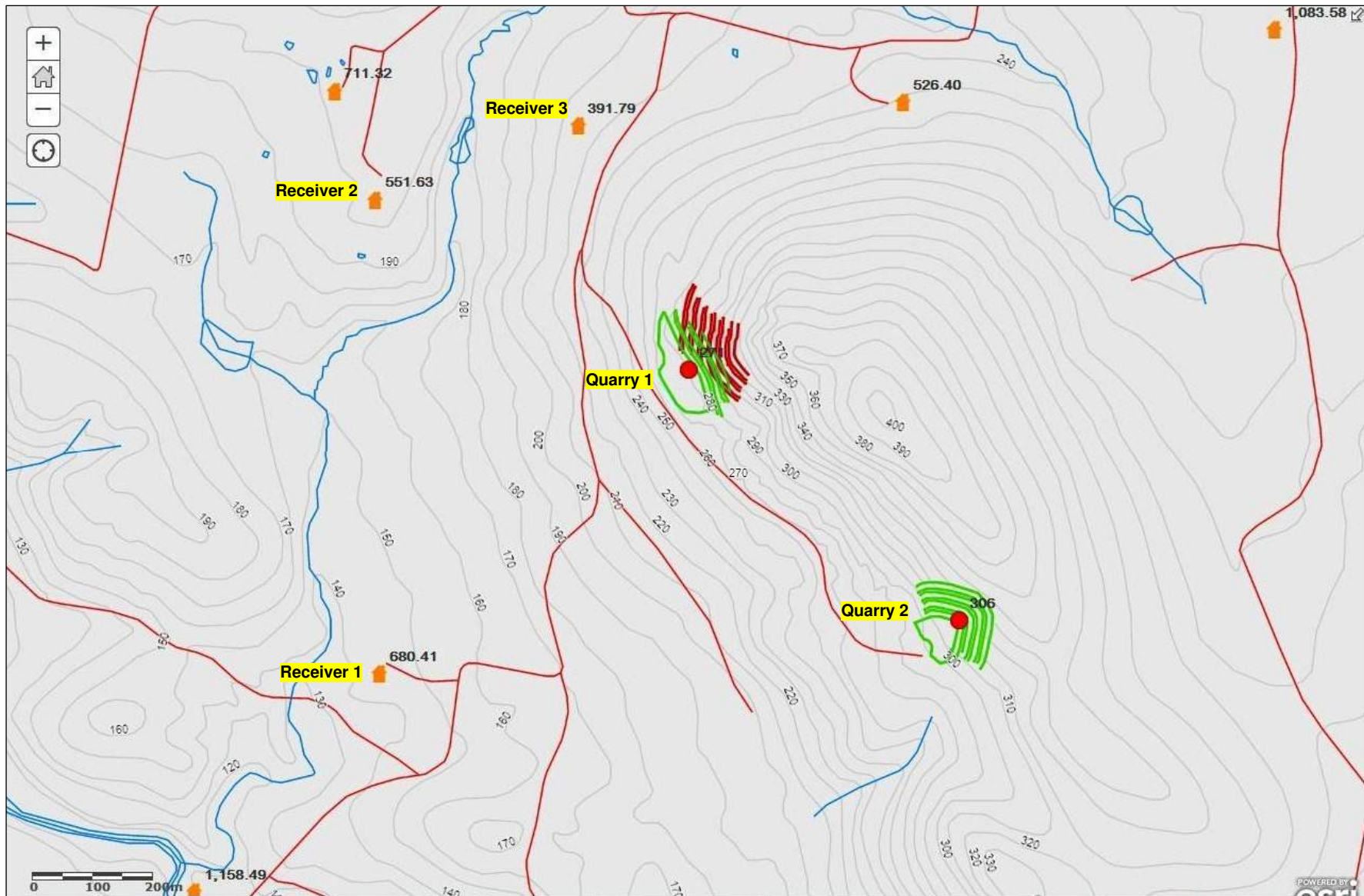
This report describes the findings of topographic interpretation of quarry and nearest receiver sites with potential exposure to crusher operations, Dec 2017.

The client has provided some mapping data on GIS, and this is used as a basis of this interpretation.

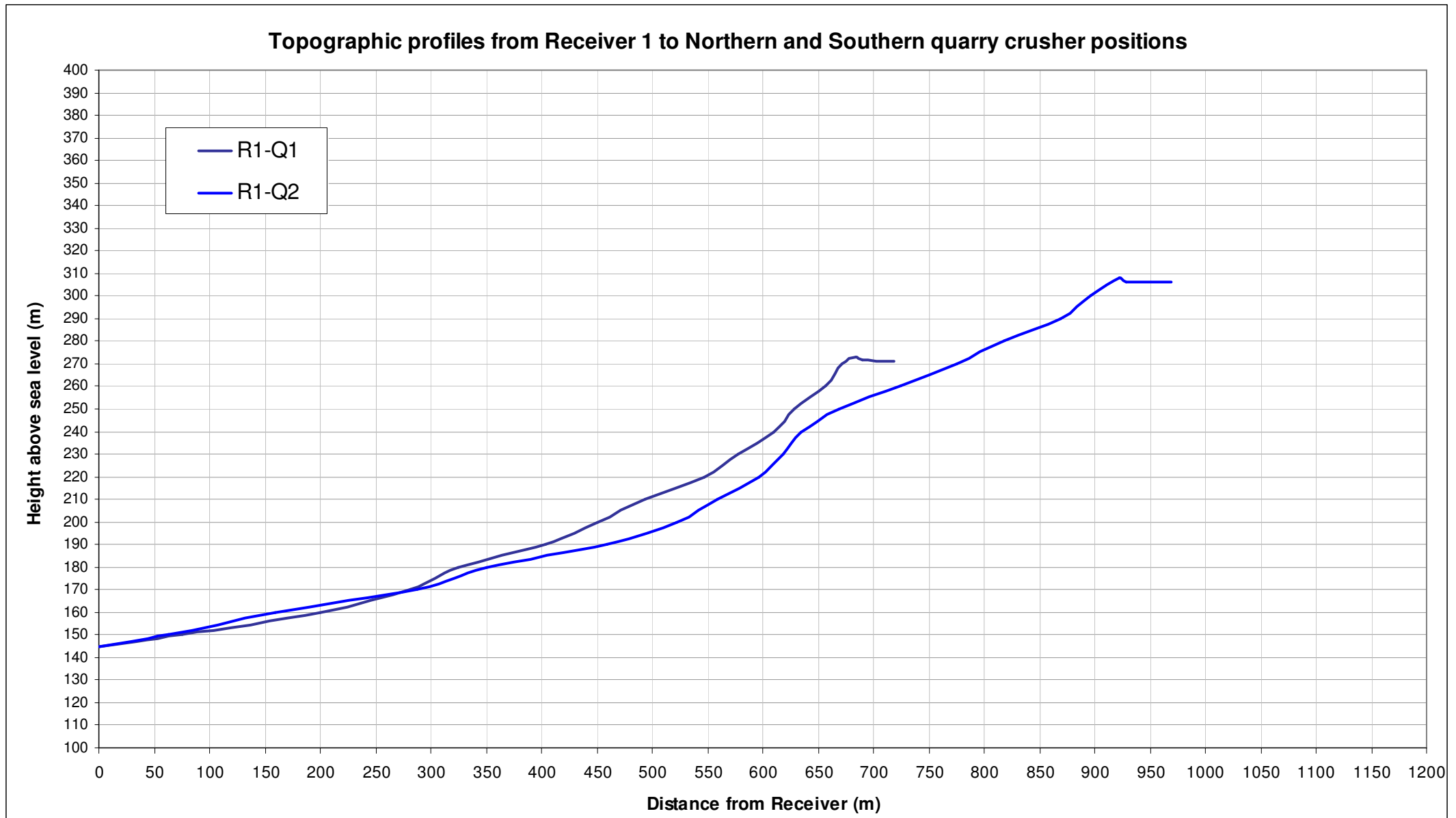
Assumptions based on the site visit to Quarry 1 include there being a 2 m high mound at the lip of each of the quarry floors where crushers may be located. Any drilling would be at higher bench levels.

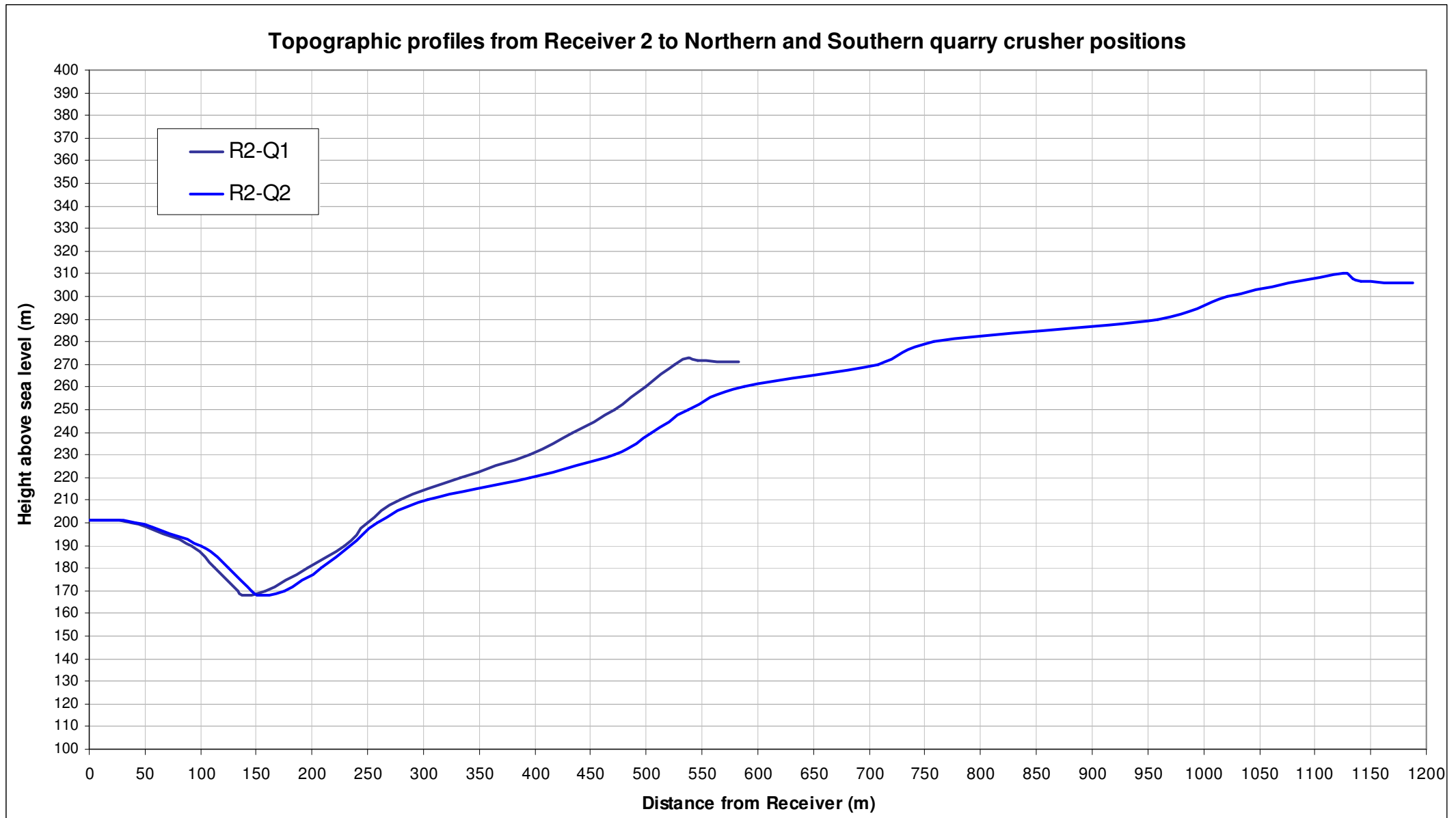
[Last revised 14/12/2017]

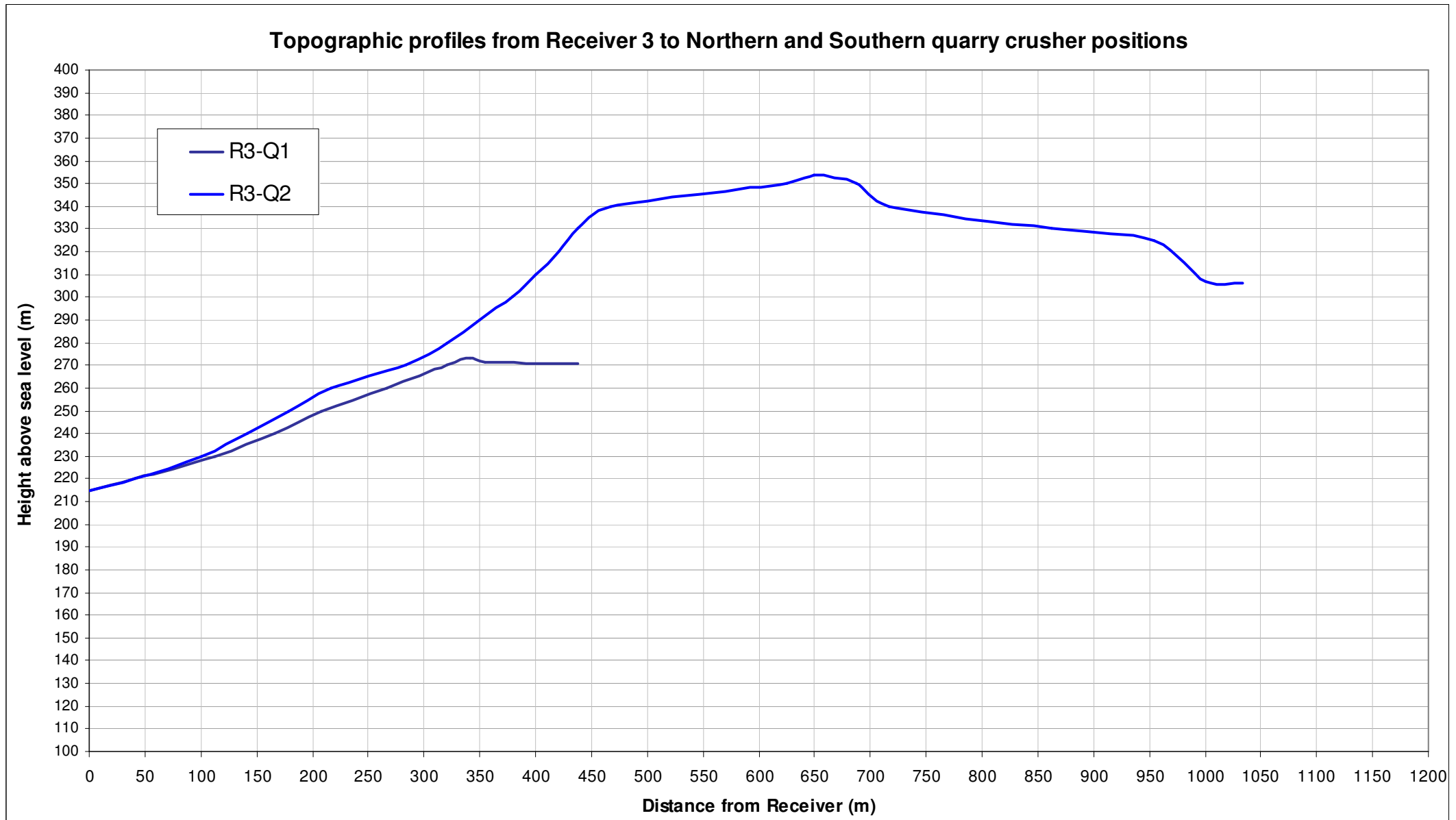
Location – topographic map showing quarry crusher and nearest sensitive receiver locations



Sourced from ArcGIS <https://arcg.is/1Wvaqm> 14/12/2017







12.3. Appendix C – Blasting Impacts Report

FORZE EXPLOSIVE SERVICES

BLAST MANAGEMENT PLAN

TRELOAR TRANSPORT

MVC QUARRY, DUNORLAN



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CUSTOMER DETAILS

CUSTOMER NAME: TRELOARS TRANSPORT	CUSTOMER CONTACT: Nigel Beeke
CUSTOMER PHONE No: 0409 067 573	CUSTOMER EMAIL: nbeeke@treloartransport.com.au

BLAST SUMMARY

BLAST DATE(S):	TO BE ADVISED STILL IN PLANNING
BLAST TIME(S):	10:00 - 16:00
BLAST LOCATION:	MVC QUARRY, DUNORLAN
BLAST OBJECTIVE:	Quarry Blasting - Rock Removal using Explosives

INVOLVED PERSONNEL - FORZE

FOR EACH BLAST, 4 X PERSONEL FROM FORZE PTY LTD WILL BE UTILISED, CONSISTING OF TWO SHOTFIRERS AND TWO ASSISTANT SHOT FIRERS. TRELOARS WILL ASSIST IN PROVIDING BLAST GUARDS IF REQUIRED. - **PROCEDURE ATTACHED.**

FORZE PTY LTD SHOTFIRERS

NAME: GEORGE McEVOY	SHOT FIRER LICENCE No: 91562
RESPONSIBLE WORKER ID: 1447010	SSDS PERMIT No: 10008
PHONE NUMBER: 0458 602 803	EMAIL: george@forze.com.au
HR DRIVERS LICENCE: 5632331	DANGEROUS GOODS LICENCE: 1518463
NAME: DANIEL CRANE	SHOT FIRER LICENCE No: 91146
RESPONSIBLE WORKER ID: 44	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 473 388	EMAIL: danielc@forze.com.au
HR DRIVERS LICENCE: F14501	DANGEROUS GOODS LICENCE: 1579
NAME: RICHARD GADD	SHOT FIRER LICENCE No: 91106
RESPONSIBLE WORKER ID: 1316	SSDS PERMIT No: 10008
PHONE NUMBER: 0417 772 288	EMAIL: richard@forze.com.au
HR DRIVERS LICENCE: 103 387 797	DANGEROUS GOODS LICENCE: 1193325

FORZE PTY LTD ASSISTANT SHOTFIRERS

NAME: MARTY ANSELL	SHOT FIRER LICENCE No: TBA
RESPONSIBLE WORKER ID: TBA	SSDS PERMIT No: 10008
PHONE NUMBER: 0415 604 023	EMAIL: marty@forze.com.au
NAME: DAVE SHACKCLOTH	SHOT FIRER LICENCE No: N / A
RESPONSIBLE WORKER ID: 9958 894	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 135 430	EMAIL: david@forze.com.au

BLAST DESIGN

MATERIAL TO BE BLASTED: CHERT CONGLOMERATE	MATERIAL SG: 2.6	BCM: 5,000	TONNES: 13,000
NUMBER OF HOLES: 135	HOLE DIAMETER: 89mm	BURDEN: 2.3m	SPACING: 2.5m
AVE HOLE DEPTH: 6.5	SUBDRILL DEPTH: 0.5	STEMMING MATERIAL: 10 mm	STEMMING HEIGHT: 2.2

NOTE: THESE PARAMETRES ARE BASED ON FORZE INITIAL DESIGN AND ARE SUBJECT TO CHANGE DEPENDING ON BLAST RESULTS.

INITIATION SEQUENCE

NOTE: INITIATION PLAN MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

EXPLOSIVE CHARGING

DOWNHOLE DETONATORS

COMPANY: NITRO SIBIR	PRODUCT NAME: MAXNEL MS	EXPLOSIVE CHARGE: 0.135g	MSDS: ATTACHED
----------------------	-------------------------	--------------------------	----------------

PRIMERS

COMPANY: MAXAM	PRODUCT NAME: RIONEL 150g BOOSTER	EXPLOSIVE CHARGE: 20.25kg	MSDS: ATTACHED
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BULK EXPLOSIVE

COMPANY: FORZE P/L	PRODUCT NAME: EMULSION	EXPLOSIVE CHARGE: 4320kg	MSDS: ATTACHED
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INITIATION

COMPANY: NITRO SABIR	PRODUCT NAME: MAXINEL ELECTRIC	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
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SURFACE DETONATORS

COMPANY: NITRO SABIR	PRODUCT NAME: MAXNEL	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
COMPANY:	PRODUCT NAME:	EXPLOSIVE CHARGE:	MSDS:

BLAST TOTALS (BASED OFF A 135 Blast hole Shot with an Average depth of 6.5m and a 2.2m stem height

TOTAL EXPLOSIVE CHARGE: 4,340.5kg	MASS INSTANTANEOUS CHARGE (MIC): 64kg	POWDER FACTOR: 0.85
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NOTE: ACTUAL USAGE MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

BLAST DEMARCATION AND SIGNAGE

PRIOR TO COMMENCEMENT OF WORK, FORZE PERSONNEL WILL DEMARCAT THE BLAST AREA USING REFLECTIVE WITCHES HATS AT A DISTANCE NO MORE THAN 10 METERS APART, AND "BLAST AREA" SIGNS NO MORE THAN 50 METRES APART. ALL LIVE EDGES WITH A DROP GREATER THAN 1.5 METRES HIGH WILL BE IDENTIFIED WITH PINK MARKER PAINT 1.8 METRES FROM THE FACE. AREAS PAST THIS LINE ARE "NO GO" AREAS, AND MUST NOT BE ENTERED WITHOUT THE COMPLETION OF A FORZE JHA.

CUSTOMER/EXTERNAL CONTRACTOR ACTIVITY WITHIN BLAST AREA

NO CUSTOMER OR EXTERNAL CONTRACTORS ARE TO ENTER THE DEMARCATED BLAST AREA WITHOUT APPROVAL FROM SHOTFIRER. ANY ACTIVITY PERFORMED INSIDE DEMARCATED BLAST AREA BY CUSTOMER OR EXTERNAL CONTRACTOR MUST BE WITHIN VIEW OF FORZE EMPLOYEES AT ALL TIMES. STOPPING PLACEMENT SHALL BE ORGANISED PRIOR TO BLAST AREA

COMMUNICATION

BLAST AREA COMMUNICATION

FORZE SHOTFIRER IS TO CARRY UHF AT ALL TIMES, AND MUST ADVISE CUSTOMER OF UHF CHANNEL TO BE USED PRIOR TO ENTERING BLAST AREA. PHONES CAN BE USED WITHIN BLAST AREA, HOWEVER ALL ELECTRONIC DEVICES MUST BE SEPARATED FROM ELECTRIC DETONATORS PRIOR TO TIE UP AND INITIATION.

EXTERNAL COMMUNICATION

PRIOR TO BLASTING, FORZE ADMINISTRATION WILL CONTACT POLICE RADIO ROOM, LOCAL COUNCIL AND WASTE CENTER TO NOTIFY OF BLAST VIA PHONE AND EMAIL.

BLAST ZONE MAP

NOTE: A VISUAL OF THE BLAST AREA IS REQUIRED BY THE SHOT FIRER AT ALL TIMES(IF SAFE TO DO SO) WHEN FIRING, TO ENSURE THAT NO UNAUTHORISED PERSONNEL CAN ENTER BLAST SITE.

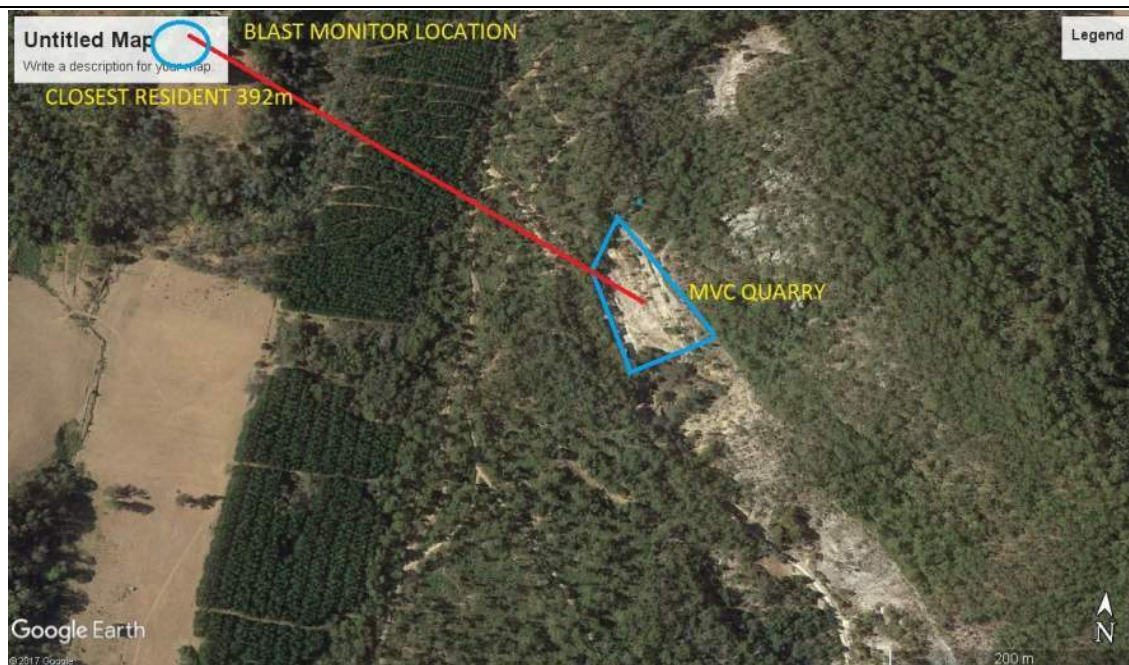


BLAST GUARDING PROCESS

1. UPON COMPLETION OF LOADING BLAST THE SHOTFIRER WILL INSTRUCT THE BLAST GUARDS TO HEAD INTO THERE NOMINATED POSITIONS AS DISCUSSED IN THE PRE BLAST MEETING, AND CLOSE OFF ACCESS.
 2. ONCE ALL BLAST GUARDS HAVE CONFIRMED THEY ARE IN POSITION WITH THERE ACCESS BLOCKED AND SECURE, THE SHOTFIRER OR FORZE DELEGATE SHALL CLEAR THE EXCLUSION ZONE, ENSURING ALL AREAS WITHIN THE ZONE ARE CHECKED AND CLEARED.
 3. AFTER FIRING THE BLAST, ALL BLAST GUARDS ARE TO REMAIN IN POSITION UNTIL THE SHOTFIRER GIVES THE ALL CLEAR.
- NOTE:** ALL RADIO CALLS MADE BY SHOT FIRER AND BLAST GUARDS ARE TO COMPLY WITH THE FORZE PTY LTD PROCEDURE, UNLESS OTHERWISE ALTERED WITHIN A SWMS OR JHA.

ENVIRONMENTAL CONSIDERATIONS

DISTANCE TO NEAREST STRUCTURE (METRES):	392 m
DISTANCE TO POWERLINES (METRES):	N / A
DISTANCE TO UNDERGROUND SERVICES (METRES):	N / A



NOISE AND VIBRATION LIMITS

VIBRATION AND NOISE MANAGEMENT

ALL BLASTS WILL BE CARRIED OUT IN ACCORDANCE WITH BLASTING BEST PRACTICES ENVIRONMENTAL MANAGEMENT (BPEM) PRINCIPLES, AND MUST BE CARRIED OUT SUCH THAT WHEN MEASURED AT CURTILAGE OF ANY RESIDENCE (OR OTHER NOISE

1. FOR 95% OF BLASTS, AIR PRESSURE MUST NOT EXCEED 115dB (LIN PEAK)
2. AIR BLAST PRESSURE MUST NOT EXCEED 120dB (LIN PEAK);
3. FOR 95% OF BLAST, GROUND VIBRATION MUST NOT EXCEED 5mm/Sec PEAK PARTICLE VELOCITY; AND
4. GROUND VIBRATION MUST NOT EXCEED 10mm/Sec PEAK PARTICLE VELOCITY.

ALL MEASUREMENTS OF AIRBLAST OVERPRESSURE AND PEAK PARTICLE VELOCITY MUST BE CARRIED OUT IN ACCORDANCE WITH METHODS SET DOWN IN TECHNICAL BASIS FOR GUIDELINES TO MINIMISE ANNOYANCE DUE TO BLASTING OVERPRESSURE AND GROUND VIBRATION, AUSTRALIAN AND NEW ZEALAND ENVIRONMENTAL COUNCIL, SEPTEMBER 1990.

TOXIC FUME MANAGEMENT

TOO MINIMISE THE RISK OF NOX FUME, ANFO WILL NOT BE USED WHERE WATER IS PRESENT, REGULAR DENSITY CHECKS WILL BE PERFORMED FOR BULK PRODUCTS TO ENSURE QUALITY CONTROL, AND A MAXIMUM SLEEP TIME OF 24 HOURS HAS BEEN SET FOR

DUST MANAGEMENT

WHERE DUST IS IDENTIFIED AS A RISK TO HEALTH OR SAFETY, THE ISSUE SHALL BE ADDRESSED VIA THE SATURATION OF STEMMING MATERIAL USING WATER HOSE, AND IN ADDITION ALL PERSONNEL WITHIN BLAST AREA TO WILL WEAR DUST MASKS.

BLAST AREA PPE REQUIREMENTS

MINIMUM PPE REQUIREMENTS FOR ENTRY INTO DEMARCATED BLAST AREA:

* HIGH VISIBILITY CLOTHING	* SAFETY GLASSES
* STEEL CAPPED WORK BOOTS	* HARD HAT

BLAST RECORDS AND REPORTING

PRIOR TO ENTERING SITE, FORZE WILL COMPLETE THE FOLLOWING

SAFE WORK METHOD STATEMENT	TO BE READ AND REVIEWED ON BENCH PRIOR TO COMMENCEMENT OF WORK.
BLAST MANAGEMENT PLAN	TO BE COMMUNICATED TO CUSTOMER AND ALL RELEVANT FORZE PERSONNEL.
DRILL PLAN	TO BE EMAILED TO DRILLING CONTRACTOR.
BLAST DESIGN	TO BE COMPLETED VIA FORZE TECHNICAL SERVICES

DURING LOADING AND INITIATION OF BLAST

DRILL DEPTH LOG	TO MEASURE AND RECORD EACH HOLE TO ENSURE CORRECT DEPTH (BACKFILL IF REQUIRED).
LOAD LOG	TO RECORD AMOUNT OF PRODUCT LOADED IN EACH HOLE
LOAD MANIFEST	TO COMPLETE LOAD MANIFEST DOCUMENT FOR TRANSPORT TO AND FROM SITE.
PRODUCT CONSOLIDATION	TO CONSOLIDATE EXPLOSIVE USE PRIOR TO INITIATION TO ENSURE ALL PRODUCT ARE ACCOUNTED FOR.

DURING LOADING AND INITIATION OF BLAST

EXPLOSIVE USAGE	TO BE COMPLETED AS RECORD OF EXPLOSIVES USED ON BLAST
BLAST REPORT	TO BE COMPLETED AS RECORD OF BLAST PARAMETRES AND ACTUAL DESIGN
BLAST VIDEO	TO BE REVIEWED FOR QUALITY CONTROL AND SAVED IN RECORDS

REFERENCES

SDS REGISTER

1. FORZE - ANFO	SEE ATTACHED
2. ORICA - ENDURADET	SEE ATTACHED
3. ORICA PENTEX PRIMER	SEE ATTACHED
4. NITRO SIBIR - MAXIDRIVE	SEE ATTACHED
5. NITRO SIBIR - INSTANTANEOUS ELECTRIC DETONATOR	SEE ATTACHED

PROCEDURES

1. FORZE - BLAST GUARDING PROCEDURE	SEE ATTACHED
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Airblast calculator



Charge (kg)

33

Dist (m)

390

Scaled distance

$D / W^{0.5}$

68

Airblast		114	dBL	Using 20 Log* formula	
185X1000(Q ^{0.333} /R) ^{1.2}	Airblast -unconfined	1	kPa	89	dBL
3.3X1000(Q ^{0.333} /R) ^{1.2}	Airblast -in blastholes	0.0	kPa	53	dBL

N.B the airblast predictions are only relevant to free face opencut blasting shots with traditional face burdens and patterns



Parameters	Units
Hole Depth (m)	6.5
Diameter (mm)	89
Stemming (m)	2.2
Burden (m)	2.3
Spacing (m)	2.5
Volume per hole (m3)	37.375
Subdrill (m)	0
Charge Length (m)	4.3
Explosive Density (t/m3)	1.2
Charge per hole (kg)	32.10
Powder Factor (kg/m3)	0.86
Holes firing 8ms Window	2
K factor	1450
b	1.6
Distance to Residence (D)	390
Distance to Monitor (D)	390
MIC (W)	64.20
Vibration House Site (PPV - mm/s)	2.90
Vibration Monitor Location (PPV - mm/s)	2.90

FORZE EXPLOSIVE SERVICES

BLAST MANAGEMENT PLAN

TRELOARS TRANSPORT

PUNCHES TERROR QUARRY, DUNORLAN

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CUSTOMER DETAILS

CUSTOMER NAME: TRELOARS TRANSPORT	CUSTOMER CONTACT: Nigel Beeke
CUSTOMER PHONE No: 0409 067 573	CUSTOMER EMAIL: nbeeke@treloartransport.com.au

BLAST SUMMARY

BLAST DATE(S):	TO BE ADVISED STILL IN PLANNING
BLAST TIME(S):	10:00 - 16:00
BLAST LOCATION:	PUNCHES TERROR QUARRY, DUNORLAN
BLAST OBJECTIVE:	Quarry Blasting - Rock Removal using Explosives

INVOLVED PERSONNEL - FORZE

FOR EACH BLAST, 4 X PERSONEL FROM FORZE PTY LTD WILL BE UTILISED, CONSISTING OF TWO SHOTFIRERS AND TWO ASSISTANT SHOT FIRERS. TRELOARS WILL ASSIST IN PROVINDING BLAST GUARDS IF REQUIRED. - **PROCEDURE ATTACHED.**

FORZE PTY LTD SHOTFIRERS

NAME: GEORGE McEVOY	SHOT FIRER LICENCE No: 91562
RESPONSIBLE WORKER ID: 1447010	SSDS PERMIT No: 10008
PHONE NUMBER: 0458 602 803	EMAIL: george@forze.com.au
HR DRIVERS LICENCE: 5632331	DANGEROUS GOODS LICENCE: 1518463
NAME: DANIEL CRANE	SHOT FIRER LICENCE No: 91146
RESPONSIBLE WORKER ID: 44	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 473 388	EMAIL: danielc@forze.com.au
HR DRIVERS LICENCE: F14501	DANGEROUS GOODS LICENCE: 1579
NAME: RICHARD GADD	SHOT FIRER LICENCE No: 91106
RESPONSIBLE WORKER ID: 1316	SSDS PERMIT No: 10008
PHONE NUMBER: 0417 772 288	EMAIL: richard@forze.com.au
HR DRIVERS LICENCE: 103 387 797	DANGEROUS GOODS LICENCE: 1193325

FORZE PTY LTD ASSISTANT SHOTFIRERS

NAME: MARTY ANSELL	SHOT FIRER LICENCE No: TBA
RESPONSIBLE WORKER ID: TBA	SSDS PERMIT No: 10008
PHONE NUMBER: 0415 604 023	EMAIL: marty@forze.com.au
NAME: DAVE SHACKCLOTH	SHOT FIRER LICENCE No: N / A
RESPONSIBLE WORKER ID: 9958 894	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 135 430	EMAIL: david@forze.com.au

BLAST DESIGN

MATERIAL TO BE BLASTED: CHERT CONGLOMERATE	MATERIAL SG: 2.6	BCM: 10,000	TONNES: 26,000
NUMBER OF HOLES: 205	HOLE DIAMETER: 89mm	BURDEN: 2.3m	SPACING: 2.5m
AVE HOLE DEPTH: 8.5	SUBDRILL DEPTH: 0.5	STEMMING MATERIAL: 10 mm	STEMMING HEIGHT: 2.2

NOTE: THESE PARAMETRES ARE BASED ON FORZE INITIAL DESIGN AND ARE SUBJECT TO CHANGE DEPENDING ON BLAST RESULTS.

INITIATION SEQUENCE

NOTE: INITIATION PLAN MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

EXPLOSIVE CHARGING

DOWNHOLE DETONATORS

COMPANY: NITRO SIBIR	PRODUCT NAME: MAXNEL MS	EXPLOSIVE CHARGE: .205g	MSDS: ATTACHED
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PRIMERS

COMPANY: MAXAM	PRODUCT NAME: RIONEL 150g BOOSTER	EXPLOSIVE CHARGE: 30.75kg	MSDS: ATTACHED
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BULK EXPLOSIVE

COMPANY: FORZE P/L	PRODUCT NAME: EMULSION	EXPLOSIVE CHARGE: 9635kg	MSDS: ATTACHED
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INITIATION

COMPANY: NITRO SABIR	PRODUCT NAME: MAXINEL ELECTRIC	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
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SURFACE DETONATORS

COMPANY: NITRO SABIR	PRODUCT NAME: MAXNEL	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
COMPANY:	PRODUCT NAME:	EXPLOSIVE CHARGE:	MSDS:

BLAST TOTALS (BASED OFF A 205 Blast hole Shot with an Average depth of 8.5m and a 2.2m stem height.

TOTAL EXPLOSIVE CHARGE: 9665kg	MASS INSTANTANEOUS CHARGE (MIC): 94.4kg	POWDER FACTOR: 0.96
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NOTE: ACTUAL USAGE MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

BLAST DEMARCATION AND SIGNAGE

PRIOR TO COMMENCEMENT OF WORK, FORZE PERSONNEL WILL DEMARCAT THE BLAST AREA USING REFLECTIVE WITCHES HATS AT A DISTANCE NO MORE THAN 10 METERS APART, AND "BLAST AREA" SIGNS NO MORE THAN 50 METRES APART. ALL LIVE EDGES WITH A DROP GREATER THAN 1.5 METRES HIGH WILL BE IDENTIFIED WITH PINK MARKER PAINT 1.8 METRES FROM THE FACE. AREAS PAST THIS LINE ARE "NO GO" AREAS, AND MUST NOT BE ENTERED WITHOUT THE COMPLETION OF A FORZE JHA.

CUSTOMER/EXTERNAL CONTRACTOR ACTIVITY WITHIN BLAST AREA

NO CUSTOMER OR EXTERNAL CONTRACTORS ARE TO ENTER THE DEMARCATED BLAST AREA WITHOUT APPROVAL FROM SHOTFIRER. ANY ACTIVITY PERFORMED INSIDE DEMARCATED BLAST AREA BY CUSTOMER OR EXTERNAL CONTRACTOR MUST BE WITHIN VIEW OF FORZE EMPLOYEE AT ALL TIMES. STEMMING PLACEMENT SHALL BE ORGANISED PRIOR TO BLAST AREA DEMARCATION.

COMMUNICATION

BLAST AREA COMMUNICATION

FORZE SHOTFIRER IS TO CARRY UHF AT ALL TIMES, AND MUST ADVISE CUSTOMER OF UHF CHANNEL TO BE USED PRIOR TO ENTERING BLAST AREA. PHONES CAN BE USED WITHIN BLAST AREA, HOWEVER ALL ELECTRONIC DEVICES MUST BE SEPARATED FROM ELECTRIC DETONATORS PRIOR TO TIE UP ANDE INITIATION.

EXTERNAL COMMUNICATION

PRIOR TO BLASTING, FORZE ADMINISTRATION WILL CONTACT POLICE RADIO ROOM, LOCAL COUNCIL AND WASTE CENTER TO NOTIFY OF BLAST VIA PHONE AND EMAIL.

BLAST ZONE MAP

NOTE: A VISUAL OF THE BLAST AREA IS REQUIRED BY THE SHOT FIRER AT ALL TIMES(IF SAFE TO DO SO) WHEN FIRING, TO ENSURE THAT NO UNAUTHORISED PERSONNEL CAN ENTER BLAST SITE.



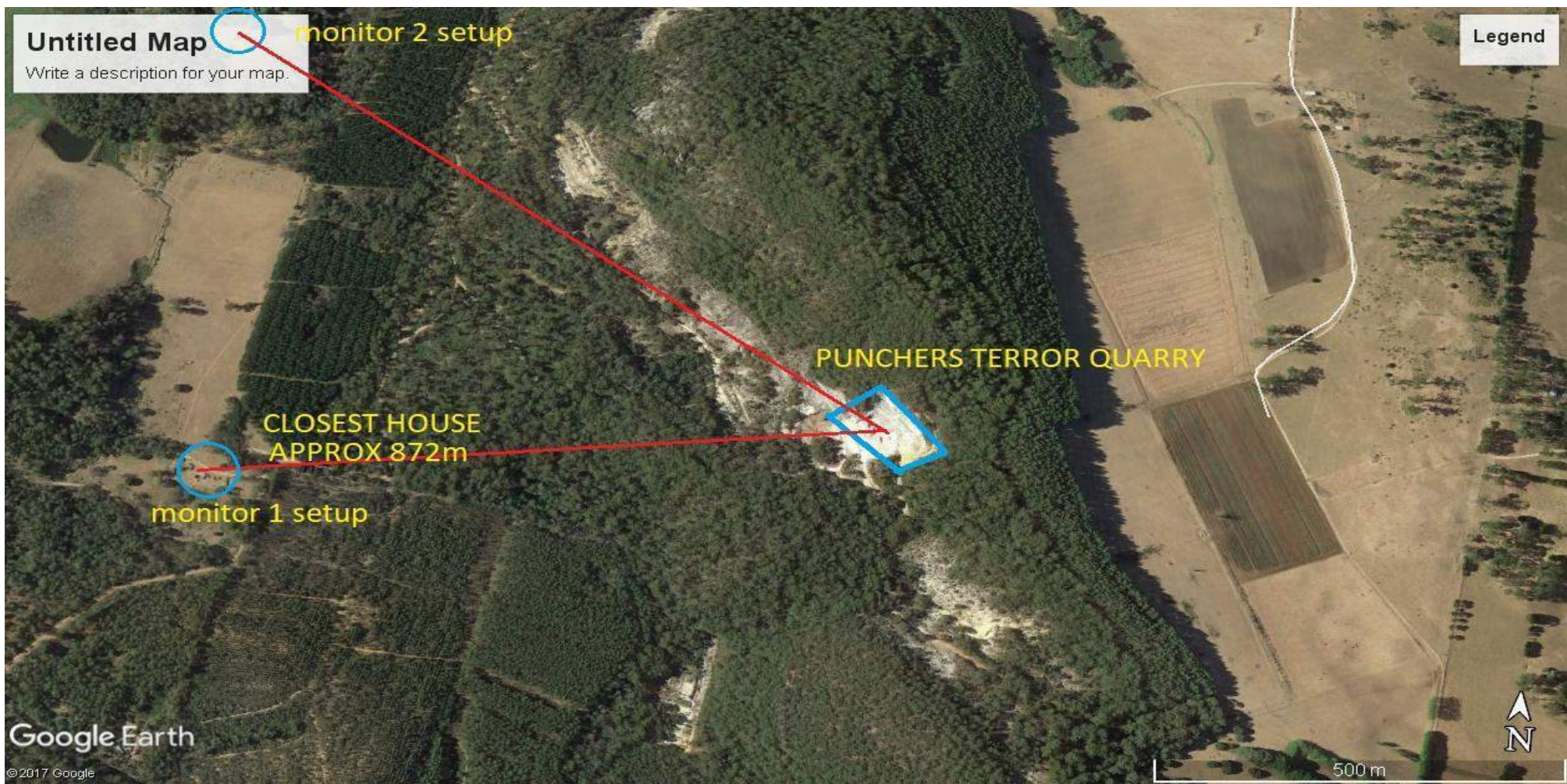
BLAST GUARDING PROCESS

1. UPON COMPLETION OF LOADING BLAST THE SHOTFIRER WILL INSTRUCT THE BLAST GUARDS TO HEAD INTO THERE NOMINATED POSITIONS AS DISCUSSED IN THE PRE BLAST MEETING, AND CLOSE OFF ACCESS.
2. ONCE ALL BLAST GUARDS HAVE CONFIRMED THEY ARE IN POSITION WITH THERE ACCESS BLOCKED AND SECURE, THE SHOTFIRER OR FORZE DELEGATE SHALL CLEAR THE EXCLUSION ZONE, ENSURING ALL AREAS WITHIN THE ZONE ARE CHECKED AND CLEARED.
3. AFTER FIRING THE BLAST, ALL BLAST GUARDS ARE TO REMAIN IN POSITION UNTIL THE SHOTFIRER GIVES THE ALL CLEAR.

NOTE: ALL RADIO CALLS MADE BY SHOT FIRER AND BLAST GUARDS ARE TO COMPLY WITH THE FORZE PTY LTD PROCEDURE, UNLESS OTHERWISE ALTERED WITHIN A SWMS OR JHA.

ENVIRONMENTAL CONSIDERATIONS

DISTANCE TO NEAREST STRUCTURE (METRES):	872 m Residential House
DISTANCE TO POWERLINES (METRES):	872m
DISTANCE TO UNDERGROUND SERVICES (METRES):	N / A



NOISE AND VIBRATION LIMITS

VIBRATION AND NOISE MANAGEMENT

ALL BLASTS WILL BE CARRIED OUT IN ACCORDANCE WITH BLASTING BEST PRACTICES ENVIRONMENTAL MANAGEMENT (BPEM) PRINCIPLES, AND MUST BE CARRIED OUT SUCH THAT WHEN MEASURED AT CURTILAGE OF ANY RESIDENCE (OR OTHER NOISE

1. FOR 95% OF BLASTS, AIR PRESSURE MUST NOT EXCEED 115dB (LIN PEAK)
2. AIR BLAST PRESSURE MUST NOT EXCEED 120dB (LIN PEAK);
3. FOR 95% OF BLAST, GROUND VIBRATION MUST NOT EXCEED 5mm/Sec PEAK PARTICLE VELOCITY; AND
4. GROUND VIBRATION MUST NOT EXCEED 10mm/Sec PEAK PARTICLE VELOCITY.

ALL MEASUREMENTS OF AIRBLAST OVERPRESSURE AND PEAK PARTICLE VELOCITY MUST BE CARRIED OUT IN ACCORDANCE WITH METHODS SET DOWN IN TECHNICAL BASIS FOR GUIDELINES TO MINIMISE ANNOYANCE DUE TO BLASTING OVERPRESSURE AND GROUND VIBRATION, AUSTRALIAN AND NEW ZEALAND ENVIRONMENTAL COUNCIL, SEPTEMBER 1990.

TOXIC FUME MANAGEMENT

TOO MINIMISE THE RISK OF NOX FUME, ANFO WILL NOT BE USED WHERE WATER IS PRESENT, REGULAR DENSITY CHECKS WILL BE PERFORMED FOR BULK PRODUCTS TO ENSURE QUALITY CONTROL, AND A MAXIMUM SLEEP TIME OF 24 HOURS HAS BEEN SET FOR ALL BLASTS FIRED.

DUST MANAGEMENT

WHERE DUST IS IDENTIFIED AS A RISK TO HEALTH OR SAFETY, THE ISSUE SHALL BE ADDRESSED VIA THE SATURATION OF STEMMING MATERIAL USING WATER HOSE, AND IN ADDITION ALL PERSONNEL WITHIN BLAST AREA TO WILL WEAR DUST MASKS.

BLAST AREA PPE REQUIREMENTS

MINIMUM PPE REQUIREMENTS FOR ENTRY INTO DEMARCATED BLAST AREA:

* HIGH VISIBILITY CLOTHING	* SAFETY GLASSES
* STEEL CAPPED WORK BOOTS	* HARD HAT

BLAST RECORDS AND REPORTING

PRIOR TO ENTERING SITE, FORZE WILL COMPETE THE FOLLOWING

SAFE WORK METHOD STATEMENT	TO BE READ AND REVIEWED ON BENCH PRIOR TO COMMENCEMENT OF WORK.
BLAST MANAGEMENT PLAN	TO BE COMMUNICATED TO CUSTOMER AND ALL RELEVANT FORZE PERSONNEL.
DRILL PLAN	TO BE EMAILED TO MAXFIELD DRILLING.
BLAST DESIGN	TO BE COMPLETED VIA FORZE TECHNICAL SERVICES

DURING LOADING AND INITIATION OF BLAST

DRILL DEPTH LOG	TO MEASURE AND RECORD EACH HOLE TO ENSURE CORRECT DEPTH (BACKFILL IF REQUIRED).
LOAD LOG	TO RECORD AMOUNT OF PRODUCT LOADED IN EACH HOLE
LOAD MANIFEST	TO COMPLETE LOAD MANIFEST DOCUMENT FOR TRANSPORT TO AND FROM SITE.
PRODUCT CONSOLIDATION	TO CONSOLIDATE EXPLOSIVE USE PRIOR TO INITIATION TO ENSURE ALL PRODUCT ARE ACCOUNTED FOR.

DURING LOADING AND INITIATION OF BLAST

EXPLOSIVE USAGE	TO BE COMPLETED AS RECORD OF EXPLOSIVES USED ON BLAST
BLAST REPORT	TO BE COMPLETED AS RECORD OF BLAST PARAMETRES AND ACTUAL DESIGN
BLAST VIDEO	TO BE REVIEWED FOR QUALITY CONTROL AND SAVED IN RECORDS

REFERENCES

AS REQUIRED

Airblast calculator



Charge (kg)

48

Dist (m)

870

Scaled distance

D / W^0.5

126

Airblast		107	dBL	Using 20 Log* formula	
185X1000(Q^.333/R)^1.2	Airblast -unconfined	0	kPa		
3.3X1000(Q^.333/R)^1.2	Airblast -in blastholes	0.0	kPa		
				82	dBL
				46	dBL

N.B the airblast predictions are only relevant to free face opencut blasting shots with traditional face burdens and patterns



Parameters	Units
Hole Depth (m)	8.5
Diameter (mm)	89
Stemming (m)	2.2
Burden (m)	2.3
Spacing (m)	2.5
Volume per hole (m3)	48.875
Subdrill (m)	0
Charge Length (m)	6.3
Explosive Density (t/m3)	1.2
Charge per hole (kg)	47.03
Powder Factor (kg/m3)	0.96
Holes firing 8ms Window	2
K factor	1450
b	1.6
Distance to Residence (D)	870
Distance to Monitor (D)	870
MIC (W)	94.06
Vibration House Site (PPV - mm/s)	1.09
Vibration Monitor Location (PPV - mm/s)	1.09

12.4. Appendix D – Traffic Impacts Study



Treloar Transport

Dunorlan - Punchs Terror Quarry Expansion

Traffic Impact Assessment

PREPARED BY CHRIS MARTIN MIEAust, NPER3.

**Senior Civil Engineer
CSE Tasmania Pty Ltd
Tasmanian Building Act Accreditation Number: CC4109 V.**

DATE 16/10/17

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1 Introduction & Background

Treloar Transport are required to provide information on Traffic Impacts associated with quarry expansions proposed for their Punchs Terror, Dunorlan quarry operations occurring at two mining lease sites (lease numbers 28M/1990 and M/L 1007 P/M).

This document should be read alongside the Notice of Intent for the quarry expansion dated 15th of May 2017. As such the relevant general aspects of the expansion project are not repeated in this document.

The General Guidelines for the preparation of a Development Proposal and Environmental Management Plan and the Punchs Terror Project Specific DPEMP Guidelines detail requirements for the traffic assessment.

These documents state:-

In addition to the matters stipulated in Section 6.20 of the DPEMP General Guidelines, the DPEMP must contain the following:

- Information on traffic associated with the proposal; vehicle type, expected tonnages and any alternative access roads (routes).
- Maximum number of vehicle movements per day.
- Discussion of the potential impacts to nearby residences (noise and dust) due to vehicle movements to and from the site.
- Details of management measures proposed to mitigate any adverse effects due to traffic.

The relevant section of the DPEMP General Guidelines is reproduced below.

6.20 Traffic impacts

This section should identify roads to be used by vehicles associated with the proposal (both during construction and operation) and the likely volume and nature of traffic and timing of traffic flows, including details of the current usage of these roads. Impacts associated with altered traffic flows should be discussed (such as impacts on other roads users and residences adjacent to roads).

2 Statement of Qualifications and Experience

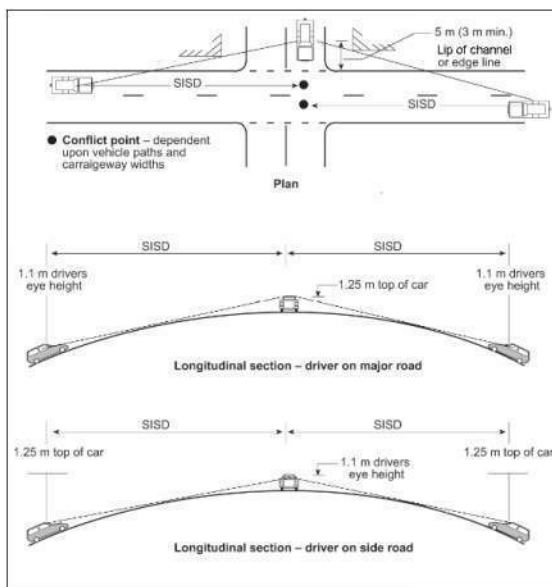
This TIA has been prepared by an experienced and qualified Civil Engineer with significant experience in Traffic Impact Assessments and Road Safety Audits in accordance with the requirements of Council's Planning Scheme and The Department of State Growth's, A Framework for Undertaking Traffic Impact Assessments, September 2007.

This TIA was prepared by Chris Martin. Chris's experience and qualifications are briefly outlined as follows:

- Bachelor of Civil Engineering with Honours, University of Tasmania 1992
- 24 years professional experience as a Civil Engineer in infrastructure design
- Master of Business Administration (Technology Management) Latrobe University 2007
- Career experience includes design of many subdivisions, 2.5 years Council Engineer, 14 years in civil and structural consulting and 6 years in major infrastructure engineering positions.

3 Assessment Requirements

I assessed the site conditions to The Austroads AGRD04A/09 Guide to Road Design Part 4A:Unsignalised and Signalised Intersections. This standard (table 3.2) requires that Safe Intersection Sight Distances (SISD) of 114, 141, 170 and 201m be provided for design speeds of 60, 70, 80 and 90 km/hr, a reaction time of 1.5s and an eye height of 1.1m to a truck at 2.4m. A reaction time of 1.5 seconds is permitted in this instance as the road is rural and the alignment contains many horizontal curves.



The Guide to Road Design Part 3: Geometric Design section 5.3 discusses the use of Stopping Site Distance (SSD) as the distance to enable a normally alert driver, travelling at the design speed on wet pavement, to perceive, react and brake to a

stop before reaching a hazard on the road ahead. The provision of SSD is a mandatory design condition for all roads and intersections in the normal design domain. The Guide nominates SSD for design speeds of 60, 70, 80 and 90km/hr a coefficient of deceleration of 0.36 and a reaction time of 2s as 73, 92, 114 and 139m.

4 Location and Transport Routes

The locations of the quarries, off Beaumont's Rd, Weegena, are shown in Figure 1 below. Figure 4 shows the proposed transport routes.

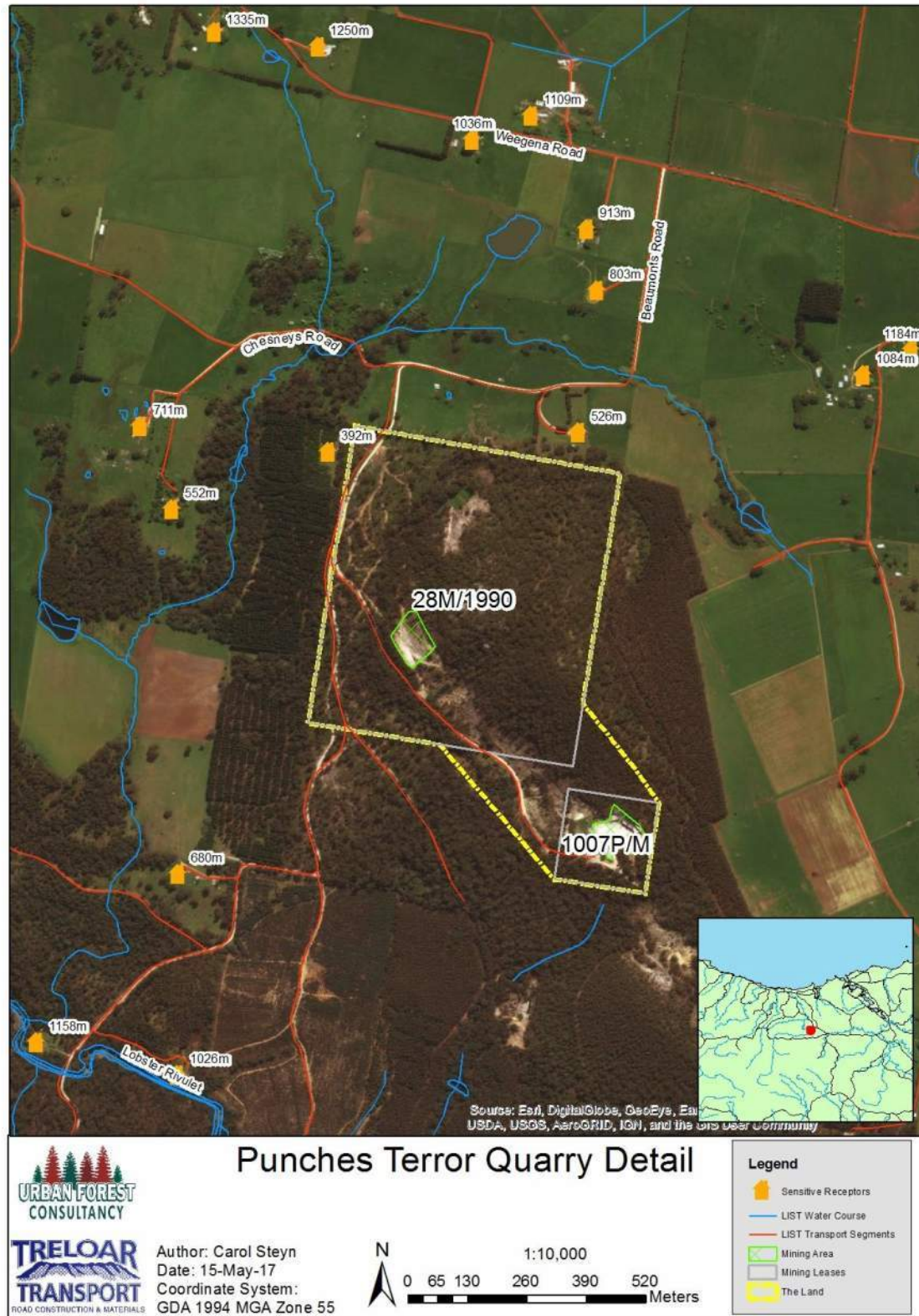


Figure 1 – Plan showing general location of quarries; “The Land” outlined in yellow and lease boundaries

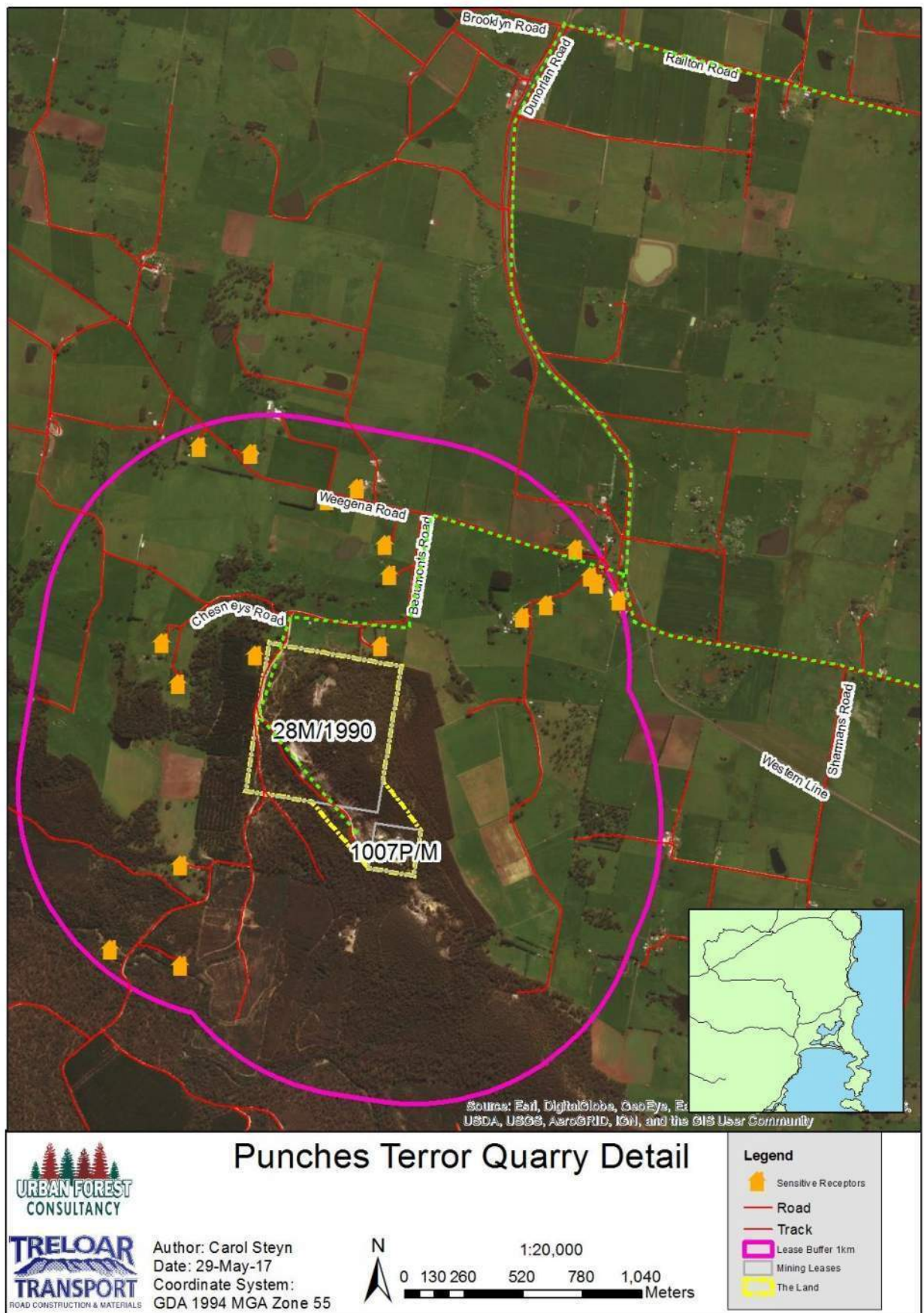


Figure 2 - Transport routes shown in a green dashed line, 50% of material moves northbound on Dunorlan road and 50% moves southbound on Dunorlan Road

4.1 Road Network

A site inspection on 18/8/2017 examined the existing road Network.

Internal Intersection – Beaumonts Road

Beaumonts road forks on the west side of the mining lease. With traffic heading south the left term serves the lease and the southern access serves an area of approx. 770Ha. This area is predominantly utilized for forestry activities and bounded to the west by the Mersey River and the east by Lobster Rivulet. According to aerial photos there are 4 houses/farms serviced by the road extending beyond the intersection to the south.

The east fork of Beaumonts road is the better constructed wider road indicating past work to accommodate the truck and trailer combinations hauling from the Punchs Terror quarries.



Beaumonts road at the intersection is similar to the other gravel roads in the area at 4m wide. The trucking route gravel road is in good condition.

The angle of this intersection is nominally 20 degrees which does not comply with the recommended intersection angles not less than 70 degrees contained in older versions of the Austroads Part 5 Intersections at Grade. The current Austroads

AGRD04A 09 Guide to Road Design Part 4A: Unsignalised and Signalised Intersections outlines that intersection should be as close as possible to 90 degrees to make visibility of the road easier for all parties approaching intersections. The older driver demographic particularly finds it difficult to look behind for vehicles approaching.

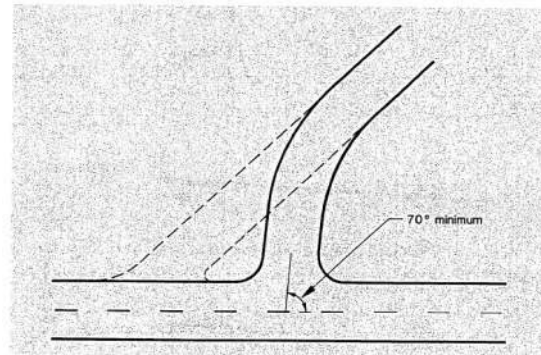
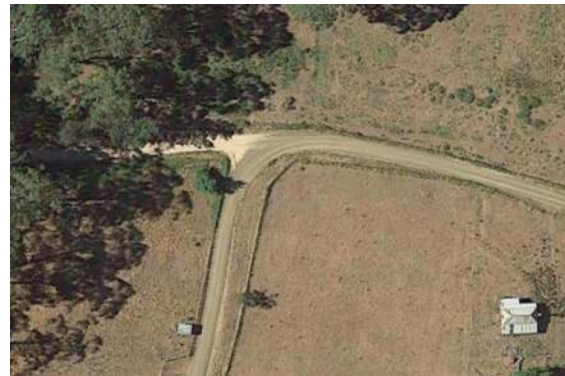


FIGURE 5.4 Treatment of Low Angle Intersection

Chesneys/Beaumonts Road Intersection

The intersection between Chesneys Road and Beaumonts Road is some 440m north of the first intersection.

The Chesney Road intersection with Beaumonts Road occurs as Beaumonts road turns from a northerly direction 90 degrees to the east. From the appearance of the gravel surface Beaumonts Road is the priority road.



Chesneys road serves an additional 3 rural properties that appear to have occupied houses on them.

Google earth identifies that Chesneys Road serves the Whispering Hills retreat and a small number of houses. Chesneys road loops back to Weegeena Road.



Sight line to the south of the intersection runs to 160m before being obscured by vegetation. Road width on Beaumonts road is 4.5m.

Chesney Road runs to the west of the intersection on a windy narrow gravel road. Vehicles approaching the intersection will be at low speed climbing a moderate grad from some tight corners. A Giveway Sign would be beneficial to raise awareness of Chesneys Road vehicles as the approach the intersection. It is estimated that the trucks will approach the corner/intersection at about 30km/hr.



Sight line on Chesney Road to a Giveway sign would be about 90m. Clear views from Chesney Road along Beaumonts road are available for 160m to the south and 280m to the east. 160m is equivalent to the Safe Intersection Sight Distance for a design speed of between 70 and 80km per hour which is well in excess of the approach speed.

Chesney road is 3.5m gravel width providing a closed environment promoting slow speeds.

The worst case risk scenario for this intersection is a vehicle travelling east on Chesneys failing to slow and Giveaway to a truck approaching from the south. Clearance of vegetation on the fenceline in this area would assist in providing advance warning that vehicles are approaching. The photo below shows that views on this approach are compromised by vegetation growth only.



Recommendation 1

Maintain fence lines clear of vegetation, Install a give way sign making it clear that the Chesneys road traffic does not have priority to enter the intersection.

Beaumont Road and Weegeena road intersection

500m east of the Chesney and Beaumont road intersections Beaumont road diverts 470m at 90degrees to the north before hitting Weegeena Road. 2 more houses are serviced by Beaumont road. Beaumont road width varies between 3.6m and 4m of gravel pavement with limited gravel shoulders.

As Beaumont road approaches Weegeena road its width increases to 4.5m.

Weegeena Road is sealed at 5.3m width to the east of the intersection.



Treloar Transport confirmed that trucks are not expected to turn west on Weegena Road as the road is steep and contains sharp corners leading down to Kimberley. All trucks turn right to the east travelling 950m before hitting the Dunorlan Road intersection. The gravel markings in the photo above confirm that the majority of truck movements are to the east towards Dunorlan.



Design Speed of Weegena Road is expected to be around 90km/hr. There is good visibility (Exceeds 200m) in both directions at the intersection for a truck looking to turn onto Weegena Road.



Weegena Road drainage on the south side of the road between the Beamont and Dunorlan roads is deficient in that it allows water to lay in the table drain up next to the seal during relatively dry weather. Pavement deformation is not evident on the south side of the road yet but can be expected with the heavy truck loading required from the road in the future.

The north side of the road shows significant deformation in the area expected to be the top side of the spring shown in the photos above. Heavy loading on this will see further pavement deformation.



Recommendation 2 Provide adequate table drains to remove water from the pavement at this location.

Dunorlan/Weegen Road Intersection

The Dunorlan Road Intersection is not ideal in its geometry – refer aerial photo below. This intersection is at approx 37 degrees. Trucks descend a hill (Approx grade less than 5%). If making a sharp left turn and heading towards Railton it is expected that the trucks and trailers will cross over the nominal centre line of one or both roads at the start and finish of the turn.



The intersection shows a faint white line indicating a past attempt to designate the straight through road as the priority road. The straight through section consists of Dunorlan road to the south and Weegen road to the north.



Weegen Road at the start of the intersection is 6.1m wide. Trucks undertaking the sharp right turn from the Railton direction onto Weegen road are on occasions running over the edge of the road causing edgebreak.

Once out of the corner on Dunorlan road the pavement reduces to 5m.



Recommendation 3 – provide white hold line and a giveaway sign at the Dunorlan intersection to formalize priority to the through road. Extend pavement to reduce edgebreak.

Beyond these intersections the road conditions are generally considered too remote from the development and further assessment of the wider network is not warranted.

5 Proposed Traffic

The following points are relevant from the Notice of Intent:-

Typical equipment on site will be:

- Face loader: 20t Cat excavator
- Crusher: Terex mobile crusher / screen
- Stockpile Loader: Cat 950
- Trucks: Truck and dog combination 30t capacity

Treloars advise that they seek to increase output about 1.8 times from 17,600 tonnes to 32,000 tonnes. Assuming all cartage is by 32 t capacity truck and dogs there will be 1000 truck movements out per annum as a maximum. This represents an increase in truck and dog numbers of 450 per annum.

The heaviest concentration of traffic from expanded production would typically be 20 truck movements a day for several weeks over several campaigns per year.

It is proposed that operating hours will be 0700 to 1700 Monday to Friday and 0800 to 1500 on Saturday. This corresponds to normal work hours during which there is a greater likelihood that the houses in the vicinity of the road network will not be occupied with occupants at school or work.

Traffic distribution anticipated for the development is 50% sold to the North on Dunorlan road and 50% to the south.

6 Traffic Issues

One environmental issue associated with the Traffic will be dust generation from trucks on the access road during periods of relatively heavy truck traffic whilst a campaign is in progress. This impact will be reduced in sensitive areas by limiting vehicle speeds and utilising a water truck when necessary.

Most of the houses along these roads are well away from the road with the exception of some on Weegen Road and in Dunorlan. These houses are on a sealed road and will not be significantly impacted by the additional trucking movements.

The houses in the vicinity of the gravel access Beaumonts Road are well back from the road and are unlikely to be affected by additional noise or dust.

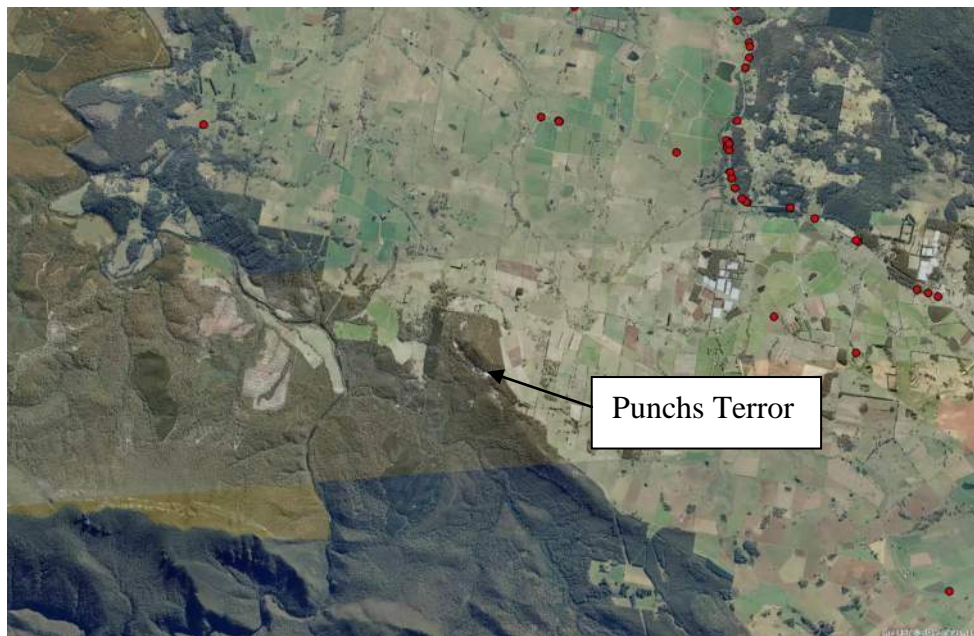
7 Accident History

8 Road Safety Performance

Crash data provides valuable information on road safety performance. Existing road safety deficiencies can be highlighted through the examination of crash data, which can assist in determining whether traffic generation from the proposed development may exacerbate any identified issues.

The Department of State Growth DSG accident database collects all accident data in the state from 2003.

The Manager of Crash Data advised that there is no recorded history of crash data in the area. He provided the attached showing red dots at past accidents. All are too remote from the site to provide any indication of inherent issues which may be exacerbated as a result of the increase in truck activity from Punchs Terror.



9 Conclusion

The increase in truck movements from the quarry proposed by Treloar Transport will increase the truck loading on the road network particularly through to Dunorlan which will be used by every truck.

A number of recommendations have been made to improve road structure and awareness of intersections which are presently not clearly marked.

The issues identified are consistent with the other areas of the rural road network. Some safety gains will be made if the recommendations are followed.

12.5. Appendix E – Relevant Company Procedures







Fire prevention and control on worksites

Purpose: Safe practice to prevent or control fire on worksites to prevent injury to personnel and minimise damage to property, plant and equipment

Pre-requisites

1. Project risk assessment for each worksite
2. Clear understanding of control measures
3. Emergency assembly area defined for each worksite
4. Evacuation plan in place on all worksites
5. Regular emergency evacuation drills

Hazard management

	Beware	Heavy equipment and vehicles in the area	Ensure appropriate signage is in place Follow safe procedures Stay alert for vehicular traffic at all times
	Flammable	Flammable and combustible substances being handled, transported or stored on site	Train workers in safe Chemical Handling Procedures Wear appropriate P.P.E Follow safe evacuation procedures Store dangerous substances appropriately Ensure warning signs are visible and clear
	Dust or smoke inhalation	Possibility of fine dust and heavy smoke in area	Follow safe evacuation procedures Wear appropriate P.P.E
	Manual Handling	Using fire fighting equipment	Train workers in safe use of fire fighting equipment
	Heat	Fighting fires	Safe firefighting
	Trips, slips and falls	Moving around potentially dangerous areas	Follow safe procedures Remain alert for obstacles at all times

P.P.E requirements

	High visibility clothing		Steel capped boots as required
Other PPE as determined by job/site requirements			

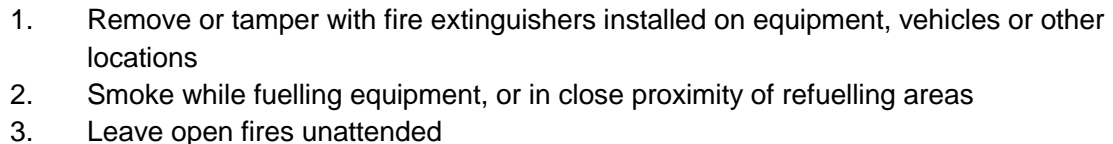
Relevant Workplace Documentation

Document code	Description
	Hazard / Incident Report Form as required
	Safety Data Sheets (SDS)
	Dangerous goods manifest
	Schedule 5 of Dangerous Goods Regulations 1998

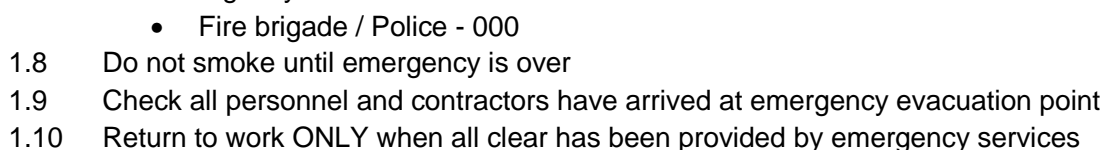
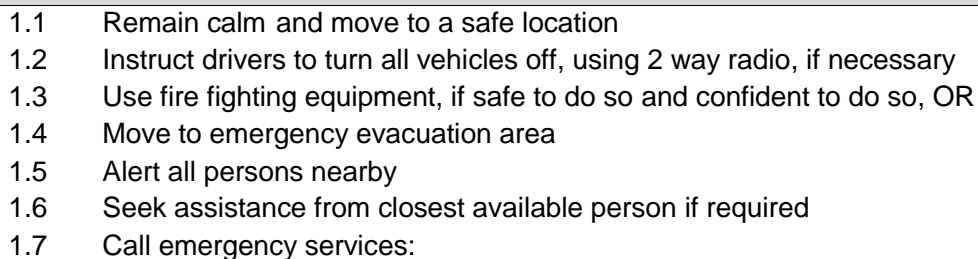
General Principles of fire prevention and control



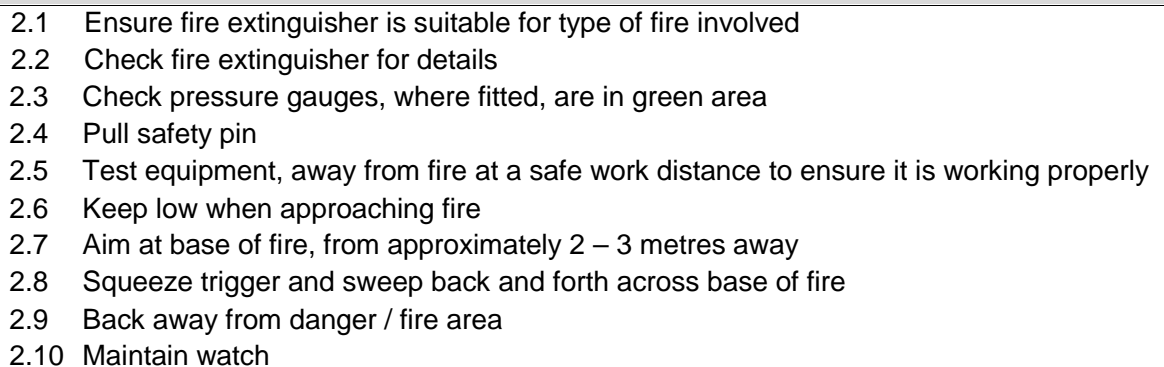
- NEVER:**




Step 1	Emergency evacuation from worksite
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Step 2	Operate fire extinguisher, if safe to do so
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	Standard Operating Procedure	Document Code: TT-SOP-31
	Storing Fuel & Chemicals Onsite	Version 2: 26/8/16
		Review Date: August 2018

Purpose: Safe practices when storing fuels and chemicals on site

Pre-requisites	
	<ol style="list-style-type: none"> 1. Training and supervision in safe chemical handling 2. Approval to handle hazardous substances and dangerous goods from supervisor or authorised delegate

Hazard management			
 	Health Hazards	Chronic (e.g. Carcinogens) Certain (e.g. Dermal Irritants)	Train staff in Safe Chemical Handling procedures Wear correct PPE Store dangerous substances appropriately Ensure warning signs are visible and clear
	Flammable	Fuel	Take care when handling / transporting flammable chemicals Wear appropriate PPE
	Environmental	Damage to site or water courses	Follow appropriate procedures to minimise environmental impact
	Manual handling	Lifting, moving heavy drums	Follow safe manual handling procedures Use lifting aids when required
	No smoking	Risk of explosion	NEVER smoke while in close proximity to fuel or chemicals

P.P.E requirements			
	Eye protection as required		High visibility clothing
	Closed in shoes		Waterproof gloves as required
	Long sleeve shirt/trousers/overalls		Face mask when required

Relevant Workplace Documentation	
Document code	Description
	SDS Safety Data Sheet
	Dangerous goods manifest
	Schedule 5 of Dangerous Goods Regulations 1998
TT-SOP-11	Hazardous Substances and Dangerous Goods SOP

General Principles of storing fuels and chemicals on site

ALWAYS:

1. Minimise or eliminate storage of fuels and chemicals on site or in vehicles whenever possible
2. Keep fuels out of direct sunlight when stored on vehicles, where possible
3. Store and handle chemicals in accordance with relevant state Act and Regulations and the Dangerous Goods Act and Regulations
4. Ensure staff are trained in how to access information to guarantee safe handling of items
5. Ensure all employees understand their responsibilities in relation to Waste Management and Minimisation procedures
6. Secure storage area to prevent vandalism
7. Keep Hazardous Substances register up to date
8. Ensure current SDS with date of issue not more than five (5) years old is kept on site
9. Ensure signage is displayed in accordance with regulations
10. Storage facilities must be adequate distance from stormwater drains and water ways where necessary
11. Minimise risk of damage or puncture from plant use when deciding on storage area
12. Remove and replace drums or jerry cans once they have finished being used
13. Ensure adequate clean up materials are readily available on site and clean any spills up, immediately



1 Storing chemicals or fuels in bunded areas



- 1.1 Inspect bunds regularly to prevent waste materials overflowing
- 1.2 Ensure bunds are sufficient size to meet Dangerous Goods Act and Regulations and ensure spills can be held safely until cleaned up
- 1.3 Ensure ventilation provides airflow across the storage or handling area
- 1.4 Ensure bunds are checked and preventative maintenance and integrity testing are undertaken regularly
- 1.5 Ensure all containers held in bunds are labelled
- 1.6 DO NOT store incompatible chemicals together



2 Preventative maintenance measures



- 2.1 Maintain preventative measures for the duration of chemical or fuel storage on site
- 2.2 Key requirements are:
 - Security
 - Housekeeping
 - Bund height
 - Stormwater control
- 2.3 Dispose of liquid waste in bunds and waste drums off site as prescribed waste, as soon as practicable (refer Dangerous Goods Act and Regulations)
- 2.4 Arrange collection of oils by recyclers when appropriate

3 Deal with fuel or chemical spills



3.1 Control and contain the spill:

- Identify source of spill
- Assess whether it can be controlled safely
- Protect storm water drains and waterways by placing earth, sand or absorbent material around entrance points and alongside waterways
- Construct a bund to restrain chemicals, if necessary



3.2 Clean up the spill:

- Use absorbent material to soak up the spill
- Ensure surface is left clean
- Place material used for clean up in drum and clearly label drum with “ Spill Kit Waste”
- Remove drum from site as controlled waste
- Replace any items used in spill kit as soon as possible

Minimising Noise, Dust & Air Pollution

Purpose: Minimise noise, dust and air pollution

Pre-requisites

1. Training and supervision in pollution minimisation

Relevant Workplace Documentation

Document code	Description
	Project management plan
	Environmental Regulations


Main causes of noise, dust and air pollution




Pollution relating to dust and airborne pollution is caused by but not limited to:


- 1 Dust:
 1. Plant and equipment movements
 2. Wind erosion
 - a) The amount of dust generated depends on:
 - Planning
 - Weather
 - Activities undertaken
 - Materials being worked
 - Controls in place
 - b) Dust must be managed so that there is:
 - Dust moved off-site is minimised
 - Minimum dust on-site
 - Zero complaints from:
 - Residents
 - Public
 - Client
 - EPA
 - Council
- 2 Airborne pollution
 1. Vehicle exhaust
 2. Burning off and fires
 3. Odours
 4. Toxic gas

General Principles of minimising noise, dust and air pollution


	<p>ALWAYS:</p> <ol style="list-style-type: none"> 1. Conduct an assessment of pollution risks and control measures before commencing work and record in Project Management Plan 2. Prevent or control noise, dust and air pollution on projects on site, whenever possible 3. Ensure effective preventative measures are in place before works commence 4. Undertake works during “normal” working hours whenever possible 5. Notify nearby community members who could potentially be affected by works, when work is planned outside normal working hours 6. Check with local council for specific projects for variance of “normal” work hours 7. Minimise noise by using well maintained plant with efficient mufflers 8. Ensure machinery is serviced regularly 9. Service or replace machinery if it emits smoke continuously for longer than 10 seconds 10. Ensure dust measurement is observed by Team Leader 11. Review any enquiry or complaint from affected residents to assess whether satisfactory target for minimisation of dust has been met 12. Notify supervisors of incidents or practices that cause pollution of any kind, to enable them to be adequately controlled
	<p>NEVER:</p> <ol style="list-style-type: none"> 1. Allow dust to accumulate behind dust screens or other controls

1 Prevention or control of noise

	<ol style="list-style-type: none"> 1.1 Re-schedule noisy activities to times of least impact 1.2 Use well maintained, modern plant with efficient mufflers 1.3 Use alternative construction methods, forms of communication or machinery <ul style="list-style-type: none"> • E.g. Bored piles instead of driven piles 1.4 Erect noise barriers (barriers should be 0.5m above highest noise source) 1.5 Locate noisy activities in non-sensitive areas 1.6 Select equipment based on machinery noise levels 1.7 Ensure trucks / vehicles use designated access roads rather than suburban streets where possible 1.8 Ensure idling vehicles / trucks are not left running near noise sensitive areas
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2 Prevention or control of dust	
	2.1 Program work to ensure large sections of bare areas are not exposed at one time
	2.2 Use suitable measures to prevent dirt / mud being tracked onto public roads <ul style="list-style-type: none"> • Rumble grids • Crushed rock at vehicle exit points
	2.3 Use water carts, sprinkler systems or hand held water sprays on bare areas and stockpiles
	2.4 Limit traffic to haul roads /definition of trafficable areas
	2.5 Use street sweepers to keep public and site roads free of dirt when material on road is dry
	2.6 Cover trucks if dust generation from load is potential problem
	2.7 Erect dust screens (shade cloth or similar) on boundary fences
	2.8 Provide hardstand areas in high traffic zones (e.g. site offices)
	2.9 Stabilise areas that would otherwise be left bare for extended periods of time and pose a dust threat: <ul style="list-style-type: none"> • Hydro-seeding • Spray emulsion • Hand seeding • Geo-fabric
	2.10 Keep dust suppression equipment on line as required
	2.11 Assess whether dust-generating activities should be stopped if preventative measures are not controlling the problem <ul style="list-style-type: none"> • E.g. during periods of high winds
	2.12 Mulch vegetation where possible, rather than burning on site
	2.13 Ensure fires are not permitted on site without first obtaining necessary approval in line with council regulations from Tas Fire Commission on 1800 000 699
	2.14 Lower wind velocity at soil surface by ripping or leaving smooth surfaces rough

3 Prevention or control of air pollution	
	3.1 Maintain machinery in accordance with manufacturers' specifications to comply with the State Environment Protection Policy (The Air Environment)
	3.2 Maintain exhaust and engine systems to reduce exhaust emission
	3.3 Replace old machinery when no longer operating efficiently
	3.4 Ventilate work area to eliminate odours and toxic gases where necessary (e.g. In live sewers)


	Standard Operating Procedure	Document Code: TT-SOP-37
	Environmental Emergency Procedure	Version 2: 26/8/16
		Review Date: August 2018

Purpose: Provide uniform control mechanism when an emergency environmental incident occurs

Pre-requisites

1. Project management Plan for each project
2. All personnel with responsibility for dealing with environmental emergencies must have read and signed off against this procedure

Hazard management

	Emergency situation	Dealing with an environmental emergency that could be detrimental to people, animals or plants	Follow safe practices as outlined in this procedure
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P.P.E requirements

P.P.E. as required for specific work / job site


Relevant Workplace Documentation

Document code	Description
	Incident Report Form
	Non Conformance Report
TT-SOP- 31	Storing fuels and chemicals on site procedure

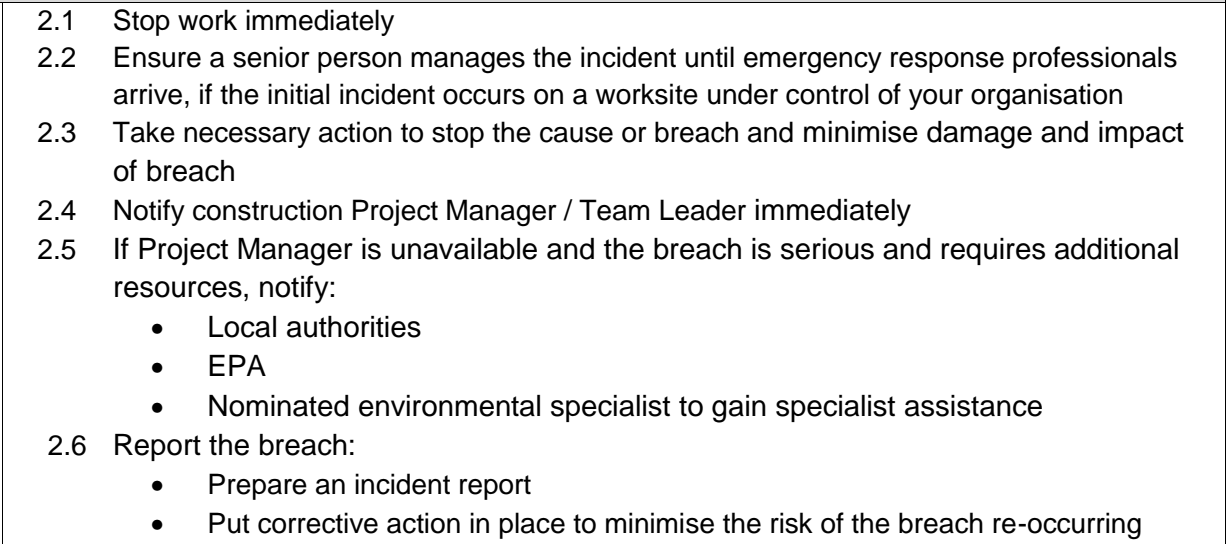
General Principles of dealing with environmental emergencies

	ALWAYS: <ol style="list-style-type: none"> 1. Monitor all risks continuously to minimise potential emergencies 2. Prioritise safety of personnel at all times 3. Attend tool box meetings to determine: <ul style="list-style-type: none"> • Environmental issues • Procedures and instructions that control activities to be undertaken by your workers, on site • Control measures that are in place 4. Carry out work site inspections as per inspection calendar 5. Ensure a senior person remains in charge in states of emergency
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Step 1 Dealing with spills

	<ol style="list-style-type: none"> 1.1 Follow minor spill procedure for minor spills (refer "Storing fuels and chemicals on site procedure") 1.2 Contact relevant service and request assistance for major spills: <ul style="list-style-type: none"> • Veolia Environmental: 6427 4600 • Environmental Systems & Contracting 1.3 Call Head Office, even for minor spills as soon as possible
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Step 2	Managing an environmental incident
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Water Quality and Sediment Control

Purpose: Ensure there is no effect on water quality from projects being undertaken

Pre-requisites

1. Project Management Plan for each project
2. All personnel with responsibility for site protection during operations must have read and signed off against this procedure

Hazard management

Specific Hazard Management to meet requirements of work / job site

P.P.E requirements

P.P.E. as required for specific work / job site

Relevant Workplace Documentation


Document code	Description
	Project Management plan, including waste management


General Principles of minimising effect of sediment on water quality





ALWAYS:


1. Aim to minimise risk to water quality in domestic water catchment areas, when works are in or adjacent to catchment areas
2. Take precautions to minimise serious pollution of recreational waterways and blocking of drains from:
 - Increased sediment load in stormwater drains and waterways
 - Oil or grease from re-fuelling / workshop / storage areas
 - Oil / chemical spillage
 - Excavation of soil, resulting in exposure of contaminated soil and leaching into waterways
 - Change in pH levels from concrete or asphalt activities
3. Conduct a baseline assessment of water quality, in sedimentary ponds, and before commencing work if water quality monitoring is being undertaken
4. Rehabilitate site in accordance with client requirements, OR
 - Use local seed to revegetate, where client requirements are not specified
 - Use non-native sterile grasses for temporary stabilisation while native flora becomes established, if necessary

Assess work site	
	<p>1.1 Assess existing features of land, including:</p> <ul style="list-style-type: none"> • Contour • Existing vegetation • Stormwater drains and drainage pattern • Proximity to waterways • Soil type <p>1.2 Assess possibility of installing cut off drains to divert clean stormwater around site</p> <p>1.3 Undertake detailed check of site history and likelihood of contamination to ensure stockpiling of material with leachable contamination into adjacent waterways is prevented</p> <p>1.4 Investigate alternative methods of construction when working in, adjacent to, or over waterways, if necessary</p>

Develop Waste Management Plan	
	<p>2.1 Plan works, where possible, to:</p> <ul style="list-style-type: none"> • Minimise impact on environment (e.g. Work in waterways during summer months) • Limit extent and duration of exposed earth • Retain vegetation • Locate stockpiles away from drainage areas and waterways • Limit access to site to designated areas • Locate wash down and fuel storage areas away from stormwater drainage lines and waterways • Store fuel and chemicals in accordance with relevant standards and guidelines <p>2.2 Define where risk activities are likely to be located:</p> <ul style="list-style-type: none"> • Entry and exit points • Borrow pits • Stockpiles • Haul roads • Disturbance from construction <p>2.3 Install soil erosion and sediment control measures before commencing work and re-assess during works</p> <p>2.4 Handle vegetation that is to remain on site, according to Flora and Fauna inspection and protection procedure</p> <p>2.5 Undertake an assessment during the design phase, to determine any adverse effect construction may have on local groundwater quality or flow:</p> <ul style="list-style-type: none"> • Contaminated groundwater must be handled in accordance with environmental regulations • Put measures in place to limit flow of contaminated groundwater into the excavation, if contaminated groundwater is encountered (e.g. use sheet piles) • Dispose of groundwater off site, as controlled waste if necessary, or at a sewer under a Trade Waste Agreement with local water authority (if contaminant concentration is within acceptable limits)

Minimise soil erosion	
	3.1 Hydro-seed or mulch stockpiles or areas that will be exposed for longer than three (3) months
	3.2 Use silt fencing if required up-gradient and /or down-gradient of stockpiles
	3.3 Compact and trim all fill surfaces before any chance of rain: <ul style="list-style-type: none"> • Use a machine on tracks to roughen surface on steep batters to reduce flow velocities at end of each day, where practical • Implement progressive treatment on site rather than concentrating control devices in one location
	3.4 Protect areas of concentrated water flow by either: <ul style="list-style-type: none"> • Leaving or using existing topsoil with vegetation, OR • Installing protective matting or fabric




Control sediment	
	4.1 Filter run off from disturbed areas, before discharging to stormwater or waterways
	4.2 Locate sediment control devices up-gradient of sensitive areas such as creeks, steep embankments and stormwater inlets
	4.3 Implement filtration in form of: <ul style="list-style-type: none"> • Silt fencing • Sediment traps • Gravel bags • Settling ponds etc
	4.4 Ensure all sediment control structures are of adequate size to cope with quantity of water anticipated and maintained regularly
	NOTE: Off line sedimentation basins are preferred to in stream sedimentation basins
	4.5 Use water from sediment ponds to irrigate vegetated areas remote from waterways or use for dust control
	4.6 Ensure adequate control measures are in place before washing dirt or mud from roads, to prevent sediment entering stormwater system

Deal with controlled waste effectively	
	5.1 Service machinery on site in controlled manner: <ul style="list-style-type: none"> • Designate an appropriate area for servicing machinery, away from stormwater, waterways and sensitive vegetation • Ensure sealed containers are available for waste materials • Dispose of waste off site in accordance with legislative requirements
	5.2 Control prime, bitumen, concrete and concrete slurry to prevent it entering stormwater system: <ul style="list-style-type: none"> • Ensure spill kits or suitable materials are available on site to respond to spills immediately
	5.3 Filter or treat water being pumped or emptied from dams before discharge to ensure water quality limits are met
	5.4 Test water that appears to be contaminated to ensure it meets EPA criteria before pumping

	Standard Operating Procedure Safe fuel dispensing on site	Document Code: TT-SOP-59
		Version 2: 29/8/16
		Review Date: August 2018

Purpose: To outline safe practices when re-fuelling plant on site

Pre-requisites	
	1. Training and supervision in safe fuel dispensing 2. Approval to handle fuel from supervisor or authorised delegate

Hazard management			
	Harmful substances	Fuels	Follow safe procedures when handling / transporting fuels Wear appropriate PPE
	Flammable	Fuels	Follow safe procedures when handling / transporting flammable fuels Wear appropriate PPE
	Plant and equipment	Plant and equipment operating in area	Stay alert for vehicular movements at all times

P.P.E requirements - refer SDS (Safety Data Sheet) for specific PPE			
	Eye protection as required		High visibility clothing
	Closed in shoes		Waterproof gloves as required
Other PPE as determined by job/site requirements			

Relevant Workplace Documentation	
Document code	Description
	SDS Safety Data Sheet
	Incident Form if Required

General Principles when refuelling plant on site



ALWAYS:

1. Switch engine OFF on plant before refuelling
2. Ensure no sparks or naked flames are within three (3) metres of plant
3. Take care to prevent spillage of flammable or combustible liquids
4. Clean up any spills immediately
5. Ensure fuel nozzle is clean before placing in fuel tank
6. Wind hose up neatly when fuelling is complete
7. Report any accidents, incidents or near misses involving fuel, to supervisor immediately



NEVER:

1. Smoke while refuelling

Step	1	Dispensing fuel from vehicle
	1.1	Ensure chemical spill kit is close by before dispensing fuel
	1.2	Park vehicle close to plant fuel tank
	1.3	Ensure plant and vehicle are switched OFF
	1.4	Open fuel cap on plant
	1.5	Ensure nozzle is clean and place in fuel tank
	1.6	Turn pump on and squeeze nozzle to pump fuel into plant, until full
	1.7	Turn nozzle off if diesel runs out (steam comes from nozzle), or when tank is full
	1.8	Remove nozzle, turn off pump and wind hose up before replacing on fuel tank on vehicle
	1.9	Replace fuel cap on plant
	1.10	Wipe up any spills as soon as practically possible, using spill kit if required

Photo 1: Check nozzle is clean




Photo 2: Place nozzle in fuel tank




Photo 3: Turn pump on





Photo 4: Wind hose up neatly upon completion of fuelling






Purpose: To outline safe practices when dispensing fuel into vehicle fuel tanks or other heavy plant at Treloar Transport depot

Pre-requisites

1. Training and supervision in Safe Chemical Handling
2. Approval to handle hazardous substances and dangerous goods from supervisor or authorised delegate

Hazard management

	Harmful substances	Fuels	Follow safe procedures when handling / transporting fuels Wear appropriate PPE
	Flammable	Fuels	Follow safe procedures when handling / transporting flammable fuels Wear appropriate PPE
	Plant and equipment	Plant and equipment operating in area	Stay alert for vehicular movements at all times


P.P.E requirements - refer SDS (Safety Data Sheet) for specific PPE

	Eye protection as required		High visibility clothing
	Closed in shoes		Waterproof gloves as required
Other PPE as determined by job/site requirements			




Relevant Workplace Documentation



Document code	Description
	SDS Safety Data Sheet
	Incident Form if Required


Pre-requisites

	<ol style="list-style-type: none"> 1. Training and supervision in: <ul style="list-style-type: none"> • Procedures to be followed in the event of a spillage, accident or fire • Location and use of fire fighting equipment • Correct use of personnel protective equipment provided • Correct sequence of events to be followed when refuelling • The location of and essential points included in a Safety Data Sheet 2. Approval to dispense fuel by supervisor or authorised delegate
---	--

Legal responsibilities when dealing with flammable and combustible fuels	
	<p>ALWAYS:</p> <ol style="list-style-type: none"> Understand definition of: <ul style="list-style-type: none"> Flammable Liquids – a liquid that is defined in the ADG Code as a Class 3 liquid. Class 3 liquids are divided into the following packaging groups: <ul style="list-style-type: none"> – A Class 3 liquid of packaging group 1 – A Class 3 liquid of packaging group II – A Class 3 liquid of packaging group III Combustible Liquid – any liquid other than a flammable liquid that has a flash point and a fire point less than its boiling point. Combustible liquids are divided into two classes as follows: <ul style="list-style-type: none"> – Class C1 - a combustible liquid that has a flashpoint of 150°C – Class C2 - a combustible liquid that has a flashpoint exceeding 150°C Store and handle fuels in accordance with relevant state Act and Regulations and the Dangerous Goods Act and Regulations (refer SOP “Hazardous substances and Dangerous goods”)




General Principles of dealing with flammable and combustible fuels	
  	<p>ALWAYS:</p> <ol style="list-style-type: none"> Switch engine OFF on any vehicle or plant before refuelling Ensure no sparks or naked flames are within three (3) metres of fuel pump Take care to prevent spillage of flammable or combustible liquids Clean up any spills immediately Follow the same procedures and safety guidelines when filling petrol motors on floats or when pumping or decanting petrol or other fuel from drums into any other types of motor Ensure storage facilities where fuel is dispensed is kept clear of extraneous material at all times Keep vegetation which may become a fire hazard, clear of pumps at all times Ensure any leaks are rectified immediately Report spills or damage to fuel containers to supervisor Report any accidents, incidents or near misses involving fuel, to supervisor immediately <p>NEVER:</p> <ol style="list-style-type: none"> Smoke in or close to chemical storage area






Step	1	Dispensing fuel from pump
 	<ol style="list-style-type: none"> 1.1 Ensure chemical spill kit is close by before dispensing fuel 1.2 Drive vehicle/ plant close to fuel pump 1.3 Using supplied fuel card, follow directions on pump 1.4 Open fuel tank on vehicle /plant 1.5 Lift pump handle from cradle 1.6 Place pump nozzle in fuel tank of vehicle /plant 1.7 Pump fuel into vehicle /plant, until full 1.8 Remove pump nozzle and replace on cradle of fuel pump 1.9 Ensure pump handle is secure on fuel pump 1.10 Wipe up any spills as soon as practically possible, using spill kit procedure 	

	Standard Operating Procedure	Document Code: TT-SOP-72
	Arranging Blasting Operations	Version 2: 29/8/16
		Review Date: August 2018


Purpose: To apply safe practices when arranging contractors for blasting operations



Pre-requisites	
	<ol style="list-style-type: none"> 1. Approval to arrange blasting operations by supervisor or authorised delegate 2. Ensure Blasting Service provides required documentation: <ul style="list-style-type: none"> • Current Procedure for Blasting, with full safety details • Drillers shot pattern 3. Ensure all blast procedures conform to Mines Department and Environment Regulations 4. Competent in operating relevant plant or trucks for transporting material, or suitably supervised as required 5. Identify hazards and complete a risk assessment where necessary 6. Follow or complete a SWMS as required 7. Clear understanding of responsibility for work tasks and activities to be undertaken <p>NOTE: During all activity associated blasting, the quarry site and environment is the responsibility of the contractor</p>


Hazard management			
	Explosive	Rock and dust particles flying around	Follow safe operating procedures at all times Ensure all personnel wear appropriate P.P.E Ensure all personnel are well clear of blasting area before firing
	Crushing	Personnel moving around area where blasting operations are being undertaken	Remain vigilant for pedestrians and other machinery at all times Ensure all personnel are well clear of blasting area before firing Ensure all personnel wear appropriate high visibility PPE
	Slips, Trips or Falls	Moving around blasting areas	Wear appropriate PPE Follow safe operating procedures


P.P.E requirements	
 High visibility clothing	 Steel capped safety boots, in good condition and laced correctly
 Hard hat (Outside mobile plant)	 Safety glasses
 Ear protection (Outside mobile plant)	
Other PPE as determined by job/site requirements	


Relevant Workplace Documentation	
Document code	Description
	Mines Act 1968
	Blasting Services Procedure for Blasting
	Drillers Shot pattern
	Blast hole exception report
	Mines Department and Environment regulations
AS4801 - 4.4.6	Hazard identification, hazard/risk assessment and control of hazards/risks
CP123	Managing Risks of Plant in the Workplace Code of Practice
	Neighbour contact record

