PLAN 1

PLANNING APPLICATION P17-119

283 VALLEYFIELD ROAD, CAMPBELL TOWN

ATTACHMENTS

A Application & plans

B Responses from referral agencies

PLANNING APPLICATION
Proposal

Description of proposal

Extractive industry – Increase production to a maximum of 100,000 cubic metres per annum at an existing hard-rock and gravel quarry

Quarrying activities will continue to be the following:

- surface site preparation by soil removal and stockpiling;
- rock drilling and blasting by licensed contractor;
- rock removal by excavator;
- rock crushing and screening using a mobile crusher;
- ripping of decomposed gravels and loading into stockpiles (for material not requiring to be blasted);
- stockpiling of processed material in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and
- transport of materials by trucks ranging from 12 to 38 tonne capacity (truck and truck/trailer combinations).

Site address:

Physical address – Lot 2 (283) Valleyfield Road, Campbell Town

ID no: _____ and /or Council's property no: _____ AND/OR

Area of land: _____ ha/m^2 and/or **CT no: Volume 140153 Folio 2**

Estimated cost of project $ _____ **(include cost of landscaping, car parks etc for commercial/industrial uses)**

Are there any existing buildings on this property? Yes

If yes – main building is used as residence

If variation to Planning Scheme provisions requested, justification to be provided:

NA

If outbuilding has a floor area of over 56m^2, or there will be over 56m^2 of outbuildings on the lot, or is over 3m at apex in residential zone, details of the use of the outbuilding to be provided:

NA

External colours: NA

Is any signage required? (NO)

VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD, CAMPBELL TOWN

ENVIRONMENTAL EFFECTS AND PLANNING REPORT

Van Diemen CONSULTING PO Box 1 NEW TOWN TAS 7008

FOREWORD

Function of the Environmental Effects and Planning Report

The Environmental Effects and Planning Report (EEPR) has been prepared to support a development application by Van Diemen Quarries Pty Ltd (the 'proponent') for a Planning Permit to intensify the extraction of rock/gravel from the existing Valleyfield Road Quarry to the north of Campbell Town in the Tasmanian Midlands.

This application seeks approval for production levels of up to 100,000 cubic metres per annum, of which all of it may be crushed and/or screened. The proposed quarry operation includes two activities defined within Schedule 2 of the *Environmental Management and Pollution Control Act 1994 (Tas)* (EMPCA) –

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

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

This EEPR provides information on –

1. the present environment of the proposed quarry, including such matters as zoning (planning scheme), land use, flora, soils and climate. It also describes the quarry operation in detail including the emissions sources, etc.; and
2. each of the potential environmental issues associated with the quarry, and provides detail regarding the mitigation measures that will be undertaken to address each issue. Infrastructure needed for the expanded operation is also discussed.

Roles in the Approval Process

The EPA will use the EEPR to assess the activity in accordance with the Environmental Impact Assessment Principles provided in S74 of *EMPCA*. The EEPR may be referred to other relevant State agencies as part of this process to seek comments in relation to the proposed development. The EPA assessment may generate environmental conditions that would be included in the Planning Permit if one is issued by Council. The Northern Midlands Council (NMC) will use the EEPR as the basis for assessing the development application and for drafting conditions under which a Permit may be granted.

Commonwealth approval under the *Environment Protection and Biodiversity Conservation Act 1999* is not likely to be needed as the action is unlikely to affect a significant impact to matters of National Environmental Significance (NES); the activity is not likely to be a *controlled* action.

Statutory Rights of any Person to Make Representations

When the EPA is satisfied that sufficient information regarding the proposed development has been received, the Director will provide written notice to the Council to advertise the application. The Council will advertise the application for a period of time within which anyone can make a representation about the project. Representations should be directed to the Northern Midlands Council.

General Manager

Northern Midlands Council

13 Smith Street

Longford TAS 7301

When the representation period has closed, the Council will forward all representations to the EPA, which will complete the assessment of the environmental aspects of the project. The EPA takes into consideration the representations and the comments received from other State agencies to which the EEPR was referred. An addendum or 'supplement' to the EEPR may be required of the project proponent to respond to representations and comments from referral agencies.

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

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GRAPHS

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ATTACHMENTS

ABBREVIATIONS / GLOSSARY

DPIPWE	Department of Primary Industries, Parks, Water and Environment
DRP	Decommissioning and Rehabilitation Plan
EMPCA	*Environmental Management and Pollution Control Act 1994 (Tas)*
EEPR	Environmental Effects and Planning Report
EPA	Environment Protection Authority
LUPAA	*Land Use Planning and Approvals Act 1993 (Tas)*
ML	Mining Lease 2006P/M
MRT	Mineral Resources Tasmania
(the) proponent	Van Diemen Quarries Pty Ltd
QCP	Tasmanian *Quarry Code of Practice 1999*
(the) Scheme	*Northern Midlands Interim Planning Scheme 2013*
VDQ Pty Ltd	Van Diemen Quarries Pty Ltd
WMP	Weed Management Plan

EXECUTIVE SUMMARY

PROPOSED ACTIVITY

The Valleyfield Road Quarry is located on Valleyfield Road, west of Cleveland in Tasmania's Northern Midlands.

This Environmental Effects and Planning Report provides information to support the Development Application lodged with the Northern Midlands Council to intensify the extraction of rock/gravel from the existing Valleyfield Road Quarry on Valleyfield Road near Cleveland.

The existing quarry is permitted to extract up to 20,000 cubic metres per annum – and includes crushing, screening and blasting.

This application is to **increase** extraction levels of rock/gravel to a maximum of 100,000 cubic metres per annum. This equates to about 160,000 tonnes of material.

The intensified quarry operation includes two activities defined within Schedule 2 of the *Environmental Management and Pollution Control Act 1994 (Tas)* (EMPCA) with maximum volumes per annum for this application stipulated within parentheses –

- '5. Extractive Industries. (a) Quarries: the extraction of any rock or gravel and producing 5 000 cubic metres or more of rock or gravel per year' [**Maximum 100,000 cubic metres per annum**]; and
- '6. Materials Handling. (a) Crushing, Grinding or Milling: processing (by crushing, grinding, milling or separating into different sizes by sieving, air elutriation or in any other manner) of ... (ii) rock, ores or minerals at a rate in excess of 1 000 cubic metres per year' [**ie. Maximum 100,000 cubic metres per annum**].

Quarrying activities will continue to be the following:

- surface site preparation by soil removal and stockpiling;
- rock drilling and blasting by licensed contractor;
- rock removal by excavator;
- rock crushing and screening using a mobile crusher;
- ripping of decomposed gravels and loading into stockpiles (for material not requiring to be blasted);
- stockpiling of processed material in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and
- transport of materials by trucks ranging from 12 to 38 tonne capacity (truck and truck/trailer combinations).

LOCATION

Valleyfield Road Quarry is located west of Cleveland in Tasmania's Northern Midlands.

RATIONALE FOR DEVELOPMENT

The quarry is geographically located in an area where there are several demands for gravel and rock material – roadworks, driveways, construction of farm infrastructure.

ENVIRONMENTAL MANAGEMENT MEASURES FOR SIGNIFICANT PARAMETERS

Water Management

- The key objective in managing surface water flows is to prevent transport of sediment off-site in stormwater.

Weed Management

- A Weed and Pathogen Management Plan has been prepared, approved by the Director EPA and is implemented at the existing Valleyfield Road Quarry.

Dust Management

Industry standard environmental practices for quarries will be adopted:

- Watering of internal roads and stockpiled material as required during dry and windy conditions;
- Use of water sprays on the crushing to mitigate dust generation; and
- Minimising the geographic extent of areas of exposed soil.

Waste and Dangerous Goods Management

- No machinery servicing, except for emergency repairs or service requirements, will be conducted within the quarry. Wastes generated from machinery repairs will be disposed of in an appropriate bin located near the mobile site office for future disposal at a permitted refuse disposal site; and
- Waste generated by workers from general refuse (eg lunch wrappers) at the quarry will be collected in waste bins provided on-site for general refuse. These will be emptied at least once per fortnight and the material disposed of at a permitted refuse disposal site.
- Weed spraying chemicals will be handled, used and disposed of in accordance with the manufacturer's directions and relevant regulations;
- When in the quarry, fuel and oil containers will stored at least 10 m from any drain or sediment pond and are bunded (moveable bunds) to a capacity at least 1.5 times the volume of the container; and
- One hydrocarbon spill kit will be stored at the quarry to use in the event of a spillage. Staff will be trained in how to use the kit and the kit will be replaced as and when required.

DECOMMISSIONING AND REHABILITATION

It is the aim of the proponent to minimise the area of land unrehabilitated at the quarry. The maximum area unrehabilitated at any one time will be 3 hectares. Land will be rehabilitated to pasture, the current and surrounding land use.

'Progressive rehabilitation' will apply at the quarrying operation for areas that have been quarried and are no longer needed or used for the operation of the quarry. Progressive rehabilitation refers to the rehabilitation of worked out, or surplus areas, while extractive operations are ongoing and includes the stabilisation of the landform prior to revegetation and serves to ensure landform stability and revegetation on an ongoing basis.

In the event of permanent closure of the proposed development a more detailed Decommissioning and Rehabilitation plan will be developed and submitted to the EPA for approval.

PART A – BACKGROUND INFORMATION

A.1 SCOPE

This Environmental Effects and Planning Report provides information to support the Development Application lodged with the Northern Midlands Council to intensify the extraction of rock/gravel from the existing Valleyfield Road Quarry on Valleyfield Road near Cleveland.

The existing quarry is permitted to extract up to 20,000 cubic metres per annum. This application is to intensify extraction levels of rock/gravel to a maximum of 100,000 cubic metres per annum.

The intensified quarry operation includes two activities defined within Schedule 2 of the *Environmental Management and Pollution Control Act 1994 (Tas)* (EMPCA) with maximum volumes per annum for this application stipulated within parentheses –

- '5. Extractive Industries. (a) Quarries: the extraction of any rock or gravel and producing 5 000 cubic metres or more of rock or gravel per year' [**Maximum 100,000 cubic metres per annum**]; and
- '6. Materials Handling. (a) Crushing, Grinding or Milling: processing (by crushing, grinding, milling or separating into different sizes by sieving, air elutriation or in any other manner) of ... (ii) rock, ores or minerals at a rate in excess of 1 000 cubic metres per year' [**ie. Maximum 100,000 cubic metres per annum**].

A.2 LOCATION

Valleyfield Road Quarry is located west of Cleveland in Tasmania's Northern Midlands (Figure 1).

The quarry was formalised around an existing pit which occurs within a 34.62-hectare Mining Lease accessed from Valleyfield Road (Figure 2).

A.3 PROPONENT

Van Diemen Quarries Pty Ltd is the owner of the Mining Lease and the proponent of the development application.

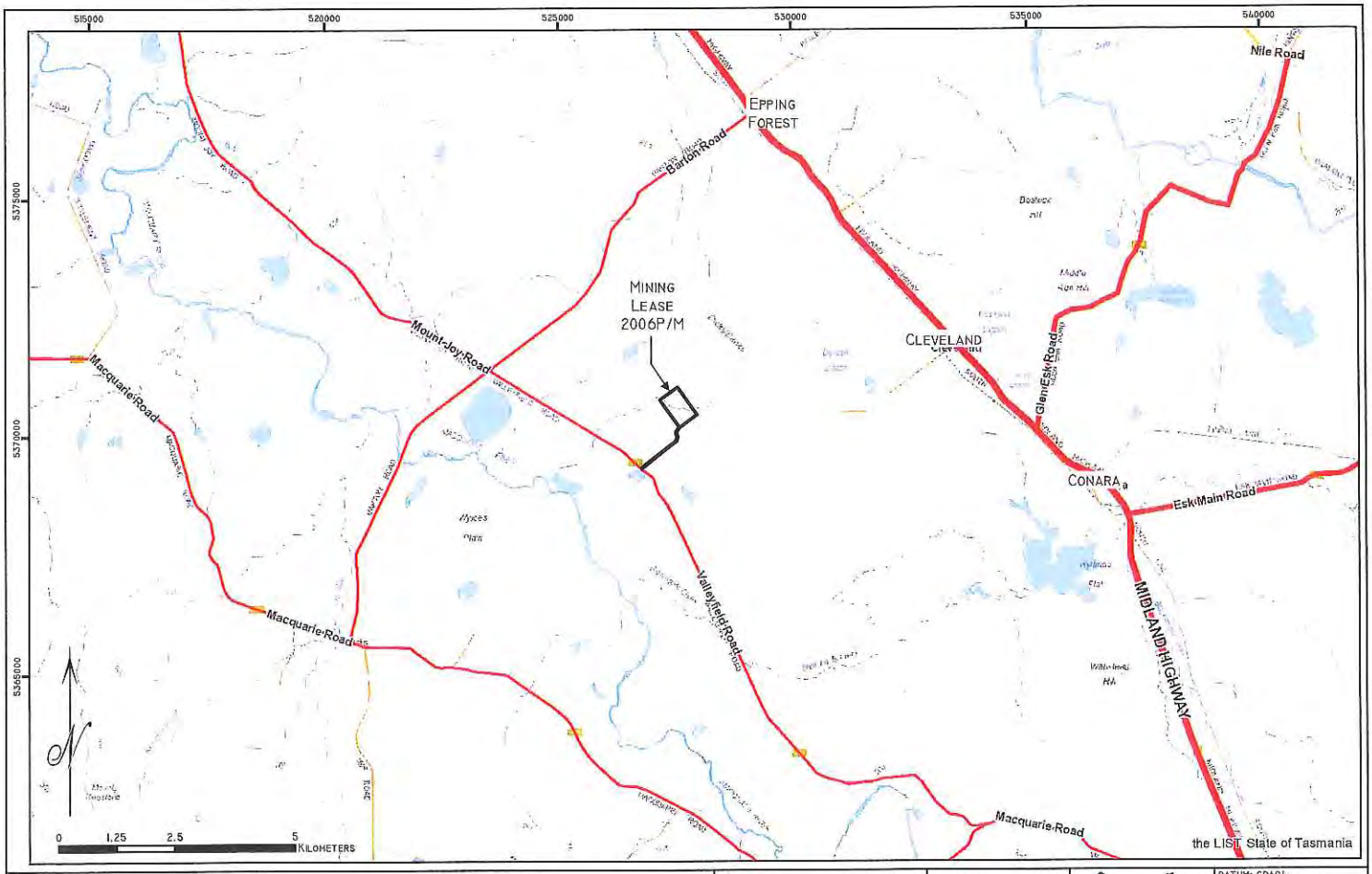
The contact details of the proponent are:

Van Diemen Quarries Pty Ltd
ACN 607 533 906
Registered Office – CROWE HORWATH, 62-66 PATERSON STREET, LAUNCESTON TAS 7250
Primary Place of Business - 79-81 ST LEONARDS ROAD, ST LEONARDS TAS 7250

Principal Contact for VDQ Pty Ltd
Mr Oliver Diprose, Director
Mobile – 0418 314 438
Phone – (03) 6337 0200
Fax – (03) 6339 2028
Email – odiprose@gradco.com.au

A.4 QUARRY DETAILS

Physical address – 283 Valleyfield Road, Campbell Town
Land Tenure – Private freehold
Land Titles – Volume 140153 Folio 2 (Attachment 2)
Mining Lease Number – 2006P/M
Mining Lease Size – 34.62 hectares (approx.)
Disturbed area 'open' (unrehabilitated) at any one time – 3 hectares (max.)
Planning permit – P15-257 (including Permit Conditions Environmental 9321)



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 1: LOCATION OF VALLEYFIELD RD QUARRY

MINING LEASE

Van Diemen

DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD
DATE: 18TH MARCH 2017

VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT

FIGURE 2: MINING LEASE 2006P/M

MINING LEASE

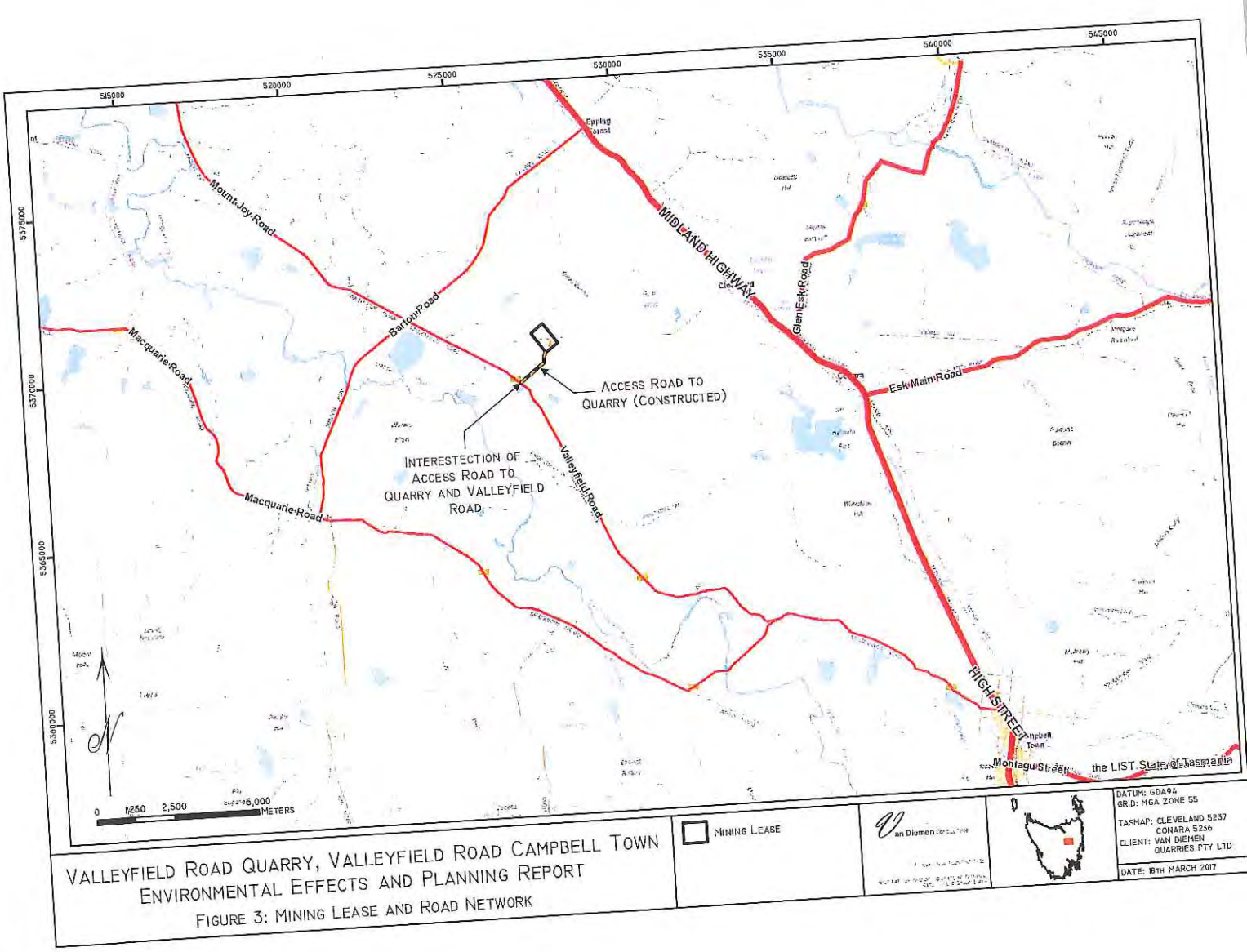
van Diemen

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236

CLIENT: VAN DIEMEN
QUARRIES PTY LTD

DATE: 18TH MARCH 2017



MINING LEASE

DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD
DATE: 16TH MARCH 2017

VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT

FIGURE 3: MINING LEASE AND ROAD NETWORK

PART B - PROJECT DESCRIPTION

B.1 LOCATION

Valleyfield Road Quarry is located west of Cleveland in the Tasmanian midlands (Figure 1).

The Mining Lease is located on private freehold land zoned Rural Resource (Figure 4A) under the *Northern Midlands Interim Planning Scheme 2013*. It adjoins Valleyfield Road (Figure 3).

B.2 TIMFRAME FOR DEVELOPMENT

It is anticipated that additional extraction beyond the currently approved 20,000 cubic metres per annum will commence in the first quarter of the 2017-18 financial year (i.e. July to September 2017). The quarry is expected to have a lifespan of at least 15 years at the maximum rate of extraction every year – an unlikely scenario given the quarry will be operated on a needs basis, so extraction will depend on demand which may fall well short of the permitted maximum level of 100,000 cubic metres per annum.

A maximum 3-hectare envelope of disturbed/unrehabilitated ground will be maintained throughout the life of the activity, with areas progressively rehabilitated to ensure that this maximum disturbed area is not exceeded. Areas will be rehabilitated to pasture for livestock grazing, which is the existing land use.

B.3 MINING LEASE

A Mining Lease (Attachment 1) is in force – 2006P/M.

B.4 OPERATING HOURS

Operating hours are those already in place for the quarry – 0600 to 1900 hrs Monday to Friday, 0800 to 1600 hrs on Saturday; closed on Sunday and public holidays[1].

Notwithstanding these operating hours, **blasting** will be limited to between 1000 and 1600 hrs Monday to Friday and **crushing** will not occur on Saturday, Sunday and public holidays.

B.5 QUARRY ACCESS ROAD – JUNCTION WITH VALLEYFIELD ROAD

The quarry access road originates from Valleyfield Road to the west of the pit (Figures 3 and 7A). The access road is about 6m wide and follows the Land Title boundary of the land for about two-thirds of its length towards the pit at which point it will move northwards away from the Land Title boundary as shown in Figure 7A.

B.6 EXTRACTION VOLUME AND PROCESS

B.6.1 Extraction Volume

This application is to **increase** extraction levels of rock/gravel to a maximum of 100,000 cubic metres per annum. This equates to about 160,000 tonnes of material.

B.6.2 General Extraction Process

Quarrying activities will continue to be the following:

- surface site preparation by soil removal and stockpiling;
- rock drilling and blasting by licensed contractor;
- rock removal by excavator;
- rock crushing and screening using a mobile crusher;

[1] Commitment 1: Operating hours will continue to be – 0600 to 1900 hrs Monday to Friday, 0800 to 1600 hrs on Saturday; closed on Sunday and public holidays. Notwithstanding these operating hours, **blasting** will be limited to between 1000 and 1600 hrs Monday to Friday and **crushing** will not occur on Saturday, Sunday and public holidays.

- ripping of decomposed gravels and loading into stockpiles (for material not requiring to be blasted);
- stockpiling of processed material in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and
- transport of materials by trucks with a capacity ranging from 12 to 38 tonnes (truck and truck/trailer combinations).

After enough rock is crushed and screened into gravel the quarry will operate on a need basis where trucks are loaded by a loader. There will be periods when the quarry does not operate due to lack of demand for product.

B.6.3 Blasting

Hard rock extraction areas will be prepared by removing and stockpiling the topsoil away from the working quarry. Rock will be liberated by blasting.

To achieve the full 100,000 cubic metres of material per annum there would likely need to be 4-6 blasts per annum. Each blast would, on average, achieve the liberation of 20,000 cubic metres.

Drilling and blasting will be carried out by qualified contractors. Contractors will carry out the drilling and blasting operations in consultation with the proponent to ensure the following:

- drilling will be carried out as specified by a blast contractor;
- all close neighbours (those within 1km of the area being extracted within Mining Lease) will be notified at least 24 hours in advance of blasting activities;
- blasting activities will be safe and meet all workplace health and safety requirements and
- blasting will be adequate to achieve rock fragmentation for extraction by excavator and crushing.

The blast fragmented rock will be handled by an excavator and loaded into the hopper of the primary crusher. Crushers have a number of jaws and screens (fitted to the mobile unit) which are adjusted to achieve the desired size.

Measures to be applied during the preparation of a blast will include the following. Note that there are currently no residential locations (a sensitive use) within 1,000 m of the edge of the Mining Lease.

Notifications before blast – residents

All residents within a 1 km radius of the blast location (currently there are none) will be notified prior to that blast. This notification will be given at least 48 hours before such blasting is due to occur, and preferably before 72 hours. If the blast(s) cannot take place at the time specified, or because of blasting misfires, VDQ Pty Ltd or their delegated agent will advise all those residents within 1 km of the quarry of the revised time at which blasting will take place.

Storage and handling of explosives

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

Risk assessment and auditing

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

Noise/vibration blast monitoring program

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

Incident Reporting

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

B.7 QUARRY EQUIPMENT

The equipment used during the process of extracting blasted rock from the quarry to stockpiling of the various grades of gravel in the stockpile area is as follows. Note that not all the equipment listed below would be used at the same time as some are specialised to certain tasks (eg drilling and blasting) –

Excavators

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

Crusher equipment

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

Loader

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

Bulldozer

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

B.8 EXISTING INFRASTRUCTURE

The following infrastructure elements exist at the existing pit –

Site Drainage

The existing drainage in and around the quarry pit is shown in Figure 5.

A sediment pond will be formalised in the location shown in Figure 7B based on the calculations in Attachment 5.

Road Facilities

The quarry access road originates from Valleyfield Road to the west of the pit. It is gated near Valleyfield Road and is about 6 m wide.

Water Supply

Water supply is via the settling pond and tank storage (50,000 litre tank) in the pit.

Electrical Power Supply

The site does not have mains power.

Telecommunications

The site does not have nor need a telephone connection. The site has mobile 3G coverage.

B.9 PROPOSED QUARRY LAYOUT – 5-YEAR QUARRY EXTRACTION PLAN

The quarry consists of the access road, laydown/stockpile area ('operations area'), active extraction faces and sediment pond (Figure 7B).

Like any quarry, the volume extracted per annum will vary on the demand for the product in the region. This is determined by factors beyond the control of the operator and can include Government budgets for roadworks/infrastructure, grants to Local Government for roadworks, new housing estates etc. A quarry could site idle for some time and then burst into production once there is a demand for material.

A 5-year example layout of the quarry is shown in Figure 7B – based on an average of 80,000 cubic metres of extraction per year.

Figure 7B identifies the **maximum extraction level** as 100,000 cubic metres (ie the maximum level/amount that can be extracted per annum), while the extraction rate is shown (on average) for each of the 5 stages (1 stage per annum) is 80,000 cubic metres. The extraction rate is simply a nominal figure that has been used to illustrate the expansion of the quarry over time.

The cross-section in Figure 7C shows the north - south section through the quarry floor based on the extraction shown in Figure 7B to illustrate the face height.

The maximum quarry (extraction) extent is shown in Figure 7D. Maximum depth is likely to be about 5 m below the quarry floor level as depicted in Figure 7C, subject to the suitability of the material below the quarry floor level established at that time ground level.

B.10 TRAFFIC GENERATION

Most material will be extracted from the quarry on a demand ('campaign') basis.

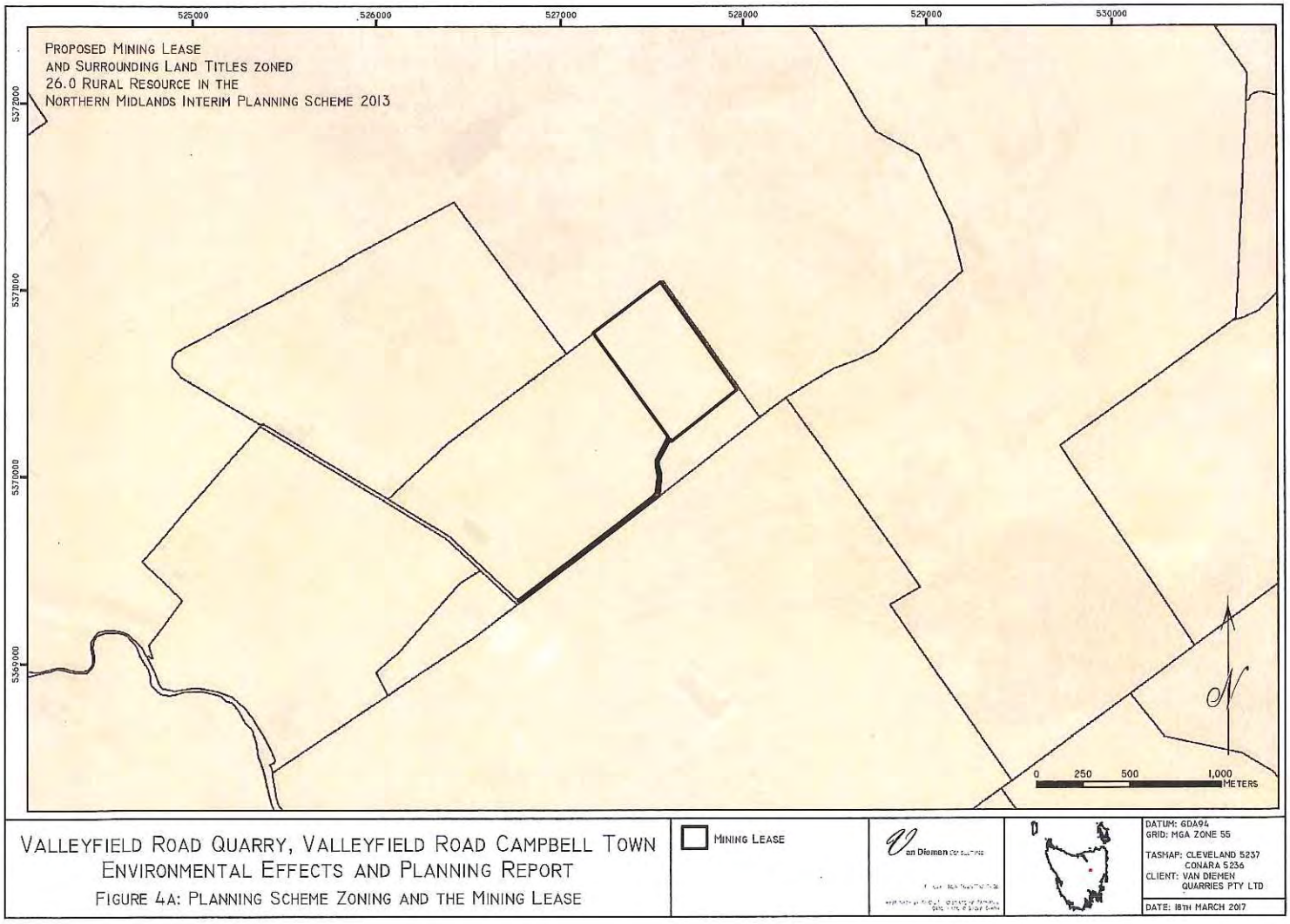
Most truck movements are projected to occur between 0700 and 1800 hrs on Monday to Friday with very low volume movements after that time (ie. from 1800 to 1900 hrs after which time the quarry will close as per the proposed operating hours). Trucks may access the quarry on Saturday between the hours of 0800 and 1600 to load and deliver gravel.

