



RESOURCE GROUP (WA)

Resource Group [WA] Pty Ltd

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11/06/2018

Shire of Northam

PO Box 613

NORTHAM WA 6401

Attention: Town Planning Department

Via email: records@northam.wa.gov.au

Sir / Madam,

**APPLICATION FOR DEVELOPMENT APPROVAL AND EXTRACTIVE INDUSTRY LICENSE –
PROPOSED QUARRYING, CRUSHING AND SCREENING of 150,000TN P.A. OF HARD
ROCK – LOT 150 ON PLAN 300080, 792 CLYDESDALE RD, GRASS VALLEY**

Resource Group (WA) Pty Ltd is pleased to submit this application for a ten-year Development Approval under the Shires Local Planning Scheme No. 6 and an Extractive Industry License to operate the quarry under the Shires Extractive Industry Local Law.

Please find enclosed in support of the application the following:

- Completed and signed Application for Development Approval form;
- Copy of Certificate of Title;
- The prescribed Application Fee (\$739); and,

Electronic Copies of the following plans and document:

- Locality Plan
- Certificate of Title
- Contour Plot
- Noise Sensitive Receiver Map
- SPP2.4 Resource Protection Map
- Fire Prone Area Map
- MRD RAV Network two information
- Acoustic Assessment Report
- SW pit design
- SE Pit Design

Hard copies available upon request. All necessary documentation required for the EIL is attached and forms part of the DA. This submission is in accordance with the Extractive Industry Local Law and local Law and Local Planning Policy 21 – Extractive Industry.

BACKGROUND

Resource Group (WA) Pty Ltd have negotiated with the landowners of lot 150 of Plan 300080, Grant Collard Cooke and Angus John Cooke (tenants in Common in Equal Shares), to establish and operate a hard rock quarry at 792 Clydesdale Road, Grass Valley.

The proposal seeks the following approvals from the Shire of Northam: -

- A ten-year Development Approval issued under the *Shire of Northam Local Planning Scheme No. 6* for the crushing and screening of up to one hundred and fifty thousand tonnes (150,000) of hard rock per annum at lot 150 on Plan 300080 in the location shown in the attached location plan (Appendix 1), and;
- A ten-year Extractive Industry License to operate the Quarry, issued under the *Shire of Northam Extractive Industries Local Law 2008*

PROPOSAL

Extraction, Crushing and Screening

It is proposed to extract, crush and screen approximately one hundred and fifty thousand tonnes (150,000) of hard rock per annum over the ten-year license period. In the first year or two of operation it is likely that the volumes will be lower than applied for as the business establishes itself in the market place. Additionally, volumes will vary from year to year depending on the market volumes required at any given time. It is anticipated that at the expiry of the first license period a second ten-year license will be sought.

At all times the excavation, crushing and screening of rock will be in compliance with:

- *Mines Safety and Inspection Act 1994 and Regulations 1995*

Rehabilitation

The expected life of the quarrying operation is in excess of thirty years (30). During this period, it is proposed to carry out rehabilitation works on a yearly basis when appropriate as the quarry faces move South towards their ultimate completion. At their final form faces will be battered to acceptable DMIRS limits in line with the WA Mining Act. This will consist of raking the faces with an excavator to knock down any loose material. As this is done benches will be closed as they become redundant and material left from the crushing period utilised by tipping over the edge so as to form a slope instead of a sheer drop. At completion of this process any topsoil and over burden will be tipped across the slope to encourage growth.

Further, around the perimeter of all pits a bund wall will be maintained and trees planted. At closure the entrance to the pit will be blocked off using oversize material. Weed management in this area will be primarily controlled by the running a flock of sheep on the area which historically has been their grazing ground. Rehabilitation of flat areas will consist of the spreading of quarry fines and topsoil across the disturbed area so as to create new pastoral lands. The crusher fines combined with topsoil should be enough to regenerate the area, however if that is not sufficient additional seeding will be carried out in Autumn with a mixture of pasture seeds as designated by the Landowners. Weeds will be controlled for the first two years by spraying herbicide via an

arrangement made with the Landowners with normal farming practice thereafter. In late summer an assessment of the success of the rehabilitation will be made which will determine the requirements for the following Winter's seeding.