Definitions	
	<ol style="list-style-type: none"> 1. STOCK ON THE GROUND <ul style="list-style-type: none"> • Quantity of rock released from the quarry face by the blast 2. OVERBREAK <ul style="list-style-type: none"> • Shattered rock behind the blast line, which has not fallen to the ground

General Principles for arranging blasting operations	
 	<p>ALWAYS:</p> <ol style="list-style-type: none"> 1. Always follow guidelines set out in CP123 "Managing risk of plant in the workplace" in relation to maintenance 2. Operate machines in accordance with Mines Inspection Regulations Act 3. Stay alert for other vehicle and personnel movements at all times 4. Conduct pre-start check on trucks and plant before operating. If unsatisfactory, do not use, follow Isolation and Tagging procedure and report to Quarry Manager 5. Notify all neighbours in vicinity of quarry, one day before blasting is scheduled or as required

Step 1 Preliminary arrangements for blasting (Quarry Manager or Supervisor)	
	<ol style="list-style-type: none"> 1.1 Determine when blasting is required <ul style="list-style-type: none"> • Assess existing quarry stock levels • Consider anticipated sales 1.2 Contact Blasting Services to schedule a provisional day and time for blasting (usually with one week lead in time) 1.3 Receive provisional information from Blasting Services: <ul style="list-style-type: none"> • Planned blast day • Quarry location • Size of blast 1.4 Notify neighbours in vicinity of quarry, of planned blast day 1.5 Raise invoice for blast and ensure estimated quantities of rock released are acceptable 1.6 File all documentation related to blast in quarry office

Step 2 Contact neighbours on day of blast	
	<ol style="list-style-type: none"> 2.1 Contact all neighbours specified by the Department of Environment & Land Management and listed on the neighbour contact record: <ul style="list-style-type: none"> • Confirm time of blast • Maintain record of contact, on file in quarry office (to be kept for 4 years) • Visit homes of any occupants who cannot be contacted by phone and record details of attempts to contact them 2.2 After contact with neighbours has been completed, blasting may commence in accordance with blasting procedures <p>NOTE: Ensure all personnel are well clear of blasting area and blast guards and blast monitors are in place</p>

Step 3 Following blast operations (Quarry Manager)	
	<ol style="list-style-type: none"> 3.1 Inspect the blast site to: <ul style="list-style-type: none"> • Confirm the blast has been performed • Establish the size and quantity of rock released 3.2 Complete the order for blast and forward to Blasting Services, after ensuring details of rock volumes are as per blast 3.3 Ensure truck drivers remove over break from quarry face before loading trailer

12.6. Appendix F – BOM Wind Rose Data

Launceston Airport Wind Rose

Data extracted: 9th November 2017

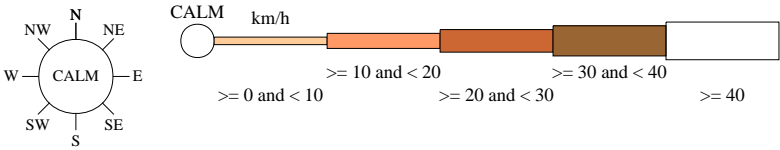
Rose of Wind direction versus Wind speed in km/h (01 Apr 1939 to 17 Jun 2009)

Custom times selected, refer to attached note for details

LAUNCESTON AIRPORT COMPARISON

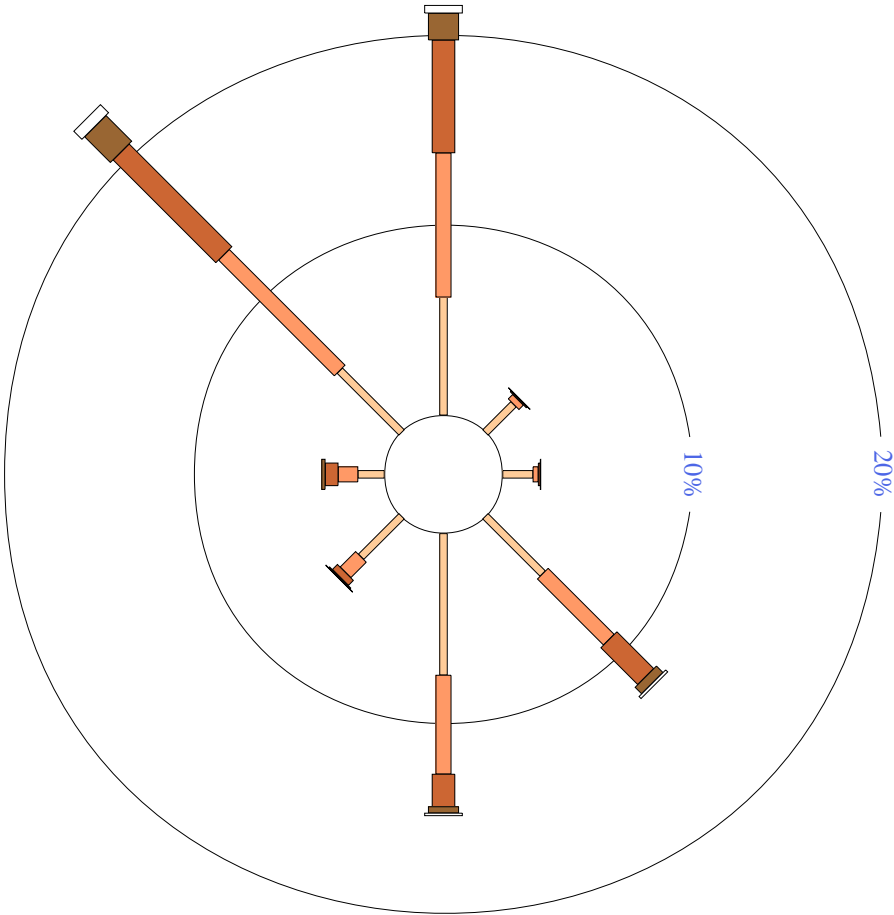
Site No: 091104 • Opened Jan 1931 • Closed Jun 2009 • Latitude: -41.5397° • Longitude: 147.2033° • Elevation 166m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am
24610 Total Observations

Calm 15%



Rose of Wind direction versus Wind speed in km/h (01 Apr 1939 to 17 Jun 2009)

Custom times selected, refer to attached note for details

LAUNCESTON AIRPORT COMPARISON

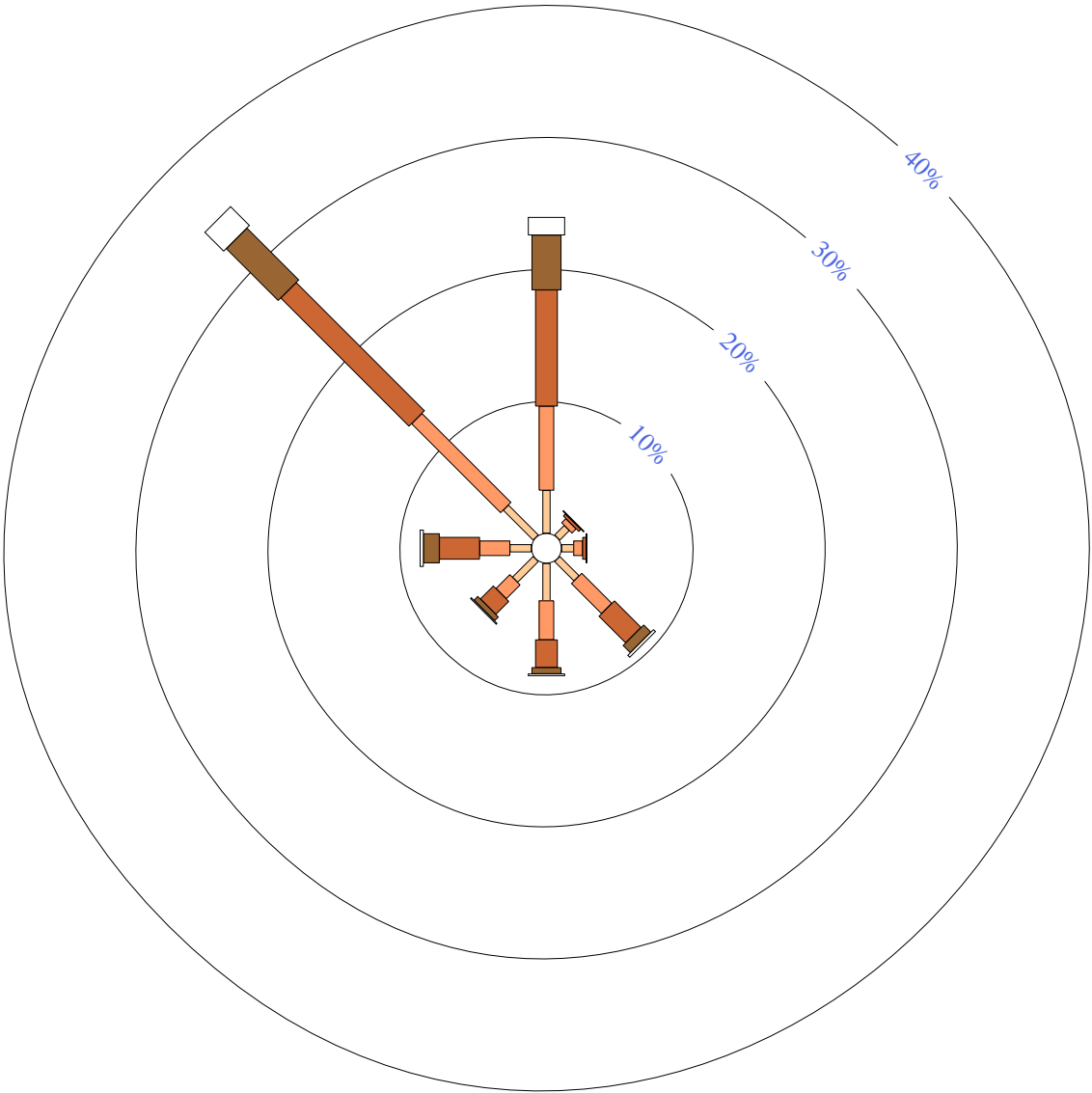
Site No: 091104 • Opened Jan 1931 • Closed Jun 2009 • Latitude: -41.5397° • Longitude: 147.2033° • Elevation 166m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm
24586 Total Observations

Calm 6%



Burnie (Round Hill) Wind Rose

Data extracted: 9th November 2017

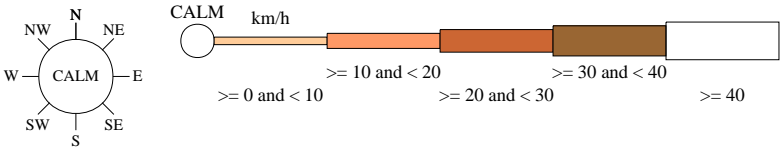
Rose of Wind direction versus Wind speed in km/h (02 Jan 1965 to 05 Apr 2016)

Custom times selected, refer to attached note for details

BURNIE (ROUND HILL)

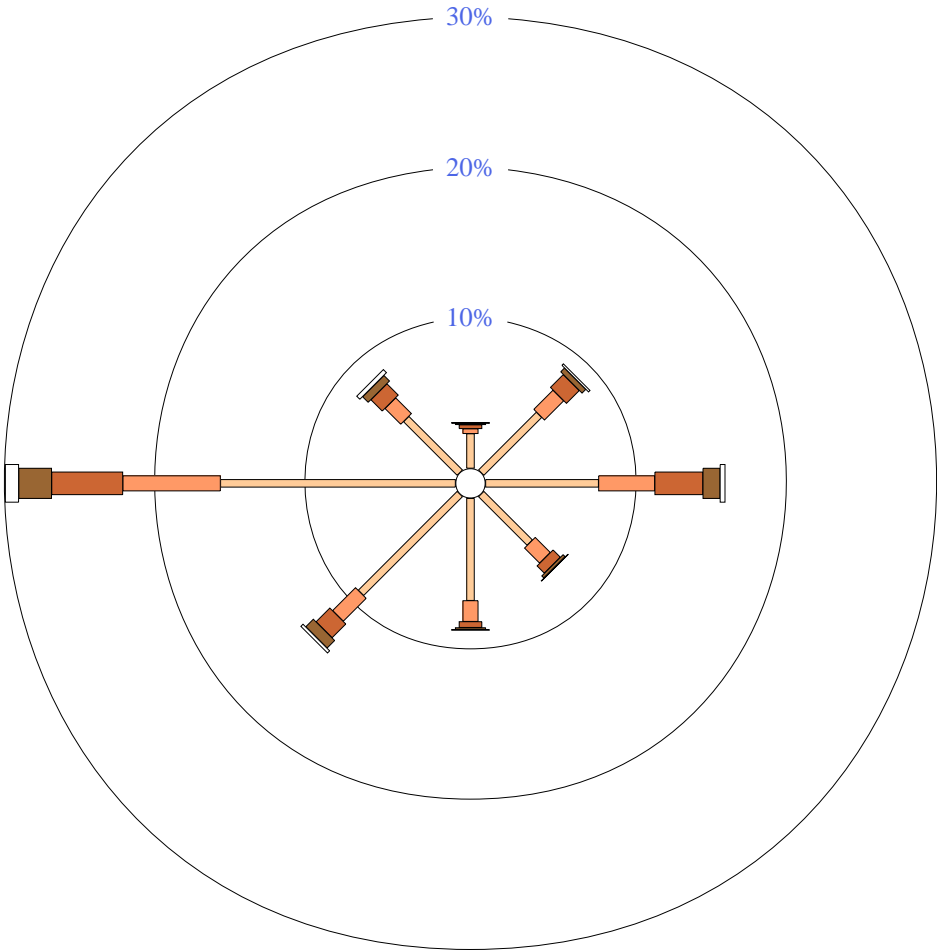
Site No: 091009 • Opened Aug 1944 • Still Open • Latitude: -41.0661° • Longitude: 145.9431° • Elevation 8m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am
17484 Total Observations

Calm 5%



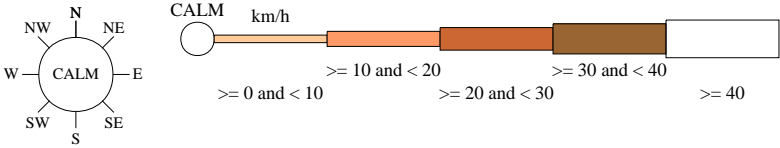
Rose of Wind direction versus Wind speed in km/h (02 Jan 1965 to 05 Apr 2016)

Custom times selected, refer to attached note for details

BURNIE (ROUND HILL)

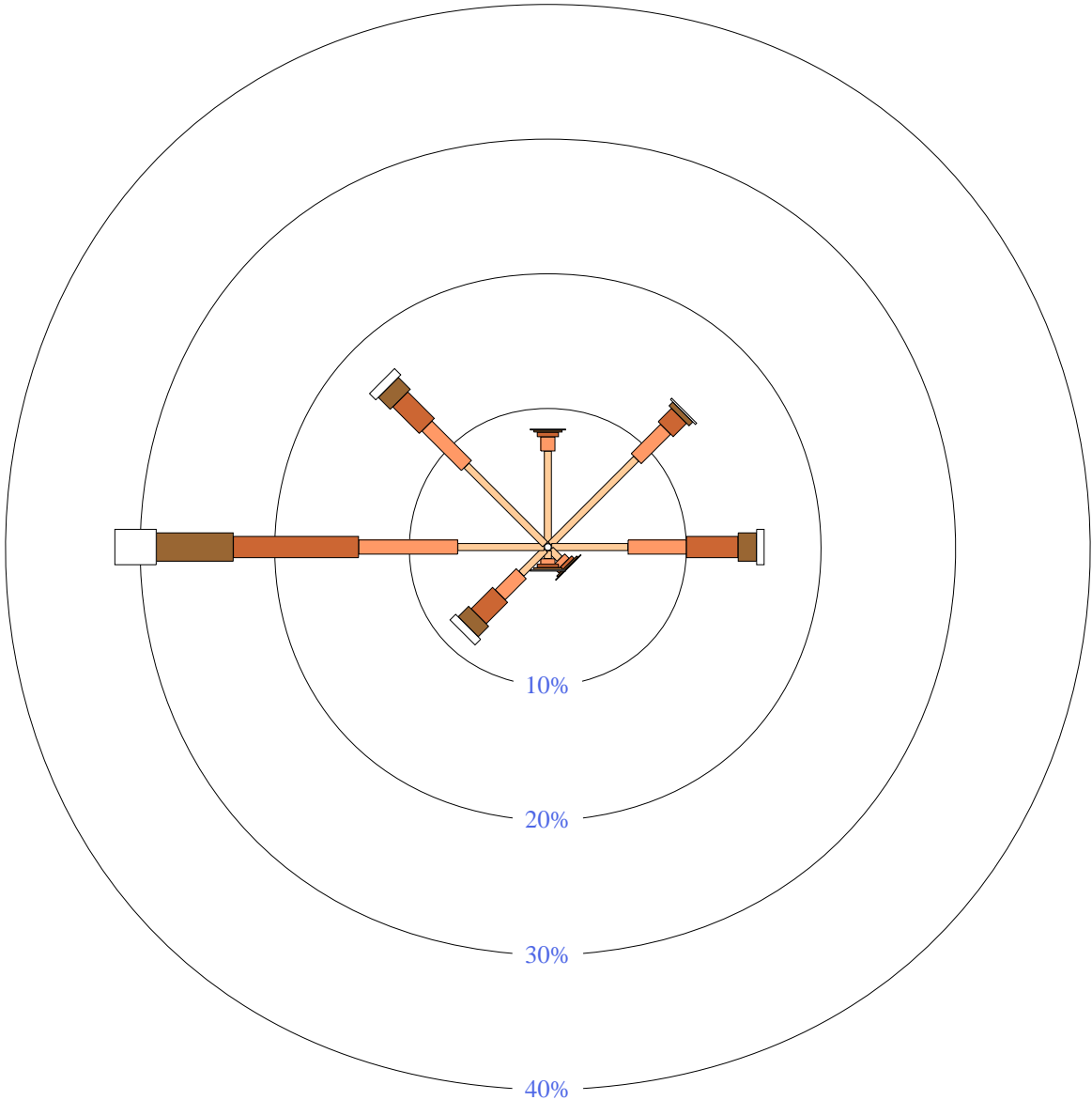
Site No: 091009 • Opened Aug 1944 • Still Open • Latitude: -41.0661° • Longitude: 145.9431° • Elevation 8m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm
15778 Total Observations

Calm 1%



12.7. Appendix G – Landslip Risk Assessment



**LANDSLIDE RISK ASSESSMENT
PROPOSED QUARRY, PUNCHES TERROR
BEAUMONT'S ROAD, DUNORLAN**

Prepared for: **Treloar Transport**

Date: 18 December 2017

Document Reference: TG17244/1 - 01report

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	2.3 Landslide Mapping	1
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3	SITE CONDITIONS	2
4	LANDSLIDE RISK ASSESSMENT	2
	4.1 General	2
	4.2 Potential Hazards	2
	4.3 Risk to Property	3
	4.4 Risk to Life	3
	4.5 Conclusion	4
5	DISCUSSION & RECOMMENDATIONS	4

Important information about your report

Figures

Figure 1 MRT Geology and Landslide Hazard Bands

Appendices

Appendix A Selected Site Photographs

Appendix B Landslide Risk Matrix

Version	Date	Prepared by	Reviewed by	Distribution
Original	18 December 2017	Dr Alan Chester	Dr Wayne Griffioen	Electronic

1 INTRODUCTION

Tasman Geotechnics was commissioned by Urban Forest Consultancy on behalf of Treloar Transport to carry out a Landslide Risk Assessment for a proposed expansion of quarry activities at Beaumont's Road, Dunorlan.

The proponent is Treloar Transport, who wishes to consolidate leases 1007 P/M and 28M/1990 under the same land use permit. A DPEMP has been prepared by Treloar (prepared by Carol Steyn, Draft 2) and was provided to Tasman Geotechnics. The estimated rate of production is 20,000 bank m³/annum.

A Landslide Risk Assessment is required by Meander Valley Council as part of the Planning Application process as the development is mapped adjacent to "Medium" hazard band on the Landslide Planning Map V2 – Hazard Bands overlay on The LIST.

The assessment is consistent with the Landslide Risk Assessment guidelines published by the Australian Geomechanics Society (2007).

2 BACKGROUND INFORMATION

2.1 Regional Setting

The quarry is located on the south-west flank of Punched Terror, a local hill which rises about 200m above the surrounding areas. The sides of the hill are up to 45° on the south-west facing slopes, but around 18° on the north-east facing slopes.

The two quarries (northern and southern) are located on the south-west facing side of the hill.

2.2 Geology

The surface geology is mapped by Mineral Resources Tasmania (MRT) on the 1:25,000 Series Digital Geological map, Gog and Deloraine Sheets.

The quarry operations are shown to be in Cambrian aged described as "*quartzite derived, massive pebble-cobble conglomerate with minor pink quartzarenite beds*". Parts of the hill slopes are covered with Quaternary aged talus. An extract of the two MRT geology maps is presented on Figure 1.

2.3 Landslide Mapping

The site has not been mapped for landslides. However, based on GIS modelling of landslides elsewhere in the state MRT have developed a hazard rating for landslides based on slope angle. These are shown on TheLIST map as:

-) Medium hazard for areas with slope > 20° and
-) Low hazard for areas with slope between 11° and 20°

An extract of TheLIST map is presented on Figure 1.

2.4 Proposed Development

The DPEMP shows of mining will take place at both quarry faces, and be primarily confined to the existing disturbed areas.

2.5 Site Photographs

No field investigation was carried out by Tasman Geotechnics. However, photographs of the existing quarries were provided by Carol Steyn. Selected photographs are presented in Appendix A.

3 SITE CONDITIONS

The surface conditions at the quarries is very different:

At the northern quarry, the quarry face has been excavated in a series of benches and vegetation is re-establishing on the slopes separating the benches (see Photo 1). There is some variability in the material exposed on the slopes: in many places the material is sandy/clayey gravel, in the upper parts of the quarry the material is intact conglomerate. The conglomerate is high strength rock, with no clear joint or fracture pattern (see Photo 2).

At the southern quarry, the previous operations resulted in several benches with near-vertical faces (see Photo 3). The exposed rock is high strength conglomerate.

At both quarries, the natural vegetation begins at the crest of the working face.

It is understood that the future operations of the quarries will be carried out such that the final faces can be rehabilitated.

4 LANDSLIDE RISK ASSESSMENT

4.1 General

Risk assessment and management principles applied to slopes can be interpreted as answering the following questions;

-) What might happen? (HAZARD IDENTIFICATION).
-) How likely is it? (LIKELIHOOD).
-) What damage or injury might result? (CONSEQUENCE).
-) How important is it? (RISK EVALUATION).
-) What can be done about it? (RISK TREATMENT).

The risk is a combination of the likelihood and the consequences for the hazard in question. Thus both likelihood and consequences are taken into account when evaluating a risk and deciding whether treatment is required.

The qualitative likelihood, consequence and risk terms used in this report for risk to property are given in Appendix B and are based on the Landslide Risk Management Guidelines, published by Australian Geomechanics Society (AGS, 2007) and included in the Meander Valley Council Planning Scheme. The risk terms are defined by a matrix that brings together different combinations of likelihood and consequence. Risk matrices help to communicate the results of risk assessment, rank risks, set priorities and develop transparent approaches to decision making.

4.2 Potential Hazards

Based on the site observations and available information discussed in the sections above, the following landslide hazards are identified for the site:

Shallow slides/flows (up to about 3m deep). Such landslides can occur in soil slopes, where the slopes have been cleared of vegetation, or where surface runoff is allowed to flow down the slope in a concentrated manner.

There is presently no evidence of soil erosion at the site. Therefore, by maintaining existing vegetation, or excavating slopes at a "stable" angle with face heights no more than 5m and minimising runoff on bare slopes, the likelihood of a shallow slide under current climatic conditions, is assessed to be Unlikely.

Rockfall. Following blasting, the rock is highly fractured and thereby poses a risk of rockfall. Both vehicles and people are at risk, especially if equipment breaks down while working near the rock face. The likelihood of rockfalls up to 0.3m diam is assessed to be Almost Certain when excavating the blasted rock. However, after the blasted rock is

removed, the rock face is composed of undisturbed rock. The likelihood of rockfalls on the rock face is a function of the slope angle, rock/boulder size and extent of 'cleaning' carried out. The following table summarises the likelihood of rockfalls assuming no 'cleaning' of the rock face

Boulder Size	Slope angle steeper than 1V:1H	Slope angle flatter than 1V:1H
Less than 0.3m	Likely	Possible
Greater than 0.3m	Possible	Unlikely

The identification of the potential hazards considers both the site and nearby properties, and is necessary to address stability issues that may negatively impact upon the site and influence the risk to property.

4.3 Risk to Property

The following table summarizes the risk to property of the landslide events in relation to the proposed quarry as described above, **assuming limitations in Section 5 are incorporated.**

Table 1. Landslide risk profiles

Scenario	Likelihood	Consequence	Risk Profile
Shallow slide/flow	Unlikely if excavated at "stable" angle and no surface runoff	Minor: debris could impact machinery	Low
Rockfall >0.3m diam during excavation	Almost Certain, rock has been broken by blasting	Insignificant: excavator can control slope of excavation	Low
Rockfall <0.3m diam on rock face steeper than 1V:1H	Likely	Insignificant	Low
Rockfall >0.3m diam on rock face steeper than 1V:1H	Possible	Minor: dent equipment	Moderate
Rockfall <0.3m diam on rock face flatter than 1V:1H	Possible	Insignificant: boulder would roll down the rock face	Very Low
Rockfall >0.3m diam on rock face flatter than 1V:1H	Unlikely	Insignificant: boulder would roll down the rock face	Very Low

Thus, a Moderate risk profile exists for rockfalls from boulders greater than 0.3m diam hitting equipment at the base of rock faces steeper than 1V:1H. This assumes no 'cleaning' of the rock face has been carried out. If boulders > 0.3m diam are 'cleaned' from the rock face, the likelihood reduces to Unlikely, and the corresponding risk profile is Low.

4.4 Risk to Life

The risk to life is a function of the likelihood of a rockfall and the probability that a person is present in the path of the rock. Impacts from larger rocks (>0.3m diam) are more likely to be "catastrophic" than smaller rocks (less than 0.1m diam). Working at the base of the rock face (for example repairing a broken-down vehicle) presents a higher risk than walking across the face, especially if the persons' attention is not on the rock face but on the task at hand.

The risk of a catastrophic consequence can be minimized by restricting public access onto the quarry site, and only allowing work to be carried out within 2m of the rock face with a spotter.

4.5 Conclusion

The assessment shows that the proposed quarry presents a Low to Very Low level of risk to property and risk to life, **provided the limitations listed in Section 5 are incorporated in the design.** A Moderate level of risk occurs for boulders > 0.3m diam falling from rock faces steeper than 1V:1H. However, 'cleaning' of the rock face reduces the risk to Low.

5 DISCUSSION & RECOMMENDATIONS

In order to ensure the proposed quarry does not change the risk profile above Low for the site, it is recommended that the following limitations be enforced:

-) No public access onto the quarry site, unless visitors are accompanied by Site Foreman.
-) No work allowed within 2m of the rock face without a spotter. Where possible, work on a broken-down vehicle to be carried out such that the vehicle is between the person and the rock face.
-) Faces in soil to be no more than 5m high, and at angle of no steeper than 1V:1H. This will also assist in rehabilitation of the site.
-) Faces in rock to be no more than 8m high.
-) Loose rocks should be 'cleaned' from rock faces that are steeper than 1V:1H.
-) Surface runoff on benches above soil slopes to be directed away from the slope to open drains.
-) Maintenance of surface runoff, vegetation, retaining structures and other measures described above are the responsibility of the quarry operator.



Important information about your report

These notes are provided to help you understand the limitations of your report.

Project Scope

Your report has been developed on the basis of your unique project specific requirements as understood by Tasman Geotechnics at the time, and applies only to the site investigated. Tasman Geotechnics should be consulted if there are subsequent changes to the proposed project, to assess how the changes impact on the report's recommendations.

Subsurface Conditions

Subsurface conditions are created by natural processes and the activity of man.

A site assessment identifies subsurface conditions at discreet locations. Actual conditions at other locations may differ from those inferred to exist, because no professional, no matter how qualified, can reveal what is hidden by earth, rock and time.

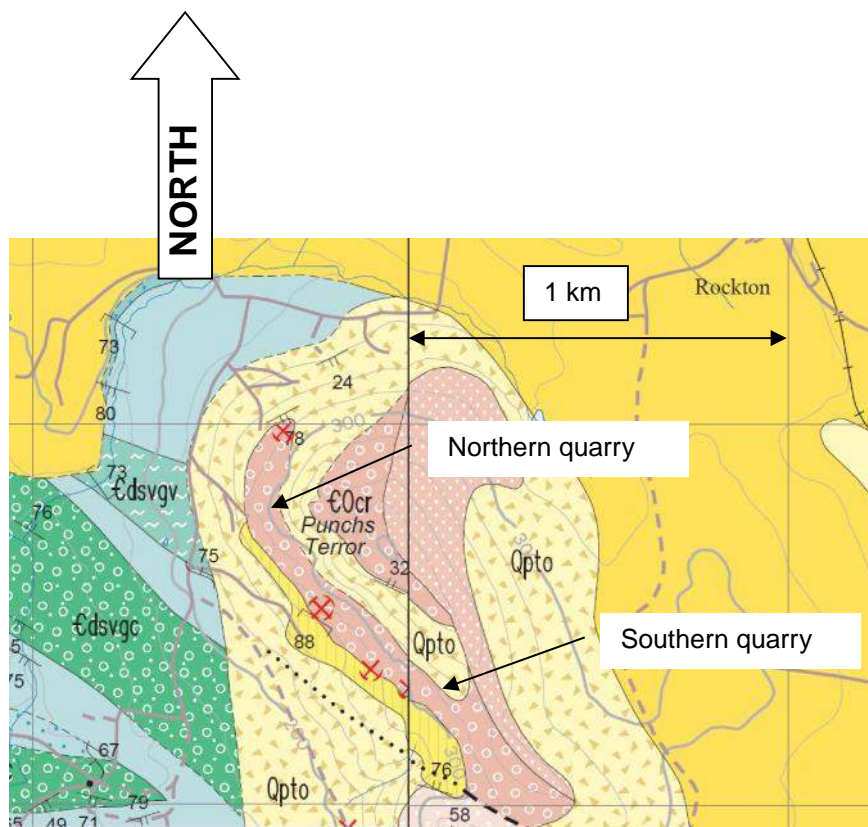
Nothing can be done to change the conditions that exist, but steps can be taken to reduce the impact of unexpected conditions. For this reason, the services of Tasman Geotechnics should be retained throughout the project, to identify variable conditions, conduct additional investigation or tests if required and recommend solutions to problems encountered on site.

Advice and Recommendations

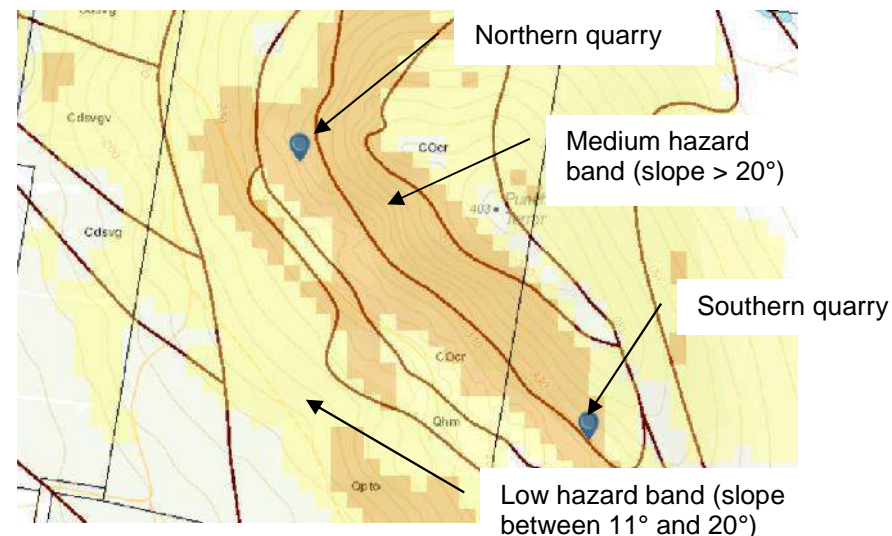
Your report contains advice or recommendations which are based on observations, measurements, calculations and professional interpretation, all of which have a level of uncertainty attached.

The recommendations are based on the assumption that subsurface conditions encountered at the discreet locations are indicative of an area. This can not be substantiated until implementation of the project has commenced. Tasman Geotechnics is familiar with the background information and should be consulted to assess whether or not the report's recommendations are valid, or whether changes should be considered.

The report as a whole presents the findings of the site assessment, and the report should not be copied in part or altered in any way.



MRT Geology Map Extract



drawn	WG	 TASMAN Geotechnics	client:	Treloar Transport	
approved	WG		project:	Landslide Risk Assessment Proposed Quarry Minna Rd, Stowport	
date	14/12/2017		title:	MRT Geology and TheLIST Hazard Map Extracts	
scale	As shown		project no:	TG17244/1 – 01report	figure no: FIGURE 1
original size	A4				

C&DS 3

Appendix A

Selected Site Photographs



Photo 1. Northern quarry showing benches and slopes, predominantly in soil



Photo 2. View of conglomerate rock being quarried



Photo 3. View of southern quarry.

Appendix B
Landslide Risk Matrix

Terminology for use in Assessing Risk to Property

These notes are provided to help you understand concepts and terms used in Landslide Risk Assessment and are based on the “Practice Note Guidelines for Landslide Risk Management 2007” published in *Australian Geomechanics* Vol 42, No 1, 2007.

Likelihood Terms

The qualitative likelihood terms have been related to a nominal design life of 50 years. The assessment of likelihood involves judgment based on the knowledge and experience of the assessor. Different assessors may make different judgments.

Approximate Annual Probability	Implied indicative Recurrence Interval	Description	Descriptor	Level
10^{-1}	10 years	The event is expected to occur over the design life	Almost Certain	A
10^{-2}	100 years	The event will probably occur under adverse conditions over the design life	Likely	B
10^{-3}	1000 years	The event could occur under adverse conditions over the design life	Possible	C
10^{-4}	10,000 years	The event might occur under very adverse conditions over the design life	Unlikely	D
10^{-5}	100,000 years	The event is conceivable but only under exceptional circumstances over the design life	Rare	E
10^{-6}	1,000,000 years	The event is inconceivable or fanciful for the design life	Barely Credible	F

Qualitative Measures of Consequence to Property

Indicative Cost of Damage	Description	Descriptor	Level
200%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequential damage.	Catastrophic	1
60%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequential damage	Major	2
20%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequential damage.	Medium	3
5%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works	Minor	4
0.5%	Little damage.	Insignificant	5

The assessment of consequences involves judgment based on the knowledge and experience of the assessor. The relative consequence terms are value judgments related to how the potential consequences may be perceived by those affected by the risk. Explicit descriptions of potential consequences will help the stakeholders understand the consequences and arrive at their judgment.

Qualitative Risk Analysis Matrix – Risk to Property

Likelihood		Consequences to Property				
	Approximate annual probability	1: Catastrophic	2: Major	3: Medium	4: Minor	5: Insignificant
A: Almost Certain	10^{-1}	VH	VH	VH	H	L
B: Likely	10^{-2}	VH	VH	H	M	L
C: Possible	10^{-3}	VH	H	M	M	VL
D: Unlikely	10^{-4}	H	M	L	L	VL
E: Rare	10^{-5}	M	L	L	VL	VL
F: Barely credible	10^{-6}	L	VL	VL	VL	VL

NOTES:

1. The risk associated with Insignificant consequences, however likely, is defined as Low or Very Low
2. The main purpose of a risk matrix is to help rank risks and set priorities and help the decision making process.

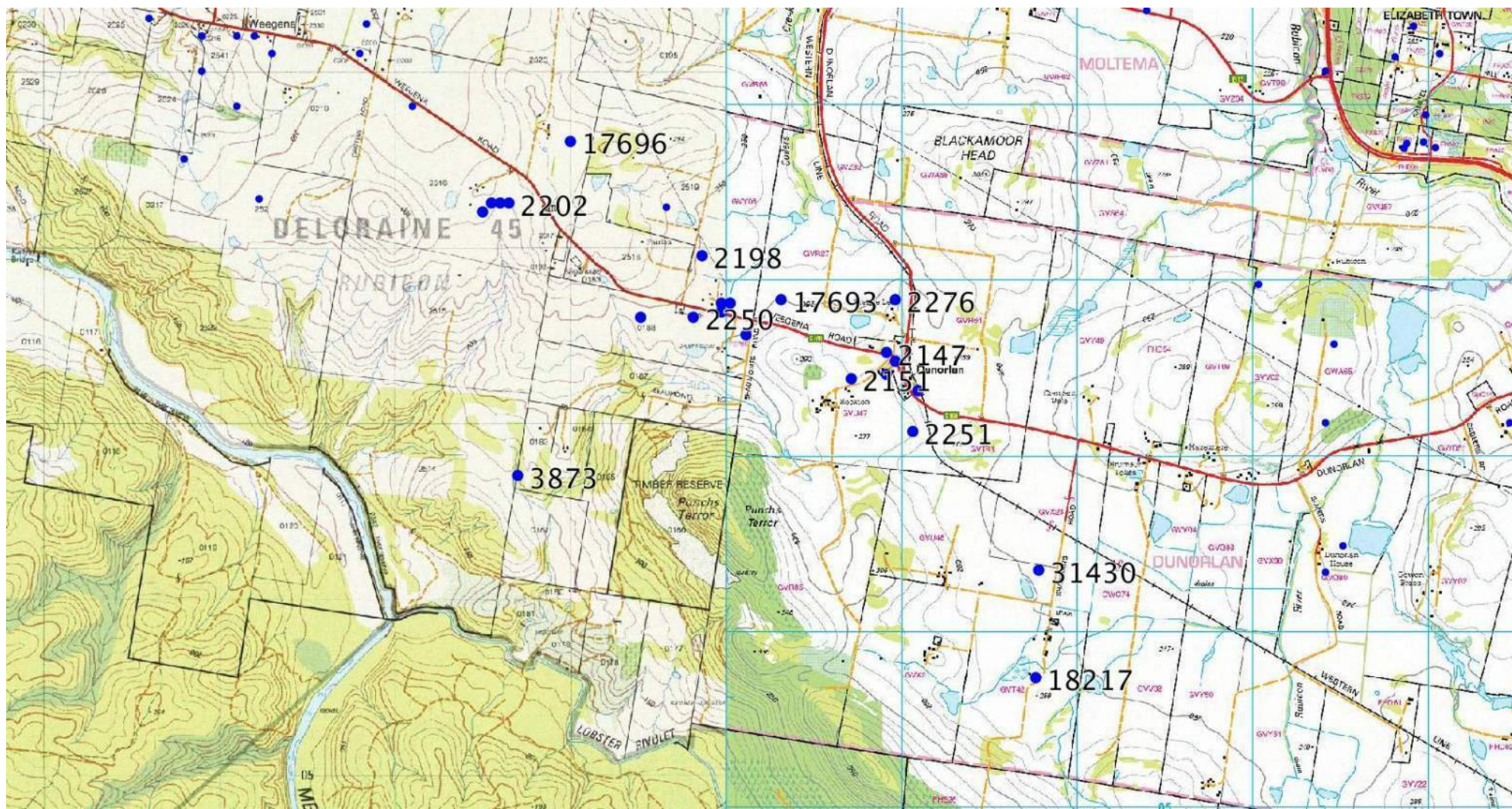
Response to Risk

In general, it is the responsibility of the client and/or regulatory and/or others who may be affected to decide whether to accept or treat the risk. The risk assessor and/or other advisers may assist by making risk comparisons, discussing treatment options, explaining the risk management process, advising how others have reacted to risk in similar situations and making recommendations. Attitudes to risk vary widely and risk evaluation often involves considering more than just property damage (eg environmental effects, public reaction, business confidence etc).

The following is a guide to typical responses to assessed risk.

Risk Level		Example Implications
VH	Very High	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than the value of the property.
H	High	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	Moderate	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	Low	Usually accepted by regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	Very Low	Acceptable. Manage by normal slope maintenance procedures

12.8. Appendix H – Ground Water Bore Report



Explore the possibilities

Disclaimer and Copyright. Map data is compiled from a variety of sources and hence its accuracy is variable. If you wish to make decisions based on this data you should consult with professional advisers. Apart from any use permitted under the Copyright Act 1968, no part of this report may be copied without the permission of the General Manager, Water and Marine Resources Division, Department of Primary Industries, Parks, Water and Environment, PO Box 41, Hobart, TAS 7001.

Feature id	Feature type	Locality name	Easting	Northing	Datum	Coordinate accuracy (m)	Drilled date	Drilling company	Depth	Initial yield	SWL list	Last SWL date	Final TDS	Main aquifer geology	Last operating status	Last operating status date
2146	Bore	Dunorlan	460913	5407458	GDA94	2000	02/12/1975	Mono Pumps Australia Pty Ltd	24.40	1.52	18.3	02/12/1975		Tertiary Basalt	functioning	02/12/1975
2147	Bore	Dunorlan	460913	5407583	GDA94	200	21/10/1981	Gerald Spaulding Drillers Pty Ltd	33.60	0.63	15.2	21/10/1981		Tertiary Basalt	functioning	21/10/1981
2151	Bore	Dunorlan	460713	5407433	GDA94	2000	03/12/1975	Mono Pumps Australia Pty Ltd	18.30	0.76	4.6	03/12/1975	380	Tertiary Basalt	functioning	03/12/1975
2198	Bore	Dunorlan	459863	5408133	GDA94	2000	01/11/1981	Triffitt	18.30	0.51	10.7	01/11/1981		Tertiary Basalt	Unknown	01/11/1981
2199	Bore	Dunorlan	458613	5408383	GDA94	2000	01/12/1981	Triffitt	22.90	1.89	.2	01/12/1981		Tertiary Basalt	functioning	01/12/1981
2200	Bore	Dunorlan	458663	5408433	GDA94	2000	01/12/1981	Triffitt	36.60	0.00				Cambrian	Unknown	01/12/1981
2201	Bore	Dunorlan	458713	5408433	GDA94	2000	01/12/1981	Triffitt	21.30	0.00				Cambrian	Unknown	01/12/1981
2202	Bore	Dunorlan	458763	5408433	GDA94	2000	01/12/1981	Triffitt	61.00	0.00				Cambrian	Unknown	01/12/1981
2203	Bore	Dunorlan	460963	5407533	GDA94	1000	01/01/1982	Triffitt	18.30		6.1	01/01/1982		Tertiary Basalt	functioning	01/01/1982
2226	Bore	Dunorlan	460113	5407683	GDA94	2000	01/03/1982	Triffitt	17.70	0.38				Tertiary Basalt	functioning	01/03/1982
2250	Bore	Dunorlan	459813	5407783	GDA94	2000		Phillips	45.70					Tertiary Basalt	Unknown	
2251	Bore	Dunorlan	461063	5407133	GDA94	2000		Phillips	45.80	1.14				Tertiary Basalt	Unknown	
2276	Bore	Dunorlan	460963	5407883	GDA94	2000	20/08/1984	Kelly	15.80	0.25	8.5	20/08/1984		Tertiary Basalt	functioning	20/08/1984
3873	Bore	Dunorlan	458813	5406883	GDA94	200		McCall	48.80	1.89	9.1			Tertiary Basalt	functioning	
3947	Bore	Dunorlan	459513	5407783	GDA94	2000	21/02/1995	Gerald Spaulding Drillers Pty Ltd	80.80					Tertiary Basalt	functioning	21/02/1995
3969	Bore	Dunorlan	460023	5407863	GDA94	1000	02/12/1992	Gerald Spaulding Drillers Pty Ltd	16.80	0.76				Tertiary Basalt	functioning	02/12/1992
3970	Bore	Dunorlan	459973	5407813	GDA94	1000	30/11/1992	Gerald Spaulding Drillers Pty Ltd	30.50	0.51				Tertiary Basalt	abandoned	30/11/1992
3971	Bore	Dunorlan	459973	5407863	GDA94	1000	01/12/1992	Gerald Spaulding Drillers Pty Ltd	69.50	2.53	4.6	01/12/1992		Tertiary Basalt	functioning	01/12/1992
17693	Bore	Dunorlan	460313	5407883	GDA94	2000		McCall	48.80	1.89	9.2			Tertiary Basalt	Unknown	
17696	Bore	Dunorlan	459113	5408783	GDA94	2000	08/12/1997	Gerald Spaulding Drillers Pty Ltd	29.00	2.53	1.52	08/12/1997		Tertiary Basalt	functioning	08/12/1997
18217	Bore	Dunorlan	461763	5405733	GDA94	2000	01/01/1995	Moore, P.	19.80	0.63				Tertiary Basalt	Unknown	01/01/1995
31430	Bore	Dunorlan	461780	5406345	GDA94	25	04/06/2002	Gerald Spaulding Drillers Pty Ltd	30.00	10.10	1.2	04/06/2002		Cambrian	functioning	04/06/2002
41318	Bore	Dunorlan	461092	5407367	GDA94	25	05/12/2007	DPIWE	39.50					Tertiary Basalt	functioning	05/12/2007

12.9. Appendix I – Natural Values Atlas Report

Natural Values Atlas Report

Authoritative, comprehensive information on Tasmania's natural values.

Reference:

Requested For:

Report Type: Summary Report

Timestamp: 10:24:01 AM Thursday 04 January 2018

Threatened Flora: buffers Min: 500m Max: 5000m

Threatened Fauna: buffers Min: 500m Max: 5000m

Raptors: buffers Min: 500m Max: 5000m

Tasmanian Weed Management Act Weeds: buffers Min: 500m Max: 5000m

Priority Weeds: buffers Min: 500m Max: 5000m

Geoconservation: buffer 1000m

Acid Sulfate Soils: buffer 1000m

TASVEG: buffer 1000m

Threatened Communities: buffer 1000m

Fire History: buffer 1000m

Tasmanian Reserve Estate: buffer 1000m

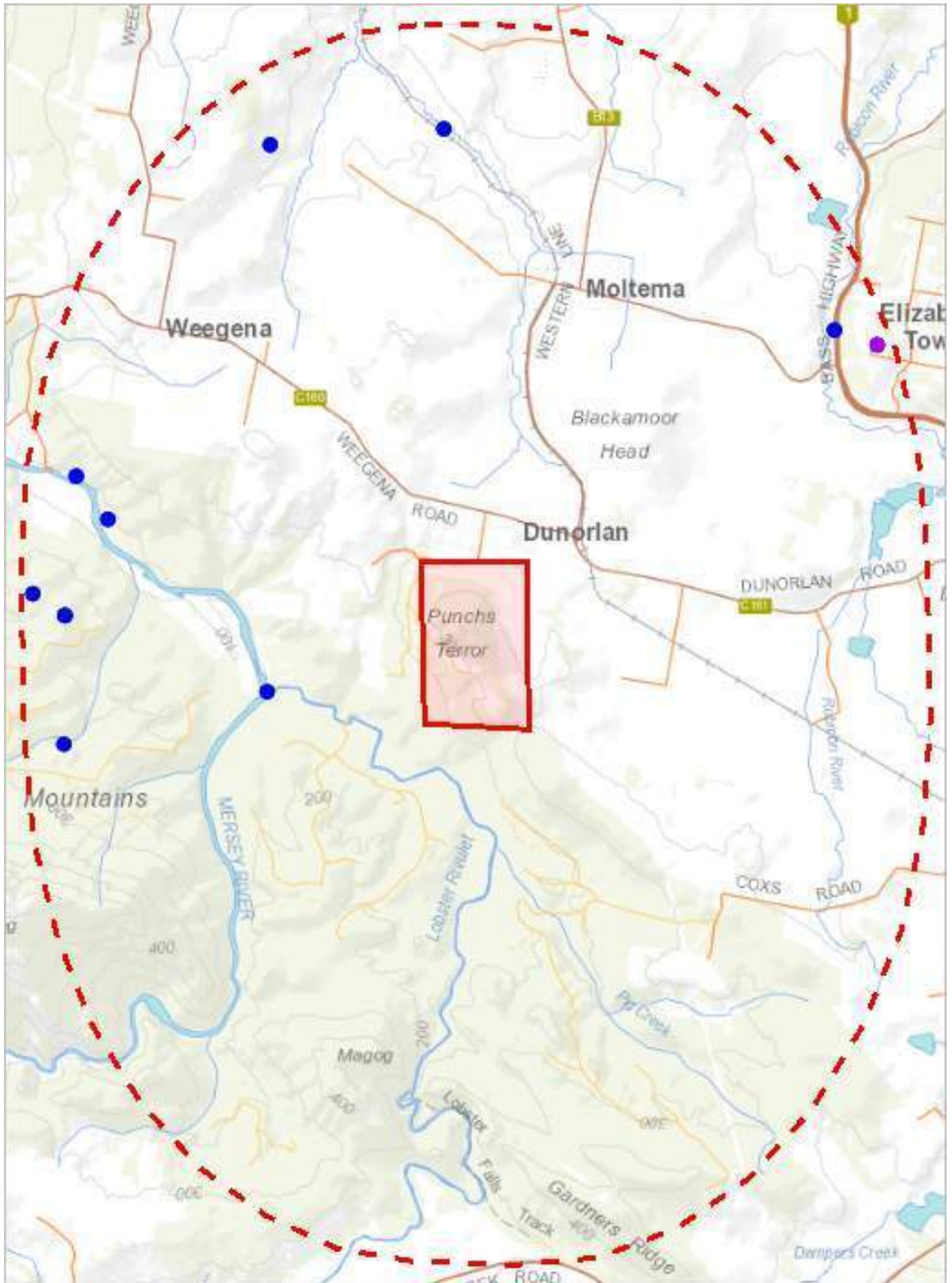
Biosecurity Risks: buffer 1000m



The centroid for this query GDA94: 460065.0, 5406541.0 falls within:

Property: 6281755

*** No threatened flora found within 500 metres ***



455609, 5400527

Please note that some layers may not display at all requested map scales

Threatened flora within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

Line Verified

Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Threatened flora within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Desmodium gunnii</i>	southern ticktrefoil	v		n	6	18-Jan-1999
<i>Epilobium pallidiflorum</i>	showy willowherb	r		n	1	26-Feb-1970
<i>Glycine microphylla</i>	small-leaf glycine	v		n	1	12-Nov-1996
<i>Gynatrix pulchella</i>	fragrant hempbush	r		n	2	30-Dec-1998
<i>Hypolepis muelleri</i>	harsh groundfern	r		n	1	01-Aug-1998
<i>Pimelea curviflora</i>	curved riceflower	p		n	2	22-Nov-1999
<i>Pimelea curviflora</i> var. <i>gracilis</i>	slender curved riceflower	r		n	5	19-Sep-1997

Unverified Records

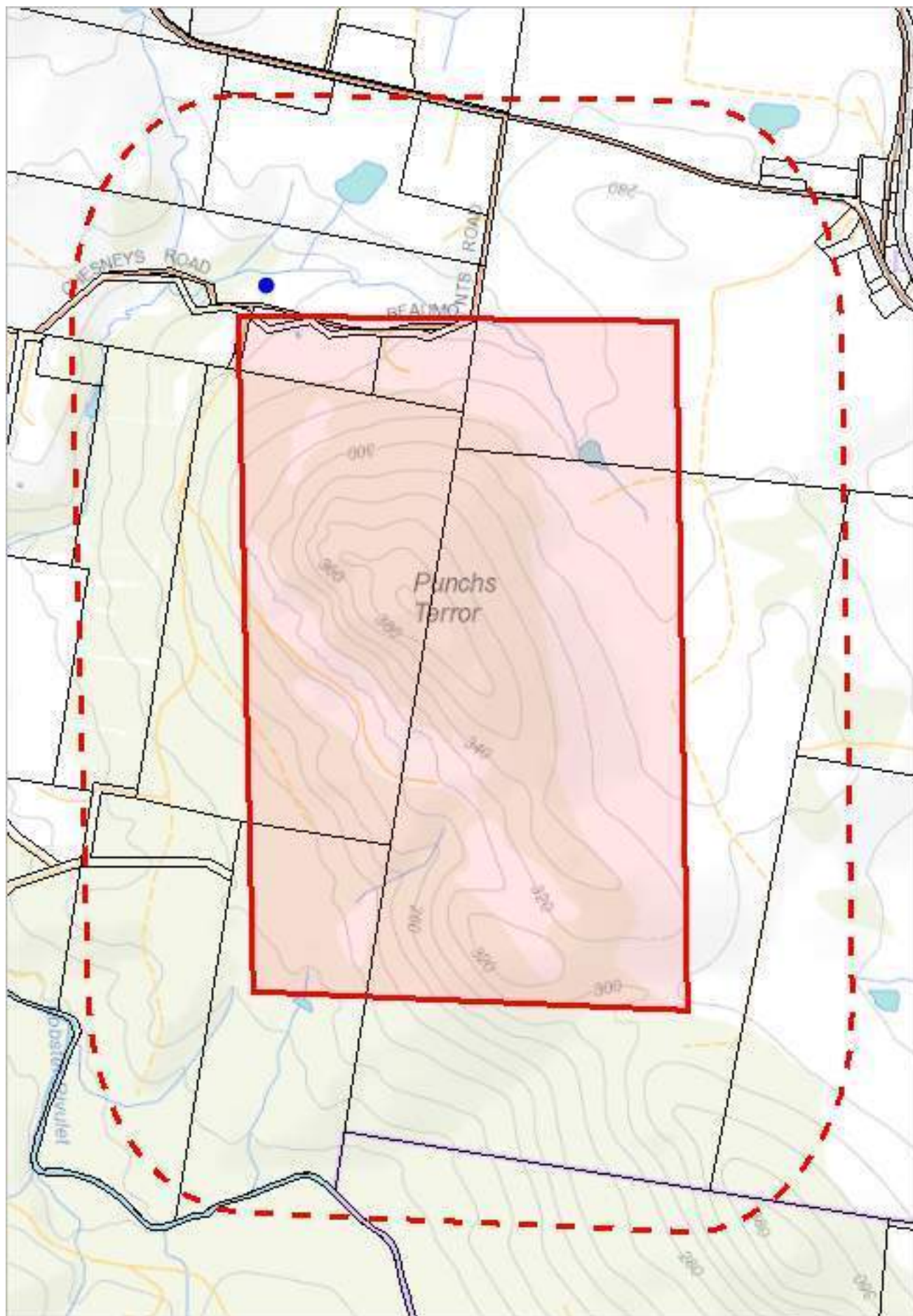
Species	Common Name	SS	NS	Bio	Observation Count
<i>Pterostylis ziegeleri</i>	grassland greenhood	v	VU	e	1

For more information about threatened species, please Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiw.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



459018, 5405043

Please note that some layers may not display at all requested map scales

Threatened fauna within 500 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

Line Verified

Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Threatened fauna within 500 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Litoria raniformis	green and gold frog	v	VU	n	1	11-Dec-1990

Unverified Records

No unverified records were found!

Threatened fauna within 500 metres (based on Range Boundaries)

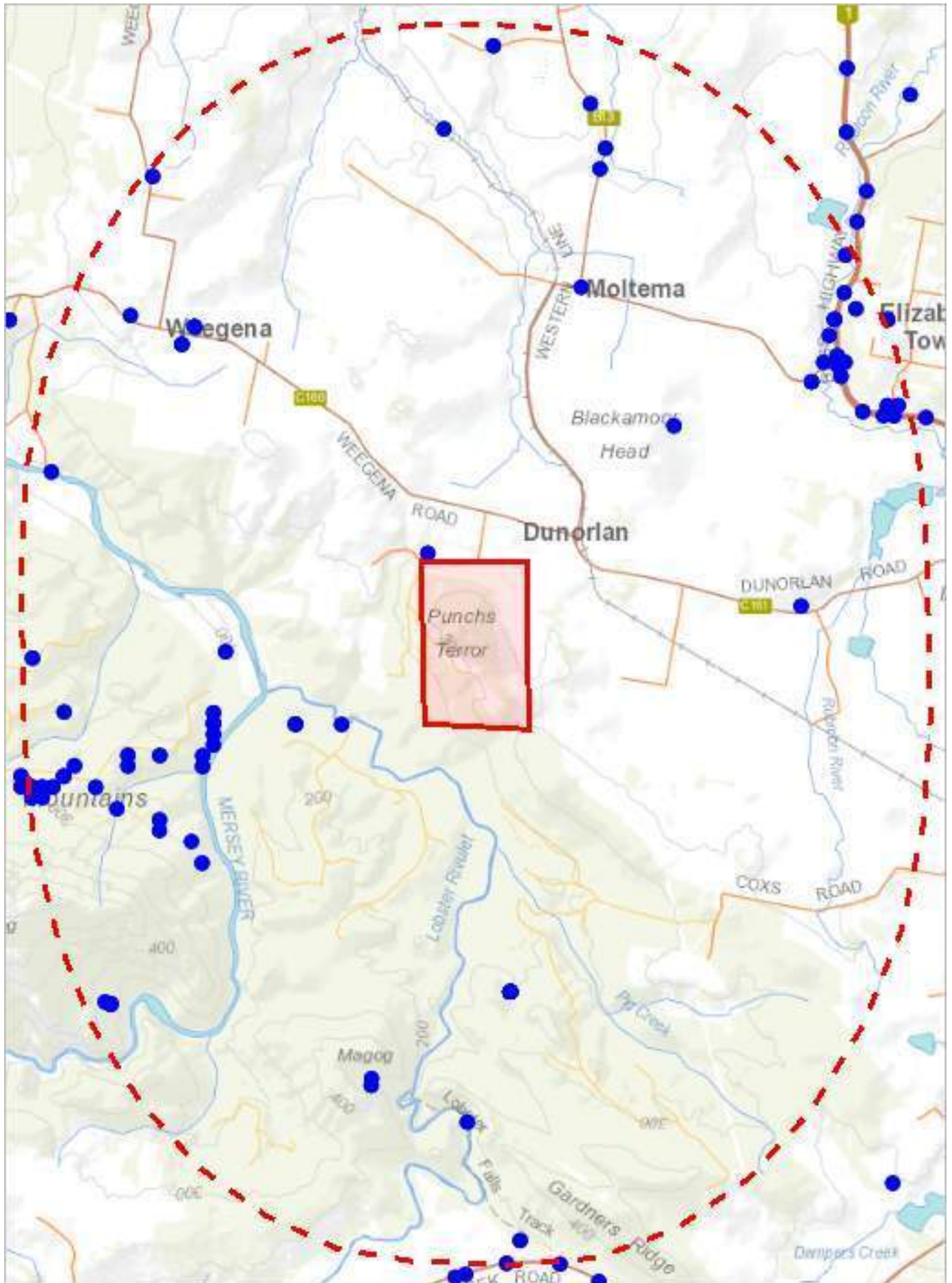
Species	Common Name	SS	NS	BO	Potential	Known	Core
Astacopsis gouldi	giant freshwater crayfish	v	VU	e	1	0	0
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Engaeus granulatus	Central North burrowing crayfish	e	EN	e	1	0	0
Pseudemoia pagenstecheri	tussock skink	v		n	1	0	0
Dasyurus maculatus	spotted-tailed quoll	r	VU	n	1	0	0
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
Aquila audax	wedge-tailed eagle	pe	PEN	n	1	0	0
Galaxiella pusilla	eastern dwarf galaxias	v	VU	n	1	0	0
Tyto novaehollandiae	masked owl	pe	PVU	n	1	0	1
Perameles gunnii	eastern barred bandicoot		VU	n	1	0	0
Dasyurus viverrinus	eastern quoll		EN	n	0	0	1
Lathamus discolor	swift parrot	e	CR	mbe	1	0	0
Prototroctes maraena	australian grayling	v	VU	n	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	1
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	1	0	0
Alcedo azurea subsp. diemenensis	azure kingfisher or azure kingfisher (tasmanian)	e	EN	e	0	0	1

For more information about threatened species, please Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



455609, 5400527

Please note that some layers may not display at all requested map scales

Threatened fauna within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Threatened fauna within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Accipiter novaehollandiae	grey goshawk	e		n	1	27-Mar-1977
Aquila audax	wedge-tailed eagle	pe	PEN	n	5	16-Sep-2010
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	14	16-Nov-2017
Astacopsis gouldi	giant freshwater crayfish	v	VU	e	4	01-Jan-1993
Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	n	6	01-Jan-1996
Dasyurus viverrinus	eastern quoll		EN	n	2	01-Jan-1996
Hickmanoxymomma gibbergunyar	cave harvestman or Mole Creek cave harvestman	r		e	1	01-Jan-0001
Lathamus discolor	swift parrot	e	CR	mbe	32	29-Nov-1995
Litoria raniformis	green and gold frog	v	VU	n	9	20-Dec-2000
Perameles gunnii	eastern barred bandicoot		VU	n	17	21-Sep-1992
Prototroctes maraena	australian grayling	v	VU	n	1	22-Mar-2004
Sarcophilus harrisii	tasmanian devil	e	EN	e	7	26-Jul-2015
Tyto novaehollandiae	masked owl	pe	PVU	n	8	12-Jun-2016

Unverified Records

No unverified records were found!

Threatened fauna within 5000 metres (based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
Astacopsis gouldi	giant freshwater crayfish	v	VU	e	1	0	0
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Engaeus granulatus	Central North burrowing crayfish	e	EN	e	1	0	0
Hickmanoxymomma gibbergunyar	cave harvestman or Mole Creek cave harvestman	r		e	1	1	0
Pseudemoia pagenstecheri	tussock skink	v		n	1	0	0
Dasyurus maculatus	spotted-tailed quoll	r	VU	n	1	0	1
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
Aquila audax	wedge-tailed eagle	pe	PEN	n	2	0	0
Galaxiella pusilla	eastern dwarf galaxias	v	VU	n	1	0	0
Galaxias fontanus	swan galaxias	e	EN	e	1	0	0
Tyto novaehollandiae	masked owl	pe	PVU	n	1	0	1
Perameles gunnii	eastern barred bandicoot		VU	n	1	0	0
Dasyurus viverrinus	eastern quoll		EN	n	0	0	1
Lathamus discolor	swift parrot	e	CR	mbe	1	0	0
Prototroctes maraena	australian grayling	v	VU	n	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	1
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	1	0	0
Alcedo azurea subsp. diemenensis	azure kingfisher or azure kingfisher (tasmanian)	e	EN	e	0	0	1

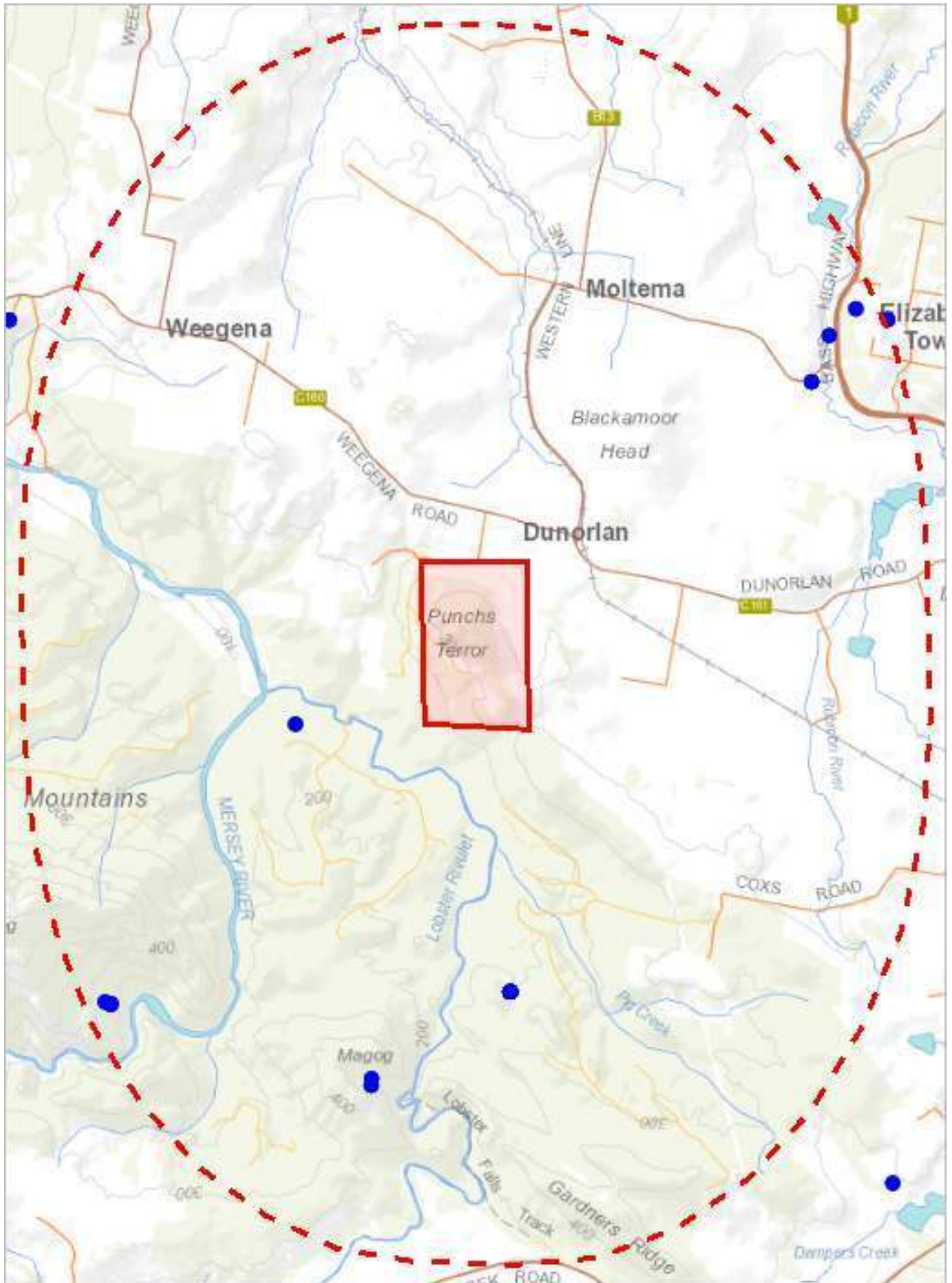
For more information about threatened species, please Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpipwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

*** No Raptor nests or sightings found within 500 metres. ***



455609, 5400527

Please note that some layers may not display at all requested map scales

Raptor nests and sightings within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Raptor nests and sightings within 5000 metres

Verified Records

Nest Id/Location Foreign Id	Species	Common Name	Obs Type	Observation Count	Last Recorded
1335	Aquila audax	wedge-tailed eagle	Nest	5	16-Sep-2010
1335	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	6	28-Oct-2015
186	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	3	10-Dec-2007
188	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	1	01-Jan-1985
2451	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	2	16-Nov-2017
564	Tyto novaehollandiae	masked owl	Nest	1	01-Jan-1985
	Accipiter novaehollandiae	grey goshawk	Sighting	1	27-Mar-1977
	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Sighting	2	14-Nov-1996
	Tyto novaehollandiae	masked owl	Carcass	1	12-Jun-2016
	Tyto novaehollandiae	masked owl	Sighting	6	12-Jun-2016

Unverified Records

No unverified records were found!

Raptor nests and sightings within 5000 metres (based on Range Boundaries)

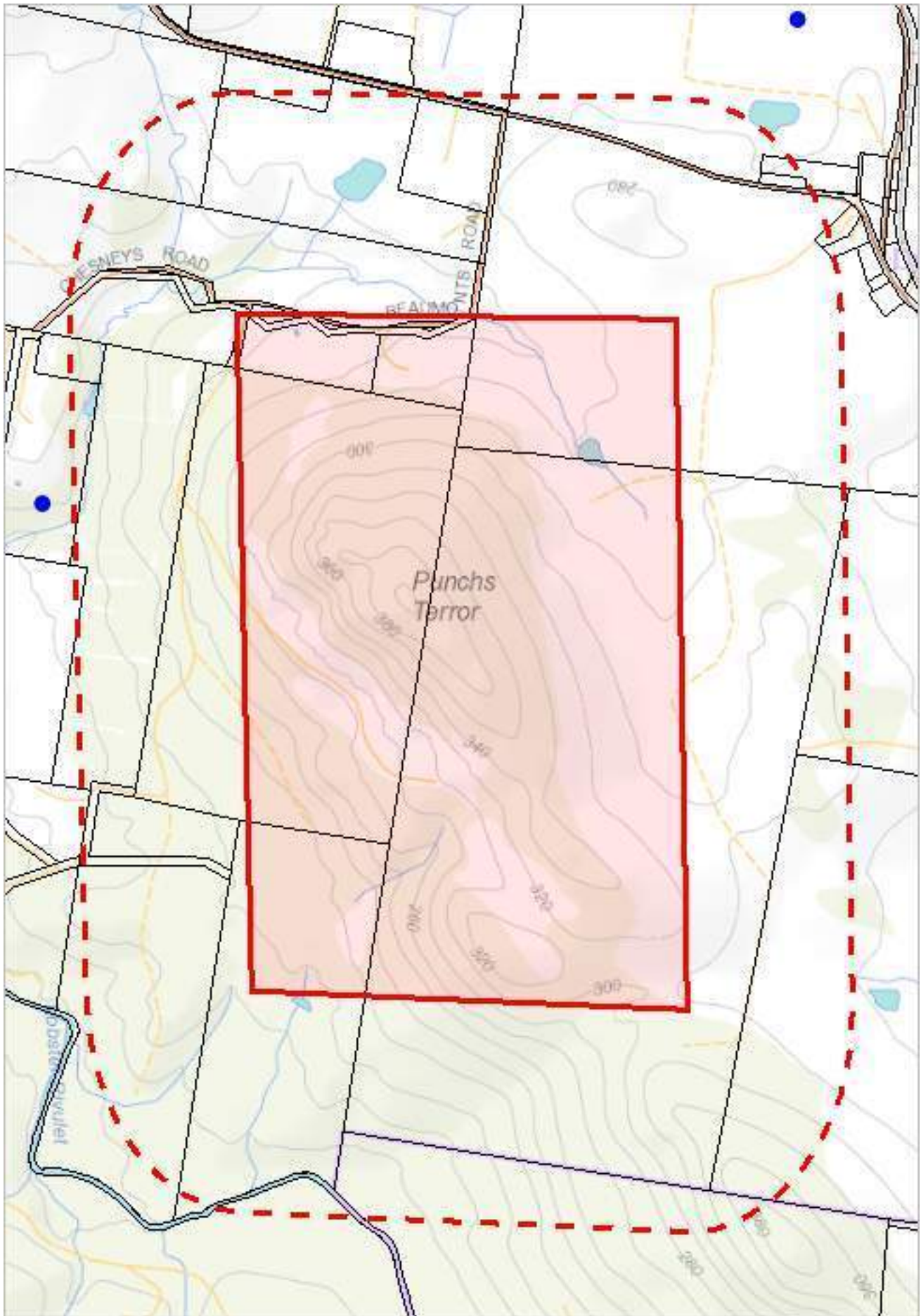
Species	Common Name	SS	NS	Potential	Known	Core
Aquila audax	wedge-tailed eagle	pe	PEN	2	0	0
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	1	0	0
Tyto novaehollandiae	masked owl	pe	PVU	1	0	1
Accipiter novaehollandiae	grey goshawk	e		1	0	1
Haliaeetus leucogaster	white-bellied sea-eagle	v		1	0	0

For more information about raptor nests, please contact Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiwwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



459018, 5405043

Please note that some layers may not display at all requested map scales

Tas Management Act Weeds within 500 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

Line Verified

Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Tas Management Act Weeds within 500 m

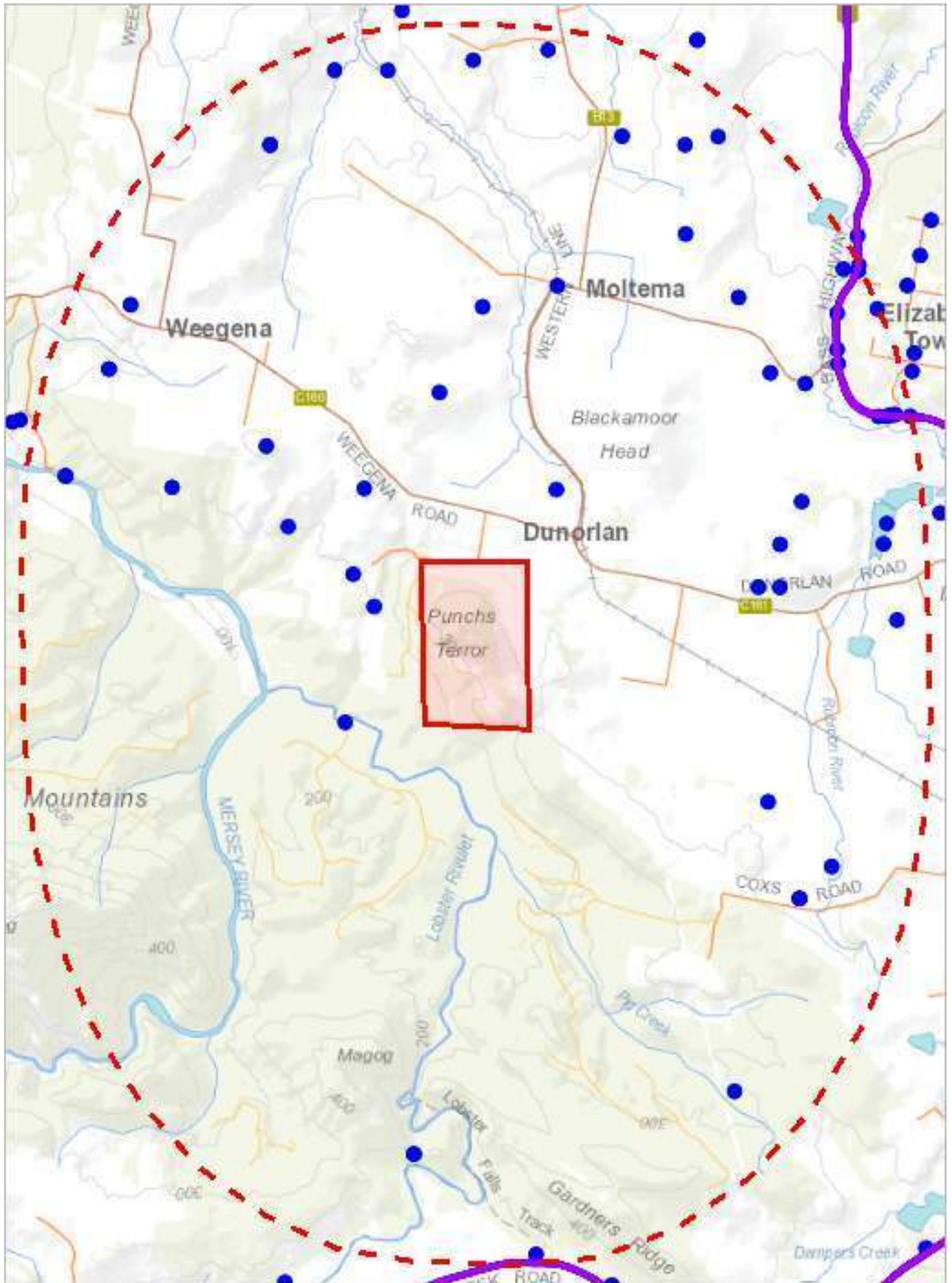
Verified Records

Species	Common Name	Observation Count	Last Recorded
Senecio jacobaea	ragwort	1	17-Jan-1994

Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwpe.tas.gov.au/invasive-species/weeds>



455609, 5400527

Please note that some layers may not display at all requested map scales

Tas Management Act Weeds within 5000 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Tas Management Act Weeds within 5000 m

Verified Records

Species	Common Name	Observation Count	Last Recorded
Cortaderia sp.	pampas grass	1	23-Mar-2011
Erica lusitanica	spanish heath	6	24-Oct-2001
Hypericum perforatum subsp. veronense	perforated st johns-wort	7	21-Feb-2011
Rubus fruticosus	blackberry	10	01-Aug-1998
Senecio jacobaea	ragwort	65	21-Feb-2011
Ulex europaeus	gorse	5	14-May-2012

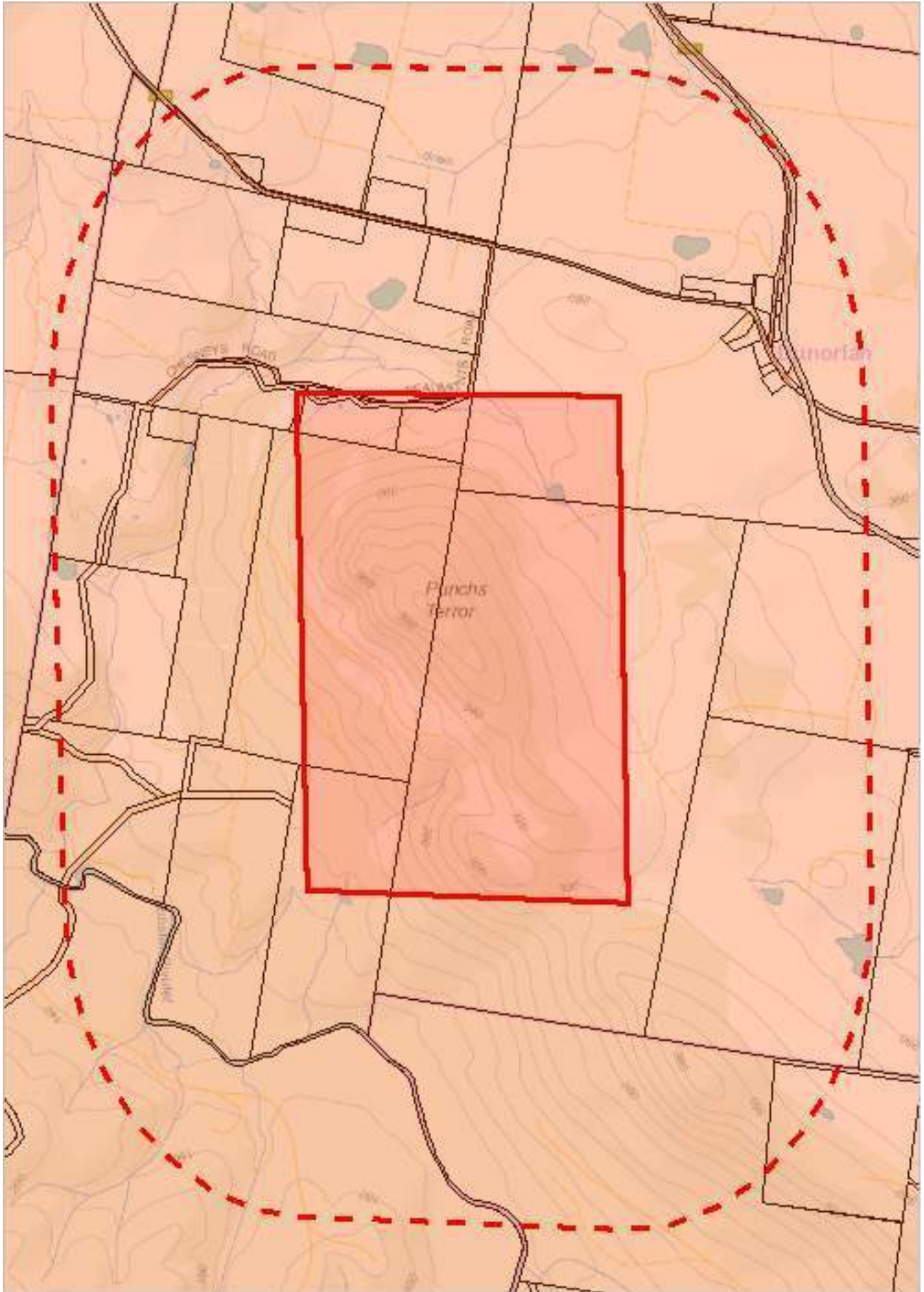
Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwpe.tas.gov.au/invasive-species/weeds>

*** No Priority Weeds found within 500 metres ***

*** No Priority Weeds found within 5000 metres ***



458639, 5404542

Please note that some layers may not display at all requested map scales

Geoconservation sites within 1000 metres

Legend: Geoconservation (NVA)



Legend: Cadastral Parcels



Geoconservation sites within 1000 metres

Id	Name	Statement of Significance	Geographical Significance	Status
2953	Central Highlands Cenozoic Glacial Area	This site contains significant glaciogene values, including World Heritage values, however the nature and distribution of landforms and deposits is incompletely known or documented.	Continent	Listed

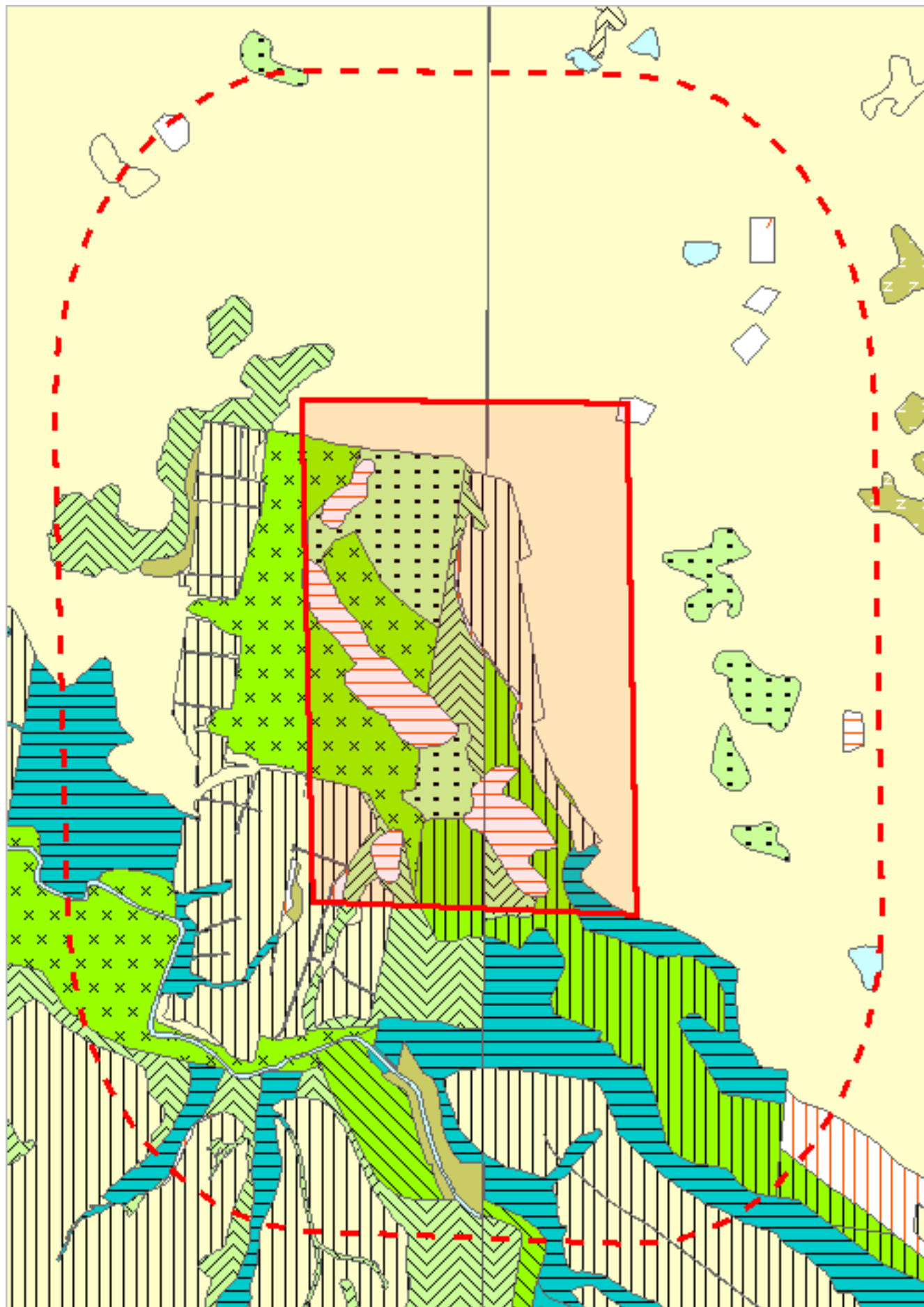
For more information about the Geoconservation Database, please visit the website: <http://dppw.tas.gov.au/conservation/geoconservation> or contact the Geoconservation Officer:

Telephone: (03) 6165 4401

Email: Geoconservation.Enquiries@dppw.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000




























































*** No Acid Sulfate Soils found within 1000 metres ***
































































458639, 5404542

Please note that some layers may not display at all requested map scales












































Legend: TASVEG 3.0

	DAC - Eucalyptus amygdalina coastal forest and woodland
	DAD - Eucalyptus amygdalina forest and woodland on dolerite
	DAS - Eucalyptus amygdalina forest and woodland on sandstone
	DAM - Eucalyptus amygdalina forest on mudstone
	DAZ - Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits
	DSC - Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest
	DBA - Eucalyptus barberi forest and woodland
	DCO - Eucalyptus coccifera forest and woodland
	DCR - Eucalyptus cordata forest
	DDP - Eucalyptus dalrympleana - Eucalyptus pauciflora forest and woodland
	DDE - Eucalyptus delegatensis dry forest and woodland
	DGL - Eucalyptus globulus dry forest and woodland
	DGW - Eucalyptus gunnii woodland
	DMO - Eucalyptus morrisbyi forest and woodland
	DNI - Eucalyptus nitida dry forest and woodland
	DNF - Eucalyptus nitida Furneaux forest
	DOB - Eucalyptus obliqua dry forest
	DOV - Eucalyptus ovata forest and woodland
	DOW - Eucalyptus ovata heathy woodland
	DPO - Eucalyptus pauciflora forest and woodland not on dolerite
	DPD - Eucalyptus pauciflora forest and woodland on dolerite
	DPE - Eucalyptus perriniana forest and woodland
	DPU - Eucalyptus pulchella forest and woodland
	DRI - Eucalyptus risdonii forest and woodland
	DRO - Eucalyptus rodwayi forest and woodland
	DSO - Eucalyptus sieberi forest and woodland not on granite
	DSG - Eucalyptus sieberi forest and woodland on granite
	DTD - Eucalyptus tenuiramis forest and woodland on dolerite
	DTG - Eucalyptus tenuiramis forest and woodland on granite
	DTO - Eucalyptus tenuiramis forest and woodland on sediments
	DVF - Eucalyptus viminalis Furneaux forest and woodland
	DVG - Eucalyptus viminalis grassy forest and woodland
	DVC - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
	DKW - King Island Eucalypt woodland
	DMW - Midlands woodland complex
	WBR - Eucalyptus brookeriana wet forest
	WDA - Eucalyptus dalrympleana forest
	WDL - Eucalyptus delegatensis forest over Leptospermum
	WDR - Eucalyptus delegatensis forest over rainforest
	WDB - Eucalyptus delegatensis forest with broad-leaf shrubs
	WDU - Eucalyptus delegatensis wet forest (undifferentiated)
	WGK - Eucalyptus globulus King Island forest
	WGL - Eucalyptus globulus wet forest
	WNL - Eucalyptus nitida forest over Leptospermum
	WNR - Eucalyptus nitida forest over rainforest
	WNU - Eucalyptus nitida wet forest (undifferentiated)
	WOL - Eucalyptus obliqua forest over Leptospermum
	WOR - Eucalyptus obliqua forest over rainforest
	WOB - Eucalyptus obliqua forest with broad-leaf shrubs
	WOU - Eucalyptus obliqua wet forest (undifferentiated)
	WRE - Eucalyptus regnans forest
	WSU - Eucalyptus subcrenulata forest and woodland
	WVI - Eucalyptus viminalis wet forest
	RPF - Athrotaxis cupressoides - Nothofagus gunnii short rainforest
	RPW - Athrotaxis cupressoides open woodland
	RPP - Athrotaxis cupressoides rainforest
	RKF - Athrotaxis selaginoides - Nothofagus gunnii short rainforest
	RKP - Athrotaxis selaginoides rainforest
	RKS - Athrotaxis selaginoides subalpine scrub

TASVEG 3.0 Communities within 1000 metres

	RCO - Coastal rainforest
	RSH - Highland low rainforest and scrub
	RKX - Highland rainforest scrub with dead Athrotaxis selaginoides
	RHP - Lagarostrobos franklinii rainforest and scrub
	RMT - Nothofagus - Atherosperma rainforest
	RML - Nothofagus - Leptospermum short rainforest
	RMS - Nothofagus - Phyllocladus short rainforest
	RFS - Nothofagus gunnii rainforest and scrub
	RMU - Nothofagus rainforest (undifferentiated)
	RFE - Rainforest fernland
	NAD - Acacia dealbata forest
	NAR - Acacia melanoxylon forest on rises
	NAF - Acacia melanoxylon swamp forest
	NAL - Allocasuarina littoralis forest
	NAV - Allocasuarina verticillata forest
	NBS - Banksia serrata woodland
	NBA - Bursaria - Acacia woodland and scrub
	NCR - Callitris rhomboidea forest
	NLE - Leptospermum forest
	NLM - Leptospermum lanigerum - Melaleuca squarrosa swamp forest
	NLA - Leptospermum scoparium - Acacia mucronata forest
	NME - Melaleuca ericifolia swamp forest
	NLN - Subalpine Leptospermum nitidum woodland
	AHF - Fresh water aquatic herbland
	ASF - Freshwater aquatic sedgeland and rushland
	AHL - Lacustrine herbland
	AHS - Saline aquatic herbland
	ARS - Saline sedgeland/rushland
	AUS - Saltmarsh (undifferentiated)
	ASS - Succulent saline herbland
	AWU - Wetland (undifferentiated)
	SAL - Acacia longifolia coastal scrub
	SBM - Banksia marginata wet scrub
	SBR - Broad-leaf scrub
	SCH - Coastal heathland
	SSC - Coastal scrub
	SCA - Coastal scrub on alkaline sands
	SRE - Eastern riparian scrub
	SED - Eastern scrub on dolerite
	SCL - Heathland on calcareous substrates
	SKA - Kunzea ambigua regrowth scrub
	SLG - Leptospermum glaucescens heathland and scrub
	SLL - Leptospermum lanigerum scrub
	SLS - Leptospermum scoparium heathland and scrub
	SLW - Leptospermum scrub
	SRF - Leptospermum with rainforest scrub
	SMP - Melaleuca pustulata scrub
	SMM - Melaleuca squamea heathland
	SMR - Melaleuca squarrosa scrub
	SRH - Rookery halophytic herbland
	SSK - Scrub complex on King Island
	SSZ - Spray zone coastal complex
	SHS - Subalpine heathland
	SWR - Western regrowth complex
	SSW - Western subalpine scrub
	SWW - Western wet scrub
	SHW - Wet heathland
	HCH - Alpine coniferous heathland
	HCM - Cushion moorland
	HHE - Eastern alpine heathland
	HSE - Eastern alpine sedgeland

TASVEG 3.0 Communities within 1000 metres

	HUE - Eastern alpine vegetation (undifferentiated)
	HHW - Western alpine heathland
	HSW - Western alpine sedgeland/herbland
	MAP - Alkaline pans
	MBU - Buttongrass moorland (undifferentiated)
	MBS - Buttongrass moorland with emergent shrubs
	MBE - Eastern buttongrass moorland
	MGH - Highland grassy sedgeland
	MBP - Pure buttongrass moorland
	MRR - Restionaceae rushland
	MBR - Sparse buttongrass moorland on slopes
	MSP - Sphagnum peatland
	MDS - Subalpine Diplarrena latifolia rushland
	MBW - Western buttongrass moorland
	MSW - Western lowland sedgeland
	GHC - Coastal grass and herbfield
	GPH - Highland Poa grassland
	GCL - Lowland grassland complex
	GSL - Lowland grassy sedgeland
	GPL - Lowland Poa labillardierei grassland
	GTL - Lowland Themeda triandra grassland
	GRP - Rockplate grassland
	FAG - Agricultural land
	FUM - Extra-urban miscellaneous
	FMG - Marram grassland
	FPE - Permanent easements
	FPL - Plantations for silviculture
	FPF - Pteridium esculentum fernland
	FRG - Regenerating cleared land
	FSM - Spartina marshland
	FPU - Unverified plantations for silviculture
	FUR - Urban areas
	FWU - Weed infestation
	QCS - Coastal slope complex
	QCT - Coastal terrace mosaic
	QKB - Kelp beds
	QAM - Macquarie alpine mosaic
	QMI - Mire
	QST - Short tussock grassland/rushland with herbs
	QTT - Tall tussock grassland with megaherbs
	ORO - Lichen lithosere
	OSM - Sand, mud
	OAQ - Water, sea

Legend: Cadastral Parcels



TASVEG 3.0 Communities within 1000 metres

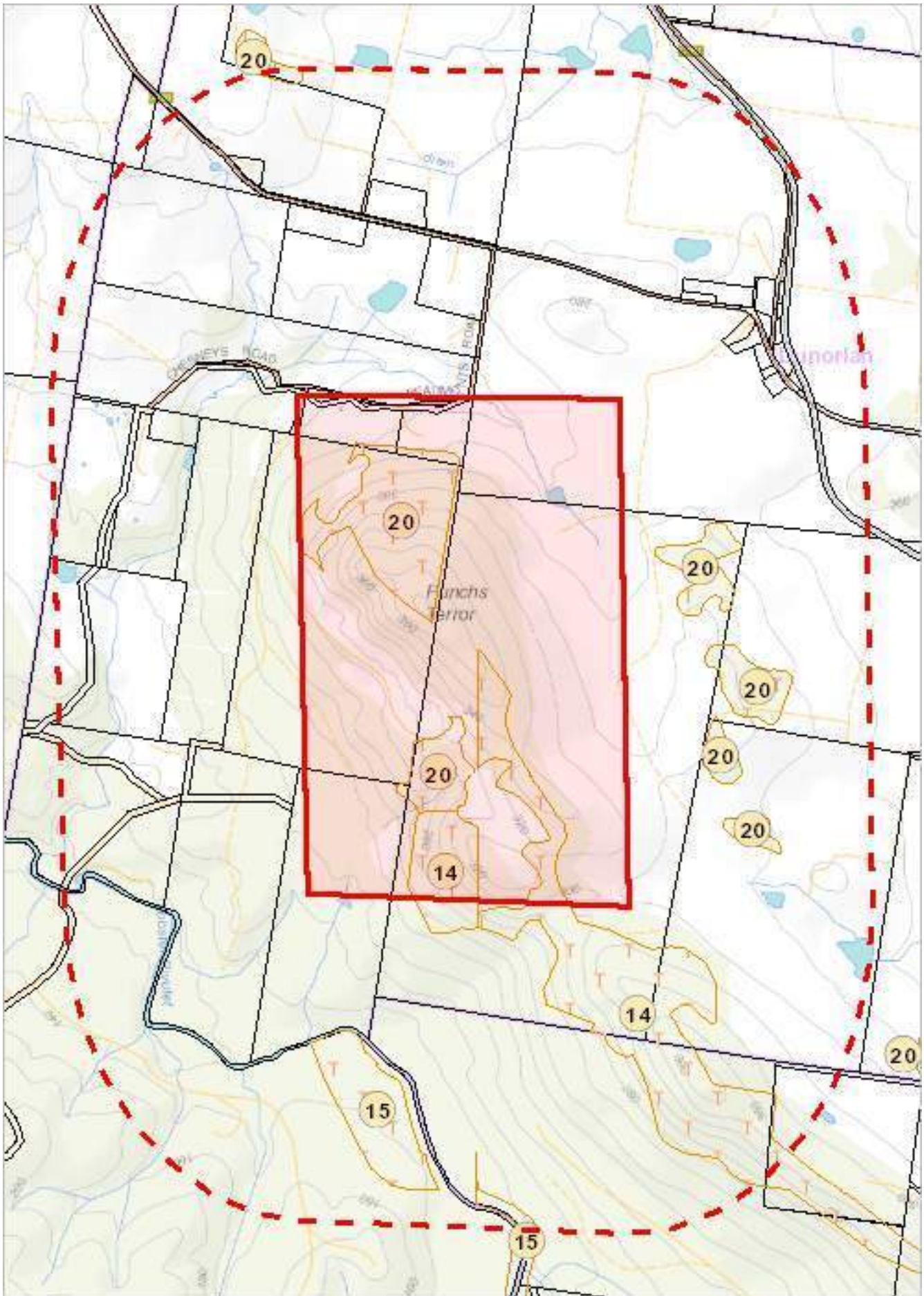
Code	Community	Emergent Species
DAC	(DAC) Eucalyptus amygdalina coastal forest and woodland	
DAS	(DAS) Eucalyptus amygdalina forest and woodland on sandstone	
DAZ	(DAZ) Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	
DOB	(DOB) Eucalyptus obliqua dry forest	
DOV	(DOV) Eucalyptus ovata forest and woodland	
DSC	(DSC) Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest	
FAG	(FAG) Agricultural land	EL
FAG	(FAG) Agricultural land	EV
FAG	(FAG) Agricultural land	
FPL	(FPL) Plantations for silviculture	
FPU	(FPU) Unverified plantations for silviculture	
FUM	(FUM) Extra-urban miscellaneous	
FUR	(FUR) Urban areas	
NAD	(NAD) Acacia dealbata forest	
NBA	(NBA) Bursaria - Acacia woodland and scrub	
OAQ	(OAQ) Water, sea	
WOB	(WOB) Eucalyptus obliqua forest with broad-leaf shrubs	
WOU	(WOU) Eucalyptus obliqua wet forest (undifferentiated)	

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

Telephone: (03) 6165 4320

Email: TVMMPsupport@dpiwve.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



458639, 5404542

Please note that some layers may not display at all requested map scales

Threatened Communities (TNVC 2014) within 1000 metres

Legend: Threatened Communities

- ☐ 1 - Alkaline pans
- ☐ 2 - Allocasuarina littoralis forest
- ☐ 3 - Athrotaxis cupressoides/Nothofagus gunnii short rainforest
- ☐ 4 - Athrotaxis cupressoides open woodland
- ☐ 5 - Athrotaxis cupressoides rainforest
- ☐ 6 - Athrotaxis selaginoides/Nothofagus gunnii short rainforest
- ☐ 7 - Athrotaxis selaginoides rainforest
- ☐ 8 - Athrotaxis selaginoides subalpine scrub
- ☐ 9 - Banksia marginata wet scrub
- ☐ 10 - Banksia serrata woodland
- ☐ 11 - Callitris rhomboidea forest
- ☐ 13 - Cushion moorland
- ☐ 14 - Eucalyptus amygdalina forest and woodland on sandstone
- ☐ 15 - Eucalyptus amygdalina inland forest and woodland on cainozoic deposits
- ☐ 16 - Eucalyptus brookeriana wet forest
- ☐ 17 - Eucalyptus globulus dry forest and woodland
- ☐ 18 - Eucalyptus globulus King Island forest
- ☐ 19 - Eucalyptus morrisbyi forest and woodland
- ☐ 20 - Eucalyptus ovata forest and woodland
- ☐ 21 - Eucalyptus risdonii forest and woodland
- ☐ 22 - Eucalyptus tenuiramis forest and woodland on sediments
- ☐ 23 - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
- ☐ 24 - Eucalyptus viminalis Furneaux forest and woodland
- ☐ 25 - Eucalyptus viminalis wet forest
- ☐ 26 - Heathland on calcareous substrates
- ☐ 27 - Heathland scrub complex at Wingaroo
- ☐ 28 - Highland grassy sedge land
- ☐ 29 - Highland Poa grassland
- ☐ 30 - Melaleuca ericifolia swamp forest
- ☐ 31 - Melaleuca pustulata scrub
- ☐ 32 - Notelaea - Pomaderris - Beyeria forest
- ☐ 33 - Rainforest fernland
- ☐ 34 - Riparian scrub
- ☐ 35 - Seabird rookery complex
- ☐ 36 - Sphagnum peatland
- ☐ 36A - Spray zone coastal complex
- ☐ 37 - Subalpine Diplarrena latifolia rushland
- ☐ 38 - Subalpine Leptospermum nitidum woodland
- ☐ 39 - Wetlands

Legend: Cadastral Parcels



Threatened Communities (TNVC 2014) within 1000 metres

Scheduled Community Id	Scheduled Community Name
14	Eucalyptus amygdalina forest and woodland on sandstone
15	Eucalyptus amygdalina inland forest and woodland on cainozoic deposits
20	Eucalyptus ovata forest and woodland

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

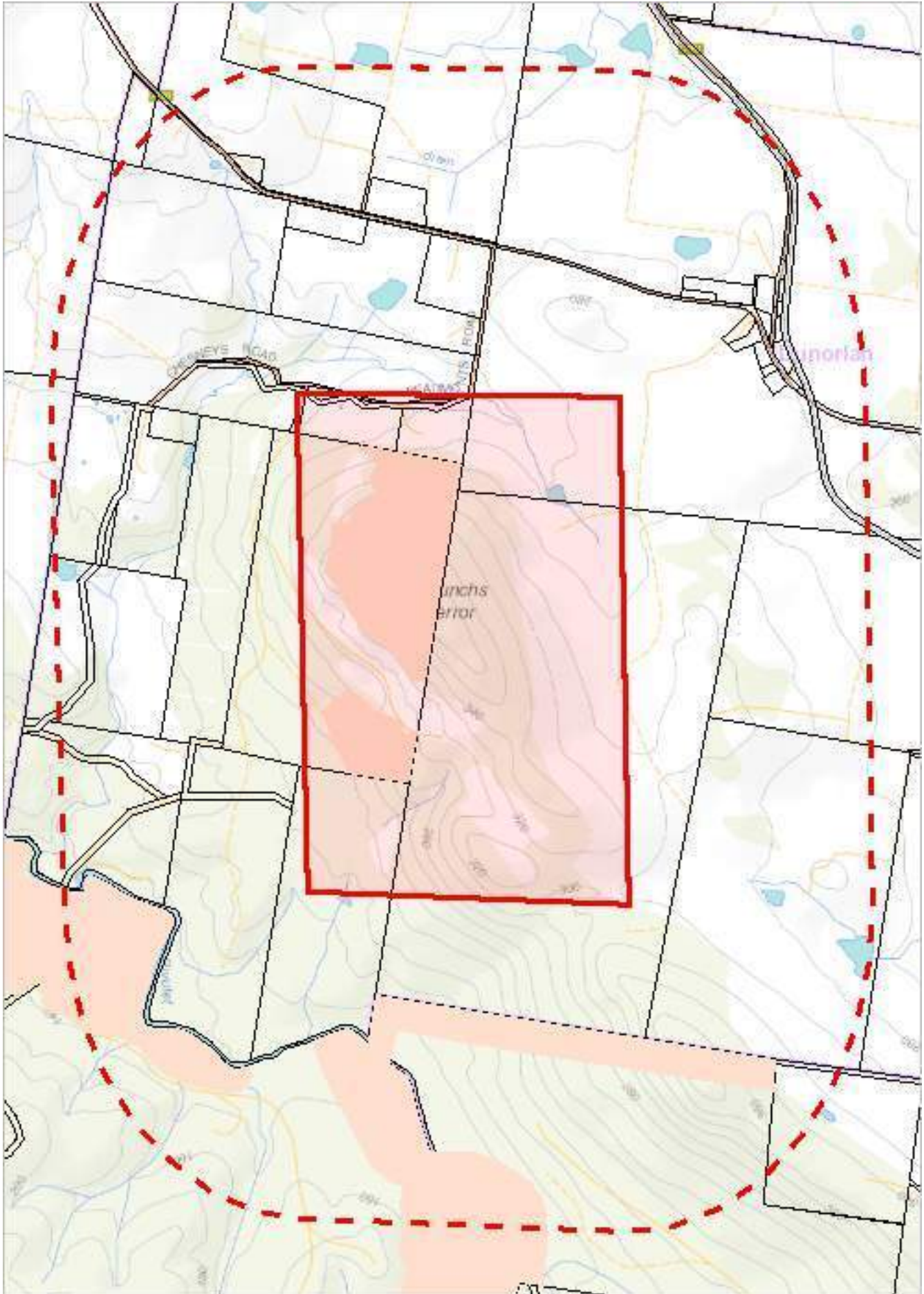
Telephone: (03) 6165 4320

Email: TVMMPsupport@dpiwre.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

*** No Fire History (All) found within 1000 metres ***

*** No Fire History (Last Burnt) found within 1000 metres ***




























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Please note that some layers may not display at all requested map scales

Reserves within 1000 metres

Legend: Tasmanian Reserve Estate

-  Conservation Area
-  Conservation Area and Conservation Covenant (NCA)
-  Game Reserve
-  Historic Site
-  Indigenous Protected Area
-  National Park
-  Nature Reserve
-  Nature Recreation Area
-  Regional Reserve
-  State Reserve
-  Wellington Park
-  Public authority land within WHA
-  Future Potential Production Forest
-  Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land
-  Informal Reserve on other public land
-  Conservation Covenant (NCA)
-  Private Nature Reserve and Conservation Covenant (NCA)
-  Private Sanctuary and Conservation Covenant (NCA)
-  Private Sanctuary
-  Private land within WHA
-  Management Agreement
-  Management Agreement and Stewardship Agreement
-  Stewardship Agreement
-  Part 5 Agreement (Meander Dam Offset)
-  Other Private Reserve

Legend: Cadastral Parcels



Reserves within 1000 metres

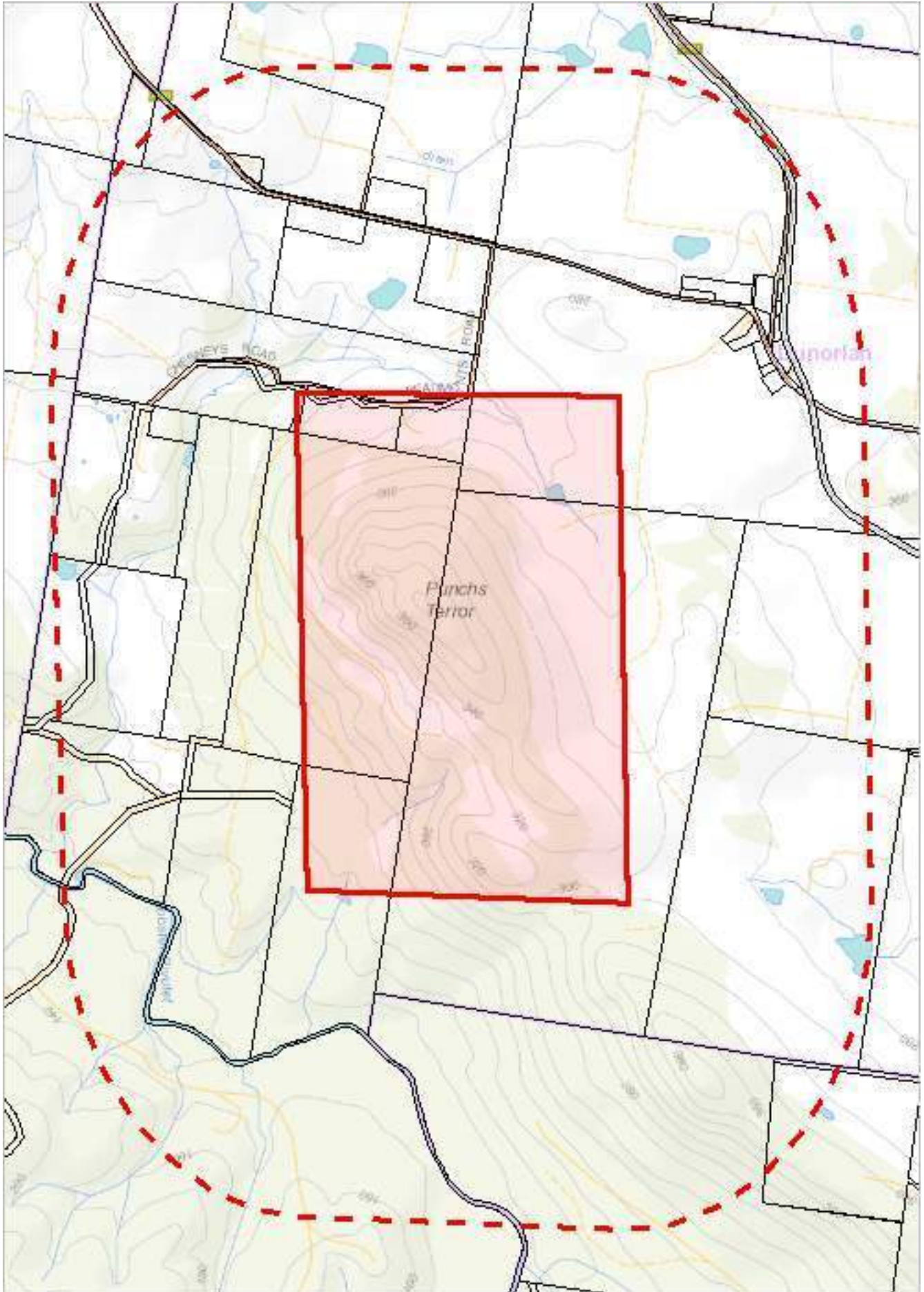
Name	Classification	Status	Area (HA)
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	5.280749999 999999
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	18.3357
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	66.33070000 000001
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	679.2610000 000001

For more information about the Tasmanian Reserve Estate, please contact the Sustainable Land Use and Information Management Branch.