Most material will be extracted from the quarry on a demand basis, with a peak demand for road repair and grading works in the autumn months in readiness for wet weather in winter and into early spring. The number and frequency of trucks to the quarry will tend to be concentrated in short periods when a job is being carried out. Regular small gravel loads will be extracted from the quarry to cater for smaller operations such as minor road maintenance like pothole filling.

Table 1 outlines *examples* of supplies (campaign based and low volume regimes) and the period over which that supply occur. These can be used to approximate/estimate the number of truck movements per supply and per day into the quarry.

Table 1. Examples of supplies and associated traffic generation

Type of Supply	Size of Supply	Period of Supply (cart days) and Truck Movements
Campaign	2,000 tonnes using 38 t trucks (53 truckloads)	**5 days = 22 truck movements/day**
Campaign	15,000 tonnes using 38 t trucks (395 truckloads)	**30 days = 28 truck movements/day**
Campaign	2,000 tonnes using 20 t trucks (100 truckloads)	**6 days = 34 truck movements/day**
Campaign	35,000 tonnes using 38 t trucks (922 truckloads)	**60 days = 32 truck movements/day**
Low volume	200 tonnes using 12 t truck (17 truckloads)	**2 days = 18 truck movements/day**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PROPOSED MINING LEASE
AND SURROUNDING LAND TITLES ZONED
26.0 RURAL RESOURCE IN THE
NORTHERN MIDLANDS INTERIM PLANNING SCHEME 2013
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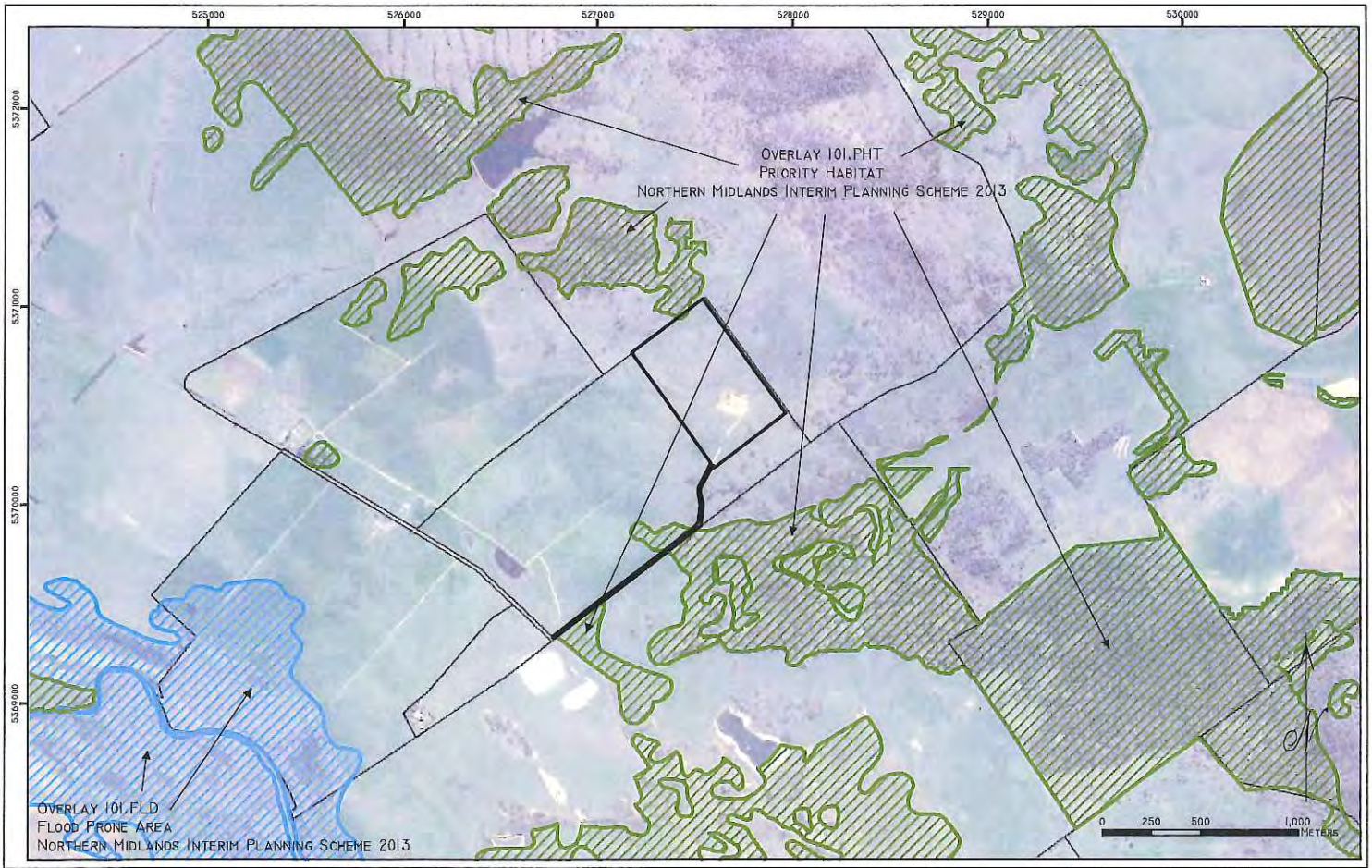
METERS
VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 4A: PLANNING SCHEME ZONING AND THE MINING LEASE
MINING LEASE
Van Diemen
DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN
QUARRIES PTY LTD
DATE: 18TH MARCH 2017



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 4B: PLANNING SCHEME OVERLAY AND THE MINING LEASE

MINING LEASE

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD

DATE: 18TH MARCH 2017

PART C - PROJECT AREA

C.1 CLIMATE PARAMETERS

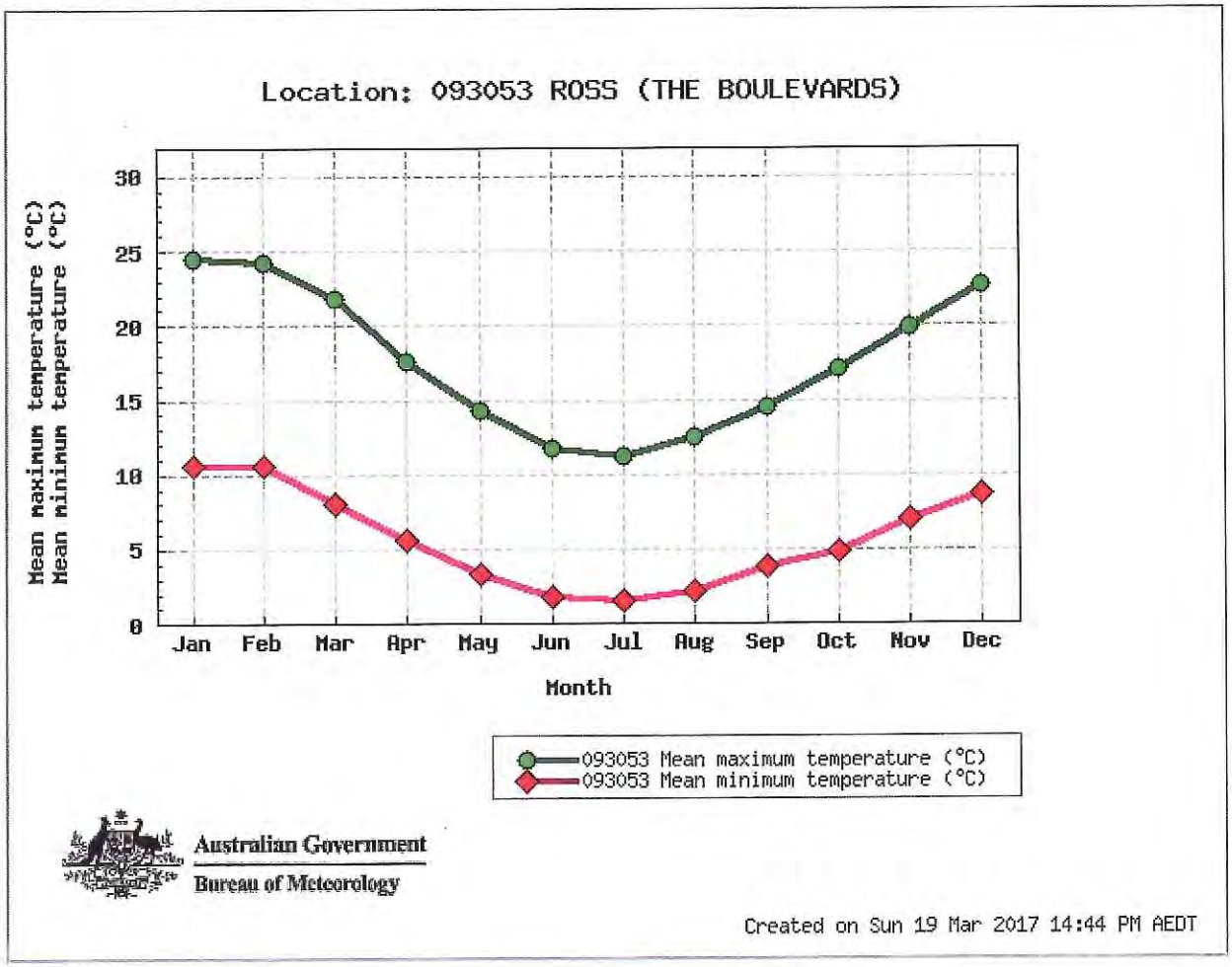
The nearest Bureau of Meteorology weather recording station is at Ross, south of the quarry. The station details for the Ross weather station are –

- **Site name:** ROSS (THE BOULEVARDS)
- **Site number:** 093053
- **Latitude:** 42.03 °S **Longitude:** 147.50 °E
- **Elevation:** 186 m

The quarry location occurs in a region with cool winters and warm summers (Graph 1), with most precipitation occurring in the winter and spring period (Graph 2).

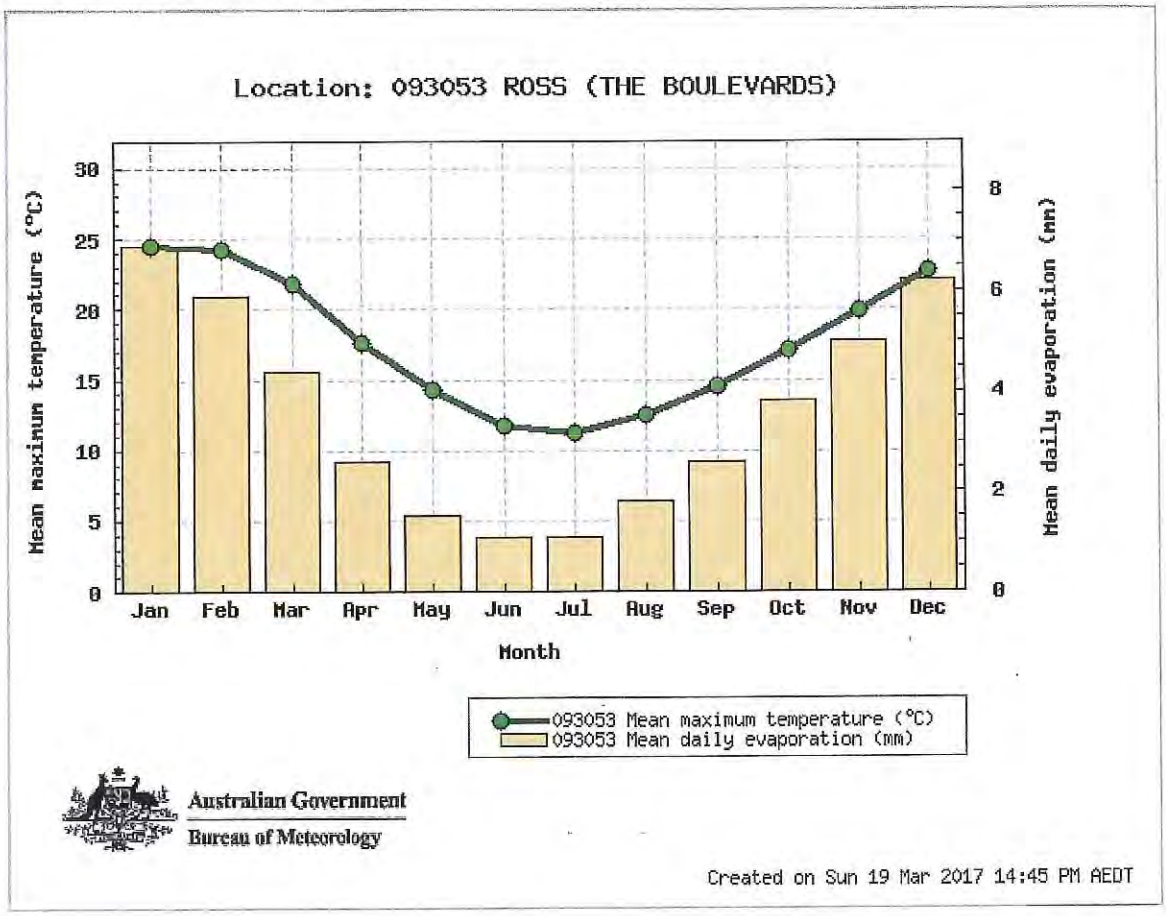
Graph 1. Mean minimum and maximum temperature for Ross

Source: Bureau of Meteorology 2017



Graph 2. Mean annual rainfall and mean daily evaporation for Ross, Tasmania

Source: Bureau of Meteorology 2017



C.2 GEOLOGY, SOILS AND LAND CAPABILITY

Geology and soils

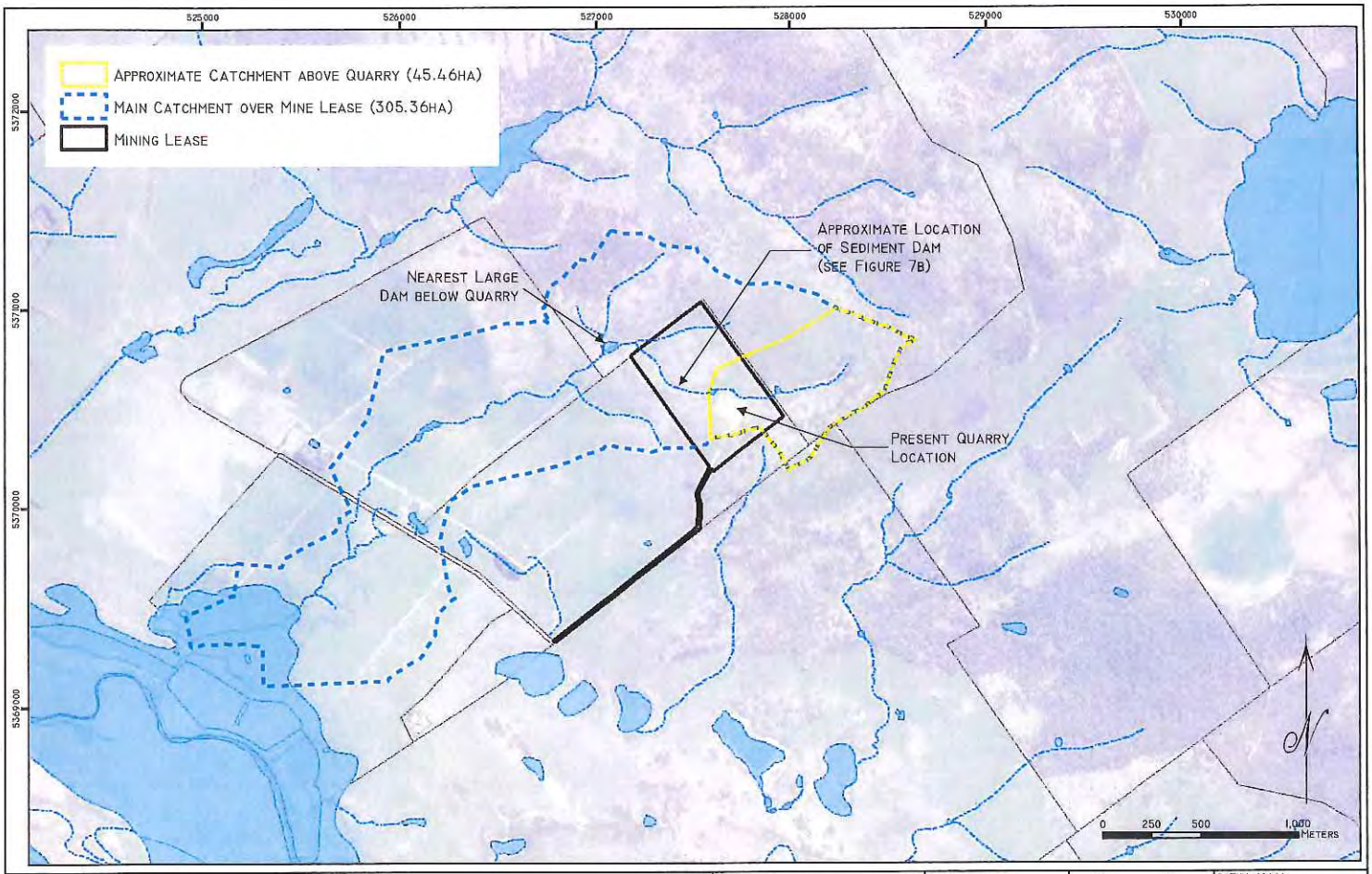
The geology of the Mining Lease to be quarried is Jurassic dolerite (Figure 6A). Fractured dolerite bedrock is near-surface in many locations within the existing pit while in others it is deeply weathered with a thicker clay loam soil (Plate 1).

Land capability

Land capability has been mapped by DPIPWE as 4 and 5+4 (Figure 6B) however some sections would rate a 6 (ie. the southern section where quarrying is mainly to occur) as they are rocky with exposed dolerite bedrock. The specific area to be quarried is of a chromosol soil type (Figure 6C) which has strong texture contrast between A and B horizons - they are not strongly acid or sodic.

C.3 SURFACE WATER DRAINAGE

The Mining Lease has no permanent streams or creeks (Figure 5). Valleyfield Road Quarry occurs in a sub-catchment of about 45.46 hectares with the nearest large (functional) dam for water storage more than 500 metres away from the pit. The sub-catchment of the quarry overlaps largely with a catchment of 305.36 hectares which drains westwards into the Macquarie River.



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT

FIGURE 5: DRAINAGE (NATURAL AND CONSTRUCTED), CATCHMENTS AND DAMS

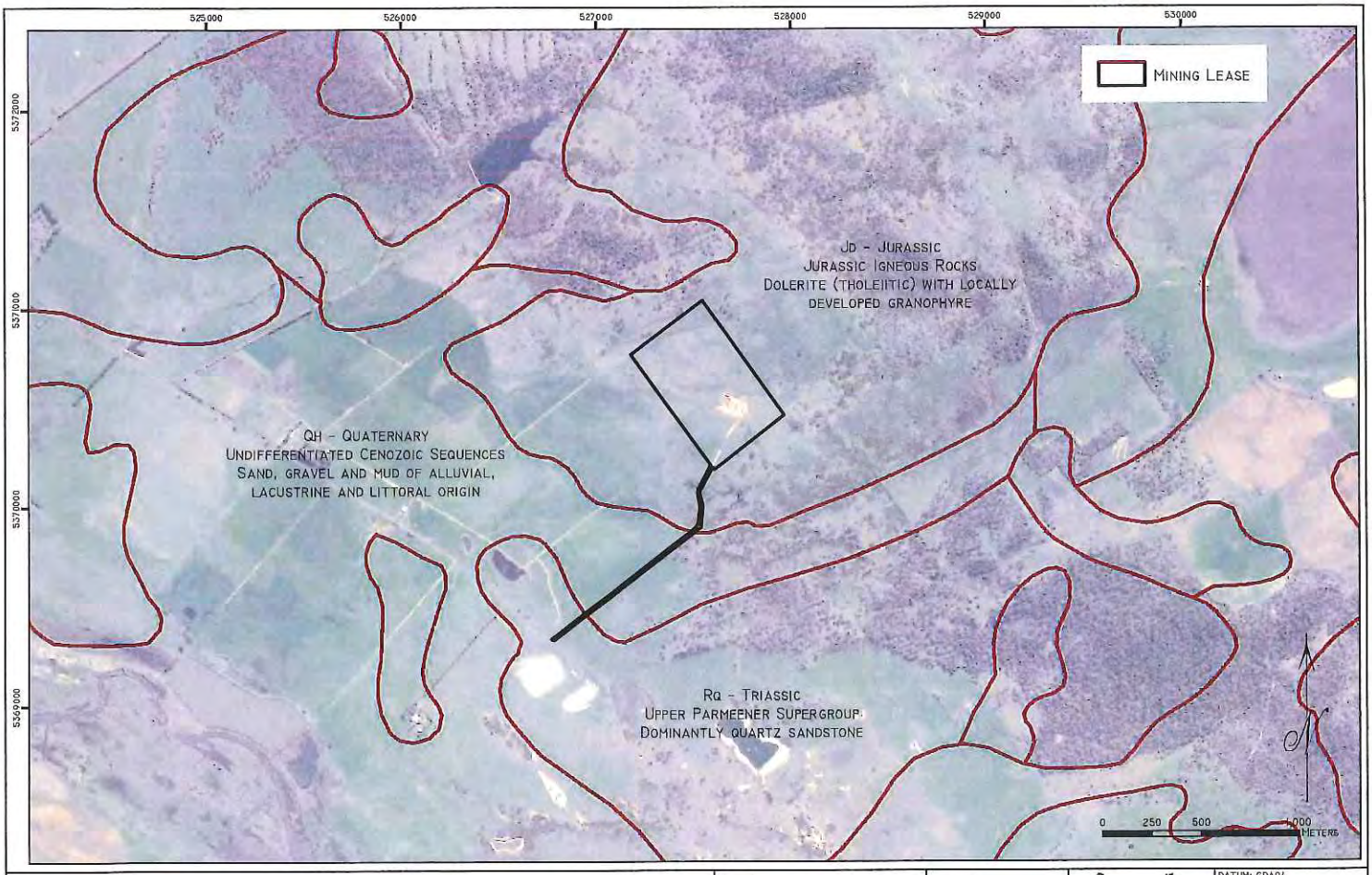
MINING LEASE

Van Diemen Consulting

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD

DATE: 16TH MARCH 2017



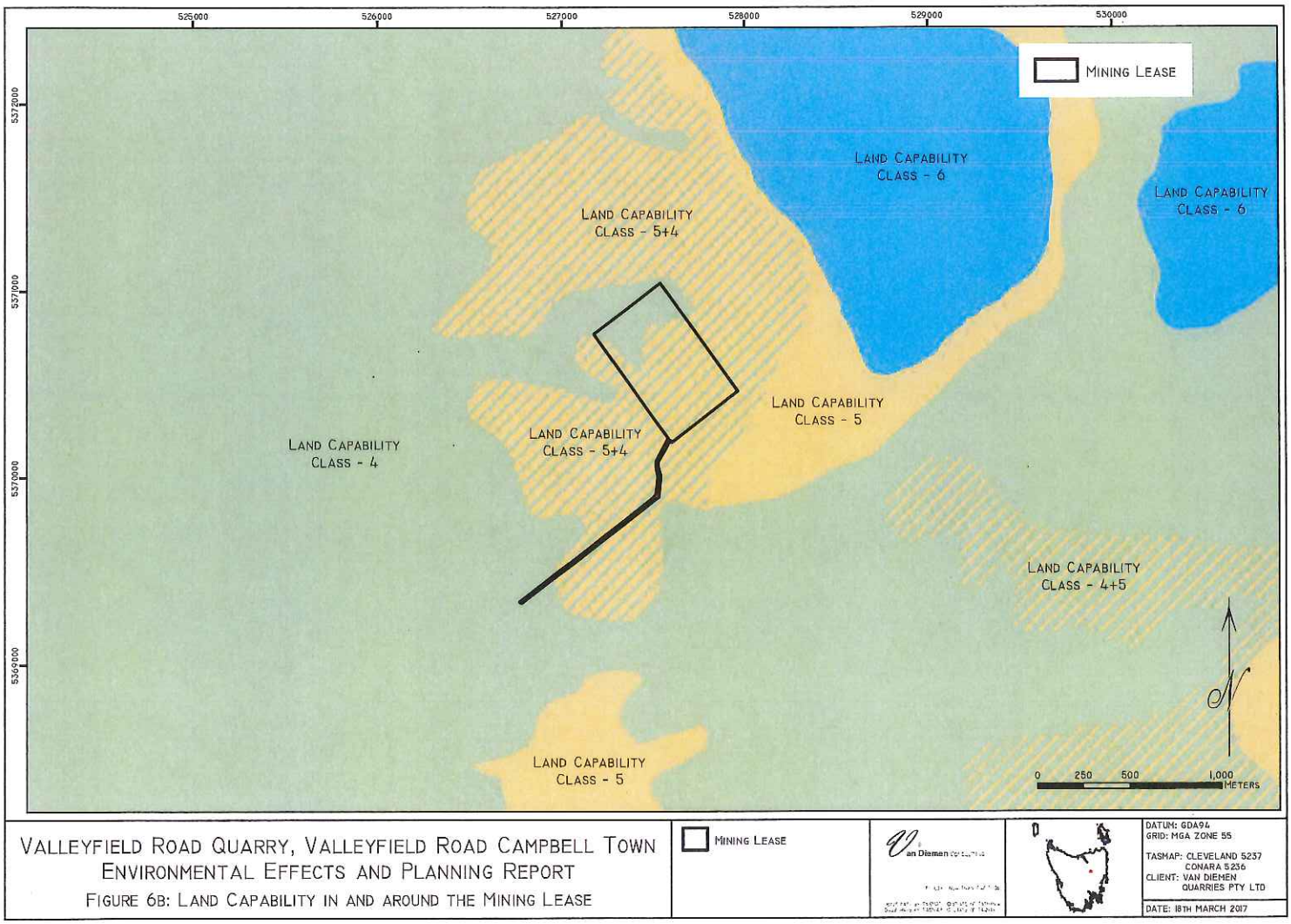
VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 6A: GEOLOGY (1:250,000 - MRT) AND THE MINING LEASE