Access

Vehicle access to the quarry will be via an existing farm access road adjoining Clydesdale Rd at right angles. This access will be widened and sealed to prevent the carrying of rocks etc, onto the road. Appropriate signage will be erected in both directions warning of trucks entering.

Clydesdale Rd is suitably constructed for use by heavy traffic being once the Great Eastern Hwy prior to the existing alignment being built. It is an RAV Tandem Drive Network 2 road with primary conditions being that; trucks are restricted to 27.5metres in length and to a maximum speed of 60kph plus subject to a certificate for the road use issued by the road owners. A stop-sign for all vehicles leaving the site to adhere to plus appropriate signage to be installed in both directions alerting other road users that heavy vehicles are entering the road.

Truck Route

Crushed material will be transported by single and double trailer trucks (typical volume 26 & 52 tonnes respectively) West along Clydesdale for circa 8.4 kilometres before turning right into the Great Eastern Highway and then onto the Perth Metropolitan Area.

Hours of Operation

Hours of Operation will be from 07.00 hours to 17.00 hours, Monday to Saturday with road haulage trucks typically arriving from 6.30am. No extraction, crushing, screening or truck deliveries will occur on Sundays or Public Holidays.

Note: The extraction, crushing and screening is campaign driven and will only occur during a 3-5 months period each year. This however is dependent on sales.

Loads per Day

On average eight (8) truck truck-loads per day are anticipated. However, during busy times this may climb to twenty-five (25) truck-loads per day for short periods.

Plant and Equipment

1. All plant used on site will be of the mobile variety.
2. Excavation will occur for 3-5 months per year as required.
3. All mobile plant will be diesel powered partly below ground level in the pits with the remaining plant being involved in the crushing and screening.
4. Several stages of crushing will be required with primary crusher linked to secondary unit in turn linked to a tertiary unit with the screening sections in between and at the end of the line.

The following list of equipment is envisaged to be used.

2 Wheel Loaders – CAT980 or equivalent
Water Cart – 6-wheel road truck fitted with a water canon – Mack or International Acco
Terex Power screen - J1175 Jaw Crusher
Terex Maxtrax – 1300 Cone Crusher
Terex Maxtrax 1000 Cone Crusher
Terex Warrior – 1800 2 deck Screen
Terex – 6503 3 deck Screen
Terex – M1700 wash Screen

Fuel Storage

Refuelling of all plant and equipment will occur on site. To enable this to occur a twenty-five thousand litre (25,000), self-bunded diesel fuel tank compliant with the WA Mines Act Regulations will be installed. Additionally, 3 one thousand litre (3 x 1,000) self-bunded engine oil storage tanks will also be installed. Waste oil will be taken from site by a licensed waste oil recycler.

Water Supply

It is proposed to install a bore on the property to meet operational demand (eg, dust management & firefighting). In the interim until the bore is installed it is envisaged that water will be purchased from the public water point on the corner of Clydesdale and Jennapullin roads.

SITE DETAILS

Location

The land is located on Clydesdale Rd in the locality of Grass Valley approximately 4.4 kilometres from the centre of the Grass Valley township by road or 3.2 kilometres in a direct line. A locality plan depicting the location of the site relative to Grass Valley township, is attached (Appendix 1).

Land Description

The land is legally described as lot 150 on plan 300080 on Certificate of Title Volume 1778, Folio 760. Lot 150 has a land area of 602.5357ha of which Resource Group (WA) Pty Ltd propose to utilise 65ha with the quarrying operations as shown on the attached map (Appendix 2).

Limitations, interests, encumbrances and notifications on the title include the following inscription:

“limited however to the natural surface and therefrom to a depth of 60.96 metres”.

The Certificate of Title for the property is attached and marked as Appendix 3.

| Lot | Certificate of Title | Area | Landowners |
|------------------------|-----------------------------|-------------|---|
| Lot 150 Plan 300080 | Volume 1778 Folio 760 | 602.5357ha | Angus John Cooke Grant Collard Cooke P.O. Box 5 Grass Valley |

Topography

The natural topography of the quarry area site is mostly undisturbed in recent times, however the property runs 5,000 sheep who graze through there from time to time. However, in the 1930's the proposed mining area was stripped of all trees so as to provide firewood to local trains. Further, in the 1960's a mining company cut tracks across the area with a bulldozer whilst taking samples for analysis. These are visible to this day. The area consists of four small hills with a ridge of Quartz running in a line through all four (two extrusions). These hills rise above a Southern sloping plain.