Telephone: (03) 6777 2224

Email: LandManagement.Enquiries@dpipwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



458639, 5404542

Please note that some layers may not display at all requested map scales

Known biosecurity risks within 1000 meters

Legend: Biosecurity Risk Species

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

Legend: Hygiene infrastructure

- Location Point Verified
- Location Point Unverified
- Location Line Unverified
- Location Line Verified
- Location Polygon Verified
- Location Polygon Unverified

Legend: Cadastral Parcels



Known biosecurity risks within 1000 meters

Verified Species of biosecurity risk

No verified species of biosecurity risk found within 1000 metres

Unverified Species of biosecurity risk

No unverified species of biosecurity risk found within 1000 metres

Generic Biosecurity Guidelines

The level and type of hygiene protocols required will vary depending on the tenure, activity and land use of the area. In all cases adhere to the land manager's biosecurity (hygiene) protocols. As a minimum always Check / Clean / Dry (Disinfect) clothing and equipment before trips and between sites within a trip as needed <http://dpi.pwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>

On Reserved land, the more remote, infrequently visited and undisturbed areas require tighter biosecurity measures.

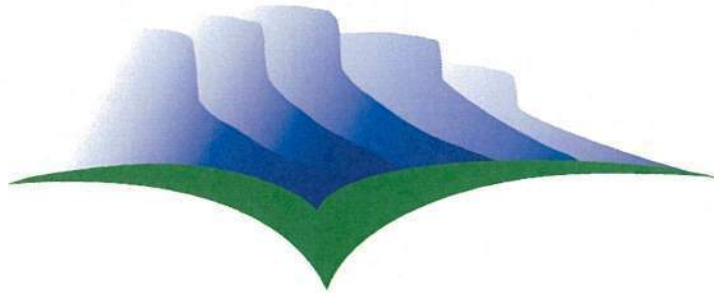
In addition, where susceptible species and communities are known to occur, tighter biosecurity measures are required.

Apply controls relevant to the area / activity:

- Don't access sites infested with pathogen or weed species unless absolutely necessary. If it is necessary to visit, adopt high level hygiene protocols.
- Consider not accessing non-infested sites containing known susceptible species / communities. If it is necessary to visit, adopt high level hygiene protocols.
- Don't undertake activities that might spread pest / pathogen / weed species such as deliberately moving soil or water between areas.
- Modify / restrict activities to reduce the chance of spreading pest / pathogen / weed species e.g. avoid periods when weeds are seeding, avoid clothing/equipment that excessively collects soil and plant material e.g. Velcro, excessive tread on boots.
- Plan routes to visit clean (uninfested) sites prior to dirty (infested) sites. Do not travel through infested areas when moving between sites.
- Minimise the movement of soil, water, plant material and hitchhiking wildlife between areas by using the Check / Clean / Dry (Disinfect when drying is not possible) procedure for all clothing, footwear, equipment, hand tools and vehicles <http://dpi.pwe.tas.gov.au/invasive-species/weeds/weed-hygiene>
- Neoprene and netting can take 48 hours to dry, use non-porous gear wherever possible.
- Use walking track boot wash stations where available.
- Keep a hygiene kit in the vehicle that includes a scrubbing brush, boot pick, and disinfectant <http://dpi.pwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>
- Dispose of all freshwater away from natural water bodies e.g. do not empty water into streams or ponds.
- Dispose of used disinfectant ideally in town through a treatment or septic system. Always keep disinfectant well away from natural water systems.
- Securely contain any high risk pest / pathogen / weed species that must be collected and moved e.g. biological samples.

Hygiene Infrastructure

No known hygiene infrastructure found within 1000 metres



Meander Valley Council

WORKING TOGETHER

Consent to Lodge Development Application

In accordance with Section 52 of the *Land Use Planning and Approvals Act 1993*, Meander Valley Council hereby provides consent to lodge a development application PA\18\0178 Expansion of Quarry (Level 2) at 1240 Weegen Road, Dunorlan (CT:143292/1) and (CT:109390/1) involving road network improvements on Council owned land.

Signed:

Martin Gill

GENERAL MANAGER

6 March 2018

Date: 23rd February 2018
Phone: (03) 6169 2842 Sarah Vautin
Your Ref:
Our Ref: 28M/1990



**Sustainable
Timber
Tasmania**

ABN 91 628 769 359

Head Office:
Level 1, 99 Bathurst Street
Hobart TAS 7000
GPO Box 207
Hobart TAS 7001
sttas.com.au

General Manager
Meander Valley Council
PO Box 102
WESTBURY TAS 7303

LAND OWNER CONSENT

Sustainable Timber Tasmania (STT) advises that it has been made aware by Treloar Transport Pty Ltd who currently holds a mining lease 28M/1990, which they intend to lodge a planning application with the Meander Valley Council to combine production from the newly acquired mining lease 28M/1990 (PID 2531016 & CT143292/1), with their existing mining lease 1007P/M (PID 6281755 & CT109239/1). The annual combined increase in production will be 11000m³ to 20000m³. The activity will be conducted within PID 2531016 and 6281755.

Under Section 52 of the Land Use Planning and Approvals Act 1993, I hereby advise that I give consent for Treloar Transport Pty Ltd to lodge a planning application with the Meander Valley Council for the establishment of the Works.

Suzette Weeding

General Manager Land Management



From: Anna Chabry
Sent: 28 Mar 2018 10:43:10 +1100
To: Planning @ Meander Valley Council
Subject: PA/18/0178 TRELOAR

Dear Holly Bean,

Yesterday, I received the Council's letter regarding the above mentioned PA and this is the first time I heard about it. As I read, the application on online, I noticed that TT mentions that they have consulted with the residents on Beaumonts Road, not such consultation (by letter or personal visit) has occurred with us, and being at 71 Beaumonts Road, our residence is very much affected by the continue truck noise and the constant deterioration of the road, as we have experience of late.

As TT **mentions** they have already acquired the lease for the second quarry, so I would have to assume their application is already approved, why acquired when cannot use it? Therefore, this letter sent by Council is just a make believe, to make it look that Council has our interests at hand.

Very disappointed, but not surprised. As the only ones benefiting from the expansion of the quarries are the Atkins, Meander Valley Council and of course, TT. I read in their application that even they produce road base, they are not obliged to fix the road that they are using to the extreme! Meaning that we rate payers are to pay for the road fixing.

Also, they mention that they will be making sure they water spray the road to reduce dust, up to date, they have not done so. Who is going to make them do it?
Can Council make sure that TT adheres to their application's statements?

This together with the constant truck noise, will greatly reduced our quality of life and enjoyment of our place.

Kind regards,
Max S MacAuliffe.

From: Justin Simons
Sent: 28 Mar 2018 00:41:22 +0000
To: 'Anna Chabry'
Subject: RE: PA/18/0178 TRELOAR

Hi Max

Thank you for your submission regarding this application. Your concerns will be taken into consideration during the assessment process by Council and the Environment Protection Authority. You will be notified of the outcome of the application in due course. Should the application be considered at a Council Meeting an invitation to that meeting will be forwarded to you. As this application is for a Level 2 Activity the process is relatively lengthy and the final date of assessment and decision is not known. If you would like an update on the process please feel free to call or email.

Please let us know if you have any other preferred means of contact aside from this email address, as there may be times where we need to contact you at relatively short notice.

Kind regards

From: Anna Chabry [mailto:genlisut@gmail.com]
Sent: Wednesday, 28 March 2018 10:43 AM
To: Planning @ Meander Valley Council
Subject: PA/18/0178 TRELOAR

Dear Holly Bean,

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Kind regards,
Max S MacAuliffe.

From: Anna Chabry
Sent: 28 Mar 2018 16:28:33 +1100
To: Justin Simons
Subject: Re: PA/18/0178 TRELOAR

Dear Justin,

Thank you for your reply. The other means of communication is by text on mob. 0409 938 178.

Our concern is mainly with lifestyle and health issues. We moved to this lovely cottage on Beaumonts Rd, expecting to enjoy the peace and good air. I suffer from asthma and the increased amount of dust that 20 trucks, at least, a day would definitely affect me.

This Summer we had a huge quantity of trucks delivering road base for TT for the Dunorlan Road works. Then on top, we had the huge timber trucks taking the timber plantation trees to their destination. As a result, we had to keep all windows/doors closed to avoid health problems.

TT mentioned in their application that when the weather is dry, as it is in Summer, they will spray water on the road to minimise the dust problem. This measure was not implemented this Summer, as we noticed.

Also, the road has been demolished, there is hardly any gravel on the road. The road signs are gone. My wife spoke to one of your colleagues in the Road Dept and he assured her that the road would be refurbished. Nothing has been done, up to date.

Would you be so kind to pass these comments to whoever is in charge.

We don't have unreasonable requests, just that TT takes into consideration that rate payers have the right to the peaceful enjoyment of their home and to their health.

Kind regards,
Max S MacAuliffe

On Wed, Mar 28, 2018 at 11:41 AM, Justin Simons <Justin.Simons@mvc.tas.gov.au> wrote:

Hi Max

Thank you for your submission regarding this application. Your concerns will be taken into consideration during the assessment process by Council and the Environment Protection Authority. You will be notified of the outcome of the application in due course. Should the

application be considered at a Council Meeting an invitation to that meeting will be forwarded to you. As this application is for a Level 2 Activity the process is relatively lengthy and the final date of assessment and decision is not known. If you would like an update on the process please feel free to call or email.

Please let us know if you have any other preferred means of contact aside from this email address, as there may be times where we need to contact you at relatively short notice.

Kind regards

From: Anna Chabry [mailto:genlisut@gmail.com]
Sent: Wednesday, 28 March 2018 10:43 AM
To: Planning @ Meander Valley Council
Subject: PA/18/0178 TRELOAR

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Also, they mention that they will be making sure they water spray the road to reduce dust, up to date, they have not done so. Who is going to make them do it?

Can Council make sure that TT adheres to their application's statements?

This together with the constant truck noise, will greatly reduced our quality of life and enjoyment of our place.

Kind regards,

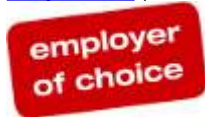
Max S MacAuliffe.

Justin Simons | Town Planner

Meander Valley Council

working together

T: 03 6393 5346 | F: 03 6393 1474 | E: justin.simons@mvc.tas.gov.au | W: www.meander.tas.gov.au
26 Lyall Street (PO Box 102), Westbury, TAS 7303



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Views and opinions expressed in this transmission are solely those of the author and do not necessarily represent those of Meander Valley Council.

From: Anna Chabry
Sent: 12 Apr 2018 18:15:27 +1000
To: Justin Simons
Subject: Concerns of 71 Beaumonts Rd / Max S MacAuliffe - PA 18/0178

Dear Justin,

First of all, Max and I would like to thank you for your comprehensive consultation regarding our concerns with PA/18/0178.

Having passed to Max the facts that you explained, our concerns are as follows:

a) **Noise and dust pollution** during extended periods of time, this would be detrimental to our health and lifestyle, considering that the area is zoned Residential and not Industrial.

b) **Side-effects of blasting to our property**, which sits at the bottom of the mountain, some 520 metres approx. from the new quarry site. One of the possibly effects would be the dislodgment and falling of heavy stones, some measuring 200-300 mm in diameter. Why this is happening, we don't know, possibly destabilization of the ground due to water erosion after heavy rainy periods on the very steep slope or the blasts tremors?

c/ **Which entity will carry out** dully checks to ensure TT complies to their commitments as stated in their PA, to water spray the road surface, during dry weather, in front of affected residences.

Having clarified with you the issue of road works, this is all we would like to put forward to be considered in the Council meeting.

Since probably we will be absent, we would appreciate it if would kindly forward your input of the meeting via email Genlisut@gmail.com

Kind regards,

Anna Chabry

On behalf of Max S MacAuliffe

Level 6, 134 Macquarie Street, Hobart TAS
GPO Box 1550, Hobart, TAS 7001 Australia

Enquiries: Helen Mulligan
Ph: +61 3 6165 4528
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Our Ref: EN-EM-EV-DE-244904/H835265\Proponent Letter_6ABC_Decision



9 July 2018

Mr John Treloar
Treloar Transport Co
PO Box 21
SHEFFIELD TAS 7306

Email: csteyn@treloartransport.com.au

Dear Mr Treloar

**ENVIRONMENTAL ASSESSMENT DECISION
PUNCHES TERROR QUARRY, (DA 018\0178)
OFF BEAUMONT'S RD, DUNORLAN**

I refer to the above application for a permit under the *Land Use Planning and Approvals Act 1993* (LUPA Act). The environmental impact assessment of the application under the *Environmental Management and Pollution Control Act 1994* (the EMPC Act) has been completed.

The Board has delegated to me its functions and powers in relation to section 25 of the EMPC Act in relation to this proposal.

In accordance with Section 25(5) of the EMPC Act, Meander Valley Council has been notified of the decision and directed to include certain conditions in any permit granted for the activity under the LUPA Act. A copy of these conditions, and the approved Environmental Assessment Report detailing the reasons for my decision under delegation, are attached.

Council will advise you of its determination on the above permit application, and of your appeal rights, in due course.

A once-off assessment fee is payable to the Environment Protection Authority (EPA) in relation to the environmental assessment of the application. This fee has been determined in accordance with the *Environmental Management and Pollution Control (General) Regulations 2017* (the Fee Regulations). An invoice for this fee will be issued once a decision on the permit has been made by Meander Valley Council.

In the event that Meander Valley Council grants a permit, an annual fee is payable for the activity in accordance with the Fee Regulations. An invoice for this fee will be issued once the *Land Use Planning and Approvals Act 1993* permit comes into effect.

A partial remission of the annual fee may be available in certain circumstances. Requirements for fee remissions are described in the *Annual Fee Remission Guidelines* (refer to <http://epa.tas.gov.au/regulation/fees/annual-fee-remissions> or telephone (03) 6165 4599 for a printed copy). New activities may apply for a fee remission in the second year following commencement of commercial operations.

If you have any questions regarding the above, please contact Helen Mulligan on (03) 6165 4528.

Yours sincerely



Wes Ford
DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY
Delegate for the Board of the Environment Protection Authority

Encl.

- *Permit Part B – Permit Conditions – Environmental No. 9701*
- *Environmental Assessment Report*

Cc. Mr Martin Gill, General Manager, Meander Valley Council, PO Box 102, Westbury Tas 7303
planning@mvc.tas.gov.au

PERMIT PART B
PERMIT CONDITIONS - ENVIRONMENTAL No. 9701

Issued under the *Environmental Management and Pollution Control Act 1994*

Activity: **The operation of a quarry (ACTIVITY TYPE: Crushing, grinding, milling or separating into different sizes (rocks, ores or minerals))**
 PUNCHS TERROR QUARRY, ROCKTON 1240 WEEGENA ROAD
 DUNORLAN TAS 7304

The above activity has been assessed as a level 2 activity under the *Environmental Management and Pollution Control Act 1994*.

Acting under Section 25(5)(a)(i) of the EMPCA, the Board of the Environment Protection Authority has required that this Permit Part B be included in any Permit granted under the *Land Use Planning and Approvals Act 1993* with respect to the above activity.

Municipality: **MEANDER VALLEY**
Permit Application Reference: **DA2018/0178**
EPA file reference: **244904**

Date conditions approved: 9 July 2018

Signed:



DELEGATE FOR THE BOARD OF THE ENVIRONMENT
PROTECTION AUTHORITY

DEFINITIONS

Unless the contrary appears, words and expressions used in this Permit Part B have the meaning given to them in **Schedule 1** of this Permit and in the EMPCA. If there is any inconsistency between a definition in the EMPCA and a definition in this Permit Part B, the EMPCA prevails to the extent of the inconsistency.

ENVIRONMENTAL CONDITIONS

The person responsible for the activity must comply with the conditions contained in **Schedule 2** of this Permit Part B.

INFORMATION

Attention is drawn to **Schedule 3**, which contains important additional information.

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Attachments

Attachment 1: The Land (modified: 28/06/2018 15:39).....	1 page
Attachment 2: Water sampling points (modified: 17/04/2018 15:27).....	1 page
Attachment 3: Threatened species protection plan (modified: 17/04/2018 15:27).....	1 page
Attachment 4: Table of commitments (modified: 17/04/2018 15:32).....	2 pages

Schedule 1: Definitions

In this Permit Part B:-

20,000 cubic metres per year is deemed equivalent to 32,000 tonnes per year.

Aboriginal Relic has the meaning described in section 2(3) of the *Aboriginal Heritage Act 1975*.

Activity means any environmentally relevant activity (as defined in Section 3 of EMPCA) to which this document relates, and includes more than one such activity.

Authorized Officer means an authorized officer under section 20 of EMPCA.

Best Practice Environmental Management or 'BPEM' has the meaning described in Section 4 of EMPCA.

Director means the Director, Environment Protection Authority holding office under Section 18 of EMPCA and includes a person authorised in writing by the Director to exercise a power or function on the Director's behalf.

EMPCA means the *Environmental Management and Pollution Control Act 1994*.

Environmental Harm and **Material Environmental Harm** and **Serious Environmental Harm** each have the meanings ascribed to them in Section 5 of EMPCA.

Environmental Nuisance and **Pollutant** each have the meanings ascribed to them in Section 3 of EMPCA.

Environmentally Hazardous Material means any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals but excludes sewage.

Noise Sensitive Premises means residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.

Person Responsible is any person who is or was responsible for the environmentally relevant activity to which this document relates and includes the officers, employees, contractors, joint venture partners and agents of that person, and includes a body corporate.

Stormwater means water traversing the surface of the land as a result of rainfall.

Tasmanian Noise Measurement Procedures Manual means the document titled *Noise Measurement Procedures Manual*, by the Department of Environment, Parks, Heritage and the Arts, dated July 2008, and any amendment to or substitution of this document.

The Land means the land on which the activity to which this document relates may be carried out, and includes: buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land. The Land falls within the area defined by:

- 1 Certificates of title 143292/1 (PID 2531016) and 109390/1 (PID 6281755); and
- 2 as further delineated at Attachment 1 as extraction area.

Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits

- 1 The activity must not exceed the following limits :
 - 1.1 20,000 cubic metres per year of rocks, ores or minerals processed.

General

G1 Access to and awareness of conditions and associated documents

A copy of these conditions and any associated documents referred to in these conditions must be held in a location that is known to and accessible to the person responsible for the activity. The person responsible for the activity must ensure that all persons who are responsible for undertaking work on The Land, including contractors and sub-contractors, are familiar with these conditions to the extent relevant to their work.

G2 Incident response

If an incident causing or threatening environmental nuisance, serious environmental harm or material environmental harm from pollution occurs in the course of the activity, then the person responsible for the activity must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

G3 No changes without approval

- 1 The following changes, if they may cause or increase the emission of a pollutant which may cause material or serious environmental harm or environmental nuisance, must only take place in relation to the activity if such changes have been approved in writing by the EPA Board following its assessment of an application for a permit under the *Land Use Planning and Approvals Act 1993*, or approved in writing by the Director:
 - 1.1 a change to a process used in the course of carrying out the activity; or
 - 1.2 the construction, installation, alteration or removal of any structure or equipment used in the course of carrying out the activity; or
 - 1.3 a change in the quantity or characteristics of materials used in the course of carrying out the activity.

G4 Change of ownership

If the owner of The Land upon which the activity is carried out changes or is to change, then, as soon as reasonably practicable but no later than 30 days after becoming aware of the change or intended change in the ownership of The Land, the person responsible must notify the Director in writing of the change or intended change of ownership.

G5 Complaints register

- 1 A public complaints register must be maintained and made available for inspection by an Authorized Officer upon request. The public complaints register must, as a minimum, record the following detail in relation to each complaint received in which it is alleged that environmental harm (including an environmental nuisance) has been caused by the activity:
 - 1.1 the date and time at which the complaint was received;
 - 1.2 contact details for the complainant (where provided);
 - 1.3 the subject-matter of the complaint;

- 1.4 any investigations undertaken with regard to the complaint; and
 - 1.5 the manner in which the complaint was resolved, including any mitigation measures implemented.
- 2 Complaint records must be maintained for a period of at least 3 years.

Atmospheric

A1 Covering of vehicles

Vehicles carrying loads containing material which may blow or spill must be equipped with effective control measures to prevent the escape of the materials from the vehicles when they leave The Land or travel on public roads. Effective control measures may include tarpaulins or load dampening.

A2 Control of dust emissions

Dust emissions from The Land must be controlled to the extent necessary to prevent environmental nuisance beyond the boundary of The Land.

A3 Control of dust emissions from plant

- 1 Dust produced by the operation of all crushing and screening plant must be controlled by the use of one or more of the following methods to the extent necessary to prevent environmental nuisance:
 - 1.1 the installation of fixed water sprays at all fixed crushers and at all points where crushed material changes direction due to belt transfer;
 - 1.2 the installation of dust extraction equipment at all fixed crushers and at all points where crushed material changes direction due to belt transfer, and the incorporation of such equipment with all vibrating screens;
 - 1.3 the enclosure of the crushing and screening plant and the treatment of atmospheric emissions by dust extraction equipment; and
 - 1.4 any other method that has been approved in writing by the Director.

Blasting

B1 Blasting times

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

B2 Blasting - noise and vibration limits

- 1 Blasting on The Land must 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, airblast overpressure and ground vibration comply with the following:
 - 1.1 for 95% of blasts, airblast overpressure must not exceed 115dB (Lin Peak);
 - 1.2 airblast overpressure must not exceed 120dB (Lin Peak);
 - 1.3 for 95% of blasts ground vibration must not exceed 5mm/sec peak particle velocity; and
 - 1.4 ground vibration must not exceed 10mm/sec peak particle velocity.

- 2 All measurements of airblast 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.

B3 Notification of blasting

All residents within a 1 km radius of the activity must be notified on each occasion prior to blasting on The Land. This notification must be given at least 24 hours before such blasting is due to occur. In the event that the blast(s) cannot take place at the time specified, the responsible person must advise all those residents within 1 km of the activity of the revised time at which blasting will take place.

B4 Blast Management Plan

- 1 Within three months of the date on which these conditions take effect, or by a date specified in writing by the Director, and prior to any blasting on The Land, a blast management plan must be submitted to the Director for approval.
- 2 Without limitation, the plan must include details of the following:
 - 2.1 Name and qualifications of the blasting contractor(s).
 - 2.2 Location(s) of intended blasts.
 - 2.3 Likely impacts beyond the boundary of The Land and within 1km of The Land and how these will be mitigated.
 - 2.4 Typical blast procedure, including how incidents will be reported and who must be notified about blasts.
 - 2.5 Blast risk assessment, showing how environmental nuisance to sensitive receptors beyond the boundary of The Land and within 1km of The Land will be mitigated.
 - 2.6 A monitoring program for air blast overpressure and ground vibrations.
- 3 The person responsible must not conduct any blasting unless in accordance with an approved blasting plan.
- 4 All residents within a 1km radius of the activity must be notified on each occasion prior to blasting on The Land. This notification must be given at least 24 hours before such blasting is due to occur. In the event that the blast(s) cannot take place at the time specified, the responsible person must advise all those residents within 1km of the activity of the revised time at which blasting will take place.

B5 Blast monitoring

- 1 Unless otherwise approved in writing by the Director, blast monitoring must be undertaken for each blast that occurs on The Land.
- 2 Blast monitoring must be carried out at location(s) agreed in writing by the Director.
- 3 In the event that ground vibration and/or airblast overpressure caused by a blast exceeds a limit imposed by these conditions, the Director must be notified within seven days of the blast, or as soon as is reasonable and practicable.
- 4 Blast monitoring records must be maintained for a period of at least two years and must be made available to an authorized officer upon request.

Decommissioning And Rehabilitation

DC1 Notification of cessation

Within 30 days of becoming aware of any event or decision which is likely to give rise to the permanent cessation of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to cease or has ceased.

DC2 Stockpiling of surface soil

Prior to commencement of extractive activities on any portion of The Land, surface soils must be removed in that portion of The Land to be disturbed by the conduct of the activity and stockpiled for later use in rehabilitation of The Land. Topsoil must be kept separate from other overburden and protected from erosion or other disturbance.

DC3 Progressive rehabilitation

Worked out or disused sections of The Land must be rehabilitated concurrently with extractive activities on other sections of The Land. Progressive rehabilitation must be carried out in accordance with the relevant provisions of the *Quarry Code of Practice*, unless otherwise approved in writing by the Director. The maximum disturbed area of land which may remain, at any time, without rehabilitation is five hectares.

DC4 Temporary suspension of activity

- 1 Within 30 days of becoming aware of any event or decision which is likely to give rise to the temporary suspension of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to suspend or has suspended.
- 2 During temporary suspension of the activity:
 - 2.1 The Land must be managed and monitored by the person responsible for the activity to ensure that emissions from The Land do not cause serious environmental harm, material environmental harm or environmental nuisance; and
 - 2.2 If required by the Director a Care and Maintenance Plan for the activity must be submitted, by a date specified in writing by the Director, for approval. The person responsible must implement the approved Care and Maintenance Plan, as may be amended from time to time with written approval of the Director.
- 3 Unless otherwise approved in writing by the Director, if the activity on The Land has substantially ceased for 2 years or more, rehabilitation of The Land must be carried out in accordance with the requirements of these conditions as if the activity has permanently ceased.

DC5 DRP requirements

Unless otherwise approved in writing by the Director, a Decommissioning and Rehabilitation Plan (DRP) for the activity must be submitted for approval to the Director within 60 days of the Director being notified of the planned cessation of the activity or by a date specified in writing by the Director. The DRP must be prepared in accordance with any guidelines provided by the Director.

DC6 Rehabilitation following cessation

- 1 Following permanent cessation of the activity, and unless otherwise approved in writing by the Director, The Land must be rehabilitated including:
 - 1.1 stabilisation of any land surfaces that may be subject to erosion;
 - 1.2 removal or mitigation of all environmental hazards or land contamination, that might pose an on-going risk of causing environmental harm; and
 - 1.3 decommissioning of any equipment that has not been removed.
- 2 Where a Decommissioning and Rehabilitation Plan (DRP) has been approved by the Director, decommissioning and rehabilitation must be carried out in accordance with that plan, as may be amended from time to time with written approval of the Director.

Hazardous Substances

H1 Storage and handling of hazardous materials

Unless otherwise approved in writing by the Director, environmentally hazardous material held on The Land, including chemicals, fuels and oils, must be located within impervious bunded areas or spill trays which are designed and maintained to contain at least 110% of the total volume of material.

H2 Spill kits

Spill kits appropriate for the types and volumes of materials handled on The Land must be kept in appropriate locations to assist with the containment of spilt environmentally hazardous materials.

H3 Handling of hazardous materials - mobile

- 1** Where mobile containment of environmentally hazardous materials is utilised for the fuelling or servicing of mobile or fixed plant on The Land, all reasonable measures must be implemented to prevent unauthorised discharge, emission or deposition of pollutants:
 - 1.1** to soils within the boundary of The Land in a manner that is likely to cause serious or material environmental harm;
 - 1.2** to groundwater;
 - 1.3** to waterways; or
 - 1.4** beyond the boundary of The Land.
- 2** Reasonable measures may include spill kits, spill trays/bunds or absorbent pads, and automatic cut-offs on any pumping equipment.

Monitoring

M1 Water quality monitoring

- 1** Unless otherwise approved in writing by the Director, for Table 1 below the person responsible must, at the locations specified in Column 1, measure the level of each parameter specified in Column 2, at the frequency specified in Column 3 and in the units specified in Column 4.
- 2** For the purposes of this condition, water must be sampled as near as practicable to the discharge point of the locations designated by the coordinates in Attachment 2.
- 3** For the purposes of this condition, water monitoring must commence within six months of the date on which these conditions take effect and be conducted according to the details specified in Table 1 for a minimum period of two years.
- 4** Monitoring results must be retained for a period of at least two years and made available to an authorised officer on request.

5 Table 1 Monitoring parameters for specified locations - Sediment retention ponds

Column 1	Column 2	Column 3	Column 4
Location	Parameter	Frequency	Units
PT1, PT2	pH (field measurement)	Quarterly	pH units
PT1, PT2	Conductivity (field measurement)	Quarterly	Microsiemens/cm
PT1, PT2	TSS	Biannually	mg/L
PT1, PT2	Acidity	Biannually	
PT1, PT2	Alkalinity	Biannually	meq/L
PT1, PT2	SO ₄	Biannually	mg/L
PT1, PT2	Fe II (unfiltered total)	Biannually	mg/L
PT1, PT2	Al (unfiltered total)	Biannually	mg/L
PT1, PT2	Mn (unfiltered total)	Biannually	mg/L
PT1, PT2	Zn (unfiltered total)	Biannually	mg/L
PT1, PT2	Pb (unfiltered total)	Biannually	mg/L
PT1, PT2	Cu (unfiltered total)	Biannually	mg/L

M2 Dealing with samples obtained for monitoring

- 1** Any sample or measurement required to be obtained under these conditions must be taken and processed in accordance with the following:
 - 1.1** Australian Standards, the National Association of Testing Authorities (NATA) approved methods, the American Public Health Association Standard Methods for the Analysis of Water and Waste Water or other standard(s) approved in writing by the Director;
 - 1.2** samples must be tested in a laboratory accredited by NATA, or a laboratory approved in writing by the Director, for the specified test;
 - 1.3** results of measurements and analysis of samples and details of methods employed in taking measurements and samples must be retained for at least three (3) years after the date of collection;
 - 1.4** measurement equipment must be maintained and operated in accordance with manufacturer's specifications and records of maintenance must be retained for at least three (3) years; and
 - 1.5** noise measurements must be undertaken in accordance with the Tasmanian Noise Measurement Procedures Manual.

Noise Control

N1 Noise emission limits

- 1 Noise emissions from the activity when measured at any noise sensitive premises in other ownership and expressed as the equivalent continuous A-weighted sound pressure level must not exceed:
 - 1.1 45 dB(A) between 0700 hours and 1700 hours (Day time); and
 - 1.2 40 dB(A) between 1700 hours and 2200 hours (Evening time); and
 - 1.3 35 dB(A) between 2200 hours and 0700 hours (Night time).
- 2 Where the combined level of noise from the activity and the normal ambient noise exceeds the noise levels stated above, this condition will not be considered to be breached unless the noise emissions from the activity are audible and exceed the ambient noise levels by at least 5 dB(A).
- 3 The time interval over which noise levels are averaged must be 10 minutes or an alternative time interval specified in writing by the Director.
- 4 Measured noise levels must be adjusted for tonality, impulsiveness, modulation and low frequency in accordance with the Tasmanian Noise Measurement Procedures Manual.
- 5 All methods of measurement must be in accordance with the Tasmanian Noise Measurement Procedures Manual.

N2 Drilling noise emission limits

- 1 When drilling is undertaken, the noise emission limits imposed by these conditions will not be considered to be breached unless the noise emissions from the activity, when measured at any noise sensitive premises in other ownership and expressed as the equivalent continuous A-weighted sound pressure level, are audible and exceed 54 dB(A).
- 2 Unless otherwise approved in writing by the Director, drilling must not take place outside the hours of 0800 hours to 1600 hours, Monday to Friday.
- 3 Notwithstanding the above paragraph, drilling must not be carried out on Saturdays and Sundays and public holidays that are observed Statewide (Easter Tuesday excepted).

N3 Noise survey requirements

- 1 Unless otherwise approved by the Director, a noise survey must be carried out:
 - 1.1 during the first instance of drilling on The Land; and
 - 1.2 within six (6) months of the date on which these conditions take effect and under full operation, excluding drilling; and
 - 1.3 at such other times as may reasonably be required by the Director by notice in writing.
- 2 A report containing and discussing the noise survey results must be submitted to the Director within 30 days of the survey occurring.

N4 Noise survey method and reporting requirements

- 1 Noise surveys must be undertaken in accordance with a survey method approved in writing by the Director, as may be amended from time to time with written approval of the Director.
- 2 Without limitation, the survey method must address the following:
 - 2.1 measurements must be carried out at day, evening and night times (where applicable) at each location; and

- 2.2 measurement locations, and the number thereof, must be specified, with one location established as a control location (noise).
- 3 Measurements and data recorded during the survey must include:
 - 3.1 operational status of noise producing equipment and throughput of the activity;
 - 3.2 subjective descriptions of the sound at each location;
 - 3.3 details of meteorological conditions relevant to the propagation of noise;
 - 3.4 the equivalent continuous (L_{eq}) and $L_{1,1}$, $L_{10,10}$, $L_{50,50}$, $L_{90,90}$ and $L_{99,99}$ A-weighted sound pressure levels measured over a period of 10 minutes or an alternative time interval approved by the Director;
 - 3.5 one-third octave spectra over suitably representative periods of not less than 1 minute; and
 - 3.6 narrow-band spectra over suitably representative periods of not less than 1 minute.
- 4 A noise survey report must be forwarded to the Director within 30 days from the date on which the noise survey is completed.
- 5 The noise survey report must include the following:
 - 5.1 the results and interpretation of the measurements required by these conditions;
 - 5.2 a map of the area surrounding the activity with the boundary of The Land, measurement locations, and noise sensitive premises clearly marked on the map;
 - 5.3 any other information that will assist with interpreting the results and whether the activity is in compliance with these conditions and EMPCA; and
 - 5.4 recommendations of appropriate mitigation measures to manage any noise problems identified by the noise survey.

N5 Operating hours

- 1 Unless otherwise approved by the Director, activities associated with the extraction of rock, gravel, sand, clay or minerals, and loading of product, excluding drilling and blasting but including screening/crushing, must not be undertaken outside the hours of 0700 hours to 1700 hours on weekdays and 0800 hours to 1500 hours on Saturdays.
- 2 Notwithstanding the above paragraph, activities must not be carried out on public holidays that are observed Statewide (Easter Tuesday excepted).

N6 Notification of drilling

- 1 Prior to each instance of operating the drilling rig on The Land in accordance with the conditions of this permit, the Director, General Manager of the Meander Valley Council and all sensitive receptors within a 1,000m radius of the boundary of The Land must be notified in writing of the intention to undertake drilling.
- 2 The notification must include a schedule specifying the dates on which drilling will occur.
- 3 The notification must be delivered at least 72 hours prior to the commencement of drilling.

Operations

OP1 Protection of *Gratiola pubescens*

- 1 The interface between the existing footprint of the Activity and *Gratiola pubescens*, as identified in Attachment 3, must be delineated with a fence or similar method approved in writing by the Director within 60 days of the date on which these permit conditions take effect;
- 2 Unless otherwise approved in writing by the Director:

- 2.1 there must be no stockpiling of materials within five metres of this fence; and
- 2.2 there must be no disturbance of the vegetation beyond this fence; and
- 2.3 the Activity must be conducted in a manner that does not cause degradation or disturbance (including sedimentation) to *Gratiola pubescens*.

OP2 Protection of potential den site

- 1 The interface between the existing footprint of the Activity and a potential den site for Tasmanian devil or spotted tailed quoll, as identified in Attachment 3, must be delineated with a fence or similar method approved in writing by the Director within 60 days of the date on which these permit conditions take effect;
- 2 Unless otherwise approved in writing by the Director:
 - 2.1 there must be no disturbance of the vegetation beyond this fence; and
 - 2.2 the Activity must be conducted in a manner that does not cause degradation or disturbance (including sedimentation) to the potential den site.

OP3 Weed management

- 1 Within three months of the date on which these conditions take effect, or by a date otherwise specified in writing by the Director, a Weed & Disease Management Plan must be submitted to the Director for approval. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted document adequately addresses the requirements of this condition to his or her satisfaction.
- 2 The plan must be consistent with the Washdown Guidelines, or any subsequent revisions of that document.
- 3 The person responsible must implement and act in accordance with the approved plan.
- 4 In the event that the Director, by notice in writing to the person responsible, either approves a minor variation to the approved plan or approves a new plan in substitution for the plan originally approved, the person responsible must implement and act in accordance with the varied plan or the new plan, as the case may be.

Stormwater Management

SW1 Perimeter drains or bunds

- 1 Perimeter cut-off drains, or bunds, must be constructed at strategic locations on The Land to prevent surface run-off from entering the area used or disturbed in carrying out the activity. All reasonable measures must be implemented to ensure that sediment transported along these drains, or bunds, remains on The Land. Such measures may include provision of strategically located sediment fences, appropriately sized and maintained sediment settling ponds, vegetated swales, detention basins and other measures designed and operated in accordance with the principles of Water Sensitive Urban Design.
- 2 Drains, or bunds, must have sufficient capacity to contain run-off that could reasonably be expected to arise during a 1 in 20 year rainfall event. Maintenance activities must be undertaken regularly to ensure that this capacity does not diminish.

SW2 Stormwater

- 1 Polluted stormwater that will be discharged from The Land must be collected and treated prior to discharge to the extent necessary to prevent serious or material environmental harm, or environmental nuisance.
- 2 Notwithstanding the above, all stormwater that is discharged from The Land must not carry pollutants such as sediment, oil and grease in quantities or concentrations that are likely to degrade the visual quality of any receiving waters outside the Land.

- 3** All reasonable measures must be implemented to ensure that solids entrained in stormwater are retained on The Land. Such measures may include appropriately sized and maintained sediment settling ponds or detention basins.
- 4** Stormwater discharged in accordance with this condition must not be directed to sewer without the approval of the operator of the sewerage system.

SW3 Design and maintenance of settling ponds

- 1** Sediment settling ponds must be designed and maintained in accordance with the following requirements:
 - 1.1** ponds must be designed to successfully mitigate reasonably foreseeable sediment loss which would result from a 1 in 20 year storm event;
 - 1.2** discharge from ponds must occur via a stable spillway that is not subject to erosion;
 - 1.3** all pond walls must be stable and treated with topsoil and vegetated or otherwise treated in such a manner as to prevent erosion; and
 - 1.4** sediment settling ponds must be periodically cleaned out to ensure that the pond design capacity is maintained. Sediment removed during this cleaning must be securely deposited such that sediment will not be transported off The Land by surface run-off.

Schedule 3: Information

Legal Obligations

LO1 EMPCA

The activity must be conducted in accordance with the requirements of the *Environmental Management and Pollution Control Act 1994* and Regulations thereunder. The conditions of this document must not be construed as an exemption from any of those requirements.

LO2 Storage and handling of dangerous goods, explosives and dangerous substances

- 1 The storage, handling and transport of dangerous goods, explosives and dangerous substances must comply with the requirements of relevant State Acts and any regulations thereunder, including:
 - 1.1 *Work Health and Safety Act 2012* and subordinate regulations;
 - 1.2 *Explosives Act 2012* and subordinate regulations; and
 - 1.3 *Dangerous Goods (Road and Rail Transport) Act 2010* and subordinate regulations.

LO3 Aboriginal relics requirements

- 1 The *Aboriginal Heritage Act 1975*, provides legislative protection to Aboriginal heritage sites in Tasmania regardless of site type, condition, size or land tenure. Section 14(1) of the Act states that; Except as otherwise provided in this Act, no person shall, otherwise than in accordance with the terms of a permit granted by the Minister on the recommendation of the Director of National Parks and Wildlife:
 - 1.1 destroy, damage, deface, conceal or otherwise interfere with a relic;
 - 1.2 make a copy or replica of a carving or engraving that is a relic by rubbing, tracing, casting or other means that involve direct contact with the carving or engraving;
 - 1.3 remove a relic from the place where it is found or abandoned;
 - 1.4 sell or offer or expose for sale, exchange, or otherwise dispose of a relic or any other object that so nearly resembles a relic as to be likely to deceive or be capable of being mistaken for a relic;
 - 1.5 take a relic, or permit a relic to be taken, out of this State; or
 - 1.6 cause an excavation to be made or any other work to be carried out on Crown land for the purpose of searching for a relic.
- 2 If a relic is suspected and/or identified during works then works must cease immediately and the Tasmanian Aboriginal Land and Sea Council and the Aboriginal Heritage Tasmania be contacted for advice before work can continue. In the event that damage to an Aboriginal heritage site is unavoidable a permit under section 14 of the *Aboriginal Heritage Act 1975* must be applied for. The Minister may refuse an application for a permit, where the characteristics of the relics are considered to warrant their preservation.
- 3 Anyone finding an Aboriginal relic is required under section 10 of the Act to report that finding as soon as practicable to the Director of National Parks and Wildlife or an authorized officer under the *Aboriginal Heritage Act 1975*. It is sufficient to report the finding of a relic to Aboriginal Heritage Tasmania to fulfil the requirements of section 10 of the Act.

Other Information

OI1 Notification of incidents under section 32 of EMPCA

Where a person is required by section 32 of EMPCA to notify the Director of the release of a pollutant, the Director can be notified by telephoning 1800 005 171 (a 24-hour emergency telephone number).

OI2 Waste management hierarchy

1 Wastes should be managed in accordance with the following hierarchy of waste management:

1.1 waste should be minimised, that is, the generation of waste must be reduced to the maximum extent that is reasonable and practicable, having regard to best practice environmental management;

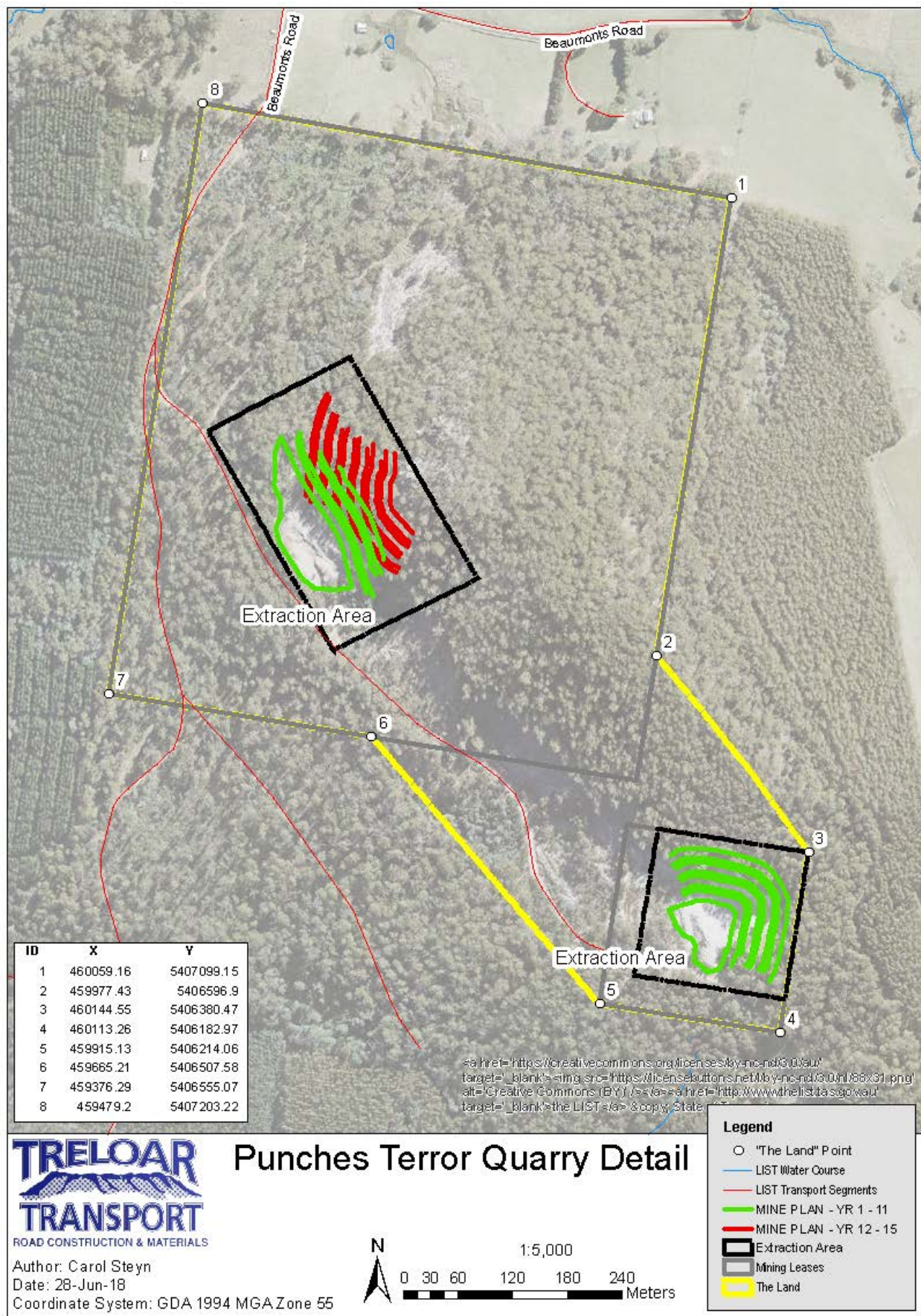
1.2 waste should be re-used or recycled to the maximum extent that is practicable; and

1.3 waste that cannot be re-used or recycled must be disposed of at a waste depot site or treatment facility that has been approved in writing by the relevant planning authority or the Director to receive such waste, or otherwise in a manner approved in writing by the Director.

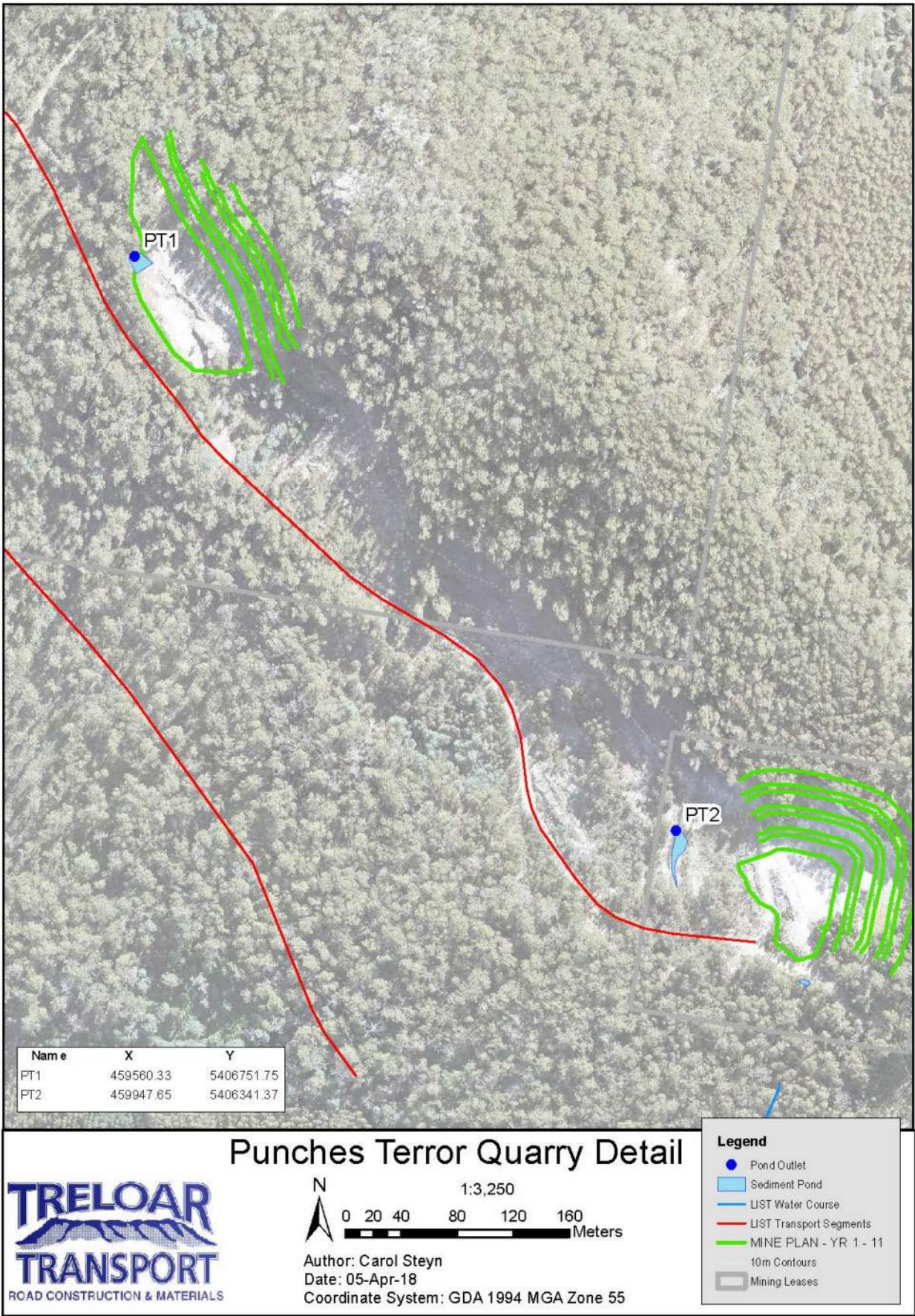
OI3 Commitments

The person responsible for the activity has a general environmental duty to conduct the activity in accordance with the commitments contained in Attachment 4.

Attachment 1: The Land



Attachment 2: Water sampling points



Attachment 3: Threatened species protection plan

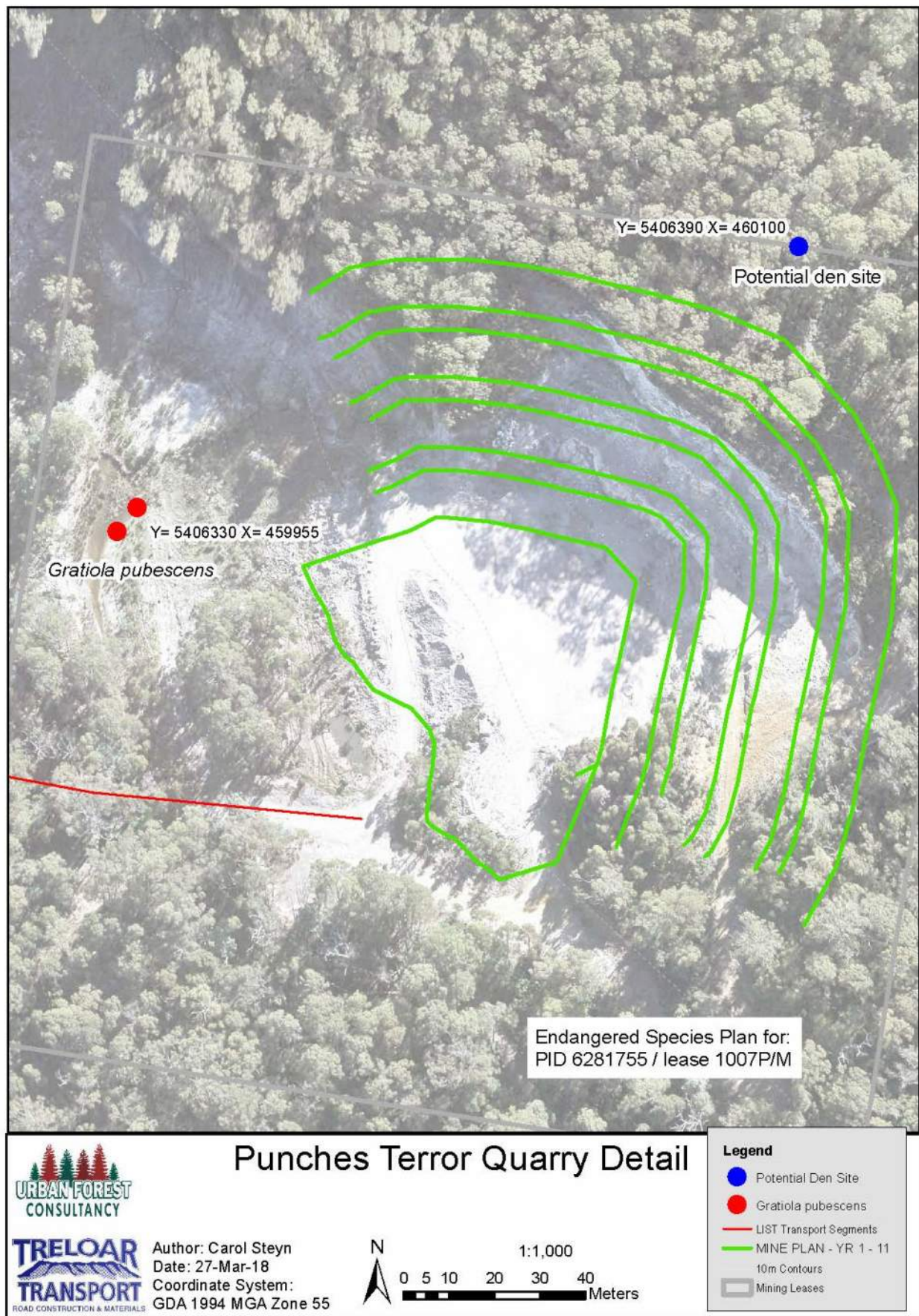


TABLE OF COMMITMENTS BY APPLICANT – TRELOAR
TRANSPORT CO – PUNCHES TERROR QUARRY, DUNORLAN

Commitment type & no.	Detail	When
Flora & fauna		
5	Delineate areas of listed threatened species.	Prior to activity commencing
6	Cordon off potential devil den.	Prior to activity commencing
Weed & disease management		
9	Provide updated weed management plan.	Within 3 months of permit taking effect
Aquatic and stormwater		
3	Install larger sediment pond in lease 28M/1990.	Prior to activity commencing
11	Monitor settling ponds biannually to maintain 1:20 year flood capacity.	Biannual basis.
Air emissions		
2	Use water cart as required to dampen road surface.	Ongoing.
Blasting		
12	Monitor all blasts for ground vibration and blast overpressure.	Ongoing.
Transport		
1	Trucks to travel at 20 km/hr on Beaumont's Road to limit dust emissions.	Ongoing.
Rehabilitation		
13	Stockpile top soil where possible for the purpose of rehabilitation.	Ongoing.
14	Monitor revegetation biannually for two years, then annually for a further three years.	
15	Maintain earthen bund and "open pit" signs after closure.	Ongoing.

Noise control		
4	Conduct noise assessment if quarry operations are likely to occur on northern slope of Punches Terror.	As necessary.



Punches Terror Quarry Expansion

Beaumont's Road, Dunorlan

(ML 1007 P/M & 28M/1990)

Development Proposal and Environmental Management Plan



This Development Proposal and Environmental Management Plan was prepared by:



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The DPEMP will be submitted to:

Board of the Environment Protection Authority
GPO Box 1550
Hobart TAS 7001

Issue	Date	Recipient	Organisation
Draft 1	8 th December 2017	Internal	Urban Forest Consultancy
Draft 2	15 th December 2017	J Treloar/T Milham	Treloar Transport
Draft 3	19 th December 2017	Assessments Section	EPA Tasmania
Draft 4	08 th January 2018	Assessments Section	EPA Tasmania
Draft 5	30 th January 2018	Assessments Section	EPA Tasmania
Version 1	7 th February 2018	Assessments Section	EPA Tasmania

EXECUTIVE SUMMARY

Treloar Transport Pty Ltd (TT) seeks approval to increase production at Punches Terror Quarry, located at Beaumont's Road, Dunorlan Tasmania, (level one, located on freehold land - 1007 P/M), by merging with newly acquired Meander Valley Council (MVC) quarry (level two - 28M/1990) located on Crown Land. Combined, the proposal is to increase annual production from 11,000m³ to 20,000 m³. This would incorporate an allowance to blast, crush and screen as a part of usual operations.

There are two threatened species within the vicinity of quarry operations. However, neither species is expected to be directly affected by quarry operations. Protocols will be implemented to ensure all personnel, vehicles, plant and machinery remain clear of excluded zones.

Quarry operations are generally expected to be carried out in an easterly direction in both lease areas. All material within the quarry is chert-conglomerate with no expectation of acidic drainage, and a requirement for all of the product to be processed through a mobile crushing and/or screening plant.

Operations will be distributed roughly evenly between the two quarry locations, with 28M/1990 becoming the primary quarry within five years as 1007P/M approaches the lease boundaries to the north and east.

TT has operated the southern lease (1007P/M) since 2001, with no complaints from nearby residences. With no permanent structures (including fuel storages) on site, all plant and equipment will be removed at the conclusion of each campaign, with facilities erected, temporary in nature.

Increased production at the site is not expected to impact on the local community or transport segments. However, there may be some concern that by blasting, possible noise and dust pollution may affect local residents. TT will put in place control measures including notification of blasts to residents in the immediate vicinity, carrying out blasts during business hours and times consistent with the prescribed measures of the Tasmanian Quarry Code of Practice (QCP).

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LIST OF ABBREVIATIONS

ANFO	Ammonium Nitrate, Fuel Oil
BMP	Blast Management Plan
BOM	Bureau of Meteorology
BPEM	Best Practice Environmental Management
DPIPWE	Department of Primary Industries, Parks, Water and Environment
DPEMP	Development Proposal and Environmental Management Plan
DoSG	Department of State Growth
EMPCA	<i>Environmental Management and Pollution Control Act 1994</i>
Air EPP	<i>Tasmanian Environment Protection Policy (Air Quality) 2004</i>
Noise EPP	<i>Tasmanian Environment Protection Policy (Noise) 2009</i>
GDE	Groundwater Dependant Ecosystems
LOM	Life of Mine
LOMP	Life of Mine Plan
LUPAA	<i>Land Use Planning and Approvals Act 1993</i>
MRT	Mineral Resources Tasmania
MVC	Meander Valley Council
NBE Services	North Barker Ecological Services
PEV	Protected Environmental Values
PSG	Project Specific Guidelines
QCP	Quarry Code of Practice – May 2017
SPWQM	<i>State Policy on Water Quality Management 1997</i>
STT	Sustainable Timber Tasmania
TDS	Total Dissolved Solids
TT	Treloar Transport

LIST OF DEFINITIONS

Site	Leases 28M/1990 and 1007 P/M
Southern Lease/Quarry Area	Refers to the land owned by MC & B Atkins and mining lease 1007P/M
Northern Lease/Quarry Area	Refers to the newly acquired lease 28M/1990
Spotter	A spotter in the context of this proposal is an observer whose sole responsibility is to ensure that they monitor the high wall during repair of machinery and alert workers should they feel there is a risk of rock fall; a reliable form of communication must be maintained between the worker(s) and the spotter.

1. INTRODUCTION

This Development Proposal and Environmental Management Plan (DPEMP) provides information for the Environment Protection Authority (EPA) Tasmania and Meander Valley Council to assess this proposal by proponent Treloar Transport Pty Ltd (TT), to intensify and consolidate quarrying at the Punches Terror Quarry (leases 1007 P/M and 28M/1990).

Through consolidation of the two quarries, TT expects the mining volume to increase from 10,000 m³ to 20,000 m³ per annum (equating to 50,000 tonnes broken at density of 1.6). It is anticipated that all of this material will require crushing and screening.

The proposed operations include the following:

- Excavation and ripping of material for crushing and screening
- Blasting
- Stockpiling of processed materials
- Loading of trucks using an excavator or wheel loader
- Transport of material by trucks.

1.1. Treloar Transport Pty Ltd Overview

Table 1 - Proponent Details

Trading name	Treloar Transport Pty Ltd
Registered address	7 Spring St, Sheffield 7306
Postal address	PO Box 21, Sheffield 7306
ABN	83 009 541 986
ACN	009 541 986
Contact	John Treloar
Phone	03 6491 1686
Mobile	0428 140 466
Email	jr@treloartransport.com.au

Established in 1978, TT is a family owned business currently employing 65 employees, providing construction, earthmoving and quarrying operations and civil contracting services throughout Tasmania. TT operates a major quarry and crushing plant for civil construction materials at Shackley Hill near Sheffield, as well as several smaller intermittently operated quarries.

In addition to existing operations at Punches Terror Quarry, TT has extensive experience in the following:

- Quarry rehabilitation
- Effluent pond management
- Siltation control
- Landslip control
- Bridge construction
- Storm water control
- Silviculture
- Forestry road construction
- Unsealed road grading and watering
- Earthmoving and earthworks for subdivisions
- Agricultural earthmoving projects
- Department of State Growth (DoSG) and council road works, and

- Landfill and environmental projects.

Applicable environmental legislation, standards, guidelines and relevant Commonwealth, State and Local Government policies, strategies, or management plans with which the proposal would be expected to comply are given throughout the text of this document.

This document has been prepared using the generic and DPEMP Project Specific Guidelines (July 2017) provided by the EPA Board, following submission of a Notice of Intent in June 2017.

The Meander Valley Council (MVC) has determined the proposal will require a new planning permit and will be assessed against the *Meander Valley Interim Planning Scheme 2013*. The development application (supported by this DPEMP) will be publicly advertised as part of the assessment process.

1.2. Punches Terror Quarry Operational Overview

Punches Terror Quarry (M/L 1007 P/M) is an existing level one quarry, which has been operated by TT since 2001. The quarry is located on freehold land owned by M. C. and B Atkins, C/T109390-1.

TT recently acquired a level two quarry from MVC, which is on Sustainable Timber Tasmania (STT) managed Crown Land (28M/1990). TT seeks to operate these two leases under the same land use permit, and plans to consolidate the leases into one in the future.

TT has not yet initiated this process with Mineral Resources Tasmania (MRT). However, the intention is for the new land parcel/area to be represented as shown in Figure 1. Table 2 provides a list of the coordinates which define "The Land".

The proposed increase in production will not require increased overheads and/or capital expenditure by TT, with existing operational protocols in place at the quarry sufficiently suited to manage the increased production. The number of employees expected to be on site during campaigns will remain as one individual, with heavy vehicle traffic continuing as per existing operations.

Safety protocol is currently in place to ensure the excavator/loader operator parks the machine in a safe location away from blasting and/or other operations, and is stationed in a safe environment that allows for servicing and refuelling. The only other vehicles required to be on site are service vehicles in the event of a breakdown. These vehicles will park adjacent to the broken-down equipment.

The likely markets for the quarry products include construction, road building and project materials which will see the quarry mined on a campaign basis. There is enough material within the Life of Mine Plan (LOMP) to increase capacity at the site, with road going access and availability of projects being the limiting factors with an increased production potential.

The anticipated quarry life for the mine plans as shown in Figure 7 and Figure 8, is approximately 16 years. The likelihood is that the life will be closer to 20 years given the maximum proposed production is unlikely to be removed each year.

It is not anticipated that the intensification of use will impact on any other activities in the area.

Table 2 - X and Y coordinates which define "The Land"

X Coordinate	Y Coordinate
460059.162	5407099.146
459977.4272	5406596.899
460144.5462	5406380.472
460113.264	5406182.97
459915.125	5406214.062

X Coordinate	Y Coordinate
459665.2097	5406507.576
459376.2866	5406555.072
459479.201	5407203.217



Figure 1 – site plan showing the area of “The Land” and approximate distances to sensitive receptors

2. PROPOSAL DESCRIPTION

2.1. GENERAL

The proposal is based on mining between two existing hard rock (chert-conglomerate) quarries of conventional drill and blast operation. This will consist of benches 6 to 8m high, small topsoil and overburden stockpiles, drains and settlement ponds as shown in the drainage plan, Figure 5.

Mining will be conducted between both leases, in the mining areas shown in Figure 6. Figure 7 and Figure 8 show more detailed mining plans. Mining will primarily be contained to existing disturbances which amounts to less than two hectares between both lease areas. There may be a requirement to remove a small amount of vegetation above the former MVC quarry to ensure trees do not fall into the active quarry area.

The quarrying will be a conventional drill and blast benched operation. Figure 2 shows the five-stage process from drilling to haul from site. The extraction process consists of drilling and blasting, crushing and screening, stockpiling, load and dispatch. The crusher / screen is a mobile unit that can be positioned next to the shot rock and fed directly by the face excavator.

Typical equipment on site will be:

- Face loader: 20t Cat excavator
- Crusher: Terex mobile crusher / screen
- Stockpile Loader: Cat 950
- Trucks: Truck and dog combination 30t capacity.



Figure 2 - quarrying cycle showing the five-stage process from drilling to haul from site

Blasting will be conducted on an as-needs basis, with a typical blast liberating about 10,000 m³. At the maximum annual proposed production rate (20,000 m³), blasting is likely to be carried out twice per annum. Initial blasts in the northern lease (28M/1990) may need to be smaller in size, potentially only 5,000 m³, to re-establish upper benches. This could mean up to four blasts in the first three years of mine life, with two blasts per year expected thereafter.

Given the number of sensitive receptors within 1 kilometre of the working areas of the quarries, TT will endeavour to minimise blasting or conduct blasting at the two quarries simultaneously.

Mining volume between the two quarries combined is expected to be 20,000 m³ per annum (or 50,000 tonnes broken based on bank density of 2.6). It is anticipated that all this material will require crushing.

It is proposed that operating hours will be 0700 to 1700 Monday to Friday and 0800 to 1500 on Saturday. These operating times fall within the recommended hours of operation in the *Quarry Code of Practice (QCP) 2017*.

The heaviest concentration of traffic from expanded production would typically be 20 truck movements a day for several weeks over several campaigns per year.

TT has been operating lease southern lease (1007 P/M) as a level 1 activity for 16 years. This activity does not have a council permit or regulatory conditions associated with it. TT recently acquired 28M/1990 from MVC; this activity is regulated by permit (former Licence to Operate Scheduled Premises) 3866. Permitted material movement from 28M/1990 is 10,000 tonnes per annum. TT has only removed enough material from the quarry to conduct road base testing and start setting up benches and drainage for future production from the quarry.

2.2. CONSTRUCTION

Both quarries are operational in their existing state, with no construction or permanent structures required on site.

2.3. COMMISSIONING

No commissioning is required as part of the expansion.

2.4. GENERAL LOCATION MAP

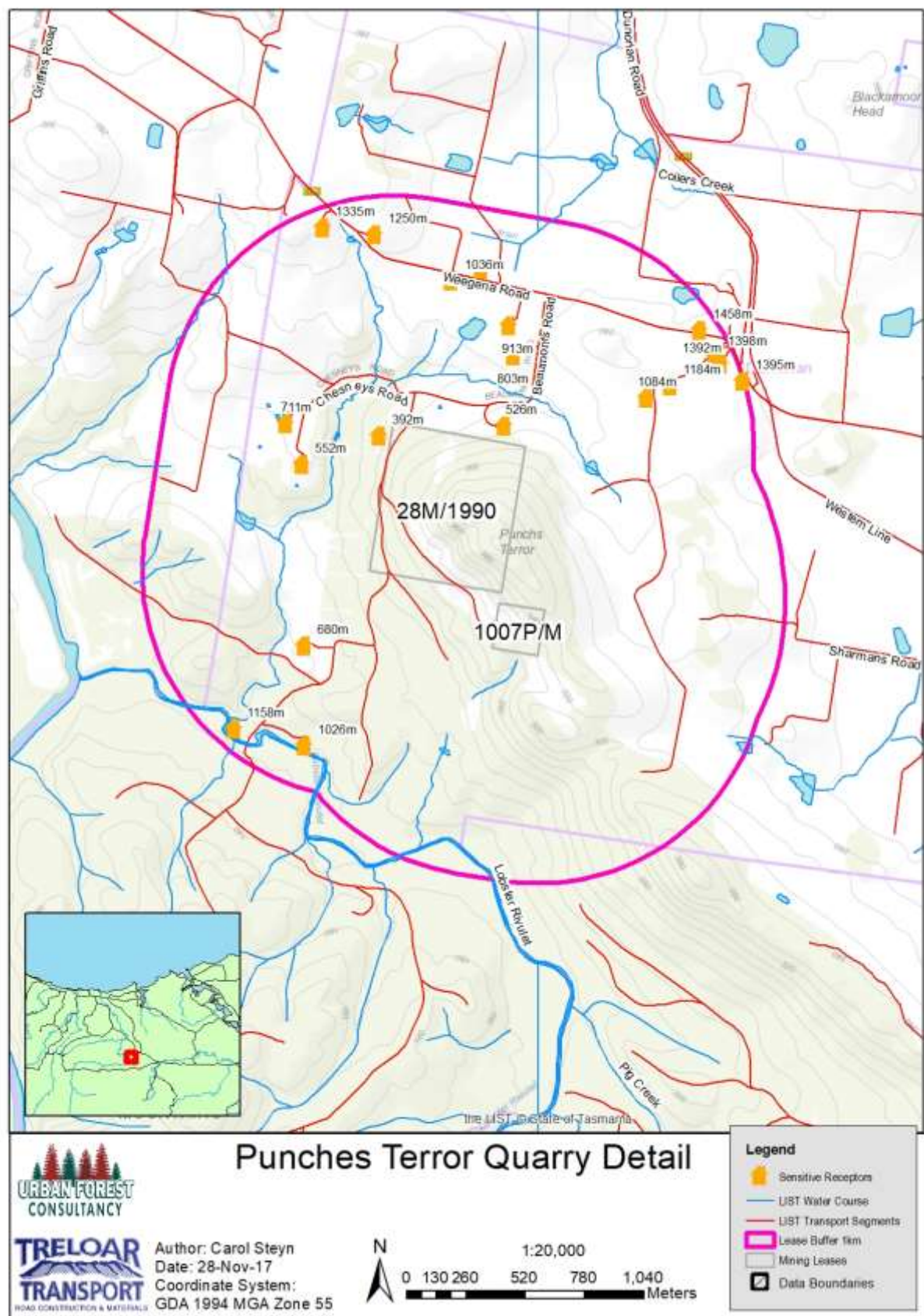


Figure 3 - general location map showing the proposed site, topographical features, roads to and from the site, distances to sensitive receptors within one kilometre.

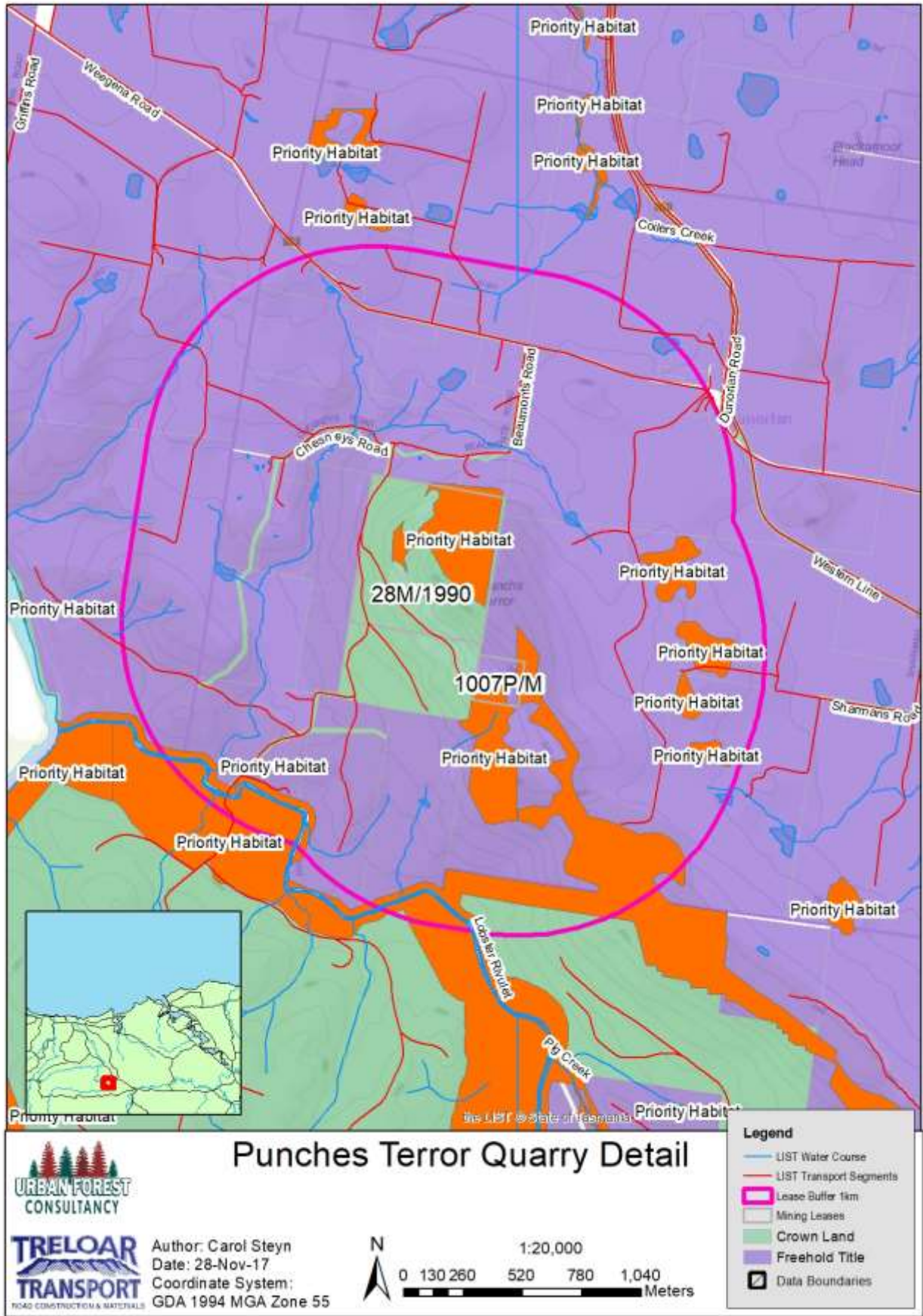


Figure 4 - general location map showing surrounding land tenure and land use. All areas within the plan are zoned "Rural Resource"

2.5. SITE PLAN



Figure 5 - Drainage plan showing ponds, pond outlets, and final drainage direction

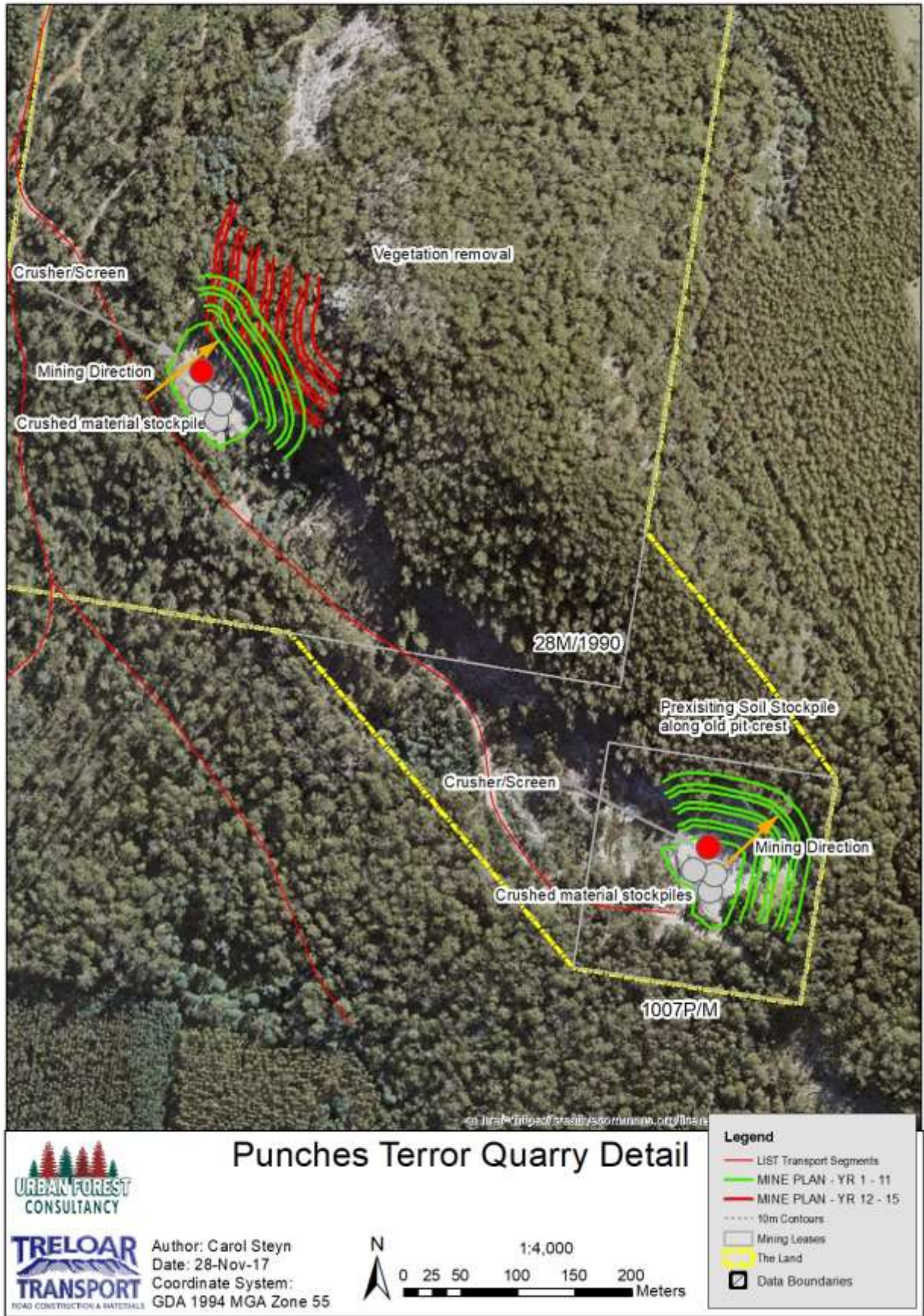


Figure 6 - Site plan showing boundary of the sites, major items of equipment, crushed material stockpiles, mining direction and mining plan

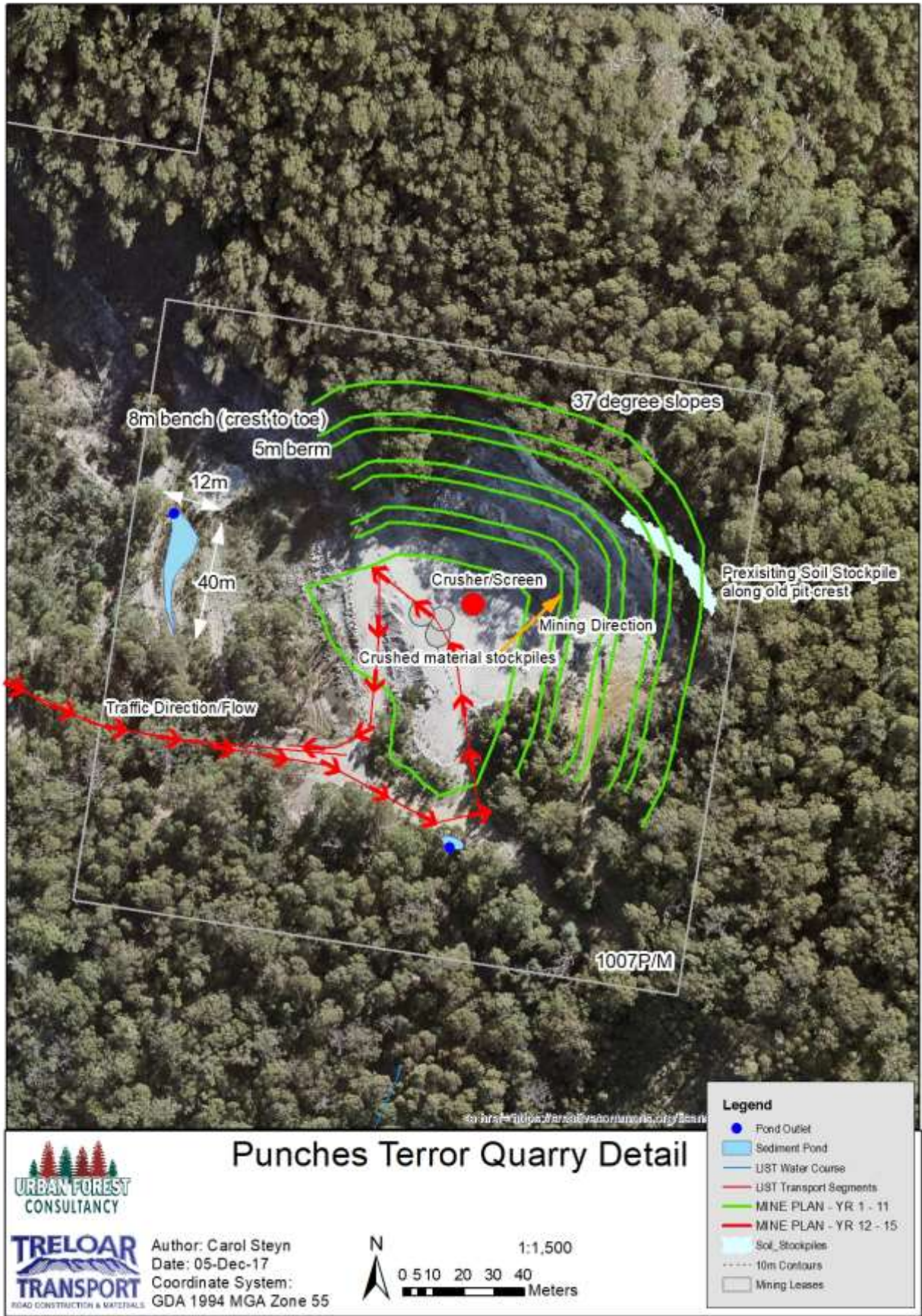


Figure 7 - detailed mining plan for the Atkins Quarry 1007P/M

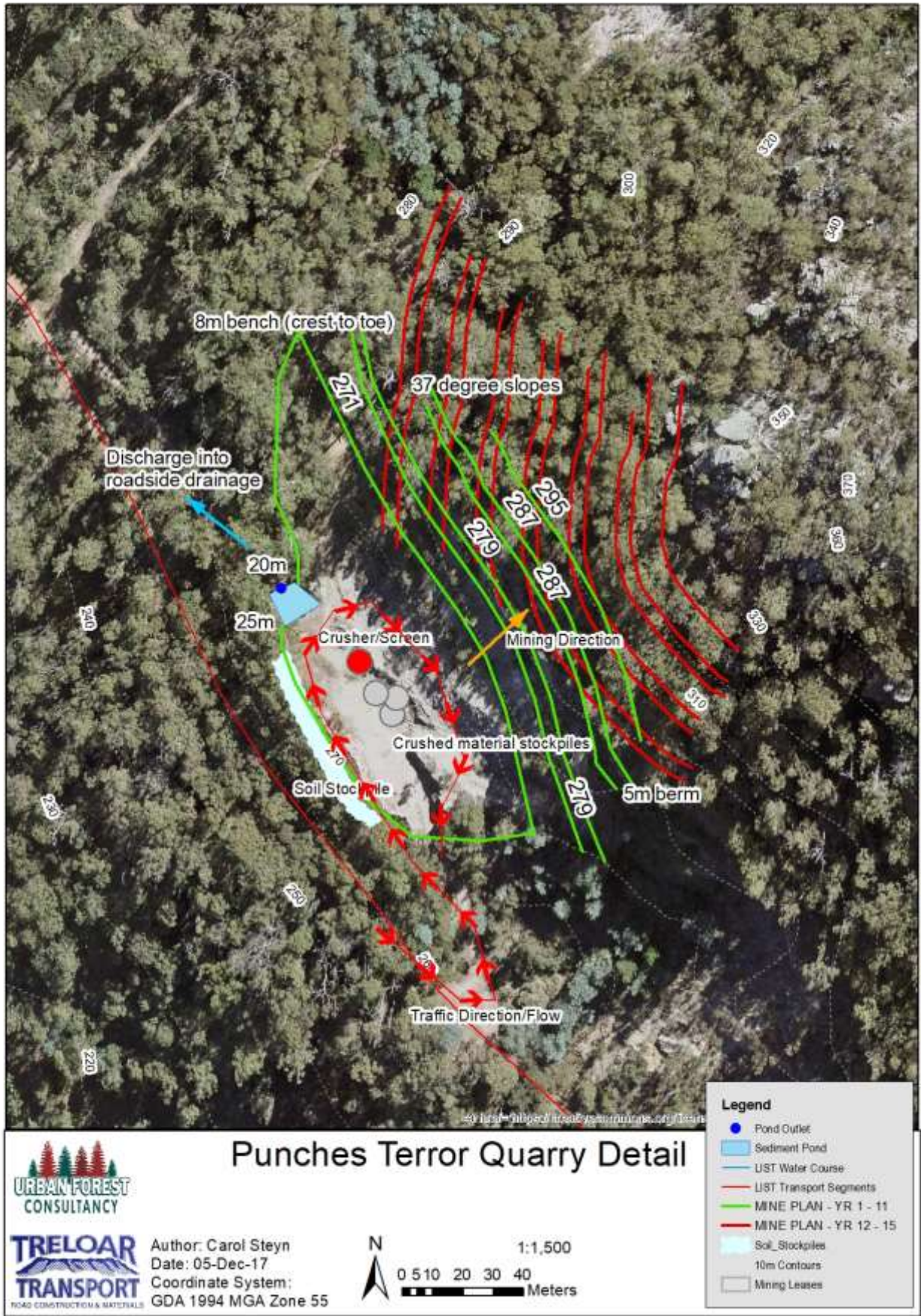


Figure 8 - detailed mining plan for the ex-Meander Valley Council quarry 28M/1990

2.6. OFF SITE INFRASTRUCTURE

No additional off-site infrastructure is required to facilitate this development.

3. PROJECT ALTERNATIVES

The site was chosen for development because of the existing quarry (1007P/M), and the recent acquisition of the former MVC lease 28M/1990, in an area which opens new business opportunities for TT. The intensification of use is required due to new markets opening up in the Meander Valley Region.

The material from the quarry is suitable for road, civil and dam construction.

4. PUBLIC CONSULTATION

The application to intensify use at Punches Terror quarry has included discussions and consultation with the following surrounding residences and agencies:

- Residents in the region
- MC and B Atkins as the land owner of lease 1007P/M
- STT as land manager of the Crown Land on lease 28M/1190
- Environment Protection Authority (EPA)
- Department of State Growth - Mineral Resources Tasmania (MRT)
- Meander Valley Council.

This application is for a Level 2 Activity which is 'discretionary' in the Rural Resource Zone, and as such the application will be advertised to the public. The EPA and the Meander Valley Council will take into account all comments and representations received through the public consultation period in the assessment of this proposal.

5. THE EXISTING ENVIRONMENT

5.1. PLANNING ASPECTS

Mining lease 1007P/M is located on a private parcel owned by MC and B Atkins and 28M/1990 is Crown Land, managed by STT. The leases fall within the Meander Valley Council Area and is zoned Rural Resource under the interim planning scheme.

There are no rights of way, easements or covenants affecting the proposal. The leases are off Beaumont's Road, to the south-west of the township of Dunorlan. A general locality plan is shown in Figure 3. The mining lease area and surrounding land is zoned *Rural Resource* (Figure 4). Mining is a discretionary use in the *Rural Resource* zone.

The lease areas are both on sites which have a long history of quarrying and are surrounded by production forests. The proposed mining areas lie within a low to medium landslide hazard band (LIST: Landslide Planning Map). A landslip risk assessment has been conducted by Tasman Geotechnics and is included as Appendix G – Landslip Risk Assessment. This is discussed further in section 6.13.

The site has no permanent structures and the planned development includes only infrastructure which is transportable in nature. There is no obvious contamination from previous working, nor is contamination expected to be caused by existing and proposed activities.

There are 19 residences within one kilometre of the lease boundaries, and no other facilities or businesses in the general locality. The nearest town with hospitals and schools is Deloraine, 10.5 kilometres to the south east. The general locality plan in Figure 3 shows nearest sensitive receptors and a one-kilometre boundary around the leases.

Planning details for the proposed quarry are:

Table 3 - planning details for the proposal

Mining Lease	1007P/M	28M/1990
Land Type	Private Freehold	Crown managed by STT
Property ID	6281755	2531016
Land Zoning	Rural Resource	
Surrounding land tenure	Private Freehold	

5.2. ENVIRONMENTAL ASPECTS

The site is located on the south-western side of a north – south running ridge. The eastern side of the ridge is classified as plantation in the TASVEG 3.0 layers with agricultural land further to the east. To the west of the ridge is primarily Crown managed *Eucalyptus Amygdalina* (TASVEG 3.0) forest. There is some mapped *Eucalyptus Ovata* forest, which North Barker Ecological (NBE) Services has described as low quality and outside the proposed area of disturbance.

The area of vegetation disturbance for re-opening 28M/1990 will be less than one hectare, with the only established vegetation to be removed around the crest of the old quarry. This vegetation will be removed to limit the risk of large regrowth falling into the working quarry. NBE Services has assessed both leases in separate visits over the past 12 months. In the region of 1007P/M, NBE Services identified one threatened species, *Gratiola pubescens*, however quarrying is not planned in the vicinity of the occurrence. With respect to a potential denning site for the Tasmanian Devil was identified on the north-eastern corner of the lease boundary, NBE Services state:

“Advice from the Policy & Conservation Advice Branch that further exploration into potential use of the soil mound as a den (through means such as remote camera surveillance) was not necessary, and that protective buffers are not required for unconfirmed den sites”

In the region of 28M/1990, NBE Services found that the vegetation was *Eucalyptus obliqua* codominant with *Eucalyptus amygdalina*. No *Eucalyptus ovata* forest was mapped and the TASVEG layers were updated. There were no threatened fauna species identified during the survey conducted by NBE Services within the planned area of disturbance. Both reports are attached as Appendix A.

The leases are situated on a band of thick bedded massive siliceous conglomerates, with minor quartz sandstone lenses. There are no acid sulphate soils mapped nearby the proposed mining areas. There is some evidence of a low level of acidity in water pooling on the quarry floor in the southern proposed mining area, this is discussed further in section 6.2. Climate data collected at Sheffield (farm school) show the annual median temperature for 2016 ranged from 10.9°C to 24.0°C. The annual median rainfall at Kimberly (Mersey River) is 969.3mm.

There are no natural processes of particular importance for the maintenance of the existing environment in the proposed area of mining. There are no reserves located within 500 metres of the proposed quarry. There are no high-quality areas identified in the *Tasmanian Regional Forest Agreement* in the vicinity of the proposed site.

5.3. SOCIO-ECONOMICAL ASPECTS

The population in the vicinity of the proposal comprises generally residences on moderately size rural living blocks. The township of Dunorlan is around one kilometre to the northeast and there is potential for the residents to be disturbed by blasting, although impacts are likely to be minimal. The township is shaded by the ridge. The residents to the west of the proposal are most likely to be affected by

blasting impacts from the quarry, however there have been no complaints from blasting in 1007P/M in the past.

6. POTENTIAL IMPACTS AND THEIR MANAGEMENT

6.1. AIR QUALITY

6.1.1. EXISTING CONDITIONS

TT has operated the level 1 quarry (1007P/M) since 2001 with no complaints with respect to dust emissions in this time.

Wind rose data from BOM sites at Round Hill Burnie and Launceston Airport is shown in Appendix F – BOM Wind Rose Data. The Launceston data shows predominantly north westerly prevailing winds, while the Burnie data shows westerly prevailing winds. There is no BOM data nearby the site, however it is anticipated that the winds will be primarily north westerly to westerly, which means dust is likely to be dispersed into the ridgeline immediately to the east of the quarry, limiting the potential for dust nuisance to the nearby sensitive receptors.

Rainfall data in nearby at Kimberly (Mersey River) is 969.3mm, which suggests the site will be frequently damp, limiting dust emissions due to operations.

6.1.2. PERFORMANCE REQUIREMENTS

The *Tasmanian Environment Protection Policy (Air Quality) 2004* (EPP) is a framework for management and regulation of point and diffuse emissions which affect air quality. The EPP is made pursuant to the provisions of section 96A-96O of the *Environmental Management and Pollution Control Act 1994*.

The environmental values covered by the EPP are:

- The life, health and well-being of humans at present and in the future
- The life, health and well-being of other forms of life, including the present and future health, wellbeing and integrity of ecosystems and ecological processes
- Visual amenity, and
- The useful life and aesthetic appearance of buildings, structures, property and materials.

6.1.3. POTENTIAL IMPACTS

Dust emissions will occur because all operating surfaces in the quarry are gravel. There are no metals or other contaminants in the host rock, therefore dust emissions should be benign in nature. Potential sources of dust within the operations include:

- Stripping of topsoil
- Ripping and dozing of material for stockpiling
- Crushing
- Drilling and blasting
- Stockpiling and loading
- Road use around the quarry
- Exhaust emissions.

6.1.4. AVOIDANCE AND MITIGATION MEASURES

The quarries will retain a vegetation buffer along transport routes where possible to limit dust emissions to the receiving environment.

Trucks will travel at 20 kilometres per hour along the gravel sections of Beaumont's Road¹ to limit dust emissions. A water cart will be used to dampen the road surface if required during particularly dry times to limit environmental dust emissions².

Mobile plant exhaust emissions will be controlled by maintaining plant exhaust systems to the manufacturer's recommendations.

6.1.5. ASSESSMENT OF NET IMPACTS

Dust emissions are expected to be low when the above mitigation measures are implemented. The mitigation measures will ensure that dust emissions do not cause environmental nuisance.

Any impacts which do arise due to poor dampening or vehicles travelling at over 20 km/h are still unlikely to cause environmental nuisance to residents in the area due to the setback of housing from the gravel Beaumont's Road.

Uncontrolled dust emissions from quarrying (crushing/screening and excavating/loading) are likely to cause environmental nuisance due to the north/south running ridge and predominantly westerly prevailing winds. Any dust during easterly winds will be mitigated by the vegetative buffer between the quarry and the nearby residences.

6.2. SURFACE WATER QUALITY

6.2.1. EXISTING CONDITIONS

There are no recognised creeks in the vicinity of the proposed mining areas. All water will discharge from the activity into unnamed tributaries to Lobster Rivulet, around one kilometre to the south west of 1007P/M. The catchment area below the site is mostly poor value native forest or production timber areas directly upslope from Lobster Rivulet.

Table 4 - water quality results for samples collected below 1007P/M on the 21st of September 2017

	Date	21-09-17	21-09-17
	Sample	Atkins Pit Floor	Atkins Final Pond
Field pH	pH unit	3.97	6.91
Field Conductivity	µs/cm	166.1	139.3
Suspended Solids (SS)	mg/L	6	13
Hydroxide Alkalinity as CaCO₃	mg/L	<1	<1
Carbonate Alkalinity as CaCO₃	mg/L	<1	<1
Bicarbonate Alkalinity as CaCO₃	mg/L	<1	27
Total Alkalinity as CaCO₃	mg/L	<1	27
Acidity as CaCO₃	mg/L	19	6
Sulfate as SO₄ Turbidimetric	mg/L	19	12
Aluminium	mg/L	3.3	1.8
Arsenic	mg/L	<0.001	0.001
Barium	mg/L	0.01	0.009
Cadmium	mg/L	<0.0001	<0.0001
Chromium	mg/L	0.002	0.004
Cobalt	mg/L	0.006	0.001
Copper	mg/L	0.068	0.006

¹ Commitment: Trucks to travel at 20 kilometres per hour to limit dust emissions

² Commitment: Use water cart as required to dampen road surface

	Date	21-09-17	21-09-17
	Sample	Atkins Pit Floor	Atkins Final Pond
Lead	mg/L	0.026	0.006
Manganese	mg/L	0.049	0.082
Molybdenum	mg/L	<0.001	<0.001
Nickel	mg/L	0.006	0.004
Selenium	mg/L	<0.01	<0.01
Zinc	mg/L	0.021	0.016
Iron	mg/L	0.23	1.77

Given the low pH of the surface water on the quarry floor in the 1007 P/M lease, water quality samples were collected on the quarry floor and downstream in the discharge pond. The results shown in Table 4 show marginally elevated levels of aluminium, copper and lead on the pit floor, while the discharge pond has negligible amounts of copper and lead, the aluminium remains elevated in the final pond. The elevated levels of these elements do not pose a significant environmental risk.

A drainage plan is shown in Figure 5. All drainage from both mining areas will travel via a series of settling ponds before being discharged into Lobster Rivulet, which reports to the Mersey River approximately 1 kilometre downstream.

Lobster Rivulet is used for irrigation up stream of the proposed development, however the area downstream of the development is heavily forested and not likely to be used for agricultural purposes. The *State of the River Report Water on Quality of Rivers in The Mersey Catchment (1997)* describes the Lobster Rivulet at Chudleigh (about 9.5 kilometres upstream of the proposal) as “highly degraded”. The report suggests that damage has primarily/largely been caused by livestock access to the river, resulting in poor benthic habitat quality, high turbidity and poor water quality.

The Mersey catchment has various land uses downstream of the Lobster Rivulet including agriculture, hydroelectric power generation and forestry. The *State of River Report on Mersey River Catchment Index of River Condition (1997)* describes the overall river condition as moderately impacted. The primary drivers of the degraded river condition include:

- Severe erosion due to destruction of streamside zones
- Uncontrolled stock access
- Choking of waterways from exotic species
- Pollution inputs, and
- Forestry practices including extensive plantations with no natural streamside zones and limited understorey.

The site runoff was estimated using the rational method equation. The estimated runoff on the Atkins lease (1007P/M) is 1.05ML per day for a 1 in 20-year rainfall event. The existing pond size is approximately 4.1ML when at full storage capacity. According to the *Australian Rainfall and Runoff: A Guide to Flood Estimation*, the calculated minimum size of the pond for 80% removal of sediment during a 1 in 20 year flood is 1.2ML. The expected detention time is slightly more than three days during a 1 in 20 year event.

6.2.2. PERFORMANCE REQUIREMENTS

The key legislation and policy requirements pertinent to this DPEMP for management of surface water quality are:

- *Water Management Act 1999*

- *State Policy on Water Quality Management 1997 (SPWQM)*
- *Inland Fisheries Act 1995*
- *Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act), and*
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.*

Protected environmental values (PEV) relevant to this proposal from the SPWQM identified are:

- Recreational Water Quality Aesthetics
 - Secondary contact.
- Agricultural Water Uses
 - Irrigation
 - Stock watering.

The minimum water quality should include management strategies to maintain water quality guidelines to protect and achieve all of the environmental values for the nominated water body.

6.2.3. POTENTIAL IMPACTS

The results shown in Table 4 show marginally elevated levels of aluminium, copper and lead on the pit floor, while the discharge pond has negligible amounts of copper and lead, the aluminium remains elevated in the final pond. The elevated levels of these elements do not pose a significant environmental risk.