MINING LEASE

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN
QUARRIES PTY LTD

DATE: 18TH MARCH 2017

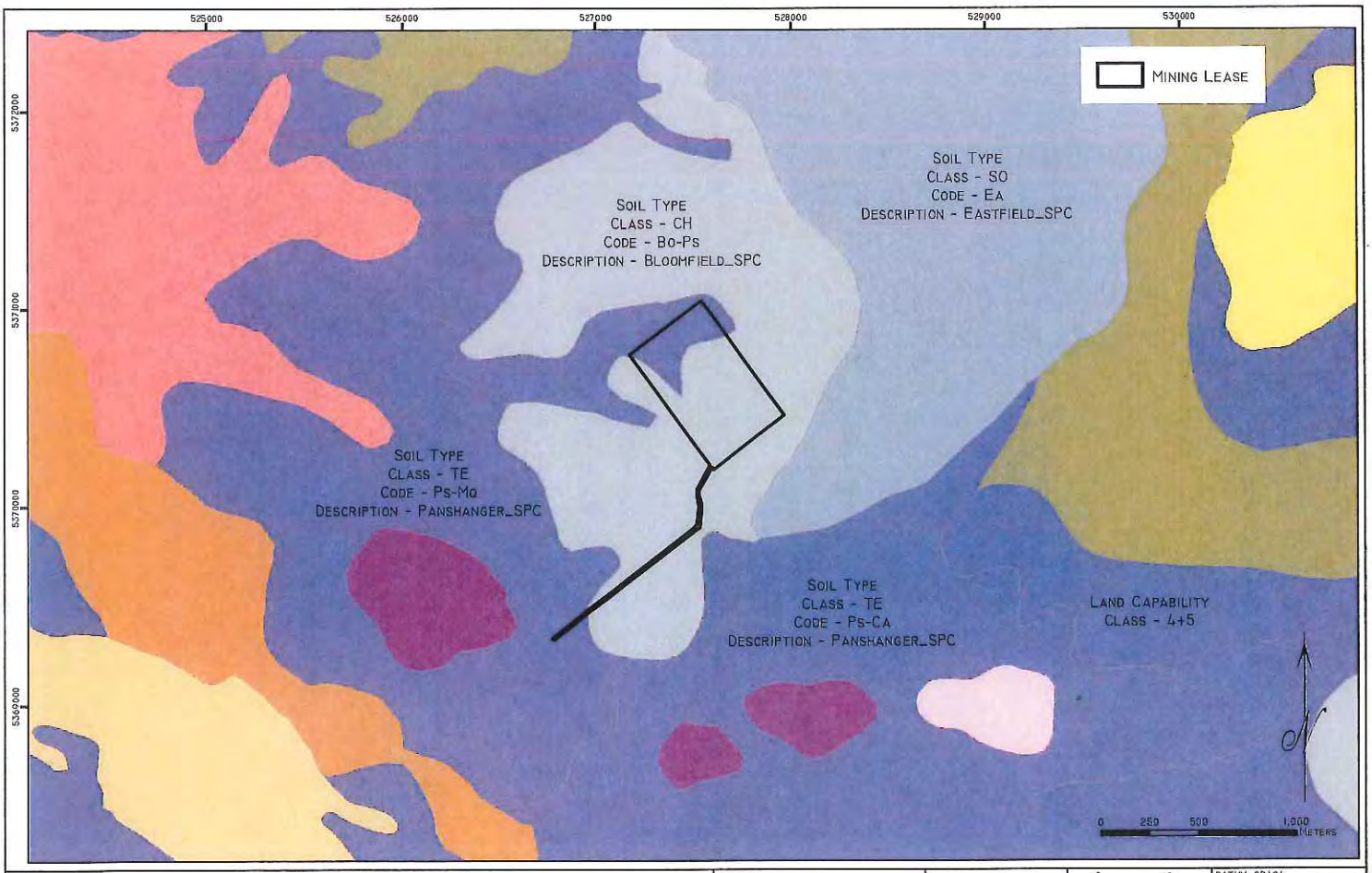


VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 6B: LAND CAPABILITY IN AND AROUND THE MINING LEASE

MINING LEASE

Van Diemen

DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD
DATE: 18TH MARCH 2017



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT

FIGURE 6C: SOIL ASSOCIATIONS IN AND AROUND THE MINING LEASE

MINING LEASE

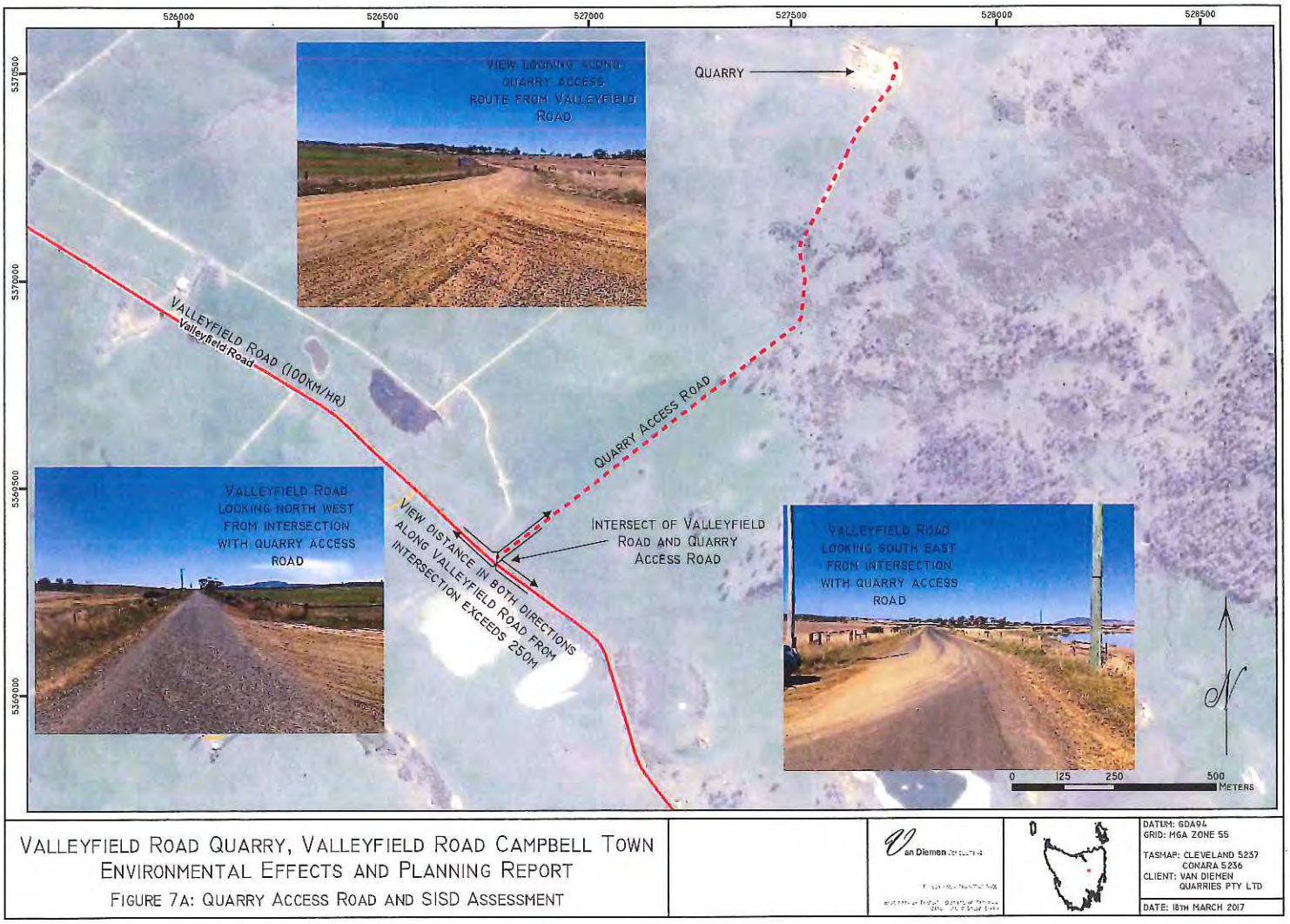
Van Diemen

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236

CLIENT: VAN DIEMEN QUARRIES PTY LTD

DATE: 18TH MARCH 2017



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 7A: QUARRY ACCESS ROAD AND SISD ASSESSMENT

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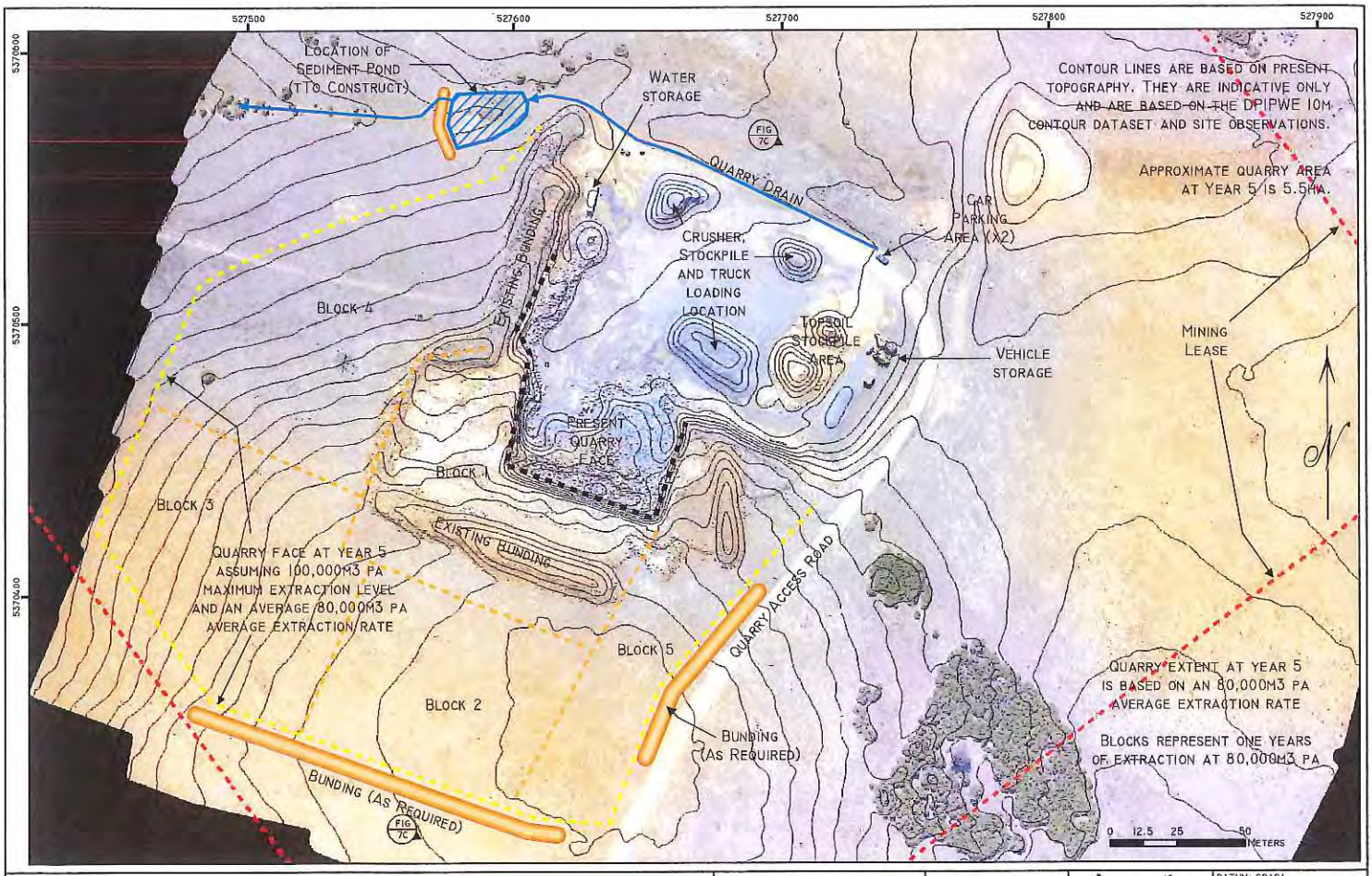
DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD
DATE: 18TH MARCH 2017



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT

FIGURE 7B: PROPOSED QUARRY LAYOUT AND EXTRACTION PLAN (TO 5 YEARS)

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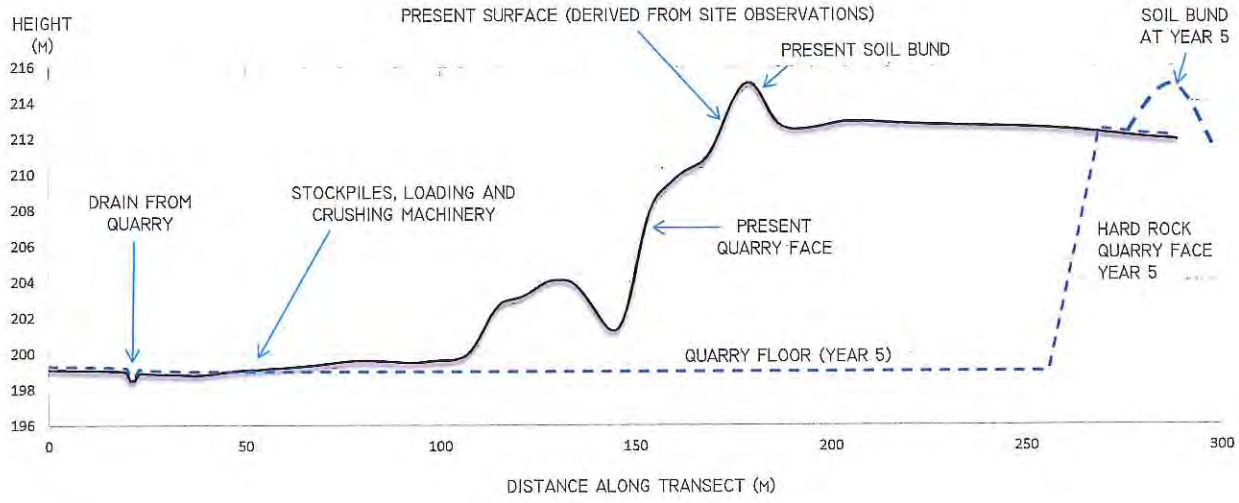
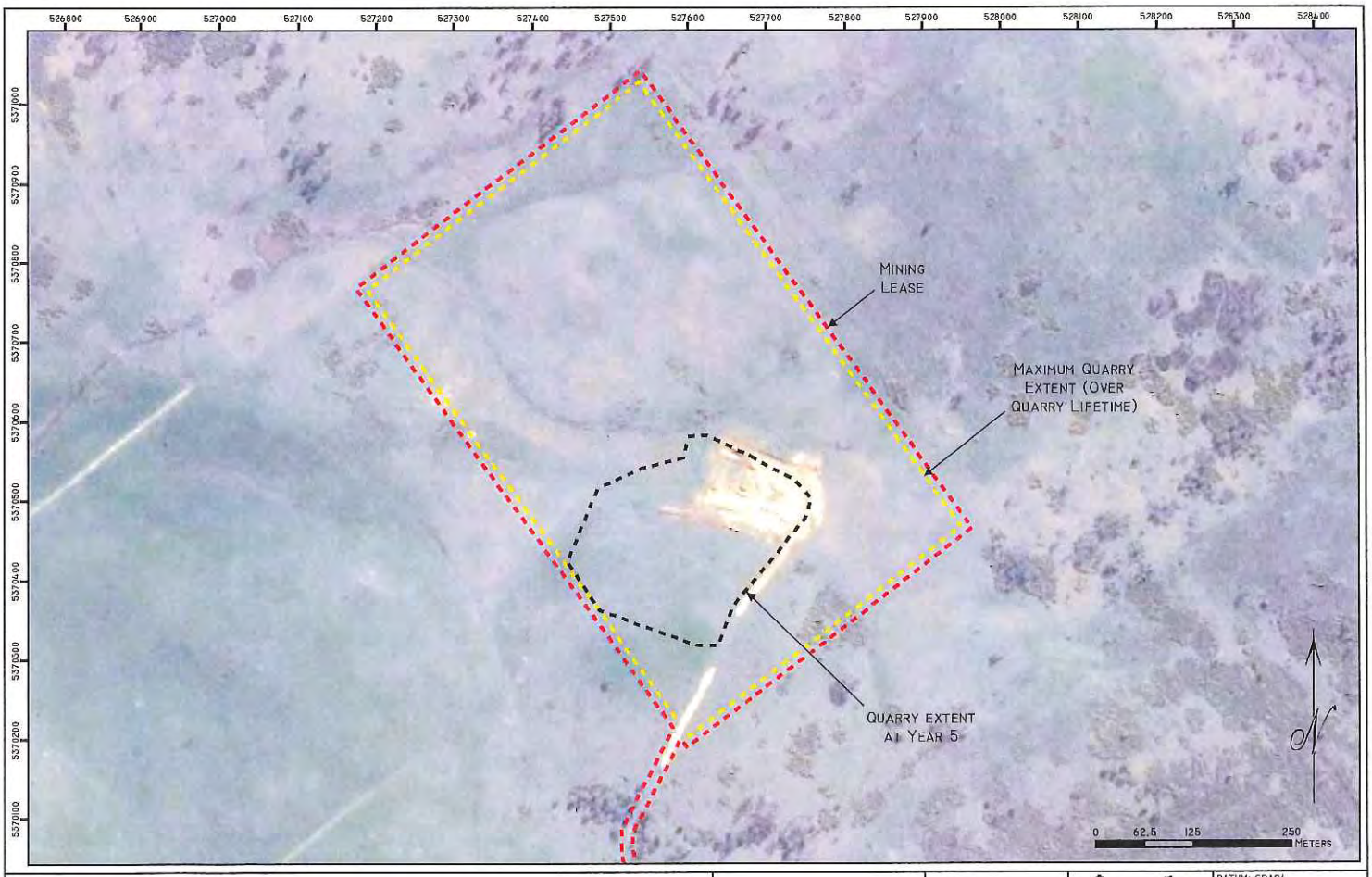
DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD

DATE: 18TH MARCH 2017

FIGURE 7C: CROSS SECTION OF FIGURE 7B





VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 7D: PROPOSED QUARRY EXTENT AT YEAR 5 AND MAXIMUM EXTENT

Van Diemen

DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD
DATE: 17TH JUNE 2017

Plate 1. Geology and soil formations in the Valleyfield Road Quarry

Bedrock dolerite with thin overlaying loam soil

Weathered bedrock dolerite with thicker overlaying loam soil

C.4 FLORA AND FAUNA

An assessment of flora and fauna was conducted of the area covered by the Mining Lease, with focus on the access road, existing pit and resource area. The survey of the Mining Lease was conducted in spring (October) 2016 to overlap with the peak flowering period of most threatened flora species that occur within the region.

Vegetation Communities

The Mining Lease supports *agricultural land* (TASVEG Code - FAG) with small sections of *weed infestation* (TASVEG code - FWU) and *disturbed ground* (TASVEG code - FUM) as shown in Figure 8.

Of note is that the Scheme's Priority Habitat overlay (Figure 4B), which triggers the Biodiversity Code, is in fact agricultural land with weed infestations (gorse thickets) and an occasional paddock tree (*E. viminalis*) – there is no native vegetation present that is the focus of the Code.

No vegetation communities listed on Schedule 3A (Threatened native vegetation communities) of the *Nature Conservation Act 2002* or ecological communities listed under section 181 of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* occur in the Mining Lease.

Threatened Flora Species

There are a few recorded locations of threatened flora species near the Mining Lease based on data contained within the Natural Values Atlas (Figure 9A). The species recorded nearby tend to be very localised due to their narrow habitat requirements, such as wetlands and farm dams (eg *Wilsonia rotundifolia, Bolboschoenus caldwellii*) or are native grassland - woodland species (eg *Caesia calliantha*). The Mining Lease ranges from irrigated pastures through to rough grazing lands dominated by pasture grasses and exotic herbs – the land has a long history or grazing by livestock (mainly cattle and sheep) and the application of fertiliser which tends to favour introduced species over native species.

No flora species listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* or the Tasmanian *Threatened Species Protection Act 1995* were recorded within the Mining Lease.

Declared Weeds

Four plant species listed as a *Declared Weed* on the Tasmanian *Weed Management Act 1999 (Tas)* were recorded in the Mining Lease (Table 1): horehound (*Marrubium vulgare*), gorse (*Ulex europaeus*), slender thistle (*Carduus pycnocephalus*) and cotton thistle (*Onopordum acanthium*).

Two environmental-pasture weeds, capeweed (*Arctotheca calendula*) and spear thistle (*Cirsium vulgare*), were also recorded in low numbers in some areas.

Plate 2. Weeds observed within the Mining Lease

Cotton thistle seedlings near access road

***Capeweed* seedlings on soil stockpile**

Threatened Fauna Species

There are a two fauna species recorded near the Mining Lease based on data contained within the Natural Values Atlas (Figure 9B) – Tasmanian devil (*Sarcophilus harrisii*) and green-line beetle (*Catadromus lacordairei*).

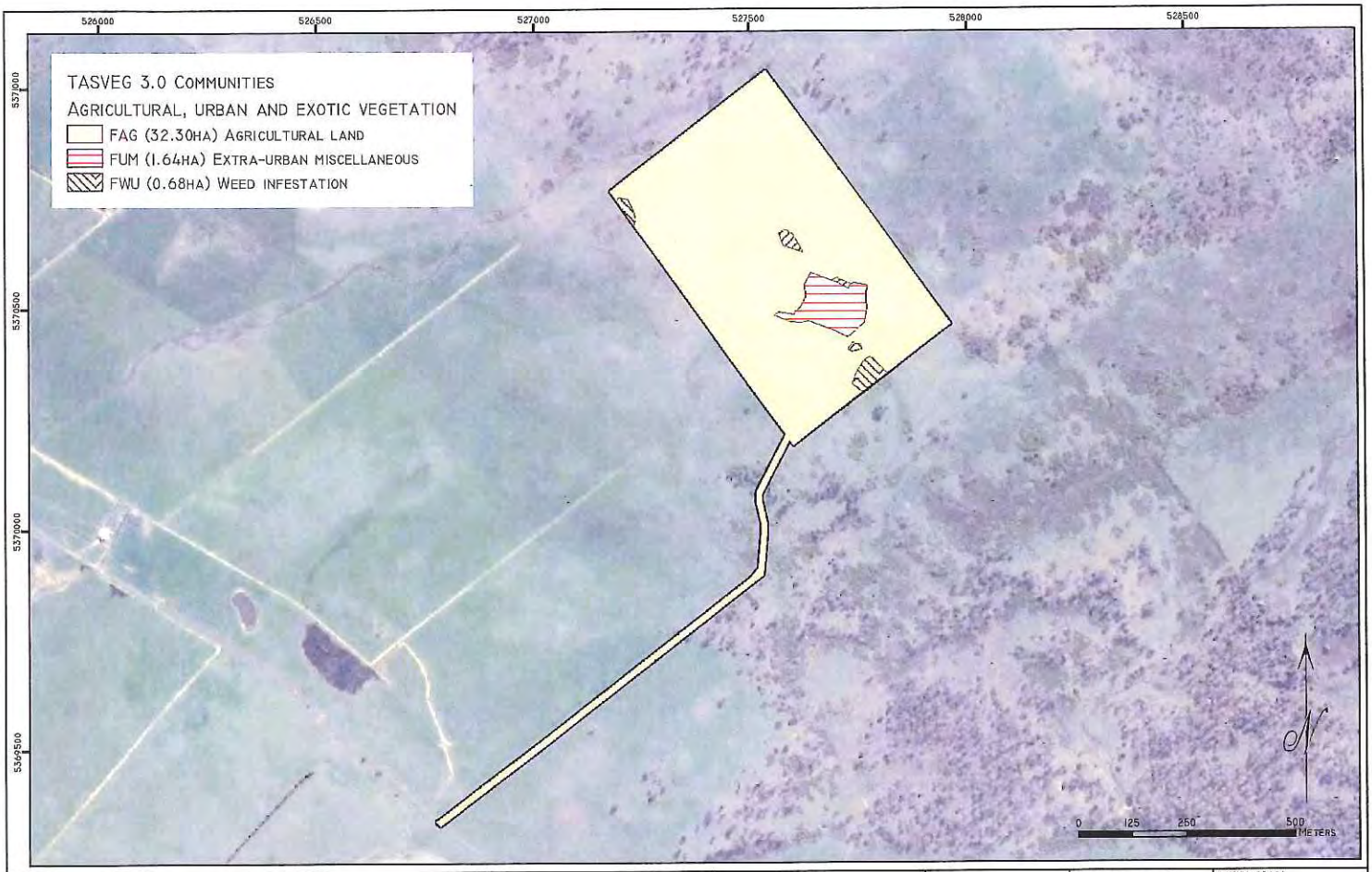
Tasmanian devil

The Tasmanian devil is found throughout Tasmania, in all native habitats, as well as in forestry plantations and pasture, from sea level to all but the highest peaks of Tasmania. Densities are lowest in the buttongrass plains of the south-west and highest in the dry and mixed sclerophyll forests and coastal heath of Tasmania's eastern half and north-west coast. Open forests and woodlands are preferred, while tall or dense wet forests are avoided. The highest population densities can be found in mixed patches of grazing land and forest or woodland. Dens are typically underground burrows (such as old wombat burrows), dense riparian vegetation, thick grass tussocks and caves.

The Mining Lease is within the 'Core Devil Habitat' area identified by DPIPWE in Figure 4 on page 5 of the Tasmanian Devil DRAFT Recovery Plan but it is within the DFTD (Devil Facial Tumour Disease) affected area as shown in Figure 6 on page 9 of the Tasmanian Devil DRAFT Recovery Plan. No devil dens or potential devil dens were observed in the Mining Lease during the survey. There is likely to be no impact to this species from the development.

Green-line beetle

Green-line beetle inhabits wet soaks on black-cracking clays in the Midlands – there is no suitable habitat present for the species in the Mining Lease. There will be no impact to this species from the development.



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT

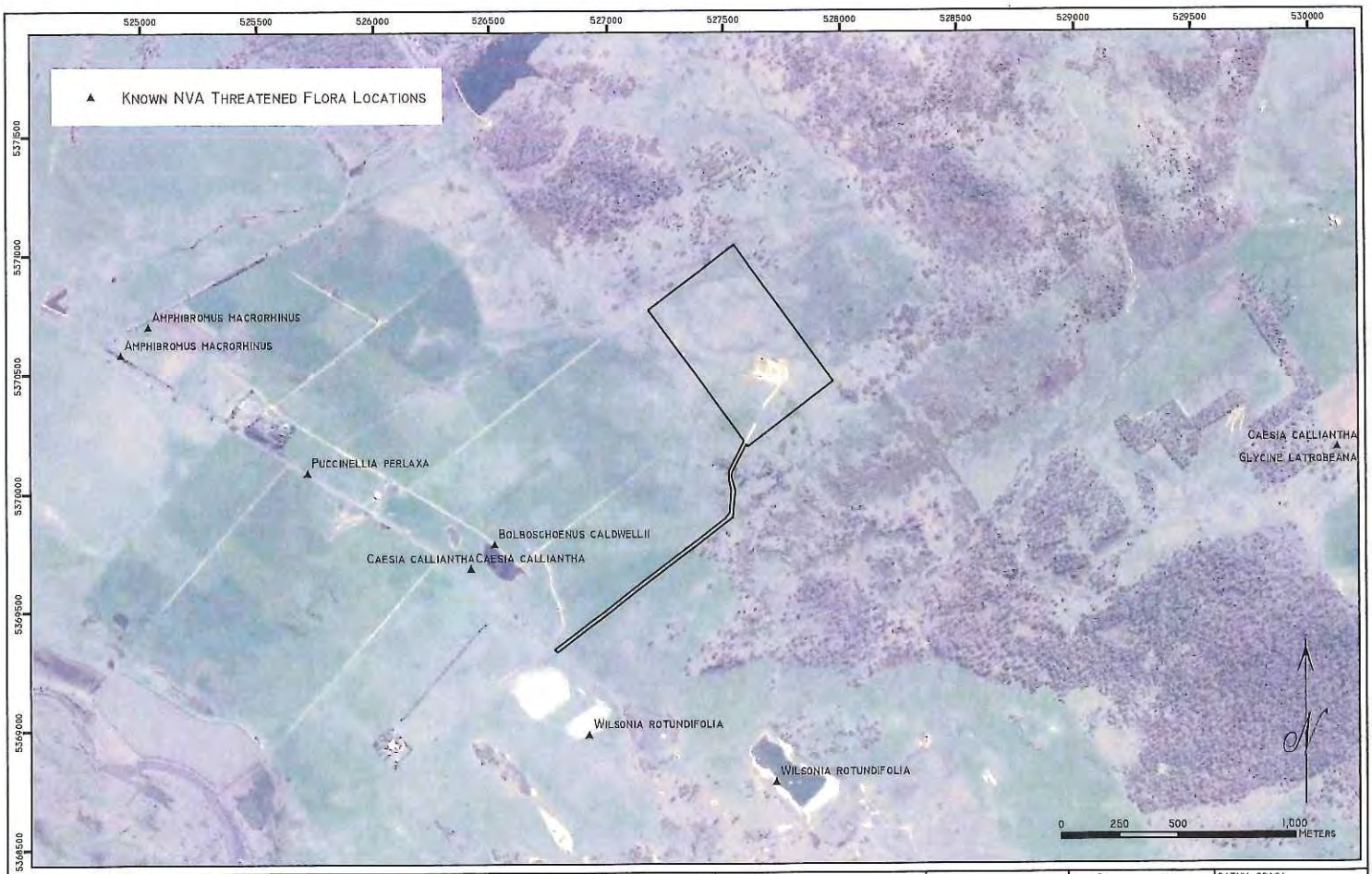
FIGURE 8: VEGETATION CLASSES/MAPPING UNITS IN THE MINING LEASE

Van Diemen

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN
QUARRIES PTY LTD

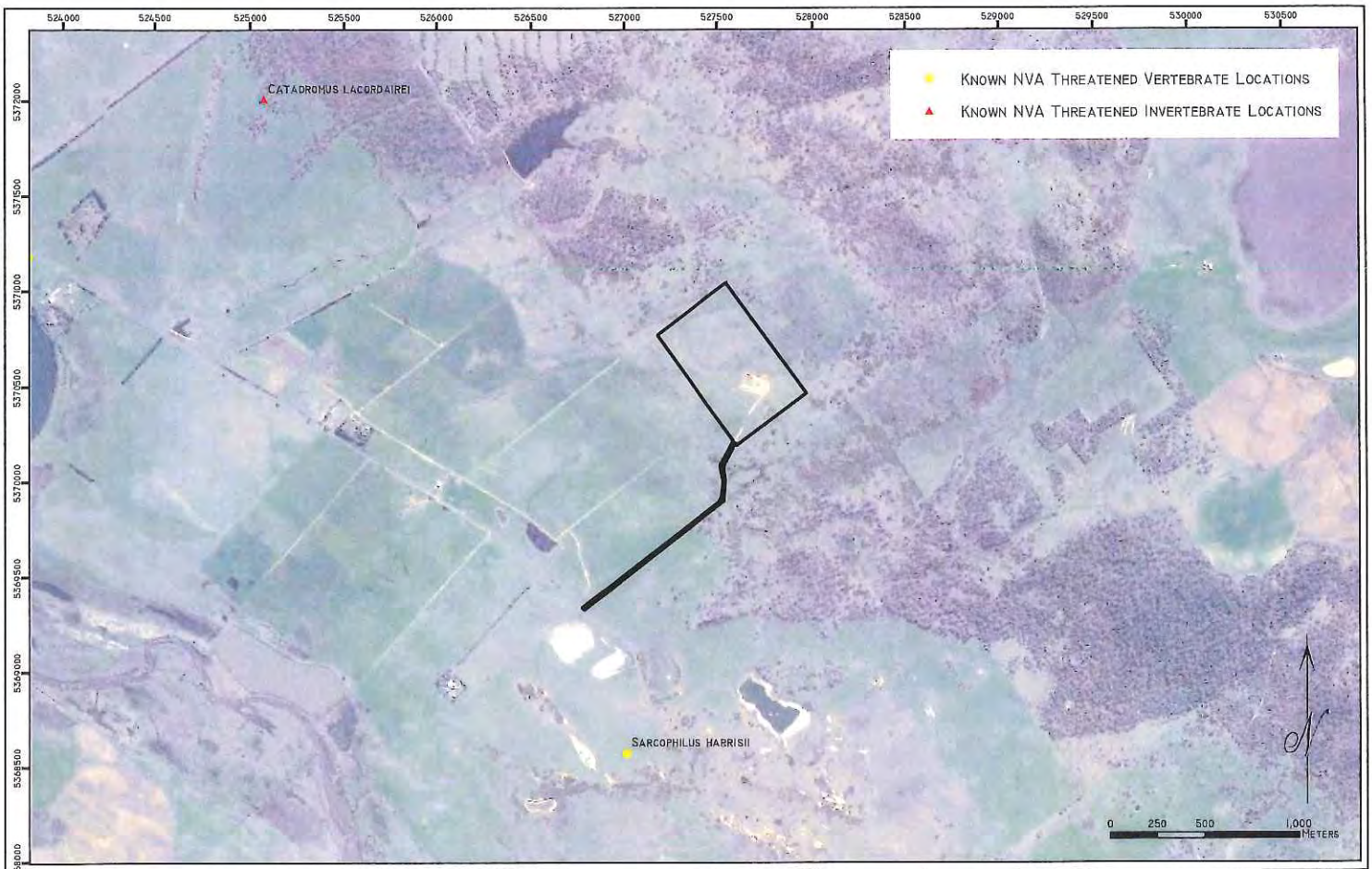
DATE: 18TH MARCH 2017



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 9A: RECORDED (NVA)THREATENED FLORA SPECIES
SURROUNDING THE MINING LEASE

Van Diemen

DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD
DATE: 18TH MARCH 2017



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 9B: RECORDED (NVA) THREATENED FAUNA SPECIES SURROUNDING THE MINING LEASE

DATUM: GDA94
GRID: MGA ZONE 55
TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD
DATE: 18TH MARCH 2017

Table 2. Statutory Weed Management Plan requirements for Declared Weeds observed within the Mining Lease

Common name Scientific name	**Distribution and occurrence in Survey Area**	**Risk of spreading weed within and from site**	**Weed Management Plan Management Goals for Northern Midlands Municipality**	**Weed of National Significance?**
Horehound *Marrubium vulgare*	Sporadic occurrences of this species were recorded around the existing quarry pit.	High (seed)	Widespread infestations – prevent spread from municipality.	No
Gorse *Ulex europaeus*	Sporadic occurrences of this woody weed species were recorded around the existing quarry pit and within the pasture around the pit.	High (seed)	Widespread infestations – prevent spread from municipality.	Yes
Slender thistle *Carduus pycnocephalus*	Sporadic occurrences of this thistle were recorded around the existing quarry pit.	Moderate (seed)	Widespread infestations – prevent spread from municipality.	No
Cotton thistle *Onopordum acanthium*	Sporadic occurrences of this thistle species were recorded around the existing quarry pit and a larger patch was recorded near the proposed access road (Plate 2).	Moderate (seed)	Eradicate (Statewide aim).	No

PART D. PLANNING SCHEME REQUIREMENTS

D.1 ZONING

The land upon which the development (and Mining Lease) is zoned Rural Resource in the *Northern Midlands Interim Planning Scheme 2013* (Figure 3).