The metal concentrations were reviewed against the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2000*. The downstream water use is predominantly agricultural, when compared to the long-term trigger values in section 4.2.6 of the guidelines³, the metal concentrations are below the trigger values.

The estimated runoff for the ex-MVC lease (28M/1990) is 0.8ML per day for a 1 in 20 year rainfall event. The calculated required pond size is 0.6ML, with a retention time of just under one day. The existing pond is undersized and will require enlargement upon approval of this application.

The pond size required can be reduced by using fingers, the use of sediment screens or having a long pond⁴.

6.2.4. AVOIDANCE AND MITIGATION MEASURES

Surface water monitoring will be undertaken in accordance with the proposed schedule in Table 11. Should the final discharge surface water quality be outside the PEV values, TT will lodge an incident report and investigate the likely cause.

Surface water will be directed away from both active quarry areas, both to minimise the risk of high wall failure and to prevent clean water entering the quarry area disturbances. The clean water redirection will be directed into the final settling ponds to ensure that sediment laden drainage is not released to the environment.

6.2.5. ASSESSMENT OF NET IMPACTS

Monitoring will be undertaken in accordance with the commitments made in section 7.1. TT will undertake periodic inspections of the site, with a section dedicated to run off and surface water

³ *Australian and New Zealand Guidelines for Fresh and Marine Water Quality: The Guidelines, 2000*, Volume 1, Table 4.2.10, pp 4.2–11

⁴ Commitment: Install larger sediment pond before activity commences

disposal system. Inspection records will be maintained electronically for a duration of two years and can be made available on request.

Flood events are most likely to cause discharge water to contain elevated solids by short circuiting the settling pond network. The ponds have been designed to cater for a once in 20-year flood event, floods larger than this are likely to have discharge water with elevated suspended solids. This discharge is not likely to cause environmental harm during large storm events. Under these conditions, the river networks in the region are likely to have high suspended solids, with volumes contributed from this proposed intensification unlikely to add any significant solids to the system.

The Southern lease (1007P/M) showed some elevated metals concentration and low pH on the quarry floor. The large area of watershed around the lease means that the concentrations are likely to be sufficiently diluted and not a cause for concern.

6.3. GROUNDWATER

6.3.1. EXISTING CONDITIONS

The regional geological setting for the proposal has been mapped by MRT as Cambrian aged and described as “*quartzite derived, massive pebble-cobble conglomerate with minor pink quartz arenite beds*” (Chester 2017)⁵. The ground water feature summary included in Appendix H identifies two main aquifers present; tertiary basalt and Cambrian aged.

The ground water plans prepared by the Tasmanian Government show that the tertiary basalt is highly permeable, with many groundwater bores in the region used for residential and stock water. Figure 9 shows the groundwater bores detailed in Appendix H with symbology showing aquifer geology. The aquifers surrounding the proposed development are almost exclusively tertiary basalt.

The surface water quality is discussed in section 6.2, with the surface water quality not expected to impact on the groundwater supply. All surface water is and will continue to be directed in a south westerly direction towards Lobster Rivulet, in the opposite direction of the surrounding residents’ groundwater bores.

The water feature summary (Appendix H) has one bore with a Total Dissolved Solids (TDS) value of 380ppm; it is unlikely to expect any large variation from this value for the purpose of this proposal. TT has operated the site since 2001 and has had no complaints from surrounding residences with regard to bore water quality degradation or the activity being perceived to draw down the aquifer.

There are no groundwater uses on either lease contained within this proposal. There is no requirement for use of groundwater for the planned proposal. The depth of excavations is not likely to intercept groundwater.

6.3.2. PERFORMANCE REQUIREMENTS

The proposal should be consistent with the objectives and requirements of all relevant water management policies and legislation, including the *Water Management Act 1999* and the SPWQM. It must be demonstrated that the proposal meets the PEV outlined in section 10.2 of the SPWQM.

The PEV for the proposal with respect to ground water will be for TDS below 1000 (mg/L) as per table 1 in the SPWQM. Environmental protection measures for drinking water quality should be met to maintain the existing water quality.

⁵ Chester, 2017, *LANDSLIDE RISK ASSESSMENT PROPOSED QUARRY, PUNCHES TERROR BEAUMONT'S ROAD, DUNORLAN*, Tasman Geotechnics, Launceston Tasmania.

6.3.3. POTENTIAL IMPACTS

The potential effects of the proposal on ground water quality are expected to be very low to negligible. The quality of surface water runoff shown in Table 4 is of a suitable standard to recharge the surrounding groundwater without any impact. The drainage will be directed towards the Lobster Rivulet, thereby avoiding recharge of the aquifers north of the proposed site.

The proposed site is located along the crest of a ridge, above the level of the water in any of the surrounding bores. The proposed development is not likely to drawdown the aquifer water level. The site will have no requirement for additional water input as part of normal activities.

6.3.4. AVOIDANCE AND MITIGATION MEASURES

Regular monitoring of surface water runoff and ensuring drainage flows in the appropriate direction will avoid impacts to groundwater quality. Should the surface water quality become consistently outside the PEV's in the SPWQM, and TDS remain elevated, TT will contact local residents and conduct water quality analyses to ensure its operations do not adversely impact the surrounding landholders.

TT will conduct regular surface water quality sampling as discussed in section 7.1 below. TT will advise the EPA should it feel that groundwater quality has been affected.

6.3.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that potential impacts on groundwater are controlled and monitored. Groundwater is not likely to be intercepted or affected by activities. Risk to the environment is considered negligible.

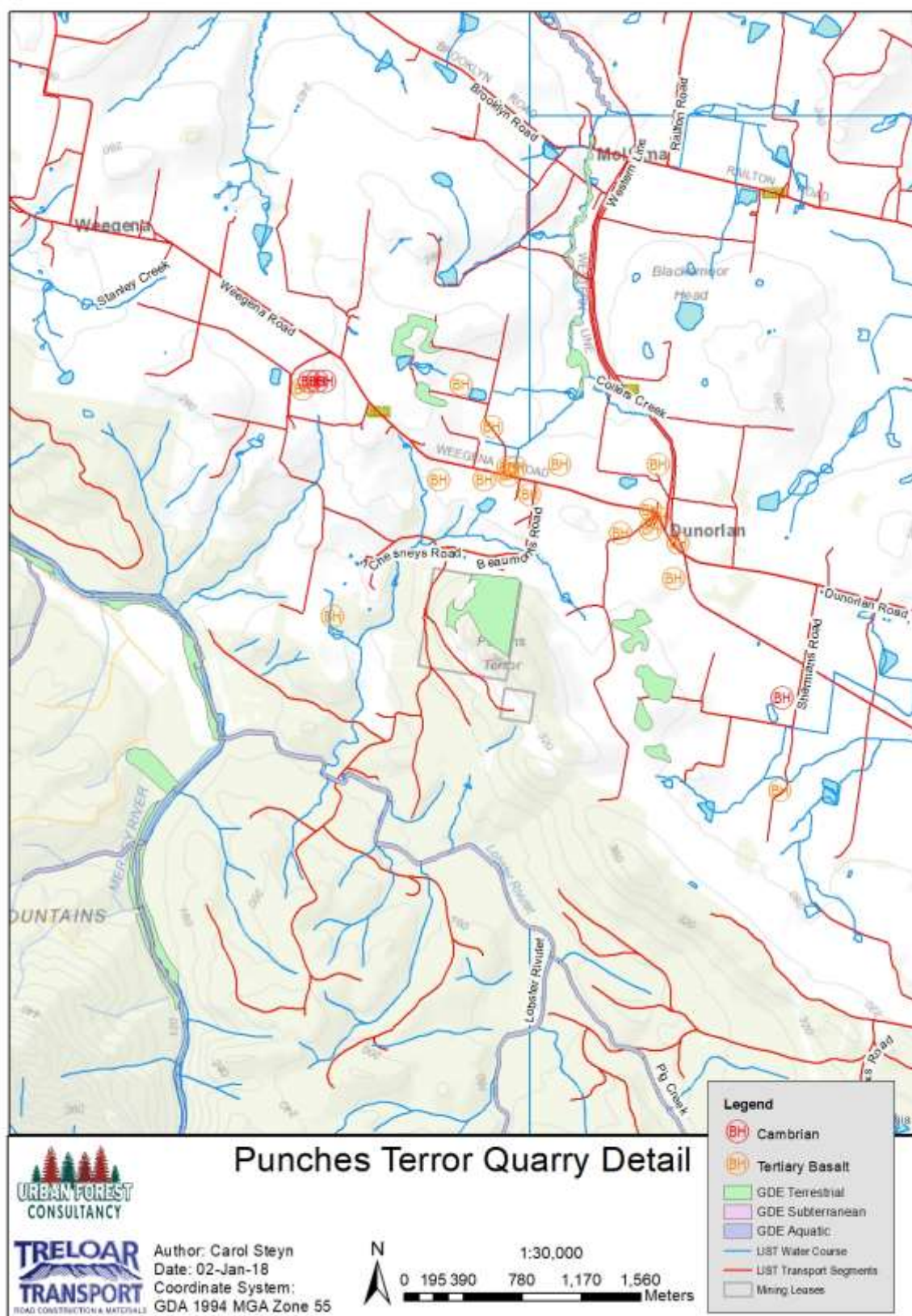


Figure 9 - Shows groundwater bores and ground water dependant ecosystems (GDE)⁶

⁶ Locations of groundwater bores sourced from <http://wrt.tas.gov.au/groundwater-info/> on 2nd January 2018. Data for Groundwater Dependant Ecosystems (GDE) was sourced and downloaded from <http://www.bom.gov.au/water/groundwater/gde/map.shtml> on the 2nd January 2018.

6.4. NOISE EMISSIONS

6.4.1. EXISTING CONDITIONS

The site is located on the western side of a north – south running ridge, with north and north-westerly prevailing winds.

Both proposed quarries are surrounded by some vegetative buffering, with the southern quarry (1007P/M) the most exposed, however the furthest from nearby residences. Extractive activity will be on a campaign basis with the activities expected to cause the most noise being crushing/screening and blasting.

The potential sources of noise emissions are listed in Table 5 below.

Table 5 – Machine power levels and calculated sound power output where available

Machine	Horse power	Sound power output (calculated by P. Terts)
Face loader: 20t Cat excavator	748	42 dB(A)
Crusher: Terex mobile crusher / screen	300	112 dB(A)
Stockpile Loader: Cat 950	130	
ATLAS COPCO ROC F7 (or similar)	240	
Blasting	See below with regard to blasting	

6.4.2. PERFORMANCE REQUIREMENTS

Consideration has been given to the below listed key legislation and policy guidance documents:

- *Quarry Code of Practice 2017*
- *Environmental Management and Pollution Control Act 1994*
- *Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2014 (EMPCR)*
- *Environment Protection Policy (Noise) 2009*, and
- *Guidelines for Community Noise 1999*.

The *Environment Protection Policy (Noise) 2009* (Noise EPP) establishes suitable benchmarks for acceptable levels of noise so people can enjoy the peace and solitude of Tasmania. The Noise EPP describes overarching principles and objectives to provide a basis for reducing health risks and unreasonable interference with human enjoyment of the environment by noise emissions.

6.4.3. POTENTIAL IMPACTS

Environmental Noise

A noise survey was conducted by Pearu Terts in September 2017 and is included as Appendix B. Two monitoring locations were used during the survey to record ambient noise. These are shown in Figure 10.

Based on the topographic profiles shown in the report attached and locations in Figure 11, noise levels were calculated and are listed below in Table 6. The noise levels estimated at the nearest residences suggest operations at the site are likely to comply with the noise emission criteria of the QCP, namely a daytime level of 45dB (A).

The quarry operating hours are consistent with the QCP and discussed in section 2.1. The distances from the quarry operations to the sensitive receptors within 1 kilometre of the quarry are shown in Figure 1.

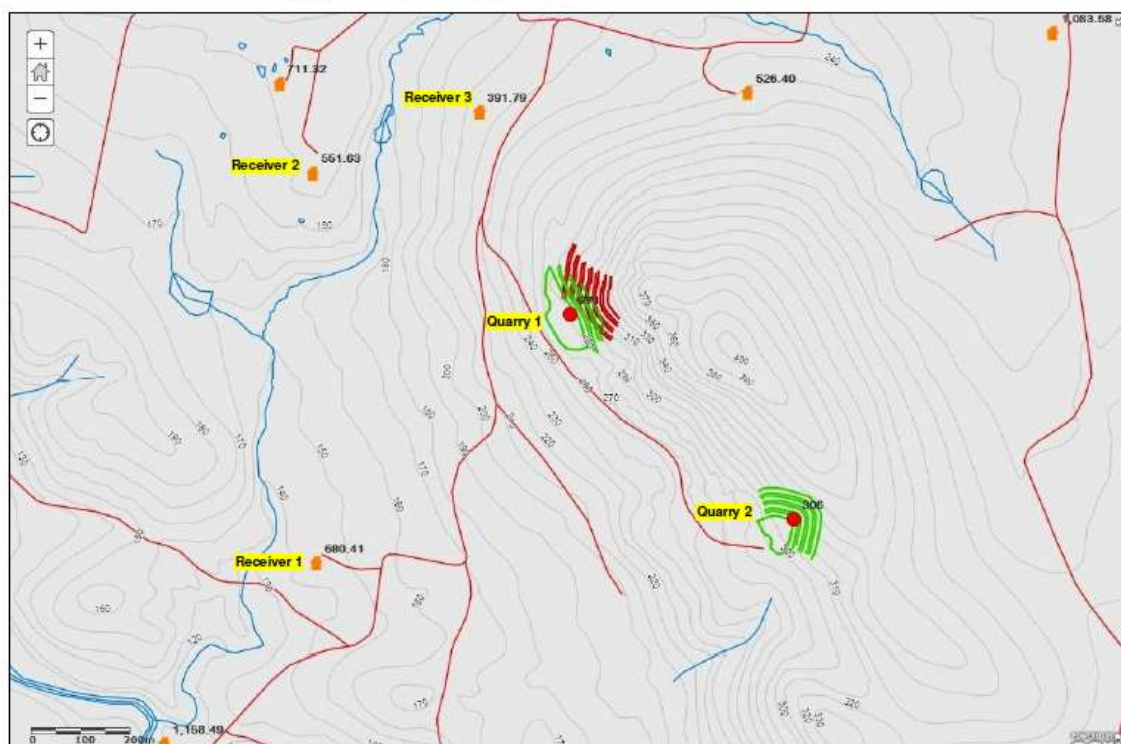
Table 6 - noise levels at nearest residences calculated by Pearu Terts to be read in conjunction with plan in Figure 11

Quarry	Residence	Calculated Noise	Separation Distance (m)
1	1	31.2 dB(A)	734
2	1	30.6 dB(A)	972
1	2	36.9 dB(A)	605
2	2	30.5 dB(A)	1205
1	3	35.6 dB(A)	444
2	3	27.4 dB(A)	1043



Figure 10 - Noise monitoring locations during Pearu Tert's field assessment in September 2017

Location – topographic map showing quarry crusher and nearest sensitive receiver locations

Sourced from ArcGIS <https://arcg.is/1Wvqgm> 14/12/2017

Pearu Terts – Topographic Report – Treloar Punches Terror Quarry, Dunorlan – December 2017

Figure 11 - Quarry and nearest residence locations for calculation of environmental (nuisance) noise

Based on the results of the noise study, the potential for noise nuisance to residents in the area is low. With the mitigation measures described above and the long history of quarrying in the area with no complaints received, it is anticipated that TT will be able to operate without affecting the residents of the area. Should quarrying activities be required in the northern section of 28M/1990, TT will conduct a further noise assessment.⁷

Blasting

Forze conducted a blasting assessment for the proposal, included as Appendix C – Blasting Impacts Report. The estimated ground vibration at each of the monitoring points (shown in its report in Appendix C – Blasting Impacts Report) is listed in Table 7 - blast ground vibration. The estimated air blast overpressure is 107dB at 870m from 1007P/M and 114dB at 390m from 28M/1990.

Table 7 - blast ground vibration from the quarries

Lease	Distance from blast	Vibration Site (PPV - mm/s)	Prediction	Vibration Monitor (PPV - mm/s)	Prediction
1007P/M	870	1.09		1.09	
28M/1990	390	2.90		2.90	

The QCP suggests that blasting should be carried out within the below conditions⁸:

- “for 95% of blasts, air blast overpressure must not exceed 115 dB (Lin Peak)
- air blast overpressure must not exceed 120 dB (Lin Peak) at all

⁷ Conduct noise assessment if operations are outside those described in Figure 7 and Figure 8

⁸ Quarry Code of Practice – May 2017, pp19

- c) for 95% of blasts, ground vibration must not exceed 5 mm/s peak particle velocity, and
- d) Ground vibration must not exceed 10 mm/s peak particle velocity at all."

The estimated air blast overpressure for both quarries falls within *a* and *b* above at the quoted distances. The ground vibration is estimated to be below 5mm/s for all blasts at 390m from the blast location. Only one sensitive receptor lies at about this distance, from the northern quarry. The Forze report suggests that TT will be able to comply with the blasting requirements of the QCP. TT will monitor all blasts and keep records for five years, and these will be supplied to the EPA Director upon request.

6.4.4. AVOIDANCE AND MITIGATION MEASURES

TT has, and will continue to, maintain a public complaint register for the duration of the project. There have been no complaints with respect to noise from operations of the quarry within lease 1007P/M.

Noise impacts will be mitigated by:

- ensuring that a vegetative buffer is maintained around quarrying operations
- operating and blasting within the hours stated in section 2.1
- keeping crusher/screening operations on lower benches
- minimising the frequency of blasting where possible, and
- using low traffic speed with no engine brakes on the gravel section of Beaumont's Road and through Dunorlan township.

Blasting will be monitored in accordance with the blast management plan (BMP) attached in Appendix C – Blasting Impacts Report.

6.4.5. ASSESSMENT OF NET IMPACTS

There is likely to be some noise and potential for nuisance to nearby sensitive receptors as a consequence of this proposal. The most likely noise nuisance during operations at the site will be caused by blasting. The impact of blasting to nearby residences will be a few minutes up to four times per year. TT will contact residents prior to blasting to ensure that this inconvenience will not cause nuisance and, where necessary, attempt to negotiate a more appropriate time to blast, providing this can be done in accordance with the BMP.

The noise report showed there would be some noise at the closest residences as a result of this proposal, however the estimated levels are below the noise requirements in the QCP. The level of noise still has potential to be of nuisance, however the risk of this is considered low.

6.5. WASTE MANAGEMENT

6.5.1. EXISTING CONDITIONS

There are no existing waste streams on the sites under existing operations. There are no waste disposal receptacles provided and there is no intention to do so with the proposed expansion. All solid and liquid effluent will be removed from site at the end of each day.

6.5.2. PERFORMANCE REQUIREMENTS

The key legislation relevant to the management of solid and controlled waste in Tasmania is the *EMPCA 1994* and its associated regulations, namely *EMPCA (Waste Management) Regulations 2010* and *EMPCA (Controlled Waste Tracking) Regulations 2010*.

6.5.3. POTENTIAL IMPACTS

LIQUID EFFLUENT

There will be no discharge of liquid effluent (excluding stormwater which is discussed above) as part of the proposal. There will be no permanent site-based amenities.

During mining campaigns, transportable amenities will be installed on site with all wastes removed by a licensed contractor.

SOLID WASTES

All machinery servicing which produces solid wastes will be conducted at the TT workshop in Sheffield. Waste generated by repair of equipment breakdowns is and will be removed from site after the repairs are conducted. Waste generated by workers is and will be removed at the end of the shift each day; no waste bins are provided on site.

6.5.4. AVOIDANCE AND MITIGATION MEASURES

All waste will be removed from site at the conclusion of each day. Controlled waste will be transported from the TT compound in Sheffield for disposal by a licenced contractor.

Quarry inspections will be conducted periodically to ensure that the workforce is removing all waste from site.

6.5.5. ASSESSMENT OF NET IMPACTS

The measures to be implemented as per above should ensure impacts to the environment are negligible.

6.6. DANGEROUS GOODS AND ENVIRONMENTALLY HAZARDOUS MATERIALS

6.6.1. EXISTING CONDITIONS

There are no existing hazardous materials stored on site.

6.6.2. PERFORMANCE REQUIREMENTS

The proposal will fulfil the requirements of the following legislation and policy in relation to dangerous goods and hazardous materials:

- Australian Code for the Transport of Dangerous Goods by Road and Rail, Edition 7.5, 2017
- *Dangerous Substances (Safe Handling) Act 2005* and associated regulations
- Australian Dangerous Goods Code (7th edition), and
- Relevant Australian Standards (e.g. AS 1940 and AS 3780).

6.6.3. POTENTIAL IMPACTS

There will be no storage of fuels and oils on site. All fuel and oil will be transported onto site each day by light vehicle. Each vehicle is equipped with spill kits and TT has a program in place to train employees in the use of spill kits. The maximum quantity of fuel and oil brought to site at any one time is 240L and unlikely to cause environmental harm should there be a spill. All chemicals brought to site will be stored in a bund with capacity 1.5 times greater than the amount transported to site.

Chemicals for the purpose of weed treatment will be on site during the annual weed management program. Contractor chemical storage will be assessed prior to work commencement on site to ensure that chemicals are stored appropriately.

Explosives will be transported to site by the explosives contractor. Loading and firing will occur on the same day, with no requirement to store explosives on site overnight.

To minimise the risk of toxic fumes from blasting, the contractor will not use Ammonium Nitrate, Fuel Oil (ANFO) when there is water present; regular density checks will be conducted to ensure product quality.

Appropriate records will be kept in line with the explosive contractor procedures.

6.6.4. AVOIDANCE AND MITIGATION MEASURES

Mitigation of risks associated with dangerous goods and environmentally hazardous materials are:

- Employee and contractor inductions which will include information on appropriate disposal methods of waste
- Safety Data Sheets (SDS) will be available and accompany any chemical used on site
- Spill clean-up kits will be available on any light vehicle carrying hazardous materials or in the vicinity of operating heavy machinery
- Any spills will be reported and cleaned up immediately, and
- Explosives will not be stored on site.

Quarry inspections will be conducted periodically to ensure hazardous materials are stored appropriately. A public complaints register will be maintained for the term of the proposal.

6.6.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects from dangerous goods and environmentally hazardous materials are managed appropriately, monitored and are unlikely to cause environmental harm.

6.7. BIODIVERSITY AND NATURAL VALUES

6.7.1. EXISTING CONDITIONS

NBE Services conducted biodiversity assessments during two visits in 2016 and 2017. The freehold lease, 1007 P/M was surveyed in September 2016. The results of both surveys are attached as Appendix A in section 12.1. A Natural Values Atlas (NVA) report was obtained from the NVA database and is attached as Appendix I – Natural Values Atlas Report. The report shows no threatened species within the lease areas, with the only notable feature within the search boundary a geoconservation site and threatened communities discussed in the section below. There is one verified listing of threatened fauna within 500m of the lease boundary, which was green and gold frog (*Litoria raniformis*). There have been ten raptor nest sighting within a 5000 km of the lease boundaries between 1985 and 2016. NBE Services have noted in their report that the habitat surrounding the site is not of suitable quality for WTE nesting site.

Vegetation Communities

The vegetation communities were mapped by NBE Services. Both lease areas contain the following TASVEG units:

- Dry *Eucalyptus obliqua* forest (DOB)
- Dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*, and
- Extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NBE Services, 2016).

The proposed intensification of the southern lease (1007P/M) will result in approximately one-hectare DAS and 0.4 hectare of DOB of vegetation removal over the life of the proposal. The proposed intensification of the northern lease (28M/1990) will result in the clearance of up to one hectare of DAS and no more than 0.2 ha of DOB. NBE Services classified this vegetation removal as insignificant in a local and regional scale.

The TASVEG layers show *E. ovata* mapped in the region, however NBE Services made no sightings of *E. ovata* during the field survey in either lease, and the TASVEG layers have been updated accordingly.

Table 8 - VEGCODE values used in Figure 12

VEGCODE
(DAC) <i>Eucalyptus amygdalina</i> coastal forest and woodland
(DAS) <i>Eucalyptus amygdalina</i> forest and woodland on sandstone
(DOB) <i>Eucalyptus obliqua</i> dry forest
(DOV) <i>Eucalyptus ovata</i> forest and woodland
(DSC) <i>Eucalyptus amygdalina</i> - <i>Eucalyptus obliqua</i> damp sclerophyll forest
(FAG) Agricultural land
(FPL) Plantations for silviculture
(FPU) Unverified plantations for silviculture
(FUM) Extra-urban miscellaneous
(FUR) Urban areas
(NAD) <i>Acacia dealbata</i> forest
(WOB) <i>Eucalyptus obliqua</i> forest with broad-leaf shrubs

Threatened Species

There was one occurrence of *Gratiola pubescens* in the vicinity of the final pond of the southern quarry area (50m SW of the active quarry area of 1007P/M). The area of occurrence will be barricaded⁹ to ensure there is no disturbance during pond repairs and cleaning. NBE Services noted that populations of the species are increasing and there is potential for it to be down listed or delisted.

NBE Services identified a soil mound on the north-western border of the lease 1007 P/M which could be suitable Tasmanian Devil (*Sarcophilus harrisii*) habitat. NBE Service indicated that since the mound is removed from the mining area and unlikely to be used, no further studies are required. NBE Services indicated it would be best to cordon the area off to ensure it is not disturbed¹⁰.

Weeds and Pathogens

NBE Services did not map any declared weeds under the *Weed Management Act 1999* in the vicinity of southern lease (1007 P/M) during its field visit. Sue Jennings of Forestry Tasmania also surveyed the lease for weeds and pathogens during May of 2017 surveying the lease (1007P/M) for weed species and *Phytophthora cinnamomi*. There were no weed issues noted during the survey.

Ms Jennings suspected the lease had an infection of *P. cinnamomi* due to deaths of indicator species. The sample results shown that there is no infection contained within the lease, however Ms Jennings made recommendations with regard to soil stockpiles until further testing is conducted in the future.

NBE Services mapped one declared weed, *Ulex europaeus* (gorse) and one woody environmental weed, *Pinus radiata* (radiata pine) during its field visit to the southern lease. TT has undertaken weed

⁹ Commitment: Delineate area of listed species

¹⁰ Commitment: Cordon off potential devil den

treatment activities on the site since the survey. TT has committed to a corporate weed management plan as part of this proposal.

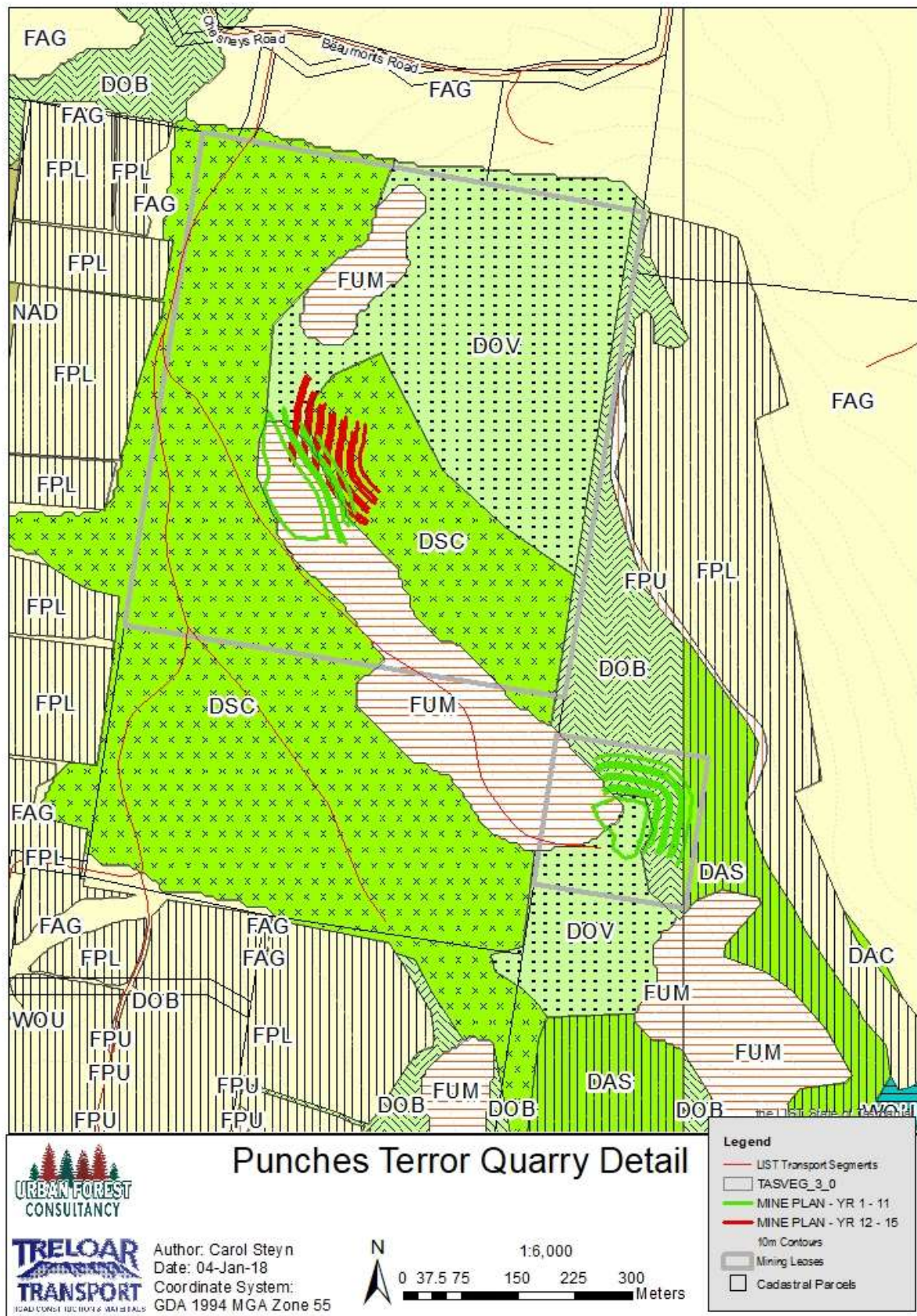


Figure 12 - Vegetation communities in the vicinity of the proposed expansion (to be read in conjunction with Table 8)

6.7.2. PERFORMANCE REQUIREMENTS

The key legislation relevant to protecting flora and ecological communities contained in this proposal are:

- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
- Tasmanian *Threatened Species Protection Act 1995*
- Tasmanian *Weed Management Act 1999*
- Tasmanian *Nature Conservation Act 2002*
- *Forest Practices Act 1985 and associated regulations, and*
- *Meander Valley Interim Planning Scheme 2013.*

In addition to the above legislative requirements, consideration has been given to *Australia's Biodiversity Conservation Strategy 2010-2030*, Tasmania's *Nature Conservation Strategy Draft (2001)* and *Threatened Species Strategy for Tasmania (2000)*.

6.7.3. POTENTIAL IMPACTS

Vegetation Communities

The primary risk to vegetation communities from the proposed activity expansion is vegetation removal for expansion of the pit. NBE Services did not anticipate that the level of vegetation removal from either lease would be significant on a local or regional scale. At the conclusion of quarrying activities, these areas will be rehabilitated.

Threatened Species

NBE Services identified threatened species *Gratiola pubescens* in the vicinity of the quarry area (1007P/M). NBE Services makes note in its report that *Gratiola pubescens* has become more frequently recorded in Tasmanian and is likely to be nominated for down-listing or de-listing. Should the area of *Gratiola pubescens* need to be disturbed, TT will need to apply for a permit to take from DPIPWE.

A potential Tasmanian Devil (*Sarcophilus harrisii*) den site was observed by NBE Service during its field study on the northern edge of the mining lease 1007P/M. NBE Services contacted DPIPWE's Policy & Conservation Advice Branch, which advised that further investigation of the soil mound was unnecessary. The habitat surrounding the soil mound is not ideal devil habitat.

Weeds and Pathogens

The weed species present on site are unlikely to have any measurable impacts on the regional biodiversity. The *P. cinnamomi* status of the quarry will be monitored biennially into the future.

6.7.4. AVOIDANCE AND MITIGATION MEASURES

Vegetation Communities

Vegetation removal will be minimised where possible, and progressive rehabilitation will be conducted if possible. Soil stockpiles will be maintained along the crest of each quarry, as a safety windrow and source of rehabilitation material.

Threatened Species

Occurrences of *Gratiola pubescens* will be flagged for the duration of the proposal and a ground based observer will be used during pond cleaning to ensure that the excavator operator does not disturb the occurrences of *Gratiola pubescens*. If removal is required to maintain drainage, a 'permit to take' will be sought from DPIPWE.

The soil mound, which is a potential Tasmanian Devil (*Sarcophilus harrisii*) den site will be flagged for the duration of the proposal.

Weeds and Pathogens

The *P. cinnamomic* status of the quarry will be monitored biennially into the future. Appropriate weed management practices will be used to ensure that weed incursions at the site are minimised and where possible, eradicated.

6.7.5. ASSESSMENT OF NET IMPACTS

Vegetation Communities

The removal of vegetation is likely to cause habitat loss to some species, however insignificant to local populations that might be. The vegetation loss around the proposal has been assessed as low-quality habitat for any endangered species. The proposed avoidance and mitigation measures will ensure that the likelihood of environmental harm is negligible.

Threatened Species

There are two species listed under the Tasmanian *Threatened Species Protection Act 1995*, and some likelihood these species may be disturbed (particularly *Gratiola pubescens*) during quarrying. However, the net impact would be negligible on a more global scale. NBE Services has noted the occurrences of *Gratiola pubescens* are becoming more common in Tasmania.

Weeds and Pathogens

The measures outlined above should ensure that the potential impacts from weeds and pathogens are unlikely to cause environmental harm.

6.8. GREENHOUSE GAS EMISSIONS AND OZONE DEPLETING SUBSTANCES

6.8.1. EXISTING CONDITIONS

Operation of mobile plant will cause greenhouse gas emissions. Greenhouse gas emissions arise from blasting; as only two to four blasts per year are forecast, greenhouse gas emissions from this source will be minimal over the life of mine (LOM).

There is minimal need to remove vegetation over the LOM, and with areas being revegetated, overall vegetation levels at the end of mining should exceed the existing levels, therefore increasing the CO₂ consuming potential of vegetated areas.

6.8.2. PERFORMANCE REQUIREMENTS

The impacts of climate change and greenhouse gas emissions and targets are set in the *Climate Change State Action Act 2008* and *Climate Smart Tasmania: A 2020 Climate Change Strategy*. TT does not meet the thresholds for reporting under the *National Greenhouse and Energy Reporting Act 2007*.

The *Climate Change State Action Act 2008* sets a limit of 60% below the 1990 greenhouse gas emissions baseline by 2050.

6.8.3. POTENTIAL IMPACTS

Exhaust emissions will generate greenhouse gasses within the proposal area and the road corridors approaching the area of proposed operations. Impacts include respiratory effects on workers and surrounding residents. TT recognises that its activities product greenhouse gas emissions which contribute to local, regional and global air sheds.

6.8.4. AVOIDANCE AND MITIGATION MEASURES

Machinery owned and operated by TT is modern and well maintained, which will ensure that emissions of greenhouse gases are minimised. TT will consider greenhouse gas emissions when procuring new equipment.

6.8.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects from greenhouse gas emissions and ozone depleting substances is managed appropriately, monitored and are a low risk to cause environmental harm.

6.9. HERITAGE

6.9.1. EXISTING CONDITIONS

The Tasmanian Heritage Register has been consulted and there are no listed heritage features within the vicinity of the leases. The closest heritage features shown on the LIST are in the Dunorlan township over 2.5 kilometres away.

A search was conducted of the Aboriginal heritage website, which did not identify any registered Aboriginal relics or apparent risk of affecting Aboriginal relics.

6.9.2. PERFORMANCE REQUIREMENTS

Relevant legislation to protect Aboriginal and European heritage in Tasmania includes:

- *Aboriginal Heritage Act 1975*
- *Aboriginal Relics Act 1975, and*
- *Historic Cultural Heritage Act 1995.*

In Tasmania, Aboriginal Heritage Tasmania provides resources, standards and guidelines for heritage investigations. European Heritage information is available from the Tasmanian Heritage Register.

6.9.3. POTENTIAL IMPACTS

The site has no significant Aboriginal or European Heritage or risk of encountering them.

6.9.4. AVOIDANCE AND MITIGATION MEASURES

An Unanticipated Discovery Plan will be kept on record by TT to ensure it complies with the *Aboriginal Heritage Act 1975* should any aboriginal relics be uncovered during operations.

6.9.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects to heritage features is managed appropriately.

6.10. LAND USE AND DEVELOPMENT

6.10.1. EXISTING CONDITIONS

Both mining leases (1007P/M & 28M/1990) are located within the Meander Valley Council planning area, therefore a planning application to council is required for the proposal. The proposed mining areas fall within the Rural Resource planning zone under the *Meander Valley Interim Planning Scheme 2013*, for which the purpose is:

- “26.1.1.1 To provide for the sustainable use or development of resources for agriculture, aquaculture, forestry, mining and other primary industries, including opportunities for resource processing.
- 26.1.1.2 To provide for other use or development that does not constrain or conflict with resource development uses.”

Land use in the immediate vicinity of the proposed development includes plantation forestry, agriculture and residential plots.

6.10.2. PERFORMANCE REQUIREMENTS

The legislative and state policy requirements include:

- *Meander Valley Interim Planning Scheme 2013*, and
- *Land Use Planning and Approvals Act 1993*

This proposed activity will require a planning permit under the *Land Use Planning and Approvals Act 1993*.

6.10.3. POTENTIAL IMPACTS

The proposed mining areas have several sensitive receptors close by, with the closest, a residence, at 570m north of the mining area in lease 28M/1990. The residences are most likely to be affected by an increase in traffic passing by on Beaumont’s Road and from blasting events, two to four times per year. There are some production forest areas to the southwest, which STT does not intend to harvest in the next three years (STT website).

The proposed quarrying areas are surrounded by agricultural areas; however the ridgeline and remnant vegetation are unsuitable for conversion into agricultural land. The past quarrying in the area has also made the ridgeline unsuitable for use as production forest. The best land use outcome is to mine the land into a suitable landform for safe rehabilitation. The past use and abandonment of the quarries has left steep slopes, which although stable in appearance, will be difficult to rehabilitate. TT plans to quarry the areas in accordance with the QCP, to leave stable landforms for rehabilitation and return to native forest.

There is expected to be no impact on tourism or availability of recreation activities for the public.

There are no industrial activities in the general vicinity.

6.10.4. AVOIDANCE AND MITIGATION MEASURES

Traffic impacts are discussed further in section 6.19. However, TT will implement a speed limit reduction for heavy vehicle traffic on the gravel Beaumont’s Road, which will reduce nuisance dust and environmental noise for surrounding residents.

6.11. VISUAL IMPACTS

6.11.1. EXISTING CONDITIONS

The site is visible to the west from the Gog Range and residences to the west. The visual impact will be restricted to local residents and keen hikers. It is anticipated that by the end of the quarry life, the landform will be more visually pleasing than it currently is. The quarrying activities are not visible from the north, south and east, due to shading from the ridgeline. It is anticipated that with retention of some vegetative screening the quarrying activities will be difficult to notice from any vantage points, other than to the west.

6.11.2. PERFORMANCE REQUIREMENTS

Revegetation and quarry design should be conducted in accordance with the QCP to achieve a sustainable, stable and rehabilitated final landform.

6.11.3. POTENTIAL IMPACTS

Quarrying slopes outside the suggested batter angles described in the QCP could leave the site difficult to rehabilitate and scar the landscape.

6.11.4. AVOIDANCE AND MITIGATION MEASURES

TT plans to quarry the slopes to final landform in accordance with the QCP and where possible progressively rehabilitate. This will limit visual impacts for bushwalkers and the few residents to the west who can see the quarry operations.

6.11.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects of this proposal provide a more visually pleasing landform than currently exists post operations. During operations the impact of this proposal poses no risk for environmental nuisance.

6.12. SOCIO-ECONOMIC ISSUES

6.12.1. EXISTING CONDITIONS

Socio-economic issues arising from the proposed increase in production are not expected to be measurable due to the relatively small-scale nature of the proposal. The quarry is not expected to have any impact on the labour or construction markets in the region. There is potential for a marginal increase in employment for the proponent as the quarry provides new business opportunities. The quarry is expected to be operated with one to two operators and serviced by up to five trucks on an ad-hoc campaign basis.

6.13. HEALTH AND SAFETY ISSUES

6.13.1. EXISTING CONDITIONS

TT has operated the southern quarry (1007P/M) since 2001 without any public complaints or reportable environmental or safety incidents.

6.13.2. PERFORMANCE REQUIREMENTS

TT is committed to ensuring compliance against the *Workplace Health and Safety Act 2012*¹¹ and associated *Workplace Health and Safety Regulations 2012*. TT plans to manage health and safety risks by complying with its health and safety management plan, and working in accordance with AS/NZS 4801 procedures. TT has maintained triple International Standards Organisation (ISO) accreditation since 2014.

6.13.3. POTENTIAL IMPACTS

In the event that the quarry is not operated in a safe manner, there is risk to worker and community health and safety. There are a number of health and safety risks associated with the proposed development. These health and safety risks are controlled with appropriate operator training and internal procedures, as well as adherence to relevant state and federal legislation.

¹¹ Commitment: Abide by the *Workplace Health and Safety Act 2012* and *Workplace Health and Safety Regulations 2012*

6.13.4. AVOIDANCE AND MITIGATION MEASURES

The appropriate drainage will mitigate storm water runoff, which will result in minimal risk to public health from the operations of quarry. There will be no fuel storage on site, as discussed in section 6.6.

6.13.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects to health and safety will not pose a risk to the environment.

6.14. HAZARD ANALYSIS AND RISK ASSESSMENT

6.14.1. EXISTING CONDITIONS

TT has a long history of quarrying at the site, in particular the southern lease (1007P/M) having operated there since 2001. There have been no significant safety or environmental incidents at the site during these operations.

6.14.2. PERFORMANCE REQUIREMENTS

A hazard identification and risk assessment has been undertaken for the proposal based on the processes outlined in Australian/New Zealand Standard AS/NZS 4360:1999 *Risk management*. The legislative requirements for the proposal are compliance against the *Workplace Health and Safety Act 2012*¹² and associated *Workplace Health and Safety Regulations 2012*.

Major risks were assessed using the proprietary TT risk matrix shown in Table 9 below.

Table 9 - TT proprietary risk matrix

	Consequence				
	Trivial	Environmental Nuisance or First Aid Treatment	Material Environmental Harm or Lost Time Injury	Serial Material Environmental Harm or Serious Injury	High Level Serious Environmental Harm or Fatality
Likelihood	1	2	3	4	5
A (Almost Certain)	M	H	H	E	E
B (Likely)	L	M	H	E	E
C (Moderate)	L	M	H	E	E
D (Unlikely)	L	L	M	H	E
E (Rare)	L	L	M	H	H

Risk levels are quantified by;

- Material environmental harm is an impact upon health of humans or \$5,000 damage
- Serious environmental harm is a high impact or wide scale damage to health or humans or >\$50,000 damage

¹² Commitment: Abide by the *Workplace Health and Safety Act 2012* and *Workplace Health and Safety Regulations 2012*

- High level serious environmental harm is high impact and wide scale damage to the health of humans or >\$50,000 damage.

The below risk assessment summaries the potential hazards, risks, consequences and mitigation actions for quarrying at Punches Terror.

The highest risks for the quarry are:

- Rock falls and landslips; which will be mitigated in accordance with Appendix G – Landslip Risk Assessment
- Machinery interaction with personnel and the public; will be managed by operator training, signage where required
- Blasting: blasting will be managed in accordance with blast contractor procedures defined in Appendix C – Blasting Impacts Report.

6.14.3. POTENTIAL IMPACTS

TT has managed these risks for business wide quarry operation and civil works with very few major incidents. TT has the systems and processes in place to minimise risk to employees and the public.

Table 10 - Risk assessment for quarrying activities at Punches Terror

Event	Consequence	Risk	Mitigation	Mitigated Risk
Rock fall/landslip	Consequences of rock fall can vary from death or disabling injury to minor asset damage	Extreme	Work with bunds established against the highwall where possible. Keep bench heights in compliance with QCP if possible (note low benches and slope angle in the QCP will make this risk negligible).	Low
Machinery Operation	Over turn of machinery. Collision between machinery/public. Environmental harm (spills, fire etc). Loss (Machine damage)	High	Ensure machinery operators are licenced and trained to use equipment (maintain these records). Maintain hazardous material clean-up equipment on each site/vehicle carrying hazardous materials.	Medium
Spill of hazardous substance	Environmental harm	Medium	Maintain hazardous material clean-up equipment on each site/vehicle carrying hazardous materials. Train appropriate personnel in use of clean-up gear.	Low
Slips/Trips/Falls	Cuts, scrapes and bruises	Medium	Ensure suitable footwear and stable ground.	Low

Event	Consequence	Risk	Mitigation	Mitigated Risk
Bites and Stings	Major injury or death (snake bite) to minor discomfort (insect bite)	High	Ensure that at least one person on site is trained to provide first aid treatment. Ensure that there is consistent access to first aid supplied (fit to all machinery/vehicles).	Medium
Interaction with public	Personnel or machinery interaction with public. Loss of public image, damage to property or public vehicles.	High	Adherence to speed limits, reduction in speed limits where there is likely interaction between people and machinery. Use spotter for personnel and machinery are working close proximity to each other.	Medium
Blasting	Unplanned explosion, misfire.	Extreme	Adhere to blasting contractor management plan and safety requirements. Ensure blasting contractor is licenced and experienced.	Medium
Working alone	Difficult to make contact if major injury or incident occurs	Medium	Maintain UHF/mobile phone contact. Ensure workers finished work each day (admin).	Low
Dust	Environmental or respirable dust. Environmental nuisance. Adverse health outcomes for workers	Medium	Maintain low vehicle speed/water road during high dust times. Ensure machinery is maintained and windows remain closed during dusty mining.	Low

TT engaged Tasman Geotechnics to conduct a landslip risk assessment; the full report is included as Appendix G – Landslip Risk Assessment. The risk assessment shows the risk with regard to rock falls is rated as LOW, which complies with Clause E3.6.1 of the *Meander Valley Interim Planning Scheme 2013*.

6.14.4. AVOIDANCE AND MITIGATION MEASURES

Tasman Geotechnics recommended the following summary of control measures to alleviate the risk with respect to rockfalls on the site:

- No public access onto the quarry site, unless visitors are accompanied by Site Foreman.
- No work allowed within 2m of the rock face without a spotter. Where possible, work on a broken-down vehicle to be carried out such that the vehicle is between the person and the rock face.
- Faces in soil to be no more than 5m high, and at angle of no steeper than 1V:1H. This will also assist in rehabilitation of the site.

- Faces in rock to be no more than 8m high.
- Loose rocks should be 'cleaned' from rock faces that are steeper than 1V:1H.
- Surface runoff on benches above soil slopes to be directed away from the slope to open drains.
- Maintenance of surface runoff, vegetation, retaining structures and other measures described above are the responsibility of the quarry operator.

TT will incorporate the above corrective actions into its induction¹³ for the quarry and review and amend relevant procedures as necessary.

Regular safety audits will be conducted and held on record at TT's head office in Sheffield. TT will maintain a training register for the duration of the proposal.

A public complaints register will be maintained for the duration of the proposal.

6.14.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that work on site is conducted in a safe manner and worker health and safety is maintained. TT have had no incidents with respect to rock falls/landslip on this site and when the control measures listed above are implemented, there is negligible risk to workers or the environment.

6.15. FIRE RISK

6.15.1. EXISTING CONDITIONS

The risk of fire starting on the site is very low, with the nature of TT operations on site unlikely to provide an ignition source. The potential sources of fire are primarily machinery and vehicles operating on site; all TT equipment is fitted with fire extinguishers. Both mining areas are surrounded by native vegetation, however there is more than a 20m buffer around these areas from creating stockpiles or from previous quarry operations. These buffer zones will provide adequate protection to surrounding native forest if there is an equipment fire.

6.15.2. PERFORMANCE REQUIREMENTS

The proposed development is required to comply with the *Fire Services Act 1979* and the *Workplace Health and Safety Act 2012*. The proponent plans to address fire risks emanating from both inside and outside the site by:

- Maintaining a small vegetation buffer around all active mining areas
- Ensuring that pre-start checks include a check of fire suppression equipment, and
- Ensuring that staff are trained in use of fire suppression equipment.

The site has been reviewed against "Bushfire Prone Areas" according to the *Meander Valley Interim Planning Scheme 2013* LIST layers and no part of the proposed development falls within a "Bushfire Prone Areas". According to the LUPAA, the site does not require a specific Bushfire Management Plan.

6.15.3. POTENTIAL IMPACTS

A fire originating from the site has the potential to affect the surrounding biodiversity values, property, and agricultural income potential and endanger lives.

¹³ Commitment: Incorporate risk control measures with regard to rock fall risk into site induction

6.15.4. AVOIDANCE AND MITIGATION MEASURES

The steps to manage a fire on site are described below:

- Assess the risk to site personnel
- Where safe, attempt to extinguish the fire with appropriate extinguisher
- Call 000
- Call site management, and
- Evacuate equipment if safe to do so.

Site activities will cease, and the site will be evacuated if a wildfire is in the region and expected to pass within a one kilometre radius of the site.

Scheduled maintenance will include review of on board fire suppression components to ensure that they are well maintained.

Staff will be trained as part of the induction process on fire preparedness. All staff undertake fire extinguisher training.

6.16. INFRASTRUCTURE AND OFF-SITE ANCILLARY FACILITIES

6.16.1. POTENTIAL IMPACTS

Increased production from the quarries will primarily impact Beaumont's Road, Weegen Road and Dunorlan Road (north and south bound). The increase in traffic and likely impacts are discussed in section 6.19.

There is no planned permanent infrastructure or offsite ancillary facilities planned to be installed as part of the increase in production.

6.17. ENVIRONMENTAL MANAGEMENT SYSTEMS

6.17.1. OVERALL ENVIRONMENTAL MANAGEMENT SYSTEMS

TT is ISO 14001 accredited and committed to having sound environmental management systems (EMS). Some relevant environmental management procedures are included in Appendix E – Relevant Company Procedures. All employees are trained in relevant EMS during their inductions and onsite training for job specific tasks.

6.17.2. ORGANISATIONAL STRUCTURE AND RESPONSIBILITIES

The General Manager will be the Management Representative for environmental policy and implementation, and is responsible for ensuring that the operation is managed in accordance with Best Practice Environmental Management (BPEM).

6.17.3. PROCEDURES AND INSTRUCTIONS TO EMPLOYEES

TT has a comprehensive set of standard operating procedures, with a subset of relevant procedures included in Appendix E – Relevant Company Procedures. TT has a company induction process, which is reviewed and updated at least annually. TT is currently rolling out a content management system to improve its safety, environment and quality outcomes within the business.

6.18. CUMULATIVE AND INTERACTIVE IMPACTS

The proposed development is small in nature. No further impacts are anticipated which have not already been considered in the rest of this DPEMP. The DPEMP has reviewed socio-economic, environmental and cultural impacts for this development.

6.19. TRAFFIC IMPACTS

6.19.1. EXISTING CONDITIONS

A traffic impact assessment was conducted by Chris Martin of CRE Tasmania Pty Ltd and is included as Appendix D – Traffic Impacts Study. The proposed increase in production will result in around 1000 truck movements, an increase of around 450 truck movements per annum. The heaviest truck movement is anticipated to be 20 truck movements per day during mining campaigns.

The main roads to be affected by the proposal will be Beaumont's Road, with a right turn onto Weegen Road, followed by 50% of the traffic turning northbound onto Dunorlan Road and the other 50% of the traffic turning southbound onto Dunorlan Road.

6.19.2. PERFORMANCE REQUIREMENTS

CRE assessed the "site conditions to The Austroads AGRD04A/09 Guide to Road Design Part 4A: Unsignalised and Signalised Intersections" (Martin, 2017). CRE also used *Guide to Road Design Part 3: Geometric Design section 5.3* to assess stopping conditions.

6.19.3. POTENTIAL IMPACTS

It is likely that truck movements will create dust, which can be minimised by limiting truck speeds and dampening of the road surface during dry weather. CRE noted that houses on the transport routes are well back from the gravelled Beaumont's Road and are unlikely to be affected by additional noise or dust.

6.19.4. AVOIDANCE AND MITIGATION MEASURES

CRE made a number of recommendations, which include;

- maintain fence lines clear of vegetation, install a give way sign making it clear that the Chesneys road traffic does not have priority to enter the intersection
- provide adequate table drains to remove water from the pavement at this location
- provide white hold line and a giveway sign at the Dunorlan intersection to formalize priority to the through road. Extend pavement to reduce edgebreak

These improvements all lie within council responsibility.

TT will mandate heavy vehicle traffic travel at 20 kilometres per hour on the gravel section of Beaumont's Road to limit environmental dust and noise. TT will also advise truck drivers to avoid use of engine brakes around surrounding residences.

TT will include road surface, drainage and signage inspections as part of routine quarry inspections.

A public complaints register will be maintained for the duration of the proposal.

6.19.5. ASSESSMENT OF NET IMPACTS

The measures outlined above should ensure that the potential effects of increased traffic are minimised. TT do not have control over council roads, therefore it is possible/likely that if the CRE recommendations are not there could be an impact to the local community from the increased traffic. These impacts are likely to be degradation of the road surface and water accumulation on the road surface.

7. MONITORING AND REVIEW

7.1. WATER QUALITY

TT will monitor discharge water quality from the final ponds according to parameters listed in Table 11 below. There is some concern with regard to low pH and marginally elevated metals.

Sampling of selected metals will occur for two years to ascertain if there is a likelihood of environmental harm any environmental harm from metal contamination.

Table 11 - suggested monitoring parameters for both final discharge ponds

Parameter	Frequency
Field pH	Quarterly
Field electrical conductivity	
Total suspended solids	Six monthly
Acidity	
Alkalinity	
Sulphate	
Metals (Cu, Fe, Al, Pb, Mn, Zn)	Annually for two years

7.2. WEEDS

TT is currently reviewing its weed management plan.¹⁴ However, an annual inspection of the quarry will allow for inspection of weeds. The southern quarry (1007P/M) has been checked by Sue Jennings for *Phytophthora cinnamomi* biennially. This inspection regime will continue for the LOM.

7.3. SETTLING PONDS

TT is implementing a companywide settling pond maintenance and inspection routine¹⁵. TT intends to inspect settling ponds at least biannually¹⁶ in autumn and spring, with active operations inspected monthly to ensure that capacity is maintained for a 1:20 year flood event. All records will be kept in the TT office and entered into an inspection register.

7.4. BLASTING

TT will monitor all blasts¹⁷ for ground vibration and air blast over pressure. Blast monitoring points will be in accordance with the blast management plan attached in Appendix C – Blasting Impacts Report.

7.5. COMPLAINTS REGISTER

TT maintains a public complaint register for all operations. To date, this operation has not attracted any public complaints.

7.6. TRUCK/MATERIAL MOVEMENTS

All TT trucks are fitted with GPS and their movements are tracked using software. TT will monitor truck movements for the LOM.

All material movements are captured and reportable if requested.

¹⁴ Commitment: provide updated Weed Management Plan before 30th June 2018

¹⁵ Commitment: ensure 28M/1990 & 1007P/M are inserted into inspection register

¹⁶ Commitment: monitor settling ponds biannually to maintain 1:20 year flood capacity

¹⁷ Commitment: monitor all blasts for ground vibration and blast overpressure in accordance with BMP

8. DECOMMISSIONING AND REHABILITATION

The site has a long history of quarrying on the western side of the slope, which remains as a steep, while stable, slope. The existing slopes (batters) are not consistent with the acceptable standards given in the QCP, and are sparsely vegetated.

TT's mining plan will lay the slopes back to achieve compliance with the QCP, with revegetation occurring on benches, which will screen batters. TT will stockpile any top soil¹⁸ for future revegetation works. It may be necessary to import material for rehabilitation of the 28M/1990 lease as there were no top soil stockpiles at the quarry when TT took over use of it during 2017.

While it is ideal to undertake progressive rehabilitation, TT would like to maintain the option with the northern lease (28M/1990) to take another 15m wide cut from the face once the existing planned mining has been completed. The Atkins (1007P/M) pit will be progressively closed according to the QCP, with top soil spread on the benches and local tree species planted. Initially the sites will be allowed to naturally seed, with assisted seeding after two years if the natural seed bank does not take.

The primary steps to undertake rehabilitation of the site are:

1. Site clean-up: remove any temporary structures, rip any roadways and prohibit vehicular site access
2. Site preparation: slopes will be quarried to achieve a final slope which meets the standards cited in section 8.3.2 of the QCP, top soil will be spread along berms and around quarry crests. Floor areas will be graded and sloped to ensure that site drainage is contoured and sustainable. Any topsoil which is imported will be tested for weeds and pathogens such as *Phytophthora cinnamomi*
3. Erosion prevention: site drainage infrastructure will be retained, including settling ponds. Additional drainage will be installed to slow down water and direct it to the settling ponds. A pond inspection/clean-out regime will be implemented for 12 to 24 months after initial revegetation. Top soil should be mulched to prevent erosion before vegetation uptake.
4. Revegetation: TT has previously engaged a suitably qualified contractor to review sites requiring revegetation for seeding rates, species selection and application method. TT will undertake the same process with respect to revegetation for both quarries contained within this proposal.
5. Weed control: the quarry will be inspected periodically for weed species, with any treatment required performed as part of the annual weed management program.
6. Monitoring and maintenance: TT will undertake monitoring at regular intervals during the first 24 months after rehabilitation has taken place, with annual inspections undertaken after that until MRT is prepared to classify the site as rehabilitated

TT will notify the Director EPA when rehabilitation works are planned with details of seeding mixes, seeding rates and if imported top soil is required. Rehabilitation works will be monitored biannually for two years, then annually for a further three years¹⁹.

Signage will be placed around the top of both pits with an earthen bund to prevent unintended/accidental access into the quarry from the east²⁰.

¹⁸ Commitment: stockpile top soil where possible

¹⁹ Commitment: monitor revegetation biannually for two years, then annually for a further three years

²⁰ Commitment: maintain earthen bund and "open pit" signs after closure

The site is only visible from the west; it is anticipated that after revegetation works the quarry will have less visual impact than it currently does. TT plans to finish the mine areas with more aesthetic appeal than currently exists.

9. COMMITMENTS

Number	Commitment	When	Who	DPEMP Section
1	Trucks to travel at 20 kilometres per hour on Beaumont's Road to limit dust emissions	Ongoing	J Treloar	6.1
2	Use water cart as required to dampen road surface	Ongoing	J Treloar	6.1
3	Install larger sediment pond in lease 28M/1990	before activity commences	J Treloar	6.2
4	Conduct noise assessment if quarry operations are likely to occur on northern slope of Punches Terror	If deviation from mining plan	J Treloar	6.4
5	Delineate areas of listed threatened species	before activity commences	J Treloar	6.7
6	Cordon off potential devil den	before activity commences	J Treloar	6.7
7	Abide by the <i>Workplace Health and Safety Act 2012</i> and <i>Workplace Health and Safety Regulations 2012</i>	Ongoing	J Treloar	6.13
8	Incorporate risk control measures with regard to rock fall risk into site induction	before activity commences	J Treloar	6.14
9	Provide updated weed management plan	30th June 2018	J Treloar	7.2
10	Ensure 28M/1990 & 1007P/M are inserted into inspection register	30th June 2018	J Treloar	7.3
11	Monitor settling ponds biannually to maintain 1:20 year flood capacity	Bi-annual starting March 2018	J Treloar	7.3
12	Monitor all blasts for ground vibration and blast overpressure	Each blast	J Treloar	7.4
13	Stockpile top soil where possible for the purpose of rehabilitation	Ongoing	J Treloar	8
14	Monitor revegetation biannually for two years, then annually for a further three years	Two yearly	J Treloar	8
15	Maintain earthen bund and "open pit" signs after closure	Ongoing	J Treloar	8

10. CONCLUSION

The Proponent plans to increase the annual production and consolidate quarrying operations at Punches Terror Quarry from the existing (combined) annual movement of 11,000m³ to 20,000m³. This elevates the operations from a Level 1 activity in 1007P/M to a Level 2 activity under Schedule 2 of the *Environmental Management and Pollution Control Act 1994*.

The operations at 28M/1990 constitute a level 2 activity, however there is no allowance for blasting, crushing or screening within the existing permit. It is anticipated that the final landform will be more stable and revegetated appropriately so as not to cause any visual impacts in the region.

There will be a small amount of vegetation removal, primarily to ensure safety of the operation; the estimated area is about 2.6 hectares between both quarries (site vegetation removal). There are two endangered species in the region of the proposal, however they are away from the planned operations area. These areas will be barricaded for the duration of LOM and operations are not expected to have any impact on either species.

There are no permanent structures required on site. All plant and equipment will be transportable in nature. All hazardous materials will be stored in compliant containers and there will be no storage facilities on site. Dust can be minimised by a program of dampening the road surfaces when required and reducing vehicles speeds as required.

Environmental noise from operations and blasting activities are unlikely to cause community nuisance. The operational noise at the nearest and most 'at risk' residences show that the noise levels expected are below the noise emission criteria in the QCP. The predicted blasting impacts are low, with ground vibration below the acceptable standard in the QCP. Noise levels from quarrying may cause environmental nuisance should quarry operations be conducted on the northern end of the ridge in 28M/1990; should TT wish to quarry in this area, the company will seek the permission of the Regulator.

Table 12 below includes a list of the PSG's provided by the EPA in July 2017 and further requirements from the Meander Valley Council via email on the 10th July 2017. The Proponent has provided some brief commentary on each guideline.

Table 12 - mapping and commentary for project specific guidelines (PSG's)

DPEMP Section	Project Specific Guideline	Commentary
2.1	A statement about the expected life of quarrying operations.	Discussed in section 1.2
2.1	A brief description about the geology/ies being quarried.	Discussed in section 5.2 and the Tasman Geotechnics report attached as Appendix G – Landslip Risk Assessment
2.1	Planned operating hours for the site, annual rates of extraction and production, annual number of blasts and estimated number of product haulage truck movements per day.	Discussed in section Error! Reference source not found.

DPEMP Section	Project Specific Guideline	Commentary
2.1	A description of chosen method(s) for quarrying and processing of target material, including a list/table of all major items of equipment to be used (e.g. crushers, screens, rock breakers, excavators, haulage trucks, drill etc.).	Discussed in section 2.1
2.1	The locations and dimensions of any sediment ponds and stormwater management infrastructure. Any off-site infrastructure that may be used must be detailed.	Shown in Figure 5
2.5	A map showing the locations of all mining leases associated with the proposal.	Shown in Figure 5
2.5	A quarry plan which includes, but is not necessarily limited to; the direction(s) of quarrying, bench heights, working face(s), locations of all major items of equipment (e.g. crushing machinery), product storage areas, sediment ponds and internal haul roads.	Shown in Figure 7 for 1007 P/M and Figure 8 for 28M/1990
2.5	A site plan or map(s) depicting the access routes to all working areas.	Shown in Figure 7 for 1007 P/M and Figure 8 for 28M/1990
2.5	Identification of areas to be progressively rehabilitated during the operating life of quarrying.	No progressive rehab in this mine plan due to steep slopes and rehab in upper levels causing a safety risk
2.5	A plan of the site drainage, including (where relevant) principle discharge points from the activity to the receiving environment.	Shown in Figure 5 and more detailed discharges in Figure 7 for 1007 P/M and Figure 8 for 28M/1990
6.1	Identify and describe all major sources of dust emission contained within the areas of the proposed quarrying expansion. This should include emissions of dust generated by expansion of quarrying and should examine activities like blasting, rock processing (extraction, crushing, screening), storage of material in stockpiles, emissions from disturbed areas and from traffic movements on and off site.	Discussed in section 6.1 paragraph 1
6.1	Measures to minimise the potential impact of dust generated by the proposal, such as watering or sealing of roads, covering of truck loads, reduced vehicle speeds, and road maintenance, water sprays or windbreaks, revegetation/stabilisation.	Discussed in section 6.1 paragraph 3
6.1	Provide details regarding how the potential impact of dust generation from the activity on nearby sensitive receptors will be minimised.	Discussed in section 6.1 paragraph 2
6.2	A description of the receiving environment for site runoff.	Discussed in section 6.2 paragraph 1
6.2	A suitable figure(s) to show site hydrology/drainage and the locations of all cut-off drains	Shown in Figure 5 and more detailed discharges in Figure 7 for

DPEMP Section	Project Specific Guideline	Commentary
	which will serve to separate clean from contaminated water.	1007 P/M and Figure 8 for 28M/1990
6.2	Management measures to prevent sediment movement into water courses. This should include contingencies in case control measures fail, e.g. a breach of a sediment pond during heavy rainfall or flooding.	Discussed in section 6.2
6.2	Estimation of volume of runoff from the site, the treatment capacity of the sediment pond(s) and expected detention time(s).	Discussed in section 6.2
6.4 - operational noise	A noise survey of existing noise in the area including measurements of sound level at noise sensitive receptors would be an advantage. In the absence of any measurements, limits of 45, 40 and 35 dB (A) for day, evening and night are likely to be applied. Major existing sources of noise in the area should be identified.	Report attached as Appendix B – Noise Survey and summarised in section 6.4 Operating hours are discussed in section 2.1
6.4 - operational noise	A description of all proposed major noise sources (fixed and mobile), e.g. any equipment such as a rock drill, rock breaker, crusher, screener, and activities such as handling of material (i.e. loading and transportation of the material within the land). Wherever practicable, for all major equipment, provide details of make, model, engine power ratings, sound power output levels, throughput capacity and any associated noise attenuation.	Discussed in section 6.4 and shown in Table 5
6.4 - operational noise	Topographical maps and area plans showing the existing and future proposed locations of all major noise sources associated with the proposal; potentially affected residences (showing precise distances between quarries and any noise sensitive areas for each stage of the proposal).	Report attached as Appendix B – Noise Survey and summarised in section 6.4
6.4 - operational noise	Noise modelling for each phase of the development identifying the 30, 35, 40 and 45 dB (A) noise contours and predicted noise levels at each sensitive premise potentially affected.	Report attached as Appendix B – Noise Survey
6.4 - operational noise	Operating hours, and details regarding expected duration (in days over the course of 12 months) of use of all major noise generating equipment on site.	Report attached as Appendix B – Noise Survey and summarised in section 6.4
6.4 - operational noise	Any proposed measures to mitigate noise impacts.	Discussed in section 6.4

DPEMP Section	Project Specific Guideline	Commentary
6.4 - operational noise	For all potential noise sensitive receptors, an assessment of the potential to cause a noise nuisance during any period during the life of quarrying, taking into account any noise survey data and all the required modelling results.	Report attached as Appendix B – Noise Survey and summarised in section 6.4
6.4 - blasting noise	A proposed blasting scheme, including blast size and intended blast frequency.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A prediction of blast peak particle velocity at sensitive receptors within 1 kilometre.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A map showing contours for peak particle velocity of 2.5, 5, 7.5 and 10mm/s.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A prediction of air-blast overpressure at residences within 1 kilometre.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	A map showing contours for air-blast overpressure of 110, 115 and 120dB (Lin Peak).	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.4 - blasting noise	An assessment of blasting impacts on identified residences and any other noise and vibration sensitive activities.	Report attached as Appendix C – Blasting Impacts Report and summarised in section 6.4
6.7	A threatened flora and fauna survey in accordance with the Guidelines for Natural Values Surveys – Terrestrial Development Proposals must be undertaken for lease 28M/1990. The survey should include details of the nature and extent (in hectares) of any vegetation/habitat that is proposed to be cleared.	Surveys conducted on two site visits, results discussed in section 6.7 and reports attached as Appendix A – North Barker Report
6.7	Results and discussion of any ecological surveys conducted within the previous five years, relevant to the proposed areas of extraction, should be included with the results and discussion of the survey required for lease 28M/1990.	Surveys conducted on two site visits, results discussed in section 6.7 and reports attached as Appendix A – North Barker Report Also addressed email from Assessments Section relating to Wedge Tailed Eagle (WTE) sightings on the day of the site inspection in the report
6.7	Details of any measures that will be adopted to mitigate potential impacts to flora and fauna, including threatened and vulnerable species.	Surveys conducted on two site visits, results discussed in section 6.7 and reports attached as Appendix A – North Barker Report
6.20	Information on traffic associated with the proposal; vehicle type, expected tonnages and any alternative access roads (routes).	Discussed in sections 2.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study

DPEMP Section	Project Specific Guideline	Commentary
6.20	Maximum number of vehicle movements per day.	Discussed in sections 2.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study
6.20	Discussion of the potential impacts to nearby residences (noise and dust) due to vehicle movements to and from the site.	Discussed in sections 6.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study
6.20	Details of management measures proposed to mitigate any adverse effects due to traffic.	Discussed in sections 2.1, 6.19, and 7.6. Traffic impacts assessment attached as Appendix D – Traffic Impacts Study
Council	Crown consent for PID 2531016	Will be attached to planning application
Council	Parking for employees	Only vehicle required to park is operator vehicle, discussion around parking in section 1.2
Council	Landslip risk assessment by an appropriately qualified person	Land slip risk assessment completed by Tasman Geotechnics and included as Appendix G – Landslip Risk Assessment. The report is summarised in 6.14

11. REFERENCES

- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality: The Guidelines*, 2000, Volume 1, Australian and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand.
- Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors), 2016, *Australian Rainfall and Runoff: A Guide to Flood Estimation*, Commonwealth of Australia
- Berglund, B., Lindvall, T. and Schwela, D.H., 1999, *Guidelines for community noise*, World Health Organisation, Geneva
- Bobbi, C., 1997, *State of the River Report Water on Quality Of Rivers In The Mersey Catchment*, Land and Water Assessment Branch, Department of Primary Industry and Fisheries, Hobart Tasmania.
- Nelson, M, 1997, *State of River Report on Mersey River Catchment Index of River Condition*, Land and Water Assessment Branch, Department of Primary Industry and Fisheries, Hobart Tasmania.
- Environment Protection Authority, 2017, *Quarry Code of Practice 3rd Edition*, EPA Tasmania, Hobart, Tasmania.

12. APPENDICIES

12.1. Appendix A – North Barker Report

Punchs Terror Quarry – Proposed Intensification of Use

FLORA AND FAUNA ASSESSMENT

9th September 2016
For Treloar Transport (TRE001)

Andrew North anorth@northbarker.com.au **Philip Barker** pbarker@northbarker.com.au

163 Campbell Street Hobart TAS 7000 Telephone 03. 6231 9788 Facsimile 03. 6231 9877

Meander Valley Council Ordinary Meeting Agenda - 14 August 2018

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Summary

The proponent is seeking a permit for the intensification of activities at Punchs Terror quarry in northern Tasmania. North Barker Ecosystem Services (NBES) have been engaged to undertake a threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed intensification and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

Vegetation

The lease area was found to contain the following TASVEG units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA. No *Eucalyptus ovata* forest or woodland (DOV) is found on site.

The proposed intensification will result in the clearance of 1 ha of DAS and 0.4 ha of DOB, neither of which is considered to be significant at the local, regional, state or national scale.

Threatened Flora

One threatened flora species is known from the site. Under the regulations of the Tasmanian *Threatened Species Protection Act 1995*, if the observed location of *Gratiola pubescens* is to be impacted, the proponent is required to obtain a permit to take from DPIPWE. The current proposal however does not include intensification in this area and thus the species will not be directly impacted. Mitigation measures have been provided to prevent inadvertent impacts.

Threatened Fauna

A soil mound on the edge of the lease area has been identified as having potential as a den site for either the Tasmanian devil or the spotted tailed quoll. The proponent however cannot impact within 10 m of the edge of their lease and thus will not destroy this location. Mitigation measures in the form of marking and/or cordoning off the area have been suggested to prevent inadvertent impacts to the location.

If the location is ever going to be destroyed/impacted, the proponent will be required to undertake further investigation to establish if the location is used as a den site and if mitigation or additional compliance is required based on the nature of that use.

Summary

Our field survey has established that the lease area contains one threatened native plant community, one threatened plant species, and a potential den site for threatened fauna. The latter two values will not be directly impacted by actions under the present proposal and mitigation measures have been provided to reduce the potential for indirect impacts. Losses of the threatened native plant community are considered to be negligible.

Acknowledgments

Project management: Grant Daniels

Field work and photographs: Grant Daniels

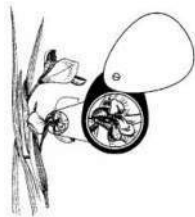
Report: Grant Daniels

Mapping: Grant Daniels

Proponent consultation: Nigel Beeke

Specialist flora advice: Richard Schahinger, Threatened Species Section Botanist, DPIWE

Specialist advice on mitigation of potential Tasmanian devil dens: Alastair Morton, Acting Section Head, Conservation Assessment, Policy & Conservation Advice Branch



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1. Introduction and Methods

1.1. Background

The proponent is seeking to increase the licenced production of crushed rock from Mining Lease 1007 P/M. The lessee currently operates a level one quarry with a permitted output of 5000 m³ of crushed rock per annum. An application has been made to increase the permitted production to 20,000 m³ of crushed rock per annum, which would constitute a level two operation. As part of their assessment of environmental effects under the *Environmental Management and Pollution Control Act 1994*, the board of the Environment Protection Authority have requested the proponent undertake a threatened flora and fauna survey in accordance with the *Guidelines for Natural Values Surveys – Terrestrial Development Proposals*¹.

The proponent has commissioned North Barker Ecosystem Services (NBES) to undertake the present survey to fulfil the requirements of the threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed works and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

1.2. Study Area and Methods

1.2.1. Study Area

The existing quarry, known as Punchs Terror Quarry (or the Atkin's Pit), is located off Beaumont's Road, Weegen, (Figure 1), approximately 4.5 km southwest of Elizabeth Town. The mining lease of 4 ha is on freehold land: C/T109390-1. Existing operations cover around 1 ha (with additional disturbance from past operations in the lease covering < 1 ha). Following the proposed intensification, the total potential disturbed land within the lease will be around 3.15 ha. The land is zoned Rural Resource under the *Meander Valley Interim Planning Scheme 2013* and is part of the Tasmanian Northern Slopes bioregion².

The quarry is located on the western side of a north to south trending ridge. Site geology is dominated by quartz sandstone and chert conglomerate talus derived from Owen Group correlates. The lease also includes pink pebble-cobble siliceous conglomerate, with quartz sandstone lenses (Roland conglomerate or correlate).

Altitude across the study area is between 300 and 350 m AHD. Average annual rainfall is around 1050 mm³.

¹ Natural and Cultural Heritage Division, 2015

² IBRA7 - Commonwealth of Australia 2012

³ Sheffield, Northwest Coast, Tasmania; 41.3886 ° S, 146.3219 ° E, 294 m AMSL; commenced 1996

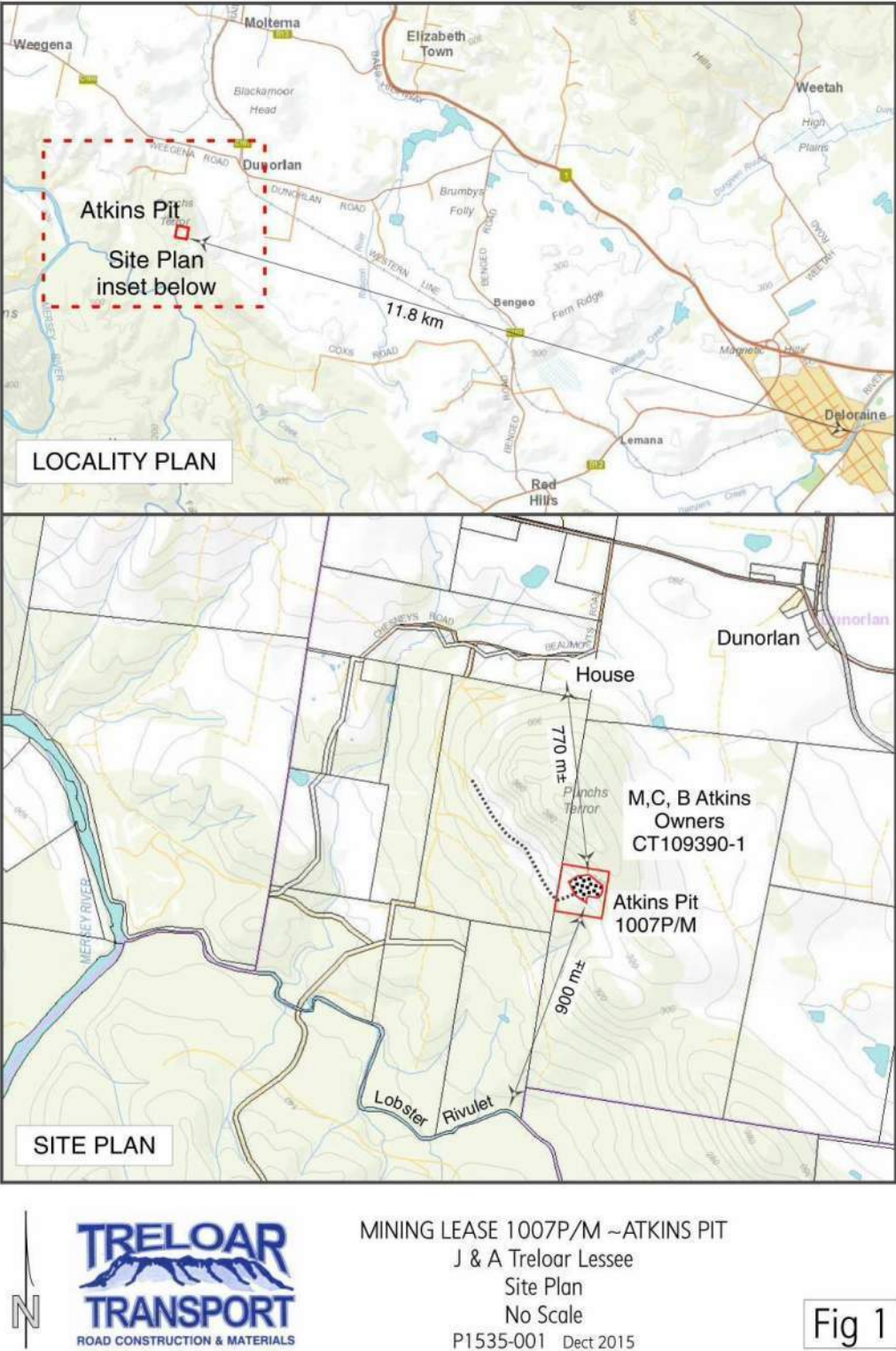


Figure 1: Site location

1.2.2. Field Survey

Field work was undertaken on foot by one observer on the 17th of August, 2016. Vegetation was mapped throughout the entire lease in accordance with units defined in TASVEG 3.0⁴. Within all vegetation types, plant species lists were compiled according to nomenclature within the current census of Tasmanian plant census⁵, using a meandering area search based on the Timed Meander Search Procedure⁶. Observations of habitat suitability for fauna, as well as direct or indirect indicators of presence (*i.e.* sightings, scats, tracks, dens, *etc.*) were made concurrently. Disproportionate survey effort was applied to the proposed intensification area and areas considered suitable for threatened values.

Observations of elements that would later be mapped, including threatened species (Tasmanian *Threatened Species Protection Act 1995* [TSPA] and/ or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* [EPBCA]) and their habitats, were recorded with a handheld GPS.

1.2.3. Limitations

Due to seasonal variations in detectability and identification, there may be some species present within the study area that have been overlooked. To compensate for these limitations to some degree, data from the present survey are supplemented with data from the Tasmanian Natural Values Atlas⁷ (NVA) and the EPBC Significant Matters database (PMST_ S3CHQK). From these sources, all threatened species known to occur in the local area (5 km) are considered in terms of habitat suitability on site.

2. Results - Biological Values

2.1. Vegetation

Our survey has resulted in some corrections to the community data held within the TASVEG v3.0 database. Specifically, we established that there is no *Eucalyptus ovata* forest and woodland (DOV) present on site, with the area mapped as this community actually being dominated by *Eucalyptus obliqua*; in addition, we made boundary corrections to the areas of other communities. The lease was found to contain three community units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA.

Distributions of TASVEG units within the lease are presented in Figure 2. Floristics are presented in Appendix A, while each unit is described briefly below, with representative photos in Plates 1-4.

The site has no likelihood of supporting alpine sphagnum bogs and associated fens, as predicted as possible by the EPBC protected matters database.

⁴ Kitchener and Harris 2013

⁵ de Salas and Baker 2015

⁶ Goff *et al.* 1982

⁷ nvr_3_11-August-2016



Figure 2: Distribution of TASVEG units within the lease area – note that the proposed limit of intensification (provided by the proponent) is indicative only and, in accordance with the requirements of mining lease agreements, no disturbance will occur within 10 m of the lease boundary

Dry *Eucalyptus obliqua* forest (DOB) – Plate 1

The occurrences of this community on site are highly typical examples of the moist facies of the community that occurs in the transition zone between wet and dry forest. The canopy is almost exclusively dominated by *Eucalyptus obliqua*, with only occasional *E. amygdalina*, particularly on patch margins. No *E. ovata* were observed and it is unlikely any meaningful patches of this species were overlooked. The understorey of this community was shrub dominated with a mix of tall and short species, both broad leaved and sclerophyllous. Frequent species included *Pultenaea juniperina*, *Exocarpos cupressiformis*, *Acacia terminalis*, *Monotoca glauca*, *Cassinia aculeata*, *Olearia lirata* and *Acacia melanoxylon*. Ground layer vegetation was dominated by *Pteridium esculentum*, with lesser patches of more moisture reliant ferns, as well as *Lomandra longifolia* and various herbs and graminoids.

Dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS) – Plates 2 and 3

The occurrences of this community on site are relatively species poor in contrast to examples of the community on Tertiary sandstone elsewhere in the State, but not atypical for examples on conglomerate. The canopy is almost exclusively dominated by *Eucalyptus amygdalina*, with only occasional *E. obliqua*, particularly on patch margins. The understorey of this community was largely dominated by *Pteridium esculentum*, with occasional tall patches of *Leptospermum*. Other frequent shrubs included *Leucopogon collinus*, *Allocasuarina monilifera* and *Monotoca glauca*. Small species included *Amperea xiphoclada*, *Hibbertia procumbens*, *Dianella tasmanica* and *Aotus ericoides*.

Extra-urban miscellaneous (FUM) – Plates 4 and 5

This community includes the active quarry face and an area of past disturbance in which near surface material was extracted. Resultantly, vegetation in this area is largely dominated by ruderal exotics such as *Conium maculatum*, *Silybum marianum* and *Brassica x napus*. Native species within the area of FUM are largely adventive individuals that have colonised the area from the adjacent native communities, although it does also include some disturbance colonising natives that were not observed in the forests, including *Acaena novae-zealandiae* and the listed species *Gratiola pubescens*.



Plate 1: *Eucalyptus obliqua* dry forest on the edge of the proposed intensification area



Plate 2: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 3: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 4: The current active quarry area – mapped as extra-urban miscellaneous

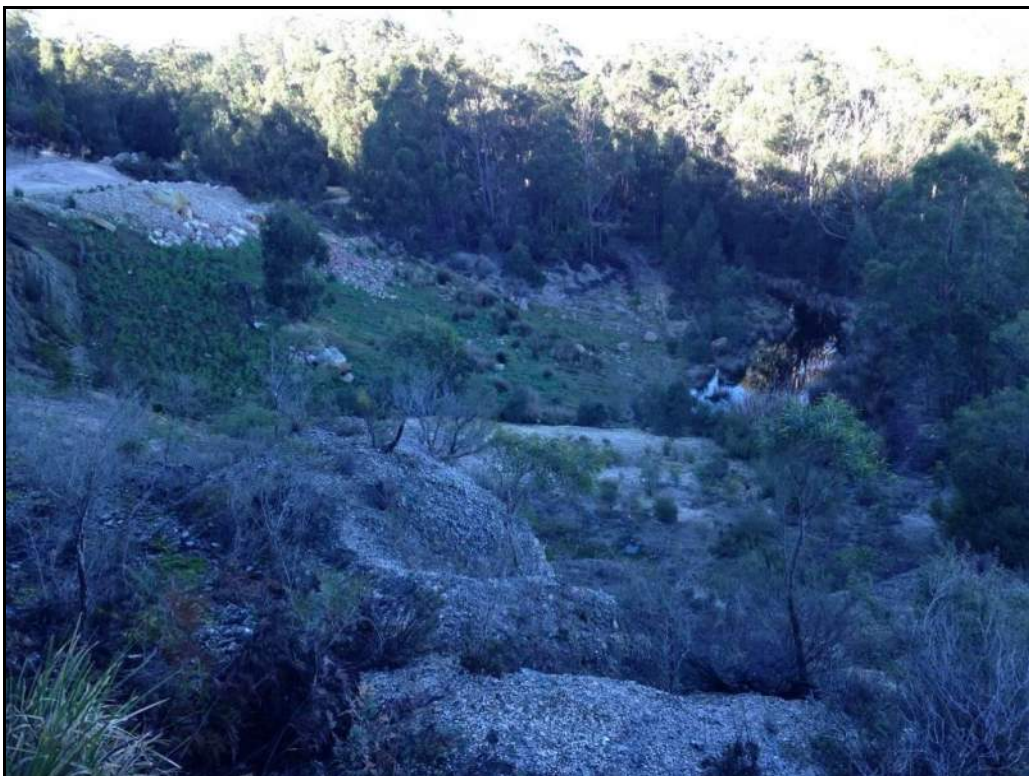


Plate 5: An area of past quarrying disturbance within the lease area, including a settling pond – all of which was mapped as extra-urban miscellaneous

2.2. Plant Species of Conservation Significance

In total, 59 species of vascular plants were recorded during our field survey (Appendix A). This included one species listed as threatened under the schedules of the TSPA (Table 1, Figure 3). This species, *Gratiola pubescens* (TSPA vulnerable), occurred in two patches on the edge of the settling pond within the area of past disturbance (Plate 5); extent of occurrence was 4 m² with percentage cover between 10 and 25 % (Plate 6). As this area has had rock extracted in the past, the proponent does not intend to intensify operations within this area as part of the current proposal. In any case, this species has become much more frequently recorded in Tasmania in the past 15 years. The increased number of records and expanded known distribution has prompted discussions that it should be nominated for down-listing or delisting from the TSPA. It is frequently a disturbance coloniser and can persist within a variety of human-modified environments.

Several other threatened species have previously been recorded within 5 km of the site⁸, or have the potential to do so based on habitat mapping. None of these species are considered likely to have been overlooked to any meaningful degree and thus have a very low likelihood of impact from the proposed works (Table 1).

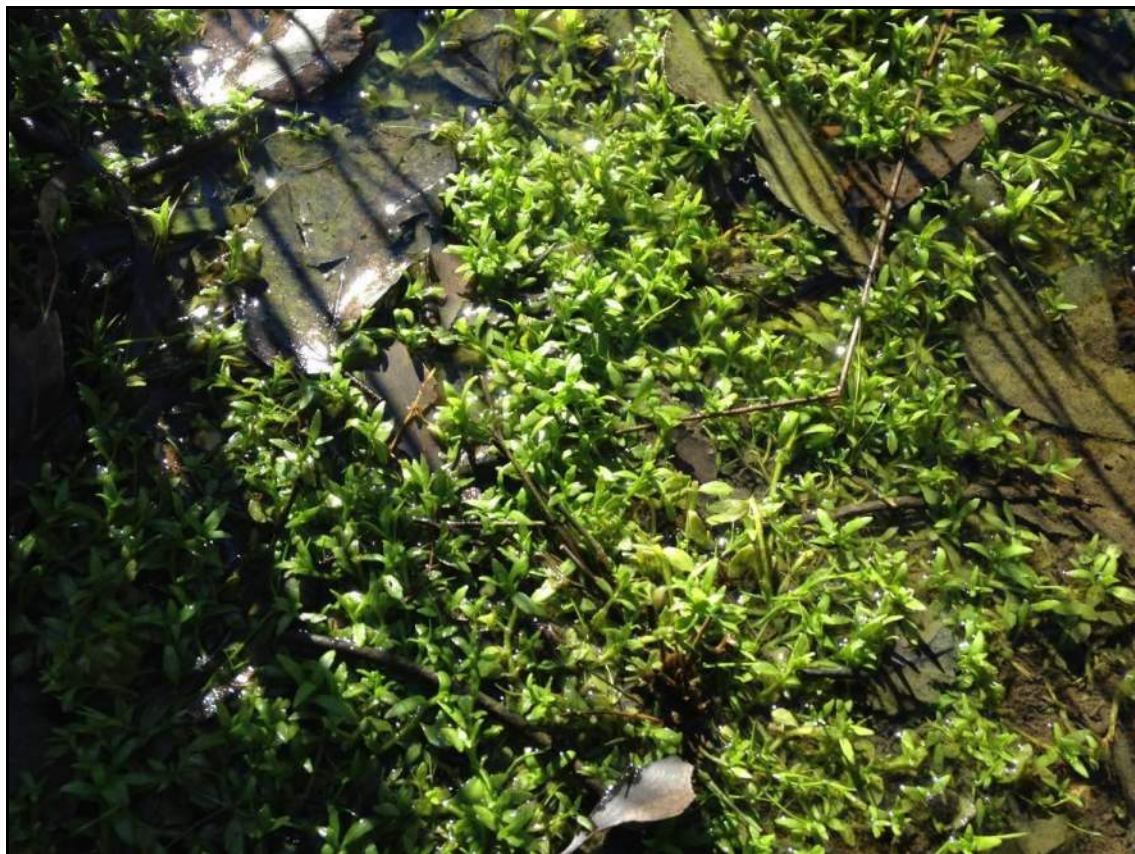


Plate 6: Mat-forming *Gratiola pubescens* on the edge of the settling pond within a previously disturbed area mapped as extra-urban miscellaneous

⁸ nvr_3_11-August-2016

Table 1: Flora species of conservation significance known within a 5 km radius of the study area, or predicted by habitat mapping⁹

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹⁰
KNOWN FROM STUDY AREA			
<i>Gratiola pubescens</i> hairy brooklime	Vulnerable/ -	-	A small, mat-forming herb that colonises bare ground disturbance niches within saturated soils. Frequently observed in highly modified environments such as the present quarry. Re-assessment of its status under the TSPA is likely to occur in the near future and the species is likely to be down-listed or delisted from the Act.
REPORTED FROM WITHIN 5 km¹¹			
<i>Desmodium gunnii</i> southern ticktrefoil	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
<i>Epilobium pallidiflorum</i> showy willowherb	Rare/ -	None	A floriferous perennial herb of creeks and swamps, particularly in the north of the State. Settling pond on site is very low in suitability and the species is unlikely to have been overlooked within it. No suitable habitat was observed elsewhere on site.
<i>Glycine microphylla</i> small leaf glycine	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
<i>Gynatrix pulchella</i> fragrant hempbush	Rare/ -	None	No suitable riparian habitat present. A highly distinctive species unlikely to have been overlooked.
<i>Pimelea curviflora</i> (incl. var. <i>gracilis</i>) (slender) curved rice flower	Rare/ -	None	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.

⁹ nvr_3_11-August-2016

¹⁰ Includes statements from Threatened Species Link summaries and note sheets

¹¹ nvr_3_11-August-2016

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹⁰
PREDICTED AS POSSIBLE BY HABITAT MAPPING ONLY¹²			
<i>Barbarea australis</i> native wintercress	Endangered/ ENDANGERED	None	<i>Barbarea australis</i> is a riparian plant species found near river margins, creek beds and along flood channels adjacent to the river. It has not been found on steeper sections of rivers, and tends to favour slower reaches. It occurs in shallow alluvial silt deposited on rock slabs or rocky ledges, or between large cobbles on sites frequently disturbed by fluvial processes. Some of the sites are a considerable distance from the river in flood channels scoured by previous flood action, exposing river pebbles. No suitable habitat occurs on site.
<i>Caladenia caudata</i> tailed spider orchid	Vulnerable/ VULNERABLE	Very low	<i>Caladenia caudata</i> (tailed spider-orchid) is a terrestrial orchid, found mainly in dry heathland and heathy woodland habitats, in lowland areas of northern, eastern and south-eastern Tasmania. Habitat on site is suitable within the DAS community, but none of the orchid leaves observed during the survey could possibly belong to this species.
<i>Colobanthus curtisiae</i> grassland cupflower	Rare/ VULNERABLE	Very low	Typically a species of grassy habitats, but can occur on rocky knolls. Some suitable habitat (of the latter type) present on site, but the species was not observed and is not likely to have been overlooked even outside of the flowering season.
<i>Epacris exserta</i> South Esk heath	Endangered/ ENDANGERED	None	Strictly a riparian species of dolerite substrates. No suitable habitat present on site.
<i>Glycine latrobeana</i> clover glycine	Vulnerable/ VULNERABLE	None	Habitat low in suitability. Can be detected by foliage at any time of the year and is not likely to have been overlooked.
<i>Lepidium hyssopifolium</i> peppercress	Endangered/ ENDANGERED	None	Occurs in the growth suppression zone of large trees in grassy areas. No suitable habitat present.

¹² EPBCA protected matters report – PMST_S3CHQK

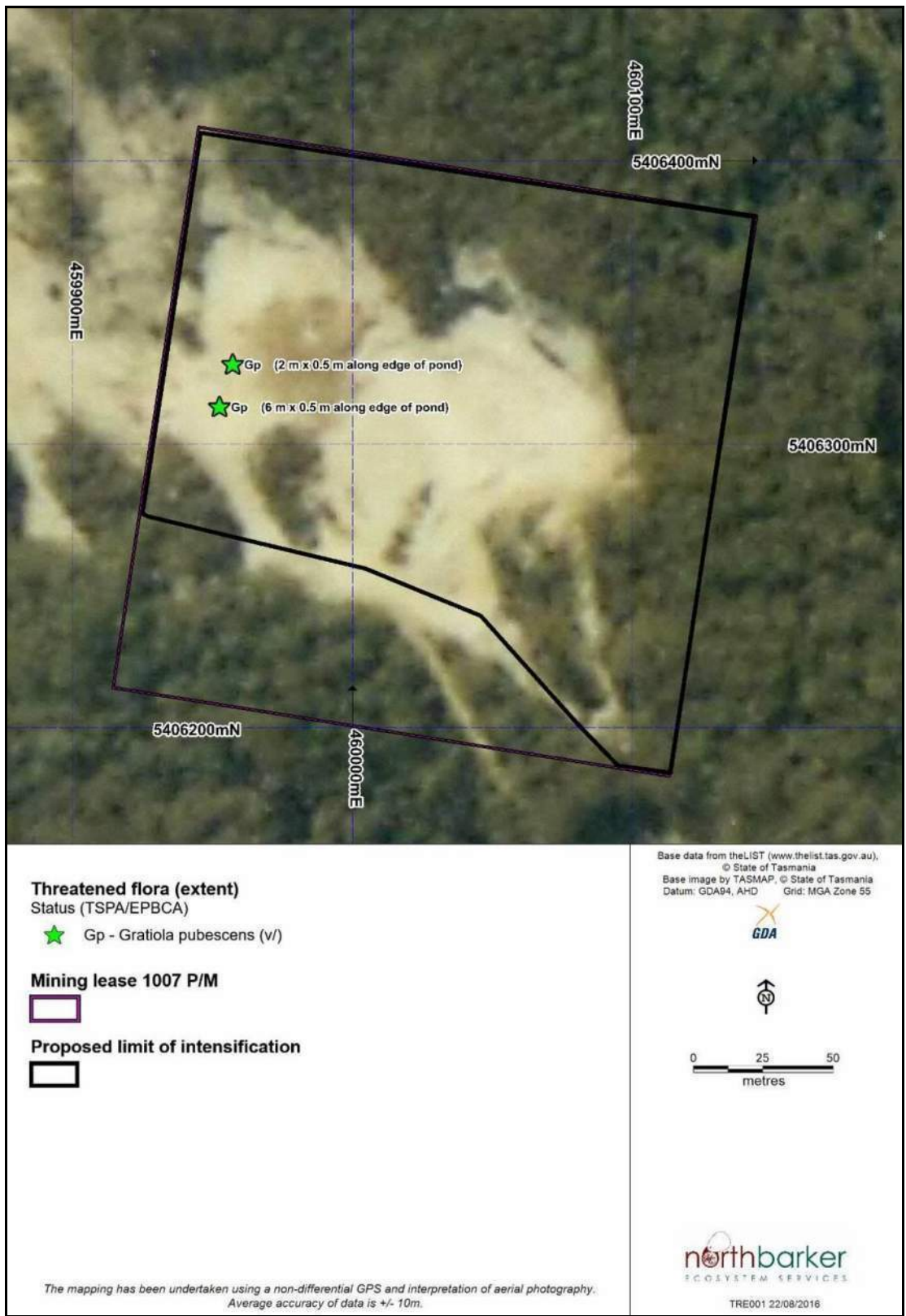


Figure 3: Threatened flora observations within the lease area – note that the proposed limit of intensification (provided by the proponent) is indicative only and, in accordance with the requirements of mining lease agreements, no disturbance will occur within 10 m of the lease boundary

2.3. Introduced Plants

No declared weeds or woody environmental weeds have been observed on site.

2.4. Plant Pathogens

The quarry has previously been assessed as free of cinnamon root rot fungus *Phytophthora cinnamomi* (PC) (Appendix B). That assessment did identify one pile of soil that appeared to exhibit symptomatic evidence of PC, but the location tested negative. The same location was investigated during our assessment and noted to support healthy specimens of the PC-sensitive species *Epacris impressa* (Plate 6).

Much of the habitat within the proposed intensification area is unsuitably well-drained for PC and no potential symptomatic evidence was observed elsewhere.



Plate 7: Healthy *Epacris impressa* plants growing on a soil mound previously suspected (but which tested negative) to support PC

2.5. Fauna Species of Conservation Significance

No threatened fauna species have been directly or indirectly observed on site. A number of threatened fauna are however known to occur within 5 km of the site, or have the potential to do so based on habitat mapping¹³. The majority of these species are not considered to have viable habitat on site (particularly nesting habitat) or the habitat is considered to be relatively unimportant to the persistence of species at even a local scale should they be present (Table 2). Special consideration was however given to a mound of soil located on the margin of the lease area and

¹³ nvr_3_11-August-2016

with characteristics that could make it suitable for use as a den site by the Tasmanian devil or (less likely) the spotted tailed quoll.

The soil mound was observed to have two potential entrance holes. One hole (Plate 8) is considered to be too small for use by either the Tasmanian devil or spotted tailed quoll; the shape and nature of the excavation suggest it may have been created by a native rodent, although the size is on the upper limits for likely species such as the long-tailed mouse *Pseudomys higginsi*. The second entrance (Plates 9 and 10) is more suitable in size for a devil or quoll and near the entrance there were fresh fur scraps and a skull of a Tasmanian pademelon *Thylogale billardierii* (potential live and/or scavenged prey of the devil in particular) (Plate 11). The soil mound has other desirable features from the perspective of denning, in the form of dense surrounding vegetation for shelter and an adjacent west facing slope with open areas suitable for sunning.

The location of the soil mound (Figure 4) on the margin of the lease area means that it will not be destroyed as part of the current proposal (because the proponent is not permitted to disturb within 10 m of their lease boundary). Given that the location will not be destroyed, we received advice from the Policy & Conservation Advice Branch that further exploration into potential use of the soil mound as a den (through means such as remote camera surveillance) was not necessary, and that protective buffers are not required for unconfirmed den sites (Alastair Morton pers. comm.).



Plate 8: Smaller entrance in soil mound, with pen for scale



Plate 9: Larger entrance, with A4 clipboard for scale



Plate 10: General location of larger entrance, amongst bracken



Plate 11: Pademelon skull and fresh patches of pademelon fur near larger entrance

Table 2: Fauna species of conservation significance previously recorded within a 5 km radius of the study area, or with the potential to do so based on habitat mapping¹⁴

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
BIRDS			
<i>Accipiter novaehollandiae</i> grey goshawk	Endangered/ -	Very low	No suitable nesting habitat is found on site. If the area is used by this species it is only likely to represent a minor part of a foraging range.
<i>Aquila audax fleayi</i> wedge-tail eagle	Endangered/ ENDANGERED	Foraging: Very low Nesting: None	Requires sheltered old-growth trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests are known within 500 m or within 1 km line of sight. Nearest known nest is around 3 km away.

¹⁴ nvr_3_11-August-2016

¹⁵ Bryant & Jackson 1999

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
<i>Apus pacificus</i> fork-tailed swift	-/ MIGRATORY	Very low	Uncommonly recorded in Tasmania. An aerial insectivore that would most likely only fly over the site if present. Potential presence and habitat use would not be affected by proposal.
<i>Ardea alba</i> great egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Ardea ibis</i> cattle egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Botaurus poiciloptilus</i> Australasian bittern	-/ ENDANGERED	None	No suitable permanent aquatic habitat.
<i>Ceyx azureus</i> subsp. <i>diemenensis</i> azure kingfisher	Endangered/ ENDANGERED	None	Species primarily utilises major rivers within western Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Gallinago hardwickii</i> Latham's snipe	-/ MARINE – MIGRATORY	None	A wide-ranging shorebird that frequently utilises the margins of subalpine lakes and tarns, and less frequently farm dams. No suitable habitat present on site.
<i>Haliaeetus leucogaster</i> white-bellied sea eagle	Vulnerable/ MIGRATORY	None	Requires large coastal or lakeside trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests known within 500 m or within 1 km line of sight.
<i>Hirundapus caudacutus</i> white-throated needletail	-/ MIGRATORY	Very low	An aerial species most likely unaffected by terrestrial habitat alteration outside of its Northern Hemisphere breeding range. Potential presence and habitat use would not be affected by proposal.
<i>Lathamus discolor</i> swift parrot	Endangered/ ENDANGERED	Very low	For nesting, this species requires tree hollows within 10 km of mature stands of food plants, which are blue gums (<i>E. globulus</i>) and black gums (<i>E. ovata</i>). No food trees have been observed on site and there is a very low likelihood the site could be utilised for nesting. Given the current operations at the site it is considered highly likely that any hollows in the area would be occupied by disturbance tolerant edge species such as possums and sugar gliders. Nearest known nest is around 2.5 km away but NW breeding areas are not

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
			classified as swift parrot important breeding areas ¹⁶ .
<i>Myiagra cyanoleuca</i> satin flycatcher	-/ MIGRATORY	Low	An interstate migrant of which some of the population spends the summer breeding months in Tasmania. Widely distributed across forested environments but is sensitive to fragmentation and canopy thinning and not generally associated with small remnants or edge habitats. Regional populations not likely to be impacted by a proposal of this scale.
<i>Pterodroma leucoptera leucoptera</i> Gould's petrel	-/ ENDANGERED	None	A pelagic species. No suitable habitat present.
<i>Tyto novaehollandiae</i> masked owl	Endangered/ VULNERABLE	Nesting: None Foraging: Low	The site is within the core habitat range for this species, which includes all land below 600 m AHD. Requires a mosaic of forest and open areas for foraging, and large old-growth, hollow-bearing trees for nesting. The forest habitat on site is moderately suitable for foraging, but no viable nesting hollows were observed nor are likely to have been overlooked.
<i>Tringa nebularia</i> common greenshank	-/ MIGRATORY	None	A shorebird species. No suitable habitat present.
MAMMALS			
<i>Dasyurus maculatus</i> ssp. <i>maculatus</i> spotted-tailed quoll	Rare/ VULNERABLE	Low - moderate	This naturally rare forest-dweller most commonly inhabits wet forest but also occurs in dry forest and occasionally grassy areas. The study area does not occur within the core range for the species (as defined on the NVA) and only four records are known from within 5 km. Given that the only viable den site observed within the lease area will not be destroyed by this proposal, the species is unlikely to be measurably impacted by a proposal of this scale should it be present.

¹⁶ Forest Practices Authority 2010

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
<i>Dasyurus viverrinus</i> eastern quoll	-/ ENDANGERED	Very low	Species is extinct on mainland Australia and was recently listed on the EPBCA as a result of the decline in the Tasmanian population during the last decade. Currently the eastern quoll is not listed on the Tasmanian TSPA and remains widespread across eastern Tasmania in particular, with a preference for high soil fertility and grassy open habitats. Only two observations of this species are known within 5 km of the site and the habitat is low in suitability. If the species is present it is unlikely to be measurably impacted by a proposal of this scale.
<i>Perameles gunnii</i> eastern barred bandicoot	- / VULNERABLE	None	Predicted based on habitat mapping only. However, no suitable habitat is present on site for this species and it is more likely to be present in the surrounding rural landscape.
<i>Sarcophilus harrisii</i> Tasmanian devil	Endangered/ ENDANGERED	Moderate	The study area does not occur within the core range for the species (as defined on the NVA) and only six records are known from within 5 km. No scats were observed on site. Given that the only viable den site observed within the lease area will not be destroyed by this proposal, the species is unlikely to be measurably impacted by a proposal of this scale should it be present.
OTHER SPECIES			
<i>Astacopsis gouldi</i> giant freshwater crayfish	Vulnerable/ VULNERABLE	None	Species primarily utilises major rivers within northern Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Engaeus granulatus</i> Central North burrowing crayfish	Endangered/ ENDANGERED	None	Predicted based on habitat mapping only. Soil conditions not suitable on site.
<i>Galaxiella pusilla</i> eastern dwarf galaxias	Vulnerable/ VULNERABLE	None	No suitable aquatic habitat present.
<i>Galaxias fontanus</i> Swan galaxias	Endangered/ ENDANGERED	None	No suitable aquatic habitat present.
<i>Hickmanoxymma gibbergunyar</i> Mole Creek cave harvestman	Rare/ -	None	Only known from caves within the Mole Creek karst system. No suitable karst habitat is known on site.

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁵
<i>Litoria raniformis</i> green and gold frog	Vulnerable/ VULNERABLE	Very low	Occurs in large, permanent, well vegetated wetlands. No suitable habitat within study area.
<i>Prototroctes marina</i> Australian grayling	Vulnerable/ VULNERABLE	None	No suitable river habitat present.
<i>Pseudemoia pagenstecheri</i> tussock skink	Vulnerable/ -	None	Occurs in <i>Poa</i> tussock grassland and <i>Themeda</i> grassland without trees. Known to occur in the northwest, but not within 5 km the study area. No suitable habitat present on site.

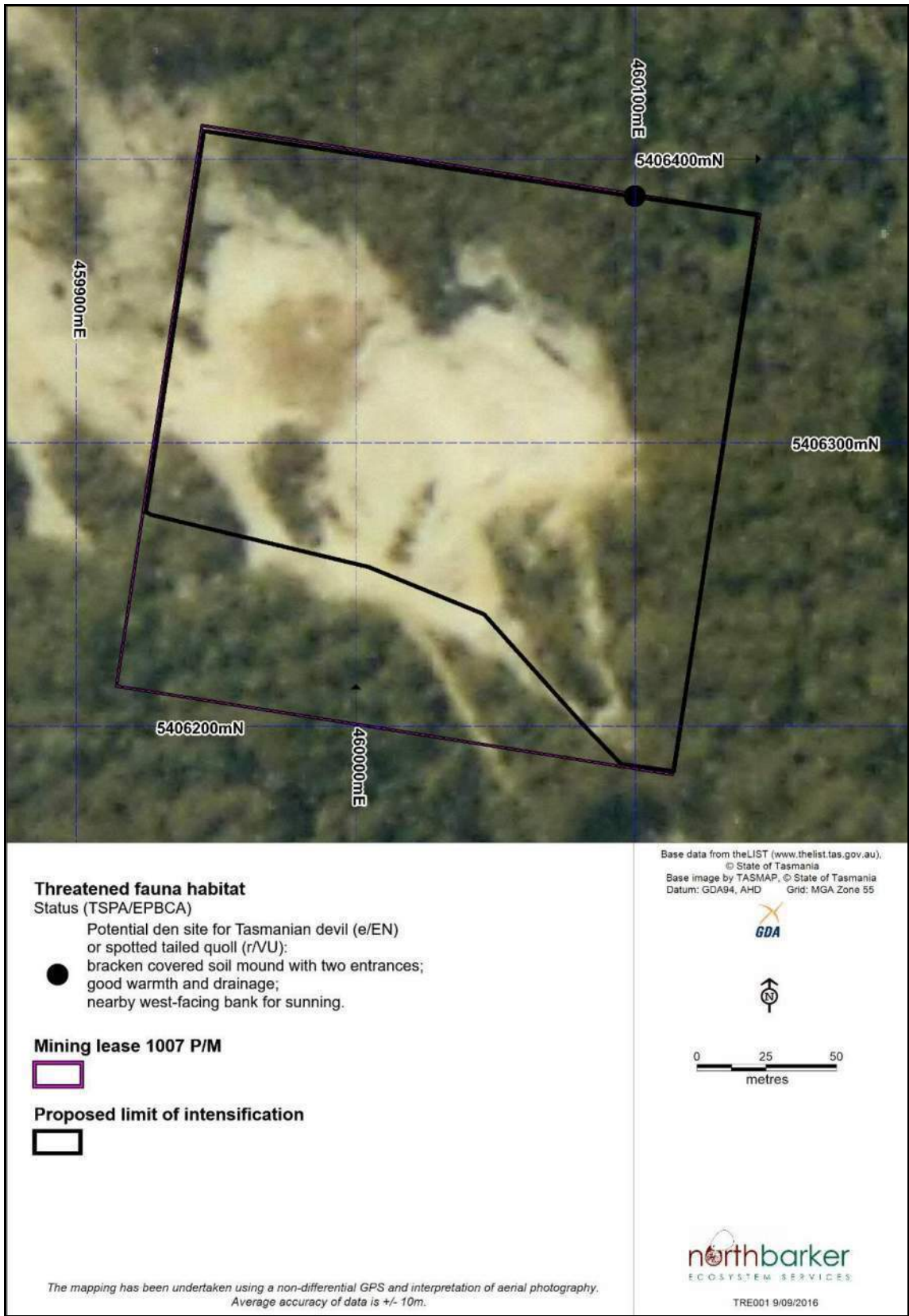


Figure 4: Observations of potential threatened fauna habitat within lease area

3. Summary of Potential Impacts to Natural Values

Our field survey has established that the lease area contains a threatened plant species, one threatened native plant community, and a potential den site for threatened fauna. Potential quantitative and qualitative impacts to natural values are summarised in Table 3.

Table 3: Summary of potential impacts to natural values from proposed intensification

Conservation Significant Value	Potential Impacts	Context ¹⁷
Threatened Plants		
<i>Gratiola pubescens</i> hairy brooklime TSPA rare	2 locations on edge of settling pond – approx. 4 m ² at 10-25 % cover	Widespread across north and east Tasmania, with over 190 observations lodged on the NVA, representing over 30 known sites and hundreds of plants. In excess of three-quarters of all known sites have been discovered since the species was listed in 1995, leading to suggestions that it was under-reported in the past and may not warrant listing as vulnerable on the TSPA. The proponent does not intend to include the location of this plant within their intensification.
Extent of native vegetation communities within intensification area (ha) – asterisk denotes communities listed as threatened under Tasmanian <i>Nature Conservation Act 2002</i>		
(DAS) <i>Eucalyptus amygdalina</i> forest and woodland on sandstone*	1.0	Total extent in Tasmanian reserve estate: 13,500 Total extent in Tasmania: 42,200 Total extent in reserves in Meander Valley Council: 3,200 Total extent in Meander Valley Council: 5,200 Total extent in reserves in Northern Slopes bio-region: 4,700 Total extent in Northern Slopes bio-region: 9,100
(DOB) <i>Eucalyptus obliqua</i> dry forest	0.4	Total extent in Tasmanian reserve estate: 76,900 Total extent in Tasmania: 173,200 Total extent in reserves in Meander Valley Council: 2,100 Total extent in Meander Valley Council: 4,600 Total extent in reserves in Northern Slopes bio-region: 15,500 Total extent in Northern Slopes bio-region: 30,700
Total area of potential impact to native vegetation	1.40	Negligible impacts anticipated at local, regional and statewide level.

¹⁷ Includes statements from Threatened Species Link summaries and note sheets

Conservation Significant Value	Potential Impacts	Context ¹⁷
Threatened Fauna Habitat		
Potential den site for: Tasmanian devil TSPA and EPBCA endangered and/or spotted tailed quoll TSPA rare and EPBCA vulnerable	Potential den site will not be impacted Small loss of potential foraging habitat	Loss of potential foraging habitat considered to be negligible at a local, regional and statewide scale.

4. Recommendations for Avoidance, Compliance and Mitigation

4.1. Threatened Fauna

- To ensure that the potential den site (soil mound) is not inadvertently impacted, the land manager should make all contractors aware of the location prior to any works and if necessary mark and/or cordon off the area with prominent flagging tape or similar.
- If the location of the soil mound is ever to be disturbed the proponent will be required to undertake additional assessment to ascertain occupation of the potential den.

4.2. Weeds and Pathogens

- The containment principles of the *Tasmanian Weed Management Act 1999* should be sufficiently met with best practice construction hygiene that prevents the introduction of contaminated material from beyond the study area, such as tool and machinery wash-down before entry, and by only importing materials from verified weed and PC free locations.
- The proponent should continue their control of *Pampas* sp. on adjacent land in order to prevent incursion of the species, as well as continuing the control of environmental weeds on site.

4.3. Threatened Flora

- Avoid indirect impacts to locations of threatened flora species, which in this case are limited to the margins of the settling pond.
- Ensure threatened flora in close proximity to works areas are adequately flagged or that construction workers are aware of their locations, in order to avoid inadvertent and unnecessary impact.
- Stockpiling materials has the potential to smother threatened flora. To minimise potential impacts in relation to this factor we suggest the proponent avoids stockpiling material within 5 m of the existing settling pond.

- If this location cannot be avoided at some point in the future (at least while *Gratiola pubescens* remains listed under the TSPA), the proponent must apply for a permit to take from DPIPWE (see section 5).

4.4. Threatened Vegetation Communities

- No mitigation is considered to be necessary given the nature of the proposal and the potential scale of impacts.

4.5. General Natural Values

- In addition, where possible avoid stockpiling dense material around the base of retained trees, in order to prevent root smothering.

5. Legislative Requirements

5.1. Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The EPBCA is structured for self-assessment; the proponent must indicate whether or not the project is considered a 'controlled action', which, if confirmed, would require approval from the Commonwealth Minister.

A soil mound on site has been identified on site as potential denning habitat for fauna listed under this Act. However, the soil mound will not be impacted and losses in potential foraging habitat are considered to be negligible.

Consequently, referral to the Minister is not considered to be necessary for this proposal.

5.2. Tasmanian Threatened Species Protection Act 1995

Any impact on threatened plant species listed under the TSPA will require a 'permit to take' from the Policy and Conservation Assessments Branch (PCAB) at the Department of Primary Industries, Parks, Wildlife and the Environment (DPIPWE). Thus, if the proponent ever intends to intensify or modify management around the settling pond, they will be required to obtain a permit to take for *Gratiola pubescens*.

No other threatened flora are likely to be impacted.

Given that the soil mound (potential den site) will not be impacted, the proponent is not at this point required to obtain a permit to take products of wildlife.

5.3. Tasmanian Weed Management Act 1999

No declared species are known on site; thus, no action is required to eradicate or control species under this Act. Appropriate construction hygiene should be applied in order to avoid the introduction of species listed under this Act. This may include machinery washdown following use at contaminated sites and before entering the site.

5.4. Meander Valley Interim Planning Scheme 2013

The current proposal is exempt from the provisions of the Biodiversity Code (E8) as it is a level 2 activity that will be assessed by the Board of Environmental Management and Pollution Control.

6. Conclusion

Our field survey has established that the lease area contains one threatened native plant community, one threatened plant species, and a potential den site for threatened fauna. The latter two values will not be directly impacted by actions under the present proposal and mitigation measures have been provided to reduce the potential for indirect impacts. Losses of the threatened native plant community are considered to be negligible at a local, regional and statewide scale.

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Appendix A - Vascular Plant Species by Community

DAS

Grid Reference: 460025E, 5406354N
Accuracy: within 50 metres
Recorder: Grant Daniels
Date of Survey: 17 Aug 2016

Trees: *Acacia melanoxylon*, *Eucalyptus amygdalina*, *Eucalyptus obliqua*
Tall Shrubs: *Allocasuarina monilifera*, *Exocarpos cupressiformis*, *Leptospermum scoparium* var. *scoparium*, *Monotoca glauca*
Shrubs: *Amperea xiphoclada* var. *xiphoclada*, *Epacris impressa*, *Leptomeria drupacea*, *Leucopogon collinus*
Low Shrubs: *Aotus ericoides*, *Hibbertia procumbens*
Herbs: *Acianthus* sp., *Caladenia* sp., *Dianella tasmanica*, *Pterostylis melagramma*, *Pterostylis* sp., *Stylidium graminifolium*
Graminoids: *Lomandra longifolia*
Ferns: *Pteridium esculentum* subsp. *esculentum*
Weeds: *Acetosella vulgaris*, *Cerastium* sp., *Hypochaeris radicata*, *Poa annua*

DOB

Grid Reference: 460093E, 5406237N
Accuracy: within 50 metres
Recorder: Grant Daniels
Date of Survey: 17 Aug 2016

Trees: *Acacia melanoxylon*, *Eucalyptus obliqua*
Tall Shrubs: *Acacia dealbata* subsp. *dealbata*, *Banksia marginata*, *Exocarpos cupressiformis*, *Monotoca glauca*, *Olearia argophylla*
Shrubs: *Acacia terminalis*, *Cassinia aculeata* subsp. *aculeata*, *Epacris impressa*, *Leptomeria drupacea*, *Olearia lirata*, *Pultenaea juniperina*
Herbs: *Acianthus* sp., *Euchiton japonicus*, *Hydrocotyle hirta*, *Pterostylis* sp., *Wahlenbergia*
Graminoids: *Lomandra longifolia*, *Luzula* sp.
Grasses: *Ehrharta stipoides*
Ferns: *Histiopteris incisa*, *Polystichum proliferum*, *Pteridium esculentum* subsp. *esculentum*
Weeds: *Hypochaeris radicata*

FUM

Grid Reference: 459982E, 5406326N
Accuracy: within 50 metres
Recorder: Grant Daniels
Date of Survey: 17 Aug 2016

Trees: *Eucalyptus amygdalina*, *Eucalyptus obliqua*
Tall Shrubs: *Leptospermum scoparium* var. *scoparium*, *Pultenaea daphnoides*
Shrubs: *Cassinia aculeata* subsp. *aculeata*, *Epacris impressa*, *Pultenaea juniperina*
Low Shrubs: *Aotus ericoides*
Herbs: *Acaena novae-zelandiae*, *Euchiton japonicus*, *Gratiola pubescens*, *Oxalis* sp., *Stylidium graminifolium*
Graminoids: *Juncus procerus*, *Juncus sarophorus*, *Schoenus apogon*
Grasses: *Ehrharta stipoides*
Ferns: *Blechnum nudum*, *Histiopteris incisa*
Weeds: *Acetosella vulgaris*, *Brassica X napus*, *Callitriche stagnalis*, *Cardamine hirsuta*, *Centaureum erythraea*, *Conium maculatum*, *Dipsacus fullonum*, *Holcus lanatus*, *Lysimachia arvensis*, *Poa annua*, *Silybum marianum*, *Typha latifolia*, *Verbascum virgatum*, *Veronica arvensis*

Appendix B - Vascular Plant Species List

Status codes:

ORIGIN	NATIONAL SCHEDULE	STATE SCHEDULE
i - introduced	EPBC Act 1999	TSP Act 1995
d - declared weed WM Act	CR - critically endangered	e - endangered
en - endemic to Tasmania	EN - endangered	v - vulnerable
t - within Australia, occurs only in Tas.	VU - vulnerable	r - rare

Sites:



1	DAS - E460025, N5406354	17-08-2016 Grant Daniels
2	DOB - E460093, N5406237	17-08-2016 Grant Daniels
3	FUM - E459982, N5406326	17-08-2016 Grant Daniels

Site Status	Name	Common name	
	DICOTYLEDONAE		
	APIACEAE		
3	<i>Conium maculatum</i>	hemlock	i
2	<i>Hydrocotyle hirta</i>	hairy pennywort	
	ASTERACEAE		
2 3	<i>Cassinia aculeata subsp. aculeata</i>	dollybush	
2 3	<i>Euchiton japonicus</i>	common cottonleaf	
1 2	<i>Hypochaeris radicata</i>	rough catsear	i
2	<i>Olearia argophylla</i>	musk daisybush	
2	<i>Olearia lirata</i>	forest daisybush	
3	<i>Silybum marianum</i>	variegated thistle	i
	BRASSICACEAE		
3	<i>Brassica Xnapus</i>	rape	i
3	<i>Cardamine hirsuta</i>	hairy bittercress	i
	CALLITRICHACEAE		
3	<i>Callitriche stagnalis</i>	mud waterstarwort	i
	CAMPANULACEAE		
2	<i>Wahlenbergia sp.</i>	bluebell	
	CARYOPHYLLACEAE		
1	<i>Cerastium sp.</i>	mouse-ear chickweed	i
	CASUARINACEAE		
1	<i>Allocasuarina monilifera</i>	necklace sheoak	en
	DILLENIACEAE		
1	<i>Hibbertia procumbens</i>	spreading guineaflower	
	DIPSACACEAE		
3	<i>Dipsacus fullonum</i>	wild teasel	i
	EPACRIDACEAE		
1 2 3	<i>Epacris impressa</i>	common heath	
1	<i>Leucopogon collinus</i>	white beardheath	
1 2	<i>Monotoca glauca</i>	goldey wood	

EUPHORBIACEAE			
1	<i>Amperea xiphoclada</i> var. <i>xiphoclada</i>	broom spurge	
FABACEAE			
1 3	<i>Aotus ericoides</i>	golden pea	
3	<i>Pultenaea daphnoides</i>	heartleaf bushpea	
2 3	<i>Pultenaea juniperina</i>	prickly beauty	
GENTIANACEAE			
3	<i>Centaurium erythraea</i>	common centaury	i
MIMOSACEAE			
2	<i>Acacia dealbata</i> subsp. <i>dealbata</i>	silver wattle	
1 2	<i>Acacia melanoxylon</i>	blackwood	
2	<i>Acacia terminalis</i>	sunshine wattle	
MYRTACEAE			
1 3	<i>Eucalyptus amygdalina</i>	black peppermint	en
1 3	<i>Eucalyptus obliqua</i>	stringybark	
1 3	<i>Leptospermum scoparium</i> var. <i>scoparium</i>	common teatree	
OXALIDACEAE			
3	<i>Oxalis</i> sp.	woodsorrel	
POLYGONACEAE			
1 3	<i>Acetosella vulgaris</i>	sheep sorrel	i
PRIMULACEAE			
3	<i>Lysimachia arvensis</i>	scarlet pimpernel	i
PROTEACEAE			
2	<i>Banksia marginata</i>	silver banksia	
ROSACEAE			
3	<i>Acaena novae-zelandiae</i>	common buzzy	
SANTALACEAE			
1 2	<i>Exocarpos cupressiformis</i>	common native-cherry	
1 2	<i>Leptomeria drupacea</i>	erect currantbush	
SCROPHULARIACEAE			
3	<i>Gratiola pubescens</i>	hairy brooklime	v
3	<i>Verbascum virgatum</i>	twiggy mullein	i
3	<i>Veronica arvensis</i>	wall speedwell	i
STYLIDIACEAE			
1 3	<i>Stylidium graminifolium</i>	narrowleaf triggerplant	
MONOCOTYLEDONAE			
CYPERACEAE			
3	<i>Schoenus apogon</i>	common bogsedge	
JUNCACEAE			
3	<i>Juncus procerus</i>	tall rush	
3	<i>Juncus sarophorus</i>	broom rush	
2	<i>Luzula</i> sp.	luzula	
LILIACEAE			
1	<i>Dianella tasmanica</i>	forest flaxlily	
ORCHIDACEAE			
1 2	<i>Acianthus</i> sp.	mosquito orchid	

1	<i>Caladenia sp.</i>	spider-orchid	
1	<i>Pterostylis melagramma</i>	blackstripe greenhood	
1 2	<i>Pterostylis sp.</i>	greenhood	
	POACEAE		
2 3	<i>Ehrharta stipoides</i>	weeping grass	
3	<i>Holcus lanatus</i>	yorkshire fog	i
1 3	<i>Poa annua</i>	winter grass	i
	TYPHACEAE		
3	<i>Typha latifolia</i>	great reedmace	i
	XANTHORRHOACEAE		
1 2	<i>Lomandra longifolia</i>	sagg	
	PTERIDOPHYTA		
	ASPIDACEAE		
2	<i>Polystichum proliferum</i>	mother shieldfern	
	BLECHNACEAE		
3	<i>Blechnum nudum</i>	fishbone waterfern	
	DENNSTAEDTIACEAE		
2 3	<i>Histiopteris incisa</i>	batswing fern	
1 2	<i>Pteridium esculentum subsp. esculentum</i>	bracken	

Appendix C – Previous PC Assessment

 Forestry Tasmania <i>Phytophthora cinnamomi</i> -status of quarries			
Quarry:	Punch's Terror (Atkins Pit)	Date of inspection:	4 th Dec 2015
Altitude:	320 m	Location:	Beaumont's Rd, Wegeena
Substrate:	Quartz Conglomerate	Type:	Hard rock
Grid Ref:	460040 E, 5406300 N.	Leasee:	Treloar Transport
			
<p>Figure 1. Punch's terror is a steep mid-elevation quarry, well-managed with several benches.</p>			
<p>Drainage: Good</p> <p>The quarry floor is hard and dry and slopes away from the active face. It is effectively metalled with quarried material (Figure 1). However, drainage from the top of the quarry is uncontrolled and surface water runoff flows into the active quarry area.</p>			
<p>Overburden:</p> <p>The overburden has been scalped back during previous operations but the top edge of the quarry is now recolonising with vegetation. A pile of topsoil is present on the southern edge of the active quarry.</p>			
<p>Weed issues: No declared weeds were observed within the quarry.</p> <p>Agricultural weeds such as variegated thistle, hemlock and wild radish were present on the north-western edge of the quarry area in an area of imported topsoil. A spray program is in place for this quarry.</p>			

Punch's Terror Quarry

***P. cinnamomi* field symptoms:**

The quarry contains plentiful *P. cinnamomi* indicator species including golden pea (*Aotus ericoides*), trigger plant (*Stylidium graminifolium*), common heath (*Epacris impressa*), native broom spurge (*Amperea xiphoclada*) and Guinea flower (*Hibbertia procumbens*). In most areas these were healthy (Figure 2), but on the southern edge of the quarry there is a pile of overburden where the *Aotus ericoides* and *Amperea xiphoclada* are sick and dead (Figure 3).

Soil samples were taken from the root zone of these plants for laboratory analysis but these returned a **negative** result for *P. cinnamomi*.

Samples tested for *P. cinnamomi*:

This quarry is currently considered to be *P. cinnamomi*-free. It is suitable for use where a requirement for *P. cinnamomi*-free gravel has been specified.



Figure 2. Healthy trigger plant, golden pea and common heath can be found in most areas around the quarry.



Figure 3. An unhealthy bank of topsoil with dead golden pea and native broom spurge, however this tested negative for *P. cinnamomi*.

Management issues/recommendations:

It is recommended that any piles of topsoil are moved from within the active quarry area and that the scalping of the overburden across the top edge of the quarry is improved to minimise any likelihood of organic matter contamination of the quarry. Drainage should be improved so that surface water run-off does not flow into the quarry.

Sue Jennings Forest Management Services Forestry Tasmania Smithton. sue.jennings@forestrytas.com.au	Environmental risk	Moderate
	Management risk	Moderate
	Quarry assessment valid until:	Dec 2016

Punch's Terror Quarry

Punchs Terror Quarry – new mining lease

FLORA AND FAUNA ASSESSMENT

27th July 2017
For Treloar Transport (TRE002)



Andrew North anorth@northbarker.com.au **Philip Barker** pbarker@northbarker.com.au

163 Campbell Street Hobart TAS 7000 Telephone 03. 6231 9788 Facsimile 03. 6231 9877

Meander Valley Council Ordinary Meeting Agenda - 14 August 2018

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Summary

The proponent is seeking a permit for the reactivation of the one of the quarries under the recently acquired mining lease (28M/1990) at the Punchs Terror quarry in northern Tasmania. North Barker Ecosystem Services (NBES) have been engaged to undertake a threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed reuse and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

Vegetation

The lease area was found to contain the following TASVEG units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA. No *Eucalyptus ovata* forest or woodland (DOV) is found on site.

The proposed intensification will result in the clearance of between 0 and 1 ha of DAS and no more than 0.2 ha of DOB, neither of which is considered to be significant at the local, regional, state or national scale. The current plan will impact no community however it is understood the longer term plan will impact higher on the slope hence we have included a projected upper limit of impact for future activities.

Threatened Flora & Fauna

No threatened flora or significant fauna habitat occurs onsite or close by. Two wedge-tailed eagles were seen flying in the locality on the day of survey however our assessment has determined there is no optimal nesting habitat or known nests within 1km of the site.

Summary

Our field survey has established that the lease area contains one threatened native plant community, no threatened plant species, and no confirmed habitat for threatened threatened fauna within 50m of the quarry. Losses of the threatened native plant community are considered to be negligible at a local, regional and statewide scale, and the community is not that typical of the threatened vegetation found on sandstone rock. Weed infestations are minor and can be eradicated by good weed management planning.

Acknowledgments

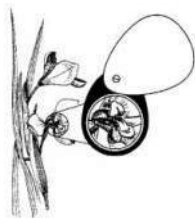
Project management: Dave Sayers

Field work and photographs: Dave Sayers

Report: Dave Sayers

Mapping: Dave Sayers

Proponent consultation: Nigel Beeke



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1. Introduction and Methods

1.1. Background

The proponent is seeking to begin production of crushed rock from a Mining Lease 28M/1990 recently acquired. The lessee currently operates a quarry just to the south east of the new lease (Atkins Pit). The proponent has requested a threatened flora and fauna survey in accordance with the *Guidelines for Natural Values Surveys – Terrestrial Development Proposals*¹ over the lease focussed around the proposal.

North Barker Ecosystem Services (NBES) has been commissioned to undertake the present survey to fulfil the requirements of the threatened flora and fauna assessment. The results will be used to determine potential impacts of the proposed works and any mitigation measures identified will be applied to minimise impacts on conservation significant values.

1.2. Study Area and Methods

1.2.1. Study Area

The existing quarry, known as Punchs Terror Quarry, is located off Beaumont's Road, Weegen, (Figure 1), approximately 4.5 km southwest of Elizabeth Town. The mining lease (28M/1990) of 39 ha is owned by Meander Valley Council (category 3 with lease expiry 19/04/2021). Previous operations cover around 3.6 ha. Following the proposed re-use and intensification, the total potential disturbed land within the current proposal will be around 0.7 ha. The land is zoned Rural Resource under the *Meander Valley Interim Planning Scheme 2013* and is part of the Tasmanian Northern Slopes bioregion².

The quarry is located on the western side of a north to south trending ridge. Site geology is dominated by fine grained chert conglomerate composed of sub rounded to rounded quartzite pebbles and cobbles. The chert is believed to be of sedimentary origin with pink colourations due to high concentrations of haematite³.

Altitude across the study area is between 260 and 300 m AHD. Average annual rainfall is around 1050 mm⁴.

¹ Natural and Cultural Heritage Division, 2015

² IBRA7 - Commonwealth of Australia 2012

³ Coffey (2017) page of Geology sampling report provided by Nigel Beeke

⁴ Sheffield, Northwest Coast, Tasmania; 41.3886 ° S, 146.3219 ° E, 294 m AMSL; commenced 1996

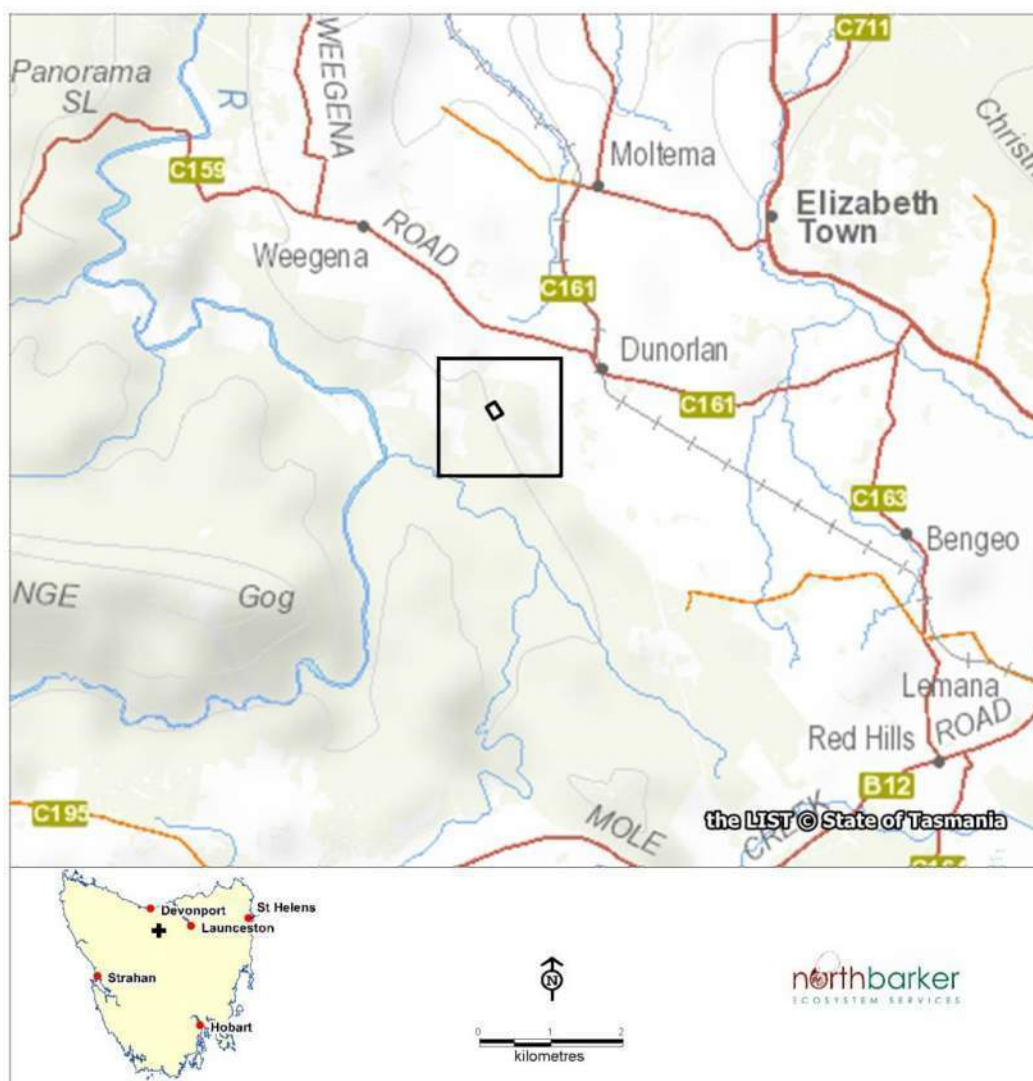


Figure 1: Site location

1.2.2. Field Survey

Field work was undertaken on foot by one observer on the 10th of July, 2017. Vegetation was mapped throughout a large portion of the lease in accordance with units defined in TASVEG 3.0⁵. Within all vegetation types, plant species lists were compiled according to nomenclature within the current census of Tasmanian plant census⁶, using a meandering area search based on the Timed Meander Search Procedure⁷. Observations of habitat suitability for fauna, as well as direct or indirect indicators of presence (i.e. sightings, scats, tracks, dens, etc.) were made concurrently. Disproportionate survey effort was applied to the proposed intensification area and areas considered suitable for threatened values within 50m of the proposal. Observations were recorded with a handheld GPS.

⁵ Kitchener and Harris 2013

⁶ de Salas and Baker 2015

⁷ Goff *et al.* 1982

1.2.3. Limitations

Due to seasonal variations in detectability and identification, there may be some species present within the study area that have been overlooked. To compensate for these limitations to some degree, data from the present survey are supplemented with data from the Tasmanian Natural Values Atlas⁸ (NVA) and the EPBC Significant Matters database (PMST_91PQH). From these sources, all threatened species known to occur in the local area (5 km) are considered in terms of habitat suitability on site.

2. Results - Biological Values

2.1. Vegetation

Our survey has resulted in some corrections to the community data held within the TASVEG v3.0 database. Specifically, we established that there is no *Eucalyptus ovata* forest and woodland (DOV) present on site, with the area mapped as this community actually being dominated by *Eucalyptus obliqua*. *Eucalyptus amygdalina* on sandstone (DAS) also is present where *Eucalyptus amygdalina* – *Eucalyptus obliqua* damp sclerophyll forest was mapped albeit this community occurs on chert and is not the usual example of DAS; in addition, we made boundary corrections to the areas of communities. The lease was found to contain three community units:

- dry *Eucalyptus obliqua* forest (DOB);
- dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)*; and
- extra-urban miscellaneous (FUM).

Those units with an asterisk correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). None of the units correspond to communities listed under the EPBCA.

Distributions of TASVEG units within the lease are presented in Figure 2. Floristics are presented in Appendix A, while each unit is described briefly below, with representative photos in Plates 1-4.

The site has no likelihood of supporting alpine sphagnum bogs and associated fens, as predicted as possible by the EPBC protected matters database.

⁸ nvr_2_24-July-2017

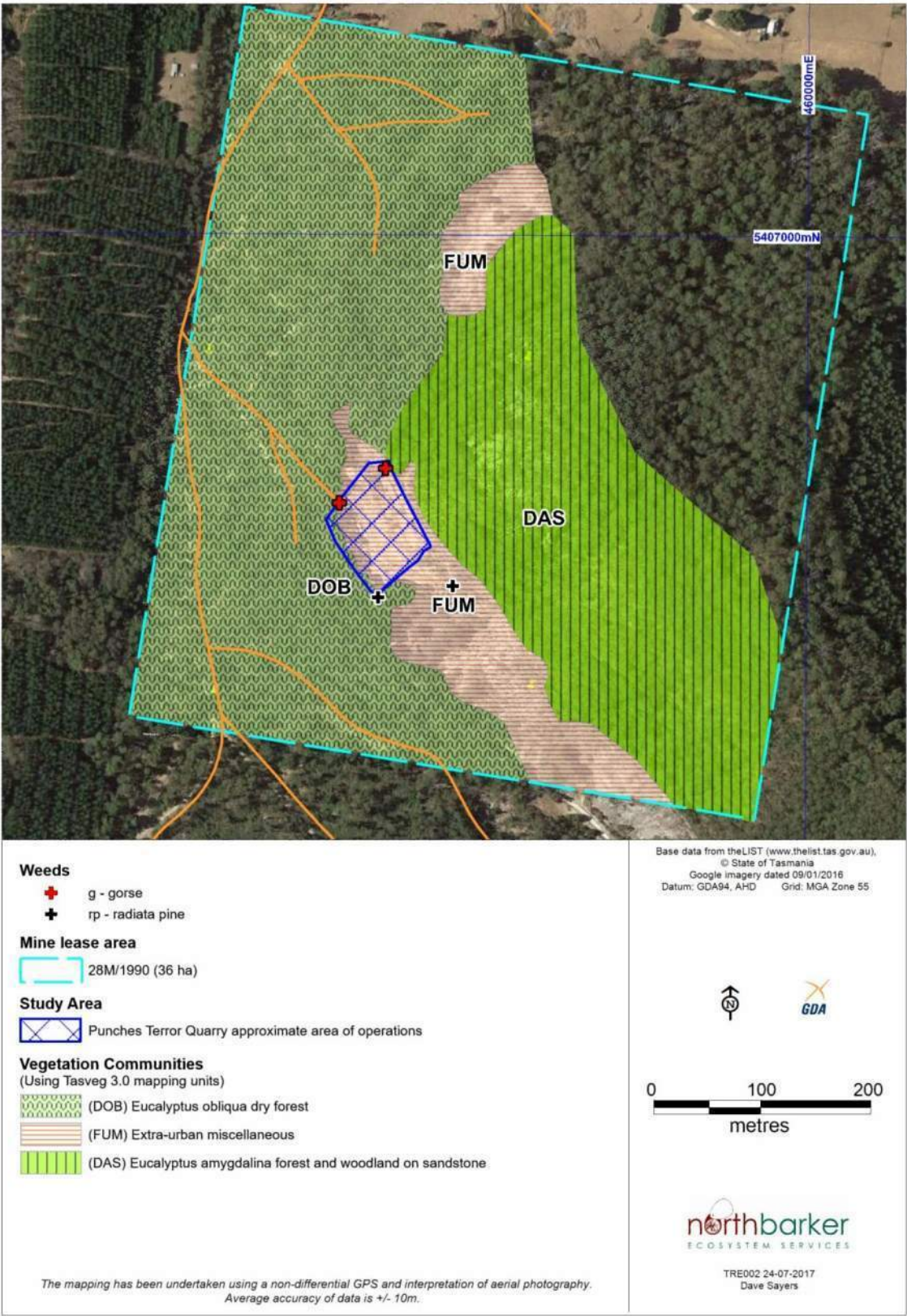


Figure 2: Distribution of TASVEG units within the lease area – note that the proposed limit of intensification (provided by the proponent) is indicative only and, in accordance with the requirements of mining lease agreements, no disturbance will occur within 10 m of the lease boundary

Dry *Eucalyptus obliqua* forest (DOB) – Plate 1

The occurrences of this community on site are highly typical examples of the moist facies of the community that occurs in the transition zone between wet and dry forest. The canopy is almost exclusively dominated by *Eucalyptus obliqua*, with only occasional *E. amygdalina*, particularly on patch margins. No *E. ovata* were observed and it is unlikely any meaningful patches of this species were overlooked. The understorey of this community was shrub dominated with a mix of tall and short species, both broad leaved and sclerophyllous. Frequent species included *Pultenaea juniperina*, *Exocarpos cupressiformis*, *Acacia terminalis*, *Monotoca glauca*, *Cassinia aculeata*, *Olearia lirata* and *Acacia melanoxylon*. Ground layer vegetation was dominated by *Pteridium esculentum*, with lesser patches of more moisture reliant ferns, as well as *Lomandra longifolia* and various herbs and graminoids.

Dry *Eucalyptus amygdalina* forest and woodland on sandstone (DAS) – Plates 2 and 3

The occurrences of this community on site are relatively species poor in contrast to examples of the community on Tertiary sandstone elsewhere in the State, but not atypical for examples on conglomerate. The geology of this community is the sedimentary rock chert which is not typical of the threatened communities which occur on sandstone. The canopy is almost exclusively dominated by *Eucalyptus amygdalina*, with only occasional *E. obliqua*, particularly on patch margins on the lower slopes. The understorey of this community was largely dominated by *Pteridium esculentum*, with occasional tall patches of *Leptospermum*. Other frequent shrubs included *Leucopogon collinus*, *Allocasuarina monilifera* and *Monotoca glauca*. Small species included *Amperea xiphioclada*, *Hibbertia* species (likely *H. procumbens*), *Dianella tasmanica* and *Aotus ericoides*.

Extra-urban miscellaneous (FUM) – Plates 4 and 5

This community includes the quarry face and an area of past disturbance in which near surface material was extracted. Resultantly, vegetation in this area is largely dominated by exotics such as *Cirsium vulgare* and native regrowth. Native species within the area of FUM are largely adventive individuals that have colonised the area from the adjacent native communities.



Plate 1: *Eucalyptus obliqua* dry forest on the southern edge of the proposed intensification area



Plate 2: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 3: *Eucalyptus amygdalina* forest and woodland on sandstone within the proposed intensification area



Plate 4: The current quarry area – mapped as extra-urban miscellaneous



Plate 5: Part of the old quarry face

2.2. Plant Species of Conservation Significance

In total, 50 species of vascular plants were recorded during our field survey (Appendix A). This included no species listed as threatened under the schedules of the TSPA. Several threatened species have previously been recorded within 5 km of the site⁹, or have the potential to do so based on habitat mapping. None of these species are considered likely to have been overlooked to any meaningful degree and thus have a very low likelihood of impact from the proposed works (Table 1). *Gratiola Pubescens* (hairy brookline) was recorded within the Atkins Pit during 2016 surveys however was not observed within the current survey.

Table 1: Flora species of conservation significance known within a 5 km radius of the study area, or predicted by habitat mapping¹⁰

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹¹
KNOWN FROM THE ATKINS PIT JUST SOUTH			
<i>Gratiola pubescens</i> hairy brooklime	Vulnerable/ -	Not observed,	A small, mat-forming herb that colonises bare ground disturbance niches within saturated soils. Frequently observed in highly modified environments such as the Atkins Pit but was not recorded at this site. Re-assessment of its status under the TSPA is likely to occur in the near future and the species is likely to be down-listed or delisted from the Act.
REPORTED FROM WITHIN 5 km¹²			
<i>Desmodium gunnii</i> southern ticktrefoil	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
<i>Epilobium pallidiflorum</i> showy willowherb	Rare/ -	None	A floriferous perennial herb of creeks and swamps, particularly in the north of the State. Pond on site is very low in suitability and the species is unlikely to have been overlooked within it. No suitable habitat was observed elsewhere on site.
<i>Glycine microphylla</i> small leaf glycine	Vulnerable/ -	Very low	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.

⁹ nvr_2_24-July-2017

¹⁰ nvr_2_24-July-2017

¹¹ Includes statements from Threatened Species Link summaries and note sheets

¹² nvr_2_24-July-2017

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹¹
<i>Gynatrix pulchella</i> fragrant hempbush	Rare/ -	None	No suitable riparian habitat present. A highly distinctive species unlikely to have been overlooked.
<i>Hypolepis muelleri</i> harsh groundfern	Rare/ -	Very Low	Generally found along watercourses, swampy areas or deep rich alluvial soils. Habitat not present onsite and unlikely to occur.
<i>Pimelea curviflora</i> (incl. var. <i>gracilis</i>) (slender) curved rice flower	Rare/ -	None	Habitat within the forest on site is suitable, but the highly distinctive species is unlikely to have been overlooked unless present in very low numbers or in a highly discreet location. Suitable habitat extends beyond the proposed intensification area.
PREDICTED AS POSSIBLE BY HABITAT MAPPING ONLY¹³			
<i>Barbarea australis</i> native wintercress	Endangered/ ENDANGERED	None	<i>Barbarea australis</i> is a riparian plant species found near river margins, creek beds and along flood channels adjacent to the river. It has not been found on steeper sections of rivers, and tends to favour slower reaches. It occurs in shallow alluvial silt deposited on rock slabs or rocky ledges, or between large cobbles on sites frequently disturbed by fluvial processes. Some of the sites are a considerable distance from the river in flood channels scoured by previous flood action, exposing river pebbles. No suitable habitat occurs on site.
<i>Caladenia caudata</i> tailed spider orchid	Vulnerable/ VULNERABLE	Very low	<i>Caladenia caudata</i> (tailed spider-orchid) is a terrestrial orchid, found mainly in dry heathland and heathy woodland habitats, in lowland areas of northern, eastern and south-eastern Tasmania. Habitat on site is suitable within the DAS community, but none of the orchid leaves observed during the survey could possibly belong to this species.
<i>Colobanthus curtisiae</i> grassland cupflower	Rare/ VULNERABLE	Very low	Typically a species of grassy habitats, but can occur on rocky knolls. Some suitable habitat (of the latter type) present on site, but the species was not observed and is not likely to have been overlooked even outside of the flowering season.

¹³ EPBCA protected matters report – PMST_ 91PQHG

Species	Status TSPA / EPBCA	Potential to occur if not observed	Observations and preferred habitat ¹¹
<i>Epacris exserta</i> South Esk heath	Endangered/ ENDANGERED	None	Strictly a riparian species of dolerite substrates. No suitable habitat present on site.
<i>Glycine latrobeana</i> clover glycine	Vulnerable/ VULNERABLE	None	Habitat low in suitability. Can be detected by foliage at any time of the year and is not likely to have been overlooked.
<i>Lepidium hyssopifolium</i> peppercress	Endangered/ ENDANGERED	None	Occurs in the growth suppression zone of large trees in grassy areas. No suitable habitat present.

2.3. Introduced Plants

One declared weed, gorse (*Ulex europaeus*) and one woody environmental weeds, radiata pine (*Pinus radiata*) occur on site. Their distribution is shown in Figure 2. Unspringingly there is also a dense patch of spear thistle (*Cirsium vulgare*).



Plate 6 – Some Pines have been cut and treated however some are still present around the quarry



Plate 7 - gorse

2.4. Plant Pathogens

The Atkins Pit has previously been assessed as free of cinnamon root rot fungus *Phytophthora cinnamomi* (PC). Symptomatic evidence of PC has been recorded however the location has tested negative twice. Much of the habitat within the proposed intensification area is unsuitably well-drained for PC and no potential symptomatic evidence was observed however a detailed PC assessment has not been undertaken.

2.5. Fauna Species of Conservation Significance

No threatened fauna species have been directly observed on site. A number of threatened fauna are known to occur within 5 km of the site, or have the potential to do so based on habitat mapping¹⁴. The majority of these species are not considered to have viable habitat on site (particularly nesting habitat) or the habitat is considered to be relatively unimportant to the persistence of species at even a local scale should they be present (Table 2). Potential denning for Tasmanian devils may be present outside of the area surveyed along the ridgeline within the DAS community however this is outside of the proposed impact of the quarry.

¹⁴ nvr_2_24-July-2017

Table 2: Fauna species of conservation significance previously recorded within a 5 km radius of the study area, or with the potential to do so based on habitat mapping¹⁵

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
BIRDS			
<i>Accipiter novaehollandiae</i> grey goshawk	Endangered/ -	Very low	No suitable nesting habitat is found on site. If the area is used by this species it is only likely to represent a minor part of a foraging range.
<i>Aquila audax fleayi</i> wedge-tail eagle	Endangered/ ENDANGERED	Foraging: low Nesting: None	Requires sheltered old-growth trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests are known within 500 m or within 1 km line of sight. Nearest known nest is around 3 km away. Two WTE were observed flying on the day of survey.
<i>Apus pacificus</i> fork-tailed swift	-/ MIGRATORY	Very low	Uncommonly recorded in Tasmania. An aerial insectivore that would most likely only fly over the site if present. Potential presence and habitat use would not be affected by proposal.
<i>Ardea alba</i> great egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Ardea ibis</i> cattle egret	-/ MIGRATORY	None	A non-breeding migratory wetland species. No suitable habitat present.
<i>Botaurus poiciloptilus</i> Australasian bittern	-/ ENDANGERED	None	No suitable permanent aquatic habitat.
<i>Ceyx azureus</i> subsp. <i>diemenensis</i> azure kingfisher	Endangered/ ENDANGERED	None	Species primarily utilises major rivers within western Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Gallinago hardwickii</i> Latham's snipe	-/ MARINE – MIGRATORY	None	A wide-ranging shorebird that frequently utilises the margins of subalpine lakes and tarns, and less frequently farm dams. No suitable habitat present on site.

¹⁵ nvr_2_24-July-2017

¹⁶ Bryant & Jackson 1999

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
<i>Haliaeetus leucogaster</i> white-bellied sea eagle	Vulnerable/ MIGRATORY	None	Requires large coastal or lakeside trees for nesting. No viable nesting habitat will be impacted by the proposal. No nests known within 500 m or within 1 km line of sight.
<i>Hirundapus caudacutus</i> white-throated needletail	-/ MIGRATORY	Very low	An aerial species most likely unaffected by terrestrial habitat alteration outside of its Northern Hemisphere breeding range. Potential presence and habitat use would not be affected by proposal.
<i>Lathamus discolor</i> swift parrot	Endangered/ CRITICALLY ENDANGERED	Very low	For nesting, this species requires tree hollows within 10 km of mature stands of food plants, which are blue gums (<i>E. globulus</i>) and black gums (<i>E. ovata</i>). No food trees have been observed on site and there is a very low likelihood the site could be utilised for nesting. Given the current operations at the site it is considered highly likely that any hollows in the area would be occupied by disturbance tolerant edge species such as possums and sugar gliders. Nearest known nest is around 2.5 km away but NW breeding areas are not classified as swift parrot important breeding areas ¹⁷ .
<i>Myiagra cyanoleuca</i> satin flycatcher	-/ MIGRATORY	Low	An interstate migrant of which some of the population spends the summer breeding months in Tasmania. Widely distributed across forested environments but is sensitive to fragmentation and canopy thinning and not generally associated with small remnants or edge habitats. Regional populations not likely to be impacted by a proposal of this scale.
<i>Pterodroma leucoptera leucoptera</i> Gould's petrel	-/ ENDANGERED	None	A pelagic species. No suitable habitat present.
<i>Tyto novaehollandiae</i> masked owl	Endangered/ VULNERABLE	Nesting: None Foraging: Low	The site is within the core habitat range for this species, which includes all land below 600 m AHD. Requires a mosaic of forest and open areas for foraging, and large old-growth, hollow-bearing trees for nesting. The forest habitat on site is moderately suitable for foraging, but no viable nesting

¹⁷ Forest Practices Authority 2010

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
			hollows were observed nor are likely to have been overlooked.
<i>Tringa nebularia</i> common greenshank	-/ MIGRATORY	None	A shorebird species. No suitable habitat present.
MAMMALS			
<i>Dasyurus maculatus</i> ssp. <i>maculatus</i> spotted-tailed quoll	Rare/ VULNERABLE	Low - moderate	This naturally rare forest-dweller most commonly inhabits wet forest but also occurs in dry forest and occasionally grassy areas. The study area does not occur within the core range for the species (as defined on the NVA) and only four records are known from within 5 km. The species is unlikely to be measurably impacted by a proposal of this scale should it be present.
<i>Dasyurus viverrinus</i> eastern quoll	-/ ENDANGERED	Very low	Species is extinct on mainland Australia and was recently listed on the EPBCA as a result of the decline in the Tasmanian population during the last decade. Currently the eastern quoll is not listed on the Tasmanian TSPA and remains widespread across eastern Tasmania in particular, with a preference for high soil fertility and grassy open habitats. Only two observations of this species are known within 5 km of the site and the habitat is low in suitability. If the species is present it is unlikely to be measurably impacted by a proposal of this scale.
<i>Perameles gunnii</i> eastern barred bandicoot	- / VULNERABLE	None	Predicted based on habitat mapping only. However, no suitable habitat is present on site for this species and it is more likely to be present in the surrounding rural landscape.
<i>Sarcophilus harrisii</i> Tasmanian devil	Endangered/ ENDANGERED	Moderate	The study area does not occur within the core range for the species (as defined on the NVA) and only six records are known from within 5 km. No scats were observed on site. The species is unlikely to be measurably impacted by a proposal of this scale should it be present. Potential denning habitat higher up the slopes which were not thoroughly investigated as apart of this survey
OTHER SPECIES			

Species	Status TSPA / EPBCA	Potential to occur in study area	Observations and preferred habitat ¹⁶
<i>Astacopsis gouldi</i> giant freshwater crayfish	Vulnerable/ VULNERABLE	None	Species primarily utilises major rivers within northern Tasmania. Nearest suitable habitat is 2.5 km away on the Mersey River.
<i>Engaeus granulatus</i> Central North burrowing crayfish	Endangered/ ENDANGERED	None	Predicted based on habitat mapping only. Soil conditions not suitable on site.
<i>Galaxiella pusilla</i> eastern dwarf galaxias	Vulnerable/ VULNERABLE	None	No suitable aquatic habitat present.
<i>Galaxias fontanus</i> Swan galaxias	Endangered/ ENDANGERED	None	No suitable aquatic habitat present.
<i>Hickmanoxymomma gibbergunyar</i> Mole Creek cave harvestman	Rare/ -	None	Only known from caves within the Mole Creek karst system. No suitable karst habitat is known on site.
<i>Litoria raniformis</i> green and gold frog	Vulnerable/ VULNERABLE	Very low	Occurs in large, permanent, well vegetated wetlands. No suitable habitat within study area.
<i>Prototroctes marina</i> Australian grayling	Vulnerable/ VULNERABLE	None	No suitable river habitat present.
<i>Pseudemoia pagenstecheri</i> tussock skink	Vulnerable/ -	None	Occurs in <i>Poa</i> tussock grassland and <i>Themeda</i> grassland without trees. Known to occur in the northwest, but not within 5 km the study area. No suitable habitat present on site.

Wedge-tailed eagle (*Aquila audax fleayi*)

Survey Results

The nearest known nest record is 3.5km to the south, last confirmed as present in 2015. This nest is well beyond the range of likely disturbance.

Two wedge-tailed eagles were observed flying in the general locality on the day of survey. The habitat within the study area and a 1 km buffer is considered to support low quality eagle habitat²¹. Figure 3 shows the study area, known nest locations and the FPA WTE habitat modelling.

The study area is therefore most likely to be part of a larger foraging territory, but has a low likelihood of containing nests. The immediate area is considered too exposed to winds and generally lacks suitable nesting trees.

General discussion

Wedge-tailed eagles nest in a range of old growth native forests and the species is dependent on forest for nesting. It nests almost exclusively in mature eucalypts capable of supporting their nests, which can develop after many years of use into massive structures over 2m in diameter. The eagles choose old growth trees in relatively sheltered sites for locating their nests. Territories can contain multiple nests and up to five alternate nests have been located. Nests within a territory are usually close to each other but may be up to 1 km apart where habitat is locally restricted. Wedge-tailed eagles prey and scavenge on a wide variety of fauna including fish, reptiles, birds and mammals.

The Tasmanian subspecies of the wedge-tailed eagle (*Aquila audax subsp. fleayi*) is regarded as being larger than the mainland birds with a wingspan of 2m and a body weight up to 5.5kg.¹⁸ However, there is an overlap in size between the two populations. Tasmanian juvenile and immature birds also differ in plumage colour from mainland birds¹⁹, they lack the rufous-brown markings on the nape, hind neck and wing coverts²⁰. DNA studies²¹ have been undertaken to resolve the uncertain taxonomic status of the Tasmanian subspecies. Adults are resident, highly territorial and have very large home ranges. Although considered to be widespread but uncommon at the time of European settlement, the population has been estimated to number less than 1,000 individuals occupying an estimated 220 breeding territories²².



Plate 8 – Two wedge-tailed eagles seen flying over the study area.

¹⁸ Bryan & Jackson (1999)

¹⁹ Marchant & Higgins (1993)

²⁰ Marchant & Higgins (1993)

²¹ Debus (2009)

²² DSEWPC (2012b)

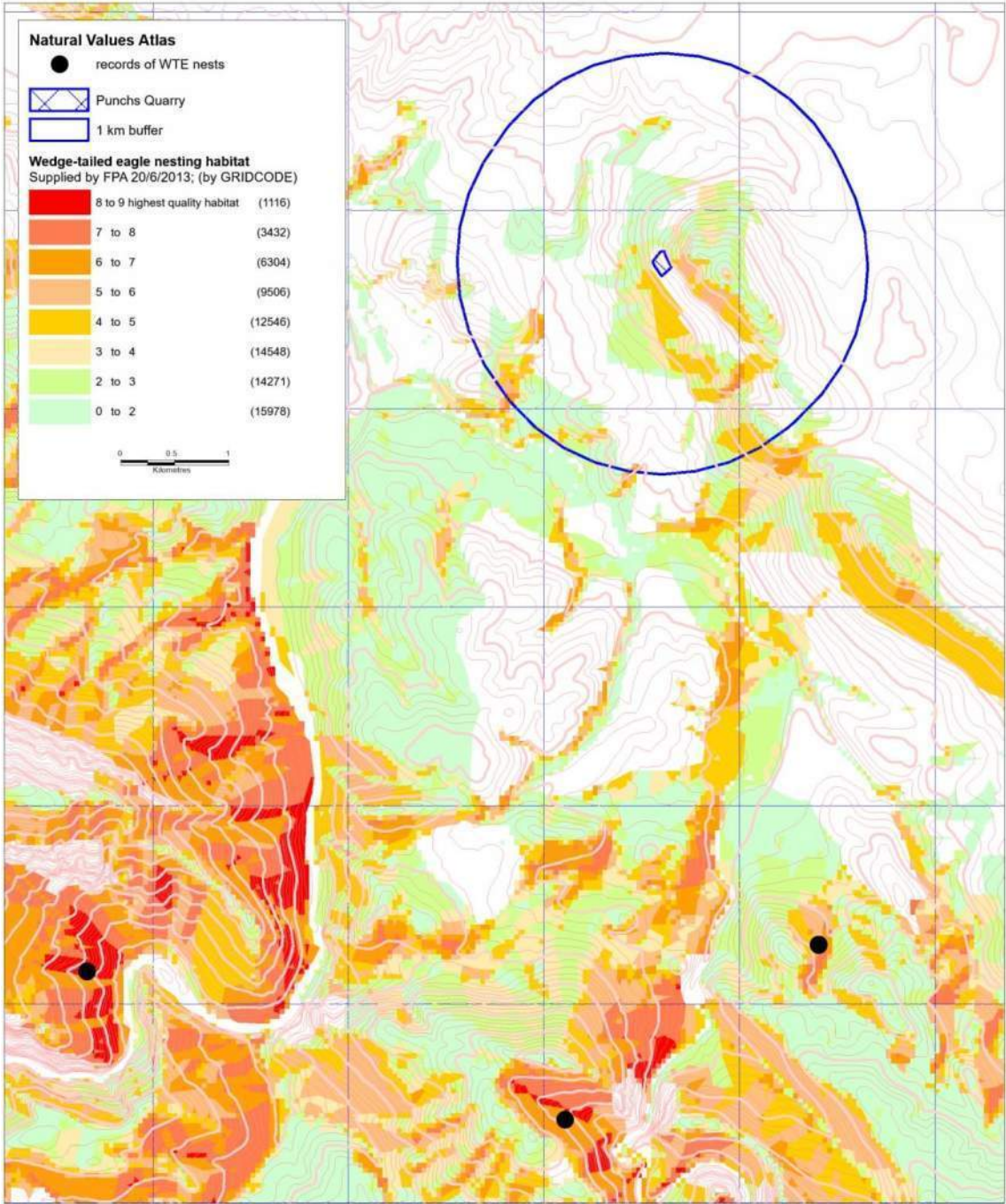


Figure 3 – WTE habitat modelling surrounding the Punchs Terror quarry.

3. Summary of Potential Impacts to Natural Values

Our field survey has established that the lease area contains one threatened native plant community (however not typical of the examples of DAS typically protected on sandstone). No additional threatened flora or fauna habitat occur in or near the proposal. Potential quantitative and qualitative impacts to natural values are summarised in Table 3.

Table 3: Summary of potential impacts to natural values from proposed intensification

Conservation Significant Value	Potential Impacts	Context ²³
Extent of native vegetation communities within intensification area (ha) – asterisk denotes communities listed as threatened under Tasmanian <i>Nature Conservation Act 2002</i>		
(DAS) <i>Eucalyptus amygdalina</i> forest and woodland on sandstone*	Minimum 0 but up to 1.0 ha potential	Total extent in Tasmanian reserve estate: 13,500 Total extent in Tasmania: 42,200 Total extent in reserves in Meander Valley Council: 3,200 Total extent in Meander Valley Council: 5,200 Total extent in reserves in Northern Slopes bio-region: 4,700 Total extent in Northern Slopes bio-region: 9,100
(DOB) <i>Eucalyptus obliqua</i> dry forest	Max 0.2 ha	Total extent in Tasmanian reserve estate: 76,900 Total extent in Tasmania: 173,200 Total extent in reserves in Meander Valley Council: 2,100 Total extent in Meander Valley Council: 4,600 Total extent in reserves in Northern Slopes bio-region: 15,500 Total extent in Northern Slopes bio-region: 30,700
Total area of potential impact to native vegetation	0 to 1.20 ha	Negligible impacts anticipated at local, regional and statewide level.

²³ Includes statements from Threatened Species Link summaries and note sheets

4. Recommendations for Avoidance, Compliance and Mitigation

4.1. Threatened Fauna

- Should works be planned for higher up the ridgeline, a targeted devil den survey should be carried out to determine suitability of habitat and potential for dens.
- No mitigation is necessary based on the current proposal.

4.2. Weeds and Pathogens

- The containment principles of the *Tasmanian Weed Management Act 1999* should be sufficiently met with best practice construction hygiene that prevents the introduction of contaminated material from beyond the study area, such as tool and machinery wash-down before entry, and by only importing materials from verified weed and PC free locations.
- The proponent should continue weed control in order to prevent incursion of the species, as well as continuing the control of environmental weeds on this lease including gorse and radiata pine
- Continue work with PC testing and remediation works as required.

4.3. Threatened Flora

- No threatened flora recorded within the quarry and buffer of this proposal.

4.4. Threatened Vegetation Communities

- No mitigation is considered to be necessary given the nature of the proposal and the potential scale of impacts.

4.5. General Natural Values

- In addition, where possible avoid stockpiling dense material around the base of retained trees, in order to prevent root smothering.

5. Legislative Requirements

5.1. Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The EPBCA is structured for self-assessment; the proponent must indicate whether or not the project is considered a 'controlled action', which, if confirmed, would require approval from the Commonwealth Minister.

No habitat for EPBCA listed fauna have been identified. Consequently, referral to the Minister is not considered to be necessary for this proposal.

5.2. Tasmanian Threatened Species Protection Act 1995

No issues identified under this act.

5.3. Tasmanian Weed Management Act 1999

One declared species (gorse) occurs onsite. This should be eradicated from the site. Appropriate construction hygiene should be applied in order to avoid the introduction of species listed under this Act. This may include machinery washdown following use at contaminated sites and before entering the site.

5.4. Meander Valley Interim Planning Scheme 2013

The current proposal is understood to be exempt from the provisions of the Biodiversity Code (E8) as it is a level 2 activity that will be assessed by the Board of Environmental Management and Pollution Control.

6. Conclusion

Our field survey has established that the lease area contains one threatened native plant community, no threatened plant species, and no confirmed habitat for threatened threatened fauna within 50m of the quarry. Losses of the threatened native plant community are considered to be negligible at a local, regional and statewide scale, and the community is not that typical of the threatened vegetation found on sandstone rock. Weed infestations are minor and can be eradicated by good weed management planning.

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Appendix A - Vascular Plant Species by Community

Site: 1 Punchs Quarry - DOB

Grid Reference:	459584E, 5406693N
Accuracy:	GPS (within 10 metres)
Recorder:	Dave Sayers
Date of Survey:	10 Jul 2017
Trees:	<i>Acacia melanoxylon</i> , <i>Bursaria spinosa</i> subsp. <i>spinosa</i> , <i>Eucalyptus amygdalina</i> , <i>Eucalyptus obliqua</i>
Tall Shrubs:	<i>Acacia dealbata</i> subsp. <i>dealbata</i> , <i>Acacia mearnsii</i> , <i>Bedfordia salicina</i> , <i>Exocarpos cupressiformis</i> , <i>Leptospermum scoparium</i> var. <i>scoparium</i> , <i>Monotoca glauca</i> , <i>Olearia argophylla</i>
Shrubs:	<i>Cassinia aculeata</i> subsp. <i>aculeata</i> , <i>Epacris impressa</i> , <i>Leptomeria drupacea</i> , <i>Olearia lirata</i> , <i>Pimelea linifolia</i> , <i>Pomaderris elliptica</i> , <i>Pultenaea juniperina</i>
Herbs:	<i>Euchiton japonicus</i>
Graminoids:	<i>Juncus australis</i> , <i>Juncus procerus</i> , <i>Lomandra longifolia</i> , <i>Luzula</i> sp.
Grasses:	<i>Deyeuxia</i> sp., <i>Ehrharta distichophylla</i>
Ferns:	<i>Gleichenia dicarpa</i> , <i>Histiopteris incisa</i> , <i>Polystichum proliferum</i> , <i>Pteridium esculentum</i> subsp. <i>esculentum</i>
Weeds:	<i>Dactylis glomerata</i> , <i>Hypochaeris radicata</i>

Site: 2 Punchs Quarry - E. amygdalina on sandstone

Grid Reference:	459618E, 5406782N
Accuracy:	GPS (within 10 metres)
Recorder:	Dave Sayers
Date of Survey:	10 Jul 2017
Trees:	<i>Eucalyptus amygdalina</i> , <i>Eucalyptus obliqua</i>
Tall Shrubs:	<i>Allocasuarina monilifera</i> , <i>Exocarpos cupressiformis</i> , <i>Leptospermum scoparium</i> var. <i>scoparium</i> , <i>Monotoca glauca</i>
Shrubs:	<i>Amperea xiphoclada</i> var. <i>xiphoclada</i> , <i>Epacris impressa</i> , <i>Leucopogon collinus</i>
Low Shrubs:	<i>Aotus ericoides</i> , <i>Hibbertia</i> sp.
Herbs:	<i>Correa lawrenceana</i> var. <i>lawrenceana</i> , <i>Dianella tasmanica</i> , <i>Libertia pulchella</i> var. <i>pulchella</i>
Graminoids:	<i>Lomandra longifolia</i>
Grasses:	<i>Poa</i> sp.
Ferns:	<i>Pteridium esculentum</i> subsp. <i>esculentum</i>
Weeds:	<i>Acetosella vulgaris</i> , <i>Centaureum erythraea</i> , <i>Poa annua</i>

Site: 3 Punchs - FUM (cleared areas)

Grid Reference:	459571E, 5406743N
Accuracy:	GPS (within 10 metres)
Recorder:	Dave Sayers
Date of Survey:	10 Jul 2017
Trees:	<i>Eucalyptus amygdalina</i> , <i>Eucalyptus obliqua</i>
Tall Shrubs:	<i>Exocarpos cupressiformis</i>
Shrubs:	<i>Cassinia aculeata</i> subsp. <i>aculeata</i>
Grasses:	<i>Poa labillardierei</i>
Weeds:	<i>Callitriche stagnalis</i> , <i>Centaureum erythraea</i> , <i>Cerastium</i> sp., <i>Cirsium vulgare</i> , <i>Lysimachia arvensis</i> , <i>Taraxacum officinale</i> , <i>Ulex europaeus</i>

Appendix B - Vascular Plant Species List

Species list - project: TRE002

Status codes:

ORIGIN	NATIONAL SCHEDULE	STATE SCHEDULE
i - introduced	EPBC Act 1999	TSP Act 1995
d - declared weed WM Act	CR - critically endangered	e - endangered
en - endemic to Tasmania	EN - endangered	v - vulnerable
t - within Australia, occurs only in Tas.	VU - vulnerable	r - rare

Sites:



1	Punches Quarry - DOB - E459584, N5406693	10-07-2017 Dave Sayers
2	Punches Quarry - E. amygdalina on sandstone - E459618, N5406782	10-07-2017 Dave Sayers
3	Punches - FUM (cleared areas) - E459571, N5406743	10-07-2017 Dave Sayers

Site	Name	Common name	Status
	DICOTYLEDONAE		
	ASTERACEAE		
1	<i>Bedfordia salicina</i>	tasmanian blanketleaf	en
1 3	<i>Cassinia aculeata subsp. aculeata</i>	dollybush	
3	<i>Cirsium vulgare</i>	spear thistle	i
1	<i>Euchiton japonicus</i>	common cottonleaf	
1	<i>Hypochaeris radicata</i>	rough catsear	i
1	<i>Olearia argophylla</i>	musk daisybush	
1	<i>Olearia lirata</i>	forest daisybush	
3	<i>Taraxacum officinale</i>	common dandelion	i
	CALLITRICHACEAE		
3	<i>Callitriche stagnalis</i>	mud waterstarwort	i
	CARYOPHYLLACEAE		
3	<i>Cerastium sp.</i>	mouse-ear chickweed	i
	CASUARINACEAE		
2	<i>Allocasuarina monilifera</i>	necklace sheoak	en
	DILLENIACEAE		
2	<i>Hibbertia sp.</i>	guinea-flower	
	EPACRIDACEAE		
1 2	<i>Epacris impressa</i>	common heath	
2	<i>Leucopogon collinus</i>	white beardheath	
1 2	<i>Monotoca glauca</i>	goldey wood	
	EUPHORBIACEAE		
2	<i>Amperea xiphoclada var. xiphoclada</i>	broom spurge	
	FABACEAE		
2	<i>Aotus ericoides</i>	golden pea	
1	<i>Pultenaea juniperina</i>	prickly beauty	

3	<i>Ulex europaeus</i>	gorse	d
	GENTIANACEAE		
2 3	<i>Centaurium erythraea</i>	common centaury	i
	MIMOSACEAE		
1	<i>Acacia dealbata</i> subsp. <i>dealbata</i>	silver wattle	
1	<i>Acacia mearnsii</i>	black wattle	
1	<i>Acacia melanoxylon</i>	blackwood	
	MYRTACEAE		
1 2 3	<i>Eucalyptus amygdalina</i>	black peppermint	en
1 2 3	<i>Eucalyptus obliqua</i>	stringybark	
1 2	<i>Leptospermum scoparium</i> var. <i>scoparium</i>	common teatree	
	PITTOSPORACEAE		
1	<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	prickly box	
	POLYGONACEAE		
2	<i>Acetosella vulgaris</i>	sheep sorrel	i
	PRIMULACEAE		
3	<i>Lysimachia arvensis</i>	scarlet pimpernel	i
	RHAMNACEAE		
1	<i>Pomaderris elliptica</i>	yellow dogwood	
	RUTACEAE		
2	<i>Correa lawrenceana</i> var. <i>lawrenceana</i>	mountain correa	en
	SANTALACEAE		
1 2 3	<i>Exocarpos cupressiformis</i>	common native-cherry	
1	<i>Leptomeria drupacea</i>	erect currantbush	
	THYMELAEACEAE		
1	<i>Pimelea linifolia</i>	greater slender riceflower	
	MONOCOTYLEDONAE		
	IRIDACEAE		
2	<i>Libertia pulchella</i> var. <i>pulchella</i>	pretty grassflag	
	JUNCACEAE		
1	<i>Juncus australis</i>	southern rush	
1	<i>Juncus procerus</i>	tall rush	
1	<i>Luzula</i> sp.	luzula	
	LILIACEAE		
2	<i>Dianella tasmanica</i>	forest flaxlily	
	POACEAE		
1	<i>Dactylis glomerata</i>	cocksfoot	i
1	<i>Deyeuxia</i> sp.	bent grass	
1	<i>Ehrharta distichophylla</i>	hairy ricegrass	
2	<i>Poa annua</i>	winter grass	i
3	<i>Poa labillardierei</i>	silver tussockgrass	
2	<i>Poa</i> sp.	poa	
	XANTHORRHOEACEAE		
1 2	<i>Lomandra longifolia</i>	sagg	
	PTERIDOPHYTA		

ASPIDIACEAE		
1	<i>Polystichum proliferum</i>	mother shieldfern
DENNSTAEDTIACEAE		
1	<i>Histiopteris incisa</i>	batswing fern
1 2	<i>Pteridium esculentum subsp. esculentum</i>	bracken
GLEICHENIACEAE		
1	<i>Gleichenia dicarpa</i>	pouched corallfern

Appendix C – Previous PC Assessment of Atkins Pit

 Forestry Tasmania <i>Phytophthora cinnamomi</i> -status of quarries			
Quarry:	Punch's Terror (Atkins Pit)	Date of inspection:	11/05/2017
Altitude:	320 m	Location:	Beaumont's Rd, Weegen
Substrate:	Quartz Conglomerate	Type:	Hard rock
Grid Ref:	460040 E, 5406300 N.	Owner:	Treloar Transport
			
<p>Figure 1. Punch's Terror is a large active hard-rock quarry at moderate altitude.</p>			
<p>Drainage: Good</p> <p>There is seepage of ground water in this quarry, but it is effectively quarantined from the active quarry area by a large bund. The quarry floor is hard and dry and metalled with quarried material (Figure 2).</p>			
<p>Overburden: The overburden has recently been scalped back from the top of the active face, and a substantial spoon drain constructed to divert all surface water from above the active quarry area into the surrounding bush. This has been done to a very high standard (Figure 3).</p>			
<p>Weed issues: None seen.</p>			
<p><i>P. cinnamomi</i> field symptoms:</p> <p>Suspicious deaths of <i>P. cinnamomi</i> indicator species were seen in the topsoil bank on the southern corner of the quarry. These included trigger plant (<i>Stylidium graminifolium</i>) and native broom spurge (<i>Amperea xiphoclada</i>) (Figure 4).</p>			

Punch's Terror (Atkins Pit)

Samples tested for *P. cinnamomi*: Yes

A soil sample was taken from the root zone of the dead and dying plants but tested negative for *P. cinnamomi*. This quarry is currently considered to be *P. cinnamomi*-free. It is suitable for use where a requirement for *P. cinnamomi*-free gravel has been specified.



Figure 2. Drainage within the quarry is good, with ground-water seepage contained within a bund.

The active floor is hard and dry.



Figure 3. The overburden has recently been scalped from the top edge of the quarry.



Figure 4. Dead native broom spurge on the southern edge of the quarry.

Sue Jennings Forest Management Services Forestry Tasmania Smithton. sue.jennings@forestrytas.com.au	Environmental risk	Moderate
	Management risk	Low
	Quarry assessment valid until:	May 2020

12.2. Appendix B – Noise Survey

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Dunorlan Punch's Terror Quarry Treloar

22/12/2017

NOISE ISSUES

S U M M A R Y.

1. The measured noise level during calm conditions (quarry not operating) was $L_{90} = 25.3 \text{ dB(A)}$ and $Leq = 50.4 \text{ dB(A)}$ at gate of 56 Chesneys Road.. House is about 750 m from the quarry 28M/1990 =Q 1
2. During quarry operations, the calculated Leq is less than 45 dB(A)
3. During quarry operations, at 28 m from the crusher, the following was measured: $L_{90} = 71.8 \text{ dB(A)}$, $Leq = 74.6 \text{ dB(A)}$ and 86.9 dB(C).
4. The following equipment was operating in the quarry: Jaw Crusher (300 HP) + Loader (180 HP) + excavator (120 HP) = total 600 HP
5. The operation of the quarry is likely to meet the "Quarry Code of Practice" requirement that the quarry operation noise level not to exceed 45 dB(A) during the daytime.

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Treloar Transport
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Tasmania 7306

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Cc Carol Steyn, carols@urbanforestconsultancy.com

BRIEF:

Estimate the likely in noise due to a 120 HP P1 320B CAT excavator and a P22 Pegson Jaw crusher and the wheel loader as reported in the 7/4/2014 noise report. In addition, comment on the likely compliance of the quarry operation with the requirements of the May 2017 Quarry Code of Practice.

INTRODUCTION:

Noise annoyance depends on the following factors:

1. the level of the existing ambient noise
2. the level of the new noise with the quarry in operation
3. whether the new noise has tonal components
4. whether the new noise has impulsive components
5. the time of the day the new noise occurs
6. whether the new noise carries unwanted intelligence such as warning announcements
7. noise annoyance is also dependent on the listener's perception of whether the noise is regretfully caused, imposed in ignorance or inflicted as an act of aggression.

The Tasmania Quarry Code of Practice (May 2017), page 17, paragraph 7.2.2.2 Level of noise states states: "Noise from quarrying and associated activities, including equipment maintenance, when measured at any neighbouring sensitive use must not exceed the greater of:

The A-weighted 10 minute L90, excluding noise from the quarry, plus 5 dB(A) , or
45 dB(A) from 0700 to 1900 hours (daytime).....
when measured as a 10 minute Leq".

Treloar Transport is submitting a DFPEMP to the EPA seeking permission to blast at this quarry.

DEFINITIONS:

See appendix A.

Background noise is indicated by L90. This L90 is a good descriptor of the base or background noise level. For example (see page A6, Loc 2, column 3), where $L90 = 25.3 \text{ dB(A)}$ then that means that for 90 % of the 10 minute sample, that is, 9 minutes, the noise level was 25.3 dB(A) or more. Similarly, L10 is a good descriptor of the average of the higher noise events encountered. If, for example, $L10 = 44.5 \text{ dB(A)}$ then that means that for 10 % or 1 minute, the noise level was 44.5 dB(A) or more.

Leq is the equivalent 'A' weighted noise level. A fluctuating noise having an $Leq = 50.4 \text{ dB(A)}$ has the same acoustic energy as a steady noise of 50.4 dB(A).

ESTIMATED BACKGROUND NOISE LEVELS:

Australian Standard AS 1055.2-1997 "Acoustics – Description and measurements of environmental noise Part 2: Application to specific situations," in Appendix A, the estimated L90 background sound pressure level in areas with low density transportation, between 0700 h to 1800 h, Mon. to Sat. is 45 dB(A). This estimate is a guide only for use where actual measurements are not obtained.

RESULTS:

See appendices A and B. The main results are shown on pages A 6.

Previously, (Field Report, Forthside, 27/11/2013) at 28 m from the crusher we measured $Leq = 74.6 \text{ dB(A)}$, and 86.9 dB(C) and $L90 = 71.8 \text{ dB(A)}$.

The difference between Leq and $L90 = 74.6 - 71.8 = 2.8 \text{ dB(A)}$

The difference between the dB(C) and dB(A) is $86.9 - 74.6 = 12.3$ dB.

JAW CRUSHER, LOADER and EXCAVATOR

The table on page A 9 (report of 27/11/2013) gives the results of 10 minute measurements at 28 m from the crusher which was fed by a loader and excavator as shown on page A 7.

The calculated sound power level is:

$$\begin{aligned} \text{SWL} &= \text{SPL} + 20 \log r + 8 \\ &= 74.6 + 20 \log 28 + 8 = 111.54 \text{ or say } 112 \text{ dB(A)} \end{aligned}$$

Similarly, the calculated sound power level in terms of dB(C) is:

$$\text{SWL} = 86.9 + 20 \log 28 + 8 = 123.8 \text{ dB(C) or say } 124 \text{ dB(C)}$$

The difference between the dB(C) and dB(A) noise levels is $124 - 112 = 12$ dB and so no penalty for low frequency components is applicable.

The P22 Pegson Jaw Crusher is rated at 300 HP. The sound pressure level at 437 m (see Q 1 to R 3 on pages B 2 and B 5), due only to geometric spreading and NOT taking into account atmospheric absorption, noise barriers, excess attenuation due to ground cover and trees, would be:

$$\begin{aligned} \text{SPL} &= \text{SWL} - 20 \log r - 8, \\ &\text{where } r \text{ is the distance in meters.} \end{aligned}$$

$$\text{SPL} = 112 - 20 \log 437 - 8 = 51.2 \text{ dB(A)}$$

From the above noise level we need to calculate the excess noise attenuation as the sound travels through the atmosphere and over ground cover and diffracts over natural or man made barriers. The above noise was calculated using geometric spreading to 437 m

Using the topographic profile on page B 5, the barrier effect was calculated as 15.6 dB

Hence the likely noise level at R 3 is $51.2 - 15.6 = 35.6$ dB(A)

The above calculations do not take into account the excess attenuation for sound travelling over the ground, ground cover and through the atmosphere. These will reduce the noise levels further.

Hence the noise level due to the quarry operation is likely to be 36 dB(A) using the above mentioned equipment.

Similar calculations were performed for the receivers shown on page B 2 to quarries Q 1 and Q 2. using the profiles shown on pages B 3 to B 5.

The results are shown on the next page. The calculations assume a crusher height of 3 m and a receiver height above ground of 1.5 m.:

Location Q to R	Barrier ht metres	Source ht metres	receiver ht metres	Hor source barrier dist	Hor barrier receiver dist	Atten dB
Q 1 to R 3	273	273	216.5	100	337	15.6
Q 2 to R 1	308	307	146.5	30	940	13.7
Q 1 to R 2	272.5	273	201.5	45	535	11.8
Q 2 to R 2	310	309	201.5	55	1130	12.1
Q 2 to R 3	340	373	216.5	385	650	16.3
Q 1 to R 1	272.5	273	146.5	70	660	15.5

The geometric spreading of the noise is calculated as follows for the various above combinations:

Q 1 to R 3	$112 - 20 \log 437 - 8 - 15.6 = 35.6 \text{ dB(A)}$
Q 2 to R 1	$112 - 20 \log 970 - 8 - 13.7 = 30.6 \text{ dB(A)}$
Q 1 to R 2	$112 - 20 \log 580 - 8 - 11.8 = 36.9 \text{ dB(A)}$
Q 2 to R 2	$112 - 20 \log 1185 - 8 - 12.1 = 30.4 \text{ dB (A)}$
Q 2 to R 3	$112 - 20 \log 1035 - 8 - 16.3 = 27.4 \text{ dB(A)}$
Q 1 to R 1	$112 - 20 \log 730 - 8 - 15.5 = 31.2 \text{ dB(A)}$

DISCUSSION:

With the calculated noise levels below 45 dB(A), the quarry operation is likely to meet the 'Quarry Code of Practice requirement of 45dB(A) during the day time. The quarry operates only during daylight.

CONCLUSION:

The calculated noise level based on measured ambient and background noise levels indicate that the 45 dB(A) daylight requirement of the Quarry Code of Practice, noise level with the quarry operating, is likely to be met at the nearest neighbour.

The World Health Organization's (WHO) Guideline for noise levels outside bedrooms is that with the window open, $L_{eq} = 45 \text{ dB(A)}$ and $L_{max} = 60 \text{ dB(A)}$. These conditions too, are likely to be met during the operation of the quarry.

Pearu Terts

Treloar Punchs Terror Quarry, Dunorlan
Preliminary field report for site visit September 2017
Appendix A to be read in conjunction with main report

General

The quarry site at Punchs Terror, Dunorlan appears to have a history, based on maps and the regrowth. The excavations lie on the western side of the hill, and there are a number of neighbours surrounding the site. The conglomerate quarry is currently in intermittent use by Treloar.

This report describes the findings of preliminary ambient noise measurements and observations from the site visit 15:20-17:00, Friday 1/9/2017.

Instruments used

- Brüel & Kjær Sound Level Calibrator Type 4230 s/n 1169836, Laboratory Certified May 2017;
- Norsonic Precision Sound Level Meter Nor131, s/n 1312829, Laboratory Certified May 2017;
- Weather Instruments (Aneroid barometer, Zeal Wet/Dry bulb Psychrometer, Suunto KB-14/360R compass, Kaindl Windmaster 2 wind speed meter);

Location definitions

The locations for measurements were defined as follows:

Location	Definition/comment
Loc 1	Approximate centre of recently used quarry floor, Microphone at 1.2 m height GR (AMG UTM 1966) 459469 m E, 5406543 m N
Loc 2	Fencepost at road bend, opposite gate to "Whispering Hills Retreat", 56 Chesneys Rd, Microphone at 1.2 m height. GR (AMG UTM 1966) 458991 m E, 5407098 m N

Positions plotted on aerial photo and photographs of locations are on the following pages.

Weather observations

Conditions suitable for noise measurements.

Details are shown alongside.

Weather observations	
Date	1/09/2017
Location	Loc 1
Time	15:30
Temp °C	11
Relative Humidity %	66
Pressure hPa	997
Wind speed average m/s	0.4
Wind speed maximum m/s	3.1
Wind direction	NW
Cloud cover x/8	7

[Last revised 5/9/2017]

Location – map showing study site and surrounds



Sourced from MemoryMap; Tasmap 1:25000 series, 30/7/2017

Location – plotted airphoto indicating monitoring positions



Monitoring locations plotted to approximation. Base image sourced from Google 30/7/2017. Note 200 m scale bar.
Changes may have occurred since this image was captured by satellite.

Panorama photograph



View of sweeping NW-SE arc of quarry from a small stockpile at edge of the floor. Location 1 to right of vehicle, 1/9/2017
Note the 4-photo composite has minor join error and distortion

Site photograph



View to SE at Location 2, opposite gate to 56 Chesneys Rd, 1/9/2017

Noise descriptions

For this location, ambient noise by source noted during the site visit is listed (in descending order of significance by loudness, noticeability, duration and incidence):

Location 1

- Breeze in eucalypt trees dominates noise in between calm lulls;
- Bird calls including crows, geese
- Distant traffic including truck
- Sheep
- Aircraft

Location 2

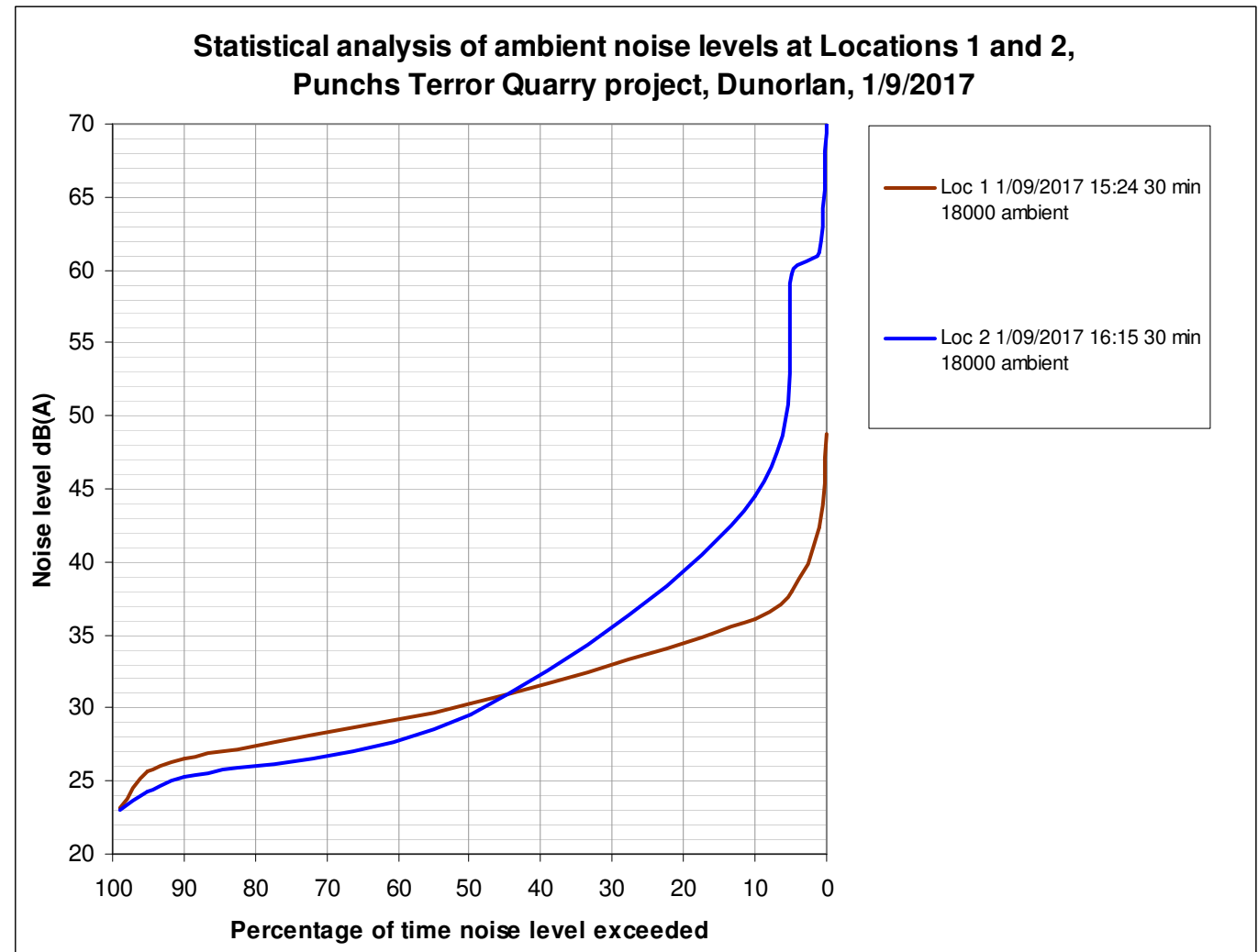
- Two neighbours' vehicles passed the monitoring location, one diesel 4WD stopped very near by and idled for a period and the driver engaged us in conversation
- Bird calls including currawongs, crows, wattlebirds, plovers, rooster
- Frogs
- Breeze in trees at times
- Distant traffic
- Horses

Comments

- During this preliminary visit some daytime ambient noise measurements were conducted under suitable conditions.
- No machinery was present at the quarry, though fresh caterpillar and truck tracks indicated recent activity.
- The quarry lies on the western side of the ridge, thus it is the western neighbours that have the potential for exposure to quarrying noise. One of the neighbour sites to the NW was visited; other/s lying to the W and NW were not visited on this occasion.

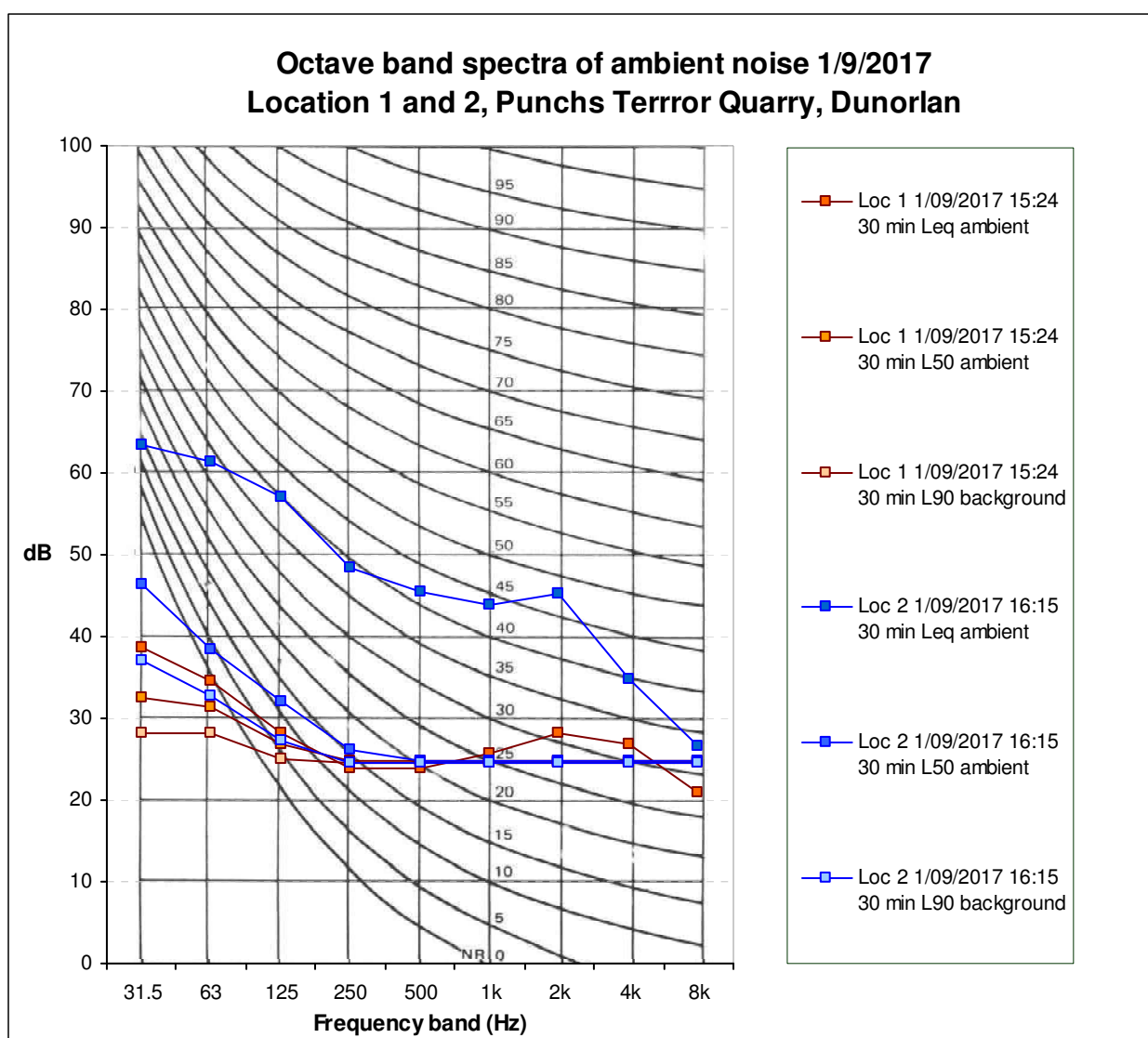
Measurements and statistical analysis of noise over 30 min periods, dB(A)

Location	Loc 1	Loc 2
Date	1/9/2017	1/9/2017
Time	15:24	16:15
Duration	30 min	30 min
Samples	18000	18000
Test	ambient	ambient
Lmax	56.3	73.3
L0.1	48.8	70.6
L1	42.3	61.2
L5	38.0	59.7
L10	36.1	44.5
L50	30.3	29.6
L90	26.5	25.3
L95	25.6	24.3
L99	23.1	23.0
Lmin	21.7	21.0
Leq A	33.3	50.4

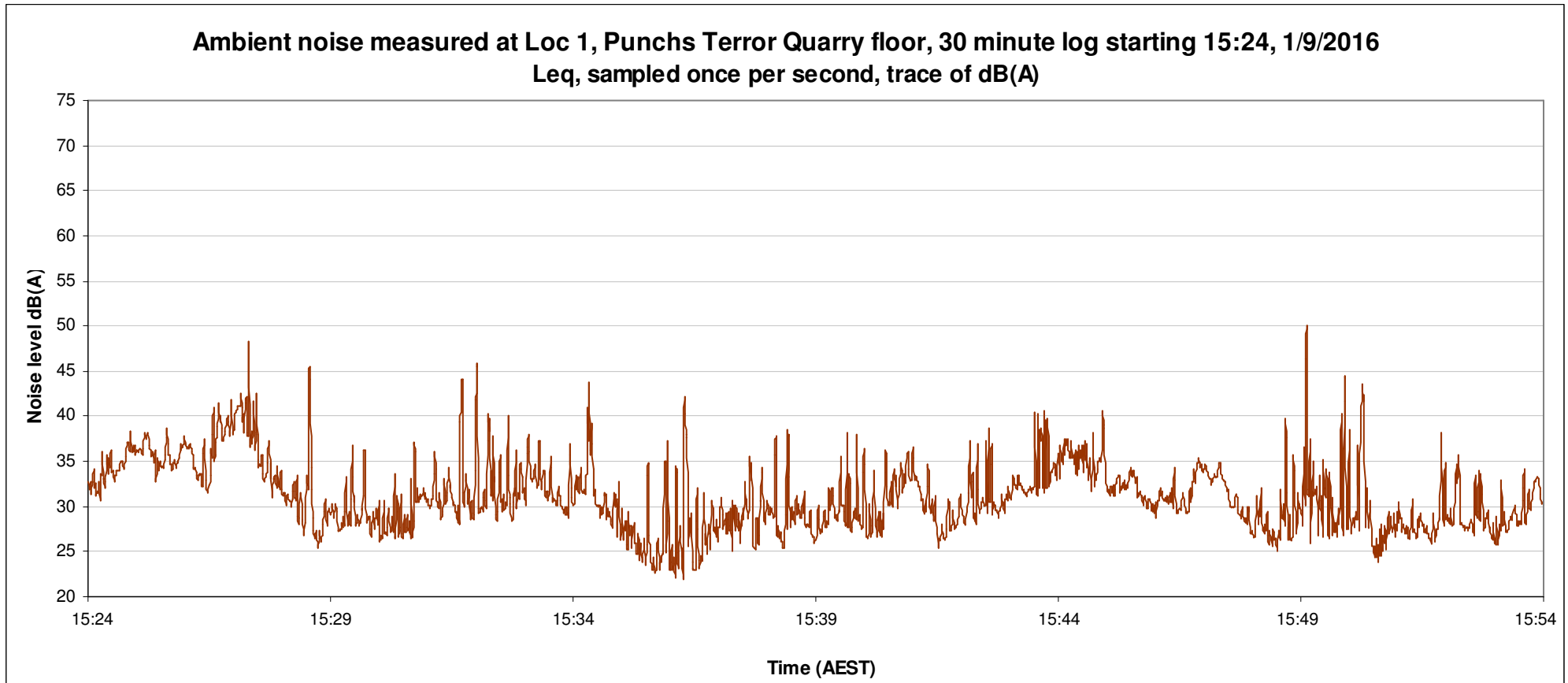


Spectral analysis of ambient day time noise

Location	Loc 1			Loc 2		
Date	1/09/2017			1/09/2017		
Time	15:24			16:15		
Duration	30 min			30 min		
Measure	Leq	L50	L90	Leq	L50	L90
Test	ambient	ambient	background	ambient	ambient	background
Overall A	33.3	30.3	26.5	50.4	29.6	25.3
C	41.6	37.2	34.3	64.8	52.3	42.0
Octave band Hz 31.5	38.5	32.4	28.3	63.5	46.3	37.1
63	34.5	31.3	28.1	61.3	38.5	32.6
125	28.1	26.8	24.9	57.0	32.0	27.2
250	23.8	<24.7	<24.6	48.5	26.1	<24.6
500	23.9	<24.7	<24.6	45.4	<24.7	<24.6
1k	25.6	<24.7	<24.6	43.9	<24.7	<24.6
2k	28.3	24.8	<24.6	45.2	24.8	<24.6
4k	26.8	<24.7	<24.6	34.8	<24.7	<24.6
8k	20.9	<24.7	<24.6	26.5	<24.7	<24.6

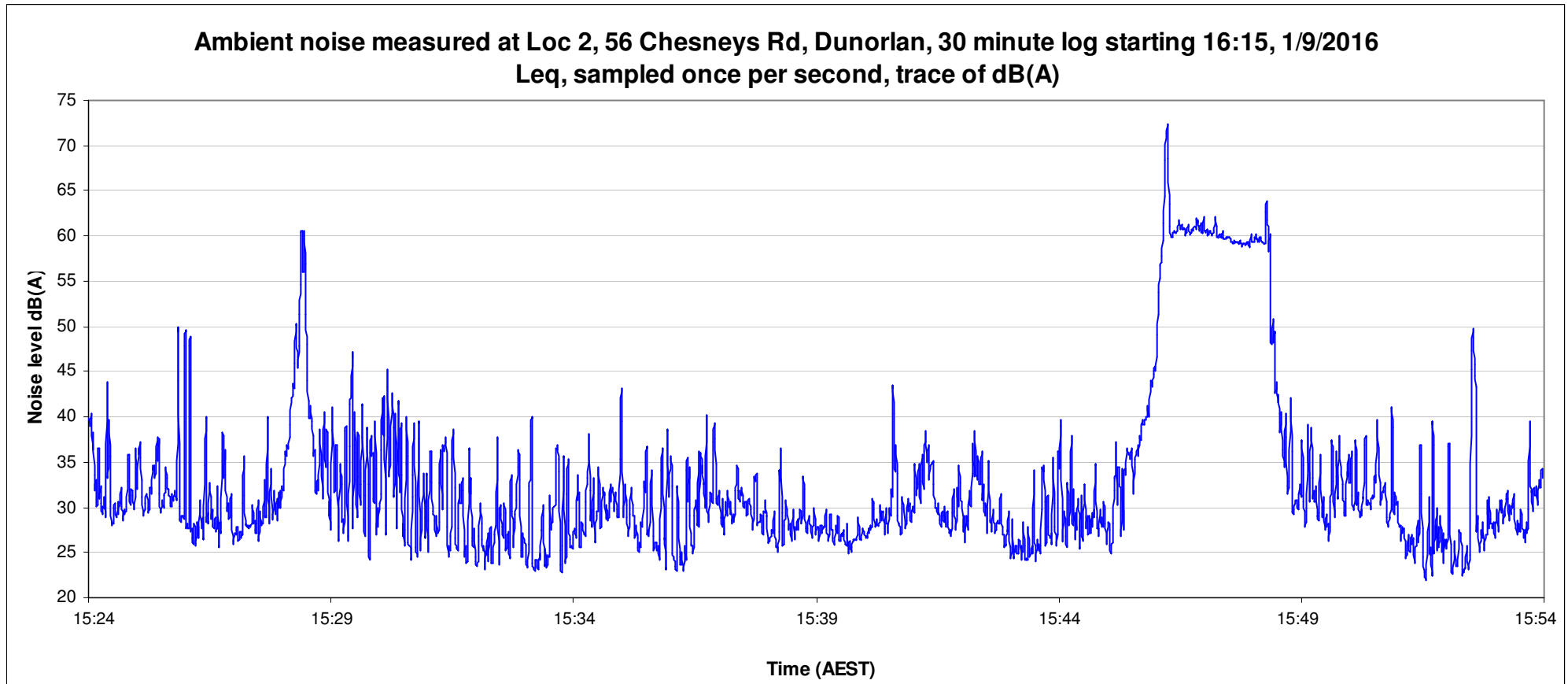


Monitoring trace of day time noise at Location 1



Variation in baseline noise level reflects variation in breeze in eucalypt trees; with superimposed spikes due to bird calls.
 Occasional distant traffic events included a truck.

Monitoring trace of day time noise at Location 2



Variation in baseline noise level reflects variation in breeze in trees and distant traffic; with superimposed spikes mainly due to bird calls.

Two significant events were local traffic passes; the first was a hatchback passed the microphone 1 m away.

The second passed 1 m away, a diesel 4WD that stopped about 5 m away and idled for a period while the driver engaged us in conversation before departing.

Treloar Punchs Terror Quarry, Dunorlan
Topography report December 2017
Appendix B to be read in conjunction with main report

General

The quarry site at Punchs Terror, Dunorlan appears to have a substantial history of operation, based on maps and the regrowth. The excavations lie on the western side of the hill, and there are a number of neighbours surrounding the site. The conglomerate quarry is currently in intermittent use by Treloar.