The purpose of this zone is -

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.
2. To provide for other use or development that does not constrain or conflict with resource development uses.
3. To provide for economic development that is compatible with primary industry, environmental and landscape values.
4. To provide for tourism-related use and development where the sustainable development of rural resources will not be compromised.

Comments are provided against each of the four-listed purpose for the Rural Resource Zone.

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.
    - The development is to formalise an existing pit for the extraction and processing of rock and gravel which is consistent with this zone purpose.
2. To provide for other use or development that does not constrain or conflict with resource development uses.
    - The development will not prevent or constrain other land uses on the same and adjacent properties. The property that supports the proposed quarry is used for agricultural activities.
3. To provide for economic development that is compatible with primary industry, environmental and landscape values.
    - The quarry will not substantially detract from the overall quantity and quality of agricultural land in the region that is otherwise available for primary production (<3 hectares is proposed to be opened/disturbed at any one time). The quarry pit will not be seen from Valleyfield Road and environmental matters (eg. water management) will be addressed through conditions imposed by the EPA (a Level 2 activity).
4. To provide for tourism-related use and development where the sustainable development of rural resources will not be compromised.
    - This purpose is not relevant to the development.

D.2 USE/DEVELOPMENT CATEGORISATION

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

Extractive Industry is a discretionary use in the Rural Resource zone where it is a Level 2 activity as described by EMPCA.

D.3 DETERMINING THE APPLICATION

The planning authority has a discretion to refuse or permit a use or development if:

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

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

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

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

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

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

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

(a) the purpose of the applicable zone;

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

(c) the purpose of any applicable code; and

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

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

D.4 SCHEME USE STANDARDS

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

26.3.1 Discretionary Uses if not a single dwelling

Performance Criterion(P)/Acceptable Solution(A)	Comments
P1.1 It must be demonstrated that the use is consistent with local area objectives for the provision of non-primary industry uses in the zone, if applicable; **and** **P1.2** Business and professional services and general retail and hire must not exceed a combined gross floor area of 250 m^2 over the site.	**Complies with P1.1** • The development will continue to add to the overall activity of primary industries by providing a resource for road construction and repair (for transport purposes) and on-farm infrastructure such as laneways, roads and materials for building construction. • The development has not and will not detract from tourism activities in the region. • The development will provide social benefits to the region through economic

	activity (eg. staff purchasing materials, fuel and food locally). **and** **P1.2 is not relevant to the development.**
P2.1 Utilities, extractive industries and controlled environment agriculture located on prime agricultural land must demonstrate that the: i) amount of land alienated/converted is minimised; and ii) location is reasonably required for operational efficiency; **and** **P2.2** Uses other than utilities, extractive industries or controlled environment agriculture located on prime agricultural land, must demonstrate that the conversion of prime agricultural land to that use will result in a significant benefit to the region having regard to the economic, social and environmental costs and benefits.	**Complies with P2.1.** • The development is not located on prime agricultural land. **and** **P2.2 is not relevant to the development.**
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.	**Complies with P3.a.** • The development will only utilise a maximum of 3 hectares as the active disturbed area – the remainder of the Mining Lease other than the area around the immediate pit will be available to agricultural activities by the landowner. • Topographically the area to be quarried is rocky and its use for agricultural potential is limited to rough grazing and addition of fertiliser and some irrigation water – it is not amenable to cropping or intensive agriculture where the soil is the growth medium.
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.	**Complies with P4.** • The development is not likely to cause environmental nuisance – it is a considerable distance to the nearest residence (>2.15kms). • The development will not confine or restrain primary industry uses – there will be no conflict between the quarry use and

	adjoining agricultural land management practices. • The local road network (principally Valleyfield Road) can absorb the traffic generated by the development.
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.	**Complies with P5.** • The development is not on a ridgeline or skyline. • The development will not be directly visible from a public road. • No native vegetation clearance is proposed for the development. • It complies with the desired future character statement, that is – 'The visual impacts of use and development within the rural landscape are to be minimised such that the effect is not obtrusive'.

26.3.3 Irrigation Districts

Performance Criterion(P)/Acceptable Solution(A)	Comments
P1 Non-agricultural uses within an irrigation district proclaimed under Part 9 of the *Water Management Act 1999* must demonstrate that the current and future irrigation potential of the land is not unreasonably reduced having regard to: a) the location and amount of land to be used; and b) the operational practicalities of irrigation systems as they relate to the land; and c) any management or conservation plans for the land.	**Complies with P1.** • The development will only utilise a maximum of 3 hectares as the active disturbed area – the remainder of the Mining Lease other than the area around the immediate pit will be available to agricultural activities by the landowner. • Topographically the area to be quarried is rocky and its use for agricultural potential is limited to rough grazing and addition of fertiliser and some irrigation water – it is not amenable to cropping or intensive agriculture where the soil is the growth medium. • The topography and rockiness of the land limits the potential to utilise a pivot irrigation system for the application of irrigation water. • The management of the land will be such that it is rehabilitated for future use as agricultural land at the cessation of quarrying activities.

D.5 SCHEME CODES AND OVERLAYS

The following comments are made about each Code and Overlay relevant to the development.

Bushfire-prone Areas Code

This Code does not apply to the development.

Potentially Contaminated Land Code

This Code does not apply to the development.

Landslip Code

This Code does not apply to the development.

Road and Rail Assets Code

This code applies to use or development of land that:

a) requires a new access, junction or level crossing; or

b) intensifies the use of an existing access, junction or level crossing; or

c) involves a sensitive use, a building, works or subdivision on or within 50 metres of a railway or land shown in this planning scheme as:

i) a future road or railway; or

ii) a category 1 or 2 road where such road is subject to a speed limit of more than 60 kilometres per hour.

A TIA was prepared for the previous development which has been updated to reflect the new application (see Attachment 4). The TIA found that the SISD is sufficient for the Valleyfield road junction.

The projected truck movements on Valleyfield Road should not impact on the efficiency of the road network or the safety of road users.

Flood Prone Areas Code

The site is not prone to flood. This Code therefore does not apply to the development.

Parking and Sustainable Transport Code

The following notes and comments are made about each Development Standard relevant to the Code.

E6.6.1 Car Parking Numbers

A hardstand car park containing 2 spaces (4 employees maximum at the facility) is provided at the facility for personnel, service vehicles, and visitors.

E6.6.2 Bicycle Parking Numbers

Bicycles can be parked at the car park. The quarry development is a considerable distance from any township or place of residence and it is almost certain that staff, visitors and service officers will arrive by vehicle rather than bicycle.

Scenic Management Code

The site is not within a Local Scenic Management Area or Scenic management - tourist road corridor. This Code therefore does not apply to the development.

Biodiversity Code

The Mining Lease includes an area which intersects with the Priority habitat overlay (Figure 4B).

The Mining Lease supports *agricultural land* (TASVEG Code - FAG) with small sections of *weed infestation* (TASVEG code - FWU) and *disturbed ground* (TASVEG code - FUM) as shown in Figure 8.

Of note is that the Scheme's Priority Habitat overlay (Figure 4B), which triggers the Biodiversity Code, is in fact **agricultural land** (dominated by pasture grasses and occasional *Poa* and *Lomandra* tussocks) with weed infestations (mainly gorse thickets) and an occasional paddock tree (*E. viminalis*) – it is not native vegetation.

The purpose of this Code is to:

a) protect, conserve and enhance the region's biodiversity in consideration of the extent, condition and connectivity of critical habitats and priority vegetation communities, and the number and status of vulnerable and threatened species; and

b) ensure that development is carried out in a manner that assists the protection of biodiversity by:

i) minimising vegetation and habitat loss or degradation; and

ii) appropriately locating buildings and works; and

iii) offsetting the loss of vegetation through protection of other areas where appropriate.

While biodiversity matters would ordinarily be assessed by the Environment Protection Authority as part of its assessment as a Level 2 activity pursuant to EMPCA, the following notes and comments are made about the Development Standards relevant to the Code. There are no Use Standards for this Code.

E8.6.1 Habitat and Vegetation Management

Acceptable Solution (A)	Comments
A1.1 Clearance or disturbance of priority habitat is in accordance with a certified Forest Practices Plan or; **A1.2** Development does not clear or disturb native vegetation within areas identified as priority habitat.	**Complies with A1.2.** • The development and use will not clear and convert or disturb native vegetation identified as priority habitat.
A2 Clearance or disturbance of native vegetation is in accordance with a certified Forest Practices Plan.	**Not relevant.** • The development and use will not clear and convert or disturb native vegetation identified as priority habitat.

Water Quality Code

The development is exempt from this Code because it is a Level 2 activity assessed by the Board of the Environment Protection Authority.

Recreation and Open Space Code

This Code does not apply to the development.

Environmental Impacts and Attenuation Code

The development is exempt from this Code because it is a Level 2 activity assessed by the Board of the Environment Protection Authority.

Airports Impact Management Code

This Code does not apply to the development.

Local Historic Heritage Code

This Code does not apply to the development.

Signs Code

There is no signage proposed for the site. This Code does not apply to the development.

PART E - POTENTIAL ENVIRONMENTAL EFFECTS

E.1 FLORA AND FAUNA

Vegetation

The quarry development will not impact on any native vegetation.

Threatened Flora Species

The quarry development will not impact on any threatened flora species.

Weeds

Weeds will be managed via a formal weed spraying program. The Weed Management Plan for the existing quarry (Attachment 3) will continue to be implemented for the life of the quarry[2].

Threatened Fauna Species

The quarry development will not significantly impact on any threatened fauna species.

E.2 SURFACE WATERS

The quarry activity will continue to be managed to (i) ensure that pollutants do not enter the water system and (ii) the proper treatment of water occurs prior to discharge from the site via a sediment pond.

A sediment pond will be formalised in the location shown in Figure 7B based on the calculations in Attachment 5.

No chemicals, fuels or oils will be stored on site overnight, and refuelling of quarry equipment will be carried out using a mobile bund[3].

Sediment pond

Sediment trapped by the pond will cleaned out either on a 12-monthly basis, at 15% storage volume and/or after intense/prolonged rainfall events. The collected sediment will be mixed with stockpiled top soil for progressive rehabilitation of disused quarry areas[4].

E.3 AIR EMISSIONS

The proposed internal haul road within the quarry will have a gravel surface. Potential sources of dust within the quarry operation are from:

- The ripping of material;
- The removal of vegetative cover and stripping of topsoil (very limited as the footprint will not rapidly increase due to the low levels of extraction);
- Blasting (including drilling for blast holes) and crushing;
- The movement of gravel within the quarry by machinery;
- Road (gravel) use in and next to the quarry; and
- Stockpiling and loading gravel.

---

[2] Commitment 2: The Weed Management Plan prepared for the quarry will continue to be implemented for the life of the quarry activity.

[3] Commitment 3: No chemicals, fuels or oils will be stored on site overnight, and refuelling of quarry equipment will be carried out using a mobile bund.

[4] Commitment 4: Sediment trapped by the pond will cleaned out either on a 12-monthly basis, at 15% storage volume and/or after intense/prolonged rainfall events. The collected sediment will be mixed with stockpiled topsoil for progressive rehabilitation of disused quarry areas.

The gravel material is coarse and lacks any major 'fine' component which could otherwise generate dust when dry and worked by machinery.

In dry weather water from the sediment pond/pit or on-site water cart truck will be used to dampen the road surface, the stockpiles and loads in trucks (unless they are covered by tarpaulins)[5].

E.4 LIQUID EFFLUENT

There will be no toilet or other amenities provided on site. During periods of high use (eg. during a campaign for major road upgrade in the region) a 'portaloo' will be provided on-site and removed after the campaign has been concluded or usage no longer justifies the provision of the portaloo. The contents of the portaloo will be disposed of at an approved sewage processing facility[6].

One hydrocarbon spill kit will be stored at the quarry and staff trained in how to use it in the event of a spillage[7].

E.5 SOLID WASTES

The activity will not produce any rock-based solid wastes as all the materials extracted will be sold for various end uses.

The servicing of machinery may generate solid waste (eg. oil filters, worn tyres) however machinery will be removed from the quarry for servicing (including oil changes)[8]. Waste generated by the servicing of machinery is disposed of in accordance with best practice principles. Waste generated by workers from general refuse (eg lunch wrappers) at the quarry will be removed each day[9]. No waste bins are provided on-site for general refuse.

E.6 NOISE EMISSIONS

Noise sources in the landscape surrounding the land where the activity will occur have been identified as follows:

- farm machinery on the property and adjacent properties;
- vehicles and trucks using Valleyfield Road and other roads (Barton and Mt Joy);
- pumps used to move irrigation water between dams and to pastures;
- livestock (mainly cows);
- wind in the nearby native forest; and
- bird and insect life.

The major noise sources from the activity have been identified as follows:

- Excavation of the topsoil and gravel with the excavator;
- Blasting, drilling, crushing and screening;

---

[5] Commitment 5: In dry weather water from the sediment pond/pit or on-site water cart truck will be used to dampen the road surface, the stockpiles and loads in trucks (unless they are covered by tarpaulins).

[6] Commitment 6: A portaloo will be provided on-site during periods of high volume extraction. Its contents will be collected and disposed of at an approved sewage processing facility.

[7] Commitment 7: One hydrocarbon spill kit will be stored at the quarry and staff trained in how to use them in the event of a spillage.

[8] Commitment 8: Machinery will be removed from the quarry for servicing (including oil changes).

[9] Commitment 9: Waste generated by workers from general refuse (eg lunch wrappers) at the quarry will be removed each day.

- Loading of trucks with gravel product;
- Vehicles arriving and departing from the quarry site; and
- Trucks arriving and departing from the quarry.

Attenuation Distances - Buffers

Attenuation distances are recommended in the *Quarry Code of Practice* (QCP), as follows:

> "It is suggested that planning authorities and operators seek to maintain the following separation distances, measured from the planned maximum extent of the quarry operations to any sensitive use:
>
> - Where regular blasting takes place, 1,000 m;
> - Where material is crushed only, 750 m;
> - Where vibrating screens alone are utilised, 500 m; and
> - Where no blasting, crushing or screening occurs, 300 m"

There are no sensitive receptors, such as dwellings, within the 1,000 m zone as applied to the edge of the gravel resource to be quarried (Figure 10). The nearest residential uses are shown in Figure 10. Even if the distance was to be measured from the edge of the Mining Lease, the distance to both sensitive uses is more than 1,900 m. On this basis, no noise modelling or assessment was conducted.

E.7 TRANSPORT IMPACTS

Traffic movements for the maximum 100,000 cubic metre per annum production operation will consist of staff cars at a maximum of three per day (6 movements) and heavy vehicles consisting of gravel trucks to collect material. Material will be loaded onto trucks from stockpiled material. The gravel trucks will be up to 38 tonnes capacity (truck or truck/trailer combination) and comply with vehicle safety and regulation standards.

Most truck movements are projected to occur between 0700 and 1800 hrs on Monday to Friday with low volume movements after that time (ie. from 1800 to 1900 hrs after which time the quarry will close as per the proposed operating hours). Trucks may access the quarry on Saturday between the hours of 0800 and 1600 to load and deliver gravel.

A TIA has been prepared for the development (Attachment 4) which found that the projected truck movements onto Valleyfield Road should not impact on the efficiency of the road network or the safety of road users.

The following recommendations were made in the TIA which will be implemented for the project -

- Ensure compliance with the operating hours and days for the quarry;
- Ensure trucks limit their speed to 40km/hr when using the Access Road.

E.8 DANGEROUS SUBSTANCES AND CHEMICALS

Fuel and oil will be used in the quarry to operate and maintain functional machinery. There is to be no permanent store in the quarry for fuels, oils, lubricants or any other dangerous good. Fuel and oil containers will not be stored on-site overnight because they are removed at the end of each working day with the site workers[10].

When in the quarry, fuel and oil containers will be stored at least 10 m from any drain and the sediment pond. Containers will be bunded (moveable bunds) to a capacity at least 1.5 times the volume of the

[10] Commitment 10: Fuel and oil containers will not be stored on-site overnight, they will be removed at the end of each working day with the site workers.

container[11]. One hydrocarbon spill kit will be stored at the quarry and workers trained in how to use it in the event of a spillage.

No chemicals are stored within the quarry and the only chemicals that will be used in the quarry are those for the control of weeds (ie. weed spraying). Weed spraying chemicals will be handled, used and disposed of in accordance with the manufacturer's directions and relevant regulations.

E.9 SUSTAINABILITY AND CLIMATE CHANGE

Any use of machinery and vehicles will cause greenhouse gas emissions. Machinery owned and operated by the quarry operator is modern and well maintained which ensures maximum fuel/oil efficiency. Water use will be negligible and will be provided using the sediment pond (water used for road and load dampening), on-site storage tank or water cart truck to be filled at nearby dam or town (eg Campbell Town).

E.10 EUROPEAN HERITAGE

Valleyfield Road Quarry (and Mining Leases) does not intersect with any property or feature listed on the Tasmanian Heritage Register or Tasmanian Historic Places Inventory (maintained by Heritage Tasmania).

E.11 ABORIGINAL HERITAGE

The AHT issued *Unanticipated Discovery Plan* will be on hand during ground disturbing works, to aid the proponent in meeting its requirements under the Act if Aboriginal Heritage is uncovered.[12] Furthermore, if at any time during excavation or other works associated with the quarry the proponent will apply, whichever is applicable, the following procedures.

Discovery of Cultural Heritage Items

The following 'Discovery of Cultural Heritage Items Procedure' will be implemented if a suspected relic is encountered -

Step 1

If any person believes that they have discovered or uncovered Aboriginal cultural heritage materials, the individual should notify any machinery operators that are working in the general vicinity of the area that earth disturbance works should stop immediately.

Step 2

A buffer protection zone of 10m x 10m should be established around the suspected cultural heritage site or items. No unauthorised entry or earth disturbance will be allowed within this 'archaeological zone' until such time as the suspected cultural heritage items have been assessed, and appropriate mitigation measures have been carried out.

Step 3

Aboriginal Heritage Tasmania (AHT) in Hobart (ph 6233 6613) should be contacted immediately and informed of the discovery. AHT will make necessary arrangements for the further assessment of the discovery. Based on the findings of the assessment, appropriate management recommendations should be developed for the cultural heritage find.

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[11] Commitment 11: Fuel and oil containers will be stored at least 10 m from any drain, the sediment pond and water storage pit and be bunded (moveable bunds) to a capacity at least 1.5 times the volume of the container.

[12] Commitment 12: The AHT issued *Unanticipated Discovery Plan* will be on hand during ground disturbing works, to aid the proponent in meeting its requirements under the Act if Aboriginal Heritage be uncovered.

Discovery of Skeletal Material

The following 'Discovery of Skeletal Material Procedure' will be implemented if skeletal material is encountered.

Step 1

Under no circumstances should the suspected skeletal remains be touched or disturbed. If these are human remains, then this area potentially is a crime scene. Tampering with a crime scene is a criminal offence.

Step 2

Any person discovering suspected skeletal remains should notify machinery operators that are working in the general vicinity of the area that earth disturbing works should stop immediately. Remember health and safety requirements when approaching machinery operators.

Step 3

A buffer protection zone of 50m x 50m should be established around the suspected skeletal remains. No unauthorised entry or earth disturbance will be allowed with this buffer zone until such time as the suspected skeletal remains have been assessed.

Step 4

The relevant authorities (police) must be contacted and informed of the discovery.

Step 5

Should the skeletal remains be suspected to be of Aboriginal origin, then Section 23 of the *Coroners Act 1995* will apply. This is as follows:

1) The Attorney General may approve an Aboriginal organisation for the purposes of this section.

2) If, at any stage after a death is reported under section 19(1), a coroner suspects that any human remains relating to that death may be Aboriginal remains, the coroner must refer the matter to an Aboriginal organisation approved by the Attorney General (In this instance TALSC).

3) If a coroner refers a matter to an Aboriginal organisation approved by the Attorney-General –

(a) The coroner must not carry out any investigations or perform any duties or functions under this Act in respect of the remains; and

(b) The Aboriginal organisation must, as soon as practicable after the matter is referred to it, investigate the remains and prepare a report for the coroner.

4) If the Aboriginal organisation in its report to the coroner advises that the remains are Aboriginal remains, the jurisdiction of the coroner under this Act in respect of the remains ceases and this Act does not apply to the remains. In this instance, the *Aboriginal Relics Act 1975* will apply, and relevant Permits will need to be obtained before any further actions can be taken.

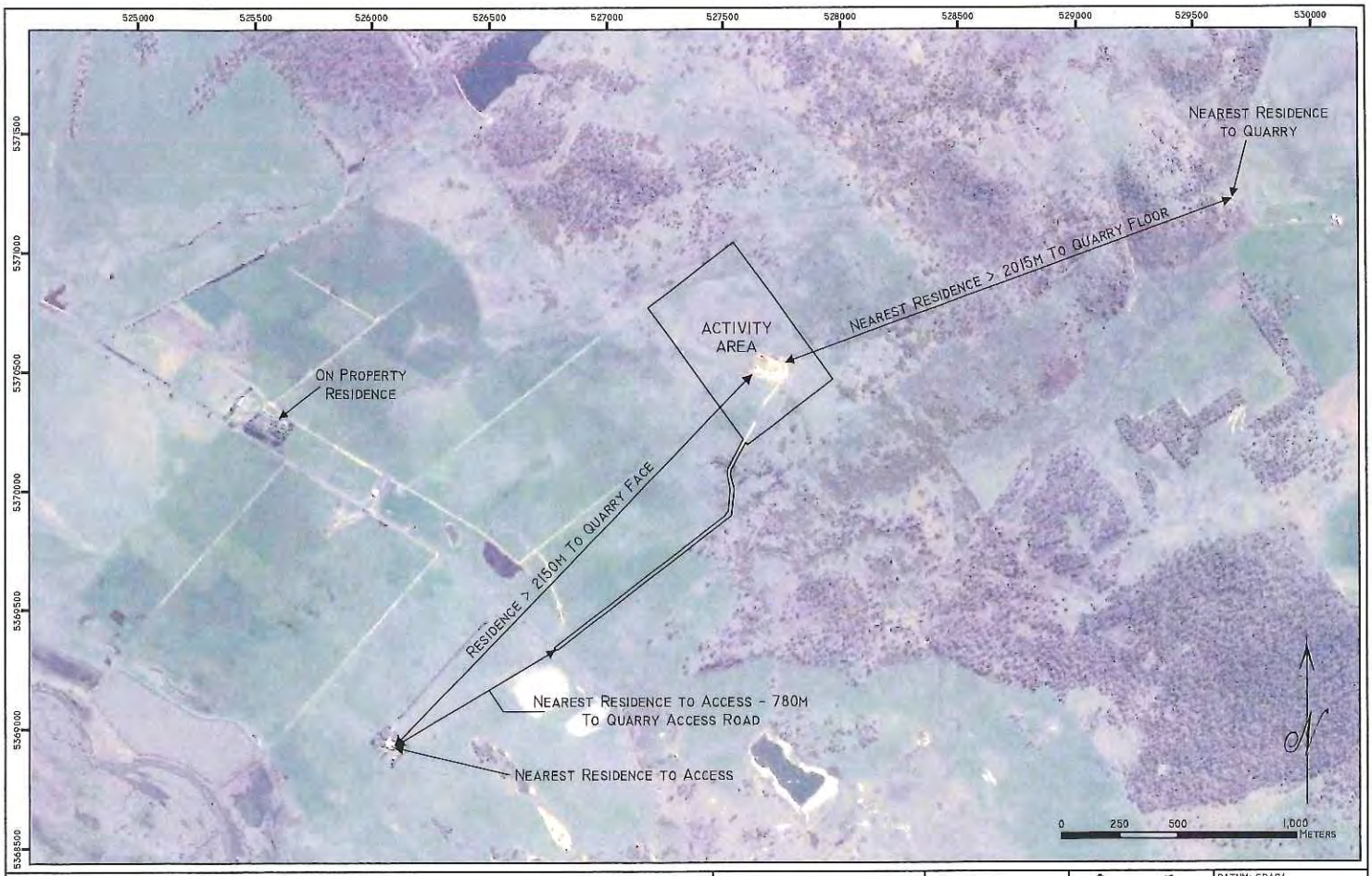
5) If the Aboriginal organisation in its report to the coroner advises that the remains are not Aboriginal remains, the coroner may resume the investigation in respect of the remains.

E.12 SITE CONTAMINATION

Valleyfield Road Quarry has not and will not be used for the storage or disposal of contaminated wastes including contaminated rock and/or soil. No soil/contaminant surveys or investigations are required.

E.13 SIGNIFICANT AREAS

The quarry is not located adjacent to or near any significant areas such as reserves, protected sites or heritage buildings. There will be no impact to significant areas from the quarry development.



VALLEYFIELD ROAD QUARRY, VALLEYFIELD ROAD CAMPBELL TOWN
ENVIRONMENTAL EFFECTS AND PLANNING REPORT
FIGURE 10: NEAREST PERMANENT RESIDENCE IN OTHER OWNERSHIP

Van Diemen Consulting

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236
CLIENT: VAN DIEMEN QUARRIES PTY LTD

DATE: 16TH MARCH 2017

E.14 GROUNDWATER

The development is unlikely to reach or affect groundwater (recharge areas or groundwater quality), and there are no water bores used for agriculture near the quarry.

E.15 COASTAL ZONE

No part of the quarry or area affected by the activity lies within 300 metres of the coast. There will be no impact to the coastal zone from the quarry development.

E.16 MARINE AREAS

The activity is not likely to impact on the marine environment because water management measures will be established at the quarry to prevent sediment entering any waterway.

PART F - REHABILITATION OF WORKINGS

F.1 EXTENT OF DISTURBED AREA

The maximum 'disturbed area' that would remain unrehabilitated at any one time is to be 3 hectares.

F.2 PROGRESSIVE REHABILITATION

It is the aim of the quarry operator to minimise the area of land 'open' at the quarry to minimise the overall short-term impact the activity has on the local environment.

'Progressive rehabilitation' will occur at the quarrying operation for those areas that have been quarried and are no longer needed or used for the operation of the quarry[13]. Progressive rehabilitation includes the stabilisation of the landform prior to revegetation and serves to ensure landform stability and revegetation on an ongoing basis.

Land will be rehabilitated to pasture, which is the current and surrounding land use.

The rehabilitation of quarry areas that are no longer being quarried or used for another purpose (such as a stockpile holding area, truck turning bay etc.) will be based on the following principles:

1. Benches prepared for rehabilitation through contouring to slopes.
2. Stockpiled weathered gravel, topsoil (from quarry site) and sediment from sediment interceptors applied to prepared benches.
3. Application of seed mix (pasture species mix) and, if required, fertiliser.
4. Monitoring of the following factors:
    a. weed infestation;
    b. ground cover establishment and growth success; and
    c. landform stability.

The exact location and timing of areas for rehabilitation are not known as the rate of extraction and timing of that extraction will vary over time (ie it is demand driven). The quarry operator will monitor the area 'open' such that the 3 hectares is not exceeded.

F.3 DECOMMISSIONING AND REHABILITATION

A Decommissioning and Rehabilitation Plan will be provided to the EPA for consideration within 30 days of a decision made by the proponent that is likely to give rise to the permanent cessation of the activity[14].

The plan should include discussion and processes to:

- Facilitate the orderly and safe removal of machinery and other equipment;
- Establish sufficient pasture grass ground cover to minimise dust and soil erosion; and
- Establish a monitoring regime that assesses the success or otherwise of the rehabilitation to agreed (MRT and EPA) sign-off parameters.

---

[13] Commitment 13: Progressive rehabilitation will continue at the quarrying operation for those areas that have been quarried and are no longer needed or used for the operation of the quarry.

[14] Commitment 14: A Decommissioning and Rehabilitation Plan will be provided to the EPA for consideration within 30 days of a decision made by the proponent that is likely to give rise to the permanent cessation of the activity.

PART G – MANAGEMENT COMMITMENTS

Best practice quarry management is important to the quarry operator, Van Diemen Quarries Pty Ltd, to minimise the risk of environmental nuisance/harm to the local community whilst providing a reliable source of high quality gravel/rock product to clients.

G.1 COMPLAINTS REGISTER

To enable the public to respond to any concerns they may have about the operation of the quarry, a Complaints Register will be prepared and maintained for the activity[15]. All complaints of relevance to the management of the quarry operation will be recorded in the Complaints Register. Details of investigation and actions undertaken in relation to each complaint will also be recorded in the register.

G.2 COMMITMENTS SUMMARY

The proponent makes a series of commitments outlined in Table 3 to achieve sound environmental and socially responsible management of Valleyfield Road Quarry.