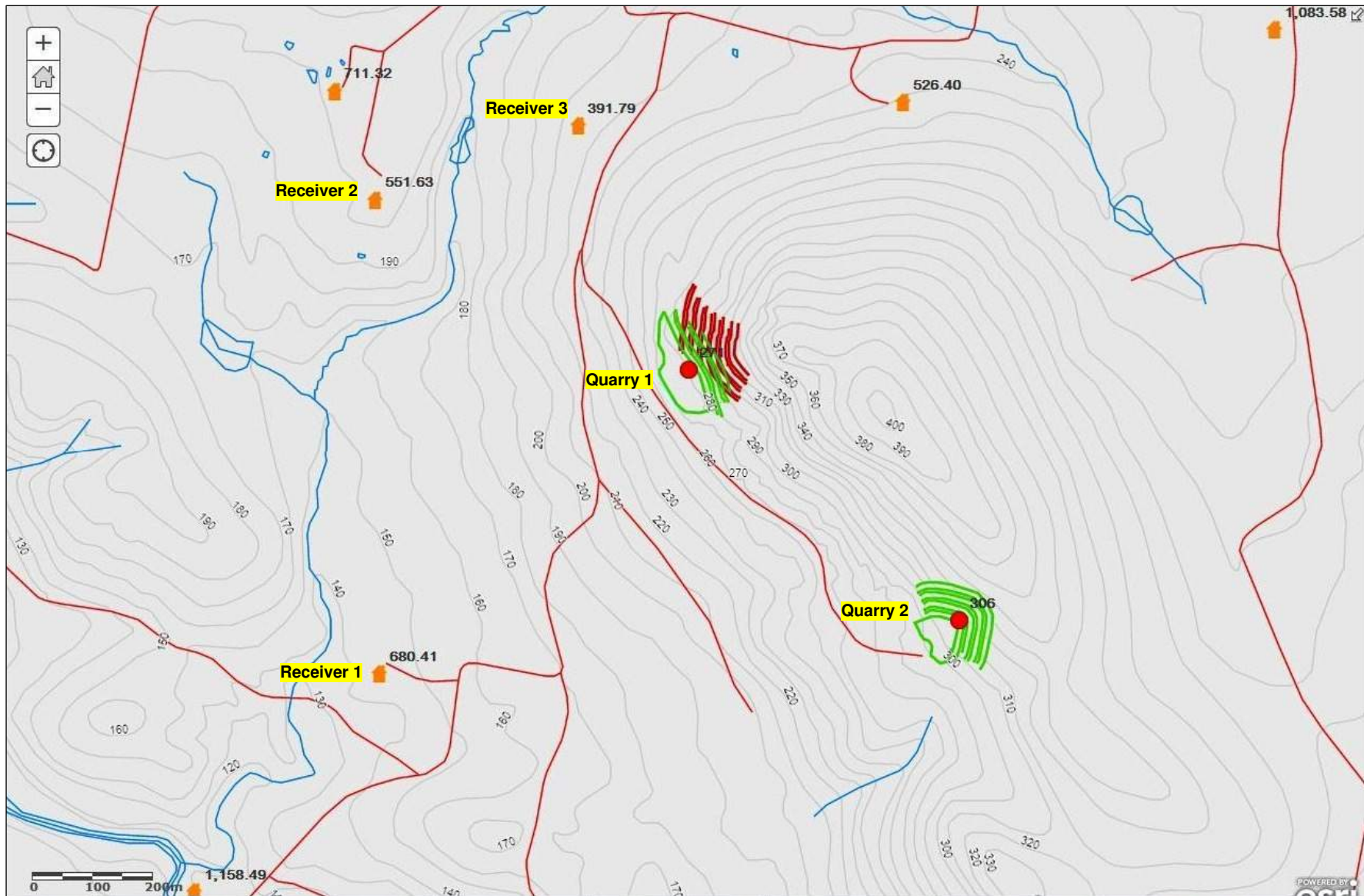
This report describes the findings of topographic interpretation of quarry and nearest receiver sites with potential exposure to crusher operations, Dec 2017.

The client has provided some mapping data on GIS, and this is used as a basis of this interpretation.

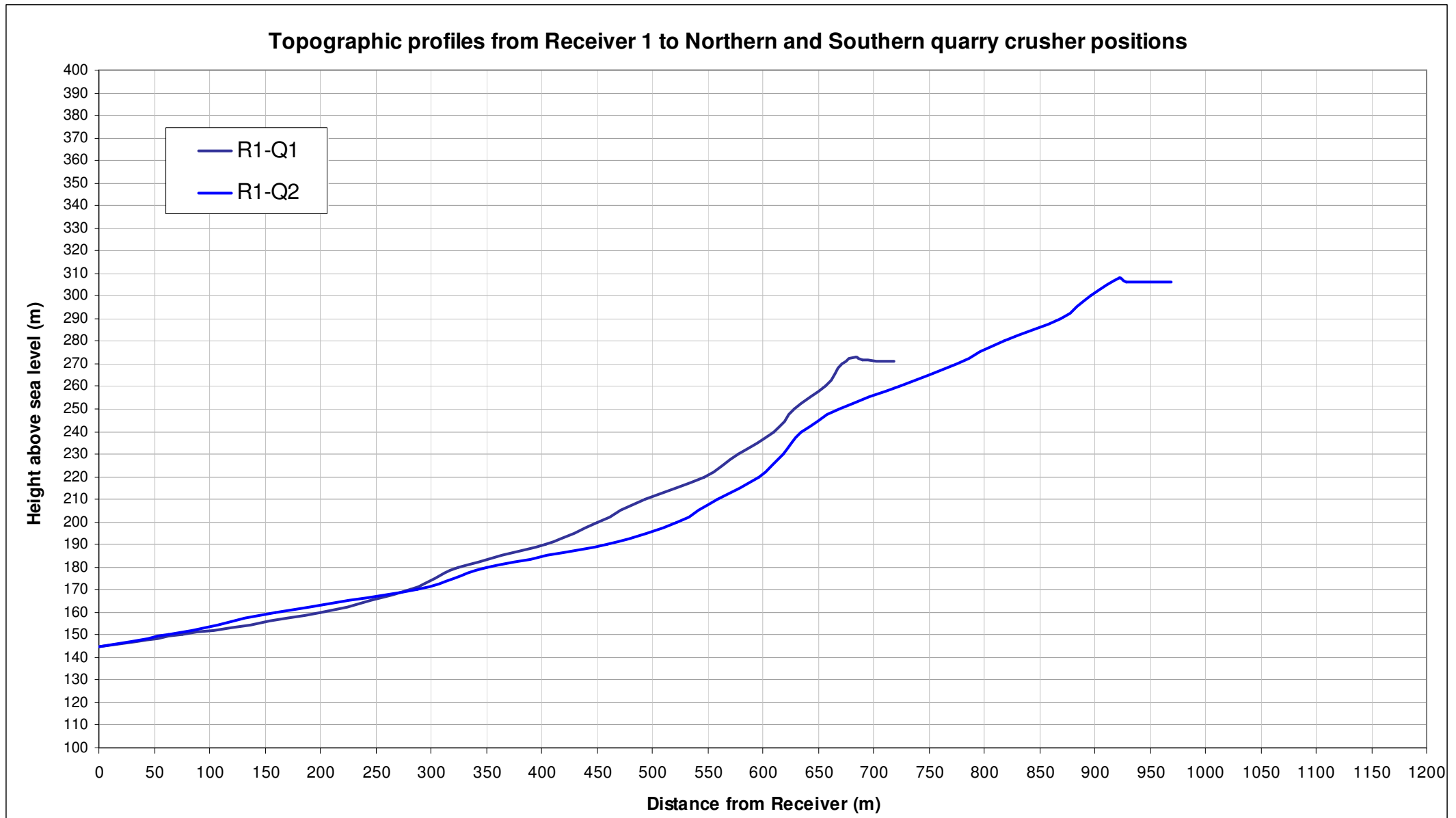
Assumptions based on the site visit to Quarry 1 include there being a 2 m high mound at the lip of each of the quarry floors where crushers may be located. Any drilling would be at higher bench levels.

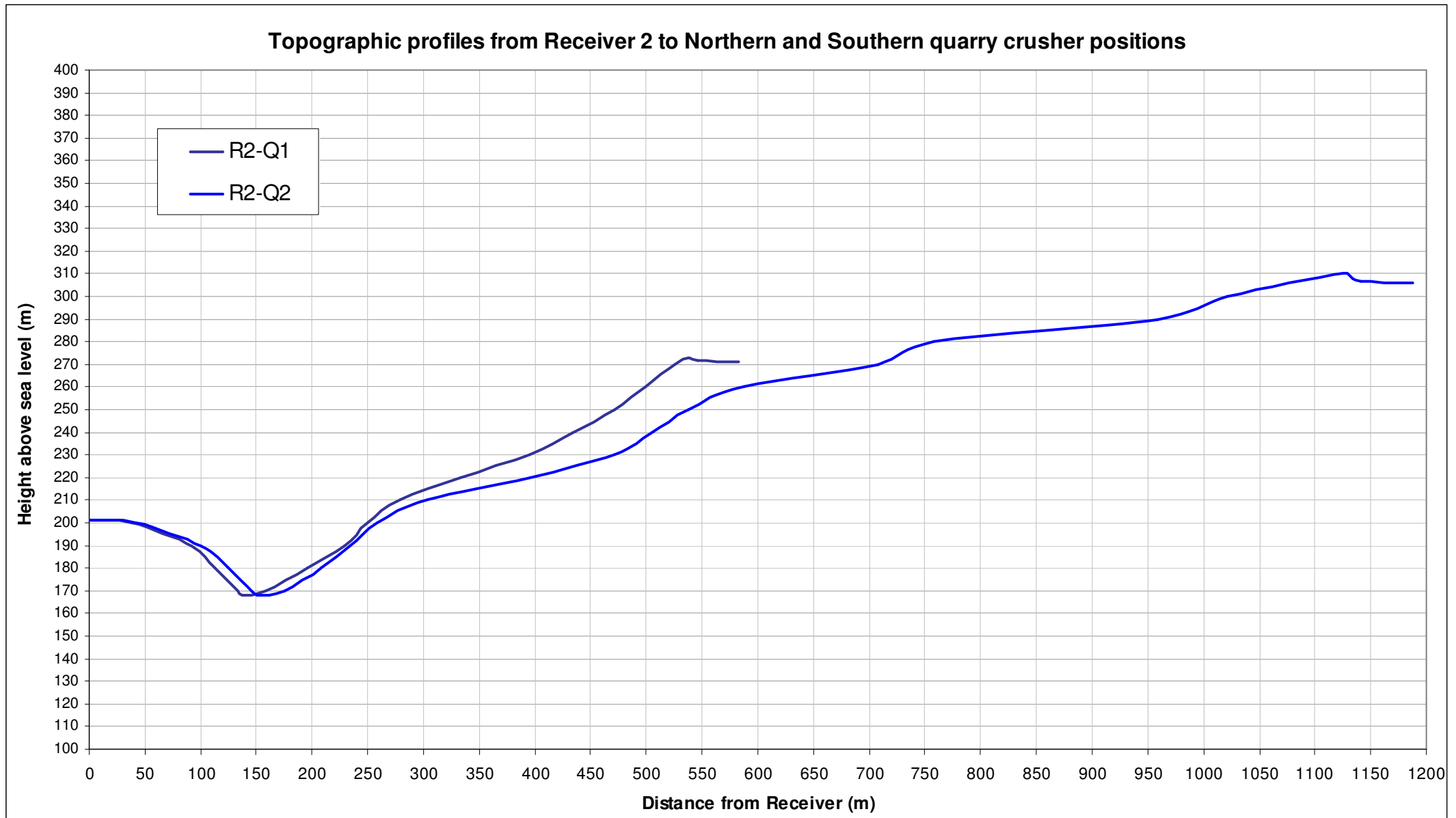
[Last revised 14/12/2017]

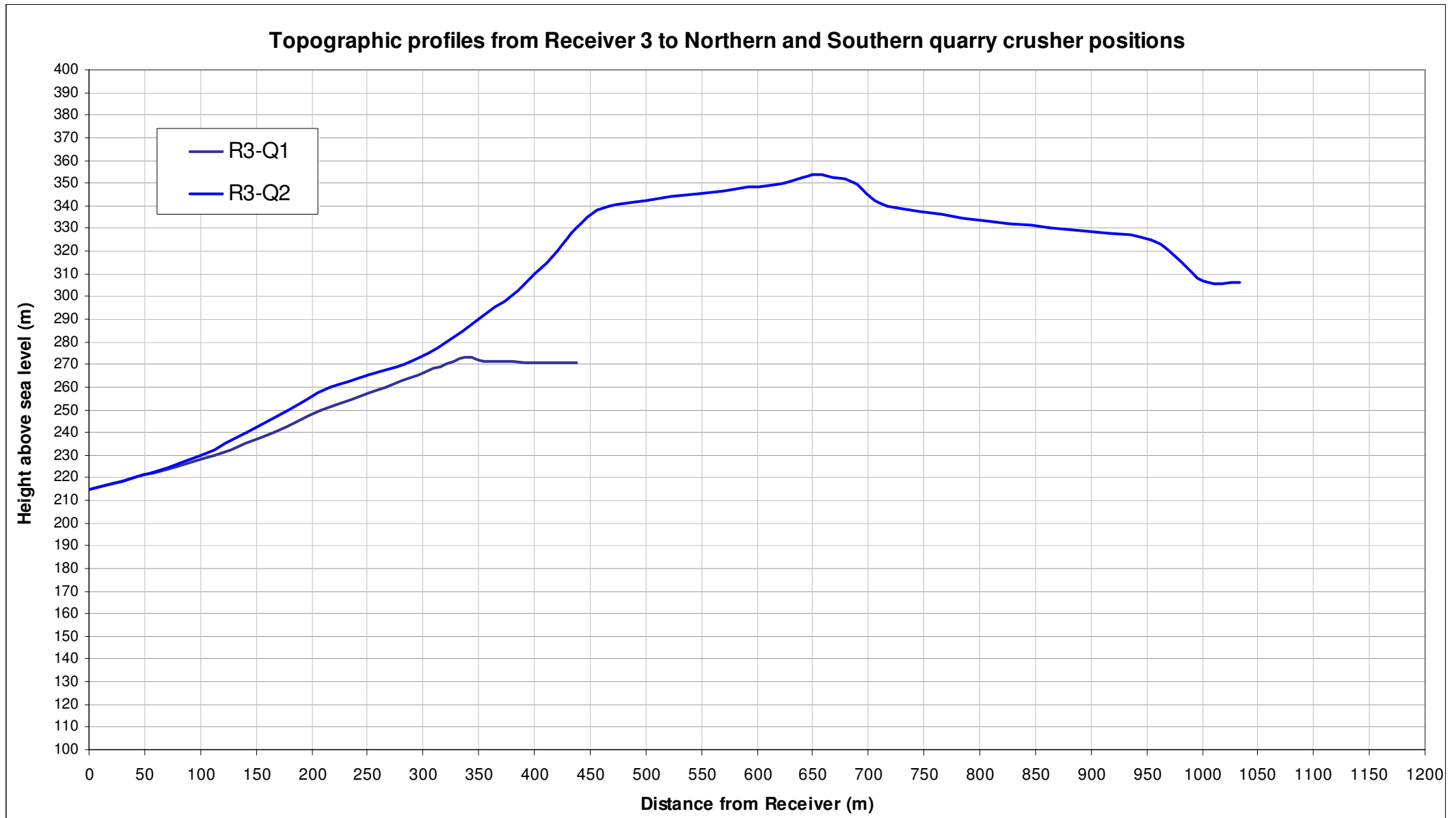
Location – topographic map showing quarry crusher and nearest sensitive receiver locations



Sourced from ArcGIS <https://arcg.is/1Wvaqm> 14/12/2017







12.3. Appendix C – Blasting Impacts Report

FORZE EXPLOSIVE SERVICES

BLAST MANAGEMENT PLAN

TRELOAR TRANSPORT

MVC QUARRY, DUNORLAN



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CUSTOMER DETAILS

CUSTOMER NAME: TRELOARS TRANSPORT	CUSTOMER CONTACT: Nigel Beeke
CUSTOMER PHONE No: 0409 067 573	CUSTOMER EMAIL: nbeeke@treloartransport.com.au

BLAST SUMMARY

BLAST DATE(S):	TO BE ADVISED STILL IN PLANNING
BLAST TIME(S):	10:00 - 16:00
BLAST LOCATION:	MVC QUARRY, DUNORLAN
BLAST OBJECTIVE:	Quarry Blasting - Rock Removal using Explosives

INVOLVED PERSONNEL - FORZE

FOR EACH BLAST, 4 X PERSONEL FROM FORZE PTY LTD WILL BE UTILISED, CONSISTING OF TWO SHOTFIRERS AND TWO ASSISTANT SHOT FIRERS. TRELOARS WILL ASSIST IN PROVIDING BLAST GUARDS IF REQUIRED. - **PROCEDURE ATTACHED.**

FORZE PTY LTD SHOTFIRERS

NAME: GEORGE McEVOY	SHOT FIRER LICENCE No: 91562
RESPONSIBLE WORKER ID: 1447010	SSDS PERMIT No: 10008
PHONE NUMBER: 0458 602 803	EMAIL: george@forze.com.au
HR DRIVERS LICENCE: 5632331	DANGEROUS GOODS LICENCE: 1518463
NAME: DANIEL CRANE	SHOT FIRER LICENCE No: 91146
RESPONSIBLE WORKER ID: 44	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 473 388	EMAIL: danielc@forze.com.au
HR DRIVERS LICENCE: F14501	DANGEROUS GOODS LICENCE: 1579
NAME: RICHARD GADD	SHOT FIRER LICENCE No: 91106
RESPONSIBLE WORKER ID: 1316	SSDS PERMIT No: 10008
PHONE NUMBER: 0417 772 288	EMAIL: richard@forze.com.au
HR DRIVERS LICENCE: 103 387 797	DANGEROUS GOODS LICENCE: 1193325

FORZE PTY LTD ASSISTANT SHOTFIRERS

NAME: MARTY ANSELL	SHOT FIRER LICENCE No: TBA
RESPONSIBLE WORKER ID: TBA	SSDS PERMIT No: 10008
PHONE NUMBER: 0415 604 023	EMAIL: marty@forze.com.au
NAME: DAVE SHACKCLOTH	SHOT FIRER LICENCE No: N / A
RESPONSIBLE WORKER ID: 9958 894	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 135 430	EMAIL: david@forze.com.au

BLAST DESIGN

MATERIAL TO BE BLASTED: CHERT CONGLOMERATE	MATERIAL SG: 2.6	BCM: 5,000	TONNES: 13,000
NUMBER OF HOLES: 135	HOLE DIAMETER: 89mm	BURDEN: 2.3m	SPACING: 2.5m
AVE HOLE DEPTH: 6.5	SUBDRILL DEPTH: 0.5	STEMMING MATERIAL: 10 mm	STEMMING HEIGHT: 2.2

NOTE: THESE PARAMETRES ARE BASED ON FORZE INITIAL DESIGN AND ARE SUBJECT TO CHANGE DEPENDING ON BLAST RESULTS.

INITIATION SEQUENCE

NOTE: INITIATION PLAN MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

EXPLOSIVE CHARGING

DOWNHOLE DETONATORS

COMPANY: NITRO SIBIR	PRODUCT NAME: MAXNEL MS	EXPLOSIVE CHARGE: 0.135g	MSDS: ATTACHED
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PRIMERS

COMPANY: MAXAM	PRODUCT NAME: RIONEL 150g BOOSTER	EXPLOSIVE CHARGE: 20.25kg	MSDS: ATTACHED
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BULK EXPLOSIVE

COMPANY: FORZE P/L	PRODUCT NAME: EMULSION	EXPLOSIVE CHARGE: 4320kg	MSDS: ATTACHED
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INITIATION

COMPANY: NITRO SABIR	PRODUCT NAME: MAXINEL ELECTRIC	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
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SURFACE DETONATORS

COMPANY: NITRO SABIR	PRODUCT NAME: MAXNEL	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
COMPANY:	PRODUCT NAME:	EXPLOSIVE CHARGE:	MSDS:

BLAST TOTALS (BASED OFF A 135 Blast hole Shot with an Average depth of 6.5m and a 2.2m stem height

TOTAL EXPLOSIVE CHARGE: 4,340.5kg	MASS INSTANTANEOUS CHARGE (MIC): 64kg	POWDER FACTOR: 0.85
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NOTE: ACTUAL USAGE MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

BLAST DEMARCATION AND SIGNAGE

PRIOR TO COMMENCEMENT OF WORK, FORZE PERSONNEL WILL DEMARCAT THE BLAST AREA USING REFLECTIVE WITCHES HATS AT A DISTANCE NO MORE THAN 10 METERS APART, AND "BLAST AREA" SIGNS NO MORE THAN 50 METRES APART. ALL LIVE EDGES WITH A DROP GREATER THAN 1.5 METRES HIGH WILL BE IDENTIFIED WITH PINK MARKER PAINT 1.8 METRES FROM THE FACE. AREAS PAST THIS LINE ARE "NO GO" AREAS, AND MUST NOT BE ENTERED WITHOUT THE COMPLETION OF A FORZE JHA.

CUSTOMER/EXTERNAL CONTRACTOR ACTIVITY WITHIN BLAST AREA

NO CUSTOMER OR EXTERNAL CONTRACTORS ARE TO ENTER THE DEMARCATED BLAST AREA WITHOUT APPROVAL FROM SHOTFIRER. ANY ACTIVITY PERFORMED INSIDE DEMARCATED BLAST AREA BY CUSTOMER OR EXTERNAL CONTRACTOR MUST BE WITHIN VIEW OF FORZE EMPLOYEES AT ALL TIMES. STEMMING PLACEMENT SHALL BE ORGANISED PRIOR TO BLAST AREA

COMMUNICATION

BLAST AREA COMMUNICATION

FORZE SHOTFIRER IS TO CARRY UHF AT ALL TIMES, AND MUST ADVISE CUSTOMER OF UHF CHANNEL TO BE USED PRIOR TO ENTERING BLAST AREA. PHONES CAN BE USED WITHIN BLAST AREA, HOWEVER ALL ELECTRONIC DEVICES MUST BE SEPARATED FROM ELECTRIC DETONATORS PRIOR TO TIE UP AND INITIATION.

EXTERNAL COMMUNICATION

PRIOR TO BLASTING, FORZE ADMINISTRATION WILL CONTACT POLICE RADIO ROOM, LOCAL COUNCIL AND WASTE CENTER TO NOTIFY OF BLAST VIA PHONE AND EMAIL.

BLAST ZONE MAP

NOTE: A VISUAL OF THE BLAST AREA IS REQUIRED BY THE SHOT FIRER AT ALL TIMES(IF SAFE TO DO SO) WHEN FIRING, TO ENSURE THAT NO UNAUTHORISED PERSONNEL CAN ENTER BLAST SITE.



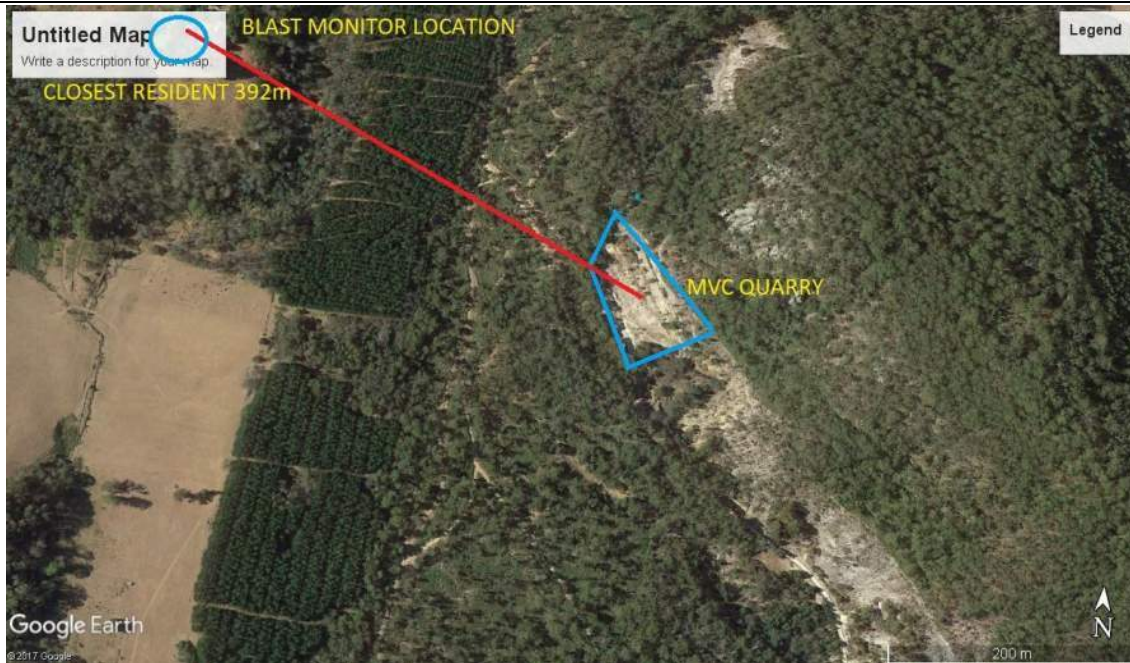
BLAST GUARDING PROCESS

1. UPON COMPLETION OF LOADING BLAST THE SHOTFIRER WILL INSTRUCT THE BLAST GUARDS TO HEAD INTO THERE NOMINATED POSITIONS AS DISCUSSED IN THE PRE BLAST MEETING, AND CLOSE OFF ACCESS.
2. ONCE ALL BLAST GUARDS HAVE CONFIRMED THEY ARE IN POSITION WITH THERE ACCESS BLOCKED AND SECURE, THE SHOTFIRER OR FORZE DELEGATE SHALL CLEAR THE EXCLUSION ZONE, ENSURING ALL AREAS WITHIN THE ZONE ARE CHECKED AND CLEARED.
3. AFTER FIRING THE BLAST, ALL BLAST GUARDS ARE TO REMAIN IN POSITION UNTIL THE SHOTFIRER GIVES THE ALL CLEAR.

NOTE: ALL RADIO CALLS MADE BY SHOT FIRER AND BLAST GUARDS ARE TO COMPLY WITH THE FORZE PTY LTD PROCEDURE, UNLESS OTHERWISE ALTERED WITHIN A SWMS OR JHA.

ENVIRONMENTAL CONSIDERATIONS

DISTANCE TO NEAREST STRUCTURE (METRES):	392 m
DISTANCE TO POWERLINES (METRES):	N / A
DISTANCE TO UNDERGROUND SERVICES (METRES):	N / A



NOISE AND VIBRATION LIMITS

VIBRATION AND NOISE MANAGEMENT

ALL BLASTS WILL BE CARRIED OUT IN ACCORDANCE WITH BLASTING BEST PRACTICES ENVIRONMENTAL MANAGEMENT (BPBM) PRINCIPLES, AND MUST BE CARRIED OUT SUCH THAT WHEN MEASURED AT CURTILAGE OF ANY RESIDENCE (OR OTHER NOISE

1. FOR 95% OF BLASTS, AIR PRESSURE MUST NOT EXCEED 115dB (LIN PEAK)
2. AIR BLAST PRESSURE MUST NOT EXCEED 120dB (LIN PEAK);
3. FOR 95% OF BLAST, GROUND VIBRATION MUST NOT EXCEED 5mm/Sec PEAK PARTICLE VELOCITY; AND
4. GROUND VIBRATION MUST NOT EXCEED 10mm/Sec PEAK PARTICLE VELOCITY.

ALL MEASUREMENTS OF AIRBLAST OVERPRESSURE AND PEAK PARTICLE VELOCITY MUST BE CARRIED OUT IN ACCORDANCE WITH METHODS SET DOWN IN TECHNICAL BASIS FOR GUIDELINES TO MINIMISE ANNOYANCE DUE TO BLASTING OVERPRESSURE AND GROUND VIBRATION, AUSTRALIAN AND NEW ZEALAND ENVIRONMENTAL COUNCIL, SEPTEMBER 1990.

TOXIC FUME MANAGEMENT

TOO MINIMISE THE RISK OF NOX FUME, ANFO WILL NOT BE USED WHERE WATER IS PRESENT, REGULAR DENSITY CHECKS WILL BE PERFORMED FOR BULK PRODUCTS TO ENSURE QUALITY CONTROL, AND A MAXIMUM SLEEP TIME OF 24 HOURS HAS BEEN SET FOR

DUST MANAGEMENT

WHERE DUST IS IDENTIFIED AS A RISK TO HEALTH OR SAFETY, THE ISSUE SHALL BE ADDRESSED VIA THE SATURATION OF STEMMING MATERIAL USING WATER HOSE, AND IN ADDITION ALL PERSONNEL WITHIN BLAST AREA TO WILL WEAR DUST MASKS.

BLAST AREA PPE REQUIREMENTS

MINIMUM PPE REQUIREMENTS FOR ENTRY INTO DEMARCATED BLAST AREA:

* HIGH VISIBILITY CLOTHING	* SAFETY GLASSES
* STEEL CAPPED WORK BOOTS	* HARD HAT

BLAST RECORDS AND REPORTING

PRIOR TO ENTERING SITE, FORZE WILL COMPLETE THE FOLLOWING

SAFE WORK METHOD STATEMENT	TO BE READ AND REVIEWED ON BENCH PRIOR TO COMMENCEMENT OF WORK.
BLAST MANAGEMENT PLAN	TO BE COMMUNICATED TO CUSTOMER AND ALL RELEVANT FORZE PERSONNEL.
DRILL PLAN	TO BE EMAILED TO DRILLING CONTRACTOR.
BLAST DESIGN	TO BE COMPLETED VIA FORZE TECHNICAL SERVICES

DURING LOADING AND INITIATION OF BLAST

DRILL DEPTH LOG	TO MEASURE AND RECORD EACH HOLE TO ENSURE CORRECT DEPTH (BACKFILL IF REQUIRED).
LOAD LOG	TO RECORD AMOUNT OF PRODUCT LOADED IN EACH HOLE
LOAD MANIFEST	TO COMPLETE LOAD MANIFEST DOCUMENT FOR TRANSPORT TO AND FROM SITE.
PRODUCT CONSOLIDATION	TO CONSOLIDATE EXPLOSIVE USE PRIOR TO INITIATION TO ENSURE ALL PRODUCT ARE ACCOUNTED FOR.

DURING LOADING AND INITIATION OF BLAST

EXPLOSIVE USAGE	TO BE COMPLETED AS RECORD OF EXPLOSIVES USED ON BLAST
BLAST REPORT	TO BE COMPLETED AS RECORD OF BLAST PARAMETRES AND ACTUAL DESIGN
BLAST VIDEO	TO BE REVIEWED FOR QUALITY CONTROL AND SAVED IN RECORDS

REFERENCES

SDS REGISTER

1. FORZE - ANFO	SEE ATTACHED
2. ORICA - ENDURADET	SEE ATTACHED
3. ORICA PENTEX PRIMER	SEE ATTACHED
4. NITRO SIBIR - MAXIDRIVE	SEE ATTACHED
5. NITRO SIBIR - INSTANTANEOUS ELECTRIC DETONATOR	SEE ATTACHED

PROCEDURES

1. FORZE - BLAST GUARDING PROCEDURE	SEE ATTACHED
-------------------------------------	--------------

Airblast calculator



Charge (kg)

33

Dist (m)

390

Scaled distance

$D / W^{0.5}$

68

Airblast		114	dBL	Using 20 Log* formula	
185X1000(Q ^{0.333} /R) ^{1.2}	Airblast -unconfined	1	kPa	89	dBL
3.3X1000(Q ^{0.333} /R) ^{1.2}	Airblast -in blastholes	0.0	kPa	53	dBL

N.B the airblast predictions are only relevant to free face opencut blasting shots with traditional face burdens and patterns



Parameters	Units
Hole Depth (m)	6.5
Diameter (mm)	89
Stemming (m)	2.2
Burden (m)	2.3
Spacing (m)	2.5
Volume per hole (m3)	37.375
Subdrill (m)	0
Charge Length (m)	4.3
Explosive Density (t/m3)	1.2
Charge per hole (kg)	32.10
Powder Factor (kg/m3)	0.86
Holes firing 8ms Window	2
K factor	1450
b	1.6
Distance to Residence (D)	390
Distance to Monitor (D)	390
MIC (W)	64.20
Vibration House Site (PPV - mm/s)	2.90
Vibration Monitor Location (PPV - mm/s)	2.90

FORZE EXPLOSIVE SERVICES

BLAST MANAGEMENT PLAN

TRELOARS TRANSPORT

PUNCHES TERROR QUARRY, DUNORLAN

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CUSTOMER DETAILS

CUSTOMER NAME: TRELOARS TRANSPORT	CUSTOMER CONTACT: Nigel Beeke
CUSTOMER PHONE No: 0409 067 573	CUSTOMER EMAIL: nbeeke@treloartransport.com.au

BLAST SUMMARY

BLAST DATE(S):	TO BE ADVISED STILL IN PLANNING
BLAST TIME(S):	10:00 - 16:00
BLAST LOCATION:	PUNCHES TERROR QUARRY, DUNORLAN
BLAST OBJECTIVE:	Quarry Blasting - Rock Removal using Explosives

INVOLVED PERSONNEL - FORZE

FOR EACH BLAST, 4 X PERSONEL FROM FORZE PTY LTD WILL BE UTILISED, CONSISTING OF TWO SHOTFIRERS AND TWO ASSISTANT SHOT FIRERS. TRELOARS WILL ASSIST IN PROVINDING BLAST GUARDS IF REQUIRED. - **PROCEDURE ATTACHED.**

FORZE PTY LTD SHOTFIRERS

NAME: GEORGE McEVOY	SHOT FIRER LICENCE No: 91562
RESPONSIBLE WORKER ID: 1447010	SSDS PERMIT No: 10008
PHONE NUMBER: 0458 602 803	EMAIL: george@forze.com.au
HR DRIVERS LICENCE: 5632331	DANGEROUS GOODS LICENCE: 1518463
NAME: DANIEL CRANE	SHOT FIRER LICENCE No: 91146
RESPONSIBLE WORKER ID: 44	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 473 388	EMAIL: danielc@forze.com.au
HR DRIVERS LICENCE: F14501	DANGEROUS GOODS LICENCE: 1579
NAME: RICHARD GADD	SHOT FIRER LICENCE No: 91106
RESPONSIBLE WORKER ID: 1316	SSDS PERMIT No: 10008
PHONE NUMBER: 0417 772 288	EMAIL: richard@forze.com.au
HR DRIVERS LICENCE: 103 387 797	DANGEROUS GOODS LICENCE: 1193325

FORZE PTY LTD ASSISTANT SHOTFIRERS

NAME: MARTY ANSELL	SHOT FIRER LICENCE No: TBA
RESPONSIBLE WORKER ID: TBA	SSDS PERMIT No: 10008
PHONE NUMBER: 0415 604 023	EMAIL: marty@forze.com.au
NAME: DAVE SHACKCLOTH	SHOT FIRER LICENCE No: N / A
RESPONSIBLE WORKER ID: 9958 894	SSDS PERMIT No: 10008
PHONE NUMBER: 0408 135 430	EMAIL: david@forze.com.au

BLAST DESIGN

MATERIAL TO BE BLASTED: CHERT CONGLOMERATE	MATERIAL SG: 2.6	BCM: 10,000	TONNES: 26,000
NUMBER OF HOLES: 205	HOLE DIAMETER: 89mm	BURDEN: 2.3m	SPACING: 2.5m
AVE HOLE DEPTH: 8.5	SUBDRILL DEPTH: 0.5	STEMMING MATERIAL: 10 mm	STEMMING HEIGHT: 2.2

NOTE: THESE PARAMETRES ARE BASED ON FORZE INITIAL DESIGN AND ARE SUBJECT TO CHANGE DEPENDING ON BLAST RESULTS.

INITIATION SEQUENCE

NOTE: INITIATION PLAN MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

EXPLOSIVE CHARGING

DOWNHOLE DETONATORS

COMPANY: NITRO SIBIR	PRODUCT NAME: MAXNEL MS	EXPLOSIVE CHARGE: .205g	MSDS: ATTACHED
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PRIMERS

COMPANY: MAXAM	PRODUCT NAME: RIONEL 150g BOOSTER	EXPLOSIVE CHARGE: 30.75kg	MSDS: ATTACHED
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BULK EXPLOSIVE

COMPANY: FORZE P/L	PRODUCT NAME: EMULSION	EXPLOSIVE CHARGE: 9635kg	MSDS: ATTACHED
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INITIATION

COMPANY: NITRO SABIR	PRODUCT NAME: MAXINEL ELECTRIC	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
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SURFACE DETONATORS

COMPANY: NITRO SABIR	PRODUCT NAME: MAXNEL	EXPLOSIVE CHARGE: 0.001g	MSDS: ATTACHED
COMPANY:	PRODUCT NAME:	EXPLOSIVE CHARGE:	MSDS:

BLAST TOTALS (BASED OFF A 205 Blast hole Shot with an Average depth of 8.5m and a 2.2m stem height.

TOTAL EXPLOSIVE CHARGE: 9665kg	MASS INSTANTANEOUS CHARGE (MIC): 94.4kg	POWDER FACTOR: 0.96
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NOTE: ACTUAL USAGE MAY VARY DUE TO CHANGES IN BLAST PARAMETRES, NUMBER OF HOLES LOADED AND CONDITION OF HOLES. THESE VARIANCES WILL BE MINIMAL AND WILL BE NOTED ON BLAST REPORTS.

BLAST DEMARCATION AND SIGNAGE

PRIOR TO COMMENCEMENT OF WORK, FORZE PERSONNEL WILL DEMARCAT THE BLAST AREA USING REFLECTIVE WITCHES HATS AT A DISTANCE NO MORE THAN 10 METERS APART, AND "BLAST AREA" SIGNS NO MORE THAN 50 METRES APART. ALL LIVE EDGES WITH A DROP GREATER THAN 1.5 METRES HIGH WILL BE IDENTIFIED WITH PINK MARKER PAINT 1.8 METRES FROM THE FACE. AREAS PAST THIS LINE ARE "NO GO" AREAS, AND MUST NOT BE ENTERED WITHOUT THE COMPLETION OF A FORZE JHA.

CUSTOMER/EXTERNAL CONTRACTOR ACTIVITY WITHIN BLAST AREA

NO CUSTOMER OR EXTERNAL CONTRACTORS ARE TO ENTER THE DEMARCATED BLAST AREA WITHOUT APPROVAL FROM SHOTFIRER. ANY ACTIVITY PERFORMED INSIDE DEMARCATED BLAST AREA BY CUSTOMER OR EXTERNAL CONTRACTOR MUST BE WITHIN VIEW OF FORZE EMPLOYEE AT ALL TIMES. STEMMING PLACEMENT SHALL BE ORGANISED PRIOR TO BLAST AREA DEMARCATION.

COMMUNICATION

BLAST AREA COMMUNICATION

FORZE SHOTFIRER IS TO CARRY UHF AT ALL TIMES, AND MUST ADVISE CUSTOMER OF UHF CHANNEL TO BE USED PRIOR TO ENTERING BLAST AREA. PHONES CAN BE USED WITHIN BLAST AREA, HOWEVER ALL ELECTRONIC DEVICES MUST BE SEPARATED FROM ELECTRIC DETONATORS PRIOR TO TIE UP ANDE INITIATION.

EXTERNAL COMMUNICATION

PRIOR TO BLASTING, FORZE ADMINISTRATION WILL CONTACT POLICE RADIO ROOM, LOCAL COUNCIL AND WASTE CENTER TO NOTIFY OF BLAST VIA PHONE AND EMAIL.

BLAST ZONE MAP

NOTE: A VISUAL OF THE BLAST AREA IS REQUIRED BY THE SHOT FIRER AT ALL TIMES(IF SAFE TO DO SO) WHEN FIRING, TO ENSURE THAT NO UNAUTHORISED PERSONNEL CAN ENTER BLAST SITE.



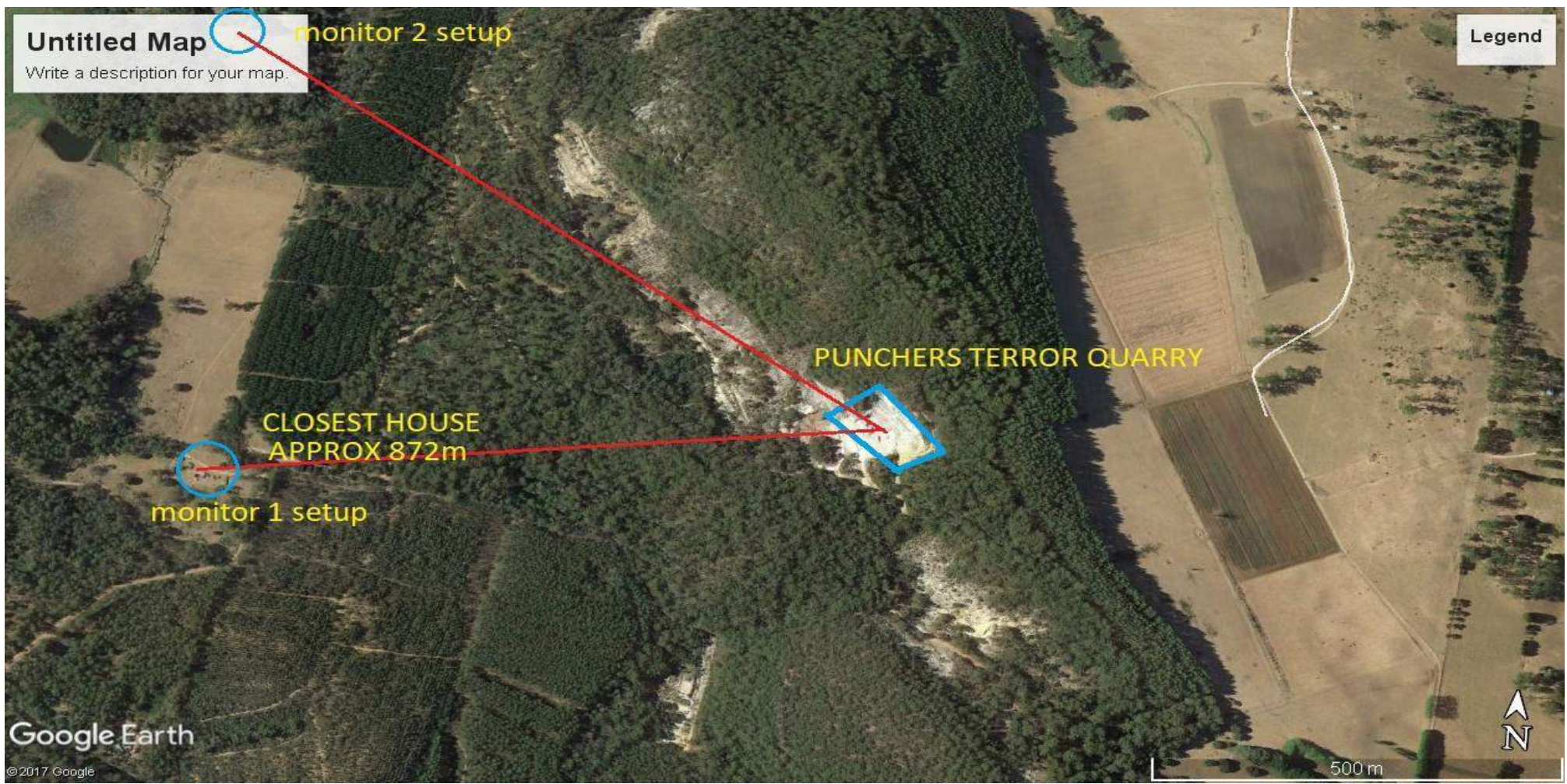
BLAST GUARDING PROCESS

1. UPON COMPLETION OF LOADING BLAST THE SHOTFIRER WILL INSTRUCT THE BLAST GUARDS TO HEAD INTO THERE NOMINATED POSITIONS AS DISCUSSED IN THE PRE BLAST MEETING, AND CLOSE OFF ACCESS.
2. ONCE ALL BLAST GUARDS HAVE CONFIRMED THEY ARE IN POSITION WITH THERE ACCESS BLOCKED AND SECURE, THE SHOTFIRER OR FORZE DELEGATE SHALL CLEAR THE EXCLUSION ZONE, ENSURING ALL AREAS WITHIN THE ZONE ARE CHECKED AND CLEARED.
3. AFTER FIRING THE BLAST, ALL BLAST GUARDS ARE TO REMAIN IN POSITION UNTIL THE SHOTFIRER GIVES THE ALL CLEAR.

NOTE: ALL RADIO CALLS MADE BY SHOT FIRER AND BLAST GUARDS ARE TO COMPLY WITH THE FORZE PTY LTD PROCEDURE, UNLESS OTHERWISE ALTERED WITHIN A SWMS OR JHA.

ENVIRONMENTAL CONSIDERATIONS

DISTANCE TO NEAREST STRUCTURE (METRES):	872 m Residential House
DISTANCE TO POWERLINES (METRES):	872m
DISTANCE TO UNDERGROUND SERVICES (METRES):	N / A



NOISE AND VIBRATION LIMITS

VIBRATION AND NOISE MANAGEMENT

ALL BLASTS WILL BE CARRIED OUT IN ACCORDANCE WITH BLASTING BEST PRACTICES ENVIRONMENTAL MANAGEMENT (BPEM) PRINCIPLES, AND MUST BE CARRIED OUT SUCH THAT WHEN MEASURED AT CURTILAGE OF ANY RESIDENCE (OR OTHER NOISE

1. FOR 95% OF BLASTS, AIR PRESSURE MUST NOT EXCEED 115dB (LIN PEAK)
2. AIR BLAST PRESSURE MUST NOT EXCEED 120dB (LIN PEAK);
3. FOR 95% OF BLAST, GROUND VIBRATION MUST NOT EXCEED 5mm/Sec PEAK PARTICLE VELOCITY; AND
4. GROUND VIBRATION MUST NOT EXCEED 10mm/Sec PEAK PARTICLE VELOCITY.

ALL MEASUREMENTS OF AIRBLAST OVERPRESSURE AND PEAK PARTICLE VELOCITY MUST BE CARRIED OUT IN ACCORDANCE WITH METHODS SET DOWN IN TECHNICAL BASIS FOR GUIDELINES TO MINIMISE ANNOYANCE DUE TO BLASTING OVERPRESSURE AND GROUND VIBRATION, AUSTRALIAN AND NEW ZEALAND ENVIRONMENTAL COUNCIL, SEPTEMBER 1990.

TOXIC FUME MANAGEMENT

TOO MINIMISE THE RISK OF NOX FUME, ANFO WILL NOT BE USED WHERE WATER IS PRESENT, REGULAR DENSITY CHECKS WILL BE PERFORMED FOR BULK PRODUCTS TO ENSURE QUALITY CONTROL, AND A MAXIMUM SLEEP TIME OF 24 HOURS HAS BEEN SET FOR ALL BLASTS FIRED.

DUST MANAGEMENT

WHERE DUST IS IDENTIFIED AS A RISK TO HEALTH OR SAFETY, THE ISSUE SHALL BE ADDRESSED VIA THE SATURATION OF STEMMING MATERIAL USING WATER HOSE, AND IN ADDITION ALL PERSONNEL WITHIN BLAST AREA TO WILL WEAR DUST MASKS.

BLAST AREA PPE REQUIREMENTS

MINIMUM PPE REQUIREMENTS FOR ENTRY INTO DEMARCATED BLAST AREA:

* HIGH VISIBILITY CLOTHING	* SAFETY GLASSES
* STEEL CAPPED WORK BOOTS	* HARD HAT

BLAST RECORDS AND REPORTING

PRIOR TO ENTERING SITE, FORZE WILL COMPETE THE FOLLOWING

SAFE WORK METHOD STATEMENT	TO BE READ AND REVIEWED ON BENCH PRIOR TO COMMENCEMENT OF WORK.
BLAST MANAGEMENT PLAN	TO BE COMMUNICATED TO CUSTOMER AND ALL RELEVANT FORZE PERSONNEL.
DRILL PLAN	TO BE EMAILED TO MAXFIELD DRILLING.
BLAST DESIGN	TO BE COMPLETED VIA FORZE TECHNICAL SERVICES

DURING LOADING AND INITIATION OF BLAST

DRILL DEPTH LOG	TO MEASURE AND RECORD EACH HOLE TO ENSURE CORRECT DEPTH (BACKFILL IF REQUIRED).
LOAD LOG	TO RECORD AMOUNT OF PRODUCT LOADED IN EACH HOLE
LOAD MANIFEST	TO COMPLETE LOAD MANIFEST DOCUMENT FOR TRANSPORT TO AND FROM SITE.
PRODUCT CONSOLIDATION	TO CONSOLIDATE EXPLOSIVE USE PRIOR TO INITIATION TO ENSURE ALL PRODUCT ARE ACCOUNTED FOR.

DURING LOADING AND INITIATION OF BLAST

EXPLOSIVE USAGE	TO BE COMPLETED AS RECORD OF EXPLOSIVES USED ON BLAST
BLAST REPORT	TO BE COMPLETED AS RECORD OF BLAST PARAMETRES AND ACTUAL DESIGN
BLAST VIDEO	TO BE REVIEWED FOR QUALITY CONTROL AND SAVED IN RECORDS

REFERENCES

AS REQUIRED

Airblast calculator



Charge (kg)	48	Scaled distance	$D / W^{0.5}$	126
Dist (m)	870			

Airblast		107	dBL	Using 20 Log* formula	
185X1000(Q^.333/R)^1.2	Airblast -unconfined	0	kPa		
3.3X1000(Q^.333/R)^1.2	Airblast -in blastholes	0.0	kPa		
				82	dBL
				46	dBL

N.B the airblast predictions are only relevant to free face opencut blasting shots with traditional face burdens and patterns



Parameters	Units
Hole Depth (m)	8.5
Diameter (mm)	89
Stemming (m)	2.2
Burden (m)	2.3
Spacing (m)	2.5
Volume per hole (m3)	48.875
Subdrill (m)	0
Charge Length (m)	6.3
Explosive Density (t/m3)	1.2
Charge per hole (kg)	47.03
Powder Factor (kg/m3)	0.96
Holes firing 8ms Window	2
K factor	1450
b	1.6
Distance to Residence (D)	870
Distance to Monitor (D)	870
MIC (W)	94.06
Vibration House Site (PPV - mm/s)	1.09
Vibration Monitor Location (PPV - mm/s)	1.09

12.4. Appendix D – Traffic Impacts Study



Treloar Transport

Dunorlan - Punchs Terror Quarry Expansion

Traffic Impact Assessment

PREPARED BY CHRIS MARTIN MIEAust, NPER3.

**Senior Civil Engineer
CSE Tasmania Pty Ltd
Tasmanian Building Act Accreditation Number: CC4109 V.**

DATE 16/10/17

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1 Introduction & Background

Treloar Transport are required to provide information on Traffic Impacts associated with quarry expansions proposed for their Punchs Terror, Dunorlan quarry operations occurring at two mining lease sites (lease numbers 28M/1990 and M/L 1007 P/M).

This document should be read alongside the Notice of Intent for the quarry expansion dated 15th of May 2017. As such the relevant general aspects of the expansion project are not repeated in this document.

The General Guidelines for the preparation of a Development Proposal and Environmental Management Plan and the Punchs Terror Project Specific DPEMP Guidelines detail requirements for the traffic assessment.

These documents state:-

In addition to the matters stipulated in Section 6.20 of the DPEMP General Guidelines, the DPEMP must contain the following:

- Information on traffic associated with the proposal; vehicle type, expected tonnages and any alternative access roads (routes).
- Maximum number of vehicle movements per day.
- Discussion of the potential impacts to nearby residences (noise and dust) due to vehicle movements to and from the site.
- Details of management measures proposed to mitigate any adverse effects due to traffic.

The relevant section of the DPEMP General Guidelines is reproduced below.

6.20 Traffic impacts

This section should identify roads to be used by vehicles associated with the proposal (both during construction and operation) and the likely volume and nature of traffic and timing of traffic flows, including details of the current usage of these roads. Impacts associated with altered traffic flows should be discussed (such as impacts on other roads users and residences adjacent to roads).

2 Statement of Qualifications and Experience

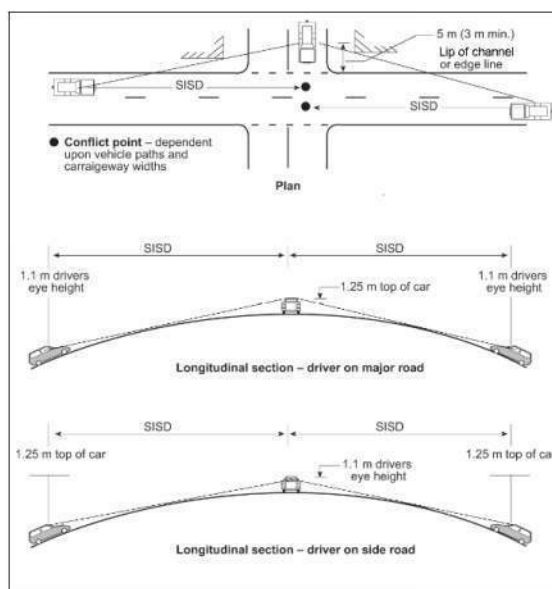
This TIA has been prepared by an experienced and qualified Civil Engineer with significant experience in Traffic Impact Assessments and Road Safety Audits in accordance with the requirements of Council's Planning Scheme and The Department of State Growth's, A Framework for Undertaking Traffic Impact Assessments, September 2007.

This TIA was prepared by Chris Martin. Chris's experience and qualifications are briefly outlined as follows:

- Bachelor of Civil Engineering with Honours, University of Tasmania 1992
- 24 years professional experience as a Civil Engineer in infrastructure design
- Master of Business Administration (Technology Management) Latrobe University 2007
- Career experience includes design of many subdivisions, 2.5 years Council Engineer, 14 years in civil and structural consulting and 6 years in major infrastructure engineering positions.

3 Assessment Requirements

I assessed the site conditions to The Austroads AGRD04A/09 Guide to Road Design Part 4A:Unsignalised and Signalised Intersections. This standard (table 3.2) requires that Safe Intersection Sight Distances (SISD) of 114, 141, 170 and 201m be provided for design speeds of 60, 70, 80 and 90 km/hr, a reaction time of 1.5s and an eye height of 1.1m to a truck at 2.4m. A reaction time of 1.5 seconds is permitted in this instance as the road is rural and the alignment contains many horizontal curves.



The Guide to Road Design Part 3: Geometric Design section 5.3 discusses the use of Stopping Site Distance (SSD) as the distance to enable a normally alert driver, travelling at the design speed on wet pavement, to perceive, react and brake to a

stop before reaching a hazard on the road ahead. The provision of SSD is a mandatory design condition for all roads and intersections in the normal design domain. The Guide nominates SSD for design speeds of 60, 70, 80 and 90km/hr a coefficient of deceleration of 0.36 and a reaction time of 2s as 73, 92, 114 and 139m.

4 Location and Transport Routes

The locations of the quarries, off Beaumont's Rd, Weegena, are shown in Figure 1 below. Figure 4 shows the proposed transport routes.

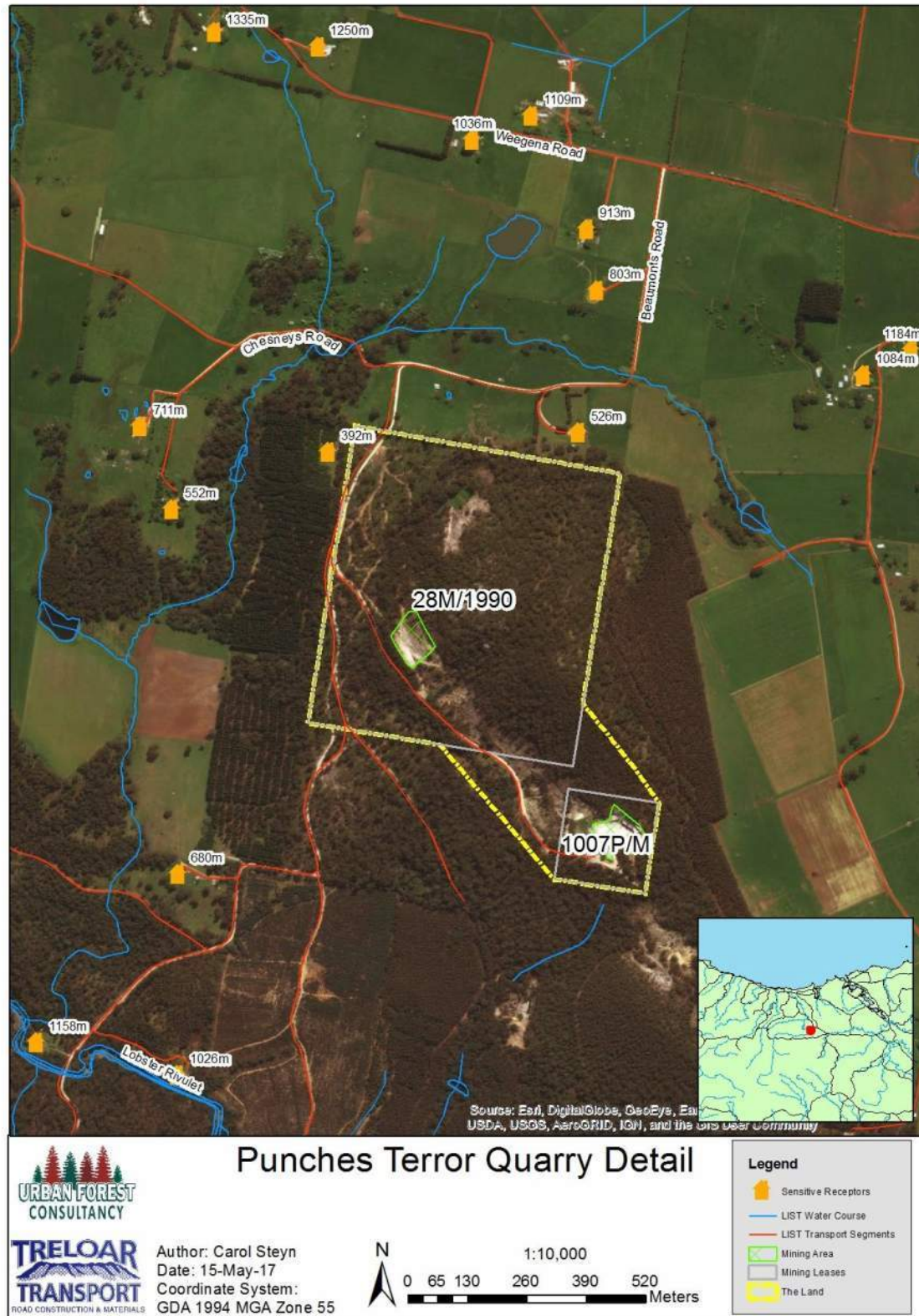


Figure 1 – Plan showing general location of quarries; “The Land” outlined in yellow and lease boundaries

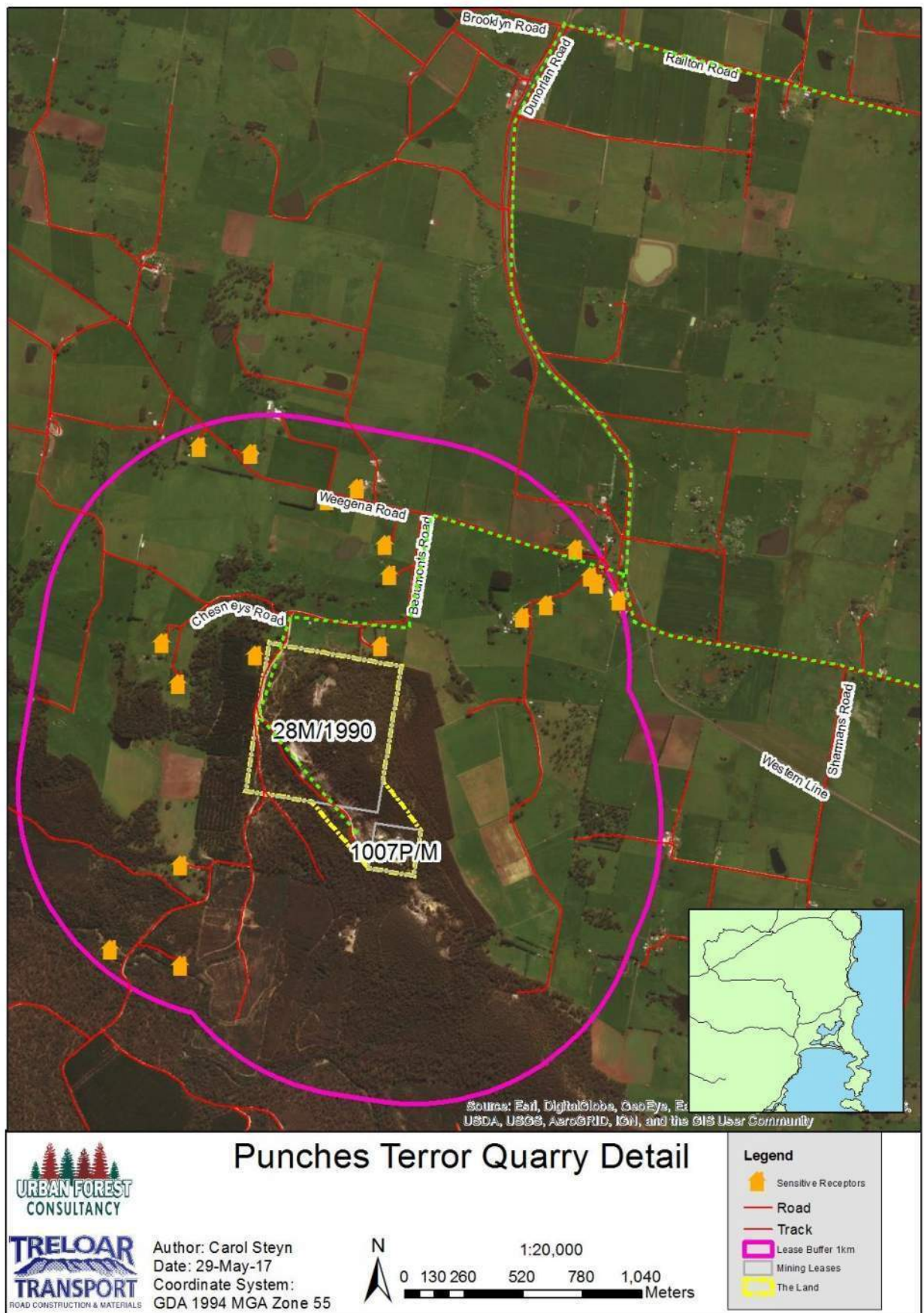


Figure 2 - Transport routes shown in a green dashed line, 50% of material moves northbound on Dunorlan road and 50% moves southbound on Dunorlan Road

4.1 Road Network

A site inspection on 18/8/2017 examined the existing road Network.

Internal Intersection – Beaumonts Road

Beaumonts road forks on the west side of the mining lease. With traffic heading south the left term serves the lease and the southern access serves an area of approx. 770Ha. This area is predominantly utilized for forestry activities and bounded to the west by the Mersey River and the east by Lobster Rivulet. According to aerial photos there are 4 houses/farms serviced by the road extending beyond the intersection to the south.

The east fork of Beaumonts road is the better constructed wider road indicating past work to accommodate the truck and trailer combinations hauling from the Punchs Terror quarries.



Beaumonts road at the intersection is similar to the other gravel roads in the area at 4m wide. The trucking route gravel road is in good condition.

The angle of this intersection is nominally 20 degrees which does not comply with the recommended intersection angles not less than 70 degrees contained in older versions of the Austroads Part 5 Intersections at Grade. The current Austroads

AGRD04A 09 Guide to Road Design Part 4A: Unsignalised and Signalised Intersections outlines that intersection should be as close as possible to 90 degrees to make visibility of the road easier for all parties approaching intersections. The older driver demographic particularly finds it difficult to look behind for vehicles approaching.

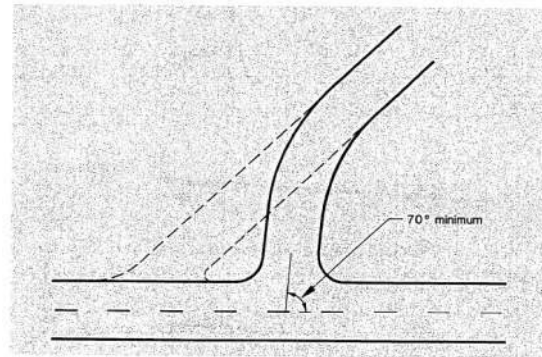
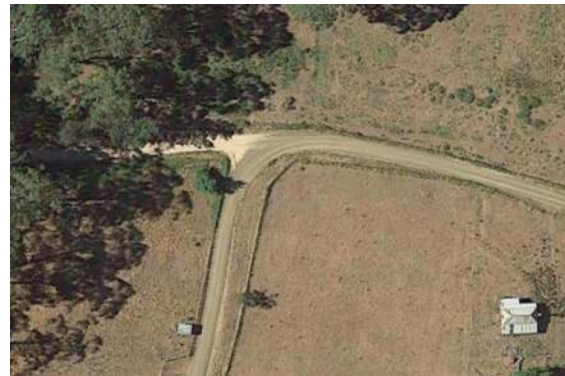


FIGURE 5.4 Treatment of Low Angle Intersection

Chesneys/Beaumonts Road Intersection

The intersection between Chesneys Road and Beaumonts Road is some 440m north of the first intersection.

The Chesney Road intersection with Beaumonts Road occurs as Beaumonts road turns from a northerly direction 90 degrees to the east. From the appearance of the gravel surface Beaumonts Road is the priority road.



Chesneys road serves an additional 3 rural properties that appear to have occupied houses on them.

Google earth identifies that Chesneys Road serves the Whispering Hills retreat and a small number of houses. Chesneys road loops back to Weegeena Road.



Sight line to the south of the intersection runs to 160m before being obscured by vegetation. Road width on Beaumonts road is 4.5m.

Chesney Road runs to the west of the intersection on a windy narrow gravel road. Vehicles approaching the intersection will be at low speed climbing a moderate grad from some tight corners. A Giveway Sign would be beneficial to raise awareness of Chesneys Road vehicles as the approach the intersection. It is estimated that the trucks will approach the corner/intersection at about 30km/hr.



Sight line on Chesney Road to a Giveway sign would be about 90m. Clear views from Chesney Road along Beaumonts road are available for 160m to the south and 280m to the east. 160m is equivalent to the Safe Intersection Sight Distance for a design speed of between 70 and 80km per hour which is well in excess of the approach speed.

Chesney road is 3.5m gravel width providing a closed environment promoting slow speeds.

The worst case risk scenario for this intersection is a vehicle travelling east on Chesneys failing to slow and Giveaway to a truck approaching from the south. Clearance of vegetation on the fenceline in this area would assist in providing advance warning that vehicles are approaching. The photo below shows that views on this approach are compromised by vegetation growth only.



Recommendation 1

Maintain fence lines clear of vegetation, Install a give way sign making it clear that the Chesneys road traffic does not have priority to enter the intersection.

Beaumont Road and Weegeena road intersection

500m east of the Chesney and Beaumont road intersections Beaumont road diverts 470m at 90degrees to the north before hitting Weegeena Road. 2 more houses are serviced by Beaumont road. Beaumont road width varies between 3.6m and 4m of gravel pavement with limited gravel shoulders.

As Beaumont road approaches Weegeena road its width increases to 4.5m.

Weegeena Road is sealed at 5.3m width to the east of the intersection.



Treloar Transport confirmed that trucks are not expected to turn west on Weegena Road as the road is steep and contains sharp corners leading down to Kimberley. All trucks turn right to the east travelling 950m before hitting the Dunorlan Road intersection. The gravel markings in the photo above confirm that the majority of truck movements are to the east towards Dunorlan.



Design Speed of Weegena Road is expected to be around 90km/hr. There is good visibility (Exceeds 200m) in both directions at the intersection for a truck looking to turn onto Weegena Road.



Weegena Road drainage on the south side of the road between the Beamont and Dunorlan roads is deficient in that it allows water to lay in the table drain up next to the seal during relatively dry weather. Pavement deformation is not evident on the south side of the road yet but can be expected with the heavy truck loading required from the road in the future.

The north side of the road shows significant deformation in the area expected to be the top side of the spring shown in the photos above. Heavy loading on this will see further pavement deformation.



Recommendation 2 Provide adequate table drains to remove water from the pavement at this location.

Dunorlan/Weegen Road Intersection

The Dunorlan Road Intersection is not ideal in its geometry – refer aerial photo below. This intersection is at approx 37 degrees. Trucks descend a hill (Approx grade less than 5%). If making a sharp left turn and heading towards Railton it is expected that the trucks and trailers will cross over the nominal centre line of one or both roads at the start and finish of the turn.



The intersection shows a faint white line indicating a past attempt to designate the straight through road as the priority road. The straight through section consists of Dunorlan road to the south and Weegen road to the north.



Weegen Road at the start of the intersection is 6.1m wide. Trucks undertaking the sharp right turn from the Railton direction onto Weegen road are on occasions running over the edge of the road causing edgebreak.

Once out of the corner on Dunorlan road the pavement reduces to 5m.



Recommendation 3 – provide white hold line and a giveaway sign at the Dunorlan intersection to formalize priority to the through road. Extend pavement to reduce edgebreak.

Beyond these intersections the road conditions are generally considered too remote from the development and further assessment of the wider network is not warranted.

5 Proposed Traffic

The following points are relevant from the Notice of Intent:-

Typical equipment on site will be:

- Face loader: 20t Cat excavator
- Crusher: Terex mobile crusher / screen
- Stockpile Loader: Cat 950
- Trucks: Truck and dog combination 30t capacity

Treloars advise that they seek to increase output about 1.8 times from 17,600 tonnes to 32,000 tonnes. Assuming all cartage is by 32 t capacity truck and dogs there will be 1000 truck movements out per annum as a maximum. This represents an increase in truck and dog numbers of 450 per annum.

The heaviest concentration of traffic from expanded production would typically be 20 truck movements a day for several weeks over several campaigns per year.

It is proposed that operating hours will be 0700 to 1700 Monday to Friday and 0800 to 1500 on Saturday. This corresponds to normal work hours during which there is a greater likelihood that the houses in the vicinity of the road network will not be occupied with occupants at school or work.

Traffic distribution anticipated for the development is 50% sold to the North on Dunorlan road and 50% to the south.

6 Traffic Issues

One environmental issue associated with the Traffic will be dust generation from trucks on the access road during periods of relatively heavy truck traffic whilst a campaign is in progress. This impact will be reduced in sensitive areas by limiting vehicle speeds and utilising a water truck when necessary.

Most of the houses along these roads are well away from the road with the exception of some on Weegen Road and in Dunorlan. These houses are on a sealed road and will not be significantly impacted by the additional trucking movements.

The houses in the vicinity of the gravel access Beaumonts Road are well back from the road and are unlikely to be affected by additional noise or dust.

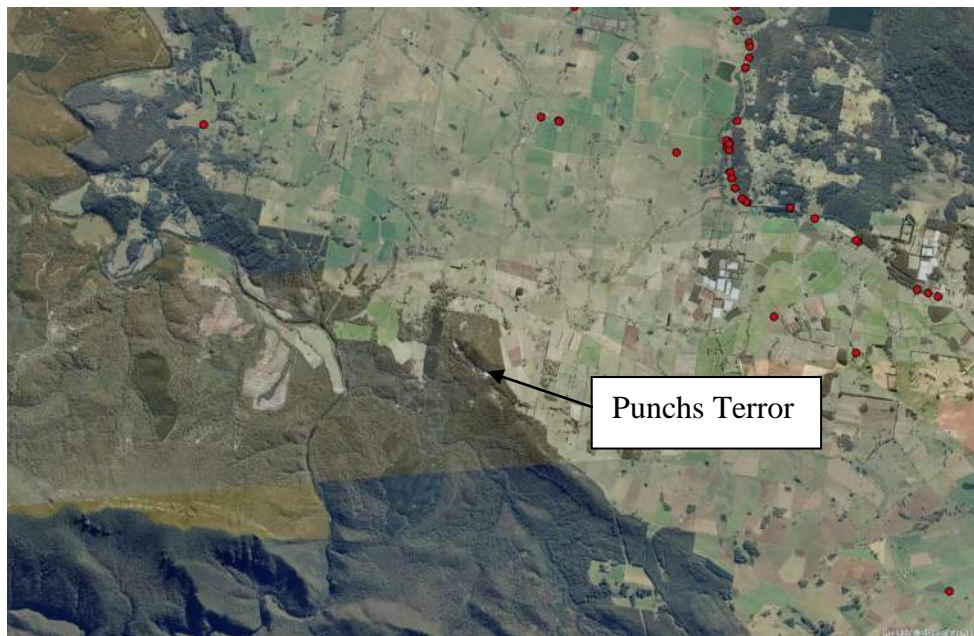
7 Accident History

8 Road Safety Performance

Crash data provides valuable information on road safety performance. Existing road safety deficiencies can be highlighted through the examination of crash data, which can assist in determining whether traffic generation from the proposed development may exacerbate any identified issues.

The Department of State Growth DSG accident database collects all accident data in the state from 2003.

The Manager of Crash Data advised that there is no recorded history of crash data in the area. He provided the attached showing red dots at past accidents. All are too remote from the site to provide any indication of inherent issues which may be exacerbated as a result of the increase in truck activity from Punchs Terror.



9 Conclusion

The increase in truck movements from the quarry proposed by Treloar Transport will increase the truck loading on the road network particularly through to Dunorlan which will be used by every truck.

A number of recommendations have been made to improve road structure and awareness of intersections which are presently not clearly marked.

The issues identified are consistent with the other areas of the rural road network. Some safety gains will be made if the recommendations are followed.

12.5. Appendix E – Relevant Company Procedures







Fire prevention and control on worksites

Purpose: Safe practice to prevent or control fire on worksites to prevent injury to personnel and minimise damage to property, plant and equipment

Pre-requisites

1. Project risk assessment for each worksite
2. Clear understanding of control measures
3. Emergency assembly area defined for each worksite
4. Evacuation plan in place on all worksites
5. Regular emergency evacuation drills

Hazard management

	Beware	Heavy equipment and vehicles in the area	Ensure appropriate signage is in place Follow safe procedures Stay alert for vehicular traffic at all times
	Flammable	Flammable and combustible substances being handled, transported or stored on site	Train workers in safe Chemical Handling Procedures Wear appropriate P.P.E Follow safe evacuation procedures Store dangerous substances appropriately Ensure warning signs are visible and clear
	Dust or smoke inhalation	Possibility of fine dust and heavy smoke in area	Follow safe evacuation procedures Wear appropriate P.P.E
	Manual Handling	Using fire fighting equipment	Train workers in safe use of fire fighting equipment
	Heat	Fighting fires	Safe firefighting
	Trips, slips and falls	Moving around potentially dangerous areas	Follow safe procedures Remain alert for obstacles at all times

P.P.E requirements

	High visibility clothing		Steel capped boots as required
Other PPE as determined by job/site requirements			

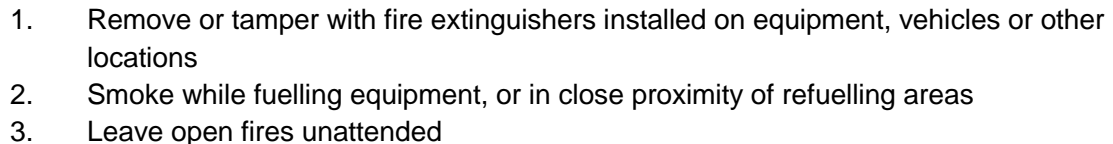
Relevant Workplace Documentation

Document code	Description
	Hazard / Incident Report Form as required
	Safety Data Sheets (SDS)
	Dangerous goods manifest
	Schedule 5 of Dangerous Goods Regulations 1998

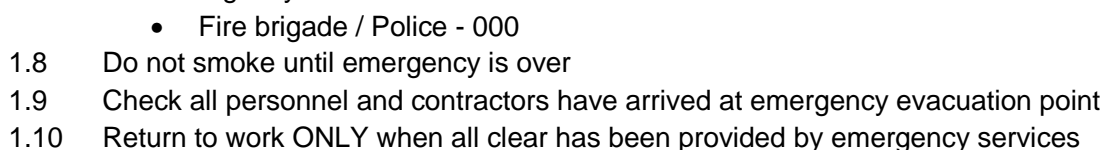
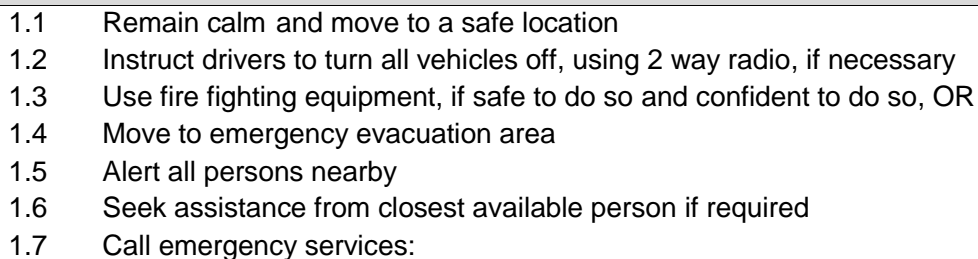
General Principles of fire prevention and control



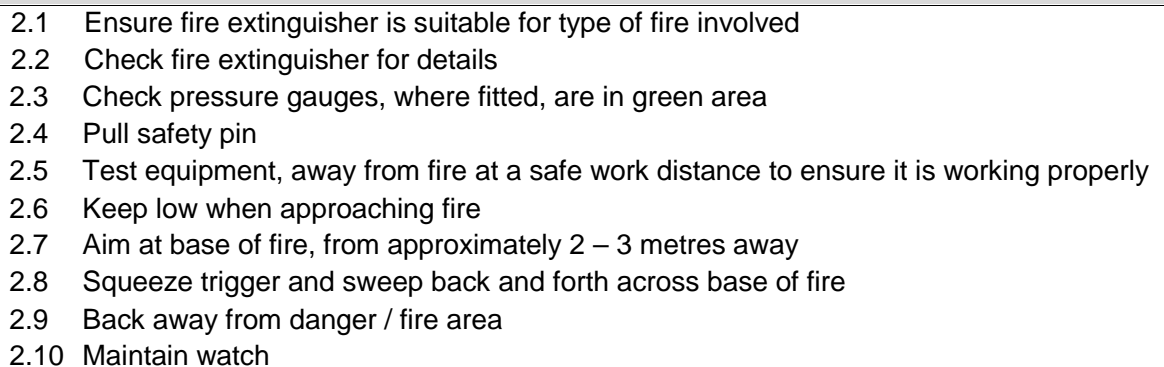
- NEVER:**




Step 1	Emergency evacuation from worksite
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Step 2	Operate fire extinguisher, if safe to do so
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	Standard Operating Procedure	Document Code: TT-SOP-31
	Storing Fuel & Chemicals Onsite	Version 2: 26/8/16
		Review Date: August 2018

Purpose: Safe practices when storing fuels and chemicals on site

Pre-requisites	
	<ol style="list-style-type: none"> 1. Training and supervision in safe chemical handling 2. Approval to handle hazardous substances and dangerous goods from supervisor or authorised delegate

Hazard management			
 	Health Hazards	Chronic (e.g. Carcinogens) Certain (e.g. Dermal Irritants)	Train staff in Safe Chemical Handling procedures Wear correct PPE Store dangerous substances appropriately Ensure warning signs are visible and clear
	Flammable	Fuel	Take care when handling / transporting flammable chemicals Wear appropriate PPE
	Environmental	Damage to site or water courses	Follow appropriate procedures to minimise environmental impact
	Manual handling	Lifting, moving heavy drums	Follow safe manual handling procedures Use lifting aids when required
	No smoking	Risk of explosion	NEVER smoke while in close proximity to fuel or chemicals

P.P.E requirements			
	Eye protection as required		High visibility clothing
	Closed in shoes		Waterproof gloves as required
	Long sleeve shirt/trousers/overalls		Face mask when required

Relevant Workplace Documentation	
Document code	Description
	SDS Safety Data Sheet
	Dangerous goods manifest
	Schedule 5 of Dangerous Goods Regulations 1998
TT-SOP-11	Hazardous Substances and Dangerous Goods SOP

General Principles of storing fuels and chemicals on site

ALWAYS:

1. Minimise or eliminate storage of fuels and chemicals on site or in vehicles whenever possible
2. Keep fuels out of direct sunlight when stored on vehicles, where possible
3. Store and handle chemicals in accordance with relevant state Act and Regulations and the Dangerous Goods Act and Regulations
4. Ensure staff are trained in how to access information to guarantee safe handling of items
5. Ensure all employees understand their responsibilities in relation to Waste Management and Minimisation procedures
6. Secure storage area to prevent vandalism
7. Keep Hazardous Substances register up to date
8. Ensure current SDS with date of issue not more than five (5) years old is kept on site
9. Ensure signage is displayed in accordance with regulations
10. Storage facilities must be adequate distance from stormwater drains and water ways where necessary
11. Minimise risk of damage or puncture from plant use when deciding on storage area
12. Remove and replace drums or jerry cans once they have finished being used
13. Ensure adequate clean up materials are readily available on site and clean any spills up, immediately



1 Storing chemicals or fuels in bunded areas



- 1.1 Inspect bunds regularly to prevent waste materials overflowing
- 1.2 Ensure bunds are sufficient size to meet Dangerous Goods Act and Regulations and ensure spills can be held safely until cleaned up
- 1.3 Ensure ventilation provides airflow across the storage or handling area
- 1.4 Ensure bunds are checked and preventative maintenance and integrity testing are undertaken regularly
- 1.5 Ensure all containers held in bunds are labelled
- 1.6 DO NOT store incompatible chemicals together



2 Preventative maintenance measures



- 2.1 Maintain preventative measures for the duration of chemical or fuel storage on site
- 2.2 Key requirements are:
 - Security
 - Housekeeping
 - Bund height
 - Stormwater control
- 2.3 Dispose of liquid waste in bunds and waste drums off site as prescribed waste, as soon as practicable (refer Dangerous Goods Act and Regulations)
- 2.4 Arrange collection of oils by recyclers when appropriate



3 Deal with fuel or chemical spills



3.1 Control and contain the spill:

- Identify source of spill
- Assess whether it can be controlled safely
- Protect storm water drains and waterways by placing earth, sand or absorbent material around entrance points and alongside waterways
- Construct a bund to restrain chemicals, if necessary



3.2 Clean up the spill:

- Use absorbent material to soak up the spill
- Ensure surface is left clean
- Place material used for clean up in drum and clearly label drum with “ Spill Kit Waste”
- Remove drum from site as controlled waste
- Replace any items used in spill kit as soon as possible

Minimising Noise, Dust & Air Pollution

Purpose: Minimise noise, dust and air pollution

Pre-requisites

1. Training and supervision in pollution minimisation

Relevant Workplace Documentation

Document code	Description
	Project management plan
	Environmental Regulations


Main causes of noise, dust and air pollution




Pollution relating to dust and airborne pollution is caused by but not limited to:


- 1 Dust:
 1. Plant and equipment movements
 2. Wind erosion
 - a) The amount of dust generated depends on:
 - Planning
 - Weather
 - Activities undertaken
 - Materials being worked
 - Controls in place
 - b) Dust must be managed so that there is:
 - Dust moved off-site is minimised
 - Minimum dust on-site
 - Zero complaints from:
 - Residents
 - Public
 - Client
 - EPA
 - Council
- 2 Airborne pollution
 1. Vehicle exhaust
 2. Burning off and fires
 3. Odours
 4. Toxic gas

General Principles of minimising noise, dust and air pollution


	<p>ALWAYS:</p> <ol style="list-style-type: none"> 1. Conduct an assessment of pollution risks and control measures before commencing work and record in Project Management Plan 2. Prevent or control noise, dust and air pollution on projects on site, whenever possible 3. Ensure effective preventative measures are in place before works commence 4. Undertake works during “normal” working hours whenever possible 5. Notify nearby community members who could potentially be affected by works, when work is planned outside normal working hours 6. Check with local council for specific projects for variance of “normal” work hours 7. Minimise noise by using well maintained plant with efficient mufflers 8. Ensure machinery is serviced regularly 9. Service or replace machinery if it emits smoke continuously for longer than 10 seconds 10. Ensure dust measurement is observed by Team Leader 11. Review any enquiry or complaint from affected residents to assess whether satisfactory target for minimisation of dust has been met 12. Notify supervisors of incidents or practices that cause pollution of any kind, to enable them to be adequately controlled
	<p>NEVER:</p> <ol style="list-style-type: none"> 1. Allow dust to accumulate behind dust screens or other controls

1 Prevention or control of noise

	<ol style="list-style-type: none">1.1 Re-schedule noisy activities to times of least impact1.2 Use well maintained, modern plant with efficient mufflers1.3 Use alternative construction methods, forms of communication or machinery<ul style="list-style-type: none">• E.g. Bored piles instead of driven piles1.4 Erect noise barriers (barriers should be 0.5m above highest noise source)1.5 Locate noisy activities in non-sensitive areas1.6 Select equipment based on machinery noise levels1.7 Ensure trucks / vehicles use designated access roads rather than suburban streets where possible1.8 Ensure idling vehicles / trucks are not left running near noise sensitive areas
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2 Prevention or control of dust	
	2.1 Program work to ensure large sections of bare areas are not exposed at one time
	2.2 Use suitable measures to prevent dirt / mud being tracked onto public roads <ul style="list-style-type: none"> • Rumble grids • Crushed rock at vehicle exit points
	2.3 Use water carts, sprinkler systems or hand held water sprays on bare areas and stockpiles
	2.4 Limit traffic to haul roads /definition of trafficable areas
	2.5 Use street sweepers to keep public and site roads free of dirt when material on road is dry
	2.6 Cover trucks if dust generation from load is potential problem
	2.7 Erect dust screens (shade cloth or similar) on boundary fences
	2.8 Provide hardstand areas in high traffic zones (e.g. site offices)
	2.9 Stabilise areas that would otherwise be left bare for extended periods of time and pose a dust threat: <ul style="list-style-type: none"> • Hydro-seeding • Spray emulsion • Hand seeding • Geo-fabric
	2.10 Keep dust suppression equipment on line as required
	2.11 Assess whether dust-generating activities should be stopped if preventative measures are not controlling the problem <ul style="list-style-type: none"> • E.g. during periods of high winds
	2.12 Mulch vegetation where possible, rather than burning on site
	2.13 Ensure fires are not permitted on site without first obtaining necessary approval in line with council regulations from Tas Fire Commission on 1800 000 699
	2.14 Lower wind velocity at soil surface by ripping or leaving smooth surfaces rough

3 Prevention or control of air pollution	
	3.1 Maintain machinery in accordance with manufacturers' specifications to comply with the State Environment Protection Policy (The Air Environment)
	3.2 Maintain exhaust and engine systems to reduce exhaust emission
	3.3 Replace old machinery when no longer operating efficiently
	3.4 Ventilate work area to eliminate odours and toxic gases where necessary (e.g. In live sewers)


	Standard Operating Procedure	Document Code: TT-SOP-37
	Environmental Emergency Procedure	Version 2: 26/8/16
		Review Date: August 2018

Purpose: Provide uniform control mechanism when an emergency environmental incident occurs

Pre-requisites

1. Project management Plan for each project
2. All personnel with responsibility for dealing with environmental emergencies must have read and signed off against this procedure

Hazard management

	Emergency situation	Dealing with an environmental emergency that could be detrimental to people, animals or plants	Follow safe practices as outlined in this procedure
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P.P.E requirements

P.P.E. as required for specific work / job site


Relevant Workplace Documentation


Document code	Description
	Incident Report Form
	Non Conformance Report
TT-SOP- 31	Storing fuels and chemicals on site procedure

General Principles of dealing with environmental emergencies

	ALWAYS: <ol style="list-style-type: none"> 1. Monitor all risks continuously to minimise potential emergencies 2. Prioritise safety of personnel at all times 3. Attend tool box meetings to determine: <ul style="list-style-type: none"> • Environmental issues • Procedures and instructions that control activities to be undertaken by your workers, on site • Control measures that are in place 4. Carry out work site inspections as per inspection calendar 5. Ensure a senior person remains in charge in states of emergency
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Step 1 Dealing with spills

	<ol style="list-style-type: none"> 1.1 Follow minor spill procedure for minor spills (refer "Storing fuels and chemicals on site procedure") 1.2 Contact relevant service and request assistance for major spills: <ul style="list-style-type: none"> • Veolia Environmental: 6427 4600 • Environmental Systems & Contracting 1.3 Call Head Office, even for minor spills as soon as possible
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Step 2 Managing an environmental incident	
	<ol style="list-style-type: none"> 2.1 Stop work immediately 2.2 Ensure a senior person manages the incident until emergency response professionals arrive, if the initial incident occurs on a worksite under control of your organisation 2.3 Take necessary action to stop the cause or breach and minimise damage and impact of breach 2.4 Notify construction Project Manager / Team Leader immediately 2.5 If Project Manager is unavailable and the breach is serious and requires additional resources, notify: <ul style="list-style-type: none"> • Local authorities • EPA • Nominated environmental specialist to gain specialist assistance 2.6 Report the breach: <ul style="list-style-type: none"> • Prepare an incident report • Put corrective action in place to minimise the risk of the breach re-occurring

Water Quality and Sediment Control

Purpose: Ensure there is no effect on water quality from projects being undertaken

Pre-requisites

1. Project Management Plan for each project
2. All personnel with responsibility for site protection during operations must have read and signed off against this procedure

Hazard management

Specific Hazard Management to meet requirements of work / job site

P.P.E requirements

P.P.E. as required for specific work / job site

Relevant Workplace Documentation


Document code	Description
	Project Management plan, including waste management


General Principles of minimising effect of sediment on water quality





ALWAYS:


1. Aim to minimise risk to water quality in domestic water catchment areas, when works are in or adjacent to catchment areas
2. Take precautions to minimise serious pollution of recreational waterways and blocking of drains from:
 - Increased sediment load in stormwater drains and waterways
 - Oil or grease from re-fuelling / workshop / storage areas
 - Oil / chemical spillage
 - Excavation of soil, resulting in exposure of contaminated soil and leaching into waterways
 - Change in pH levels from concrete or asphalt activities
3. Conduct a baseline assessment of water quality, in sedimentary ponds, and before commencing work if water quality monitoring is being undertaken
4. Rehabilitate site in accordance with client requirements, OR
 - Use local seed to revegetate, where client requirements are not specified
 - Use non-native sterile grasses for temporary stabilisation while native flora becomes established, if necessary

Assess work site	
	<p>1.1 Assess existing features of land, including:</p> <ul style="list-style-type: none"> • Contour • Existing vegetation • Stormwater drains and drainage pattern • Proximity to waterways • Soil type <p>1.2 Assess possibility of installing cut off drains to divert clean stormwater around site</p> <p>1.3 Undertake detailed check of site history and likelihood of contamination to ensure stockpiling of material with leachable contamination into adjacent waterways is prevented</p> <p>1.4 Investigate alternative methods of construction when working in, adjacent to, or over waterways, if necessary</p>

Develop Waste Management Plan	
	<p>2.1 Plan works, where possible, to:</p> <ul style="list-style-type: none"> • Minimise impact on environment (e.g. Work in waterways during summer months) • Limit extent and duration of exposed earth • Retain vegetation • Locate stockpiles away from drainage areas and waterways • Limit access to site to designated areas • Locate wash down and fuel storage areas away from stormwater drainage lines and waterways • Store fuel and chemicals in accordance with relevant standards and guidelines <p>2.2 Define where risk activities are likely to be located:</p> <ul style="list-style-type: none"> • Entry and exit points • Borrow pits • Stockpiles • Haul roads • Disturbance from construction <p>2.3 Install soil erosion and sediment control measures before commencing work and re-assess during works</p> <p>2.4 Handle vegetation that is to remain on site, according to Flora and Fauna inspection and protection procedure</p> <p>2.5 Undertake an assessment during the design phase, to determine any adverse effect construction may have on local groundwater quality or flow:</p> <ul style="list-style-type: none"> • Contaminated groundwater must be handled in accordance with environmental regulations • Put measures in place to limit flow of contaminated groundwater into the excavation, if contaminated groundwater is encountered (e.g. use sheet piles) • Dispose of groundwater off site, as controlled waste if necessary, or at a sewer under a Trade Waste Agreement with local water authority (if contaminant concentration is within acceptable limits)

Minimise soil erosion	
	3.1 Hydro-seed or mulch stockpiles or areas that will be exposed for longer than three (3) months
	3.2 Use silt fencing if required up-gradient and /or down-gradient of stockpiles
	3.3 Compact and trim all fill surfaces before any chance of rain: <ul style="list-style-type: none"> • Use a machine on tracks to roughen surface on steep batters to reduce flow velocities at end of each day, where practical • Implement progressive treatment on site rather than concentrating control devices in one location
	3.4 Protect areas of concentrated water flow by either: <ul style="list-style-type: none"> • Leaving or using existing topsoil with vegetation, OR • Installing protective matting or fabric

Control sediment	
	4.1 Filter run off from disturbed areas, before discharging to stormwater or waterways
	4.2 Locate sediment control devices up-gradient of sensitive areas such as creeks, steep embankments and stormwater inlets
	4.3 Implement filtration in form of: <ul style="list-style-type: none"> • Silt fencing • Sediment traps • Gravel bags • Settling ponds etc
	4.4 Ensure all sediment control structures are of adequate size to cope with quantity of water anticipated and maintained regularly
	NOTE: Off line sedimentation basins are preferred to in stream sedimentation basins
	4.5 Use water from sediment ponds to irrigate vegetated areas remote from waterways or use for dust control
	4.6 Ensure adequate control measures are in place before washing dirt or mud from roads, to prevent sediment entering stormwater system




Deal with controlled waste effectively	
	5.1 Service machinery on site in controlled manner: <ul style="list-style-type: none"> • Designate an appropriate area for servicing machinery, away from stormwater, waterways and sensitive vegetation • Ensure sealed containers are available for waste materials • Dispose of waste off site in accordance with legislative requirements
	5.2 Control prime, bitumen, concrete and concrete slurry to prevent it entering stormwater system: <ul style="list-style-type: none"> • Ensure spill kits or suitable materials are available on site to respond to spills immediately
	5.3 Filter or treat water being pumped or emptied from dams before discharge to ensure water quality limits are met
	5.4 Test water that appears to be contaminated to ensure it meets EPA criteria before pumping

Purpose: To outline safe practices when re-fuelling plant on site





Pre-requisites

1. Training and supervision in safe fuel dispensing
2. Approval to handle fuel from supervisor or authorised delegate

Hazard management

	Harmful substances	Fuels	Follow safe procedures when handling / transporting fuels Wear appropriate PPE
	Flammable	Fuels	Follow safe procedures when handling / transporting flammable fuels Wear appropriate PPE
	Plant and equipment	Plant and equipment operating in area	Stay alert for vehicular movements at all times

P.P.E requirements - refer SDS (Safety Data Sheet) for specific PPE

	Eye protection as required		High visibility clothing
	Closed in shoes		Waterproof gloves as required
Other PPE as determined by job/site requirements			

Relevant Workplace Documentation

Document code	Description
	SDS Safety Data Sheet
	Incident Form if Required

General Principles when refuelling plant on site



ALWAYS:

1. Switch engine OFF on plant before refuelling
2. Ensure no sparks or naked flames are within three (3) metres of plant
3. Take care to prevent spillage of flammable or combustible liquids
4. Clean up any spills immediately
5. Ensure fuel nozzle is clean before placing in fuel tank
6. Wind hose up neatly when fuelling is complete
7. Report any accidents, incidents or near misses involving fuel, to supervisor immediately



NEVER:

1. Smoke while refuelling

Step	1	Dispensing fuel from vehicle
	1.1	Ensure chemical spill kit is close by before dispensing fuel
	1.2	Park vehicle close to plant fuel tank
	1.3	Ensure plant and vehicle are switched OFF
	1.4	Open fuel cap on plant
	1.5	Ensure nozzle is clean and place in fuel tank
	1.6	Turn pump on and squeeze nozzle to pump fuel into plant, until full
	1.7	Turn nozzle off if diesel runs out (steam comes from nozzle), or when tank is full
	1.8	Remove nozzle, turn off pump and wind hose up before replacing on fuel tank on vehicle
	1.9	Replace fuel cap on plant
	1.10	Wipe up any spills as soon as practically possible, using spill kit if required

Photo 1: Check nozzle is clean




Photo 2: Place nozzle in fuel tank




Photo 3: Turn pump on





Photo 4: Wind hose up neatly upon completion of fuelling






Purpose: To outline safe practices when dispensing fuel into vehicle fuel tanks or other heavy plant at Treloar Transport depot





Pre-requisites

1. Training and supervision in Safe Chemical Handling
2. Approval to handle hazardous substances and dangerous goods from supervisor or authorised delegate

Hazard management

	Harmful substances	Fuels	Follow safe procedures when handling / transporting fuels Wear appropriate PPE
	Flammable	Fuels	Follow safe procedures when handling / transporting flammable fuels Wear appropriate PPE
	Plant and equipment	Plant and equipment operating in area	Stay alert for vehicular movements at all times


P.P.E requirements - refer SDS (Safety Data Sheet) for specific PPE

	Eye protection as required		High visibility clothing
	Closed in shoes		Waterproof gloves as required
Other PPE as determined by job/site requirements			




Relevant Workplace Documentation



Document code	Description
	SDS Safety Data Sheet
	Incident Form if Required

Pre-requisites

	<ol style="list-style-type: none"> 1. Training and supervision in: <ul style="list-style-type: none"> • Procedures to be followed in the event of a spillage, accident or fire • Location and use of fire fighting equipment • Correct use of personnel protective equipment provided • Correct sequence of events to be followed when refuelling • The location of and essential points included in a Safety Data Sheet 2. Approval to dispense fuel by supervisor or authorised delegate
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Legal responsibilities when dealing with flammable and combustible fuels	
	<p>ALWAYS:</p> <ol style="list-style-type: none"> Understand definition of: <ul style="list-style-type: none"> Flammable Liquids – a liquid that is defined in the ADG Code as a Class 3 liquid. Class 3 liquids are divided into the following packaging groups: <ul style="list-style-type: none"> – A Class 3 liquid of packaging group 1 – A Class 3 liquid of packaging group II – A Class 3 liquid of packaging group III Combustible Liquid – any liquid other than a flammable liquid that has a flash point and a fire point less than its boiling point. Combustible liquids are divided into two classes as follows: <ul style="list-style-type: none"> – Class C1 - a combustible liquid that has a flashpoint of 150°C – Class C2 - a combustible liquid that has a flashpoint exceeding 150°C Store and handle fuels in accordance with relevant state Act and Regulations and the Dangerous Goods Act and Regulations (refer SOP “Hazardous substances and Dangerous goods”)

General Principles of dealing with flammable and combustible fuels	
  	<p>ALWAYS:</p> <ol style="list-style-type: none"> Switch engine OFF on any vehicle or plant before refuelling Ensure no sparks or naked flames are within three (3) metres of fuel pump Take care to prevent spillage of flammable or combustible liquids Clean up any spills immediately Follow the same procedures and safety guidelines when filling petrol motors on floats or when pumping or decanting petrol or other fuel from drums into any other types of motor Ensure storage facilities where fuel is dispensed is kept clear of extraneous material at all times Keep vegetation which may become a fire hazard, clear of pumps at all times Ensure any leaks are rectified immediately Report spills or damage to fuel containers to supervisor Report any accidents, incidents or near misses involving fuel, to supervisor immediately <p>NEVER:</p> <ol style="list-style-type: none"> Smoke in or close to chemical storage area

Step	1	Dispensing fuel from pump
 	<ol style="list-style-type: none"> 1.1 Ensure chemical spill kit is close by before dispensing fuel 1.2 Drive vehicle/ plant close to fuel pump 1.3 Using supplied fuel card, follow directions on pump 1.4 Open fuel tank on vehicle /plant 1.5 Lift pump handle from cradle 1.6 Place pump nozzle in fuel tank of vehicle /plant 1.7 Pump fuel into vehicle /plant, until full 1.8 Remove pump nozzle and replace on cradle of fuel pump 1.9 Ensure pump handle is secure on fuel pump 1.10 Wipe up any spills as soon as practically possible, using spill kit procedure 	

Arranging Blasting Operations




Purpose: To apply safe practices when arranging contractors for blasting operations

Pre-requisites





1. Approval to arrange blasting operations by supervisor or authorised delegate
2. Ensure Blasting Service provides required documentation:
 - Current Procedure for Blasting, with full safety details
 - Drillers shot pattern
3. Ensure all blast procedures conform to Mines Department and Environment Regulations
4. Competent in operating relevant plant or trucks for transporting material, or suitably supervised as required
5. Identify hazards and complete a risk assessment where necessary
6. Follow or complete a SWMS as required
7. Clear understanding of responsibility for work tasks and activities to be undertaken

NOTE: During all activity associated blasting, the quarry site and environment is the responsibility of the contractor

Hazard management


	Explosive	Rock and dust particles flying around	Follow safe operating procedures at all times Ensure all personnel wear appropriate P.P.E Ensure all personnel are well clear of blasting area before firing
	Crushing	Personnel moving around area where blasting operations are being undertaken	Remain vigilant for pedestrians and other machinery at all times Ensure all personnel are well clear of blasting area before firing Ensure all personnel wear appropriate high visibility PPE
	Slips, Trips or Falls	Moving around blasting areas	Wear appropriate PPE Follow safe operating procedures



P.P.E requirements


	High visibility clothing		Steel capped safety boots, in good condition and laced correctly
	Hard hat (Outside mobile plant)		Safety glasses
	Ear protection (Outside mobile plant)		
Other PPE as determined by job/site requirements			


Relevant Workplace Documentation


Document code	Description
	Mines Act 1968
	Blasting Services Procedure for Blasting
	Drillers Shot pattern
	Blast hole exception report
	Mines Department and Environment regulations
AS4801 - 4.4.6	Hazard identification, hazard/risk assessment and control of hazards/risks
CP123	Managing Risks of Plant in the Workplace Code of Practice
	Neighbour contact record

Definitions	
	<ol style="list-style-type: none"> 1. STOCK ON THE GROUND <ul style="list-style-type: none"> • Quantity of rock released from the quarry face by the blast 2. OVERBREAK <ul style="list-style-type: none"> • Shattered rock behind the blast line, which has not fallen to the ground

General Principles for arranging blasting operations	
 	<p>ALWAYS:</p> <ol style="list-style-type: none"> 1. Always follow guidelines set out in CP123 "Managing risk of plant in the workplace" in relation to maintenance 2. Operate machines in accordance with Mines Inspection Regulations Act 3. Stay alert for other vehicle and personnel movements at all times 4. Conduct pre-start check on trucks and plant before operating. If unsatisfactory, do not use, follow Isolation and Tagging procedure and report to Quarry Manager 5. Notify all neighbours in vicinity of quarry, one day before blasting is scheduled or as required

Step 1 Preliminary arrangements for blasting (Quarry Manager or Supervisor)	
	<ol style="list-style-type: none"> 1.1 Determine when blasting is required <ul style="list-style-type: none"> • Assess existing quarry stock levels • Consider anticipated sales 1.2 Contact Blasting Services to schedule a provisional day and time for blasting (usually with one week lead in time) 1.3 Receive provisional information from Blasting Services: <ul style="list-style-type: none"> • Planned blast day • Quarry location • Size of blast 1.4 Notify neighbours in vicinity of quarry, of planned blast day 1.5 Raise invoice for blast and ensure estimated quantities of rock released are acceptable 1.6 File all documentation related to blast in quarry office

Step 2 Contact neighbours on day of blast	
	<ol style="list-style-type: none"> 2.1 Contact all neighbours specified by the Department of Environment & Land Management and listed on the neighbour contact record: <ul style="list-style-type: none"> • Confirm time of blast • Maintain record of contact, on file in quarry office (to be kept for 4 years) • Visit homes of any occupants who cannot be contacted by phone and record details of attempts to contact them 2.2 After contact with neighbours has been completed, blasting may commence in accordance with blasting procedures <p>NOTE: Ensure all personnel are well clear of blasting area and blast guards and blast monitors are in place</p>

Step 3 Following blast operations (Quarry Manager)	
	<ol style="list-style-type: none"> 3.1 Inspect the blast site to: <ul style="list-style-type: none"> • Confirm the blast has been performed • Establish the size and quantity of rock released 3.2 Complete the order for blast and forward to Blasting Services, after ensuring details of rock volumes are as per blast 3.3 Ensure truck drivers remove over break from quarry face before loading trailer

12.6. Appendix F – BOM Wind Rose Data

Launceston Airport Wind Rose

Data extracted: 9th November 2017

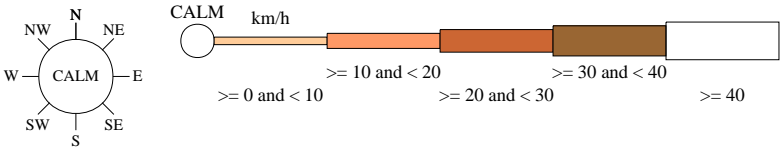
Rose of Wind direction versus Wind speed in km/h (01 Apr 1939 to 17 Jun 2009)