Table 3. Summary of management commitments

Number	Commitment	Timeframe
1	Operating hours will continue to be – 0600 to 1900 hrs Monday to Friday, 0800 to 1600 hrs on Saturday; closed on Sunday and public holidays. Notwithstanding these operating hours, **blasting** will be limited to between 1000 and 1600 hrs Monday to Friday and **crushing** will not occur on Saturday, Sunday and public holidays.	Ongoing
2	The Weed Management Plan prepared for the quarry will continue to be implemented for the life of the quarry activity.	Ongoing
3	No chemicals, fuels or oils will be stored on site overnight, and refuelling of quarry equipment will be carried out using a mobile bund.	Ongoing
4	Sediment trapped by the pond will cleaned out either on a 12-monthly basis, at 15% storage volume and/or after intense/prolonged rainfall events. The collected sediment will be mixed with stockpiled topsoil for progressive rehabilitation of disused quarry areas.	Ongoing
5	In dry weather water from the sediment pond/pit or on-site water cart truck will be used to dampen the road surface, the stockpiles and loads in trucks (unless they are covered by tarpaulins).	Ongoing
6	A portaloo will be provided on-site during periods of high volume extraction. Its contents will be collected and disposed of at an approved sewage processing facility.	As required
7	One hydrocarbon spill kit will be stored at the quarry and staff trained in how to use them in the event of a spillage.	Ongoing

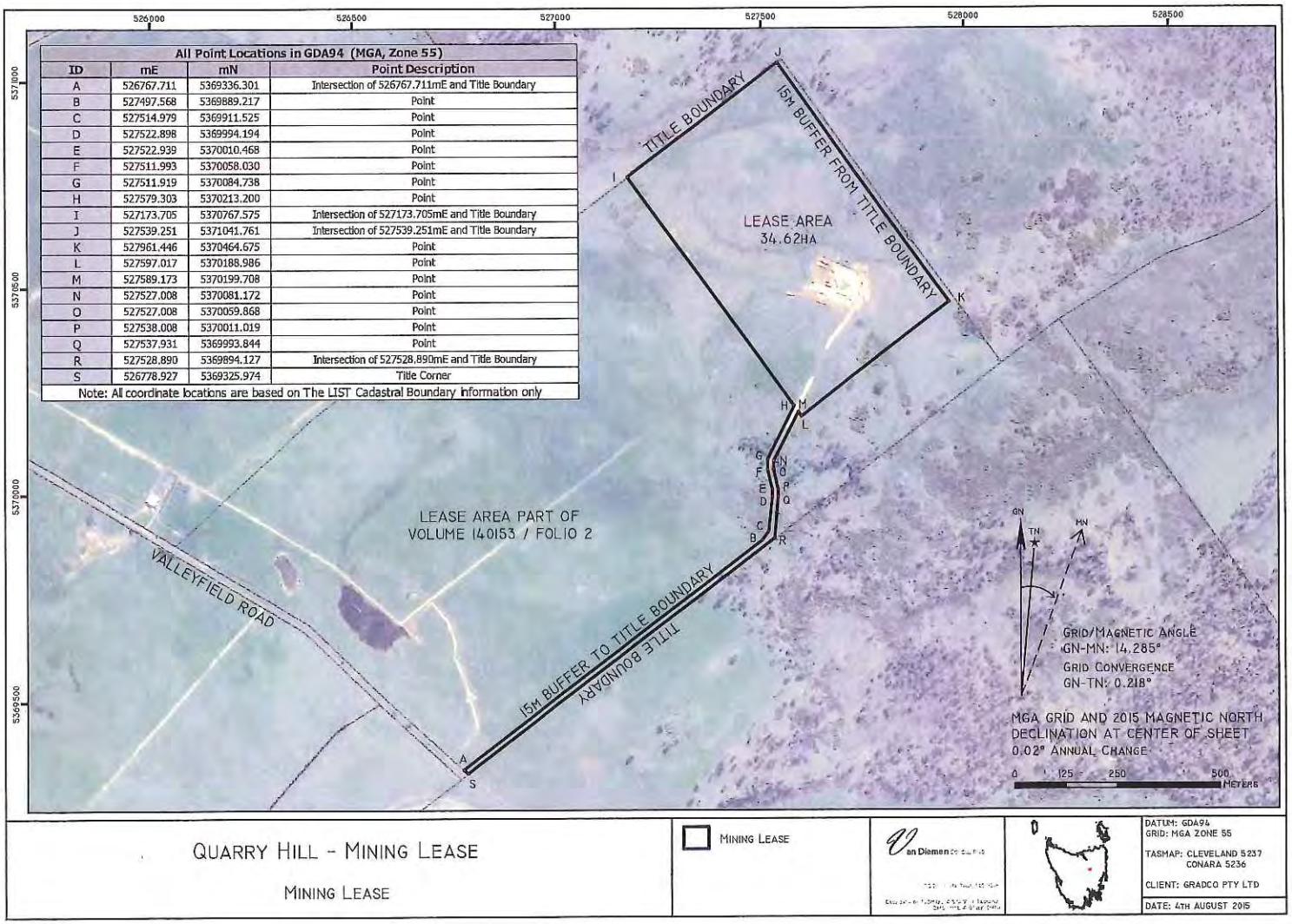
[15] Commitment 15: To enable the public to respond to any concerns they may have about the operation of the quarry, the existing Complaints Register will be maintained for the activity.

8	Machinery will be removed from the quarry for servicing (including oil changes).	Ongoing
9	Waste generated by workers from general refuse (eg lunch wrappers) at the quarry will be removed each day.	Ongoing
10	Fuel and oil containers will not be stored on-site overnight, they will be removed at the end of each working day with the site workers.	Ongoing
11	Fuel and oil containers will be stored at least 10 m from any drain, the sediment pond and water storage pit and be bunded (moveable bunds) to a capacity at least 1.5 times the volume of the container.	Ongoing
12	The AHT issued *Unanticipated Discovery Plan* will be on hand during ground disturbing works, to aid the proponent in meeting its requirements under the Act if Aboriginal Heritage be uncovered.	Ongoing
13	Progressive rehabilitation will continue at the quarrying operation for those areas that have been quarried and are no longer needed or used for the operation of the quarry.	Ongoing
14	A Decommissioning and Rehabilitation Plan will be provided to the EPA for consideration within 30 days of a decision made by the proponent that is likely to give rise to the permanent cessation of the activity.	DRP prepared and provided to the EPA Director within 30 days of formal written notice to the EPA of permanent quarry closure.
15	To enable the public to respond to any concerns they may have about the operation of the quarry, the existing Complaints Register will be maintained for the activity.	Ongoing

ATTACHMENTS

ATTACHMENT 1	The Land (Mining Lease)
ATTACHMENT 2	Land Title
ATTACHMENT 3	Weed Management Plan 2017
ATTACHMENT 4	Traffic Impact Assessment
ATTACHMENT 5	Quarry Hill Sediment Basin Sizing Calculations (Cameron Oakley – Hydrodynamica)

ATTACHMENT 1 The Land (Mining Lease)



QUARRY HILL - MINING LEASE

MINING LEASE

MINING LEASE

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236

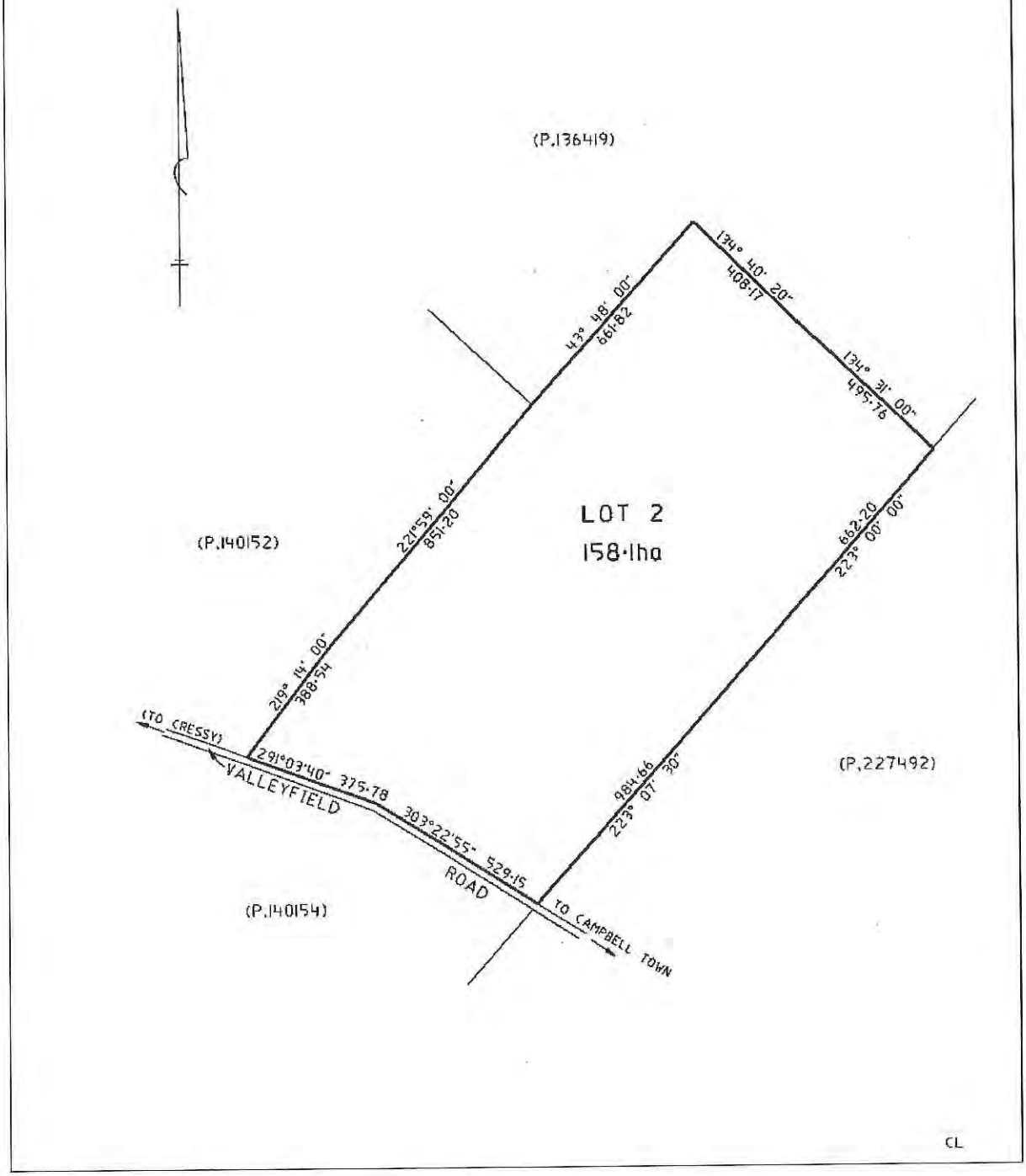
CLIENT: GRADCO PTY LTD

DATE: 4TH AUGUST 2015

ATTACHMENT 2 Land Title

OWNER LAND TITLES ACT 1980 FOLIO REFERENCE Y.19927 GRANTEE PART OF 700A-0R-0P LOC. TO D. TAYLOR	PLAN OF TITLE LOCATION SOMERSET - CADBURY FIRST SURVEY PLAN No. P.686DO. COMPILED BY LDRB SCALE 1: 10000 LENGTHS IN METRES	Registered Number P.140153 APPROVED 2 OCT 2003 Alice Kawa Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 5236, 5237 (123)	LAST UPI No 4700063	LAST PLAN No. P.686DO.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
140153	2
EDITION	DATE OF ISSUE
3	21-Jul-2014

SEARCH DATE : 18-Mar-2017
SEARCH TIME : 05.06 PM

DESCRIPTION OF LAND

Parish of CADBURY Land District of SOMERSET
Lot 2 on Plan 140153
Derivation : For grantees see plan
Derived from Y19927

SCHEDULE 1

M474400 TRANSFER to GEORGE FRANCIS RIGNEY, ROBERT WILLIAM RIGNEY and ALLEN GRAEME RIGNEY Registered 21-Jul-2014 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
D129661 Mortgage to Rabobank Australia Limited Registered 21-Jul-2014 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

ATTACHMENT 3 Weed Management Plan 2017

VALLEYFIELD ROAD QUARRY, CAMPBELL TOWN

WEED MANAGEMENT PLAN

MARCH 2017

Van Diemen CONSULTING

PO BOX 1 NEW TOWN TAS 7008

Table of Contents

PART A – PLANNING AND OBJECTIVES

A.1 PURPOSE OF PLAN

This Plan has been developed to manage and control significant and environmental/pasture weeds associated with the immediate working areas for Valleyfield Road Quarry on Valleyfield Road.

This Plan outlines the objectives of weed management and those measures which will be applied to manage the control of existing weed occurrences as well as respond to new weed occurrences if they arise.

A.2 BACKGROUND TO QUARRY DEVELOPMENT

Valleyfield Road Quarry is located to the west of Cleveland in the Tasmanian midlands (Figure 1).

The quarrying operation includes the following activities:

- surface site preparation by soil removal and stockpiling;
- rock drilling and blasting by licensed contractor;
- rock removal by excavator;
- rock crushing and screening using a mobile crusher;
- ripping of decomposed gravels and loading into stockpiles (for material not requiring to be blasted);
- stockpiling of processed material in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and
- transport of materials by trucks ranging from 12 to 30 tonne capacity (truck and truck/trailer combinations).

A.3 PLANNING FRAMEWORK

Permit Conditions

This Plan complies with the permit (Permit Part B – issued by the Environment Protection Authority) issued by the Planning Authority for the activity –

'Permit Part B - OP1 Weed and Pathogen Management Plan

1. Unless otherwise approved in writing by the Director, a Weed and Pathogen Management Plan must be submitted to the Director for approval within 3 months of the date of issue of these conditions.
2. Management of weed and plant pathogens must be undertaken in accordance with a Plan approved by the Director'

Proponent Commitments

The proponent made a commitment (number 4) within the Environmental Effects Report prepared and approved as part of the planning process which states –

'A Weed Management Plan will be prepared and implemented for the life of the quarry activity.'

Weed Management Act 1999

The objectives of the Act further the objectives of the Resource Management and Planning System (RMPS) of Tasmania. In particular, the Act provides for the control and eradication of weeds having regard to the need to -

a) minimise negative effects of weeds on the sustainability of Tasmania's productive capacity and natural ecosystems; and

b) promote a strategic and sustainable approach to weed management; and

c) encourage community involvement in weed management; and

d) promote the sharing of responsibility for weed management between government, natural resource managers, the community and industry in Tasmania.

Weed Management Regulations 2000

The Regulations are the statutory rules that underpin the Act itself. They detail the requirements and measures referred to in the Act, including:

a) Tolerance Level Requirements (in relation to seed contamination levels within grain imported into the State);

b) Livestock Importation Prescribed Measures; and

c) Infringement Notices and Penalties.

Statutory Weed Management Plans

Once a species has been listed as a Declared Weed a Weed Management Plan (WMP) is developed by the State Government for it.

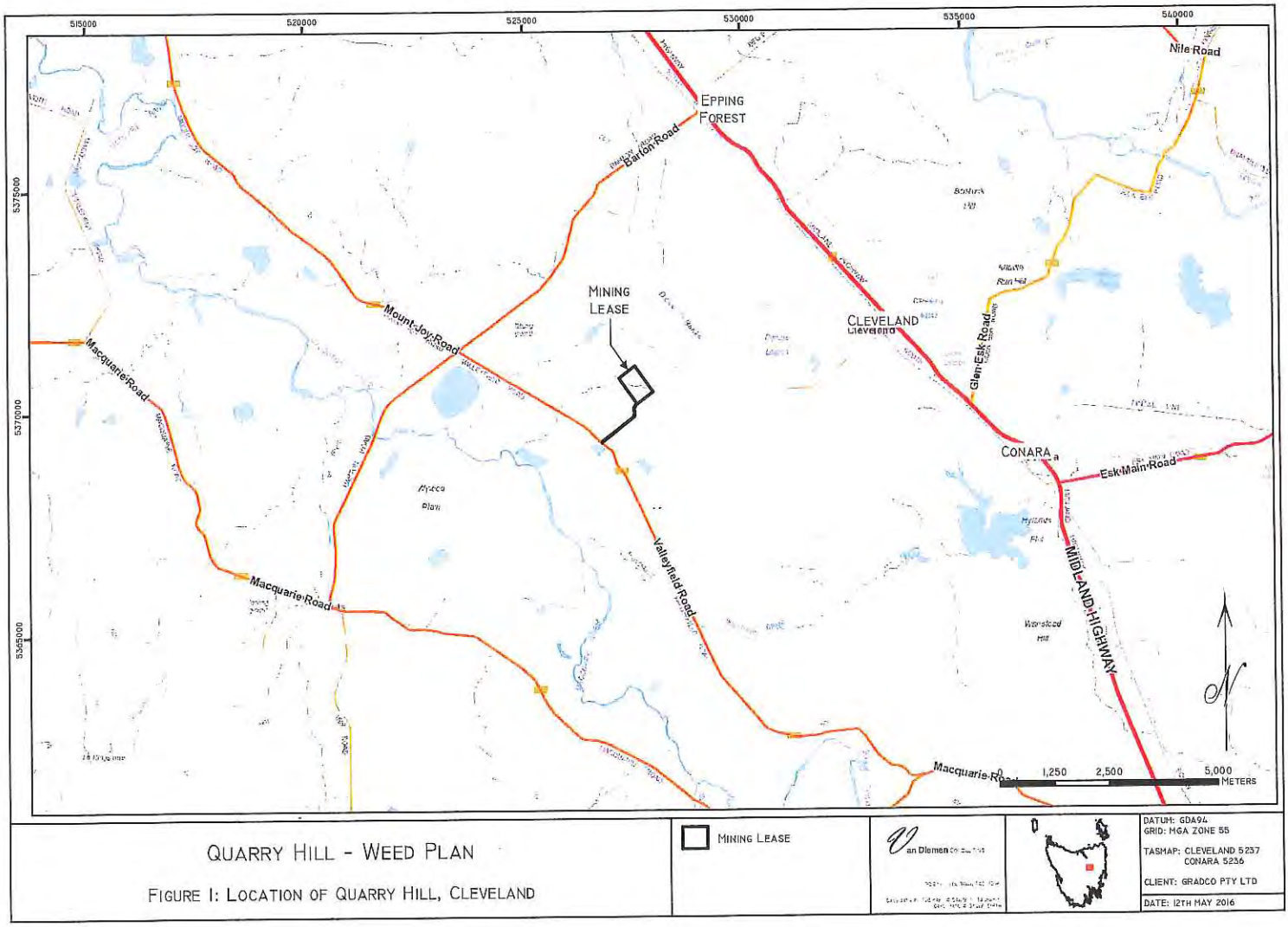
A WMP should include the:

- name of the target weed (including details of how to identify the species and how it is spread through the environment);
- objectives and methods of the Plan;
- comments on the effect on the environment if strategy is implemented;
- cost of strategy and proposed funding method to implement;
- monitoring /Evaluation methods;
- time period within which the Plan operates and milestones for review; and the
- region or area of operation for the Plan.

A.4 PLAN OBJECTIVES

The objectives of this Weed and Pathogen Management Plan (the Plan) are to:

- Provide a mechanism to record and map the occurrence of (i) Declared Weeds and (ii) significant non-Declared Weeds within the quarry area;
- Identify, document and implement management measures within the quarry to –
    - minimise the risk of spreading propagules of (i) Declared Weeds and (ii) significant non-Declared weeds within the quarry;
    - control and/or eradicate (i) Declared Weeds and (ii) significant non-Declared weeds within the quarry where practicable; and
    - ensure that rehabilitation works are not compromised by the occurrence or growth of (i) Declared Weeds and (ii) significant non-Declared weeds.
- Establish a process to monitor the results of on-ground actions and a mechanism to review these actions as required; and
- Establish a process of review for the Plan, including its objectives and implementation.



QUARRY HILL - WEED PLAN

FIGURE 1: LOCATION OF QUARRY HILL, CLEVELAND

MINING LEASE

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236

CLIENT: GRADCO PTY LTD

DATE: 12TH MAY 2016

PART B - BACKGROUND

B.1 LOCATION OF QUARRY

Valleyfield Road Quarry is located to the west of Cleveland in the Tasmanian midlands (Figure 1).

B.2 AREA COVERED BY PLAN

This Plan applies to the Mining Lease which contains the Valleyfield Road Quarry (Figure 1).

B.3 WEEDS IN THE QUARRY AREA

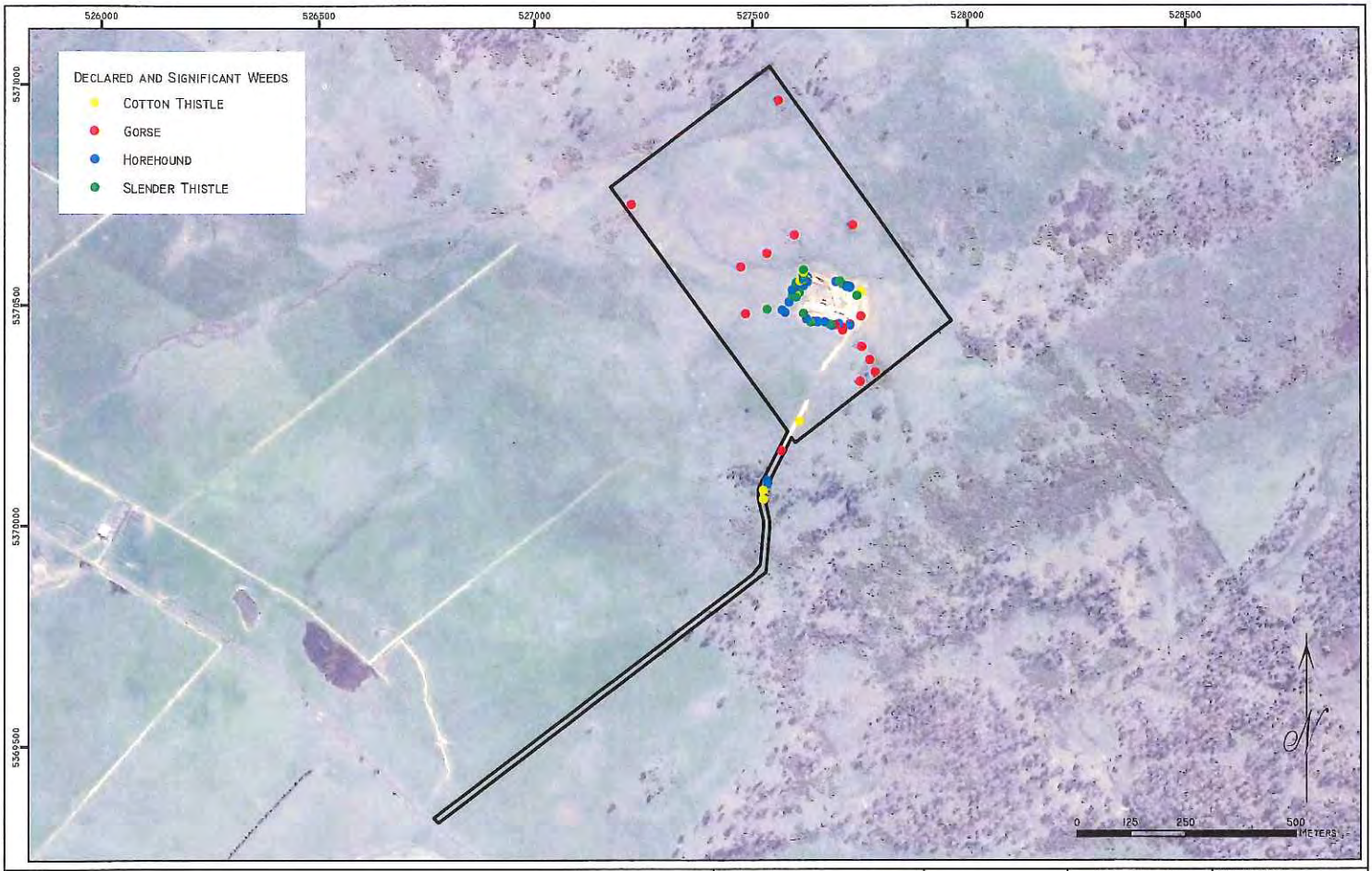
Four **significant weeds** (those listed as Declared Weeds on the *Weed Management Act 1999*) were recorded in the Mining Lease during the surveys for the assessment process (Figure 2).

Descriptions of each weed are provided below.

Details on the management of the weeds listed below are provided in 'Plan Implementation'.

gorse *Ulex europaeus*	Declared Weed – Shrub with very prickly green stems (left image), bright yellow pea flowers (right image)  
Slender thistle *Carduus pycnocephalus*	Declared weed – a mainly leafless thistle with light green stems and sharp prickles (left image). The daisy flowers are bright pink (right image) at the top of the stems.  
Cotton thistle *Onopordum acanthium*	Declared weed – a rosette thistle with grey woolly flowering stems and sharp prickles (left image). The daisy flowers are bright purple (right image) at the top of the grey wooly stems.

	 
horehound *Marrubium vulgare*	Declared weed – a grey leafed soft herb without prickles (left image). The daisy flowers are bright pink (right image) at the top of the stems. Plant dies back over summer and reshoots in the autumn when there has been rain, seed also tends to germinate at this time.  



QUARRY HILL - WEED PLAN

FIGURE 2: DECLARED WEEDS OBSERVED WITHIN THE MINING LEASE

Van Diemen

DATUM: GDA94
GRID: MGA ZONE 55

TASMAP: CLEVELAND 5237
CONARA 5236

CLIENT: GRADCO PTY LTD

DATE: 12TH MAY 2016

B.4 ROOT-ROT FUNGUS (*PHYTOPHTHORA CINNAMOMI*)

Root-rot fungus (*Phytophthora cinnamomi, PC*) is a soil borne pathogen that causes death in a wide range of native plant species often leading to floristic and structural changes in susceptible plant communities.

PC evolved in tropical areas and requires warm, as well as moist, soils for at least some time of the year to produce sporangia and release zoospores (Rudman 2005). Only those areas of the State that are below an altitude of about 700m above sea level have soils sufficiently warm for this to occur (Podger *et al* 1990). Vegetation types below 700m elevation may not be wholly or partly susceptible if closed canopies keep soil temperatures cool during the summer months, such as tall wet eucalypt forests over rainforest species, or rainforest communities.

PC can be spread through the movement of infected soil or plant material by people or animals, and can even be transported by water percolating through soil or via surface water, such as in creeks and other drainage lines. Transport of PC to new areas is usually through soil/dirt adhering to vehicles and machinery. Transport into non-roaded areas of high human usage is mainly via bushwalking items such as tents or footwear, but can also occur by bird activity.

The fungus is not always evident in the landscape as it attacks root systems of susceptible species, usually causing death in new growth or the yellowing of leaves followed by loss of vigour and, in most cases, death. The fungus can inhabit the root systems of resistant species without any visible signs of infection within the host plant.

It is highly unlikely that PC is active and/or can persist in the Mining Lease or surrounds, even if it has been transported there, because

1. the area is devoid of native vegetation/species that could support the pathogen; and
2. the region is too dry for the pathogen to germinate and grow.

On this basis, no special management arrangements for this pathogen are required at the quarry.

PART C - PLAN IMPLEMENTATION

C.1 ROLES AND RESPONSIBILITIES

Quarry Operator

The operator of the quarry is:

Van Diemen Quarries Pty Ltd
ACN 607 533 906
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Responsible for ensuring that:

- the staff and contractors is briefed on the requirements of the Plan and its importance to the overall success of mine operation;
- this Plan is applied and implementation monitored through regular assessments of the Mining Lease and liaison with staff and contractors; and
- variations to this Plan are developed and approved prior to their implementation.

Staff and Contractors

All staff and contractors that work within the mine are responsible for:

- applying weed hygiene measures for which they have received training;
- reporting any breaches of this Plan to the Owner as soon as practical, providing written details of the breach, and any measures that were immediately taken to reduce the likelihood of any environmental harm; and
- reporting new occurrences of weeds to the Owner within a reasonable timeframe of detection.

C.2 WEED SPRAYING PROGRAM

The Quarry Operator will implement a Weed Spraying Program or a nominated suitably qualified and equipped weed spraying contractor/employee.

Emphasis should be placed on controlling and possibly eradicating **horehound** and **cotton thistle** as these two species have a high risk of contaminating the product extracted from the quarry.

The program will be reviewed each year and updated as new information about the occurrence of weeds within the Mining Lease become available. The Weed Spraying Program will form part of this Plan and carry with it the same responsibilities of implementation outlined in 'Role and responsibilities'.

The Plan each year will take the form of a Works Plan which will comprise the following –

1. A **map** showing the areas where weeds occur, what species they are and a works area number (to reference to the associated spreadsheet); and
2. A **spreadsheet** similar to that contained in Appendix B which will identify the works area, weed of concern and the management of that weed or group of weeds.

The spreadsheet will be updated electronically with a new worksheet for each Work Plan, thus maintaining a record of the works recorded and completed. The printed version of the Works Plan once implemented will be signed by the officer responsible for the works and filed at the quarry office for future reference.

All weed spraying at the mine will be in accordance with the Rivercare 'Guideline for Safe and Effective Herbicide Use near Water' (Appendix A).

The Plan commences immediately but the first WSP should occur in August to September 2016 when growing and weather conditions are suitable for weed spraying/control works.

C.3 HEAVY MACHINERY WASHDOWN

The highest risk of transporting propagules is from heavy machinery, such as excavators, as these have the ability to carry large clods of dirt and mud in which seed propagules can be lodged. Transport trucks pose little risk to the transportation of weed propagules if they remain on the hard surface of the roads (even if they are unsealed) and the loading area and that these areas are well managed to exclude weeds.

Wherever possible machinery will be brought into the mine and surrounds in a clean condition; free of weed propagules, clods of dirt and vegetative matter. This approach will also assist to minimise the risk of introducing root-rot fungus to the quarry.

Site Selection

The exact location of any required washdown site in the mine should be decided by the Quarry Owner, or their supervisor, on the following criteria:

- Stormwater settlement ponds or areas designed for the capture of runoff from roads should be preferentially used for washdown if they are practical to access;
- If stormwater settlement ponds are not readily accessed, ensure washdown is conducted as close as possible to the source of the material being removed;
- Ensure run-off does not directly enter a watercourse or waterbody, a 30m buffer from any waterway or waterbody is desirable;
- Select a mud-free location (e.g. well grassed, gravel) which is gently sloped to drain effluent away from the washdown area;
- Allow adequate space to safely move tracked vehicles and allow safe vehicle access around the heavy machinery; and
- Pay particular attention to potential hazards near or at the washdown site (e.g. overhead powerlines, powerpoles and fences).