Custom times selected, refer to attached note for details

LAUNCESTON AIRPORT COMPARISON

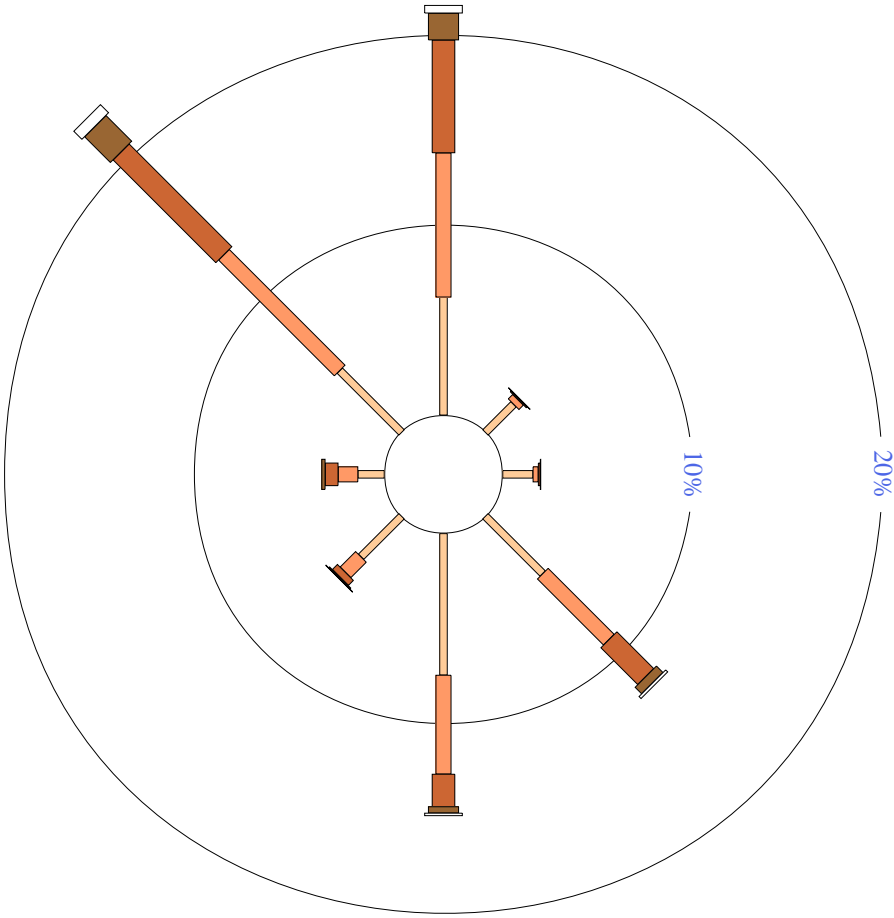
Site No: 091104 • Opened Jan 1931 • Closed Jun 2009 • Latitude: -41.5397° • Longitude: 147.2033° • Elevation 166m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am
24610 Total Observations

Calm 15%



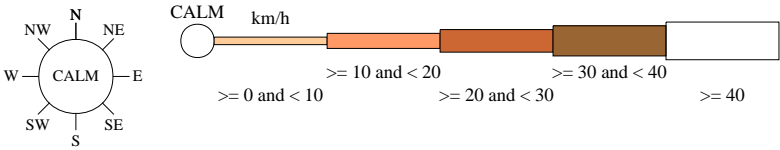
Rose of Wind direction versus Wind speed in km/h (01 Apr 1939 to 17 Jun 2009)

Custom times selected, refer to attached note for details

LAUNCESTON AIRPORT COMPARISON

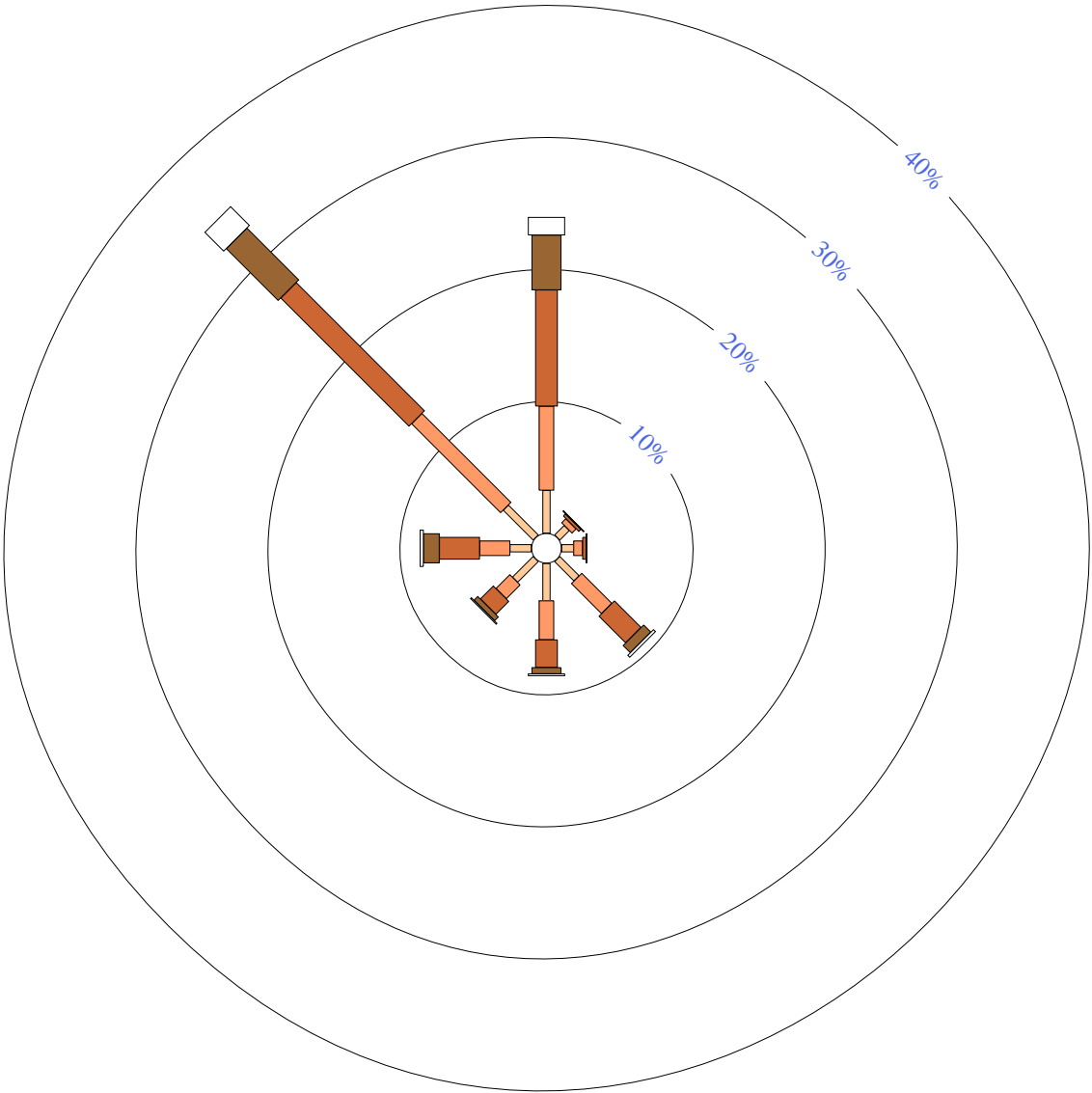
Site No: 091104 • Opened Jan 1931 • Closed Jun 2009 • Latitude: -41.5397° • Longitude: 147.2033° • Elevation 166m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm
24586 Total Observations

Calm 6%



Burnie (Round Hill) Wind Rose

Data extracted: 9th November 2017

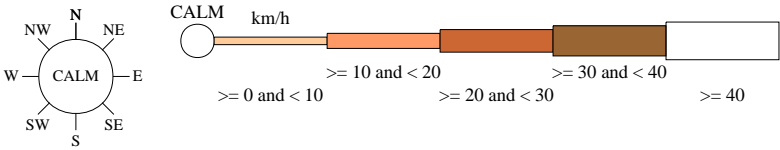
Rose of Wind direction versus Wind speed in km/h (02 Jan 1965 to 05 Apr 2016)

Custom times selected, refer to attached note for details

BURNIE (ROUND HILL)

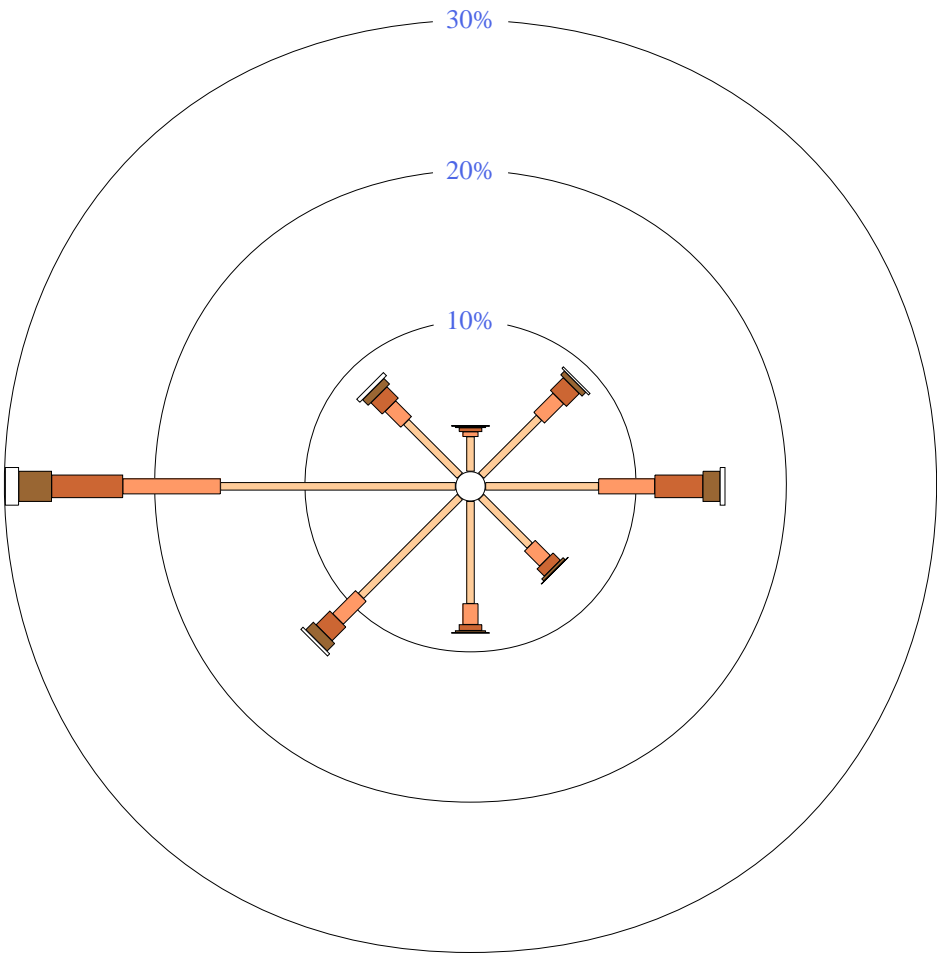
Site No: 091009 • Opened Aug 1944 • Still Open • Latitude: -41.0661° • Longitude: 145.9431° • Elevation 8m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am
17484 Total Observations

Calm 5%



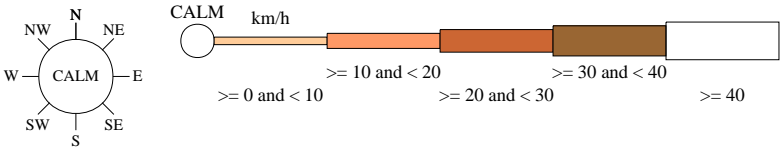
Rose of Wind direction versus Wind speed in km/h (02 Jan 1965 to 05 Apr 2016)

Custom times selected, refer to attached note for details

BURNIE (ROUND HILL)

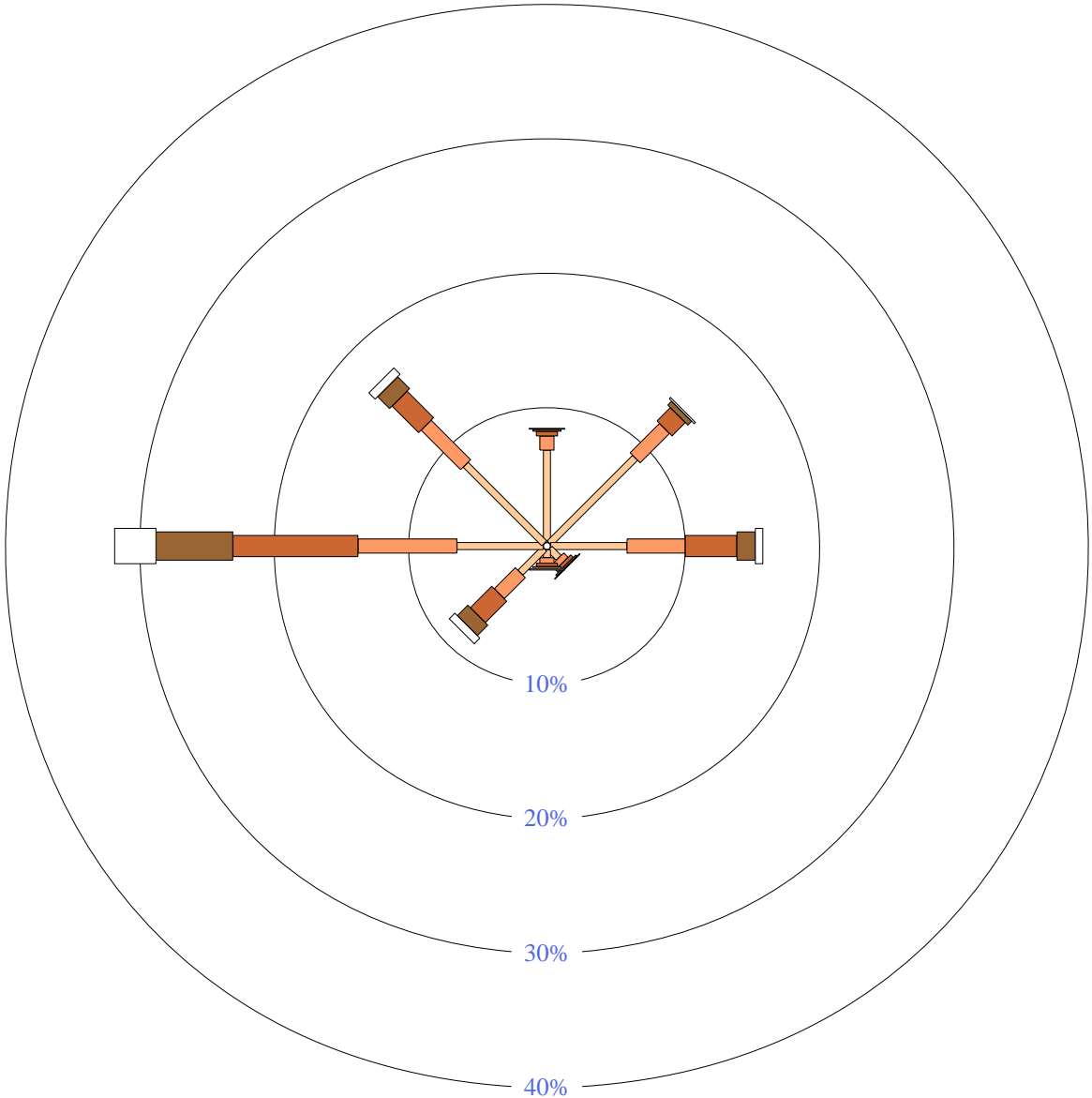
Site No: 091009 • Opened Aug 1944 • Still Open • Latitude: -41.0661° • Longitude: 145.9431° • Elevation 8m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm
15778 Total Observations

Calm 1%



12.7. Appendix G – Landslip Risk Assessment



**LANDSLIDE RISK ASSESSMENT
PROPOSED QUARRY, PUNCHES TERROR
BEAUMONT'S ROAD, DUNORLAN**

Prepared for: **Treloar Transport**

Date: 18 December 2017

Document Reference: TG17244/1 - 01report

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	4.1 General	2
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	4.3 Risk to Property	3
	4.4 Risk to Life	3
	4.5 Conclusion	4
5	DISCUSSION & RECOMMENDATIONS	4

Important information about your report

Figures

Figure 1 MRT Geology and Landslide Hazard Bands

Appendices

Appendix A Selected Site Photographs

Appendix B Landslide Risk Matrix

Version	Date	Prepared by	Reviewed by	Distribution
Original	18 December 2017	Dr Alan Chester	Dr Wayne Griffioen	Electronic

1 INTRODUCTION

Tasman Geotechnics was commissioned by Urban Forest Consultancy on behalf of Treloar Transport to carry out a Landslide Risk Assessment for a proposed expansion of quarry activities at Beaumont's Road, Dunorlan.

The proponent is Treloar Transport, who wishes to consolidate leases 1007 P/M and 28M/1990 under the same land use permit. A DPEMP has been prepared by Treloar (prepared by Carol Steyn, Draft 2) and was provided to Tasman Geotechnics. The estimated rate of production is 20,000 bank m³/annum.

A Landslide Risk Assessment is required by Meander Valley Council as part of the Planning Application process as the development is mapped adjacent to "Medium" hazard band on the Landslide Planning Map V2 – Hazard Bands overlay on The LIST.

The assessment is consistent with the Landslide Risk Assessment guidelines published by the Australian Geomechanics Society (2007).

2 BACKGROUND INFORMATION

2.1 Regional Setting

The quarry is located on the south-west flank of Punched Terror, a local hill which rises about 200m above the surrounding areas. The sides of the hill are up to 45° on the south-west facing slopes, but around 18° on the north-east facing slopes.

The two quarries (northern and southern) are located on the south-west facing side of the hill.

2.2 Geology

The surface geology is mapped by Mineral Resources Tasmania (MRT) on the 1:25,000 Series Digital Geological map, Gog and Deloraine Sheets.

The quarry operations are shown to be in Cambrian aged described as "*quartzite derived, massive pebble-cobble conglomerate with minor pink quartzarenite beds*". Parts of the hill slopes are covered with Quaternary aged talus. An extract of the two MRT geology maps is presented on Figure 1.

2.3 Landslide Mapping

The site has not been mapped for landslides. However, based on GIS modelling of landslides elsewhere in the state MRT have developed a hazard rating for landslides based on slope angle. These are shown on TheLIST map as:

-) Medium hazard for areas with slope > 20° and
-) Low hazard for areas with slope between 11° and 20°

An extract of TheLIST map is presented on Figure 1.

2.4 Proposed Development

The DPEMP shows of mining will take place at both quarry faces, and be primarily confined to the existing disturbed areas.

2.5 Site Photographs

No field investigation was carried out by Tasman Geotechnics. However, photographs of the existing quarries were provided by Carol Steyn. Selected photographs are presented in Appendix A.

3 SITE CONDITIONS

The surface conditions at the quarries is very different:

At the northern quarry, the quarry face has been excavated in a series of benches and vegetation is re-establishing on the slopes separating the benches (see Photo 1). There is some variability in the material exposed on the slopes: in many places the material is sandy/clayey gravel, in the upper parts of the quarry the material is intact conglomerate. The conglomerate is high strength rock, with no clear joint or fracture pattern (see Photo 2).

At the southern quarry, the previous operations resulted in several benches with near-vertical faces (see Photo 3). The exposed rock is high strength conglomerate.

At both quarries, the natural vegetation begins at the crest of the working face.

It is understood that the future operations of the quarries will be carried out such that the final faces can be rehabilitated.

4 LANDSLIDE RISK ASSESSMENT

4.1 General

Risk assessment and management principles applied to slopes can be interpreted as answering the following questions;

-) What might happen? (HAZARD IDENTIFICATION).
-) How likely is it? (LIKELIHOOD).
-) What damage or injury might result? (CONSEQUENCE).
-) How important is it? (RISK EVALUATION).
-) What can be done about it? (RISK TREATMENT).

The risk is a combination of the likelihood and the consequences for the hazard in question. Thus both likelihood and consequences are taken into account when evaluating a risk and deciding whether treatment is required.

The qualitative likelihood, consequence and risk terms used in this report for risk to property are given in Appendix B and are based on the Landslide Risk Management Guidelines, published by Australian Geomechanics Society (AGS, 2007) and included in the Meander Valley Council Planning Scheme. The risk terms are defined by a matrix that brings together different combinations of likelihood and consequence. Risk matrices help to communicate the results of risk assessment, rank risks, set priorities and develop transparent approaches to decision making.

4.2 Potential Hazards

Based on the site observations and available information discussed in the sections above, the following landslide hazards are identified for the site:

Shallow slides/flows (up to about 3m deep). Such landslides can occur in soil slopes, where the slopes have been cleared of vegetation, or where surface runoff is allowed to flow down the slope in a concentrated manner.

There is presently no evidence of soil erosion at the site. Therefore, by maintaining existing vegetation, or excavating slopes at a "stable" angle with face heights no more than 5m and minimising runoff on bare slopes, the likelihood of a shallow slide under current climatic conditions, is assessed to be Unlikely.

Rockfall. Following blasting, the rock is highly fractured and thereby poses a risk of rockfall. Both vehicles and people are at risk, especially if equipment breaks down while working near the rock face. The likelihood of rockfalls up to 0.3m diam is assessed to be Almost Certain when excavating the blasted rock. However, after the blasted rock is

removed, the rock face is composed of undisturbed rock. The likelihood of rockfalls on the rock face is a function of the slope angle, rock/boulder size and extent of 'cleaning' carried out. The following table summarises the likelihood of rockfalls assuming no 'cleaning' of the rock face

Boulder Size	Slope angle steeper than 1V:1H	Slope angle flatter than 1V:1H
Less than 0.3m	Likely	Possible
Greater than 0.3m	Possible	Unlikely

The identification of the potential hazards considers both the site and nearby properties, and is necessary to address stability issues that may negatively impact upon the site and influence the risk to property.

4.3 Risk to Property

The following table summarizes the risk to property of the landslide events in relation to the proposed quarry as described above, **assuming limitations in Section 5 are incorporated.**

Table 1. Landslide risk profiles

Scenario	Likelihood	Consequence	Risk Profile
Shallow slide/flow	Unlikely if excavated at "stable" angle and no surface runoff	Minor: debris could impact machinery	Low
Rockfall >0.3m diam during excavation	Almost Certain, rock has been broken by blasting	Insignificant: excavator can control slope of excavation	Low
Rockfall <0.3m diam on rock face steeper than 1V:1H	Likely	Insignificant	Low
Rockfall >0.3m diam on rock face steeper than 1V:1H	Possible	Minor: dent equipment	Moderate
Rockfall <0.3m diam on rock face flatter than 1V:1H	Possible	Insignificant: boulder would roll down the rock face	Very Low
Rockfall >0.3m diam on rock face flatter than 1V:1H	Unlikely	Insignificant: boulder would roll down the rock face	Very Low

Thus, a Moderate risk profile exists for rockfalls from boulders greater than 0.3m diam hitting equipment at the base of rock faces steeper than 1V:1H. This assumes no 'cleaning' of the rock face has been carried out. If boulders > 0.3m diam are 'cleaned' from the rock face, the likelihood reduces to Unlikely, and the corresponding risk profile is Low.

4.4 Risk to Life

The risk to life is a function of the likelihood of a rockfall and the probability that a person is present in the path of the rock. Impacts from larger rocks (>0.3m diam) are more likely to be "catastrophic" than smaller rocks (less than 0.1m diam). Working at the base of the rock face (for example repairing a broken-down vehicle) presents a higher risk than walking across the face, especially if the persons' attention is not on the rock face but on the task at hand.

The risk of a catastrophic consequence can be minimized by restricting public access onto the quarry site, and only allowing work to be carried out within 2m of the rock face with a spotter.

4.5 Conclusion

The assessment shows that the proposed quarry presents a Low to Very Low level of risk to property and risk to life, **provided the limitations listed in Section 5 are incorporated in the design.** A Moderate level of risk occurs for boulders > 0.3m diam falling from rock faces steeper than 1V:1H. However, 'cleaning' of the rock face reduces the risk to Low.

5 DISCUSSION & RECOMMENDATIONS

In order to ensure the proposed quarry does not change the risk profile above Low for the site, it is recommended that the following limitations be enforced:

-) No public access onto the quarry site, unless visitors are accompanied by Site Foreman.
-) No work allowed within 2m of the rock face without a spotter. Where possible, work on a broken-down vehicle to be carried out such that the vehicle is between the person and the rock face.
-) Faces in soil to be no more than 5m high, and at angle of no steeper than 1V:1H. This will also assist in rehabilitation of the site.
-) Faces in rock to be no more than 8m high.
-) Loose rocks should be 'cleaned' from rock faces that are steeper than 1V:1H.
-) Surface runoff on benches above soil slopes to be directed away from the slope to open drains.
-) Maintenance of surface runoff, vegetation, retaining structures and other measures described above are the responsibility of the quarry operator.



Important information about your report

These notes are provided to help you understand the limitations of your report.

Project Scope

Your report has been developed on the basis of your unique project specific requirements as understood by Tasman Geotechnics at the time, and applies only to the site investigated. Tasman Geotechnics should be consulted if there are subsequent changes to the proposed project, to assess how the changes impact on the report's recommendations.

Subsurface Conditions

Subsurface conditions are created by natural processes and the activity of man.

A site assessment identifies subsurface conditions at discreet locations. Actual conditions at other locations may differ from those inferred to exist, because no professional, no matter how qualified, can reveal what is hidden by earth, rock and time.

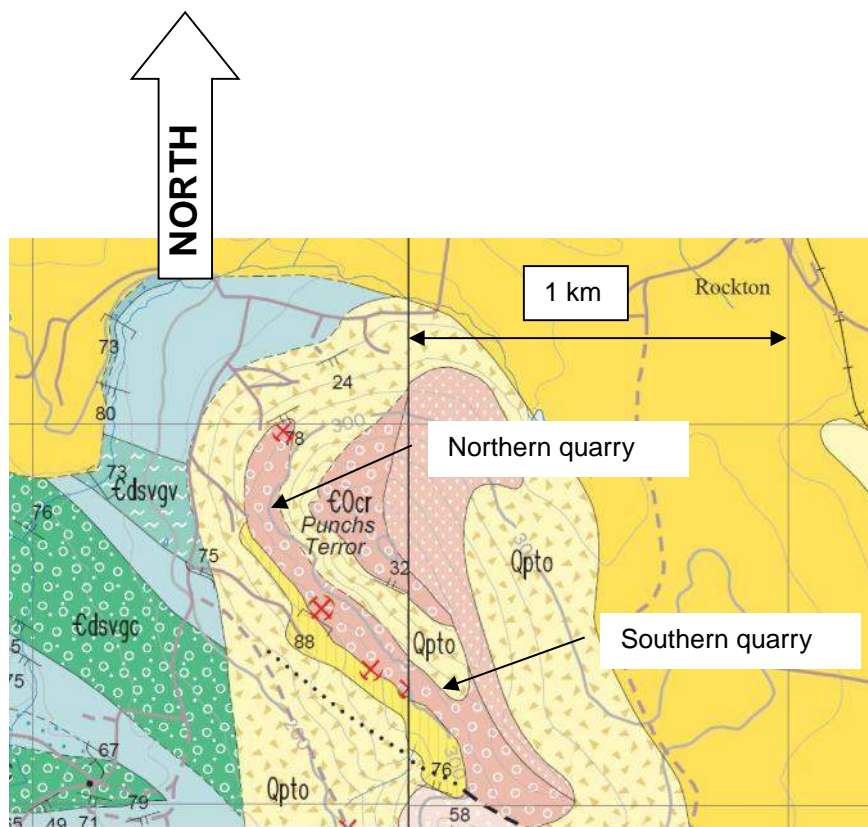
Nothing can be done to change the conditions that exist, but steps can be taken to reduce the impact of unexpected conditions. For this reason, the services of Tasman Geotechnics should be retained throughout the project, to identify variable conditions, conduct additional investigation or tests if required and recommend solutions to problems encountered on site.

Advice and Recommendations

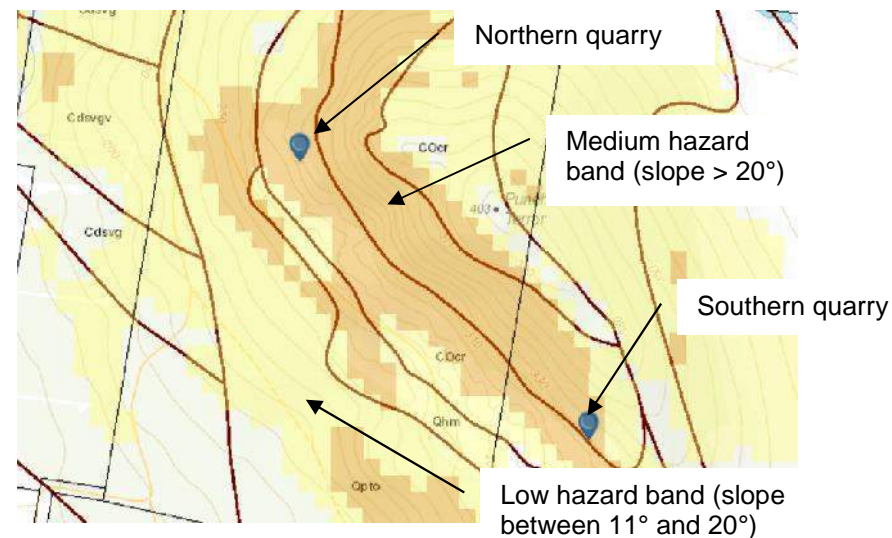
Your report contains advice or recommendations which are based on observations, measurements, calculations and professional interpretation, all of which have a level of uncertainty attached.


The recommendations are based on the assumption that subsurface conditions encountered at the discreet locations are indicative of an area. This can not be substantiated until implementation of the project has commenced. Tasman Geotechnics is familiar with the background information and should be consulted to assess whether or not the report's recommendations are valid, or whether changes should be considered.

The report as a whole presents the findings of the site assessment, and the report should not be copied in part or altered in any way.



MRT Geology Map Extract



drawn	WG	 TASMAN Geotechnics	client:	Treloar Transport	
approved	WG		project:	Landslide Risk Assessment Proposed Quarry Minna Rd, Stowport	
date	14/12/2017		title:	MRT Geology and TheLIST Hazard Map Extracts	
scale	As shown		project no:	TG17244/1 – 01report	figure no: FIGURE 1
original size	A4				

C&DS 3

Appendix A

Selected Site Photographs



Photo 1. Northern quarry showing benches and slopes, predominantly in soil



Photo 2. View of conglomerate rock being quarried



Photo 3. View of southern quarry.

Appendix B
Landslide Risk Matrix

Terminology for use in Assessing Risk to Property

These notes are provided to help you understand concepts and terms used in Landslide Risk Assessment and are based on the “Practice Note Guidelines for Landslide Risk Management 2007” published in *Australian Geomechanics* Vol 42, No 1, 2007.

Likelihood Terms

The qualitative likelihood terms have been related to a nominal design life of 50 years. The assessment of likelihood involves judgment based on the knowledge and experience of the assessor. Different assessors may make different judgments.

Approximate Annual Probability	Implied indicative Recurrence Interval	Description	Descriptor	Level
10^{-1}	10 years	The event is expected to occur over the design life	Almost Certain	A
10^{-2}	100 years	The event will probably occur under adverse conditions over the design life	Likely	B
10^{-3}	1000 years	The event could occur under adverse conditions over the design life	Possible	C
10^{-4}	10,000 years	The event might occur under very adverse conditions over the design life	Unlikely	D
10^{-5}	100,000 years	The event is conceivable but only under exceptional circumstances over the design life	Rare	E
10^{-6}	1,000,000 years	The event is inconceivable or fanciful for the design life	Barely Credible	F

Qualitative Measures of Consequence to Property

Indicative Cost of Damage	Description	Descriptor	Level
200%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequential damage.	Catastrophic	1
60%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequential damage	Major	2
20%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequential damage.	Medium	3
5%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works	Minor	4
0.5%	Little damage.	Insignificant	5

The assessment of consequences involves judgment based on the knowledge and experience of the assessor. The relative consequence terms are value judgments related to how the potential consequences may be perceived by those affected by the risk. Explicit descriptions of potential consequences will help the stakeholders understand the consequences and arrive at their judgment.

Qualitative Risk Analysis Matrix – Risk to Property

Likelihood		Consequences to Property				
	Approximate annual probability	1: Catastrophic	2: Major	3: Medium	4: Minor	5: Insignificant
A: Almost Certain	10 ⁻¹	VH	VH	VH	H	L
B: Likely	10 ⁻²	VH	VH	H	M	L
C: Possible	10 ⁻³	VH	H	M	M	VL
D: Unlikely	10 ⁻⁴	H	M	L	L	VL
E: Rare	10 ⁻⁵	M	L	L	VL	VL
F: Barely credible	10 ⁻⁶	L	VL	VL	VL	VL

NOTES:

1. The risk associated with Insignificant consequences, however likely, is defined as Low or Very Low
2. The main purpose of a risk matrix is to help rank risks and set priorities and help the decision making process.

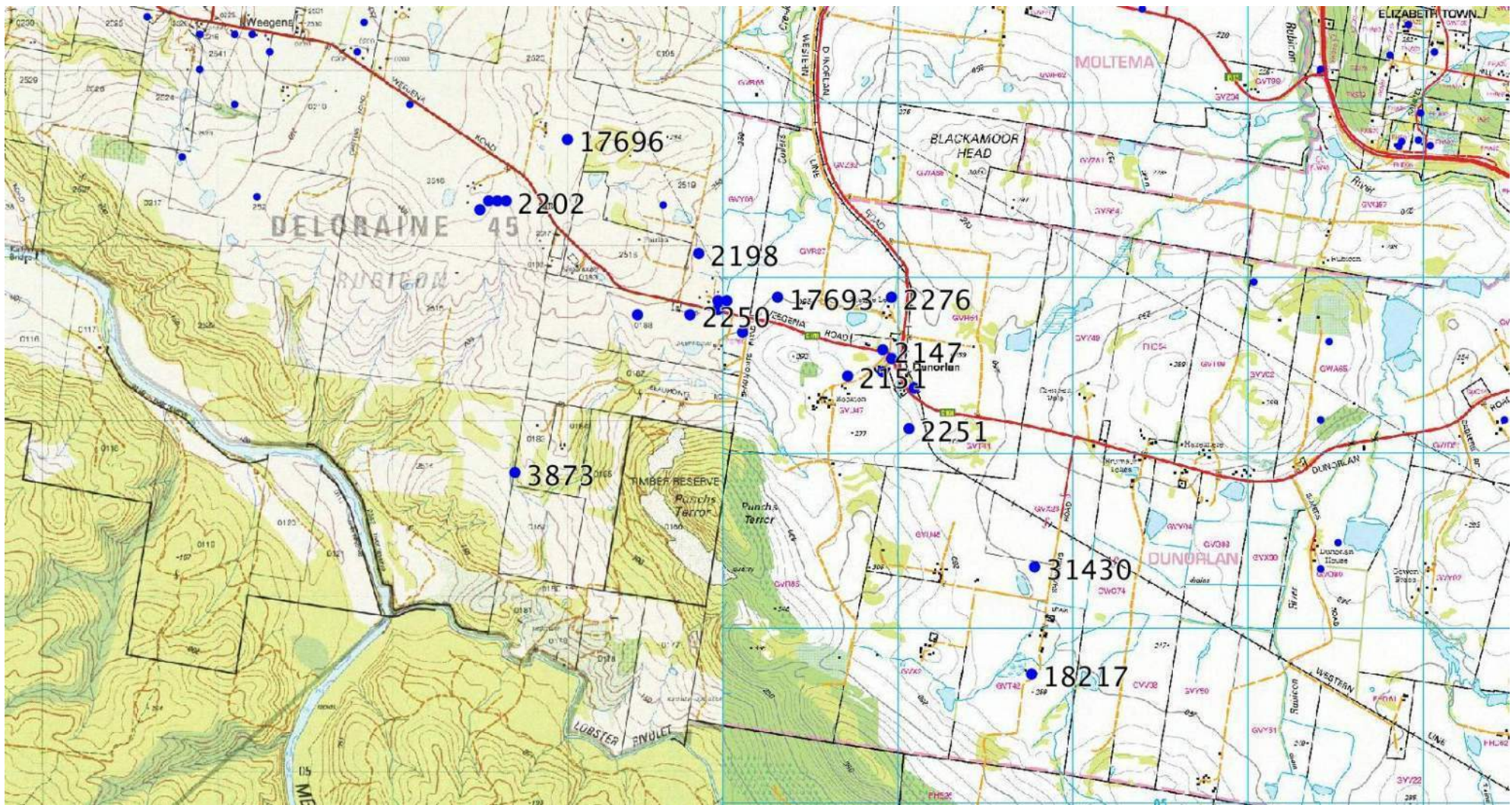
Response to Risk

In general, it is the responsibility of the client and/or regulatory and/or others who may be affected to decide whether to accept or treat the risk. The risk assessor and/or other advisers may assist by making risk comparisons, discussing treatment options, explaining the risk management process, advising how others have reacted to risk in similar situations and making recommendations. Attitudes to risk vary widely and risk evaluation often involves considering more than just property damage (eg environmental effects, public reaction, business confidence etc).

The following is a guide to typical responses to assessed risk.

Risk Level		Example Implications
VH	Very High	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than the value of the property.
H	High	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	Moderate	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	Low	Usually accepted by regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	Very Low	Acceptable. Manage by normal slope maintenance procedures

12.8. Appendix H – Ground Water Bore Report



Tasmania
Explore the possibilities

Disclaimer and Copyright. Map data is compiled from a variety of sources and hence its accuracy is variable. If you wish to make decisions based on this data you should consult with professional advisers. Apart from any use permitted under the Copyright Act 1968, no part of this report may be copied without the permission of the General Manager, Water and Marine Resources Division, Department of Primary Industries, Parks, Water and Environment, PO Box 41, Hobart, TAS 7001.

Feature id	Feature type	Locality name	Easting	Northing	Datum	Coordinate accuracy (m)	Drilled date	Drilling company	Depth	Initial yield	SWL list	Last SWL date	Final TDS	Main aquifer geology	Last operating status	Last operating status date
2146	Bore	Dunorlan	460913	5407458	GDA94	2000	02/12/1975	Mono Pumps Australia Pty Ltd	24.40	1.52	18.3	02/12/1975		Tertiary Basalt	functioning	02/12/1975
2147	Bore	Dunorlan	460913	5407583	GDA94	200	21/10/1981	Gerald Spaulding Drillers Pty Ltd	33.60	0.63	15.2	21/10/1981		Tertiary Basalt	functioning	21/10/1981
2151	Bore	Dunorlan	460713	5407433	GDA94	2000	03/12/1975	Mono Pumps Australia Pty Ltd	18.30	0.76	4.6	03/12/1975	380	Tertiary Basalt	functioning	03/12/1975
2198	Bore	Dunorlan	459863	5408133	GDA94	2000	01/11/1981	Triffitt	18.30	0.51	10.7	01/11/1981		Tertiary Basalt	Unknown	01/11/1981
2199	Bore	Dunorlan	458613	5408383	GDA94	2000	01/12/1981	Triffitt	22.90	1.89	.2	01/12/1981		Tertiary Basalt	functioning	01/12/1981
2200	Bore	Dunorlan	458663	5408433	GDA94	2000	01/12/1981	Triffitt	36.60	0.00				Cambrian	Unknown	01/12/1981
2201	Bore	Dunorlan	458713	5408433	GDA94	2000	01/12/1981	Triffitt	21.30	0.00				Cambrian	Unknown	01/12/1981
2202	Bore	Dunorlan	458763	5408433	GDA94	2000	01/12/1981	Triffitt	61.00	0.00				Cambrian	Unknown	01/12/1981
2203	Bore	Dunorlan	460963	5407533	GDA94	1000	01/01/1982	Triffitt	18.30		6.1	01/01/1982		Tertiary Basalt	functioning	01/01/1982
2226	Bore	Dunorlan	460113	5407683	GDA94	2000	01/03/1982	Triffitt	17.70	0.38				Tertiary Basalt	functioning	01/03/1982
2250	Bore	Dunorlan	459813	5407783	GDA94	2000		Phillips	45.70					Tertiary Basalt	Unknown	
2251	Bore	Dunorlan	461063	5407133	GDA94	2000		Phillips	45.80	1.14				Tertiary Basalt	Unknown	
2276	Bore	Dunorlan	460963	5407883	GDA94	2000	20/08/1984	Kelly	15.80	0.25	8.5	20/08/1984		Tertiary Basalt	functioning	20/08/1984
3873	Bore	Dunorlan	458813	5406883	GDA94	200		McCall	48.80	1.89	9.1			Tertiary Basalt	functioning	
3947	Bore	Dunorlan	459513	5407783	GDA94	2000	21/02/1995	Gerald Spaulding Drillers Pty Ltd	80.80					Tertiary Basalt	functioning	21/02/1995
3969	Bore	Dunorlan	460023	5407863	GDA94	1000	02/12/1992	Gerald Spaulding Drillers Pty Ltd	16.80	0.76				Tertiary Basalt	functioning	02/12/1992
3970	Bore	Dunorlan	459973	5407813	GDA94	1000	30/11/1992	Gerald Spaulding Drillers Pty Ltd	30.50	0.51				Tertiary Basalt	abandoned	30/11/1992
3971	Bore	Dunorlan	459973	5407863	GDA94	1000	01/12/1992	Gerald Spaulding Drillers Pty Ltd	69.50	2.53	4.6	01/12/1992		Tertiary Basalt	functioning	01/12/1992
17693	Bore	Dunorlan	460313	5407883	GDA94	2000		McCall	48.80	1.89	9.2			Tertiary Basalt	Unknown	
17696	Bore	Dunorlan	459113	5408783	GDA94	2000	08/12/1997	Gerald Spaulding Drillers Pty Ltd	29.00	2.53	1.52	08/12/1997		Tertiary Basalt	functioning	08/12/1997
18217	Bore	Dunorlan	461763	5405733	GDA94	2000	01/01/1995	Moore, P.	19.80	0.63				Tertiary Basalt	Unknown	01/01/1995
31430	Bore	Dunorlan	461780	5406345	GDA94	25	04/06/2002	Gerald Spaulding Drillers Pty Ltd	30.00	10.10	1.2	04/06/2002		Cambrian	functioning	04/06/2002
41318	Bore	Dunorlan	461092	5407367	GDA94	25	05/12/2007	DPIWE	39.50					Tertiary Basalt	functioning	05/12/2007

12.9. Appendix I – Natural Values Atlas Report

Natural Values Atlas Report

Authoritative, comprehensive information on Tasmania's natural values.

Reference:

Requested For:

Report Type: Summary Report

Timestamp: 10:24:01 AM Thursday 04 January 2018

Threatened Flora: buffers Min: 500m Max: 5000m

Threatened Fauna: buffers Min: 500m Max: 5000m

Raptors: buffers Min: 500m Max: 5000m

Tasmanian Weed Management Act Weeds: buffers Min: 500m Max: 5000m

Priority Weeds: buffers Min: 500m Max: 5000m

Geoconservation: buffer 1000m

Acid Sulfate Soils: buffer 1000m

TASVEG: buffer 1000m

Threatened Communities: buffer 1000m

Fire History: buffer 1000m

Tasmanian Reserve Estate: buffer 1000m

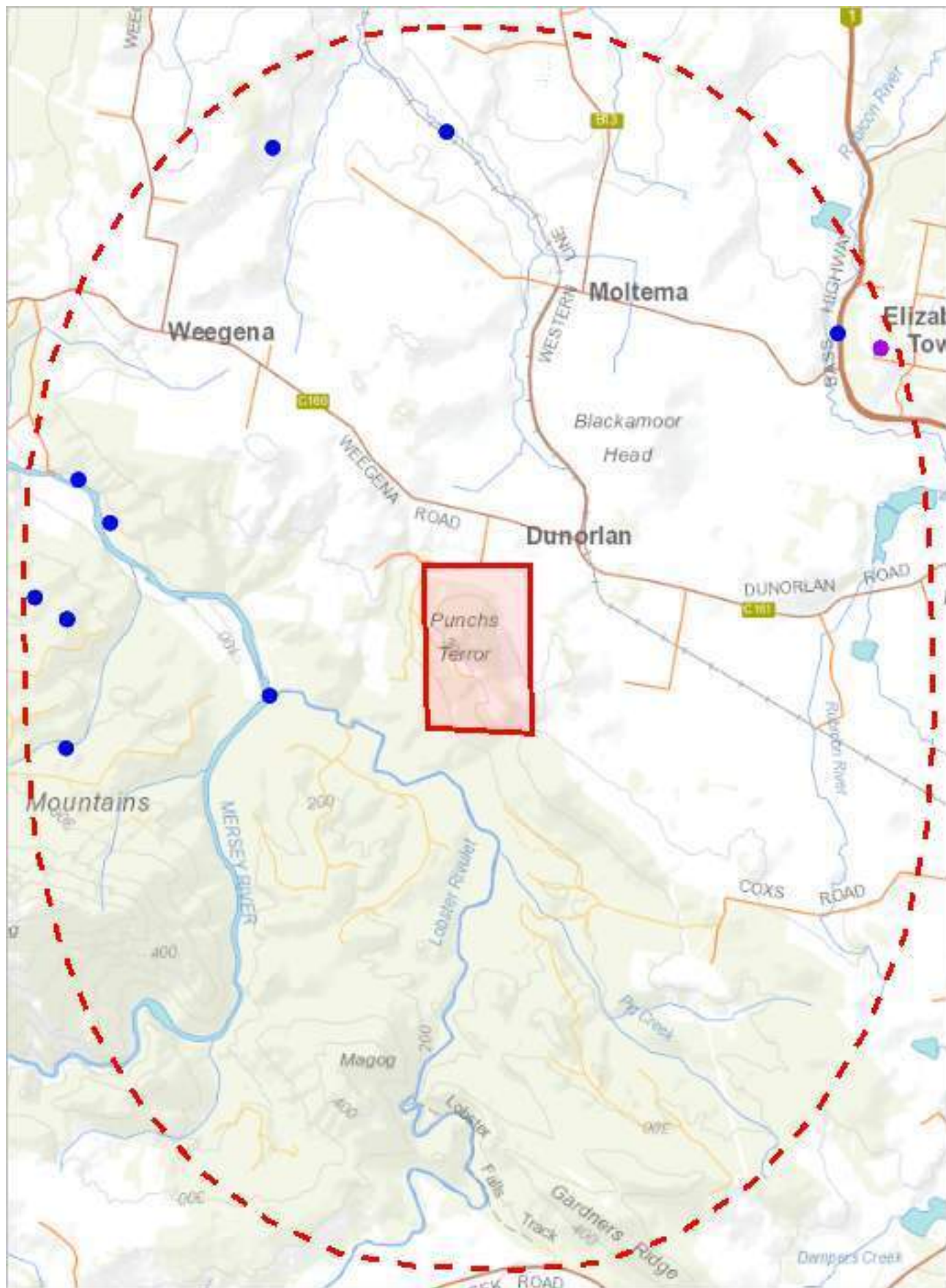
Biosecurity Risks: buffer 1000m



The centroid for this query GDA94: 460065.0, 5406541.0 falls within:

Property: 6281755

*** No threatened flora found within 500 metres ***



455609, 5400527

Please note that some layers may not display at all requested map scales

Threatened flora within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Threatened flora within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Desmodium gunnii	southern ticktrefoil	v		n	6	18-Jan-1999
Epilobium pallidiflorum	showy willowherb	r		n	1	26-Feb-1970
Glycine microphylla	small-leaf glycine	v		n	1	12-Nov-1996
Gynatrix pulchella	fragrant hempbush	r		n	2	30-Dec-1998
Hypolepis muelleri	harsh groundfern	r		n	1	01-Aug-1998
Pimelea curviflora	curved riceflower	p		n	2	22-Nov-1999
Pimelea curviflora var. gracilis	slender curved riceflower	r		n	5	19-Sep-1997

Unverified Records

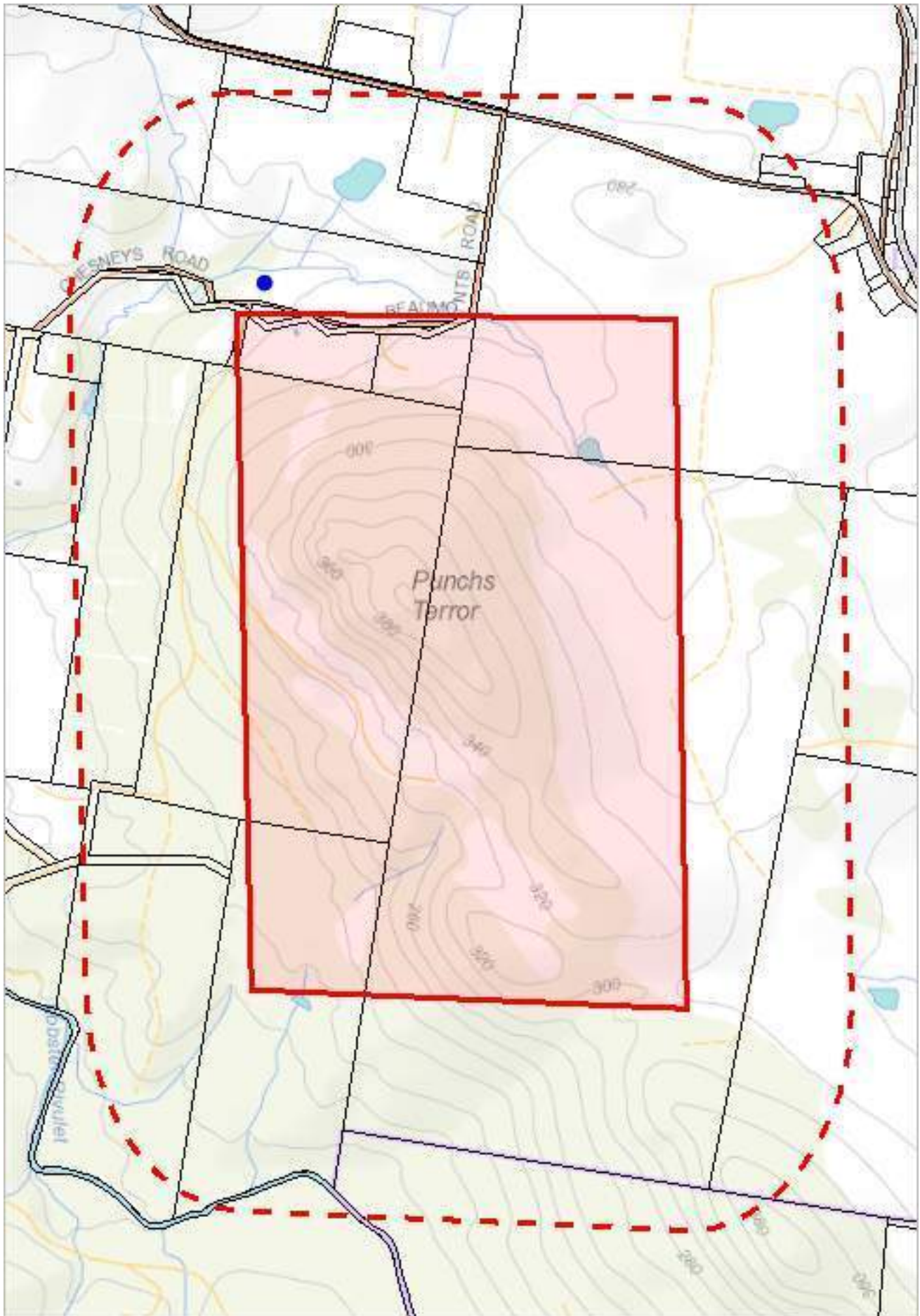
Species	Common Name	SS	NS	Bio	Observation Count
Pterostylis ziegeleri	grassland greenhood	v	VU	e	1

For more information about threatened species, please Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



459018, 5405043

Please note that some layers may not display at all requested map scales

Threatened fauna within 500 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

Line Verified

Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Threatened fauna within 500 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Litoria raniformis	green and gold frog	v	VU	n	1	11-Dec-1990

Unverified Records

No unverified records were found!

Threatened fauna within 500 metres (based on Range Boundaries)

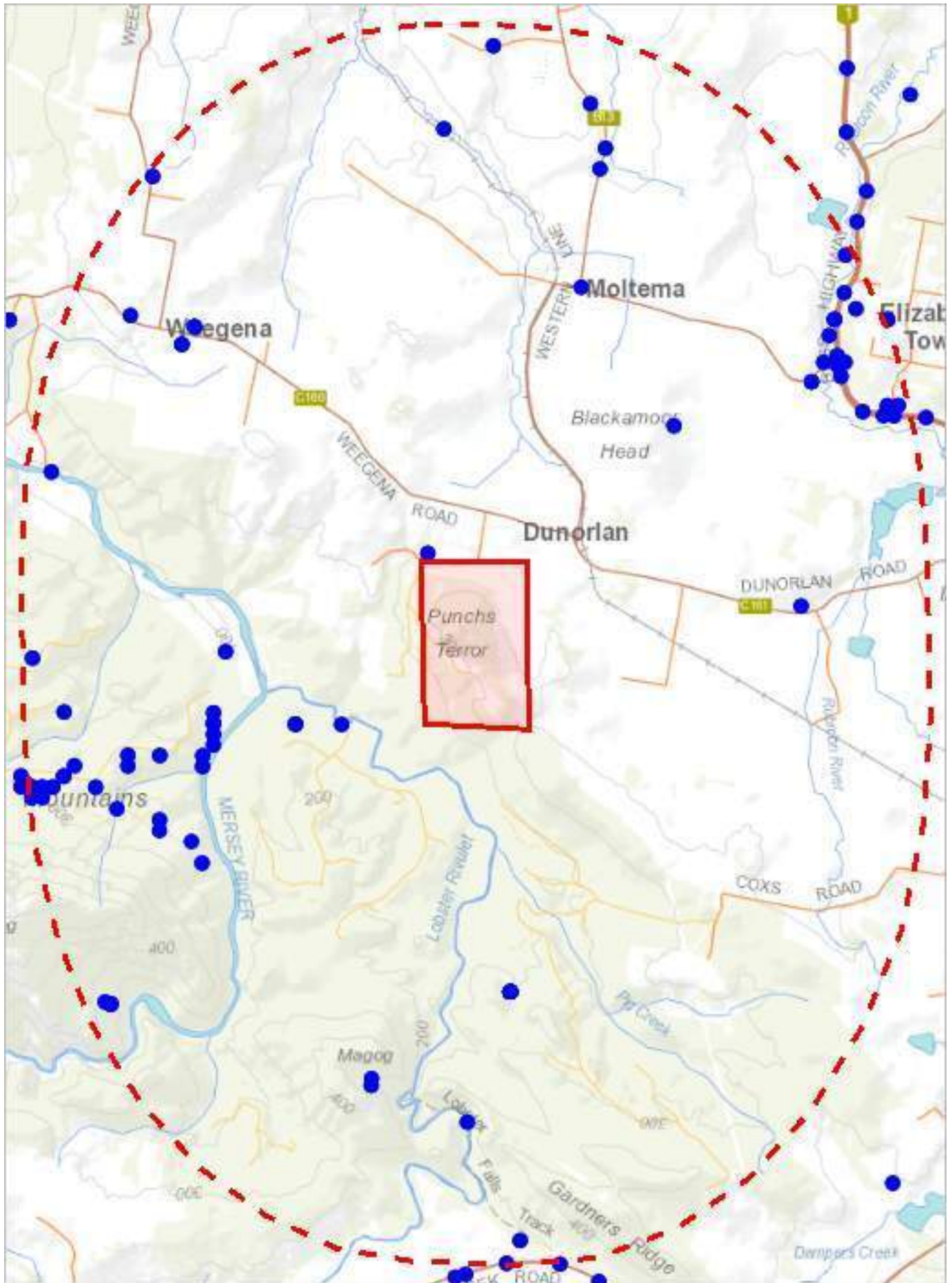
Species	Common Name	SS	NS	BO	Potential	Known	Core
Astacopsis gouldi	giant freshwater crayfish	v	VU	e	1	0	0
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Engaeus granulatus	Central North burrowing crayfish	e	EN	e	1	0	0
Pseudemoia pagenstecheri	tussock skink	v		n	1	0	0
Dasyurus maculatus	spotted-tailed quoll	r	VU	n	1	0	0
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
Aquila audax	wedge-tailed eagle	pe	PEN	n	1	0	0
Galaxiella pusilla	eastern dwarf galaxias	v	VU	n	1	0	0
Tyto novaehollandiae	masked owl	pe	PVU	n	1	0	1
Perameles gunnii	eastern barred bandicoot		VU	n	1	0	0
Dasyurus viverrinus	eastern quoll		EN	n	0	0	1
Lathamus discolor	swift parrot	e	CR	mbe	1	0	0
Prototroctes maraena	australian grayling	v	VU	n	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	1
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	1	0	0
Alcedo azurea subsp. diemenensis	azure kingfisher or azure kingfisher (tasmanian)	e	EN	e	0	0	1

For more information about threatened species, please Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpipwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



455609, 5400527

Please note that some layers may not display at all requested map scales

Threatened fauna within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Threatened fauna within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Accipiter novaehollandiae	grey goshawk	e		n	1	27-Mar-1977
Aquila audax	wedge-tailed eagle	pe	PEN	n	5	16-Sep-2010
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	14	16-Nov-2017
Astacopsis gouldi	giant freshwater crayfish	v	VU	e	4	01-Jan-1993
Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	n	6	01-Jan-1996
Dasyurus viverrinus	eastern quoll		EN	n	2	01-Jan-1996
Hickmanoxymomma gibbergunyar	cave harvestman or Mole Creek cave harvestman	r		e	1	01-Jan-0001
Lathamus discolor	swift parrot	e	CR	mbe	32	29-Nov-1995
Litoria raniformis	green and gold frog	v	VU	n	9	20-Dec-2000
Perameles gunnii	eastern barred bandicoot		VU	n	17	21-Sep-1992
Prototroctes maraena	australian grayling	v	VU	n	1	22-Mar-2004
Sarcophilus harrisii	tasmanian devil	e	EN	e	7	26-Jul-2015
Tyto novaehollandiae	masked owl	pe	PVU	n	8	12-Jun-2016

Unverified Records

No unverified records were found!

Threatened fauna within 5000 metres (based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
Astacopsis gouldi	giant freshwater crayfish	v	VU	e	1	0	0
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Engaeus granulatus	Central North burrowing crayfish	e	EN	e	1	0	0
Hickmanoxymomma gibbergunyar	cave harvestman or Mole Creek cave harvestman	r		e	1	1	0
Pseudemoia pagenstecheri	tussock skink	v		n	1	0	0
Dasyurus maculatus	spotted-tailed quoll	r	VU	n	1	0	1
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
Aquila audax	wedge-tailed eagle	pe	PEN	n	2	0	0
Galaxiella pusilla	eastern dwarf galaxias	v	VU	n	1	0	0
Galaxias fontanus	swan galaxias	e	EN	e	1	0	0
Tyto novaehollandiae	masked owl	pe	PVU	n	1	0	1
Perameles gunnii	eastern barred bandicoot		VU	n	1	0	0
Dasyurus viverrinus	eastern quoll		EN	n	0	0	1
Lathamus discolor	swift parrot	e	CR	mbe	1	0	0
Prototroctes maraena	australian grayling	v	VU	n	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	1
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	1	0	0
Alcedo azurea subsp. diemenensis	azure kingfisher or azure kingfisher (tasmanian)	e	EN	e	0	0	1

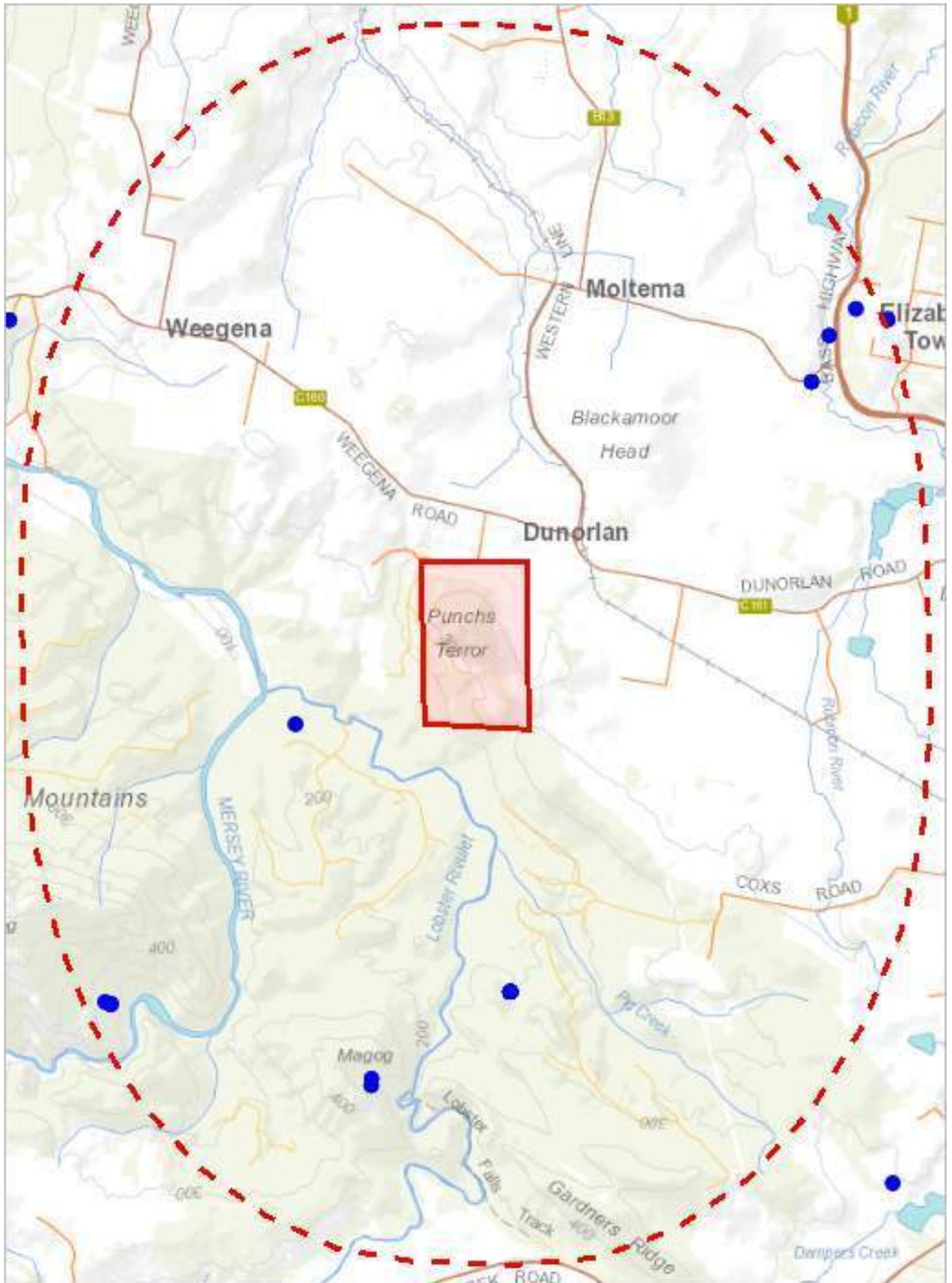
For more information about threatened species, please Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpipwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

*** No Raptor nests or sightings found within 500 metres. ***



455609, 5400527

Please note that some layers may not display at all requested map scales

Raptor nests and sightings within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Raptor nests and sightings within 5000 metres

Verified Records

Nest Id/Location Foreign Id	Species	Common Name	Obs Type	Observation Count	Last Recorded
1335	Aquila audax	wedge-tailed eagle	Nest	5	16-Sep-2010
1335	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	6	28-Oct-2015
186	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	3	10-Dec-2007
188	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	1	01-Jan-1985
2451	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	2	16-Nov-2017
564	Tyto novaehollandiae	masked owl	Nest	1	01-Jan-1985
	Accipiter novaehollandiae	grey goshawk	Sighting	1	27-Mar-1977
	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Sighting	2	14-Nov-1996
	Tyto novaehollandiae	masked owl	Carcass	1	12-Jun-2016
	Tyto novaehollandiae	masked owl	Sighting	6	12-Jun-2016

Unverified Records

No unverified records were found!

Raptor nests and sightings within 5000 metres (based on Range Boundaries)

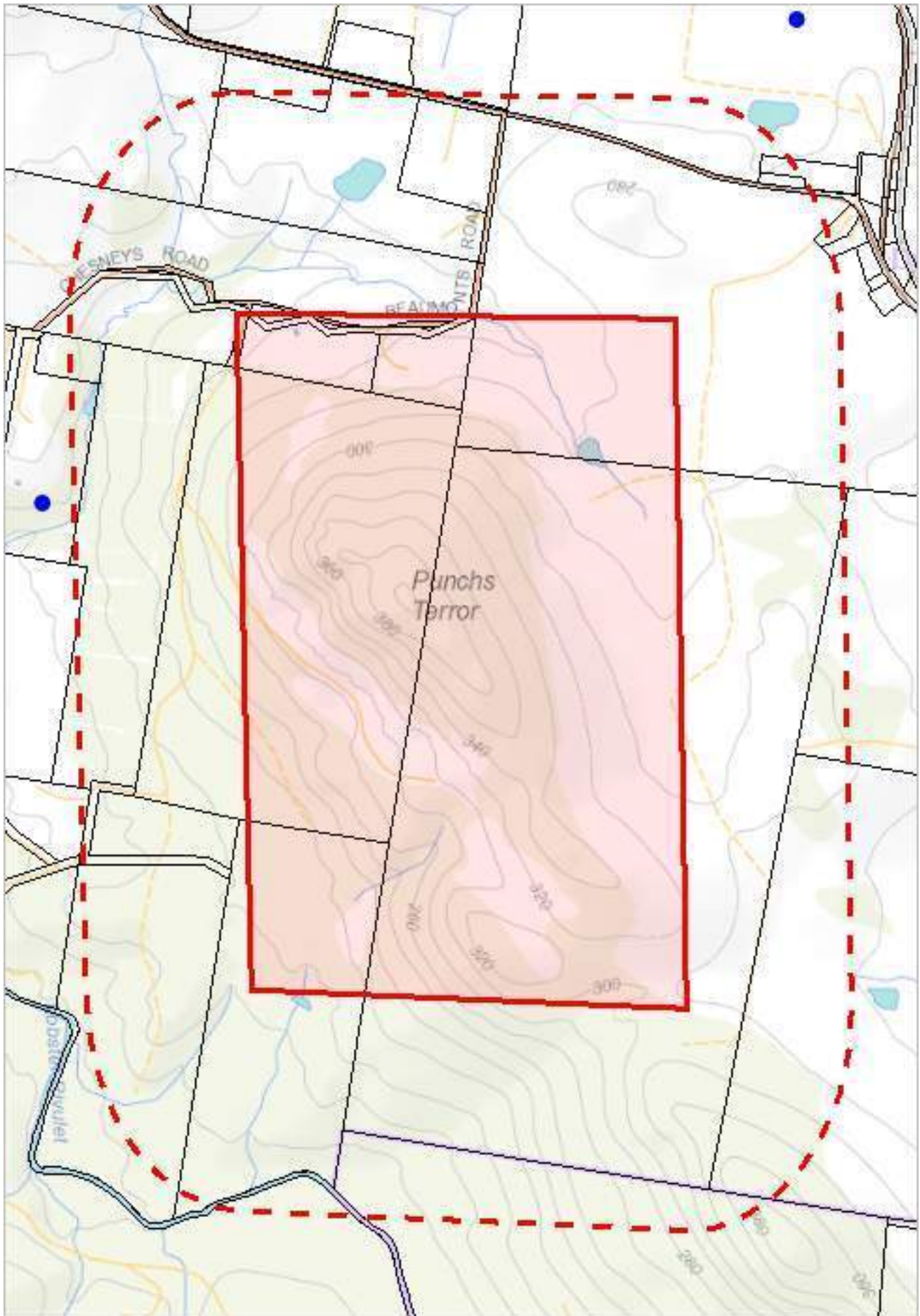
Species	Common Name	SS	NS	Potential	Known	Core
Aquila audax	wedge-tailed eagle	pe	PEN	2	0	0
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	1	0	0
Tyto novaehollandiae	masked owl	pe	PVU	1	0	1
Accipiter novaehollandiae	grey goshawk	e		1	0	1
Haliaeetus leucogaster	white-bellied sea-eagle	v		1	0	0

For more information about raptor nests, please contact Threatened Species Enquiries.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiw.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



459018, 5405043

Please note that some layers may not display at all requested map scales

Tas Management Act Weeds within 500 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

Line Verified

Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Tas Management Act Weeds within 500 m

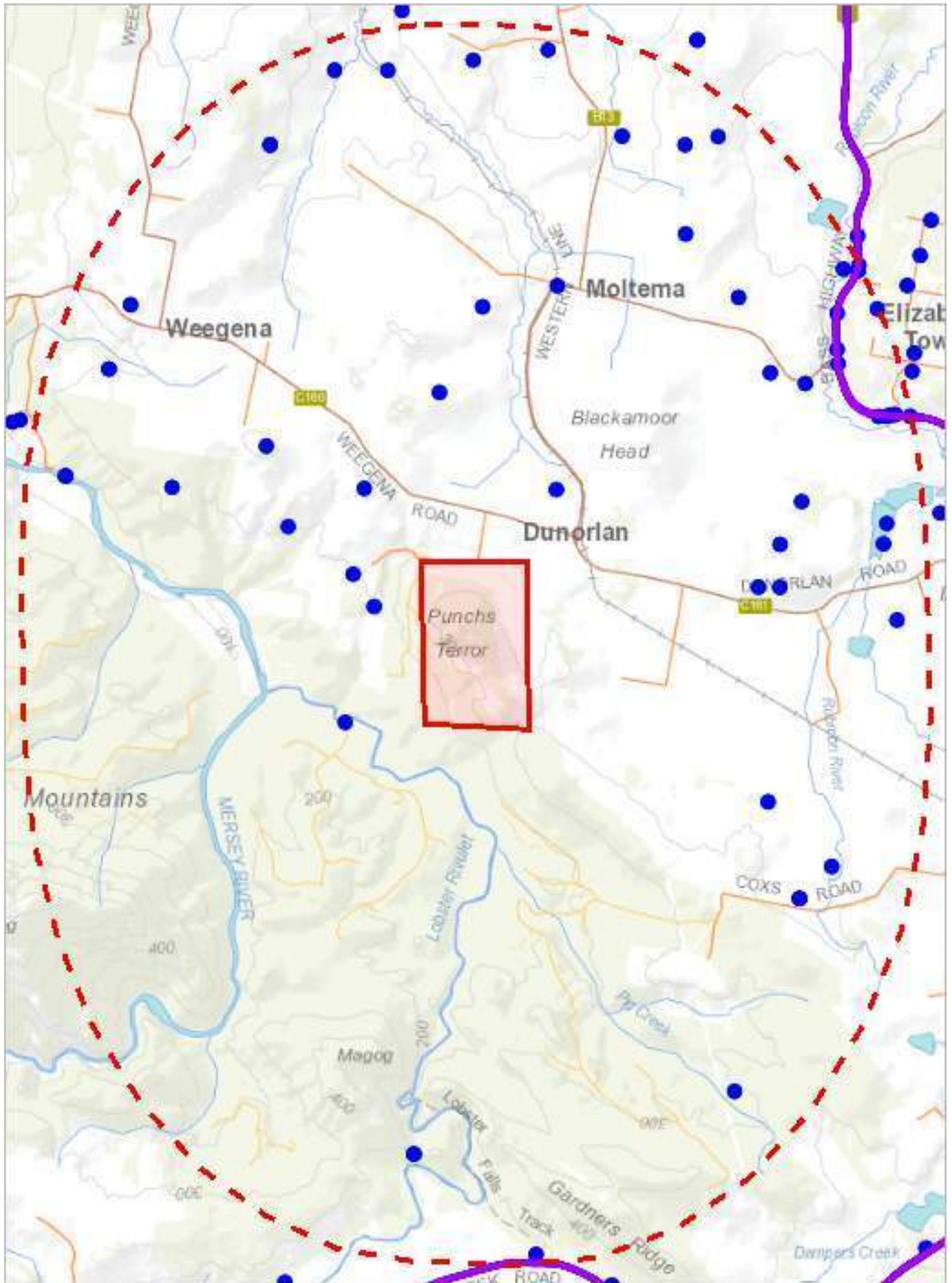
Verified Records

Species	Common Name	Observation Count	Last Recorded
Senecio jacobaea	ragwort	1	17-Jan-1994

Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwpe.tas.gov.au/invasive-species/weeds>



455609, 5400527

Please note that some layers may not display at all requested map scales

Tas Management Act Weeds within 5000 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

■ Polygon Verified

■ Polygon Unverified

Legend: Cadastral Parcels



Tas Management Act Weeds within 5000 m

Verified Records

Species	Common Name	Observation Count	Last Recorded
Cortaderia sp.	pampas grass	1	23-Mar-2011
Erica lusitanica	spanish heath	6	24-Oct-2001
Hypericum perforatum subsp. veronense	perforated st johns-wort	7	21-Feb-2011
Rubus fruticosus	blackberry	10	01-Aug-1998
Senecio jacobaea	ragwort	65	21-Feb-2011
Ulex europaeus	gorse	5	14-May-2012

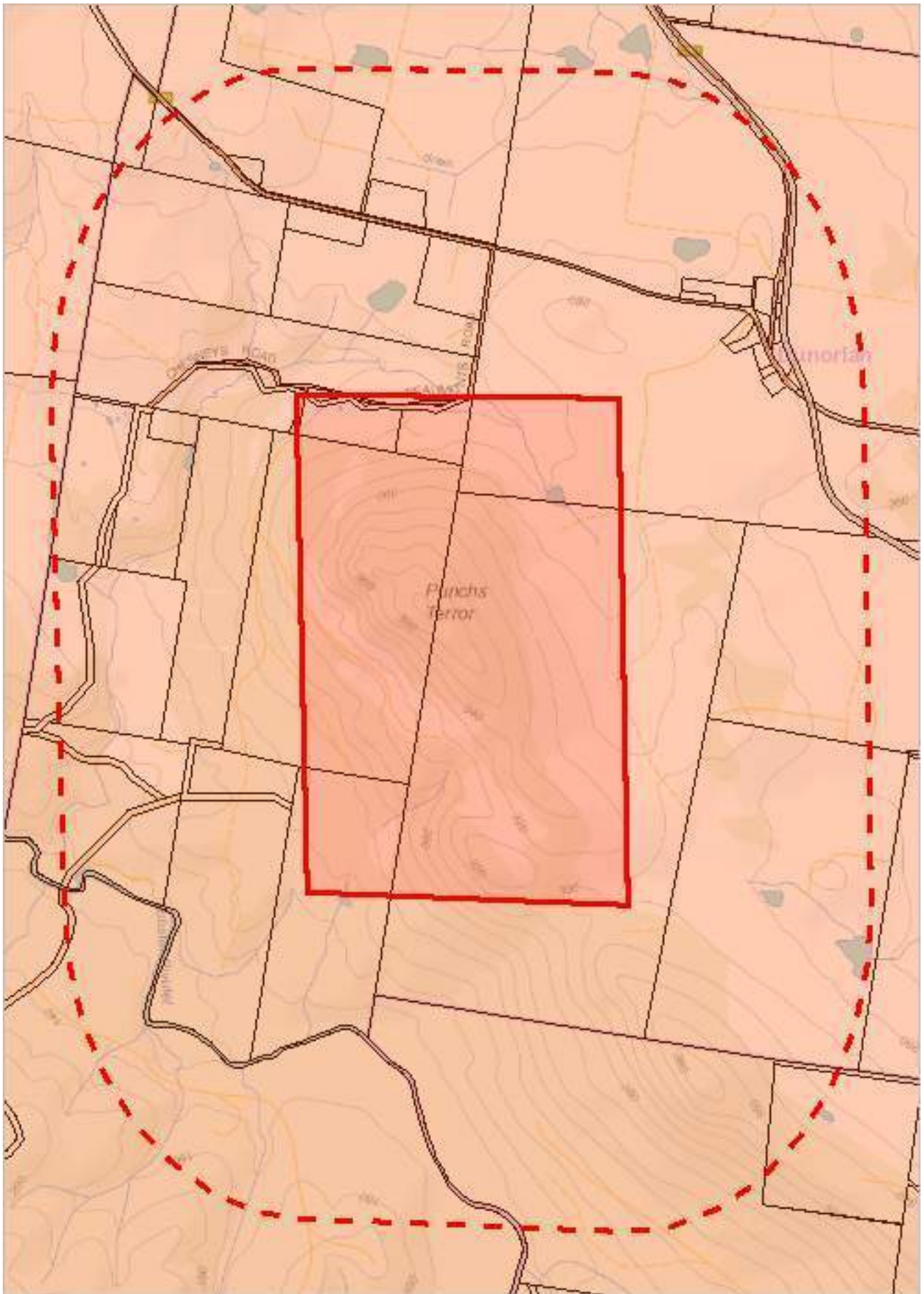
Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwpe.tas.gov.au/invasive-species/weeds>

*** No Priority Weeds found within 500 metres ***

*** No Priority Weeds found within 5000 metres ***



458639, 5404542

Please note that some layers may not display at all requested map scales

Geoconservation sites within 1000 metres

Legend: Geoconservation (NVA)



Legend: Cadastral Parcels



Geoconservation sites within 1000 metres

Id	Name	Statement of Significance	Geographical Significance	Status
2953	Central Highlands Cenozoic Glacial Area	This site contains significant glaciogene values, including World Heritage values, however the nature and distribution of landforms and deposits is incompletely known or documented.	Continent	Listed

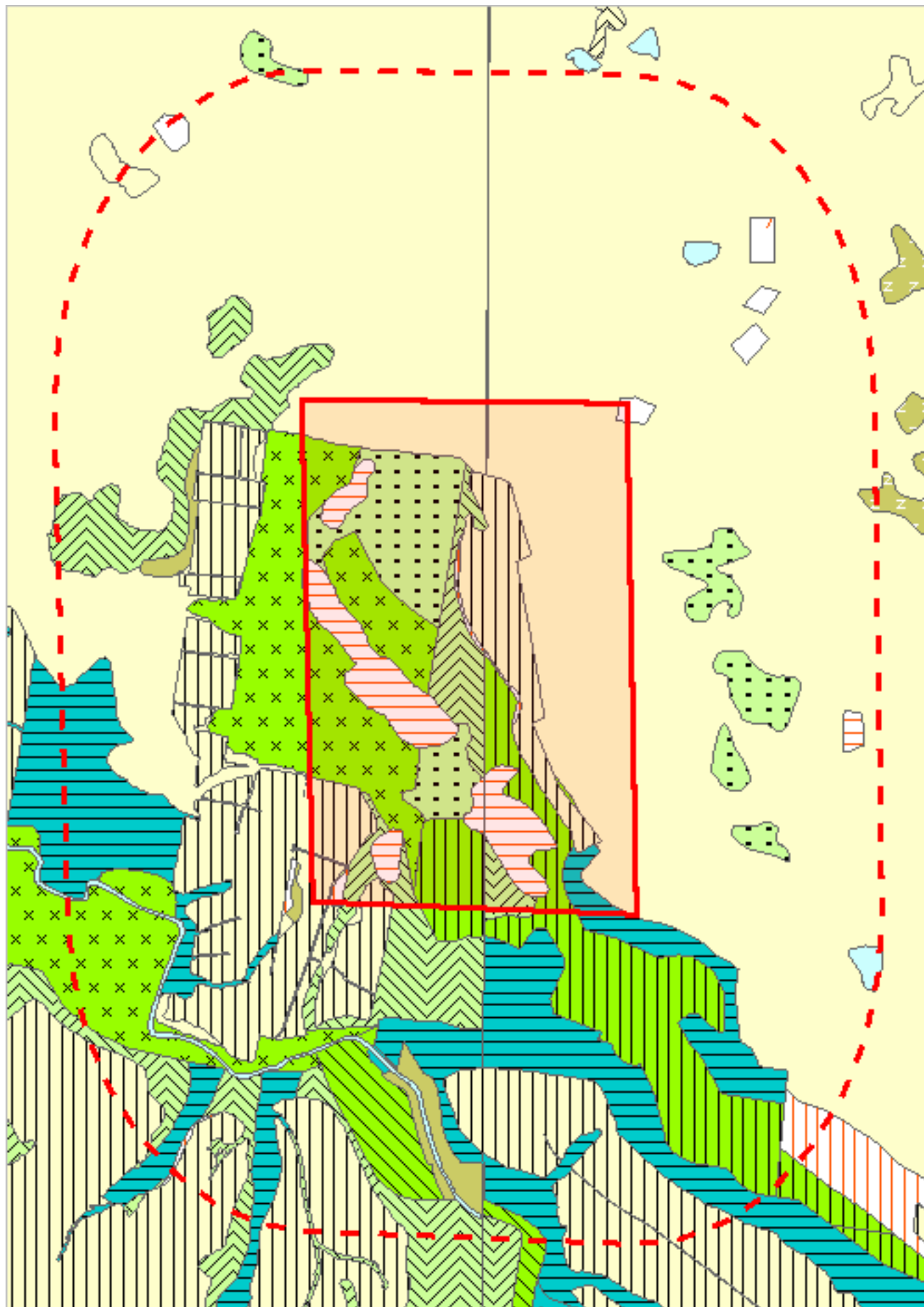
For more information about the Geoconservation Database, please visit the website: <http://dppw.tas.gov.au/conservation/geoconservation> or contact the Geoconservation Officer:

Telephone: (03) 6165 4401

Email: Geoconservation.Enquiries@dppw.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000




























































*** No Acid Sulfate Soils found within 1000 metres ***





























































458639, 5404542

Please note that some layers may not display at all requested map scales












































Legend: TASVEG 3.0

	DAC - Eucalyptus amygdalina coastal forest and woodland
	DAD - Eucalyptus amygdalina forest and woodland on dolerite
	DAS - Eucalyptus amygdalina forest and woodland on sandstone
	DAM - Eucalyptus amygdalina forest on mudstone
	DAZ - Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits
	DSC - Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest
	DBA - Eucalyptus barberi forest and woodland
	DCO - Eucalyptus coccifera forest and woodland
	DCR - Eucalyptus cordata forest
	DDP - Eucalyptus dalrympleana - Eucalyptus pauciflora forest and woodland
	DDE - Eucalyptus delegatensis dry forest and woodland
	DGL - Eucalyptus globulus dry forest and woodland
	DGW - Eucalyptus gunnii woodland
	DMO - Eucalyptus morrisbyi forest and woodland
	DNI - Eucalyptus nitida dry forest and woodland
	DNF - Eucalyptus nitida Furneaux forest
	DOB - Eucalyptus obliqua dry forest
	DOV - Eucalyptus ovata forest and woodland
	DOW - Eucalyptus ovata heathy woodland
	DPO - Eucalyptus pauciflora forest and woodland not on dolerite
	DPD - Eucalyptus pauciflora forest and woodland on dolerite
	DPE - Eucalyptus perriniana forest and woodland
	DPU - Eucalyptus pulchella forest and woodland
	DRI - Eucalyptus risdonii forest and woodland
	DRO - Eucalyptus rodwayi forest and woodland
	DSO - Eucalyptus sieberi forest and woodland not on granite
	DSG - Eucalyptus sieberi forest and woodland on granite
	DTD - Eucalyptus tenuiramis forest and woodland on dolerite
	DTG - Eucalyptus tenuiramis forest and woodland on granite
	DTO - Eucalyptus tenuiramis forest and woodland on sediments
	DVF - Eucalyptus viminalis Furneaux forest and woodland
	DVG - Eucalyptus viminalis grassy forest and woodland
	DVC - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
	DKW - King Island Eucalypt woodland
	DMW - Midlands woodland complex
	WBR - Eucalyptus brookeriana wet forest
	WDA - Eucalyptus dalrympleana forest
	WDL - Eucalyptus delegatensis forest over Leptospermum
	WDR - Eucalyptus delegatensis forest over rainforest
	WDB - Eucalyptus delegatensis forest with broad-leaf shrubs
	WDU - Eucalyptus delegatensis wet forest (undifferentiated)
	WGK - Eucalyptus globulus King Island forest
	WGL - Eucalyptus globulus wet forest
	WNL - Eucalyptus nitida forest over Leptospermum
	WNR - Eucalyptus nitida forest over rainforest
	WNU - Eucalyptus nitida wet forest (undifferentiated)
	WOL - Eucalyptus obliqua forest over Leptospermum
	WOR - Eucalyptus obliqua forest over rainforest
	WOB - Eucalyptus obliqua forest with broad-leaf shrubs
	WOU - Eucalyptus obliqua wet forest (undifferentiated)
	WRE - Eucalyptus regnans forest
	WSU - Eucalyptus subcrenulata forest and woodland
	WVI - Eucalyptus viminalis wet forest
	RPF - Athrotaxis cupressoides - Nothofagus gunnii short rainforest
	RPW - Athrotaxis cupressoides open woodland
	RPP - Athrotaxis cupressoides rainforest
	RKF - Athrotaxis selaginoides - Nothofagus gunnii short rainforest
	RKP - Athrotaxis selaginoides rainforest
	RKS - Athrotaxis selaginoides subalpine scrub

TASVEG 3.0 Communities within 1000 metres

	RCO - Coastal rainforest
	RSH - Highland low rainforest and scrub
	RKX - Highland rainforest scrub with dead Athrotaxis selaginoides
	RHP - Lagarostrobos franklinii rainforest and scrub
	RMT - Nothofagus - Atherosperma rainforest
	RML - Nothofagus - Leptospermum short rainforest
	RMS - Nothofagus - Phyllocladus short rainforest
	RFS - Nothofagus gunnii rainforest and scrub
	RMU - Nothofagus rainforest (undifferentiated)
	RFE - Rainforest fernland
	NAD - Acacia dealbata forest
	NAR - Acacia melanoxylon forest on rises
	NAF - Acacia melanoxylon swamp forest
	NAL - Allocasuarina littoralis forest
	NAV - Allocasuarina verticillata forest
	NBS - Banksia serrata woodland
	NBA - Bursaria - Acacia woodland and scrub
	NCR - Callitris rhomboidea forest
	NLE - Leptospermum forest
	NLM - Leptospermum lanigerum - Melaleuca squarrosa swamp forest
	NLA - Leptospermum scoparium - Acacia mucronata forest
	NME - Melaleuca ericifolia swamp forest
	NLN - Subalpine Leptospermum nitidum woodland
	AHF - Fresh water aquatic herbland
	ASF - Freshwater aquatic sedgeland and rushland
	AHL - Lacustrine herbland
	AHS - Saline aquatic herbland
	ARS - Saline sedgeland/rushland
	AUS - Saltmarsh (undifferentiated)
	ASS - Succulent saline herbland
	AWU - Wetland (undifferentiated)
	SAL - Acacia longifolia coastal scrub
	SBM - Banksia marginata wet scrub
	SBR - Broad-leaf scrub
	SCH - Coastal heathland
	SSC - Coastal scrub
	SCA - Coastal scrub on alkaline sands
	SRE - Eastern riparian scrub
	SED - Eastern scrub on dolerite
	SCL - Heathland on calcareous substrates
	SKA - Kunzea ambigua regrowth scrub
	SLG - Leptospermum glaucescens heathland and scrub
	SLL - Leptospermum lanigerum scrub
	SLS - Leptospermum scoparium heathland and scrub
	SLW - Leptospermum scrub
	SRF - Leptospermum with rainforest scrub
	SMP - Melaleuca pustulata scrub
	SMM - Melaleuca squamea heathland
	SMR - Melaleuca squarrosa scrub
	SRH - Rookery halophytic herbland
	SSK - Scrub complex on King Island
	SSZ - Spray zone coastal complex
	SHS - Subalpine heathland
	SWR - Western regrowth complex
	SSW - Western subalpine scrub
	SWW - Western wet scrub
	SHW - Wet heathland
	HCH - Alpine coniferous heathland
	HCM - Cushion moorland
	HHE - Eastern alpine heathland
	HSE - Eastern alpine sedgeland

TASVEG 3.0 Communities within 1000 metres

	HUE - Eastern alpine vegetation (undifferentiated)
	HHW - Western alpine heathland
	HSW - Western alpine sedgeland/herbland
	MAP - Alkaline pans
	MBU - Buttongrass moorland (undifferentiated)
	MBS - Buttongrass moorland with emergent shrubs
	MBE - Eastern buttongrass moorland
	MGH - Highland grassy sedgeland
	MBP - Pure buttongrass moorland
	MRR - Restionaceae rushland
	MBR - Sparse buttongrass moorland on slopes
	MSP - Sphagnum peatland
	MDS - Subalpine Diplarrena latifolia rushland
	MBW - Western buttongrass moorland
	MSW - Western lowland sedgeland
	GHC - Coastal grass and herbfield
	GPH - Highland Poa grassland
	GCL - Lowland grassland complex
	GSL - Lowland grassy sedgeland
	GPL - Lowland Poa labillardierei grassland
	GTL - Lowland Themeda triandra grassland
	GRP - Rockplate grassland
	FAG - Agricultural land
	FUM - Extra-urban miscellaneous
	FMG - Marram grassland
	FPE - Permanent easements
	FPL - Plantations for silviculture
	FPF - Pteridium esculentum fernland
	FRG - Regenerating cleared land
	FSM - Spartina marshland
	FPU - Unverified plantations for silviculture
	FUR - Urban areas
	FWU - Weed infestation
	QCS - Coastal slope complex
	QCT - Coastal terrace mosaic
	QKB - Kelp beds
	QAM - Macquarie alpine mosaic
	QMI - Mire
	QST - Short tussock grassland/rushland with herbs
	QTT - Tall tussock grassland with megaherbs
	ORO - Lichen lithosere
	OSM - Sand, mud
	OAQ - Water, sea

Legend: Cadastral Parcels



TASVEG 3.0 Communities within 1000 metres

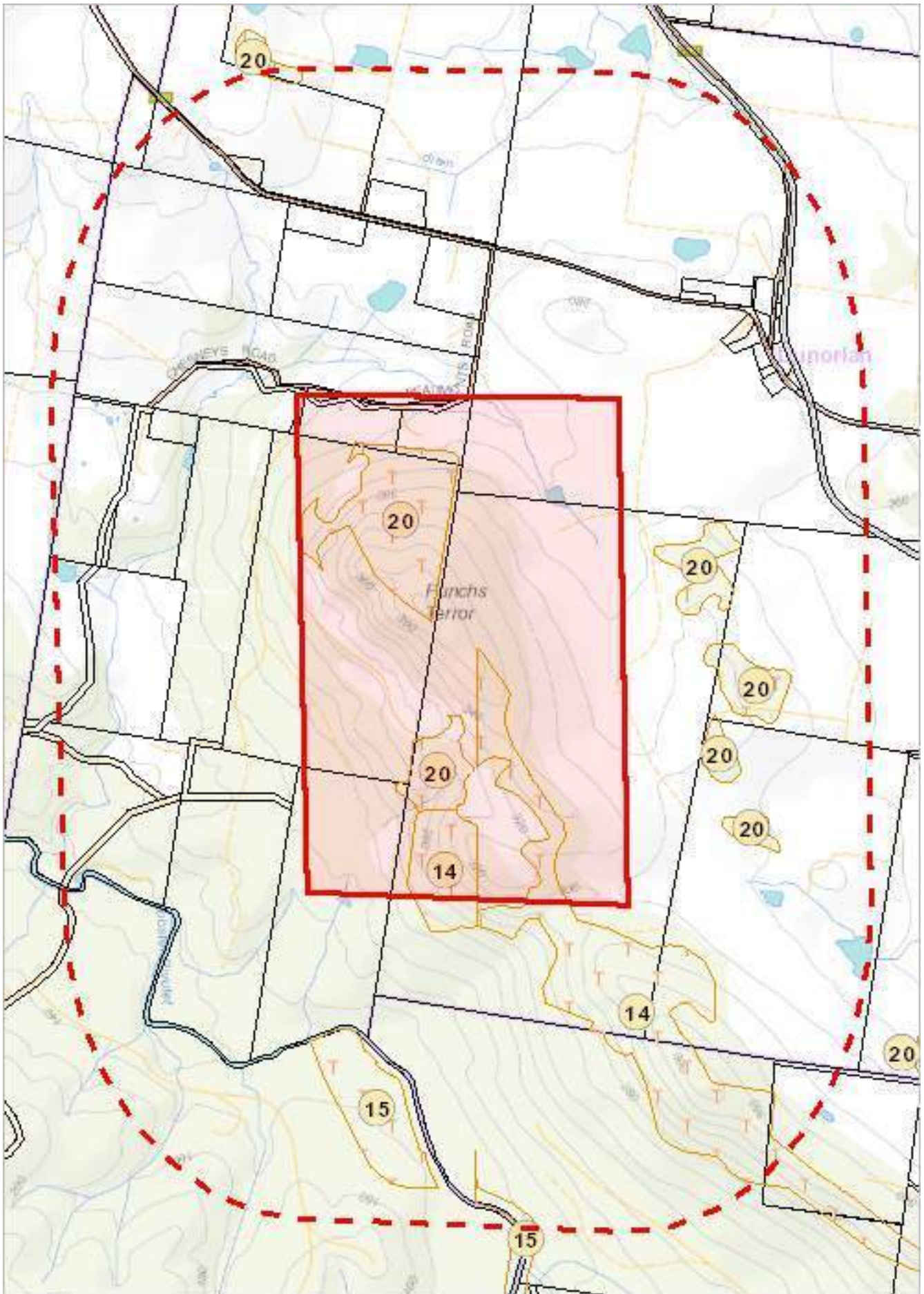
Code	Community	Emergent Species
DAC	(DAC) Eucalyptus amygdalina coastal forest and woodland	
DAS	(DAS) Eucalyptus amygdalina forest and woodland on sandstone	
DAZ	(DAZ) Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	
DOB	(DOB) Eucalyptus obliqua dry forest	
DOV	(DOV) Eucalyptus ovata forest and woodland	
DSC	(DSC) Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest	
FAG	(FAG) Agricultural land	EL
FAG	(FAG) Agricultural land	EV
FAG	(FAG) Agricultural land	
FPL	(FPL) Plantations for silviculture	
FPU	(FPU) Unverified plantations for silviculture	
FUM	(FUM) Extra-urban miscellaneous	
FUR	(FUR) Urban areas	
NAD	(NAD) Acacia dealbata forest	
NBA	(NBA) Bursaria - Acacia woodland and scrub	
OAQ	(OAQ) Water, sea	
WOB	(WOB) Eucalyptus obliqua forest with broad-leaf shrubs	
WOU	(WOU) Eucalyptus obliqua wet forest (undifferentiated)	

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

Telephone: (03) 6165 4320

Email: TVMMPsupport@dpiwve.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



458639, 5404542

Please note that some layers may not display at all requested map scales

Threatened Communities (TNVC 2014) within 1000 metres

Legend: Threatened Communities

- ☐ 1 - Alkaline pans
- ☐ 2 - Allocasuarina littoralis forest
- ☐ 3 - Athrotaxis cupressoides/Nothofagus gunnii short rainforest
- ☐ 4 - Athrotaxis cupressoides open woodland
- ☐ 5 - Athrotaxis cupressoides rainforest
- ☐ 6 - Athrotaxis selaginoides/Nothofagus gunnii short rainforest
- ☐ 7 - Athrotaxis selaginoides rainforest
- ☐ 8 - Athrotaxis selaginoides subalpine scrub
- ☐ 9 - Banksia marginata wet scrub
- ☐ 10 - Banksia serrata woodland
- ☐ 11 - Callitris rhomboidea forest
- ☐ 13 - Cushion moorland
- ☐ 14 - Eucalyptus amygdalina forest and woodland on sandstone
- ☐ 15 - Eucalyptus amygdalina inland forest and woodland on cainozoic deposits
- ☐ 16 - Eucalyptus brookeriana wet forest
- ☐ 17 - Eucalyptus globulus dry forest and woodland
- ☐ 18 - Eucalyptus globulus King Island forest
- ☐ 19 - Eucalyptus morrisbyi forest and woodland
- ☐ 20 - Eucalyptus ovata forest and woodland
- ☐ 21 - Eucalyptus risdonii forest and woodland
- ☐ 22 - Eucalyptus tenuiramis forest and woodland on sediments
- ☐ 23 - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
- ☐ 24 - Eucalyptus viminalis Furneaux forest and woodland
- ☐ 25 - Eucalyptus viminalis wet forest
- ☐ 26 - Heathland on calcareous substrates
- ☐ 27 - Heathland scrub complex at Wingaroo
- ☐ 28 - Highland grassy sedge land
- ☐ 29 - Highland Poa grassland
- ☐ 30 - Melaleuca ericifolia swamp forest
- ☐ 31 - Melaleuca pustulata scrub
- ☐ 32 - Notelaea - Pomaderris - Beyeria forest
- ☐ 33 - Rainforest fernland
- ☐ 34 - Riparian scrub
- ☐ 35 - Seabird rookery complex
- ☐ 36 - Sphagnum peatland
- ☐ 36A - Spray zone coastal complex
- ☐ 37 - Subalpine Diplarrena latifolia rushland
- ☐ 38 - Subalpine Leptospermum nitidum woodland
- ☐ 39 - Wetlands

Legend: Cadastral Parcels



Threatened Communities (TNVC 2014) within 1000 metres

Scheduled Community Id	Scheduled Community Name
14	Eucalyptus amygdalina forest and woodland on sandstone
15	Eucalyptus amygdalina inland forest and woodland on cainozoic deposits
20	Eucalyptus ovata forest and woodland

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

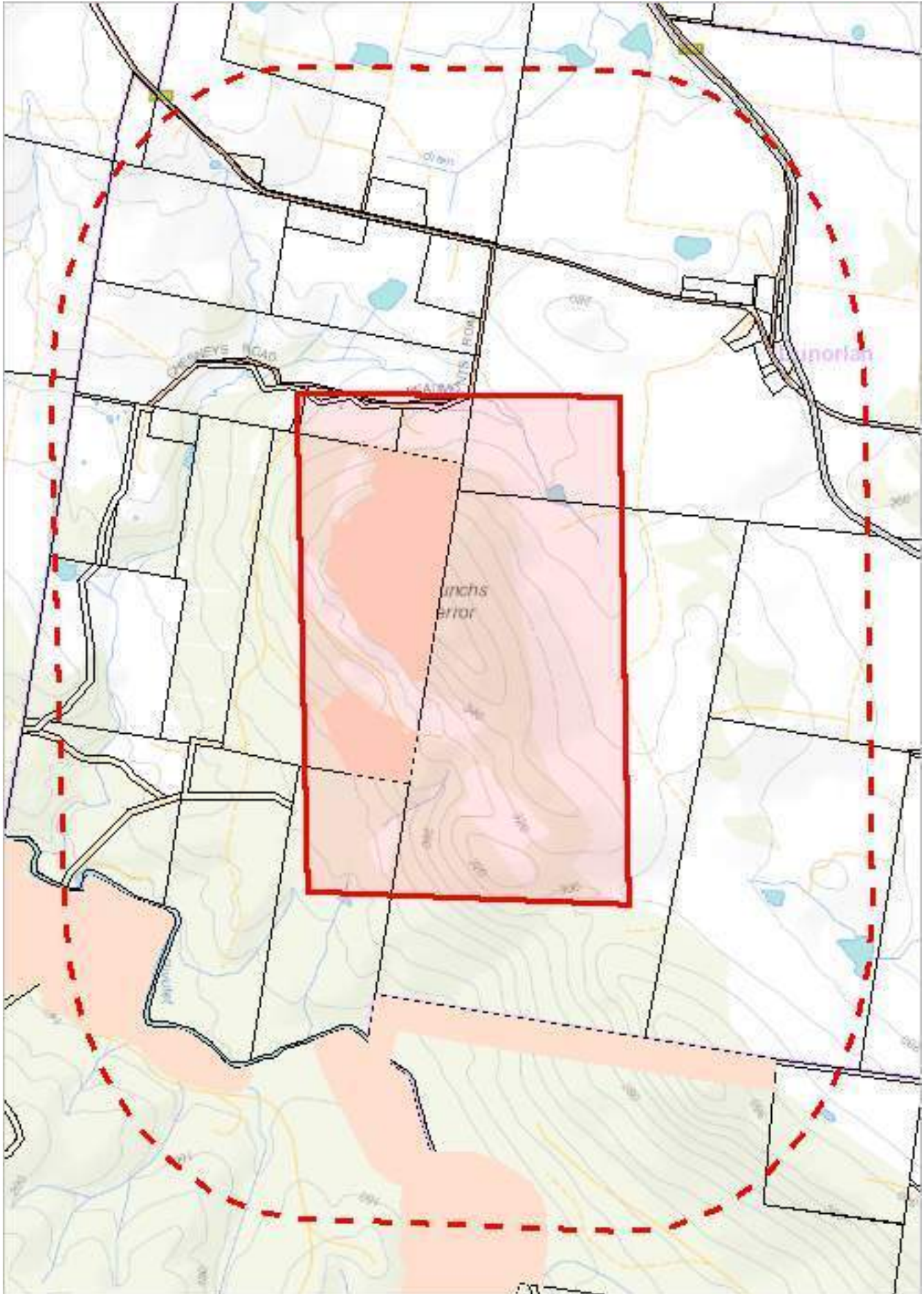
Telephone: (03) 6165 4320

Email: TVMMPsupport@dpiw.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

*** No Fire History (All) found within 1000 metres ***

*** No Fire History (Last Burnt) found within 1000 metres ***




























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Please note that some layers may not display at all requested map scales

Reserves within 1000 metres

Legend: Tasmanian Reserve Estate

-  Conservation Area
-  Conservation Area and Conservation Covenant (NCA)
-  Game Reserve
-  Historic Site
-  Indigenous Protected Area
-  National Park
-  Nature Reserve
-  Nature Recreation Area
-  Regional Reserve
-  State Reserve
-  Wellington Park
-  Public authority land within WHA
-  Future Potential Production Forest
-  Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land
-  Informal Reserve on other public land
-  Conservation Covenant (NCA)
-  Private Nature Reserve and Conservation Covenant (NCA)
-  Private Sanctuary and Conservation Covenant (NCA)
-  Private Sanctuary
-  Private land within WHA
-  Management Agreement
-  Management Agreement and Stewardship Agreement
-  Stewardship Agreement
-  Part 5 Agreement (Meander Dam Offset)
-  Other Private Reserve

Legend: Cadastral Parcels



Reserves within 1000 metres

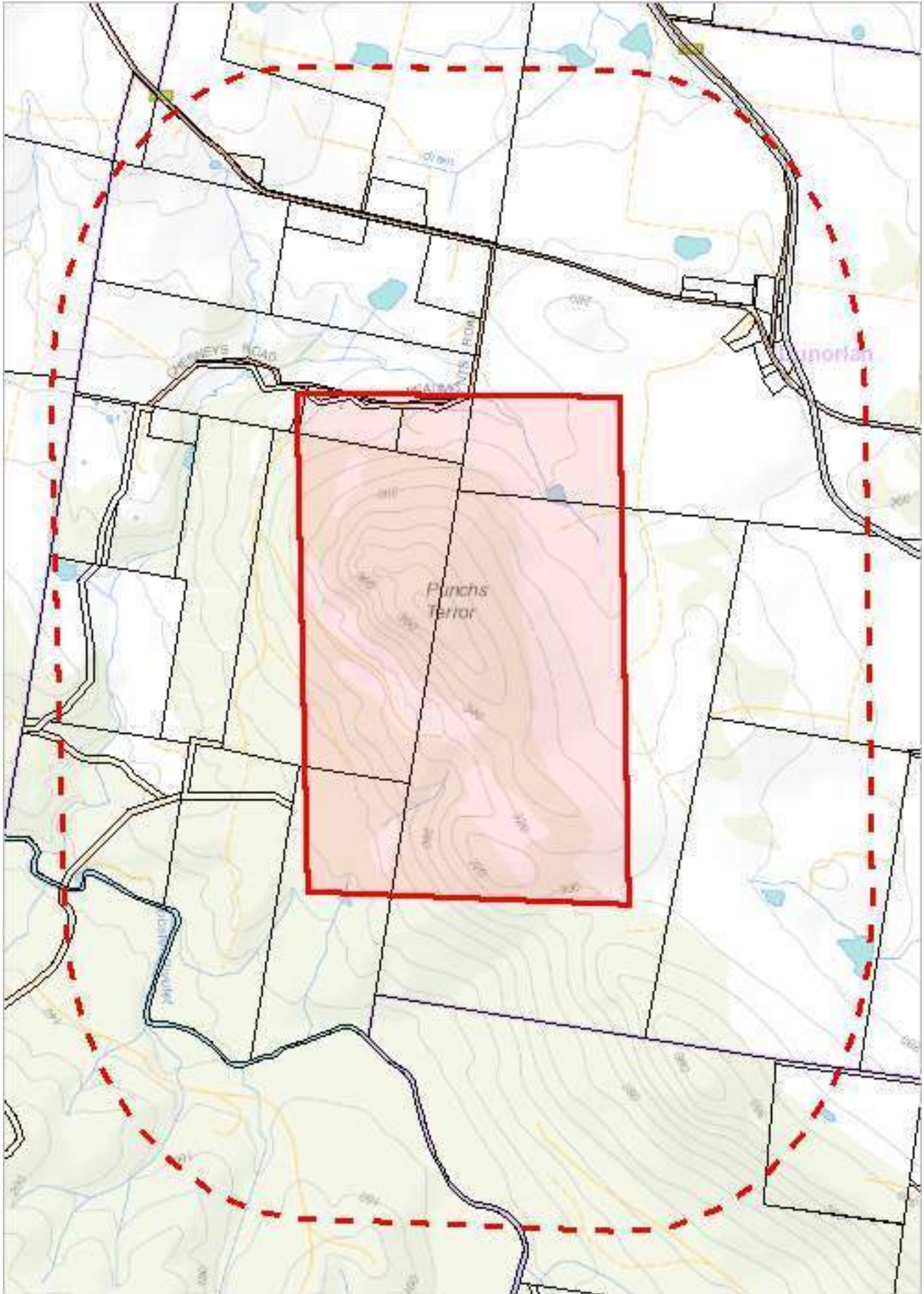
Name	Classification	Status	Area (HA)
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	5.280749999 999999
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	18.3357
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	66.33070000 000001
	Informal Reserve on Permanent Timber Production Zone Land or Forestry Tas. managed land	Informal Reserve	679.2610000 000001

For more information about the Tasmanian Reserve Estate, please contact the Sustainable Land Use and Information Management Branch.