If there will be large quantities of effluent or there is a risk of extensive run-off, the washdown area should be bunded and a sump constructed to safely dispose of the effluent. Take particular care where the effluent is likely to be contaminated with oil or fuel.

Washdown prescriptions

For each of the washdown sites the following prescriptions will be applied: Note: Do NOT apply water to vehicles or equipment that may be damaged by water.

1. Locate washdown site as close as possible to the source of the materials being removed, and prepare the surface or construct bunding as required.
2. Safely park the vehicle free of any hazards (e.g. electrical), ensure the engine is off and the vehicle is immobilised.
3. Look over the vehicle, inside and out, for where dirt, plant material including seeds are lodged. Pay attention to the underside of the vehicle, radiators, spare tyres, foot wells and bumper bars.

4. Remove any guards, covers or plates if required, being careful of any parts that may cause injury.
5. Knock off large clods of mud, use a crow bar if required and sweep out the cabin.
6. Brush off dried plant material like weed seeds and chaff in radiators and other small spaces where this material lodges.
7. Clean down with a high pressure hose (using potable drinking water) and stiff brush/crowbar.
8. Start with the underside of the vehicle, wheel arches, wheels (including spare). Next do the sides, radiator, tray, bumper bars etc and finally upper body.
9. Clean associated implements, e.g. buckets.
10. Check there is no loose soil or plant material that could be readily dislodged or removed.
11. Wash effluent away from the machinery; do not drive through wash effluent.

Contractors should keep a log book of where and when they wash down machinery, and of where they then took the machinery. These data are useful in ensuring that checks are made of the washdown locations in the event that any undesirable plants become established in these locations.

PART D - MONITORING AND REVIEW

This Plan is intended to be flexible and allow changes to the focus of management actions, especially the weed spraying program, as the occurrence, extent and severity of weed infestations change across the site.

The weed occurrence map attached to this Plan may be reviewed and modified from time to time as new data become available, especially following field surveys to identify, record and map new and current weed occurrences in the Mining Lease.

D.1 MONITORING

The early detection of any weeds that enter the Mining Lease is important to ensure that any control or eradication program has the highest likelihood of success. A survey to identify new weed species within the Mining Lease should be conducted at regular intervals which coincide with the commencement of peak weed growth periods and/or the weed spraying season. This approach should enable early detection of weed species before they reach an extent where control and eradication is very costly and/or difficult to achieve.

The following survey regime will be applied during the life of the quarry operation:

1. Surveys and assessments by a suitably qualified person are to –
    a. identify, record and map any new weed species not previously recorded;
    b. assess and map the extent of known weed infestations to determine if they are becoming larger and/or more significant such that control measures can be modified; and
    c. review/assess the weed control works that have been conducted and to provide advice, where necessary, on the management of weeds.
2. Areas where weed control/eradication works have occurred (eg spraying) will be assessed no more 12 months after the treatment occurred to determine if the measures implemented were successful. Where measures have proved unsuccessful, repetition and/or modification of the weed control technique(s) will be employed.

Weed species of concern if they were to be detected in the Mining Lease are listed in Table 2. If any of these weeds listed are detected in the Mining Lease, then urgent action will be taken by the Quarry owner to minimise the risk of them becoming established in or near the quarry.

D.2 REVIEW OF PLAN

The objectives, responsibilities and management actions within this Plan will need to adapt to new information about the site as it becomes available. The Plan will be reviewed each year in or as needed (eg. when a significant infestation of a weed on the site is detected).

PART E - REFERENCES

Podger F, Mummery DC, Palzer CR and Brown MJ (1990) Bioclimatic analysis of the distribution of damage to native plants in Tasmania by *Phytophthora cinnamomi*. *Australian Journal of Botany* **15,** 281-289.

Rudman T (2005). Interim *Phytophthora cinnamomi* Management Guidelines. Nature Conservation Report 05/7, Biodiversity Conservation Branch, Department of Primary Industries, Water and Environment, Hobart

Table 2. Weeds of concern if they were to enter and/or colonise the quarry

Weed Common Name	Scientific Name	Significance if it was detected in the Weed Management Area
Serrated tussock	*Nassella trichotoma*	Very High
Californian thistle	*Cirsium arvense*	Very High
English broom	*Cytisus scoparius*	High
Montpelier broom	*Genista monspessulana*	High
Boneseed	*Chrysanthemoides monilifera*	High
Viper's bugle	*Echium vulgare*	High
Paterson's curse	*Erica plantagineum*	High
Fennel	*Foeniculum vulgare*	Moderate
variegated thistle	*Silybum marianum*	Moderate
Briar rose	*Rosa rubiginosa*	Low
blackberry	*Rubus fruticosus* agg.	Low
saffron thistle	*Carthamus lanatus*	Low
nodding thistle	*Carduus nutans*	Low

APPENDIX A

'Guideline for Safe and Effective Herbicide Use near Water', DPIPWE

Photograph: Lynn Broos

Guidelines for Safe and Effective Herbicide Use Near Waterways

The control and management of weeds near waterbodies is a challenge faced by many landholders across Tasmania. Waterbodies are particularly sensitive to herbicide contamination, so the decision to apply herbicides in the vicinity must be taken with great care.

Weed control near waterbodies requires a long-term commitment to eradication, perhaps 5–10 years or more, as the seed banks of many 'woody' weed species (eg blackberries, gorse) may remain viable for decades. Weeds can also spread along watercourses, making their control difficult. A staged, planned approach to weed control, alongside a program to re-establish native riparian species, is necessary to ensure the safe restoration of riparian areas. Restoring native vegetation helps to reduce the presence of weed species, ensures the stability of banks, shades the waterway (which helps prevent future weed invasion), and provides habitat for local fauna.

Definitions

For the purposes of this guideline, the following definitions apply:

Riparian land	Any land that adjoins, directly influences, or is influenced by a body of water at any time of the year.
Waterbody	Includes natural watercourses (streams, creeks, rivers), natural wetlands, ponds, lagoons, constructed drainage channels, dams and ponds, reservoirs and lakes.
Permanently inundated/perennial	These areas have water all year round.
Occasionally inundated/ intermittent	These areas have water some time of the year.
Rarely inundated/ephemeral	These are areas that rarely contain water (eg areas that flood on rare occasions).
Toxicity	The inherent poisonous quality/qualities of a substance, measured by what size dose is likely to cause harm (acute toxicity is measured by the amount of active ingredient - mg/kg live body weight - required to kill 50% of a test group of animals - this is called LD50).

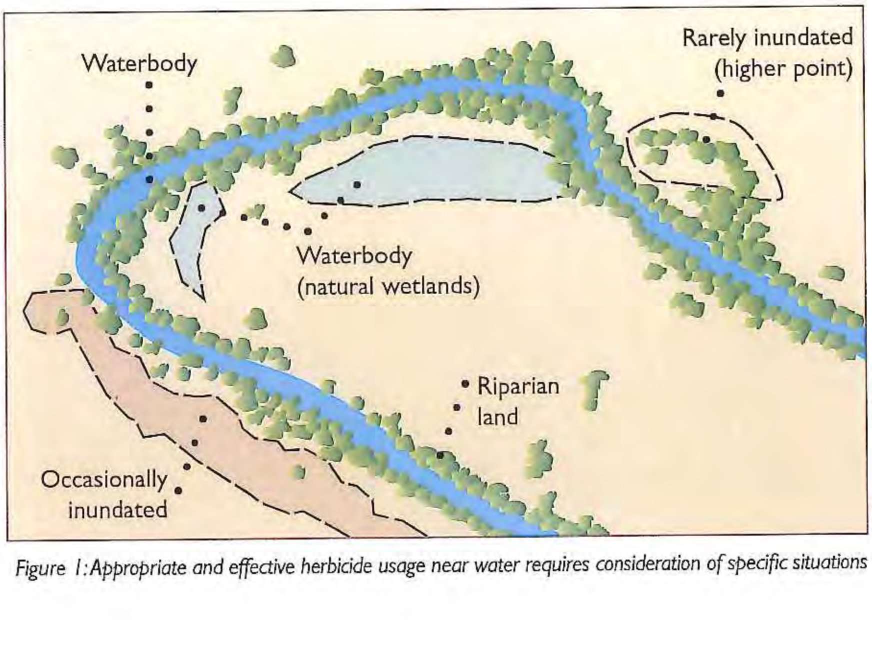


Figure 1: Appropriate and effective herbicide usage near water requires consideration of specific situations

CD59901

A Planned Approach

Assess your site

What type of waterbody is it?

If your site is permanently inundated, you need to consider very carefully the choice of herbicide, recognising the risk to your aquatic ecosystem and the danger that the herbicide may pose to the surrounding environment. You also need to identify points of access to the site.

If your site is occasionally or rarely inundated, choose a time when the chance of rainfall is low and therefore the risk of runoff contaminated with herbicide is likely to be low. Figure 1. illustrates the different zones found in aquatic situations which may affect herbicide use.

What types of weeds are present?

Identify the species of weed and the extent of the infestation. Table 2 details the recommended herbicide control for a number of riparian weeds, the method and time of year for application. It also suggests alternatives to the use of chemicals.

Do the weeds have value at the site?

Consider whether the weeds are serving a useful purpose at the site. They may be acting as a buffer to control erosion, or as a filter to promote water quality. They may have a value to animal species as a source of food or shelter.

If you believe that you have native plants or animals that might be adversely affected by your proposed weed control, seek professional advice.

You may be able to stage the removal of weeds to minimise any impact on erosion or on animal life. You will almost certainly need to restore the habitat once weeds have been eradicated.

Are native species present at the site?

Identify any native plant species at your site. You may need to protect these species from overspray or mark them to prevent accidental spraying. These native plants will be the starting point to restoring the riparian zone.

Choose your control method

Landholders should always consider non-chemical solutions as a preferred option before deciding to use herbicides. These include biological control (eg by introduction of gorse mite, see photo below), slashing, mulching, controlled grazing (controlling timing, intensity and frequency), or hand removal. Often a combination of chemical and non-chemical methods is most appropriate. Whichever method or combination of methods is used, it is important to consider the potential negative impacts on the environment and limit these as much as possible.

Biological agents such as Gorse spider mite may be options for use near waterways, courtesy of Tasmanian Institute of Agriculture.

Understanding herbicides

Herbicides are designed to control and eradicate pest plants ('weeds'). However, it is important to realise that many herbicides have toxic effects in aquatic ecosystems. Native plants, invertebrates, frogs and fish may be harmed by herbicides. The inappropriate use of herbicides may also cause significant risks to human health where water is pumped from a bore for domestic use, or flows to reservoirs.

Herbicides can enter waterbodies either directly through spray or spray drift, or they can move into waterbodies via surface water run-off or leaching and sub-surface draining.

Herbicides can be broadly classified according to their chemical structures and modes of action. Table 1 shows the three major types of herbicide.

Table 1: Herbicide classification

Pre-emergent (residual)	These herbicides are designed to inhibit the germination of pest plants. They are therefore applied before the pest plant germinates and are often residual in the soil for long periods. They are generally not considered to be safe for use near waterbodies and are not recommended for use due to their persistence in the environment.
Knockdown non-selective	These herbicides are designed to be applied directly to the target pest plant, either through being sprayed onto foliage or applied directly to the cambium layer using any of the direct application methods described in Table 3. They may vary in mode of action and some may persist as residues in the environment.
Selective	Selective herbicides are designed to act on only one type of pest plant. Generally, selective herbicides will control either broadleaf (eg capeweed), grasses (eg phalaris) or woody weeds (eg broom). These herbicides are useful when the focus may be on controlling a particular weed species (eg phalaris amongst native shrubs). These herbicides may persist as residues in the environment.

Herbicides applied to the edge of a waterbody, or in wetted areas around its edge, must be registered for use in aquatic environments by the Australian Pesticides & Veterinary Medicines Authority (APVMA).

Consider the tools available to mitigate against offsite movement of your pesticide

PIRI-Tas

PIRI-Tas is a simple screen tool that predicts the off-site migration potential of pesticides into surface or ground-water. PIRI-Tas assesses both the likelihood of off-site-migration and the risk to different species based on the toxicity of the pesticide to a range of aquatic organisms.

PIRI-Tas is a risk indicator and uses a risk-based approach to decision making by taking into consideration a range of factors associated with site conditions, soil and environmental scenarios, pesticide properties, application rates and time of spraying as well as considering impacts on target species being protected by receiving environments. PIRI-Tas outputs can also be used to construct annual spray schedules to assist with future planning.

PIRI was first developed by CSIRO and is being used both nationally and internationally by a number of organisations. PIRI-Tas CD's and onsite training are available for free through the DPIPWE to key users of chemical pesticides, including those in the agriculture, forestry, amenity, glasshouse and municipal sectors.

Further information is available at http://www.dpipwe.tas.gov.au/inter.nsf/WebPages/SSKA-7JA3N4?open

Consider integrated pest management (IPM)

Integrated pest management (IPM) is a planned approach that coordinates environmentally acceptable methods of pest control with careful and minimal use of toxic pesticides. IPM programs are based on a comprehensive assessment of local conditions, including factors such as climate, season, the biology of the pest species, and government regulations.

Strategies employed may include the staged removal of weeds, biological control and re-planting of riparian areas with native species to discourage the regeneration of weeds.

Consult and plan

Draw up a calendar for action. The time of year when herbicides will be most effective on the weed should be a major influence on the make-up of this calendar. Herbicides are generally most effective during the growing season of the weed rather than when it is dormant or approaching dormancy. The staged removal of weeds over several seasons may be less disturbing to your aquatic environment and minimise any adverse impact on fauna.

Consult with neighbours who may be affected by your weed control operation, especially if you think there is any risk of spray drift to adjoining properties or downstream. You may also decide to seek advice from experts before taking further action, or approach commercial spray contractors to assess your particular situation.

If the work involves a significant length of river or multiple properties it is advisable to develop a plan that covers all aspects of the weed control work and restoration, including potential risks. You should also be mindful of:

- feasibility/practicability of the work
- physical characteristics of the job site
- optimal pest control method, including alternatives to herbicides
- characteristics of the herbicide (physical, chemical and environmental)
- buffer zones
- the possibility of spray drift and other off-target migration
- weather conditions.

Do you need to spray?

It is recommended that only trained, licensed contractors carry out spraying operations near waterbodies because of the sensitivity of these environments. Check that they have experience and an understanding of the issues around using herbicides near aquatic environments.

The following points are critical to the application of herbicides near waterbodies:

- Always follow the label
- When you are working near the edge of a waterbody, direct the spray away from the waterbody where possible.
- Spray only to the extent of covering foliage with droplets.
- Spray when weather is calm; strong winds may carry herbicide drift into waterbodies.
- Use a flat fan nozzle and a low pump/spray pressure to reduce the likelihood of spray drift.
- Do not spray when rainfall is forecast within four hours as herbicide can be washed off the pest plant and run off into aquatic ecosystems.

Appropriate herbicides and application

The type of weed problem will determine both the type of herbicide and its application method. Table 2 shows recommended herbicide and application methods for some common weeds, along with alternatives to herbicide use. Table 3 illustrates application techniques and equipment need to undertake control works.

Uses described in this table are either covered by the respective product label or Off-label Permit No. 13160 issued by the Australian Pesticides and Veterinary Medicines Authority.

Table 2. Common weeds and recommended treatment and herbicides

Area	Weed	Permitted Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Recommended Herbicide Control Technique	Non-chemical Alternatives
Permanently inundated/ perennial	**Submerged and partially submerged plants**				
	Parrot's feather (*Myriophyllum aquaticum*)	Glyphosate (registered for aquatic use only **Don't add surfactants!**	Roundup Biactive® or Weedmaster Duo®	Foliar spray	Hand removal and excavation (with roots/rhizomes) can be used as part of a well planned approach. Care must be taken to avoid losing fragments
	Egeria (*Egeria densa*)				
	Canadian Pondweed (*Elodea canadensis*)				
	Cumbungi (*Typha* spp)				Hand removal (small plants) Excavation (with roots/rhizomes) Cultivation (expose roots/rhizomes to frosts) Cut into soil surface regularly (to cut rhizomes) Drowning by cutting stems and leaves below water surface
	Glyceria (syn. Poa aquatica or reed sweet grass) (*Glyceria maxima*) NB Take extreme caution not to spread Glyceria seed through soil transport (eg on machinery)			Foliar spray (combine with dense local native species revegetation for long-term results through stream shading) Wiper	Clearance or drainage of growth area (combine with dense re-vegetation of local native species for long-term results through stream shading)
	Woody weeds				
	Blackberry (*Rubus fruticosus*)	Glyphosate (registered for aquatic use only) **Don't add surfactants!**	Roundup Biactive® or Weedmaster Duo®	Cut and paint with Roundup Biactive® or Weedmaster Duo®	Hand removal (small plants) Controlled grazing (goats or sheep only) can be effective Bio-control (eg gorse mite, blackberry rust) where other techniques are not suitable Gorse mulching combined with follow-up grazing and revegetation on mulched sites
	Gorse (*Ulex europaeus*)				
	Trees				
	Hawthorn (*Crataegus monogyna*)	Glyphosate (registered for aquatic use only) **Don't add surfactants!**	Roundup Biactive® or Weedmaster Duo®	Cut and paint Drill or stem injection Axe or frill and paint Foliar spray hawthorn and crack willow (only spray to a height of 2m)	Hand removal (small plants) Controlled grazing can assist in limiting Hawthorn regrowth and thicket density
	Crack Willow (*Salix fragilis*)				
	Sycamore (*Acer pseudoplatanus*)				

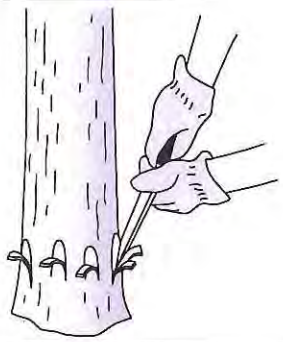
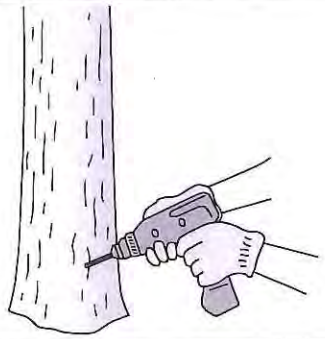
The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product does not imply endorsement by DPIPWE over any other equivalent product from another manufacturer.

Table 2. Common weeds and recommended treatment and herbicides continued

Area	Weed	Permitted Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Recommended Herbicide Control Technique	Non-chemical Alternatives
Occasionally or rarely inundated sites	**Woody weeds**				
	Blackberry (*Rubus fruticosus*)	Metsulfuron-methyl Triclopyr Triclopyr + Picloram	eg Associate or Brush-Off® eg Garlon 600® eg Grass-up™ or Grazon Extra®)	Foliar spray	Hand removal (small infestations) Controlled grazing by goats can be effective Bulldoze and deep cultivate (in suitable circumstances) Bio-control (a rust with limited impact)
	Gorse (*Ulex europaeus*)	Glyphosate (registered for aquatic use only) Triclopyr Triclopyr + Picloram	eg Roundup Biactive® or Weedmaster Duo® eg Garlon 600® eg Grass-up™ or Grazon Extra®)	Cut and paint Foliar spray, preferably Garlon 600®	Mulching/bulldozing/slashing combined with follow-up grazing and revegetate on mulched sites Bio-control (e.g gorse mite) where other techniques are not suitable
	English Broom (*Cytisus scoparius*) Montpellier Broom (*Genista monspessulana*)	Glyphosate (registered for aquatic use only). Metsulfuron-methyl Triclopyr herbicide Triclopyr + Picloram	eg Roundup Biactive® or Weedmaster Duo® eg Associate or Brush-Off® eg Garlon 600® eg Grass-up™ or Grazon Extra®)	Cut and paint. Foliar spray, preferably Garlon 600® (only if under 2m in height)	Hand removal. Mechanical removal (eg rip or bulldoze) Mulching/bulldozing/slashing of hawthorn combined with follow-up grazing and revegetate on mulched sites
	Trees				
	Hawthorn (*Crataegus monogyna*)	Glyphosate (registered for aquatic use only). Metsulfuron-methyl Triclopyr herbicide Triclopyr + Picloram	eg Roundup Biactive® or Weedmaster Duo® eg Associate or Brush-Off® eg Garlon 600® eg Grass-up™ or Grazon Extra®)	Cut and paint Foliar spray, preferably Garlon 600® (only if under 2m in height)	Hand removal Mechanical removal (eg rip or bulldoze) Mulching/bulldozing/slashing of hawthorn combined with follow-up grazing and revegetate on mulched sites
	Sycamore (*Acer pseudoplatanus*)	Glyphosate (registered for aquatic use only)	eg Roundup Biactive® or Weedmaster Duo®	Stem injection, cut and paint (plus foliar spray for young plants)	Hand removal Bulldoze and revegetate Plough-in small plants
	Herbaceous plants				
	Ragwort (*Senecio jacobaea*) Paterson's curse (*Echium plantagineum*) Thistles (*eg Cirsium arvense*)	MCPA Metsulfuron-methyl	eg MCPA 500 or L.V.E Agritone eg Associate or Brush-Off®	Foliar spray	Hand removal Controlled grazing (sheep) Ploughing/cultivation (combine with dense revegetation of local native plants for long-term results through shading)

More information on weed identification and weed control can be found at **www.dpipwe.tas.gov.au/weeds**

Table 3. Herbicide application techniques

Illustration	Method	Type of weed	Equipment Required	Notes
	Foliar Spray	Herbaceous plants, Woody weeds	Knapsack Vehicle mounted tank Herbicide mix Personal protective equipment (see product label)	Ensure herbicide is being applied at right concentration and rate to cover the foliage of the pest plant with fine droplets and avoid run-off. A flat fan nozzle and low pump pressure will assist in reducing spray drift
	Cut and paint	Woody weeds, shrubs and trees	Saw, chainsaw, loppers Herbicide mix Personal protective equipment (goggles and gloves as a minimun) Bush/sponge for herbicide application	Ensure herbicide is applied quickly to cut stump (within15 seconds in most cases) Apply during active growth period of plant for best results Do not apply herbicide to the point of run-off
	Frilling	Shrubs and trees	Axe, hatchet Herbicide mix Personal protective equipment (goggles and gloves as a minimum) Brush for herbicide application	Frill trunk thoroughly, also treat major surface roots where visible Expose sapwood and apply herbicide to it immediately For deciduous species, apply during active growth period
	Drill and poison	Shrubs and trees	Drill Application bottle, injection gun Herbicide Personal protective equipment (goggles and gloves as a minimun)	Drill to sapwood only and apply herbicide to drill hole immediately Drill and fill major surface roots where appropriate For deciduous species, apply during active growth period

Illustrations: Brett Littleton ILS Design Unit

After Spraying

Clean up

Equipment should always be cleaned in a safe location where spills can be contained and will not result in environmental harm. Using water to clean equipment will further dilute any residual herbicide to low levels, and the resulting solution is best sprayed onto a lawned area or bare ground taking the following precautions:

- Do not apply wash-water to the point of saturation so that run-off occurs.
- Do not apply wash-water along boundary fence lines as this will increase the chance of herbicides escaping from your property.
- Do not dispose of wastewater into areas where children play, or pets have access, as low levels of herbicide are still likely to be present.
- Do not deposit wastewater where it will run into waterways, drainage lines or stormwater systems.

Disposal

If you do happen to have surplus spray mix or herbicide waste, label it with the herbicide name, including any risk and safety information displayed on the original label. Store it safely until it can be disposed of appropriately. Contact a chemical collection organisation eg Chem Clear.

You must follow label directions for the disposal of wastes and herbicide containers. Only dispose of waste herbicides at authorised collection centres, such as licensed waste disposal centres.

Do not dispose herbicide waste:

- through sewerage systems, where it can interfere with the sewage treatment process
- down the drain or gutter, where it can pass through the stormwater system and into waterways
- to landfill via dumping or domestic waste, as it can contaminate soil and leach into groundwater and stormwater.

Monitor, evaluate and follow up

Monitor

Observe and keep records of your weed problems and the impact of any measures you take to control them. This could involve:

- the use of visual records, including property maps, aerial and other photography
- the use of a calendar or diary to record when actions were taken.

Evaluate

Evaluate the success of any weed control program by considering the current extent of the weed problem and reviewing your control measures. Important questions might include:

- Is my weed control work going to plan, or do my goals need reviewing?
- What is the appropriate weed control measure now?
- Is there a need for external (expert) assistance?

Follow up

Re-implement weed control actions following the results of your monitoring and evaluation. Continue to monitor this follow-up work, and so begin an ongoing cycle of weed management.

These guidelines have been updated by Kiowa Fenner and are based on guidelines prepared by Michael Noble and Janice Miller.

Design and layout - ILS Design Unit, DPIPWE

Tasmania
Explore the possibilities

CONTACT DETAILS

Invasive Species Branch

1300 668 550

www.dpipwe.tas.gov.au/weeds

APPENDIX B

TEMPLATE - Weed Spraying Program Spreadsheet QuarryHill, Valleyfield Road - May 2016

Quarry Hill, Valleyfield Road
Weed Spraying Program

Zones on Maps	Weeds	Actions required	Responsible person	Estimated start date	Estimated completion date	Tasks conducted	Date Completed	Signed

NOTES

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

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

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Document Status

Revision	Author	Review	Date
1	R Barnes C McCoull	R Barnes, VDC Pty Ltd	19-5-2016
1	R Barnes C McCoull	O Diprose, Quarry Owner	21-5-2016
2	R Barnes C McCoull	R Barnes, VDC Pty Ltd	30-3-2016

ATTACHMENT 4 Traffic Impact Assessment

DEVELOPMENT APPLICATION
EXTRACTIVE INDUSTRY – LEVEL 2 ACTIVITY

VALLEYFIELD ROAD QUARRY, CAMPBELL TOWN
TRAFFIC IMPACT ASSESSMENT

Van Diemen CONSULTING PO Box 1 NEW TOWN TAS 7008

CONTENTS

SUMMARY OF RECOMMENDATIONS

The following measures should be considered during the planning process for the development to mitigate potential impacts from the project –

- Ensure compliance with the operating hours and days for the quarry;
- Establish a Complaints Register to record and address complaints received in relation to Access Road usage by quarry related vehicles; and
- Ensure trucks limit their speed to 40 km/hr when using the Access Road.

OBJECTIVES OF THIS ASSESSMENT

This Traffic Impact Assessment (TIA) examines the traffic impacts associated with the Valleyfield Road Quarry project:

- Review of the relevant existing road environment in the vicinity of the site and the traffic conditions on the road network;
- Provision of information on the activity with regards to traffic movements and activity; and
- Traffic implications of the activity with respect to the external road network in terms of traffic efficiency and road safety.

PROPONENT

Van Diemen Quarries Pty Ltd is the proponent of the Mining Lease and the development application.

The contact details of the proponent are:

Van Diemen Quarries Pty Ltd

ACN 607 533 906

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

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

Principal Contact for VDQ Pty Ltd

Mr Oliver Diprose, Director

Mobile – 0418 314 438

Phone – (03) 6337 0200

Fax – (03) 6339 2028

Email – odiprose@gradco.com.au

ACTIVITY DESCRIPTION

The activity is to intensify extraction from an existing hard-rock/gravel quarry on Valleyfield Road near Cleveland (Valleyfield Road Quarry) – up to 100,000 cubic metres will be extracted per annum (a Level 2 activity under the *Environmental Management and Pollution Control Act 1994*).

The Valleyfield Road Quarry is located to the west of Cleveland in the Tasmanian midlands (Figure 1). The quarry will be formalised around the existing pit which occurs within a 34.62-hectare Mining Lease accessed from Valleyfield Road.

Quarrying activities will continue to be the following:

- surface site preparation by soil removal and stockpiling;
- rock drilling and blasting by licensed contractor;
- rock removal by excavator;
- rock crushing and screening using a mobile crusher;
- ripping of decomposed gravels and loading into stockpiles (for material not requiring to be blasted);
- stockpiling of processed material in quarry area;
- loading trucks with wheel loader from stockpile area in quarry; and
- transport of materials by trucks ranging from 12 to 38 tonne capacity (truck and truck/trailer combinations).

Operating hours will continue to be 0600 to 1900 hrs Monday to Friday, 0800 to 1600 hrs on Saturday; closed on Sunday and public holidays. Notwithstanding these operating hours, **blasting** will be limited to between 1000 and 1600 hrs Monday to Friday and **crushing** will not occur on Saturday, Sunday and public holidays.

The majority of truck movements are projected to occur between 0700 and 1800 hrs on Monday to Friday with very low volume movements after that time (ie. from 1800 to 1900 hrs after which time the quarry will close as per the proposed operating hours). Trucks may access the quarry on Saturday between the hours of 0800 and 1600 to load and deliver gravel.

ACTIVITY TRAFFIC GENERATION

ACCESS ROAD AND JUNCTION WITH VALLEYFIELD ROAD

The quarry access road joins Valleyfield Road at a junction that was established under the previous application - P15-257 (including Permit Conditions Environmental 9321).

There is no access to pedestrians at the Access Road junction nor will any be established under this new project. There have been 2 car parks formalised near the active quarry face to provide parking for staff, visitors and/or contractors.

The sight distances of the Access Road junction onto Valleyfield Road (Figure 1) satisfies the Safe Intersection Site Distances (SISD) provided in Table 4.7.4 of the Scheme [for a 100km/hr designed road]. There are no trees or other vegetation prominent at the Access junction with Valleyfield Road.

ROUTE

Due to sight distance compliance, quarry related truck and trailers combinations will exit to the north or south from the junction.

TRAFFIC TYPE, NUMBERS AND FREQUENCY

Existing road conditions

Valleyfield Road is a *Collector Road* owned and managed by the Northern Midlands Councuil.

Proposed access usage

Most material will be extracted from the quarry on a demand ('campaign') basis.

Trucks will be a truck and/or trailer configuration with a capacity up to 38t.

Like its current operational procedures, most material will be extracted from the quarry on a demand basis. A peak in demand for road repair and grading works generally occurs in the autumn months in readiness for wet weather in winter and into early spring. The number and frequency of trucks to the quarry will tend to be concentrated in short periods when a particular job is being carried out. Regular small gravel loads will continue to be extracted from the quarry to cater for smaller operations such as minor road maintenance like pothole filling.

Table 1 outlines *examples* of supplies (campaign based and low volume regimes) and the period over which that supply occur. These can be used to approximate/estimate the number of truck movements per supply and per day into the quarry.

The access is only available to quarry related traffic. A gate has been installed at the entrance off Valleyfield Road to prevent unregulated use of the quarry and the access.

Table 1. Examples of supplies and associated traffic generation

Type of Supply	Size of Supply	Period of Supply (cart days) and Truck Movements
Campaign	2,000 tonnes using 38 t trucks (53 truckloads)	**5 days = 22 truck movements/day**
Campaign	15,000 tonnes using 38 t trucks (395 truckloads)	**30 days = 28 truck movements/day**
Campaign	2,000 tonnes using 20 t trucks (100 truckloads)	**6 days = 34 truck movements/day**
Campaign	35,000 tonnes using 38 t trucks (922 truckloads)	**60 days = 32 truck movements/day**
Low volume	200 tonnes using 12 t truck (17 truckloads)	**2 days = 18 truck movements/day**

PLANNING SCHEME REQUIREMENTS

The Road and Rail Assets Code applies to a development if it:

a) requires a new access, junction or level crossing; or

b) intensifies the use of an existing access, junction or level crossing; or

c) involves a sensitive use, a building, works or subdivision on or within 50 metres of a railway or land shown in this planning scheme as:

i) a future road or railway; or

ii) a category 1 or 2 road where such road is subject to a speed limit of more than 60 kilometres per hour.

The development of the quarry intensifies the use of an existing access and therefore this Code applies.

The following notes and comments are made about each Development Standard relevant to the Code.

E4.6.1 Use and road or rail infrastructure

A1 not relevant as the quarry development is not a sensitive use.

Complies with A2 – the access will not generate more than 40 vehicle movements per day.

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 development must provide a significant social and economic benefit to the State or region; and	**Complies with P3.** • Development does not access a Category 1 road. • Development does not access a Category 2, 3 or 4 road.

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 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.	• No alternative access is available that does not also join with Valleyfield Road. The access connects to a Category 5 road. • SISD are exceeded from the junction in accordance with Table 4.7.4 of the Scheme.

The following notes and comments are made about each Development Standard relevant to the Code.

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

Compies with A1 – access more than 50 m from Category 1 and 2 roads.

E4.7.2 Management of Road Accesses and Junctions

Complies with A1 – there is one access to provide entry and exit to the quarry development.

Complies with A2 – the access is existing.

E4.7.3 Management of Rail Level Crossings

Not relevant – no rail crossings are associated with the development or use.

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

Complies with A1 – there is one access to provide entry and exit to the quarry.

MITIGATION MEASURES

The following measures should be considered during the planning process for the development to mitigate potential impacts from the project –

- Ensure compliance with the operating hours and days for the quarry;
- Establish a Complaints Register to record and address complaints received in relation to Access Road usage by quarry related vehicles; and
- Ensure trucks limit their speed to 40km/hr when using the Access Road.

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

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

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

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

Document Status

Revision	Author	Review	Date
1	R Barnes C McCoull	R Barnes	3-4-2017
1	R Barnes C McCoull	O Diprose, Van Diemen Quarries	7-4-2017
2	R Barnes C McCoull	R Barnes	9-4-2017

ATTACHMENT 5 Quarry Hill Sediment Basin Sizing Calculations (Cameron Oakley – Hydrodynamica)

Quarry Hill Sediment Basin Sizing Calculations

V2 CKOAKLEY 20/06/2017

Basin Volume = Sediment Zone Volume + Settling Zone Volume

1. Sediment Zone Volume

Blue Book Vol.1 Appendix J Sheet J-5

Site area	Quarry Hill		Remarks
Total catchment area (ha)	3		Data provided by Dr R Barnes
Disturbed catchment area (ha)	3		

Rainfall data			
Design rainfall depth (days)	5		Ref Vol 2E Table 6.1
Design rainfall depth (percentile)	95		Assumed 'sensitive' receiving environment and operations ongoing for > 3 years
5-day, 95th-percentile rainfall event (mm)	32.8		Calculated from Epping Forest (Forton) rainfall record, BOM station 91032
Rainfall intensity: 2-year, 6-hour storm (mm/hr)	4.75		See IFD data for the site Table 1 of Report

RUSLE Factors			
Rainfall erosivity (*R*-factor)	770		Automatic calculation from above data
Soil erodibility (*K*-factor)	0.05		RUSLE data can be obtained from Vol 1, Appendixes A, B and C
Slope length (m)	100		Data provided by Dr R Barnes
Slope gradient (%)	8.75		
Length/gradient (*LS*-factor)	2.75		From Vol. 1 Table A 1
Erosion control practice (*P*-factor)	1.3		Default
Ground cover (*C*-factor)	1		Default

Calculations			
Soil loss (t/ha/yr)	138		Calculated
Soil Loss Class	1		See Section 4.4.2(b)
Soil loss (m^3/ha/yr)	106		Calculated
Soil Loss Volume (Sediment Zone Volume) (m^3)	318		Based on clean-out every year

IFD Data for Site (from www.bom.gov.au)

Coordinate:-41.814567, 147.318046

DURATION,1 Year,2 years,5 years,10 years,20 years,50 years,100 years

5Mins,39.5,52.9,73.4,87.7,107,134,157

6Mins,36.7,49.1,68.1,81.3,98.7,124,145

10Mins,30.5,40.4,54.7,64.5,77.4,95.9,111

20Mins,23.2,30.1,39.0,44.6,52.4,63.2,72.0

30Mins,19.1,24.6,31.0,35.1,40.7,48.4,54.6

1Hr,12.9,16.4,20.2,22.5,25.8,30.2,33.7

2Hrs,8.15,10.4,12.7,14.1,16.2,18.9,21.1

3Hrs,6.13,7.82,9.52,10.7,12.3,14.4,16.1

6Hrs,3.70,4.75,5.95,6.69,7.72,9.15,10.3

12Hrs,2.21,2.86,3.64,4.13,4.81,5.75,6.51

24Hrs,1.29,1.69,2.17,2.49,2.92,3.52,4.00

48Hrs,.723,.950,1.24,1.44,1.70,2.06,2.36

72Hrs,.499,.650,.870,1.01,1.20,1.48,1.70

2. Settling Zone Volume

Blue Book Vol.1 Appendix J Page J-4

Site area	Quarry Hill		Remarks
Disturbed catchment area, A (ha)	3		
Volumetric runoff coefficient, C_v	0.34		Vol.1 F-3, assume Soil Hydrologic Group B
5-day, 95th-percentile rainfall event	32.8		Epping Forest rainfall record
Settling Zone Volume (m3)	335		

3. Total Basin Volume = Settling Zone Volume + Sediment Zone Volume

Sediment Zone Volume (m^3)	318
Settling Zone Volume (m^3)	335
Total Required Capacity (m^3)	652

Van Diemen Consulting Pty Ltd

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Document Status

Revision	Author	Reviewer and Organisation	Date
1	R Barnes C McCoull	R Barnes VDC Pty Ltd	1-04-2017
1	R Barnes C McCoull	O. Diprose, VDQ Pty Ltd	3-04-2017
1	R Barnes C McCoull	EPA	30-05-2017
2	R Barnes C McCoull	R Barnes VDC Pty Ltd	16-06-2017
2	R Barnes C McCoull	EPA	16-06-2017
3	R Barnes C McCoull	R Barnes VDC Pty Ltd	20-06-2017
3	R Barnes C McCoull	EPA	20-06-2017

BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY R-281

Level 6, 134 Macquarie Street, Hobart TAS
GPO Box 1550, Hobart, TAS 7001 Australia

ENVIRONMENT PROTECTION AUTHORITY

Enquiries: Helen Mulligan
Ph: +61 3 6165 4599
Fax: +61 3 6173 0254
Email: assessments@environment.tas.gov.au
Web: www.epa.tas.gov.au
Our Ref: EN-EM-EV-DE-252636/H722556/CouncilLetter_3ABC_Decision

21 August 2017

Mr Des Jennings
General Manager
Northern Midlands Council
PO Box 15
LONGFORD TAS 7301

Email: planning@nmc.tas.gov.au

Dear Mr Jennings

DETERMINATION ON ENVIRONMENTAL IMPACT ASSESSMENT
PERMIT APPLICATION (P17-119)
VAN DIEMEN QUARRIES – VALLEYFIELD ROAD QUARRY, CAMPBELL TOWN

I refer to the above permit application by Van Diemen Quarries under the *Land Use Planning and Approvals Act 1993* (LUPA Act). The application 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 was received by the Board on 2 May 2017.

The Board has delegated to me its functions and powers in relation to section 25 of the EMPC Act.

An environmental impact assessment of the application has now been completed. The assessment has taken into account the proposal as detailed in the application and supporting documentation, including the Environmental Effects and Planning Report (EEPR). Comments received from relevant government agencies have also been taken into account. No public comments were received.

In accordance with section 25(5) of the EMPC Act, I hereby notify Northern Midlands Council that the conditions and restrictions specified in the enclosed Permit Part B, together with the definitions in Schedule 1 and the associated attachments to Permit Part B, must be contained in any permit granted by Council under the LUPA Act in respect of the activity, if a permit is granted.

Please note that section 25(8) of the EMPC Act requires that Council must:

(a) include the enclosed conditions and restrictions in a permit granted by it in respect of the activity (if a permit is granted); and
(b) 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
(c) notify the Board of its decision to grant or refuse to grant a permit; and
(d) at the same time as it serves notice of its decision in accordance with section 57(7) of the LUPA Act, notify in writing the applicant:
    (i) of the conditions or restrictions that the Board requires to be contained in the permit; and
    (ii) of the reasons of the Board for requiring the conditions or restrictions to be contained in the permit.

It is suggested that a means of satisfying the requirements of section 25(8)(a) of the EMPC Act is to:

- entitle the Council's portion of the permit 'Part A';
- include in 'Part A' a condition 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 associated attachments to the permit (the latter are clearly identified as Attachment 1, 2, etc.).

If Council grants a permit, section 25(8)(d)(i) of the EMPC Act will be satisfied if Council provides the applicant with a copy of Council's full permit (including the Board's Permit Part B and all attachments) at the time of serving notice of its decision in respect of the application as required by section 57(7)(b) of the LUPA Act.

A copy of the Environmental Assessment Report, which details 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.

As a means of satisfying the requirements of section 25(8)(d)(ii) of the EMPC Act, Council is requested to provide the applicant with a copy of the Assessment Report at the time of serving notice of its decision in respect of the application as required by section 57(7)(b) of the LUPA Act.

I understand that Council will advise the applicant of appeal rights under the LUPA Act in relation to Council's decision.

If a permit is granted, please provide the Board with a full copy of the final permit as granted (including all attachments).

If you have any queries regarding the above, please contact Helen Mulligan Manager (Assessments)) on (03) 6165 4599.

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. 9694*
- *Environmental Assessment Report*

cc: Erin Boer, Planning Officer Northern Midlands Council erin.boer@nmc.tas.gov.au

ENVIRONMENTAL ASSESSMENT REPORT

Valleyfield Road Quarry

Valleyfield Road, Campbell Town

Van Diemen Quarries

Board of the Environment Protection Authority

August 2017

ENVIRONMENT PROTECTION AUTHORITY

Environmental Assessment Report	
Proponent	Van Diemen Quarries Pty Ltd
Proposal	Valleyfield Road Quarry
Location	283 Valleyfield Road, Campbell Town
NELMS no.	PCE No. 9694
Permit application no.	P17-119 (Northern Midlands Council)
Doc1 Folder	EN-EM-EV-DE-252636
Document.	H709804
Class of Assessment	2A

Assessment process milestones	
02/05/2017	Draft EEPR and Permit application received by Board
08/06/2017	EEPR Guidelines issued
21/06/2017	Final EEPR lodged with Council
28/06/2017	Start of public consultation period
12/07/2017	End of public consultation period

Acronyms	
Board	Board of the Environment Protection Authority
EEPR	Environmental Effects and Planning Report
DPIPWE	Department of Primary Industries, Parks, Water and Environment
EIA	Environmental impact assessment
EMPC Act	*Environmental Management and Pollution Control Act 1994*
EMPCS	Environmental management and pollution control system
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
LUPA Act	*Land Use Planning and Approvals Act 1993*
RMPS	Resource management and planning system
SD	Sustainable development

Report summary

This report provides an environmental assessment of Van Diemen Quarries' proposed Valleyfield Road Quarry.

The proposal involves the intensification of an existing rock/gravel quarry on Valleyfield Road to the north of Campbell Town and seeks approval to extract, crush and screen up to 100,000 cubic metres per annum.

This report has been prepared based on information provided by the proponent in the Environmental Effects and Planning Report (EEPR). Relevant government agencies and the public have been consulted and their submissions and comments considered as part of this assessment.

Further details of the assessment process are presented in section 1 of this report. Section 2 describes the statutory objectives and principles underpinning the assessment. Details of the proposal are provided in section 3. Section 4 reviews the need for the proposal and considers the alternatives to the proposal. Section 5 summarises the public and agency consultation process. The detailed evaluation of environmental issues is contained in section 6. The report conclusions are contained in section 7.

Appendix 1 contains details of comments made and issues raised in the consultation process. Appendix 2 contains the environmental permit conditions for the proposal. Attachment 1 of Appendix 2 contains a map indicating The Land and attachment 2 of Appendix 2 contains the table of commitments from the EEPR. The environmental permit conditions in Appendix 2 are a new set of operating conditions for the entire, intensified activity that will supersede the existing permit conditions.

Table of Contents

1 Approval process

An application for a permit under the *Land Use Planning and Approvals Act 1993* (LUPA Act) in relation to the proposal was submitted to Northern Midlands Council on 2 May 2017.

The proposal is for two 'level 2 activities' as defined in the schedule 2 of the *Environmental Management and Pollution Control Act 1994* (EMPC Act), being: quarries, the extraction of any rock or gravel and producing more than 5,000 cubic metres or more of rock or gravel per year; and materials handling of rocks, ores or minerals in excess of 1000 cubic metres per annum (clause 5(a) and clause 6(a)(ii) of schedule 2 of the EMPC Act respectively). Section 25(1) of the EMPC Act required Council to refer the application to the Board of the Environment Protection Authority (the Board) for assessment under the Act. The application was received by the Board on 2 May 2017.

The assessment has been undertaken by the Director, Environment Protection Authority under delegation from the Board.

The Board required that information to support the proposal be provided in the form of an Environmental Effects Report. An Environmental Effects and Planning Report (EEPR) was prepared by the proponent.

Several drafts of the EEPR were submitted to the Department for comment prior to its finalisation and acceptance on behalf of the Board. The EEPR was released for public inspection for a 14-day period commencing on 28 June 2017. An advertisement was placed in *The Examiner* and a notice was placed on the EPA website. The EEPR was also referred at this time to relevant government agencies for comment. No public submissions were received. Four government agencies provided comment.

2 SD objectives and EIA principles

The proposal must be considered by the Director in the context of the objectives of the Resource Management and Planning System of Tasmania (RMPS), and in the context of the objectives of the Environmental Management and Pollution Control System (EMPCS) (both sets of objectives are specified in Schedule 1 the EMPC Act). The functions of the Board are to administer and enforce the provisions of the Act, and in particular to use its best endeavours to further the RMPS and EMPCS objectives.

The Director must undertake the assessment of the proposal in accordance with the Environmental Impact Assessment Principles defined in Section 74 of the EMPC Act.

3 The proposal

The proposal seeks to intensify an existing Level 1 quarry located on farming land as indicated in Figure 1 of this report. The volume extracted per annum will vary depending on the demand for the product in the region. Extraction of a maximum of 100,000 cubic metres/ (approximately 160,000 tonnes) of rock/ gravel product per annum is anticipated.

The EEPR states soil and overburden will be removed and stockpiled prior to ripping or drilling and blasting by a licenced operator. Material will be crushed and screened prior to stockpiling, loading and transport by truck. The EEPR states extraction will most likely occur on a campaign basis.

The EEPR states rehabilitation will be progressive with a maximum open area at any one time of 3 ha. Drainage from the existing quarry area is intercepted by a pond. The EEPR indicates this pond will be utilised as a sediment pond for the 3ha active quarry area.

The layout of the proposed extractive activity is provided in Figure 2 of this report. A detailed description of the proposal is provided in Part B of the EEPR.

The main characteristics of the proposal are summarised in Table 1.

Table 1: Summary of the proposal's main characteristics

Activity	
Extraction, crushing and screening of a maximum of 100,000 cubic metres of rock and gravel per annum.	
Location and planning context	
Location	283 Valleyfield Road, Campbell Town, as shown in Figure 1.
Land zoning	Rural Resource under the *Northern Midlands Interim Planning Scheme 2013.*
Land tenure	Private freehold
Mining lease	2006P/M
Lease area	25 hectares
Bond	$12,000
Existing site	
Land Use	The site has a long history or grazing by livestock (cattle and sheep) and comprises pasture and an existing quarry.
Topography	The quarry site is located on a small hill.
Geology	The geology is described as Jurassic dolerite. The EEPR states fractured dolerite bedrock is near-surface in many locations within the existing quarry area while in surrounding areas deeply weathered dolerite with a thicker clay loam soil is present.
Soils	The EEPR describes the site as comprising a chromosol soil type with a strong texture contrast between A and B horizons and not strongly acid or sodic.
Hydrology	The EEPR states no permanent drainage lines occur within the mining lease. The quarry is located within a 46ha catchment which drains to an ephemeral drainage line. This ephemeral drainage line drains to the west to the Macquarie River. The nearest large dam for water storage is described as being located more than 500 metres downstream.

Fauna	The EEPR states a site survey of the lease area in October 2016 did not identify any threatened fauna or threatened fauna habitat.
Flora	The EEPR states the site supports agricultural land (FAG) with areas of weed infestation (FWU) and disturbed ground (FUM) and is dominated by pasture grasses and exotic herbs A survey of the mining lease in October 2016 did not identify any areas of threatened vegetation, listed ecological communities or listed flora species. Four declared weed species and two environmental weed species were recorded.
Local region	
Climate	The region is characterised by cool winters and warm summers, with the majority of precipitation occurring in the winter and spring period.
Surrounding land zoning, tenure and uses	The surrounding land use is pasture. The nearest residence is located at a distance of approximately 2,015m.
Species of conservation significance	The EEPR states while threatened flora species records occur in the region, the species recorded tend to be localised with specific habitat requirements. Two listed fauna species have previously been recorded in the surrounding area; Tasmanian devil (*Sarcophilus harrisii*) and green-line beetle (*Catadromus lacordairei*). No species of conservation significance were recorded on site during the October 2016 survey.
Proposed infrastructure	
Major equipment	Excavators, crushing and screening equipment, loader, bulldozer. Drilling and blasting equipment as required.
Other infrastructure	Sediment pond, earthen bunds.
Inputs	
Water	The EEPR states water will be sourced from the sediment pond or on-site water cart for dust management.
Energy	Fuel (diesel) for machinery.
Other raw materials	None discussed.
Wastes and emissions	
Liquid	Stormwater runoff from extraction and stockpile areas. The EEPR states a portable chemical toilet will be provided during major extraction campaigns.
Atmospheric	Dust from internal and external traffic, dust from crushing and screening, dust mobilised from stockpiles during dry and windy conditions.
Solid	General refuse including food scraps will be removed daily. No site waste storage is proposed.
Controlled wastes	Tyres and oil filters, although machinery will serviced off site.
Noise	Major noises identified in the EEPR include excavation of materials, drilling and blasting, crushing and screening, loading of heavy vehicles, and light and heavy vehicles arriving at and departing from the site.
Greenhouse gases	The use of machinery and vehicles will generate greenhouse gas emissions. The EEPR states the machinery owned and operated by Van Diemen Quarries is modern and well maintained to ensure maximum fuel efficiency.

Construction and operations	
Proposal timetable	Section B.2 of the EEPR states extraction is anticipated to commence in the first quarter of the 2017/ 2018 financial year (July to September 2017) and is expected to have a minimum lifespan of fifteen years.
Operating hours (ongoing)	0600 to 1900 hours Monday to Friday 0800 to 1600 hours Saturday The EEPR states blasting will be limited to between 1000 and 1600 hrs Monday to Friday and crushing will not occur on Saturday, Sunday and public holidays.

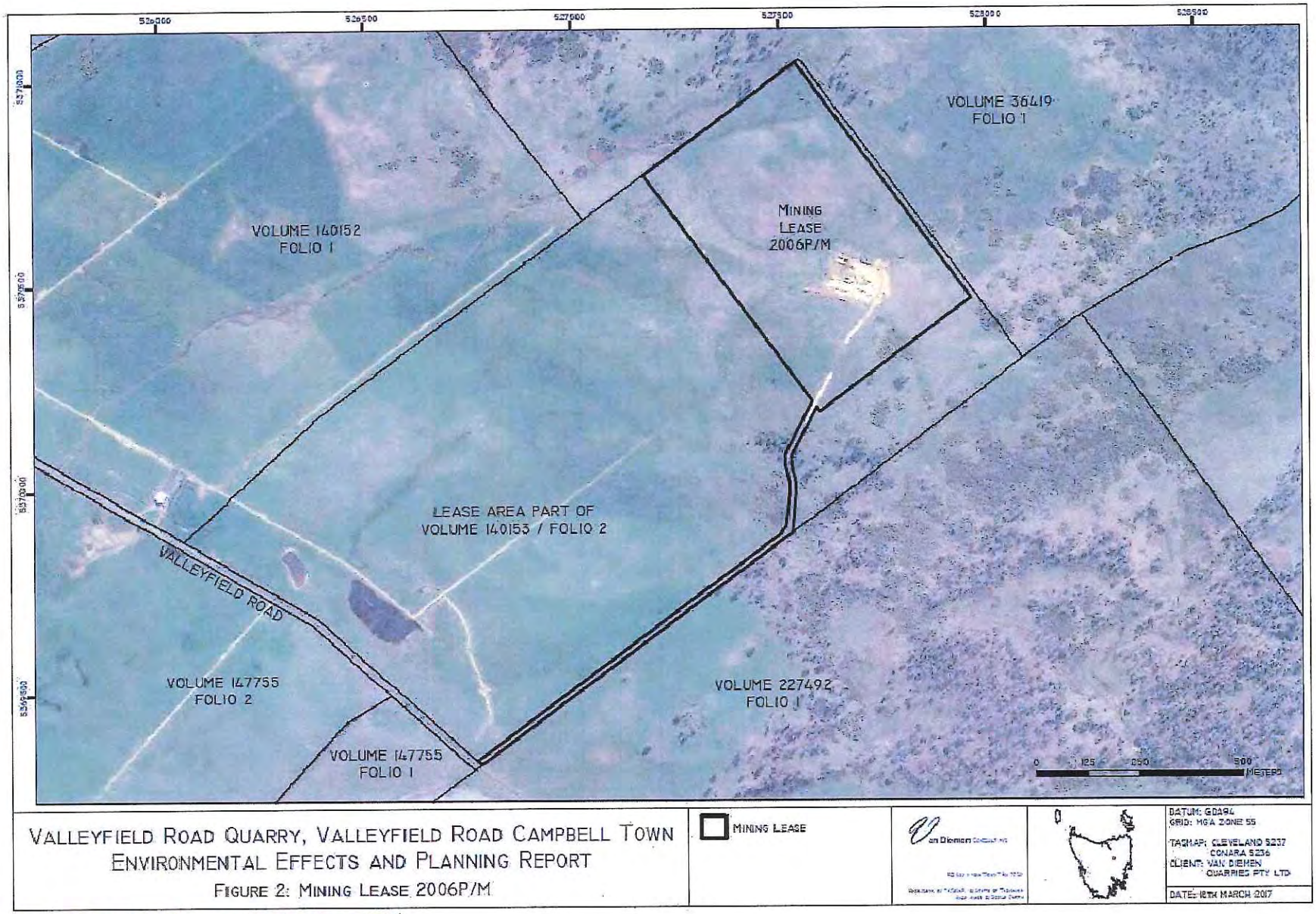

Figure 1: Location of proposed extractive activitt

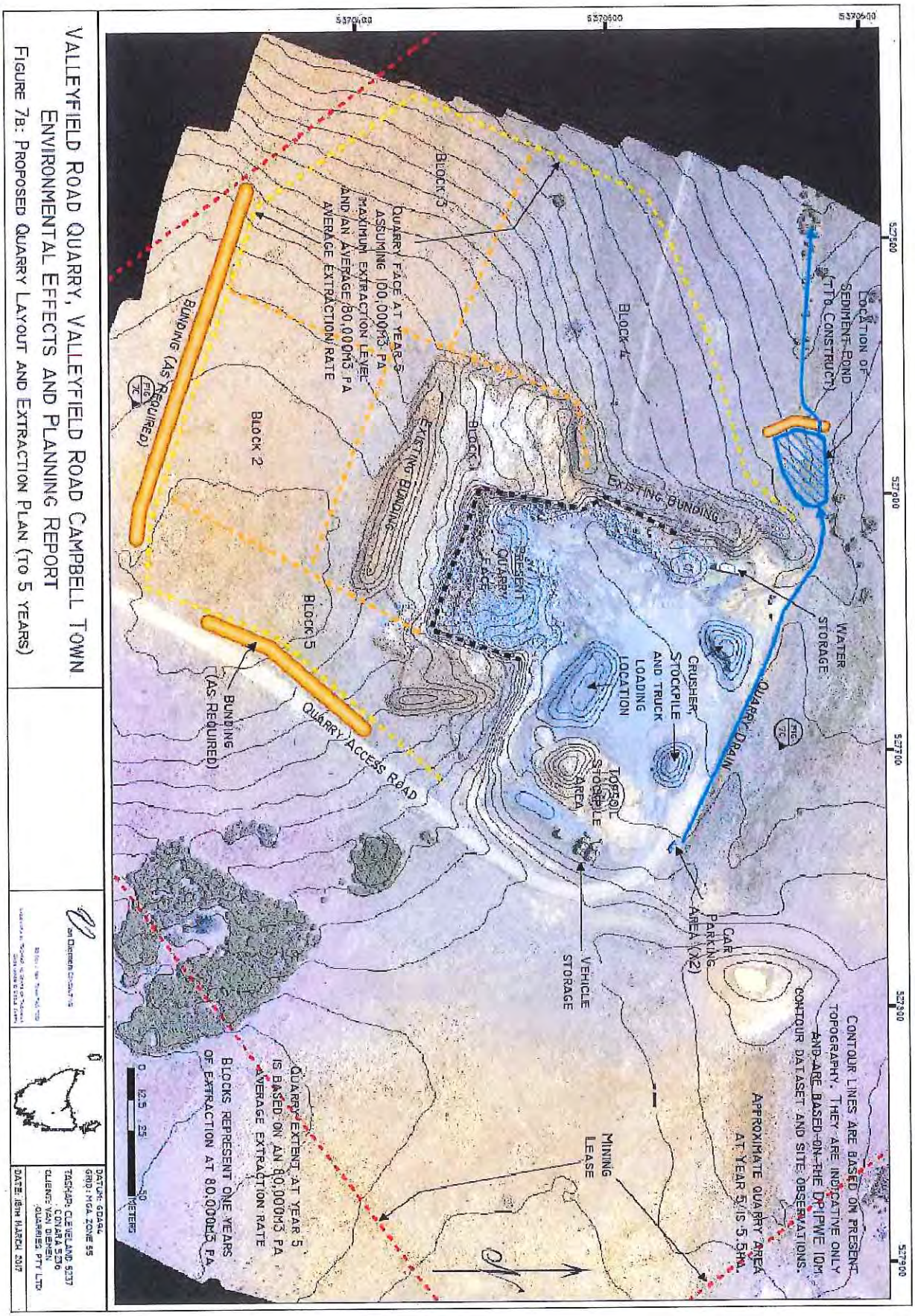

Figure 2: Proposed quarry layout

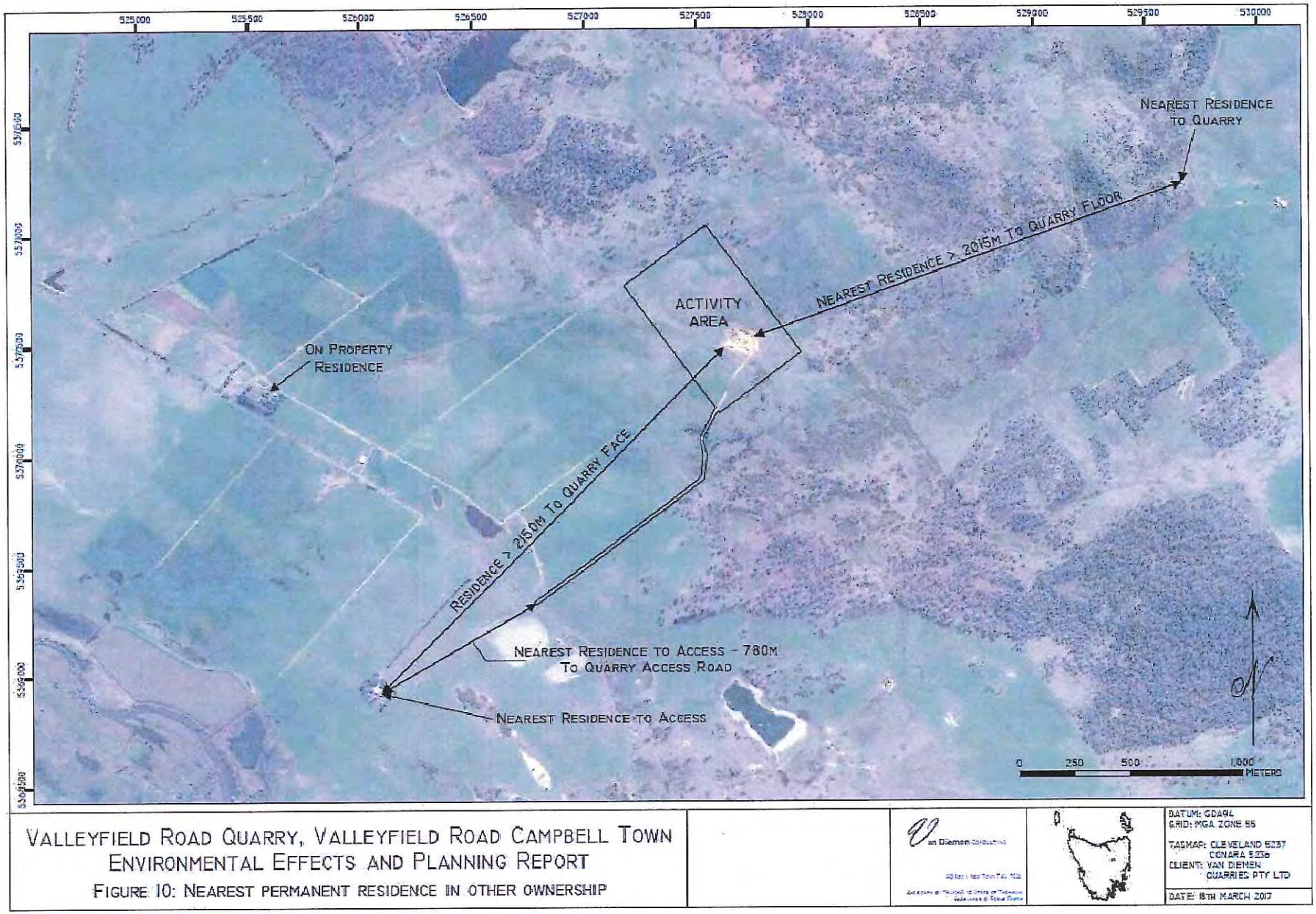

Figure 3: Nearby sensitive receivers

4 Need for the proposal and alternatives

The proposal seeks to intensify extraction at an existing quarry. The EEPR states the quarry is geographically located in an area where there is demand for gravel and rock material for roadworks, driveways and farm infrastructure. No other alternative sites were considered.