Telephone: (03) 6777 2224

Email: LandManagement.Enquiries@dpiwve.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



458639, 5404542

Please note that some layers may not display at all requested map scales

Known biosecurity risks within 1000 meters

Legend: Biosecurity Risk Species

- Point Verified
- Point Unverified
- Line Verified
- Line Unverified
- Polygon Verified
- Polygon Unverified

Legend: Hygiene infrastructure

- Location Point Verified
- Location Point Unverified
- Location Line Verified
- Location Line Unverified
- Location Polygon Verified
- Location Polygon Unverified

Legend: Cadastral Parcels



Known biosecurity risks within 1000 meters

Verified Species of biosecurity risk

No verified species of biosecurity risk found within 1000 metres

Unverified Species of biosecurity risk

No unverified species of biosecurity risk found within 1000 metres

Generic Biosecurity Guidelines

The level and type of hygiene protocols required will vary depending on the tenure, activity and land use of the area. In all cases adhere to the land manager's biosecurity (hygiene) protocols. As a minimum always Check / Clean / Dry (Disinfect) clothing and equipment before trips and between sites within a trip as needed <http://dpi.pwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>

On Reserved land, the more remote, infrequently visited and undisturbed areas require tighter biosecurity measures.

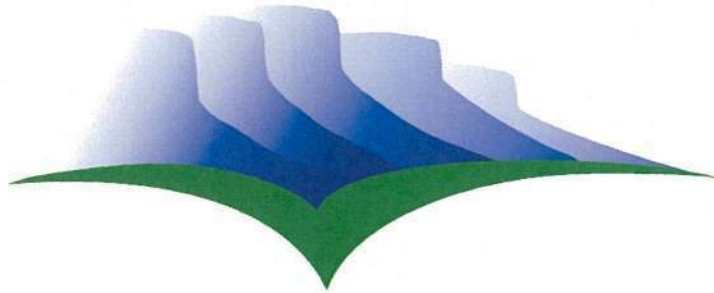
In addition, where susceptible species and communities are known to occur, tighter biosecurity measures are required.

Apply controls relevant to the area / activity:

- Don't access sites infested with pathogen or weed species unless absolutely necessary. If it is necessary to visit, adopt high level hygiene protocols.
- Consider not accessing non-infested sites containing known susceptible species / communities. If it is necessary to visit, adopt high level hygiene protocols.
- Don't undertake activities that might spread pest / pathogen / weed species such as deliberately moving soil or water between areas.
- Modify / restrict activities to reduce the chance of spreading pest / pathogen / weed species e.g. avoid periods when weeds are seeding, avoid clothing/equipment that excessively collects soil and plant material e.g. Velcro, excessive tread on boots.
- Plan routes to visit clean (uninfested) sites prior to dirty (infested) sites. Do not travel through infested areas when moving between sites.
- Minimise the movement of soil, water, plant material and hitchhiking wildlife between areas by using the Check / Clean / Dry (Disinfect when drying is not possible) procedure for all clothing, footwear, equipment, hand tools and vehicles <http://dpi.pwe.tas.gov.au/invasive-species/weeds/weed-hygiene>
- Neoprene and netting can take 48 hours to dry, use non-porous gear wherever possible.
- Use walking track boot wash stations where available.
- Keep a hygiene kit in the vehicle that includes a scrubbing brush, boot pick, and disinfectant <http://dpi.pwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>
- Dispose of all freshwater away from natural water bodies e.g. do not empty water into streams or ponds.
- Dispose of used disinfectant ideally in town through a treatment or septic system. Always keep disinfectant well away from natural water systems.
- Securely contain any high risk pest / pathogen / weed species that must be collected and moved e.g. biological samples.

Hygiene Infrastructure

No known hygiene infrastructure found within 1000 metres



Meander Valley Council

WORKING TOGETHER

Consent to Lodge Development Application

In accordance with Section 52 of the *Land Use Planning and Approvals Act 1993*, Meander Valley Council hereby provides consent to lodge a development application PA\18\0178 Expansion of Quarry (Level 2) at 1240 Weegen Road, Dunorlan (CT:143292/1) and (CT:109390/1) involving road network improvements on Council owned land.

Signed:

Martin Gill

GENERAL MANAGER

6 March 2018

Date: 23rd February 2018
Phone: (03) 6169 2842 Sarah Vautin
Your Ref:
Our Ref: 28M/1990



**Sustainable
Timber
Tasmania**

ABN 91 628 769 359

Head Office:
Level 1, 99 Bathurst Street
Hobart TAS 7000
GPO Box 207
Hobart TAS 7001
sttas.com.au

General Manager
Meander Valley Council
PO Box 102
WESTBURY TAS 7303

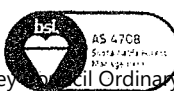
LAND OWNER CONSENT

Sustainable Timber Tasmania (STT) advises that it has been made aware by Treloar Transport Pty Ltd who currently holds a mining lease 28M/1990, which they intend to lodge a planning application with the Meander Valley Council to combine production from the newly acquired mining lease 28M/1990 (PID 2531016 & CT143292/1), with their existing mining lease 1007P/M (PID 6281755 & CT109239/1). The annual combined increase in production will be 11000m³ to 20000m³. The activity will be conducted within PID 2531016 and 6281755.

Under Section 52 of the Land Use Planning and Approvals Act 1993, I hereby advise that I give consent for Treloar Transport Pty Ltd to lodge a planning application with the Meander Valley Council for the establishment of the Works.

Suzette Weeding

General Manager Land Management



BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY

Level 6, 134 Macquarie Street, Hobart TAS
GPO Box 1550, Hobart, TAS 7001 Australia



ENVIRONMENT PROTECTION AUTHORITY

Enquiries: Helen Mulligan
Ph: +61 3 6165 4528
Email: Helen.Mulligan@epa.tas.gov.au
Web: www.epa.tas.gov.au
Our Ref: EN-EM-EV-DE-244904/H835265/CouncilLetter_3ABC_Decision

9 July 2018

Mr Martin Gill
General Manager
Meander Valley Council
26 Lyall St
WESTBURY TAS 7303

Email: planning@mvc.tas.gov.au

Dear Mr Gill

**DETERMINATION ON ENVIRONMENTAL IMPACT ASSESSMENT
PERMIT APPLICATION (DA 018\0178)
TRELOAR TRANSPORT CO – PUNCHES TERROR QUARRY, OFF BEAUMONT'S RD,
DUNORLAN**

I am writing to you about the above permit application which was referred to the Board of the Environment Protection Authority (the Board) for assessment under the *Environmental Management and Pollution Control Act 1994* (EMPC Act) and received on 8 March 2018.

The Board has delegated to me its functions and powers in relation to section 25 of the EMPC Act.

The Board's environmental impact assessment of the application is now complete. All supporting information and any relevant comments received from the public and relevant government agencies were taken into account.

In accordance with section 25(5) of the EMPC Act, I am notifying Meander Valley Council that the conditions and restrictions in the enclosed Permit Part B, together with the definitions in Schedule 1 and the associated attachments, must be contained in any permit granted in respect of the application by Council under the provisions of the *Land Use Planning and Approvals Act 1993*.

A copy of the Environmental Assessment Report (EAR) detailing the reasons for the Board's decision is attached. The Assessment Report is also available on the EPA website at <http://epa.tas.gov.au/assessment/completed-assessments>. Permit Part B is provided as Appendix 2 of the EAR.

Please note that, to satisfy the requirements of section 25(8) of the EMPC Act, the Council must:

- not include any other condition or restriction which is inconsistent with, or which extends the operation of, any conditions or restrictions which the Board requires to be contained in the permit; and
- notify the Board of its decision to grant or refuse to grant a permit; and
- at the same time as it notifies the applicant of its decision on the application, provide the EAR, including attachments (or a link to the EAR on the EPA website) to the applicant, and anyone who made representations.

It is suggested Council:

- Call the Council's portion of the permit 'Part A';
- include a condition in 'Part A' along the lines of 'The person responsible for the activity must comply with the conditions contained in Schedule 2 of Permit Part B, which the Board of the Environment Protection Authority (EPA) has required the planning authority to include in the permit, pursuant to section 25(5) of the *Environmental Management and Pollution Control Act 1994*, and
- attach the enclosed Permit Part B to the permit, including Schedules 1, 2 and 3 and any attachments.

I understand Council will advise the applicant and any representors of appeal rights in relation to its decision.

If a permit is granted, please provide EPA Tasmania with a full copy of the final permit (including all attachments).

If you have any queries regarding the above, please contact Helen Mulligan on (03) 6165 4528.

Yours sincerely



Wes Ford
DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY
Delegate for the Board of the Environment Protection Authority

Encl.

- *Permit Part B – Permit Conditions Environmental No. 9701*
- *Environmental Assessment Report*

C&DS 4 DELORAINE & DISTRICTS RECREATION

PRECINCT FEASIBILITY STUDY

1) Introduction

The purpose of this report is for Council to note the additional community consultation conducted in respect of the Deloraine & Districts Recreation Precinct Feasibility Study (Feasibility Study) together with the updated recommendation from the DDRPFS Working Group and to conclude the Deloraine and District Recreation Precinct Feasibility Study project.

2) Background

At the Ordinary Council meeting of 13 December 2016, Council determined;

That Council will work with Deloraine & Districts Community Bank Branch to prepare a brief and commission a feasibility study for the development of a recreation precinct at the Deloraine Community Complex site.

Furthermore at the Ordinary Council meeting of 16 January 2018, Council made the following resolutions:

- 1. receive the Deloraine & Districts Recreation Precinct Feasibility Study Background and Summary Reports.*
- 2. notes the letter and recommendations contained within; from the Feasibility Study Working Group.*
- 3. undertakes a formal period of stakeholder and community consultation and feedback to be ready for consideration at the Council meeting of 13 March 2018."*

Following this decision the formal period of stakeholder and community consultation was undertaken between 17 January 2018 to 19 February 2018 and reported to Council.

At the ordinary Council meeting of 27 March 2018, Council determined that Council;

- 1. Extends the formal period of stakeholder and community consultation as follows:*

1.1 Contact groups who have yet to provide feedback, offering assistance with the feedback process by way of a meeting with Council officers, at which they will be briefed about the report findings, supplied with an improved map of the proposed connecting pathways from the schools to the proposed DRP, and given an opportunity to complete the feedback form.

1.2 Convene meetings with representatives of the following categories of groups who have not provided feedback through the initial phase of consultation, for the purpose of 1.1 above:

1.2.1 Community Organisations

1.2.2 Schools

1.2.3 Education Department representatives

1.2.4 Sports groups

1.2.5 Cultural groups

1.2.6 States sporting associations.

1.3 Conduct a public meeting at the Deloraine Community Complex at a time and date that would allow a great number of community members to be present so as to present the report and receive feedback.

1.4 Receive formal feedback from all stakeholders on the project.

1.5 Review feedback at a Council workshop.

At the Council workshop of 24 July 2018 the Council reviewed the full consultation results comprising a summary table of 35 responses (Attachment 1), copies of each of the responses, minutes (Attachment 2) and attendance list from the public meeting of 17 May 2018, and a letter of 6 July 2018 from the Feasibility Study Working Group with five formal recommendations (Attachment 3).

3) Strategic/Annual Plan Conformance

Further the objectives of the Council's Community Strategic Plan 2014 to 2024:

- Future Direction (3): Vibrant and engaged communities
- Future Direction (4): A healthy and safe community
- Future Direction (5): Innovative leadership and community governance
- Future Direction (6): Planned Infrastructure Services

4) Policy Implications

Not applicable.

5) Statutory Requirements

Not applicable.

6) Risk Management

The limited general community response to the consultation may not provide Council with a clear or representative view of the proposal.

7) Consultation with State Government and other Authorities

A meeting was held with the Department of Education together with Deloraine High School and Deloraine Primary School.

Consultation also occurred with the following peak bodies:

- Northern Tasmanian Football Association and AFL Tasmania
- Basketball Tasmania
- Tasmanian Badminton Association
- Squash Tasmania.

8) Community Consultation

The Feasibility Study has involved a significant element of community and stakeholder consultation. Broadly, it included public workshops, focus groups, surveys, meetings and conversations including a public meeting.

The Feasibility Study Working Group comprising five community representatives, three council officers and an independent chair from Department of Premier and Cabinet have worked to review and guide the direction of the Feasibility Study

The Feasibility Study Working Group wrote to Council with recommendations in December 2017 and again in July 2018 with revised recommendations. This letter is Attachment 3.

9) Financial Impact

The Feasibility Study project cost has been a shared undertaking of Council, Meander Valley Financial Services / Deloraine and Districts Community Bank – Bendigo Bank and the Tasmanian State Government.

The Feasibility Study includes estimated costs associated with the implementation of options in the Feasibility Study. During community consultation, questions were raised regarding ongoing costs and implications for the sports users and ratepayers.

All costs included in the Feasibility Study and the breakdown of each functional area are currently considered to be estimates and they have not been endorsed by Council officers. Further time and expenditure would be required for appropriate planning before any capital works expenditure could be considered.

Page 33 of the Montemare Business Feasibility provided in the Feasibility Study outlines an increased ongoing (each year) operating expenditure to Council of \$1.041million as a result of completing Scenario 1. The Business Feasibility applied some approximate values such as all assets constructed having a lifespan of 50 years. Council officers have reviewed each cost area in more detail and estimated the ongoing operating expenditure to Council would be much closer to \$2million after applying shorter lives for many assets constructed (such as car park sealing and playgrounds which will not last for 50 years) and applying industry rates of expected additional costs of recreation spaces. The ongoing operating expenditure to Council is estimated to increase closer to \$3million after allowing for loan interest if Council were to borrow funds to deliver the project in a short period of time.

It is unlikely that the increase in operating expenditure would be matched by an increase in user fees at the facility. This would make the participation cost of the sports at the facility much higher for each user. It is anticipated that almost all of the additional operating costs would be expected to be funded by Council's general rates.

10) Alternative Options

Council can amend or not approve the recommendations.

11) Officers Comments

The key drivers in the Feasibility Study Y are community and sporting groups seeking improved facilities and increased opportunities for community participation in recreation and sport. The consultant team sought to identify current demands and to test projections for both short term and future demand.

The study findings and the Working Group recommendations have been subject to extensive targeted community consultation with 35 responses received and a general public meeting on 17 May 2018 with approximately 100 people in attendance. The majority of respondents to the consultation support improvements to the Deloraine Community Complex.

A range of matters were raised during consultations which may influence potential future works. These include:

- The Deloraine High School proposes to construct a hall/gymnasium on the school site. This is listed as priority two by the Dept. of Education amongst projects across the State. All priority one projects are being funded in the 2018/19 year. The school has a preference to not spend time walking to the community complex and proposes to utilise the hall onsite once it is constructed
- The Northern Tasmania Football Association (NTFA) has advised that they see the Deloraine Club as an important hub for football in the western sub-region of Northern Tasmania. The NTFA also stated that they have some concern about shared facilities with other users at the Community Complex as this may limit the capacity of the club to fundraise and may dilute their identity at the venue. They also mentioned that an additional football field would be needed to cater to female football games
- Basketball Tasmania has advised that half-court basketball or 3 on 3 basketball is a rapidly growing sport/recreation interest and suggest this as high priority in our planning
- Squash Tasmania has advised that the injection of juniors is essential to the sport to survive. Squash Tasmania would be willing to help promote squash to the Primary Schools in the area, help set up coaching and introduce a Coaching program to the Deloraine Squash Club to further junior programs
- Netball courts are listed for construction at the Deloraine Community Complex in the 2018-19 capital works program

Improvements to facilities at Deloraine should be considered in the context of improvements to facilities across Meander Valley and with regard to ongoing implications for cost and management.

The Working Group have completed their role and discharged their responsibilities. The Working Group and the community have identified a range of improvement opportunities at Deloraine which may be considered in future considerations of Council.

AUTHOR: Lynette While
DIRECTOR DEVELOPMENT & COMMUNITY SERVICES

12) Recommendation

It is recommended that Council:

- 1. Notes the Feasibility Study Working Group recommendations but does not endorse the recommendations recognising the considerable financial implications***
- 2. Notes that new infrastructure is proposed at the Deloraine High School which may impact the utilisation of the Deloraine Community Complex***
- 3. Notes that the construction of netball courts at the Deloraine Community Complex are part of the capital works program for 2018-2019***
- 4. Notes that there are potential infrastructure projects that may be considered in future capital works programs.***
- 5. Writes to the Feasibility Study Working Group members thanking them for their work and advising that the Working Group is now concluded***
- 6. Writes/emails to all individuals and groups/associations that provided response to the consultation to thank them for their contribution and advise of Council's decision***

DECISION:

	A	B	C	D	E	F	G	H
1		Response 1st consult	Response 2nd consult	Agree with WG	Agree but with reservations	Disagree	Neither agree or disagree	Brief Comment Summary - this should be read with reference to each submission
2	COMMUNITY ORGANISATIONS / EVENTS							
3	Rotary Club of Deloraine/ Tas Craft Fair	✓		✓				Supports but has concerns about raising funds to complete the entire project in a timely manner (to avoid disruption to users and Craft Fair). Pathways will start to connect the precinct more closely with the rest of the township and to increase use of the areas for walking, riding, etc
4	Apex Club of Deloraine	✓		✓				Our club agree to each of the recommendations.
5	Lions Club of Deloraine							No response
6	Community Shed		✓				✓	From an organisation point of view I am hopeful that any development will consider impact on accessibility to the Deloraine Community Shed. Personally I have concerns about the cost of the development and the impact that it has on prime agricultural land however I am sure that will be taken into consideration by Meander Valley Council.
7	Probus Club of Deloraine							No response
8	Rotary Club of Westbury							No response
9	Lions Club of Westbury							No response
10	Inner Wheel Club of Deloraine							No response
11	SCHOOLS							
12	Deloraine High School	✓		✓				Support the recommendations put forward by the working party for the Deloraine Recreation Precinct Feasibility Study. Further Conversation/meeting - Path linkages on school land are not required - prefer not to walk through the Primary School. Also generally avoid using the complex in wet weather. Planning to build school gymnasium/stadium subject to funding. Would prefer not to use the complex as lose 30+ minutes each time. There is also a cost to use the complex. Would be willing for community to use proposed school gymnasium after school hours.
13	Deloraine Primary School		✓		✓			Association committee members opinion was that they were in principle supportive of the proposal in general terms but reserved their opinions for a later time with regard to specifics i.e. the path and use of our school oval area. Further Conversation/meeting - pathways on school land are not supported due to risk management. Some concerns re the soccer pitch as prefer an area without barriers, within larger space would be ok as do not want to compromise the opportunities for use of this space. Do not want to enclose spaces with fences. There may be some opportunities in other areas of school grounds that the school does not use. Prefer adults and children to have separate amenities. They would not be able to use a multi user venue with shared amenities during the day time without extra teacher support.
14	Westbury Primary School		✓				✓	At this point in time I cannot see that these changes will affect us at Westbury PS. However, thank you for checking with us.
15	Education Tasmania		✓					Conversation/meeting - Statewide school infrastructure is a priority. Priority list for funding will be released soon. There is a policy allowing for community use providing it does not interfere with school use. Arrangements are in place at a range of schools eg Penguin High School, Clarence High School etc.
16	Deloraine Catholic Primary School - OLOM							No response
17	Toddle Inn - Child Care Centre		✓				✓	Would like to request Toddle Inn be considered for the use of the vacant adjoining block of land, located at the back of the current premises. I also request that Council please consider the safety of the children at Toddle Inn with other use of surrounding land bordering Toddle Inn.

	A	B	C	D	E	F	G	H
18	Mole Creek Primary School							No response
19		Response 1st consult	Response 2nd consult	Agree with WG	Agree but with reservations	Disagree	Neither agree or disagree	Brief Comment Summary - this should be read with reference to each submission
20	Hagley Farm Primary School							No response
21								
22	Bracknell Primary School							No response
23	Meander Valley U3A		✓	✓				We cannot predict our future needs but it is unlikely that we would be more than casual users of facilities planned for the first stages of the development. We think that it is appropriate that the working group guides the planning.
24	SPORT CLUBS							
25	Deloraine Devils Netball Club Inc	✓		✓				Deals with the most immediate needs first. The study shows Deloraine and districts need this Precinct. It also shows the Town can strongly benefit in many ways as well as providing the best sport and rec facilities for its residents and wider community.
26	Deloraine Football Club		✓	✓				At our recent Football Club Committee meeting we were able to discuss the precinct project at length and the Club is still 100% behind Scenario 3, so nothing has changed. We also strongly support all the recommendations made by the working group. The challenges our club has faced in recent years, in particular regular flooding events, is well documented. We hope the Meander Valley Council will endorse the proposal and progress this exciting project that will benefit our club and many others in the Deloraine District.
27	Deloraine Junior Football Club		✓	✓				We support Scenario 3 as it deals with the most immediate needs of sport and rec in our area. Securing the purchase of the land is a vital step forward. This is important as land value could increase. Better pathways and linkages would encourage more use. Lighting would be a great idea as well. Studies show the town can strongly benefit from this, as well as providing the best sport and rec facilities for the residents and wider community.
28	Deloraine Amateur Basketball Association		✓	✓				As an Association we would really like to see four court stadium facility and a full outside court that we can use to grow our sport of basketball. You only have to see what the 'Rings Project' and the new floor has done for basketball in Deloraine with our numbers well up on last season since these developments have taken place. A four court stadium could work in conjunction with other sports such as netball, badminton, volleyball and indoor soccer.
29	Deloraine Junior Basketball Club		✓				✓	Conversation at meeting with Del. Junior Basketball, Del. Amateurs Basketball and Basketball Tas - need greater capacity to cater to potential training demand. A lot of merit in upgrading facilities to the highest possible standard in Deloraine. Some concern about shared facilities as this may limit the capacity to fundraise through the canteen and may undermine capacity to fund some equipment and uniform requirements. Currently increased interest in basketball including Aussie Hoops.
30	Deloraine Little Athletics	✓		✓				Great start to the entire project. Sets up the space to help clubs and community. Currently with toilets over 200m away and completely out of site it is hard for females with one parent attending or more than one child competing. Storage is full and unable to extend as on school land.

	A	B	C	D	E	F	G	H
31	Deloraine Badminton Association	✓			✓			Our organisation is supportive of modern up to date sport and rec facilities. We have concerns as to the cost we will incur where our playing facilities will change very little. What is the option or alternative if the adjacent land purchase is not possible. Full costs should be made available to all users, the community and ratepayers which should include construction costs, maintenance cost, councils fixed costs and user costs. Will this new facility be less drafty and cold during the colder months?
32	Deloraine Junior Soccer Club							No response
33		Response 1st consult	Response 2nd consult	Agree with WG	Agree but with reservations	Disagree	Neither agree or disagree	Brief Comment Summary - this should be read with reference to each submission
34	Deloraine Indoor Bias Bowls Association							No response
35	Deloraine Tennis Club							No response
36	Deloraine Bowls Club							No response
37	Deloraine Districts Pony Club		✓				✓	The DDPC are very much interested in the proposed sporting precinct and would love to be part of any information sharing.
38	Mole Creek Football Club		✓	✓				The Mole Creek Football Club fully supports the Recreation Precinct proposal for Deloraine and would appreciate to receive any further information.
39	Deloraine Squash Club	✓		✓				Fully support and can only have positive impact for our club. A new facility will make us more viable and accessible, helping increase numbers especially in regard to women and juniors.
40	Westbury Shamrocks Cricket Club							No response
41	Meander Valley Suns Football and Netball Club							No response
42	Hadspen Chieftains Cricket Club							No response
43	CULTURAL / YOUTH ACTIVITIES							
44	Arts Deloraine							No response
45	Deloraine Youth Committee						✓	Conversation/meeting - Discussion about including other sporting/recreation pursuits that are not currently available eg climbing wall, hockey, bmx, volleyball, inline skating, indoor soccer. Consider the squash facility is currently ok for casual use. Were not aware of any programs for developing squash amongst juniors. Questioned how the football club would manage in a multi use facility. Minimum work that should occur is to provide accessibility for all throughout the complex, especially the mezzanine and auditorium. Also improve female amenities - currently no doors on change/shower space.
46	Ashton's Roller Skating							No response
47	Dance Connection							No response
48	Deloraine Dramatic Society	✓			✓			In principle supports though has concerns there is no allocation of funds toward improving MVPAC. It is felt that sport and recreational activities are being considered only whilst cultural activities are overlooked. We are currently funding the upgrade of sound and lighting equipment and can suggest other cheap upgrades that will enhance MVPAC. Perhaps the MVPAC could be developed as a Deloraine and Districts Cultural Arts Precinct.
49	Deloraine Community Band		✓				✓	Thank you for your invitation to participate in the consultation phase of the Deloraine and District Recreational Precinct Feasibility Project. If any of our members require any further information or advise we will contact you.
50	Deloraine Table Tennis League							No response

	A	B	C	D	E	F	G	H
51	Setsudo		✓				✓	At this time I am still awaiting numbers for my classes but it looks like I will no longer be using the facilities.
52	Northside Aikido							No response
53	Studio BE		✓				✓	Conversation - Whilst supportive of sport and recreation developments, would like to see Arts receive some benefits too. The MVPAC facility is an aged building that has received limited investment over the years. It has some tired aspects that are restricting its reach e.g. Little Theatre Stage Lighting. Note the annual Youth Drama festival has been operating successfully there for over 60 years.
54		Response 1st consult	Response 2nd consult	Agree with WG	Agree but with reservations	Disagree	Neither agree or disagree	Brief Comment Summary - this should be read with reference to each submission
55	Western Tiers Film Society	✓		✓				Impressed with thoroughness, have confidence in the report, like the probability of increased participation, asset to community and Meander Valley. Support pathways as shown on p 483. Pathways on p 392 do not suggest this. Will they be shared use and delineated as such - important for hearing impaired.
56	Deloraine A & P Society	✓				✓		Not everybody is supportive of this. More communication needed with ratepayers. Support pathway linkages for safety of children. Due to decreasing numbers playing sport would not upgrading certain areas be more viable eg squash, football, netball.
57	Meander Valley Women in Agriculture Group							No response
58	STATE / REGIONAL SPORT ASSOCIATIONS							
59	Northern Tasmania Netball Association							No response
60	Basketball Tasmania		✓				✓	Conversation at meeting with Del. Junior Basketball, Del. Amateurs Basketball and Basketball Tas - need to develop 4 court stadium rather than a 3 court stadium. These work better so far as tournaments are concerned. The Deloraine facility is a high quality facility. The runoffs are a bit tight however. Basketball Tas will continue to use Deloraine as good for high school, primary school and state talent program due to its central northern location. it is very important to have revenue drivers, such as canteen/bar, being operated for the benefit of basketball when basketball is being conducted. There is a rise of 3 on 3 basketball and it will be a demonstration sport at the next Olympics. This is the next big trend in sport. There is a need for outdoor courts for 3 on 3 basketball. Should consider making the netball court multi use in this regard.
61	Squash Tasmania		✓		✓			Squash Tasmania will support any sensible proposal from Deloraine Squash committee for the 3 glass squash courts. Deloraine Squash Club is not affiliated to Squash Tasmania and neither are any of its members, leaving perhaps the club and its members with insurance issues. Though we would support Deloraine in their quest to upgrade their facilities we would like to have at least the Club as an Affiliated Member. Squash Tasmania would be willing to help promote squash to the primary schools in the area, help set up coaching and introduce a Coach Education program to the club to further the junior programs.
62	Northern Tasmanian Football Association		✓					Conversation/meeting - NTFA currently restructuring but see the Deloraine Club as an important hub for football in the western sub region of Northern Tasmania. Any facility upgrades will enhance the Clubs capacity to continue to provide football for seniors and youth in the region. It is also envisaged that Deloraine could in the future provide youth and senior football for female participants. Female programs likely to be stand alone as they continue to grow in participation numbers. The only way they could be rostered on the same game day is to have more than one football field to cater for the issues around timing/climate.

	A	B	C	D	E	F	G	H
63	AFL Tasmania		✓	✓				The plans being looked at better prepare Deloraine for future participation movements, growth potential and more synergy amongst sport and other user groups. The Clubrooms and oval were subject to devastating flooding events that have had an ongoing effect on the facilities. Any improvement that can be made to this provision, whether at the current site or a future site would be advantageous in our view. The AFL audit of facilities is clear that it is important to service current provision but equally important where we see population increases, especially in female participation which has grown in Tasmania by a further 30% in 2017. The location of these facilities is as important as the functionality, accessibility and sustainability of club operations.
64	Darts Tasmania							No response
65	Tasmanian Badminton Association		✓				✓	Conversation - there is no immediate need for 12 or 16 badminton courts in Deloraine. Launceston can cater for 16 courts if needed but seldom used. Other reasons for supporting Deloraine as a venue would be a potential Greater Northern League or Northern Country Championships could be held at the venue.
66		Response 1st consult	Response 2nd consult	Agree with WG	Agree but with reservations	Disagree	Neither agree or disagree	Brief Comment Summary - this should be read with reference to each submission
67	Devil State Derby League		✓				✓	We have never used the <i>Deloraine</i> Recreation Centre, we train at Westbury but would be interested in looking at your facility for possible future use if we could?
68	INDIVIDUAL							
69	Tricia Ashton		✓	✓				Other than queries regarding item 20 the dog park, and the use of potential crown land, support the working groups preference. Will adjacent land/property owners be advised as plans/investigations unfold? I have been informed that the dog park was the historical parade ground for troopers posted at Alveston; if there is a decision to use this land as residential infill will its cultural values firstly be investigated?
70	Rodney Paul		✓			✓		My wife and I attended the 23 May meeting. There was a lack of any significant representation from the community at large and in particular those likely to be ratepayers. The council would be well advised not to regard the motions passed at the meeting as truly indicative of the views of the community at large. Council should take appropriate steps to ascertain what those views are. The burden of meeting this financial commitment would in years to come fall on ratepayers of the area.
71	Mr. G Dent (Westbury Rotary/ Vice Chair Bendigo Bank Board)		✓	✓				Support the proposal. Important aspects include social aspect, increased participation, multi use facility, long term benefit for community, help keep youth in the area. Prioritize land purchase. Do it once and do it properly.
72	PUBLIC MEETING 17 May 2018			✓				Approx. 100 people in attendance. Motion raised and received majority support; 1-Recognises that the current facilities for sport and recreation in the Deloraine district no longer meet the needs of users (both present and future). 2-Supports the development of the proposed precinct at Alveston Drive, as outlined in the Feasibility Study. 3-Asks for immediate action from the Meander Valley Council to progress the project, including the purchase of the land adjacent to the Community Complex.

MINUTES of MEETING

Attendees:

A list of attendees is attached. There were more than 100 people in attendance.

Apologies

Mayor Craig Perkins

Cr Andrew Connor

INTRODUCTION

MC and Meander Valley Council General Manager Martin Gill welcomed everyone and outlined the purpose of the meeting i.e. part of a community consultation process to gauge public support for the precinct proposal and to assist Council decision making.

Martin acknowledged the attendance of Tania Rattray MLC and Councillors Kelly, King, Mackenzie, Synfield, Temple and White.

Following this the structure of the meeting was outlined and displayed (slide). As well, the Working Group members were introduced (slide) and contributing reports highlighted (slide).

Working group members Shaun Donohue and Cory Youd introduced some of the 'Key Drivers' behind the project - including inadequate and ailing infrastructure, flood impact - and registered their support for the proposal.

Working Group member Doug Tangney outlined the preferred option of consolidating a sport and recreation precinct at Alveston Drive (Option 1, Scenario 3). This would be achieved in three stages with stage 1 costs estimated at \$13m. Funding of this stage would be sought from all levels of Government.

Martin Gill clarified that no funding commitments have been made, to date.

Working Group member Lynette While (Council Director and Project Leader) reported that the original scope of the feasibility project involved 3 sites: the Racecourse, Community Complex and MV Performing Arts Centre. She then outlined the role of the Working Group and consultants, Inspiring Place, and the three options that emerged:

- 1 Consolidate facilities at the Community Complex including purchase of adjoining land
- 2 Option 1 above plus upgrade of primary school sportsground.
- 3 Consolidate facilities at both Community Complex and Racecourse sites

Total project cost is estimated to be around \$33m (at November 2017).

Cory Youd and Doug Tangney then outlined the recommendations that were presented to the Council meeting in January 2018:

- 1 Receive the Report (achieved)
- 2 Endorse Scenario 3 phase 1
- 3 Develop a business case to lobby Government for funding
- 4 Continue to investigate purchase of adjoining land
- 5 Continue to develop the outdoor netball courts
- 6 Allocate funding for linkages and pathways in 2019-20 budget

Martin responded that Council had committed to support the netball court development which also received State Government and Deloraine & Districts Community Bank/Bendigo Bank funding. The total costs of the project have been estimated at \$510K. Funding towards improvement of pathway linkages has been scheduled in Council's Capital Works Budgets for 2019-20 and 2020-21.

QUESTIONS & OBSERVATIONS

1. Taneil Bloomfield (Deloraine Devils Netball Club) thanked Council for its support of netball development and indicated her backing of the precinct proposal.
2. Rodney Bussey (Deloraine JFC) reported that club participation was rising (female, junior players and Auskick) and that the existing clubrooms were inadequate for managing simultaneous activities for both sexes.
3. Tania Rattray MLC asked whether there was any impediment to the purchase of adjoining land at the Community Complex. Martin replied that detailed discussion with the land owner had yet to occur.
4. Barry Higgins (Deloraine Dramatic Society) raised concern that the MV Performing Arts Centre will not benefit from the proposal. He requested support for a range of needs including heating, storage and lighting.
5. A question was raised as to whether thought had been given to improving Deloraine's capacity to attract and deliver conferences and festivals – which bring an economic return. Martin responded that no particular steps had been taken in this regard other than Rotary's upgrade of its pavilion and its registration as a conference provider.
6. Darren Rumble (Bendigo Bank) indicated his support for the precinct proposal – building for the future.

7. Rotary rep indicated his personal support of the merits of the precinct proposal and that the Craft Fair would not be disadvantaged by it.
8. Josh Atkins (Deloraine Basketball) acknowledged the benefits of recent facility improvements and said that the Association was currently at capacity and better facilities were necessary to avoid losing players to Devonport and Launceston.
9. Jon Harmey (MVC) asked whether the members of the Deloraine FC were comfortable with the prospect of relocation. Shaun responded that some older members were resistant to change and that the club needs to move with the times. Taneil added that there is no future for the DFC at the Racecourse site and that members need reassurance that improved change can happen.
10. Tash Whiteley (Deloraine Devils Netball Club) asked what happens after this meeting. Martin replied that community feedback and financial impacts would be collated and reported to Council for consideration.
11. Lynette Gleeson (Deloraine Badminton Association) asked whether user groups would have any say in the design of any upgrades. Martin replied, yes, wherever possible and appropriate.
12. Tash Whitely raised the point that the precinct would attract State-wide interest and usage. Martin replied that State Government is currently developing its Sports Facility Strategy and that this project should link with this initiative.
13. Cr Ian Mackenzie raised concern about the real costs of the proposal that he felt had not been adequately addressed in the Feasibility Report.
14. Sandra Atkins (Equestrian) asked whether there was any plans for use and improvement of the Racecourse. Martin replied that there wasn't at present though there has been a range of expressions of interest for use of the site by Giant Steps and groups involved in respite care, equestrian, fruit pickers' accommodation and camping.
15. Mark Green (Deloraine Folk Museum) reminded us that the current shortcomings of the Community Complex are due to its original design running out of money (1980s). This lesson should not be repeated.
16. Graham Dent (Westbury Rotary and Bendigo Bank) reminded us of the important social benefits that come from sport and recreation activity and asked whether a cost analysis had been done on the impact of leaving things as they are.
17. Cr Mick Kelly stressed the importance of connectivity with school students.

18. James Baldock (Deloraine JFC-Auskick) thanked the Council and Bendigo Bank for their commitment so far and raised a number of additional points: volunteer input should be acknowledged in any financial calculations, Deloraine is currently growing against the ageing population trend and approval of the precinct will give an important vote of confidence to the community.
19. James Baldock raised the following motions that were typed and projected and voted on by the attendees:

1-Recognises that the current facilities for sport and recreation in the Deloraine district no longer meet the needs of users (both present and future).

2-Supports the development of the proposed precinct at Alveston Drive, as outlined in the Feasibility Study.

3-Asks for immediate action from the Meander Valley Council to progress the project, including the purchase of the land adjacent to the Community Complex.

20. Voting indicated a majority of attendees in support of the precinct proposal with abstentions from Council representatives and others.
21. Simon (Bendigo Bank) said that local parents of young families were concerned about the future of Deloraine and its Districts. He supported the precinct proposal.
22. Cr Deb White asked that on-costs related to the current running of the facilities should be factored into any financial considerations.
23. Cr John Temple asked attendees whether Council was missing any other key community needs – such as cultural things. Rodney Bussey replied that jobs are the priority and that streamlining the development process would help.

CONCLUSION

Martin thanked everyone for their attendance and contributions and reiterated that community feedback and financial impacts would be collated and reported to Council for consideration. Refreshments and informal conversation followed.

ATTENDEE LIST		
NAME	TOWN/ORGANISATION	
Adam Crawford	Deloraine Football Club	
Adam Linford	Deloraine Football Club	
Adam Robinson	Deloraine	
Allison Latham	Bendigo Bank	
Andrea Forsbrook	Westbury	
Anna Youd	Deloraine	
Ashdyn Heathcole	Deloraine Football Club	
Barry Higgins	Deloraine Dramatic Society	
Barry Pearn	Bendigo Bank	
Beau Elmer	Deloraine Football Club	
Ben Walker	Deloraine	
Bethany Vidler	DABA	
Brad Crowden	Deloraine Football Club	
Brad Peck	Deloraine Football Club	
Brodie Donohue	Deloraine Football Club	
Callum Smith	Deloraine Football Club	
Cassie Sheehan	Meander Valley Council/Deloraine	
Coby Cook	Deloraine Football Club	
Damien Bramich		
Danica Turphey	Deloraine	
Daniel Smedley	Meander Valley Council	
Darren Rumble	Bendigo Bank	
David Cameron		
Deborah White	Meander Valley Council/Exton	
Dominic Shegog	Deloraine Football Club	
Drew Gardner	Deloraine Football Club	
Dylan Schnoor	Deloraine Football Club	
Dylan Jones	Deloraine	
Ethan Sydes	Deloraine	
Geraldine King	Deloraine	

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Glen Buckingham	Deloraine Badminton	
Grant Drake	Chudleigh	
Hannah Smith	Deloraine Football Club	
Ian Mackenzie	Meander Valley Council	
Jacob Griffin		
Jake Wauclope	Deloraine Football Club	
James Baldcock	Deloraine Auskick	
James Tyson	Deloraine Football Club	
Janine Harris	Travellers Rest	
Jared Kettle	Deloraine Football Club	
Jarrold Scott	Deloraine Football Club	
Jason Donovan	Deloraine	
Jason Griffin	Deloraine Football Club	
Jayden Donovan	Deloraine	
Jayden Purdon	Deloraine Football Club	
Jess Bramich	Golden Valley	
John Temple	Meander Valley Council	
Jordan Holliday	Deloraine	
Jordan Loone	Deloraine Football Club	
Joseph Griffin	Deloraine Football Club	
Josh Atkins	DABA	
Joshua Murray	Deloraine	
Judy Boch	Deloraine	
Kate Marshman	Deloraine	
Katy Haberle	Caveside	
Kelly Tubb	DJBA/DBA/DJFC	
Kent Poulton	Westbury/DABA	
Kris Eade	Meander Valley Council	
Liam Ryan	Deloraine Football Club	
Lynette Gleeson	Deloraine Badminton	
Lynette While	Meander Valley Council	
Lynne Paul	Deloraine	
Marc Smith		

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Martin Gill	Meander Valley Council	
Mathew O'Donoghue	Deloraine Football Club	
Matty Allen	Deloraine	
Michael Huett	Deloraine	
Mick Kelly	Meander Valley Council/Deloraine	
Mitchell Nelder	Deloraine Football Club	
Natasha Whiteley	Meander Valley Council/Exton	
Nathan Chilcott	Meander	
Neville Scott	Meander Valley Council/Westbury	
Patrick Gambles	Meander Valley Council	
Oli Smith	Deloraine Football Club	
Oliver Proutfoot	Deloraine Football Club	
Oscar Reeve-Palmer	Deloraine Football Club	
Peter Ashton	Deloraine	
Rebekah Dorauf	Quamby Brook	
Rodney Bussey	Deloraine Junior Football Club	
Rodney Paul	Deloraine	
Rodney Synfield	Meander Valley Council	
Rodney Youd	Deloraine	
Sam Vidler	DABA	
Sandra Atkins	Deloraine Pony Club	
Sarahann Derk	Bendigo Bank	
Sarah Vidler	DABA	
Shae Weedan	Deloraine	
Shannon Edwards	Deloraine Football Club	
Simon Rootes	Bendigo Bank	
Sophie Poke	Deloraine	
Spud Haberle	Caveside	
Stuart Gilpin	Deloraine Football Club	
Susan Drake	Chudleigh	
Tahnee Donohue	Kimberley	
Tait Highet	Deloraine Football Club	

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Tania Rattray	MLC	
Taniel Bloomfield	Kimberley	
Tanya King	Meander Valley Council	
Tony Skipper	Montana	
Tony Wadley	Deloraine	
Wayne Johnston	Meander	
Wayne Richardson		

Friday 6 July 2018

To the Mayor and Councillors
Meander Valley Council
26 Lyall Street
WESTBURY TAS 7303

To the Mayor and Councillors

Deloraine and District Recreation Precinct Feasibility Study

The Deloraine and District Recreation Precinct Feasibility Study Working Group thank the Meander Valley Council for the support contained in the 2018-19 Capital Works Program, toward the construction of the netball courts at the Deloraine Community Complex. The Working Group also notes that Council formally received the Deloraine and District Recreation Precinct Feasibility Study Report at the January 2018 ordinary meeting of Council.

The Working Group acknowledges the extensive community and stakeholders consultation currently being finalised to further inform council of community and stakeholders views. The consultations have been quite thorough and have been highlighted by a Public Meeting on 17 May 2018 at Alveston Drive. This meeting was attended by Council's General Manager, a number of Councillors and Officers and more than 100 members of the community and stakeholder organisations. The primary focus of the consultations has been consideration of the formal recommendations from the Working Group. In particular the Working Group preference for Scenario 3 Phase 1 of the Deloraine and District Recreation Precinct Feasibility Study

We understand, Council will soon be considering the response from community and stakeholders to the consultation. The Working Group has reviewed the consultation response received as at 14 June 2018 and notes the strong support for the implementation of the Study and in particular the implementation of Scenario 3 Phase 1 as recommended by the Working Group. We encourage Council to endorse the Working Group preference for Scenario 3 of the Deloraine and District Recreation Precinct Feasibility Study.

The most urgent matters arising from the Deloraine and District Recreation Precinct Feasibility Study are to address the inadequate facilities prevailing at Deloraine.

This is supported by the motion from the Public Meeting of 17 May 2018 which received majority support:

1. Recognises that the current facilities for sport and recreation in the Deloraine district no longer meet the needs of users (both present and future).
2. Supports the development of the proposed precinct at Alveston Drive, as outlined in the Feasibility Study.
3. Asks for immediate action from the Meander Valley Council to progress the project, including the purchase of the land adjacent to the Community Complex.

The Working Group is committed to progress improvement to the recreation and sport facilities and opportunities in Deloraine. This will benefit the Deloraine and District communities.

The Working Group has taken the opportunity to update the Working Group recommendations to Council.

The Working Group makes the following formal recommendations to Council:

1. Council recognises the motion from the Public Meeting of 17 May 2018.
2. Council endorses the Working Group's preference for Scenario 3 Phase 1 of the Deloraine and Districts Recreation Precinct Feasibility Study Report.
3. Council commence investigation and negotiation for the purchase of land adjacent to the Deloraine Community Complex.
4. Council allocates funding for the installation of pathways and linkages to the Deloraine Community Complex from the neighbouring streets and town centre, particularly East Westbury Place and Alveston Drive.
5. Council notes that the role of the Working Group is complete and approves the formation of a Deloraine and Districts Recreation Precinct Implementation Steering Committee with similar community and stakeholder representation as the Working Group.

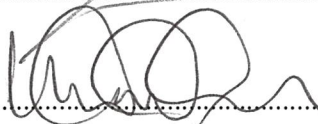
We look forward to Council's consideration of these important recommendations. Should you have any questions or require additional information, please contact the Project Manager, Lynette While, Council's Director of Community and Development Services.

Signed by:

Community Representatives


 Cory Youd

 Douglas Tangney

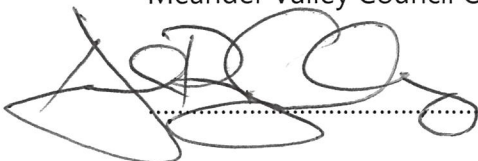
 Laura Richardson

 Shaun Donohue

Deloraine and Districts Community Bank Branch of Bendigo Bank Representative

 Lindy Norton

Meander Valley Council Officers

 Daniel Smedley

 Kris Eade

 Lynette While

Scenario 3		
Development Phase	Components	CAPEX
Phase 1 (0-5 Years)	<ul style="list-style-type: none"> Indoor Sports Courts (Squash only) Main outdoor Multi-Sport Field and Perimeter Access Club/Meeting/Function Space Front/Back of House Amenities Carparking & Access Outdoor Entry Plaza/Landscape Amenity \$1M Allowance (includes better site access for schools & outdoor netball/multi-use court)	\$13.2
Phase 2 (5-10 Years)	<ul style="list-style-type: none"> Indoor Sports Courts (Multi-purpose Sports Courts Only) Access Game Support Health and Wellness Outdoor Precinct/Landscape Allowance (\$1.5M) 	\$12.2 *
Phase 3 (+10 years)	<ul style="list-style-type: none"> Secondary Outdoor Sports Field Outdoor Precinct/Landscape Allowance(\$0.5m) 	\$1.4*

* excludes escalation allowance costs



GOV 1 POLICY REVIEW - NO. 1 RISK MANAGEMENT

1) Introduction

The purpose of this report is to review Policy No. 1 – Risk Management

2) Background

Risk management is a critical component in the operation of Council.

The process of review ensures that Council continues to actively manage risk and remains committed to maintaining a safe and healthy work environment.

Policy No. 1 – Risk Management (Policy) was presented to the Independent Audit Panel in June 2018 for review. The Audit Panel noted the review and recommended that Council continue with the Policy.

3) Strategic/Annual Plan Conformance

The Annual Plan provided for the Policy to be reviewed in the 2018 September quarter.

4) Policy Implications

The process of Policy review will ensure that policies are up to date and relevant.

5) Statutory Requirements

Not applicable.

6) Risk Management

The Policy provides guidance about the manner in which risk should be managed across the organisation.

7) Consultation with State Government and other Authorities

Not applicable.

8) Community Consultation

Not applicable.

9) Financial Impact

Not applicable.

10) Alternative Options

Council can elect to discontinue or amend and continue the existing Policy.

11) Officers Comments

The initial review by Council officers has resulted in a number of minor changes to the wording of the Policy.

The intent, scope and objective of the policy remain unchanged.

AUTHOR: Martin Gill
GENERAL MANAGER

12) Recommendation

It is recommended that Council confirm the continuation of Policy No. 1– Risk Management as follows:

POLICY MANUAL

Policy Number: 1

Risk Management

Purpose:

The purpose of this policy is to provide a framework for the management of risk, and define the responsibilities of staff and management in the risk management process.

Department:

Governance

Author:

~~David Pyke Director~~ Martin Gill, General Manager

Council Meeting Date:

~~8 December 2015~~ 14 August 2018

Minute Number:

~~466/2015~~

Next Review Date:

September ~~2018~~ 2022

POLICY

1. Definitions

Nil

2. Objective

- Ensure that appropriate risk management is an integral part of management processes within Council operations so as to minimise any consequential loss, damage or injury to persons or property.

3. Scope

This policy applies to the Council, the **Workplace Health & Safety and Risk Management** Committee, employees, contractors and volunteers in the management of risk that arises from all Council activities.

4. Policy

The Meander Valley Council is committed to proactively managing risk that arises from all Council activities, providing and maintaining a healthy and safe living environment for the general community within all Council controlled areas. Council endeavours to ensure that the environment and facilities provided for the community and employees are safe, **with minimum—minimise the potential for risk and are underpinned by the necessary** practices and procedures **are implemented to** that control risk.

Council recognises that risk management is an essential tool for sound strategic and financial planning and the ongoing physical operations of the organisation. Adequate funds and resources will be provided by Council to ensure the following outcomes:

- Identify and analyse Council's liability associated with risk
- Encourage the identification and reporting of potential risks
- Minimise any potential liabilities
- Protect the community against losses that are controllable by Council
- To maintain an appropriate level and type of insurance to cover risk
- A high standard of accountability
- Set performance standards and regularly review practices and procedures
- Allow for more effective allocation and use of resources
- To promote and raise the awareness of Risk Management practices throughout the organisation
- Protect Council's corporate image as a professional, responsible and ethical organisation

The above outcomes will be achieved by managing risks in accordance with the Standard or Standards referred to in **Clause—Section 5 of this policy**. This involves logically and systematically identifying, analysing, assessing, treating and monitoring risk exposures that are likely to adversely impact on Council's operations.

Specifically, this includes the following areas of potential losses:

- Personnel (Workplace Health and Safety);
- Plant and Property;
- Liability (including Public Liability and Professional Indemnity);
- Financial;
- Business ~~interruption~~ continuity;
- Community Recovery.

Link to Council's Community Strategic Plan

Our Community Strategic Plan under Future Direction 5, "Innovative leadership and community governance" provides for Meander Valley Council to be recognised as a responsibly managed organisation.

Roles and Responsibilities

Councillors, management, employees, contractors and volunteers all have a joint responsibility of making risk management a priority as they undertake their daily tasks in the operations of Meander Valley Council. Management and staff are to be familiar with and competent in the application of Council's Risk Management Policy and are accountable for adherence to that policy within their areas of responsibility.

Council

- Provide commitment and support so that the risk management policy can be implemented.
- Provide adequate budgetary provision for the implementation of this policy.

General Manager

- Recognise, adopt and ensure implementation of appropriate Risk Management as an essential function of the organisation
- Facilitate the provision of awareness training throughout Council
- Provide risk management related information, as requested by Council, and
- Ensure risks are managed in accordance with the Standard or Standards referred to in **Section 5 of this policy**, legislation and **other** Council policy.

Directors/Supervisors

- Maintain overall responsibility for the effective management for all types of risks related to this policy across Council's operations;
- Ensure that Council's assets and operations, together with liability risks to the public, are adequately protected through appropriate risk financing and loss control programs and measures;

- Prepare and implement documented procedures for each area of operations;
- Monitor and audit practices and processes to ensure appropriateness to current conditions and practices;
- Provide information when requested which will assist in the investigation of a risk management issue or claim that has been made against Council;
- Immediately act upon information provided by employees or residents who are reporting a hazard or incident;
- Actively implement Risk Management audit recommendations
- Promote and inform all employees, contractors and volunteers of the policy and their requirements.

Employees, Contractors and Volunteers

- Familiarise themselves with Council's Risk Management policy, principles and procedures;
- Employ risk management principles and practices to ensure that loss control and prevention is a priority whilst undertaking daily tasks;
- Report any hazard or incidents as soon as possible that may have a potential risk exposure to Council, employees, contractors or the public;
- Assist positively with investigations related to incidents that have occurred as a result of a hazard or incident; and
- Take notice of and implement recommendations or risk management audits conducted in the workplace.

Work Health and Safety and Risk Management Committee

- Effectively co-ordinate and facilitate risk management operations within the framework provided by the Standard or Standards referred to in **Section 5 of this policy** , legislation and Council policy;
- Review Council's risk management policies and procedures;
- Recommend new procedures or amendments to existing procedures to reduce risk;
- Review and monitor Council's risk management performance measures; and
- Monitor the recommendations and outcomes from risk management audits.

Implementation

A Risk Management Strategy including internal audits and reviews will be completed on a regular basis to enable progressive adjustment of practices to be undertaken to achieve full compliance with this policy.

Performance Review

Council will ensure that there are ongoing reviews of its management system to ensure its continued suitability and effectiveness. Records of all reviews and changes shall be documented.

5. Legislation and Related Standards

- Work Health and Safety Act 2012
- Work Health and Safety Regulations 2012
- AS/NZS ISO 31000:2009 Risk Management Standard
- AS ISO GUIDE 73:2009 Risk Management – Vocabulary
- AS ISO IEC 31010:2009 Risk Management – Risk Assessment Techniques

6. Responsibility

Responsibility for the operation of this policy rests with the General Manager.

DECISION:

CORP 1 FINANCIAL MANAGEMENT STRATEGY REVIEW

1) Introduction

The purpose of this report is for Council to review its Financial Management Strategy.

2) Background

The current Financial Management Strategy was adopted by Council in July 2014, in accordance with section 70A of the Local Government Act. It is a further requirement under section 70E of the Act that the Strategy be reviewed at least every four years.

The proposed Financial Management Strategy was presented and discussed at the May 2018 workshop. It was also discussed at the June 2018 Audit Panel meeting.

3) Strategic/Annual Plan Conformance

The Annual Plan requires preparation of the Financial Management Strategy in July 2018. It has been deferred to August pending adoption of the 2018/19 Operating Budget.

4) Policy Implications

The Financial Management Strategy includes information sourced from Council's Asset Management Policy, Investment of Surplus Funds Policy and Rates & Charges Policy.

5) Statutory Requirements

Section 70A and Ministerial Orders prepared in accordance with Section 70F and Section 70E of the Local Government Act 1993.

6) Risk Management

Not applicable.

7) Consultation with State Government and other Authorities

Not applicable.

8) Community Consultation

Not applicable.

9) Financial Impact

The Financial Management Strategy is prepared to guide Council in its financial decision making.

10) Alternative Options

The establishment and review of a Financial Management Strategy is mandatory. Council can adopt the Financial Management Strategy with amendment.

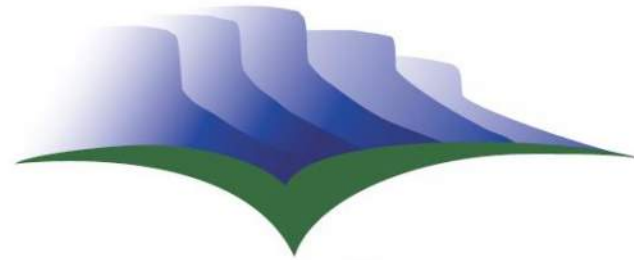
11) Officers Comments

The Financial Management Strategy has been reviewed in accordance with the requirements of the Local Government Act. The strategy is based on Council's current annual budget process and Long Term Financial Plan. Principles contained in related Council policies have been included to provide consistency in the financial planning functions of Council.

AUTHOR: Justin Marshall
SENIOR ACCOUNTANT

12) Recommendation

It is recommended that Council confirm the continuation of the Financial Management Strategy, amended as follows:



Meander Valley Council

FINANCIAL MANAGEMENT STRATEGY 2019 TO 2028

Purpose and Intent

The Financial Management Strategy (FMS) has been prepared in accordance with Section 70A of the Local Government Act 1993 to guide Council in its financial decision making. The FMS has been prepared with the following key principles in mind. Meander Valley Council will:

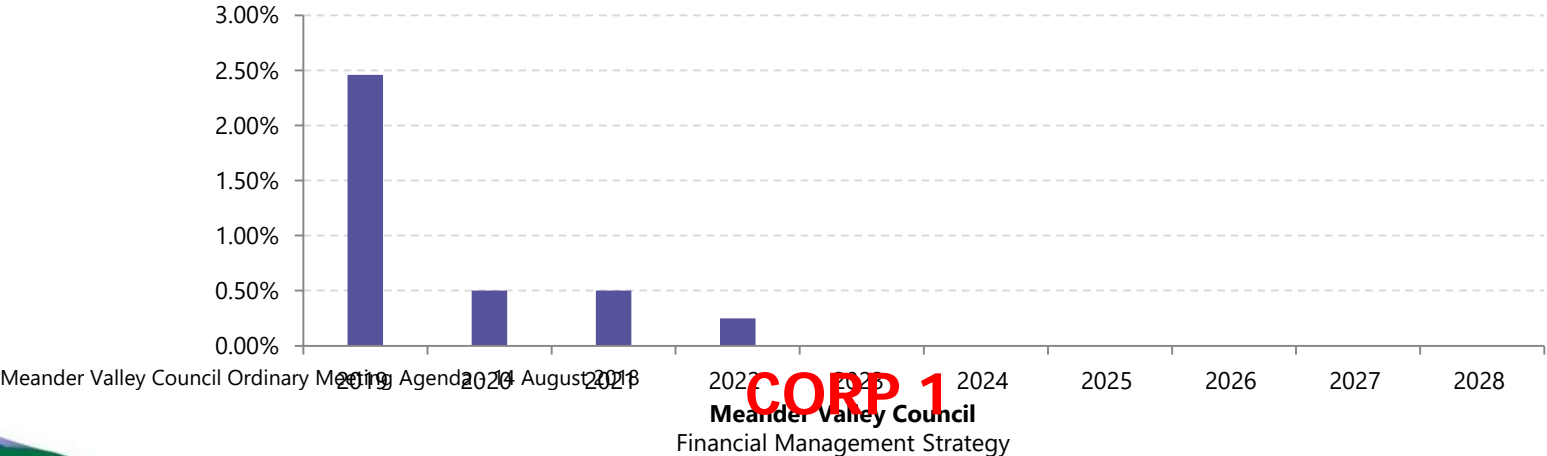
- Manage its finances on behalf of its community in a responsible and sustainable manner
- Maintain its community wealth in a manner where the wealth enjoyed by today's generation may also be enjoyed by tomorrow's generation
- Apply a user pays principle where appropriate, taking into account any community service obligation
- Manage its financial position with an ability to recover from unanticipated events and to absorb the potential volatility inherent in revenues and expenses
- Manage its Long Term Financial Plan (LTFP) to retain an underlying surplus after excluding capital income and expenditure
- Manage the FMS in keeping with the Strategic Plan with evidence based decision-making that is honest, open and transparent

These principles, in addition to the 'Rates and Charges' policy, are key considerations in preparation of Council's annual budget, LTFP and Asset Management Plans (AMP).

The LTFP will be prepared using Council's forecast information at the time of preparation for a period of ten years. The Asset Management Plans determine the projected spend on capital renewals and new/upgraded assets that is integrated into the LTFP. Revenue and Expenditure in the LTFP will not be indexed with inflation and will be stated in today's values.

General Rates

- General rates are taxation for the purpose of local government rather than a fee for service. It is the revenue source that Council has the greatest influence over when determining the annual budget. Council will ensure that it raises the revenue required to meet expenditure obligations in an efficient and equitable manner.
- Council’s general rates will be established in the annual budget process in line with the ‘Rates and Charges’ policy. The objective is to maintain a sustainable rates system that provides revenue stability and supports a balanced budget to avoid placing the burden of current expenditure on future generations; and ensuring that all councillors and staff work together and have a consistent understanding of the Council’s long term revenue goals.
- The general rates will be levied based on a property’s Assessed Annual Value (AAV) as determined by the Tasmanian Valuer General. AAV generally reflects a ratepayer’s capacity to pay.
- General rates will be increased annually at least in line with inflation to ensure the primary source of funding in the LTFP is not diminished and that Council is keeping pace with meeting the cost of providing services to the community.
- The projected rate rises required over and above inflation levels to balance the operating surplus in the LTFP are as follows:



Service Charges

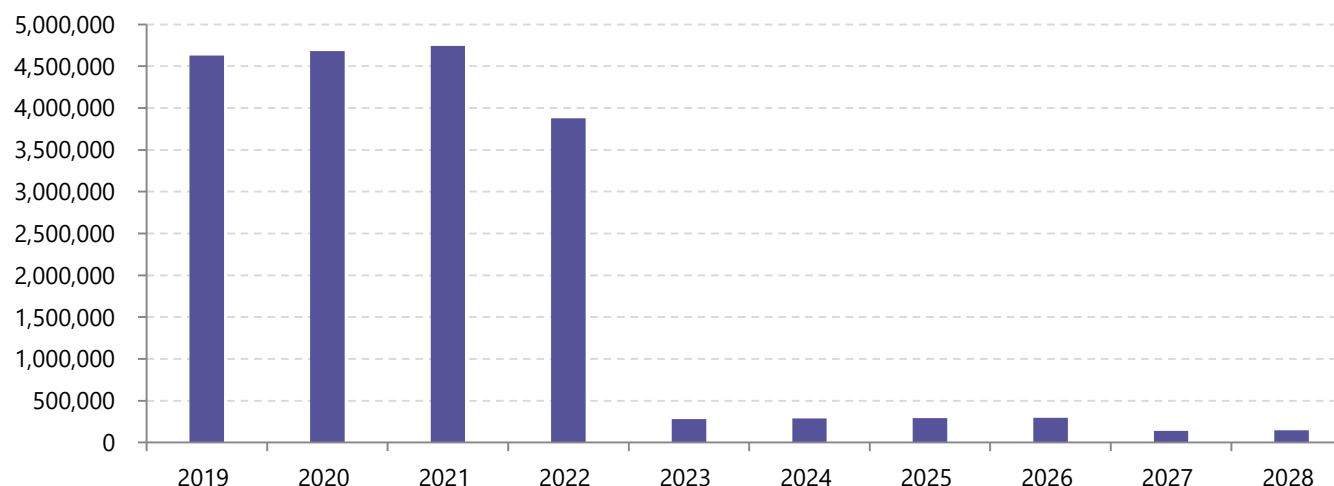
- Service charges will be regarded as a fee for service. A user pays concept is applied to service charges where possible.
- Council will raise a waste management service charge which covers the collection costs of waste and recycling. Since 2015 an additional fixed charge has been applied that begins to recover the cost of all other waste services including the provision of refuse sites and a transfer station. In 2017 the fixed charge achieved full cost recovery, meaning the household waste function is self-funding, as opposed to being included in the general rate's rate in the dollar calculation.
- The fire service contributions charge will be determined by the Tasmanian State Government with Council acting as an agent for the collection.

User Fees & Charges

- User fees and charges for council goods and services will be maintained in line with inflation at approximately six percent of operating revenue over the term of the LTFP.

Other Revenue

- The main source of other revenue are the Financial Assistance Grants received from the Commonwealth Government.
- Another significant source of other revenue is distributions from Council's investment in TasWater. Revenue is in line with TasWater's Corporate Plan and is based on Council's existing ownership. Distributions will reduce by one third in 2019.
- Interest on Cash and Investments are currently projected at a rate of 2.70% with this rate to be reviewed annually. This revenue item also includes interest from rate debtors and interest from outstanding loaned funds. Other interest revenue includes loans owing to Council.
- Council's projected loans receivable in the LTFP is as follows:

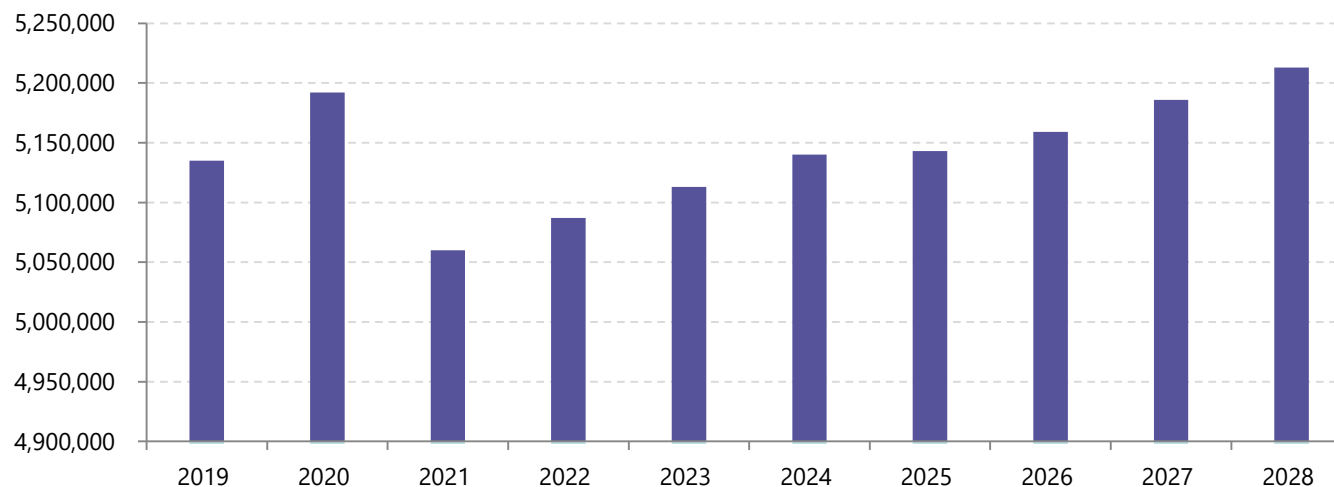


Operating Expenditure

- The operational expenditure of Council covers a wide range of services in the functions of Administration, Roads Streets & Bridges, Health & Community Services, Land Use Planning & Building, Recreation & Culture and Unallocated & Unclassified. Council will determine the level and range of services it provides to the community and approve funding of these services in the annual budget process.
- The LTFP includes no allowance for anticipated changes to the roles, functions and levels of service throughout the ten year period.
- The Unwinding Tip Provision expenditure relates to non-cash entries that recognise Council's liability to rehabilitate refuse sites upon their closure.

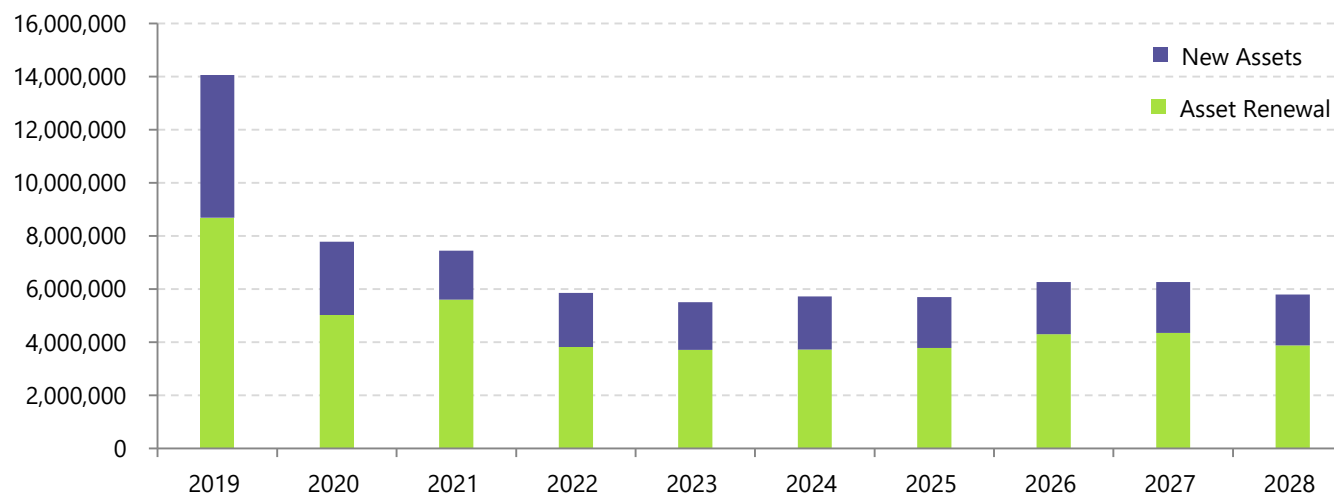
Depreciation

- Depreciation recognises the allocation of the value of an asset over its useful life. Management will make informed assumptions regarding the value of assets and the period of time the assets will provide services to the community. External specialists will be used for valuation services as deemed appropriate.
- The depreciation charged on an annual basis is reflective of the services being provided to the residents in that year.
- The value of depreciation as estimated in the LTFP does not allow for changes due to revaluation of asset classes.
- Councils projected depreciation expense in the LTFP is as follows:



Capital Works Program

- Council will approve the twelve month Capital Works Program on an annual basis.
- Expenditure on asset renewals ensures the existing level of service is maintained and the asset base will be preserved as the assets that are consumed are restored to their full service potential when needed. If Council does not fund asset renewals as a priority then the assets capacity to deliver services to the community will reduce.
- Spend on new and upgraded assets is regarded as a discretionary spend as it increases the level of service provided to the community and may increase operating expenditure into the future.
- Councils projected spend on new assets and asset renewals in the LTFP is as follows:



Asset Management Plans

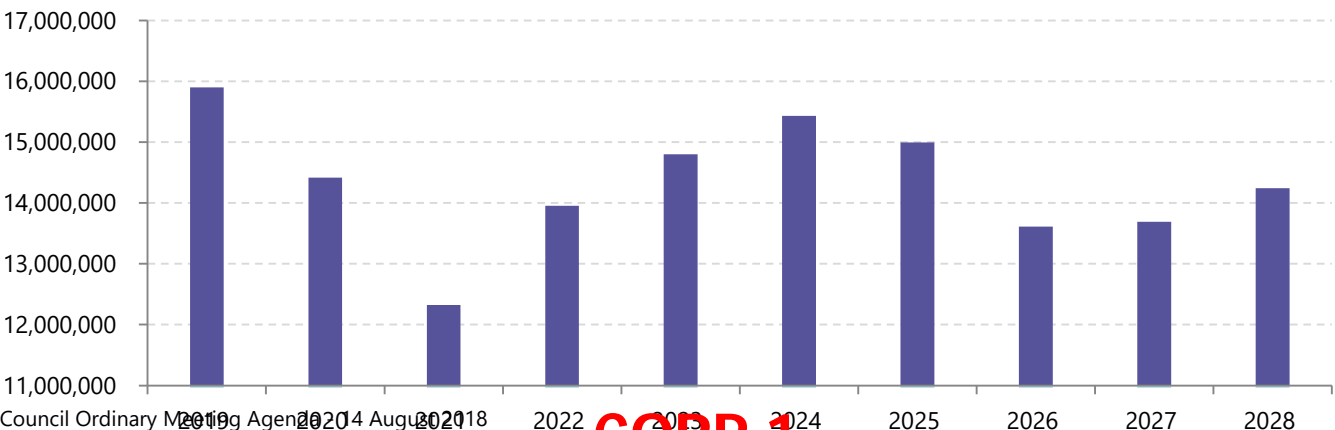
- Council will manage its assets in line with the 'Asset Management' policy, ensuring adequate provision is made for the long-term replacement of major assets is sustainable, through informed decision making on reliable information that is accountable and responsible.
- Council's AMP's will determine the renewal, upgrade and new asset expenditure forecast for all periods in the LTFP. They will be based on Management's forecasts of the infrastructure network's structure, condition and useful lives.
- The AMP's will also establish additional operational costs above existing levels that will be incurred due to the creation of new assets, these costs are to be included in the operating expenses in the LTFP.

Cash

- Council will review cash at bank at least weekly to ensure that all short term cash flow requirements will be paid when they are due.

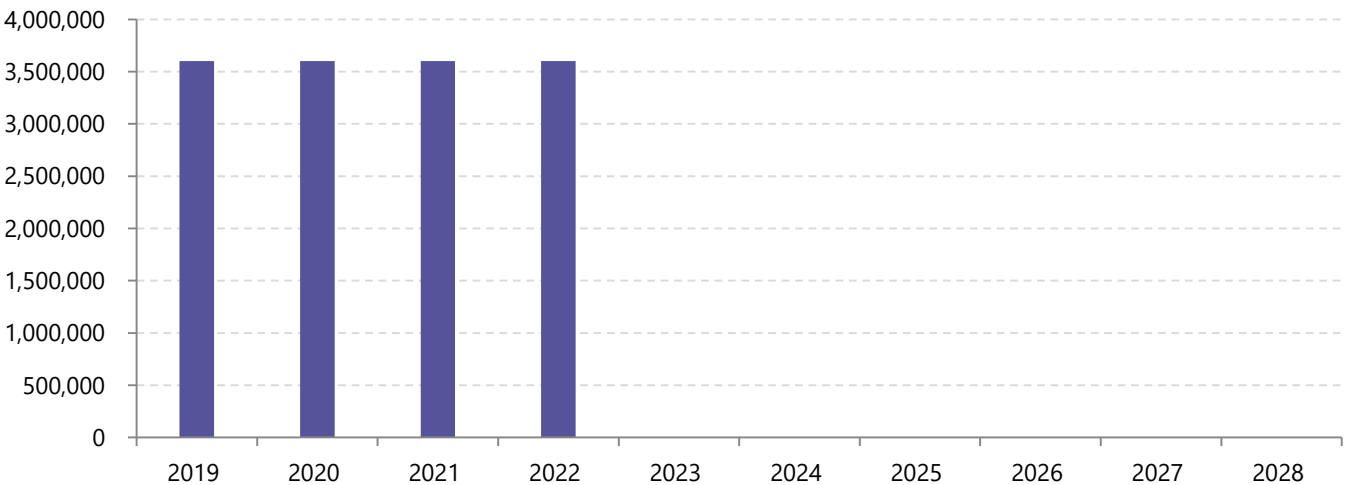
Investments

- Council will make investments in line with the 'Investment of Surplus Funds' policy with the objective of ensuring that the best possible rate of return is achieved from the investment of surplus Council funds whilst, at the same time ensuring the security of those funds.
- Cash and investments will be appropriately managed in order to meet the anticipated expenditure identified in the LTFP.
- Minimum cash and investment balances will be preserved to ensure all current liabilities can be met at any given time.
- Councils projected cash and investment balance in the LTFP is as follows (note, balances do not take into account outstanding liabilities, e.g. employee leave provisions):



Borrowings

- Council will continue to adopt a low debt environment. Borrowings will be considered for use with strategic purposes that provide new community infrastructure.
- Borrowings are intended to fund long term new asset creation that improves services to the community. The term of new borrowings must be considered with a view to link the payment period with the population that enjoys the benefit of those assets.
- Council will manage existing borrowings, cash and investments to ensure that debts are repaid when they are due.
- Councils projected debt in the LTFP is as follows:

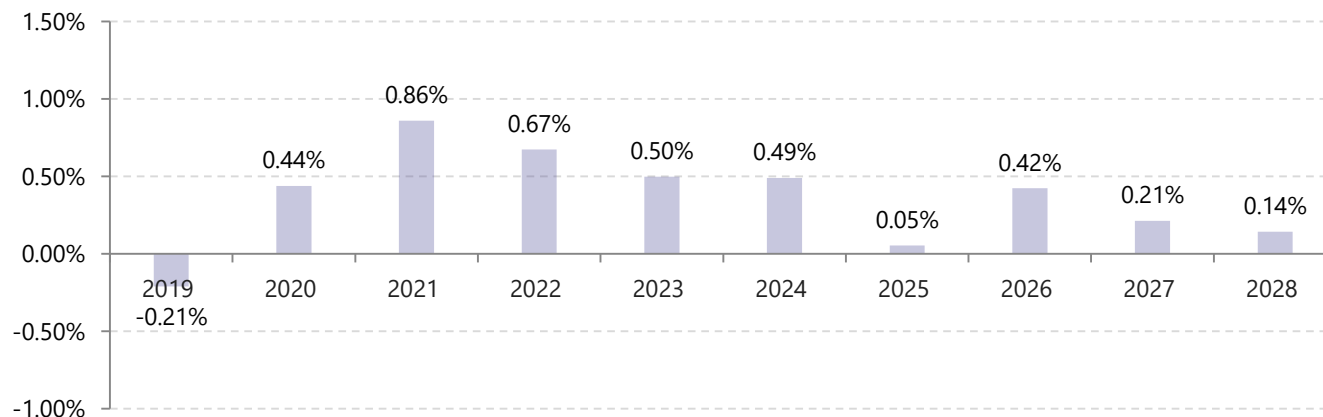


Financial Management Indicators and Asset Management Indicators

The State Government requires Council to disclose a number of management indicators in their annual financial statements. The following indicators will be prepared and disclosed in the financial statements for users to view as a measure of Council's financial sustainability. In achieving the targets, Council will be performing strongly in achieving a number of aspects identified in the Purpose and Intent of the financial management strategy:

Financial Management Indicators	Target
Underlying Surplus or Deficit	Greater than \$0
Underlying Surplus Ratio	Greater than 0%
These targets will maintain a breakeven operating position for the life of the LTFP, ensure that Council is generating sufficient revenue to meet its operating requirements. A result greater than 0 means that Council's recurring revenue is greater than recurring expenditure.	

- Councils projected Underlying Surplus Ratio in the LTFP is as follows:



Financial Management Indicators and Asset Management Indicators (Cont.)

Financial Management Indicators			Target
Net Financial Liabilities	What is owed to others, less money held, invested or owed to Council	Total liabilities less financial assets (cash and cash equivalents plus trade and other receivables plus other financial assets)	Greater than \$0
Net Financial Liabilities Ratio	The significance of net amount owed compared with the periods income	Total liabilities less liquid assets, divided by total operating income	At least 0%
Asset Management Indicators			Target
Asset Consumption Ratio	The average proportion of 'as new' condition left in assets	The depreciated replacement cost of plant, equipment and infrastructure divided by the current replacement cost of depreciable assets	At least 60%
Asset Renewal Funding Ratio	The extent to which the required renewal capital expenditure in the asset management plans have been funded in the long term financial plan	Present value of renewal capital expenditure in long term financial plan divided by present value of required renewal capital expenditure in the asset management plan	At least 90%
Asset Sustainability Ratio	The ratio of asset replacement expenditure relative to depreciation for the period. This measures if assets are being replaced at the rate they are wearing out	Capital expenditure on replacement, renewal of existing plant, equipment and Infrastructure divided by depreciation expense	At least 90%

Document Control

First issued/approved	July 2014
Last reviewed/adopted	August 2018
Next review date	August 2022
Version number	2
Responsible officer	Senior Accountant
Responsible department	Corporate Services

DECISION:

INFRA 1 STRATEGIC PLANNING DOCUMENT REVIEW & IMPLEMENTATION

1) Introduction

The purpose of this item is for Council to approve the Meander Valley Strategic Planning Documentation Review and Implementation Project document.

2) Background

Councillors have previously provided comprehensive input into the Meander Valley Strategic Planning Documentation Review and Implementation Project document at three Workshops in 2018, namely: February, March and July Council Workshops.

The purpose of the review was to capture the projects and recommendations from Council's major development planning documents, including:

1. Hadspen Outline Development Plan;
2. Westbury Outline Development Plan;
3. Prospect Vale Blackstone Heights Structure Plan;
4. Hadspen Master Plan; and
5. Deloraine Outline Development Plan.

Councillors and Council Officers have then collaborated to:

- Convert planning strategies and recommendations to actions;
- Prioritise actions as agreed projects; and
- Link projects to the Strategic Plan.

Each project has been assessed for priority based on the expected timeframe for delivery, as shown in the table below:

Assessed Priority	Timeframe
Immediate	Up to 2 years
High	2 years up to 5 years
Medium	5 years up to 10 years
Low	10 years up to 20 years

Each project has been categorised by status based on the categories, as shown in the following table:

Status	Detail
Potential Project	New project for consideration
In Progress	Project commenced and in progress

3) Strategic/Annual Plan Conformance

All of the objectives of the Council's Community Strategic Plan 2014 to 2024 are furthered by one or more of the projects within the Meander Valley Strategic Planning Documentation Review and Implementation Project document:

- Future Direction (1) – A sustainable natural and built environment
- Future Direction (2) – A thriving local economy
- Future Direction (3) – Vibrant and engaged communities
- Future Direction (4) – A healthy and safe community
- Future Direction (5) – Innovative leadership and community governance
- Future Direction (6) – Planned infrastructure services

4) Policy Implications

Not applicable.

5) Statutory Requirements

Not applicable.

6) Risk Management

Not applicable.

7) Consultation with State Government and other Authorities

Not applicable.

8) Community Consultation

Community members have provided their input during the consultation phases of the Outline Development and Structure Planning projects.

9) Financial Impact

Council Officers will seek approval for fully costed projects in the future.

10) Alternative Options

Council can elect not to approve or modify the final list of priority projects.

11) Officers Comments

A substantial amount of work has gone into producing this document to finalise the actions and recommendations from the strategic plans. It is anticipated that as part of the next steps, Council Officers will develop preliminary project plans for inclusion in future:

1. Capital Works Programs
2. Operating Budgets
3. Asset Management Plans
4. Council's Long Term Financial Plans.

AUTHOR: Craig Plaisted
PROJECT MANAGER, SUSTAINABLE DEVELOPMENTS

12) Recommendation

It is recommended that Council approve the Meander Valley Strategic Planning Documentation Review and Implementation Project document, as follows:

MEANDER VALLEY STRATEGIC PLANNING DOCUMENTATION
REVIEW and IMPLEMENTATION PROJECT



August 2018

Overview

The purpose of the Strategic Planning Documentation Review was to convert the actions and recommendations from Council's major development planning documents into projects for implementation. The following strategic planning documents were received by Council from 2011 to 2016:

- Hadspen Outline Development Plan (ODP) October 2011
- Westbury ODP December 2013
- Hadspen Growth Area Master Plan January 2015
- Prospect Vale and Blackstone Heights Structure Plan January 2015
- Deloraine ODP April 2016

An ODP – or Structure Plan – is a document that guides the future development of a town or suburb. ODPs lay the foundation for future rezoning, development planning and subdivision by addressing the opportunities and constraints for growth, and identifying any associated infrastructure requirements.

The review process has involved Councillors, Council Officers collaborating to:

- Convert planning strategies and recommendations to actions;
- Prioritise actions as agreed projects; and
- Link projects to the Strategic Plan.

The shortlisted ODP projects have been identified with additional explanatory text about each "item" and a Plan ID that relates specifically to each of the foundation strategic planning documents; refer table below:

Strategic Planning Document	Plan Id
Hadspen Outline Development Plan (ODP) October 2011 & Hadspen Growth Area Master Plan January 2015	HAD
Westbury ODP December 2013	WODP
Prospect Vale and Blackstone Heights Structure Plan January 2015	PVBH
Deloraine ODP April 2016	DODP

Each project has been assessed for priority based on the expected timeframe for delivery, as shown in the table below:

Assessed Priority	Timeframe
Immediate	Up to 2 years
High	2 years up to 5 years
Medium	5 years up to 10 years
Low	10 years up to 20 years

Each project has been categorised by status based on the categories, as shown in the following table:

Status	Detail
Potential Project	New project for consideration
In Progress	Project commenced and in progress

Strategic Planning – Priority Projects

Plan ID - Item	Action Required	Assessed Priority	Status	Comment
DODP 2 - Regional recreation precinct - Alveston Drive	D&C 2x bituminous netball courts with fence, seats & lights as Stage 1	Immediate	In progress	Capital allocated and design underway
WODP 6 - Community facilities - develop/implement program of new & refurbished	Develop and implement program for new/refurbished community facilities	Immediate	In progress	Audit underway; planning to be commenced in 2019
PVBH 9 - Support the expansion of Westbury Rd Activity Centre	Promote links between the regional sporting facilities at Prospect Vale Park and new sub-regional commercial and community uses	Immediate	Potential project	Planning and discussions with key stakeholders underway
PVBH 7 - Provide diverse housing choices	Provide the opportunity for innovative development models that respond to the unique natural attributes of the municipality. Specifically, there is potential to develop housing models such as cluster residences, that would be unique in the Tasmanian housing market	High	Potential project	Future Planning Scheme amendment to be considered in future operating budget; reliant on Developer proposals
DODP 3 - Diversify & enhance Meander River Park facilities	Provide pedestrian access/signage for link behind Police Station/MVPAC	High	Potential project	Signage scope to be finalised and undertaken under operational budget
HAD 8 - WSUD	Integrate SW treatment into HUGP landscape by creating vegetated 'living streams' & 'constructed wetlands' through Water Sensitive Urban Design (WSUD)	High	Potential project	Council is in the process of preliminary design and cost estimates
DODP 20 - Improve parking provision	Improve parking in proximity of disability/aged services; and MVPAC in Deloraine	High	Potential project	Improvements can be considered through future capital works program
HAD 18 - Enhance & respect local landscape/cultural values HAD 2 - Township gateway	Investigate potential for collaborative remediation and tracks/trails project in Hadspen c/- NRM North Create a new town entry statement in Hadspen	High	Potential project	Project to be considered in a future Capital Works Program, subject to development commencing in Hadspen
DODP 25 - Improve services for older people	Review the World Health Organisation's Checklist of Essential Features for Age Friendly Cities	High	Potential project	Extend audit across entire local government area subject to operational budget
DODP 3 - Diversify & enhance Meander River Park facilities	Audit lighting of existing loop track in Deloraine and improve to facilitate safe evening use	High	Potential project	Assessment complete; considered at 2018/19 capital workshop; can be consideration in a future capital works program; officers to seek grant opportunity
PVBH 10 - Provide a mix of transport choices	Connect new destinations with Prospect Vale's off-road pedestrian and cycling network	High	Potential project	Requires further planning and subject to consideration in future capital works program
DODP 22 - Provide electric vehicle charge point	Install an electric car charge point within Deloraine to cater for electric vehicles	High	Potential project	Considered at 2018/19 capital workshop; identified to be considered in the future 2020 capital works program; Meeting item in Aug 2018 Agenda
DODP 21 - Improve connectivity with northern end of town	Construct multi-use path on West Goderich St/Emu Bay Rd to connect nth Deloraine to town centre	High	Potential project	Would require consideration in a future capital works program
PVBH 3 - Protect/leverage area's environmental qualities	Maximise connections between urban areas and environmental assets such as Lake Trevallyn, the South Esk River and Cataract Gorge	Medium	In progress	Potential partnership with government and Developers/landowners as part of future capital works program; initial assessment into links between Blackstone Heights and Cataract Gorge in progress

Plan ID - Item	Action Required	Assessed Priority	Status	Comment
HAD 10 - Creating compact & mixed use town/neighbourhood centres	Facilitate creation of new town centre south of Meander Valley Road in Hadspen (e.g. medical centre) and redevelop existing town centre to create a range of additional commercial and retail outlets	Medium	Potential project	Project to be considered in a future Capital Works Program, subject to development commencing in Hadspen
WODP 1 - Town centre - site ID, land bank & facilitate new development	Key development site identification and opportunities (e.g. new supermarket site) in Hadspen	Medium	Potential project	Project to be considered in a future Capital Works Program, subject to private developer interest
DODP 13 - Improve tourism promotion	Develop a marketing plan to promote Deloraine & surrounds to visitors as gateway to the Western Tiers	Medium	Potential project	Would need to be considered in a future annual operating budget for promotion of all of Meander Valley
HAD 19 - Enhance & respect local landscape/cultural values	Create a network of linear parks in the township and growth area that builds on the existing river foreshore parkland, bullrun, hilltop and natural drainage lines in Hadspen	Medium	Potential project	Opp 17 from Hadspen ODP, construction project to be considered in a future Capital Works Program; Enabled by Planning Scheme SAP, Land purchase of river edge would be required by Council
WODP 11 - Township gateway	Prepare and implement township gateway strategy, potentially in association with the signage strategy in all towns	Medium	Potential project	Discussions with TRAP and State Growth underway
WODP 12 - Town centre	Design & construct town centre streetscape works in Westbury	Medium	Potential project	Council invested \$560,000 between 2008-11 on William Street makeover project and further work can be considered in future capital works program
WODP 14 - Streetscape themes	Establish street tree themes for key routes and local roads in all towns	Medium	Potential project	With TRAP
PVBH 8 - Encourage facilities for the ageing	Plan for the provision of a community centre in Prospect Vale to service the future needs of the community	Medium	Potential project	Requires further conceptual planning and subject to consideration in future capital works program
HAD 4 - Creating healthy communities	Better connect the town of Hadspen via integrated pedestrian & cycle path network including links to Entally	Medium	Potential project	Opp 11 from Hadspen ODP, project to be considered in a future Capital Works Program
HAD 5 - Creating healthy communities	Create a more extensive river foreshore parkland along the South Esk River crossing in Hadspen to the western side to Entally	Medium	Potential project	Opp 12 from Hadspen ODP, project to be considered in a future Capital Works Program
WODP 4 - Open space - develop/implement program	Develop and implement program for open space investment	Medium	Potential project	Would require consideration in future operating budget subject to the completion of Hadspen, Prospect Vale and Blackstone Heights Open Space Strategy
WODP 7 - Improving movement	Undertake capital works to implement sustainable transport initiatives in key routes within the township of Westbury	Medium	Potential project	Some footpath work currently underway, additional projects to be considered in future capital works programs
PVBH 1 - Network of linear open space, pedestrian/cycle paths	Extend open space to major community and commercial activities and services in Prospect Vale and Blackstone Heights	Medium	Potential project	Any additional development would need to be considered in a future capital works program
PVBH 1 - Network of linear open space, pedestrian/cycle paths	Plan for open space and pathways that follow natural linear networks such as creeks, low points and ridge lines in Prospect Vale and Blackstone Heights	Medium	Potential project	Any additional development would need to be considered in a future capital works program
DODP 3 - Diversify & enhance Meander River Park facilities	Landscape improvements to Racecourse Drive footpath in Deloraine to improve delineation of the footpath	Medium	Potential project	Would require consideration in a future capital works program
DODP 5 - Develop Wild Wood loop track	Construct 1.8km dirt path loop on both sides of Meander River (with bridge) in Deloraine	Medium	Potential project	Would require consideration in a future capital works program

Plan ID - Item	Action Required	Assessed Priority	Status	Comment
PVBH 2 - Distribute traffic to enhance safety & min congestion	Provide alternative to Country Club Avenue for those accessing Blackstone Heights, Prospect Vale and Country Club Tasmania	Medium	Potential project	Subject to future residential development in the area
PVBH 6 - Optimise use of constrained land	Encourage the use of land within the Prospect Vale waste water treatment plant attenuation zone for public open space	Low	Potential project	Future Planning Scheme amendment to be considered in future operating budget; reliant on TasWater proposed changes to decommission the WWTP
DODP 8 - Utilise the Racetrack for recreational activities & events	Design and construct a BMX track (competition grade/no lighting) at the Deloraine Racecourse	Low	Potential project	Would need to be considered in future capital works program
DODP 9 - Encourage and implement public art projects	Introduce dynamic public art on 3 newly installed plinths and facilitate an art competition for sculptures that are suitable for the 3 plinths	Low	Potential project	If the community of Deloraine propose a public art project, then it could be considered by Council
DODP 9 - Encourage and implement public art projects	New art installation for Wild Wood in Deloraine in partnership with arts, tourism, schools & business	Low	Potential project	Council could be an advocate for the community with the Crown
DODP 3 - Diversify & enhance Meander River Park facilities	Install new public gym equipment in Meander River reserve in Deloraine	Low	Potential project	Would require consideration in a future capital works program
DODP 24 - Provide accommodation for disabled residents	Make land available for the construction of independent living units for persons with disabilities	Low	Potential project	To be considered if a request is received by a provider
DODP 15 - Provide for an Emu Bay Rd-West Parade pedestrian link	Formalise existing pedestrian link between Emu Bay Rd and West Pde through ROW over 24-28 Emu Bay Rd & 1 West Church Street	Low	Potential project	Footpath may be considered in future capital works program

Through the process Council has also identified additional initiatives that will be developed by Council Officers and brought back to Council for consideration, these include: Celebrate Colonial Heritage in historic towns like Westbury; Emphasise youth in Planning for all towns; and Multi-use water facilities across Meander Valley.

DECISION:

INFRA 2 SUSTAINABLE ENVIRONMENT COMMITTEE

MEMBERSHIP

1) Introduction

The purpose of this report is for Council to appoint one new community representatives to Council's Sustainable Environment Committee (SEC).

2) Background

At the June 2016 Council Meeting the then SEC was established as a Special Committee of Council.

The motion also called for the adoption of Terms of Reference, whereby 'community members with a range of relevant interests and skills' can be appointed as SEC members by invitation from Council.

The SEC recommends that Council invite one community member to join the Special Committee, namely:

1. Mr Nick Kemsley – resident at 14A Emu Bay Road, Deloraine

3) Strategic/Annual Plan Conformance

Furthers the objectives of the Council's Community Strategic Plan 2014 to 2024:

- Future Direction (5) – Innovative leadership and community governance

4) Policy Implications

Not applicable.

5) Statutory Requirements

Section 24 (2) of the Local Government Act 1993 applies.

6) Risk Management

Not applicable.

7) Consultation with State Government and other Authorities

Not applicable.

8) Community Consultation

Community members may be appointed directly by Council – without the need to advertise expressions of interest for vacancies.

9) Financial Impact

Not applicable.

10) Alternative Options

Council can elect not to appoint the recommended community members to the SEC.

11) Officers Comments

The appointment of Mr Nick Kemsley is in response to the recent resignation of two community members.

AUTHOR: Craig Plaisted
PROJECT MANAGER, SUSTAINABLE DEVELOPMENT

12) Recommendation

It is recommended that Mr Nick Kemsley be appointed by Council under Section 24 (2) of the Local Government Act 1993 as community member to the Sustainable Environment Committee.

DECISION:

INFRA 3 REVIEW OF BUDGETS FOR THE 2018-2019 CAPITAL WORKS PROGRAM

1) Introduction

The purpose of this report is to seek Council approval for the reallocation of funding within the Capital Works Program as a result of project cost variations.

2) Background

Project budget allocations within the Capital Works Program that are submitted to Council for approval prior to the commencement of each financial year are prepared using a range of methods. In some instances and depending on the availability of resources and time constraints, projects can be thoroughly scoped and accurate estimates prepared using available empirical or supplier information. Conversely, project cost estimates may only be general allowances prepared using the best information available at the time.

During the financial year, detailed design, adjustment to project scope and the undertaking of additional works during construction, results in project expenditure under and over approved budget amounts. New projects may also be requested for inclusion in the program.

The overall financial objective in delivering the Capital Works Program is to have a zero net variation in the program budget. As part of our ongoing management of projects, Council officers review project time lines, budgets, scope and available resources. Project savings are generally used to offset project overruns and additional funding can be requested to assist with balancing the budget or to finance new projects.

3) Strategic/Annual Plan Conformance

Council's Annual Plan requires Council officers to report on the progress of capital works projects.

4) Policy Implications

Not applicable.

5) Statutory Requirements

Section 82(4) of the *Local Government Act 1993* requires Council to approve by absolute majority any proposed alteration to Council's estimated capital works outside the limit of the General Manager's financial delegation of \$20,000.

6) Risk Management

Not applicable.

7) Consultation with State Government and other Authorities

Not applicable.

8) Community Consultation

Not applicable.

9) Financial Impact

The recommended variations in this report will result in a \$5,000 net increase to the value of the 2018-2019 Capital Works Program. However, there is no additional Council funding required outside the current approved Program as the increase in budget is offset by the Tasmanian Government's ChargeSmart Program (refer Officers Comments). Council's overall budget estimate is not altered.

10) Alternative Options

Council can amend or not approve the recommendations.

11) Officers Comments

In order to deliver the outcomes required from capital works projects outlined in the Annual Plan, Council officers regularly review project scope, resourcing requirements and committed and forecast expenditure. Typically on a quarterly basis, project information is presented to Council where cost variations have occurred, and formal approval is requested from the Council to reallocate funding within the Capital Works Program where variations are beyond the General Manager's financial delegation.

The table below outlines existing projects in the Capital Works Program, and one new project not previously presented to Council, where reallocation of funding is required.

TABLE 1: 2018-2019 CAPITAL WORKS BUDGET – REALLOCATION OF PROJECT FUNDING

Project No.	Project Name	Council Costs to date	Original Budget	Proposed Budget Variation	New Budget	Delegation	Comments
TBC	EV Charging points (Westbury and Deloraine)	\$0	\$0	\$11,000	\$11,000	Council	\$5K funding from State Government and \$6K funding transfer from PN6551
6551	Northern Lights - LED Street Light Replacement	\$13,929	\$69,700	-\$6,000	\$63,700	Council	Transfer to EVC Charging
6499	Bracknell open drain program	\$0	\$20,000	-\$12,000	\$8,000	GM	Transfer to PN6852
6852	Esplanade, Bracknell (between Field and Louisa St	\$0	\$0	\$12,000	\$12,000	GM	Transfer from PN6499
	Totals		\$89,700	\$5,000	\$94,700		

EV Charging points

Meander Valley Council has been successful in an application to the Tasmanian Government's ChargeSmart Program for a grant of \$5,000 (rounded up; including GST) for procurement and installation of Electric Vehicle (EV) charging infrastructure.

Only 11 organisations received grants up to \$5,000 from the \$50,000 available. The organisations included the Department of Education (x2), University of Tasmania (x3), Cradle Coast Authority (x1), Royal Automobile Club of Tasmania (x1) and local government (x4) including Meander Valley, Launceston, Central Coast and Huon Valley councils.

The funds will enable Council to install a charger station to recharge EVs parked in the car parking area in front of the Council Chambers in Westbury.

The ChargeSmart grant is intended to help Council's workplace to:

- demonstrate leadership by showing that our organisation is ready for electric vehicles;
- support employees who are electric vehicle owners, or may be in the future;
- support increased uptake of electric vehicles in our fleet;
- encourage electric vehicle uptake through increased awareness of the technology and increased convenience of charging; and
- encourage other workplaces to install charging stations through leading by example.

The Tasmanian Climate Change Office (TCCO) states that EVs are likely to be priced similarly to standard internal combustion engine (ICE) vehicles by 2025. Therefore, the initial demand for electricity from the charge station is expected to be extremely low over the next few years, then progressively increasing as EV prices reach parity with ICE vehicles. Those owners intending to charge EVs will need to provide their own cable (BYO) or borrow one; if it was loaned by Council.

The proposed charger type is a Gelco Services GS2009 model Type 2 Mennekes charge station with one connector, to be installed with safety switch and appropriate signage by a qualified electrician. The charger has a 22kW maximum output for fast Alternating Current (AC) charging when connected to a 3 phase system, which is capable of charging from 0% to 100% a Nissan Leaf 2018 40kWh in 6 hours, a BMW i3 2017 60 Ah in 3 hours or a Mitsubishi Outlander PHEV in 3.5 hours. The charging unit is compatible with major vehicle brands, including Tesla.

The GS2009 charger is fitted with Radio Frequency Identification (RFID) technology to identify connected devices, has Ethernet connection ports and Open Charge Point Protocol (OCPP) for internet technology communications and future billing services (i.e. Council can charge for power).

This project initiative of the SEC also included a commitment within the ChargeSmart application to match the State's funding to install identical charging infrastructure at the Visitor Centre in Deloraine. However, the commitment was made "subject to formal approval of a capital budget allocation at a Council Meeting", and as such will require support and a budget allocation from Council. Deloraine was identified as a suitable EV charger location by RACT's former General Manager, Darren Moody, who wrote "it would have been great to have something around Deloraine for the trip I did from Freycinet to Cradle".

Officers seek Council approval for a budget re-allocation of \$6,000 for the procurement and installation of a second, identical EV charger at the Great Western Tiers Visitor Centre in Deloraine, and match the State Government contribution towards EV charging infrastructure in Meander Valley.

AUTHOR: Dino De Paoli
DIRECTOR INFRASTRUCTURE SERVICES

12) Recommendation

It is recommended that Council;

1) Approves the following changes to the 2018-2019 Capital Works Program.

<i>Project Name</i>	<i>Original Budget</i>	<i>Proposed Budget Variation</i>	<i>New Budget</i>
<i>EV Charging points (Westbury and Deloraine)</i>	<i>\$0</i>	<i>\$11,000</i>	<i>\$11,000</i>
<i>Northern Lights - LED Street Light Replacement</i>	<i>\$69,700</i>	<i>-\$6,000</i>	<i>\$63,700</i>

DECISION:

ITEMS FOR CLOSED SECTION OF THE MEETING:

Councillor xx moved and Councillor xx seconded ***“that pursuant to Regulation 15(2)(g) of the Local Government (Meeting Procedures) Regulations 2015, Council close the meeting to the public to discuss the following items.”***

GOV 2 CONFIRMATION OF MINUTES

Confirmation of Minutes of the Closed Session of the Ordinary Council Meeting held on 10 July, 2018.

GOV 3 LEAVE OF ABSENCE

(Reference Part 2 Regulation 15(2)(h) Local Government (Meeting Procedures) Regulations 2015)

The meeting moved into Closed Session atpm

The meeting re-opened to the public atpm

The meeting closed at

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CRAIG PERKINS (MAYOR)