5 Public and agency consultation

A summary of government agency submissions is contained in Appendix 1 of this report.

No public representations were received.

The EEPR was referred to a number of government agencies with an interest in the proposal. Responses were received from the following:

- Department of State Growth (State Roads)
- Department of State Growth (Mineral Resources Tasmania)

The following Divisions/areas of the Department of Primary Industries, Parks, Water and Environment also provided submissions on the EEPR:

- Policy and Conservation Advice Branch (PCAB)
- EPA Tasmania regulatory officer

6 Evaluation of environmental issues

The environmental issues considered relevant to the proposal have been evaluated by EPA Tasmania. Details of this evaluation, along with the permit conditions required by the Director, are discussed below.

1. Flora, fauna and habitat
2. Weed and disease management
3. Surface water
4. Air emissions and quality
5. Waste management
6. Noise including blasting
7. Hazardous substances
8. Decommissioning and rehabilitation

Issue 1: Flora, fauna and habitat
Description of potential impacts
Land clearance for extractive activities may result in the removal of or damage to threatened flora and fauna species and may affect threatened vegetation communities or habitat for threatened species. A field survey of the mining lease in October 2016 did not identify any threatened vegetation communities listed on Schedule 3A of the *Nature Conservation Act 2002* or ecological communities listed under section 181 of the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999.* Flora species recorded within the Natural Values Atlas as occurring near the lease are very localised due to their narrow habitat requirements, (such as wetlands and farm dams) or are native grassland - woodland species. No flora species listed on the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* or the *Tasmanian Threatened Species Protection Act 1995* were recorded within the lease during the 2016 survey. Two fauna species have been recorded near the mining lease based on data contained within the Natural Values Atlas – Tasmanian devil (*Sarcophilus harrisii*) and green-lined ground beetle (*Catadromus lacordairei*). No devil dens or potential devil dens were observed in the lease during the 2006 survey. No suitable habitat was identified for the green-lined ground beetle within the lease during the 2016 survey. Vegetation on the site comprises pasture grasses and exotic herbs and has a long history of grazing and fertiliser application. No native vegetation clearance is proposed.
Management measures proposed in EEPR
No management measures are proposed.
Public and agency comment
No public comment was received. PCAB indicated there is a low likelihood that the quarry will impact on listed natural values.
Evaluation
The proposed quarry is limited in extent (total area of 5.5 ha) and although the Natural Values Atlas indicates a number of records are present in the general area, surveys of the mining lease have not identified any species, communities or habitat of conservation significance. As no native vegetation clearing is proposed, no measureable impacts to flora, fauna and habitat are likely.
Conclusion
No specific conditions are considered necessary to manage flora, fauna and habitat.

Issue 2: Weed and Disease Management
Description of potential impacts
Weed species may become more dominant on the site or spread from the site to other areas currently clear of weed species. Four plant species listed as declared weeds under the Tasmanian *Weed Management Act 1999* were recorded on site: horehound (*Marrubium vulgare*), gorse (*Ulex europaeus*), slender thistle (*Carduus pycnocephalus*) and cotton thistle (*Onopordum acanthium*).Two environmental pasture weeds: capeweed (*Arctotheca calendula*) and spear thistle (*Cirsium vulgare*), were also recorded in low numbers.
Management measures proposed in EEPR
The EEPR states weeds will be managed via a formal weed spraying program and that an existing Weed Management Plan will continue to be implemented for the life of the activity (commitment 2). The plan is provided as Attachment 3 of the EEPR and states that a weed spaying program, machinery washdown and weed monitoring will be undertaken for the mining lease area.
Public and agency comment
PCAB supports the implementation of a weed and pathogen management plan.
Evaluation
An appropriate weed management plan has been developed to help control and manage weeds and diseases on and near the site. This plan is considered to remain relevant and appropriate to the intensifying activity. Maintenance and implementation of the weed and pathogen management plan will be required by condition **OP1**.
Conclusion
The proponent will be required to comply with the following conditions: OP1 Weed and Pathogen Management Plan

Issue 3: Surface Water
Description of potential impacts
The intensifying activity will create exposed surfaces that could be vulnerable to erosion and sediment loss during rainfall events. The EEPR states that no permanent drainage lines occur within the mining lease. The quarry is located within a 46ha catchment which drains to an ephemeral drainage line. This ephemeral drainage line drains to the west to the Macquarie River. The nearest large dam for water storage is located more than 500 metres downstream. A sediment pond is located adjacent to the existing active area.
Management measures proposed in EEPR
The EEPR states the sediment pond will be formalised in the location shown in Figure 2 of this report, based on the calculations in Attachment 5 of the EEPR. In order to detain stormwater and sediment from the 3 hectare area, the EEPR determined a sediment basin of capacity of 652 kL (0.652 ML) is required. The EEPR states the pond will require clean out either on a 12- monthly basis, at 15% storage volume and/or after intense or prolonged rainfall events (commitment 4). As the quarry face progresses, additional bunding will be installed to maintain flows to the pond as necessary (refer Figure 2 of this report).
Public and agency comment
No comment was received.
Evaluation
The proposed management of surface water within the extraction area is considered appropriate and is supported by the calculations in Attachment 5 of the EEPR. Stormwater leaving the sediment pond will enter a highly modified ephemeral drainage line prior to entering a farm dam, which then drains into other areas of pasture (and possibly ephemeral creeks). Limiting the surface water quantity to be managed is an important consideration and will require the maintenance of appropriately located perimeter drains (required by condition **E1**) and confining the maximum open extraction area at any one time (required by condition **DC5** – refer to Issue 8 Decommissioning and Rehabilitation). The maintenance of a suitably sized sediment pond will be required by Conditions **E2** and **E3**. Given that management of stormwater from the extractive area will be required by conditions **E1, E2** and **E3**, and any water leaving the sediment pond drains to areas of pasture and a modified ephemeral drainage drain there are unlikely to be measureable impacts to surface water.
Conclusion
The proponent will be required to comply with the following conditions: **E1 Perimeter drains** **E2 Stormwater** **E3 Design and maintenance of settling ponds**

Issue 4: Air emissions and air quality
Description of potential impacts
Dust emissions have the potential to cause environmental nuisance in the area. Potential sources of dust from the activity include: ripping of material; removal of pasture and stripping of topsoil; blasting activities, crushing and screening, use of vehicles in and near the operational area, and stockpiling and loading of material.
Management measures proposed in EEPR
The EEPR states the following will be undertaken to limit/ control dust: • Watering of internal roads and stockpiled material as required during dry and windy conditions (commitment 5); • Use of water sprays during crushing to mitigate dust generation; • Use of water sprays on truck loads (unless covered by tarpaulins); and • Minimising the geographic extent of areas of exposed soil.
Public and agency comment
No public comment was received. The EPA Tasmania air specialist indicated given the location and the measures to be implemented to reduce dust generation, it is unlikely that dust from the activity will impact on the nearest residence.
Evaluation
The proposed measures to manage dust on site are standard ways to limit nuisance dust from quarrying operations and are considered appropriate given the low potential for impact. The nearest residences (in other ownership) are approximately 2 km to the north-east and 2.1 km to the south-west. Whilst the activity is unlikely to result in nuisance dust given these separation distances, conditions **A1** and **A2** are considered necessary to ensure appropriate management is undertaken to manage dust emissions.
Conclusion
The proponent will be required to comply with the following conditions: **A1 Control of dust emissions** **A2 Covering of vehicles**

Issue 5: Waste Management
Description of potential impacts
Inappropriate management of solid waste may result in public health and environmental nuisance or harm. The EEPR states the activity will not produce any rock-based solid wastes as all of the materials extracted will be sold for various end uses. General refuse will be removed each day.
Management measures proposed in EEPR
The EEPR proposes the following commitments: • Machinery will be removed from the quarry for servicing (including oil changes) (commitment 8). • Waste generated by workers from general refuse (eg lunch wrappers) at the quarry will be removed each day (commitment 9). No other management measures are proposed.
Public and agency comment
No comment was received.
Evaluation
Solid waste generated on the site is likely to be of limited quantities and risk, and can be adequately disposed of at an appropriate location off site. Commitments 9 and 10 are supported.
Conclusion
No conditions are considered necessary, however the proponent should follow the waste management hierarchy as per condition **OI3**.

Issue 6: Noise, including blasting
Description of potential impacts
Noise emissions from the activity have the potential to cause environmental nuisance. Noise emissions are expected from rock drilling, blasting, crushing and screening, excavation and ripping of gravels, on-site vehicle loading and movements, and trucks entering and leaving the site. The nearest residences (in other ownership) are approximately 2 km to the north-east and 2.1 km to the south-west (Figure 3).
Management measures proposed in EEPR
The EEPR states operating hours will be 0600 to 1900 hrs Monday to Friday, 0800 to 1600 hrs on Saturday; closed on Sunday and public holidays. The EEPR states that blasting will be limited to between 1000 and 1600 hrs Monday to Friday and crushing will not occur on Saturday, Sunday and public holidays (commitment 1). Section B.6.3 states drilling and blasting will be undertaken by a qualified blast contactor and that blast management will include notifications, risk assessment and auditing, noise/vibration monitoring, and incident reporting.
Public and agency comment
No public comment was received. The EPA Noise Specialist stated that as there are no residences within the SRAD of 1km, no additional information on noise or blasting impact was required.
Evaluation
Although the proposed hours of operation are outside those recommended for quarries near residential premises (proposed start time is 1 hour prior to that recommended in section 7.2.2.1 of the *Quarry Code of Practice 2017*), the distance between the quarry area and the nearest residence is approximately twice that recommended for quarries where regular blasting takes place. Nuisance noise is therefore not anticipated. The Traffic Impact Assessment (attachment 4, EEPR) notes the number of potential truck movements a day would vary between 18 and 34. Given the distances to the nearest sensitive receivers, the generation of nuisance noise from transport activities is considered unlikely. It is considered that noise emissions from quarry activities are unlikely to cause a nuisance, given the quarry operations are well separated from nearby sensitive receptors and the campaign nature of the works. It is noted that no complaints have been registered for the existing quarry activity. Nevertheless, the operating hours will need to be observed and will be specified by condition **N1**. The EEPR states blasting will be used to liberate hard rock. Given the distance to the nearest residence is at least 2 km, blast impacts are not expected. Nevertheless, standard requirements in relation to blast times and blast monitoring will be required (conditions **B1** and **B2**), to ensure nuisance from blast events is limited as much as possible.
Conclusion
The proponent will be required to comply with the following conditions: **B1 Blasting times** **B2 Blast monitoring** **N1 Operating hours**

Issue 7: Hazardous substances
Description of potential impacts
Hazardous substances, including fuels and oils required for machinery operation may result in impacts to soils, surface water and groundwater if not appropriately managed. The EEPR states there will be no permanent store on site for fuels, oils, lubricants or any other dangerous goods.
Management measures proposed in EEPR
Refuelling of quarry equipment will be undertaken using a mobile bund. Chemicals required for weed control will be handled, used and disposed of in accordance with the manufacturer's directions and relevant regulations. The EEPR includes the following commitments: • One hydrocarbon spill kit will be stored at the quarry and staff trained in its use (commitment 7). • Machinery will be removed from the quarry for servicing (including oil changes) (commitment 8). • Fuel and oil containers will not be stored on site overnight, they will be removed at the end of each working day (commitment 10). • Fuel and oil containers will be stored at least 10 m from any drain, the sediment pond and the water storage pit and be bunded (moveable bunds) to a capacity at least 1.5 times the volume of the container. (commitment 11).
Public and agency comment
No comment was received.
Evaluation
Given that no hazardous substances will be stored on site overnight there are unlikely to be any impacts from hazardous substances, provided the management measures in commitments 7, 8, 10 and 11 are implemented. Commitments 7, 8, 10 and 11 are supported and conditions H1, H2 and LO3 are required.
Conclusion
The proponent will be required to comply with the following conditions: **H1 Spill kits** **H2 Storage and handling of hazardous materials** **LO3 Storage and handling of dangerous goods, explosives and dangerous substances**

Issue 8: Decommissioning and Rehabilitation
Description of potential impacts
Lack of progressive rehabilitation and lack of rehabilitation on cessation may result in land degradation, affecting future land use. The EEPR describes a general approach to progressive rehabilitation, such that the maximum disturbed area is 3 ha. The sizing of the drainage management infrastructure (sediment pond) calculated in Appendix 5 of the EEPR is based on a maximum disturbed area of 3 ha. The adequacy of the sediment basin is therefore dependant on the 3 ha area being maintained.
Management measures proposed in EEPR
A progressive rehabilitation plan was not provided. The EEPR notes the exact location and timing of areas for rehabilitation are not yet known as extraction will be demand driven and will vary over time. The EEPR states that the quarry operator will monitor the open area such that the 3 ha will not be exceeded and that land will be rehabilitated to pasture in accordance with the current and surrounding land use. The EEPR proposes the following commitments: • Progressive rehabilitation will occur for those areas that have been quarried and are no longer needed or used for operation of the quarry (commitment 13). • A Decommissioning and Rehabilitation plan will be provided to the EPA for consideration within 30 days of a decision made by the proponent that is likely to give rise to the permanent cessation of the activity (commitment 14).
Public and agency comment
MRT noted a progressive rehabilitation plan was not provided and stated that given the stages of development proposed in Figure 7B of the EEPR, it is difficult to determine how the proponent will maintain a maximum 3 ha of disturbance without affecting operational functionality.
Evaluation
To ensure that decommissioning and rehabilitation are given due consideration during planning for site closure, condition **DC1** notification of cessation will be required. MRT have advised that the current area of disturbance at the site is approximately 1.7 hectares. While the EEPR notes the quarry will be operated on a campaign basis, it is noted that a 3 ha maximum open area could prove operationally restrictive given the maximum proposed annual extraction limit of 100,000m^3. The commitment to undertake progressive rehabilitation (commitment 13) is supported, and will be required by condition **DC5**. Condition **DC5** will limit the maximum area of disturbed land at any one time to 3 ha. The maintenance of appropriate sediment management infrastructure in relation to the disturbed area will be required. Conditions **E2** and **E3** are imposed (refer Issue 3 Surface water).
Conclusion
The proponent will be required to comply with the following conditions: **DC1 Notification of cessation** **DC2 Stockpiling of surface soil** **DC3 Rehabilitation on cessation** **DC4 Temporary suspension of activity** **DC5 Progressive rehabilitation**

7 Report conclusions

This assessment has been based on the information provided by the proponent, Van Diemen Quarries Pty Ltd, in the permit application, EEPR and in correspondence and discussion between EPA Tasmania, the proponent and the proponent's representatives.

This assessment has incorporated specialist advice provided by EPA Tasmania scientific specialists and regulatory staff, other Divisions of DPIPWE and other government agencies.

It is concluded that:

1. the RMPS and EMPCS objectives have been duly and properly pursued in the assessment of the proposal; and
2. the assessment of the proposed activity has been undertaken in accordance with the Environmental Impact Assessment Principles.

It is concluded that the proposed activity is capable of being managed in an environmentally acceptable manner such that it is unlikely that the objectives of the *Environmental Management and Pollution Control Act* 1994 (the RMPS and EMPCS objectives) would be compromised, provided that the Permit Conditions - Environmental No. 9694 appended to this report are imposed and duly complied with, including commitments made by the proponent in the EEPR.

The environmental conditions appended to this report are a new set of operating conditions for the entire, intensified activity and will supersede the existing permit conditions.

8 Report approval

Environmental Assessment Report and conclusions, including permit conditions, adopted:

Wes Ford
DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY
Acting under delegation from the Board of the Environment Protection Authority

Date: 21 August 2017

9 References

Van Diemen Consulting; *Valleyfield Road Quarry Environmental Effects and Planning Report* (dated 20/06/2017), New Town, Tasmania.

10 Appendices

Appendix 1 Summary of public and agency submissions

Appendix 2 Permit conditions, includes Attachment 1 – The Land, and Attachment 2 - EEPR commitments

Appendix 1 Summary of public and agency submissions

In the following tables, EEPR means the Valleyfield Road Quarry Environmental Effects and Planning Report, Van Diemen Consulting, 20th June 2017.

TABLE 1: Summary of public submissions

Representation No./ Agency	EEPR section no.	EEPR Page no.	Comments and issues	Additional information required
Nil			Nil	Nil

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TABLE 2: OTHER MATTERS RAISED DURING THE PUBLIC CONSULTATION PERIOD

Representation No./ Agency	EEPR section no.	EEPR Page no.	Comments and issues	Further Info requested [yes/no]	EPA Comments
Policy and Conservation Advice Branch DPIPWE	E.1	45	The Policy and Conservation Advice Branch (PCAB) advised it has assessed the information provided and accept that there is a low likelihood that the quarry will impact on listed natural values. PCAB supports the implementation of a Weed and Pathogen Management Plan.	No	The proponent has committed to continuing to implement an existing weed management plan at the site and this will be required by Condition **OP1**.
Department of State Growth – Roads Division	E.7	47	The Roads Division advised it had no comments to make on the proposal.	No	Nil
Aboriginal Heritage Tasmania	E.11	48	Aboriginal Heritage Tasmania (AHT) advised that no Aboriginal heritage sites have been recorded within the mining lease area although sites have been recorded in the surrounding area. Due to the lease area being highly disturbed, AHT believes that there is a low probability of Aboriginal heritage being affected by the proposal. Accordingly there is no requirement for an Aboriginal heritage investigation and AHT has no objection to the project proceeding. The proponent should be made aware of the presence of heritage nearby, and its obligations under the *Aboriginal Relics Act 1975*	No	The proponent has committed to implementing an Unanticipated Discovery Plan if any suspected items of significance are encountered. This will be required by Legal Obligation **LO1**.
Mineral Resources Tasmania	F.2	53	MRT noted that an indicative progressive rehabilitation plan was not provided. MRT stated that given the stages of development proposed in Figure 7B, it is difficult to determine how the proponent will maintain a maximum 3 hectares of disturbance without affecting operational functionality.	No	MRT has advised that the current area of disturbance at the site is approximately 1.7 hectares. It is noted that a 3 ha maximum open area could prove operationally restrictive. The proponent has committed to undertake progressive rehabilitation, and condition **DC5** will limit the maximum area of disturbed land at any one time, without rehabilitation to 3 ha.

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Appendix 2 Permit conditions - Environmental

PERMIT PART B
PERMIT CONDITIONS - ENVIRONMENTAL No. 9694

Issued under the *Environmental Management and Pollution Control Act 1994*

Activity: **The operation of a hard rock and gravel quarry (ACTIVITY TYPE: Crushing, grinding, milling or separating into different sizes (rocks, ores or minerals))**
LOT2 VALLEYFIELD ROAD
CAMPBELL TOWN TAS 7210

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: **NORTHERN MIDLANDS**
Permit Application Reference: **P17-119**
EPA file reference: **252636**

Date conditions approved: 21 August 2017

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.

Table Of Contents

Attachments

Attachment 2: H709804_Attachment 2 EEPR Committments (modified: 27/07/2017 12:29)....2 pages

Schedule 1: Definitions

In this Permit Part B:-

100,000 cubic metres per year is considered to be equivalent to 160,000 tonnes per year.

Aboriginal Relic has the meaning described in section 2(3) of the *Aboriginal Relics 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.

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.

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.

Quarry Code Of Practice means the document of this title published by the Environment Protection Authority in May 2017, and includes any subsequent versions of this document.

Stormwater means water traversing the surface of the land as a result of rainfall.

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 PID: 2720749; Volume/Folio: 140153/2; and

2 as further delineated at Attachment 1

Weed Management Plan means the document titled Weed Management Plan Valleyfield Road Quarry Campbell Town prepared by Van Diemen Consulting March 2017., as may be amended from time to time with written approval from the Director.

Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits

1 The activity must not exceed the following limits :

1.1 100,000 cubic metres per year of rocks, ores or minerals processed.

1.2 100,000 cubic metres per year of rocks, ores or minerals extracted.

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 Quarry Code of Practice

Unless otherwise required by these conditions or required in writing by the Director, the activity (or activities) undertaken on The Land must comply with the Acceptable Standards provisions of the *Quarry Code of Practice*.

G6 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.

G7 Change of responsibility

If the person responsible for the activity intends to cease to be responsible for the activity, that person must notify the Director in writing of the full particulars of any person succeeding him or her as the person responsible for the activity, before such cessation.

Atmospheric

A1 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.

A2 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.

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 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 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.

DC4 Rehabilitation on cessation

1 Unless otherwise approved in writing by the Director, rehabilitation upon permanent cessation of the activity must be undertaken in accordance with relevant provisions of the *Quarry Code of Practice* and in accordance with the following:

1.1 rehabilitation earthworks must be substantially completed within 12 months of cessation of the activity; and

1.2 rehabilitated areas must be monitored and maintained for a period of at least three years after rehabilitation works have been substantially completed, after which time the person responsible for the activity may apply in writing to the Director for a written statement that rehabilitation has been successfully completed.

DC5 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 three (3) hectares.

Effluent Disposal

E1 Perimeter drains

1 Perimeter cut-off drains 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 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 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.

E2 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.

E3 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.

Hazardous Substances

H1 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.

H2 Storage and handling of hazardous materials

1 Unless otherwise approved in writing by the Director, environmentally hazardous materials held on The Land must be:

1.1 stored within impervious bunded areas, spill trays or other containment systems; and

1.2 managed to prevent unauthorised discharge, emission or deposition of pollutants:

1.2.1 to soils within the boundary of The Land in a manner that is likely to cause serious environmental harm;

1.2.2 to groundwater;

1.2.3 to waterways; or

1.2.4 beyond the boundary of The Land.

Noise Control

N1 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, and screening/crushing must not be undertaken outside the hours of 0600 hours to 1900 hours on weekdays and 0800 hours to 1600 hours on Saturdays.

2 Notwithstanding the above paragraph, activities must not be carried out on public holidays that are observed Statewide (Easter Tuesday excepted).

Operations

OP1 Weed management

The person responsible must act in accordance with the approved Weed Management Plan

Schedule 3: Information

Legal Obligations

LO1 Aboriginal relics requirements

1 The *Aboriginal Relics 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 Relics 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 Relics 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.

LO2 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.

LO3 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.

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 Commitments

The person responsible for the activity has a general environmental duty to conduct the activity in accordance with the commitments contained in Attachment 2.

OI3 Waste management hierarchy

1 Wastes should be managed in accordance with the following hierarchy of waste management:

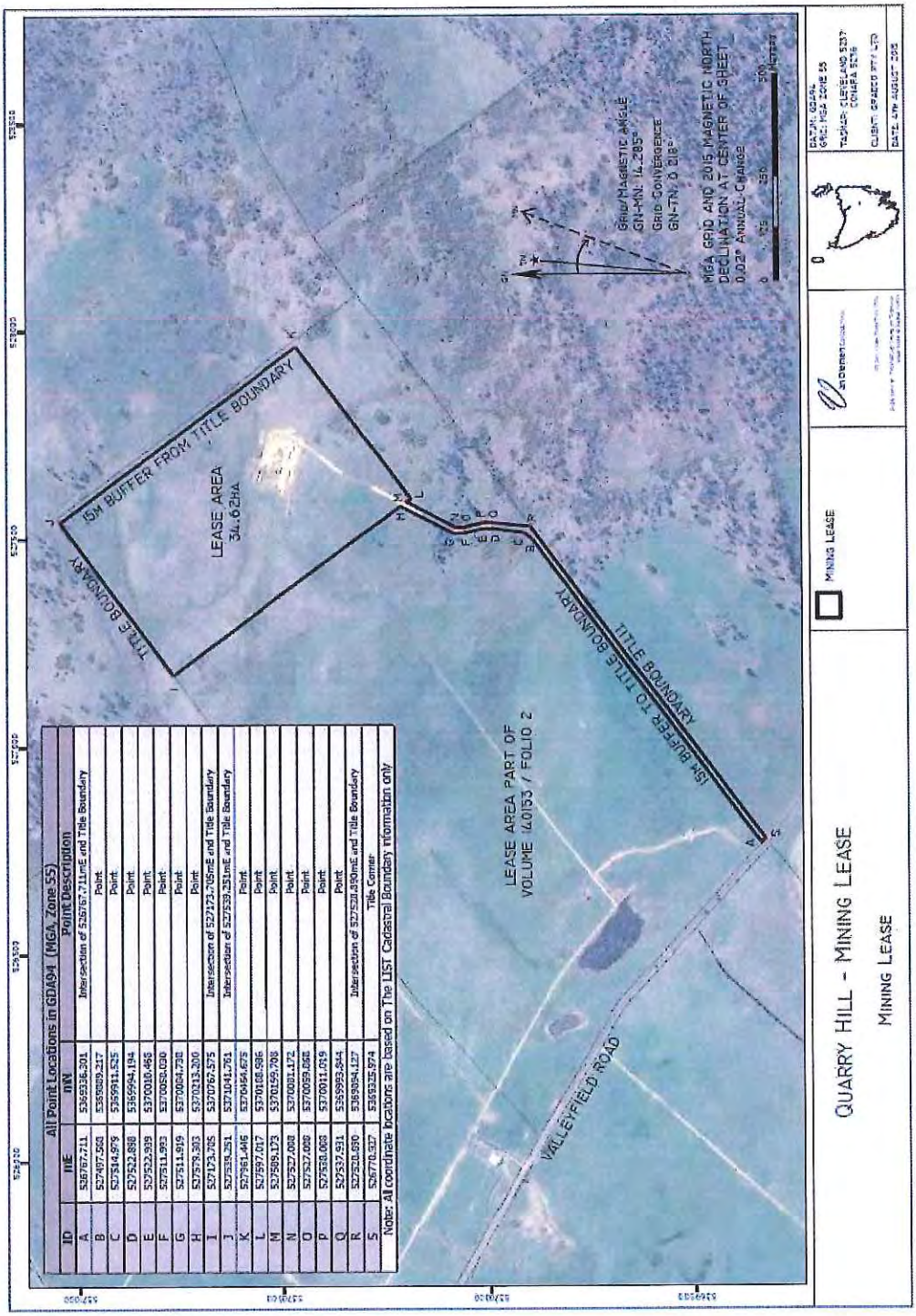
1.1 waste should be minimised, that is, the generation of waste must be reduced to the maximum extent that is reasonable and practicable, having regard to best practice environmental management;

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.

Attachment 1
The Land

The Land is delineated by a black boundary and is defined as Mining lease 2006P/M



Attachment 2
EEPR Committments

Number	Commitment	Timeframe
1	Operating hours will continue to be – 0600 to 1900 hrs Monday to Friday, 0800 to 1600 hrs on Saturday; closed on Sunday and public holidays. Notwithstanding these operating hours, **blasting** will be limited to between 1000 and 1600 hrs Monday to Friday and **crushing** will not occur on Saturday, Sunday and public holidays.	Ongoing
2	The Weed Management Plan prepared for the quarry will continue to be implemented for the life of the quarry activity.	Ongoing
3	No chemicals, fuels or oils will be stored on site overnight, and refuelling of quarry equipment will be carried out using a mobile bund.	Ongoing
4	Sediment trapped by the pond will cleaned out either on a 12-monthly basis, at 15% storage volume and/or after intense/prolonged rainfall events. The collected sediment will be mixed with stockpiled topsoil for progressive rehabilitation of disused quarry areas.	Ongoing
5	In dry weather water from the sediment pond/pit or on-site water cart truck will be used to dampen the road surface, the stockpiles and loads in trucks (unless they are covered by tarpaulins).	Ongoing
6	A portaloo will be provided on-site during periods of high volume extraction. Its contents will be collected and disposed of at an approved sewage processing facility.	As required
7	One hydrocarbon spill kit will be stored at the quarry and staff trained in how to use them in the event of a spillage.	Ongoing
8	Machinery will be removed from the quarry for servicing (including oil changes).	Ongoing
9	Waste generated by workers from general refuse (eg lunch wrappers) at the quarry will be removed each day.	Ongoing
10	Fuel and oil containers will not be stored on-site overnight, they will be removed at the end of each working day with the site workers.	Ongoing
11	Fuel and oil containers will be stored at least 10 m from any drain, the sediment pond and water storage pit and be bunded (moveable bunds) to a capacity at least 1.5 times the volume of the container.	Ongoing
12	The AHT issued Unanticipated Discovery Plan will be on hand during ground disturbing works, to aid the	Ongoing

	proponent in meeting its requirements under the Act if Aboriginal Heritage be uncovered.	
13	Progressive rehabilitation will continue at the quarrying operation for those areas that have been quarried and are no longer needed or used for the operation of the quarry.	Ongoing
14	A Decommissioning and Rehabilitation Plan will be provided to the EPA for consideration within 30 days of a decision made by the proponent that is likely to give rise to the permanent cessation of the activity.	DRP prepared and provided to the EPA Director within 30 days of formal written notice to the EPA of permanent quarry closure.
15	To enable the public to respond to any concerns they may have about the operation of the quarry, the existing Complaints Register will be maintained for the activity.	Ongoing