Resource Group has recently engaged a Licensed Land Surveyor to accurately plot the contours of the quarry site. (Appendix 4)

Surrounding Land Use

The site is located in a rural setting. The land surrounding the quarry site are all utilised for crop growing. The neighbouring lots are zoned 'Rural' under the Shire's Local Planning Scheme. A plan has been prepared to identify dwellings and proximity to the proposed quarry site (Appendix 5). Residency identified on the plan are protected from any noise that may emanate from the quarry by trees and a large hill. Likewise, visual observation of the quarry is completely hidden to the property and from Clydesdale Road. Of note is that this residence is located only 284 metres from the Great Eastern Highway so their back-ground noise level will be high at any point in the day or night,

Aboriginal, State and Local Heritage Considerations

Aboriginal Heritage

A search of the Aboriginal Heritage Inquiry System was conducted in March 2018 and it was found that no Aboriginal Heritage sites exist on Lot 150 Grass Valley.

State Heritage

A search of the State Heritage Listing was conducted in March 2018 and no sites of State Heritage significance were identified to be within Lot 150.

Shire of Northam Heritage

Lot 150 is not listed on the Northam Shire's Municipal Heritage Inventory.

Bushfire Considerations

Lot 150 is identified on the Map of Bushfire Prone Areas 2016 to be within a bushfire prone area (Appendix 6). The area to be quarried will progressively be cleared of regrowth prior to and during quarrying. Machinery will be parked on hardstand away from the quarry and any vegetation. It is considered that the proposed activities will neither be vulnerable to bushfire, nor would it introduce a bushfire hazard.

The pit excavations will form natural firebreaks, with the access roads assisting in that regard. An onsite Water truck equipped with a water canon can be utilised in any fire event, both in and around the operations and will also assist around the farm if fire should break out.

The following actions will be used where applicable to minimise fire risk:

- Restrict vehicle access to operational area, particularly on high fire risk days;
- Use diesel rather than petrol powered vehicles;
- Maintain perimeter fire breaks as required. Onsite wheel loaders can carry out this task;
- Ensure fire risk is addressed and compliance maintained;
- Establish on site water supplies for use in case of fires;
- Secure the site from unauthorised access by maintain existing fencing and keeping gates locked when not on site;
- Public access limited to the office area only;
- Stop work and prevent the movement of vehicles on days considered extreme fire risk in line with normal farming practice;
- Provide an emergency muster area, communications and worker induction and training;
- The site is within mobile phone range, vehicles will be equipped with UHF radios, and the surrounding area is relatively open and any bushfire smoke will readily be noticed;
- Emergency evacuation is available South to Clydesdale Rd and/or North through the back of the farm to Grass Valley North road.

LOCAL PLANNING FRAMEWORK

Shire of Northam Local Planning Strategy – July 2013

The Shires Local Planning Strategy (LPS) acknowledges on p24 the importance and need to secure the long-term protection of mineral resources and basic raw materials in the Shire.

It is a key strategy in the LPS to ensure that the development and use of land in the Shire for extractive industry complies with all relevant legislation, policies, guidelines and codes of practice applicable at the time including any Extractive Industries Local Law.

With regards to buffer zones, the LPS on pages 48 and 49 encourages and supports the appropriate management and monitoring of industries to ensure that emissions do not exceed acceptable levels at the outer boundary of their defined buffer area.

Shire of Northam Local Planning Scheme No. 6

Zoning

Lot 150 of Plan 300080 is zoned “Rural” under the Shires Local Planning Scheme.

It is the objective of the Rural zone to provide for horticulture, extensive and intensive agriculture, agroforestry, local services and industries, extractive industries and tourist uses which ensure conservation of landscape qualities in accordance with the capability of the land.

General Development Requirements

Clause 5.25 of the Scheme sets out the circumstances under which extractive industries will be supported by the shire (subclause 5.25.1), material to be accompanied by any development application (clause 5.25.2), and the scope of conditions the Shire may consider imposing on any development approval.

Schedule 2 – Deemed Provisions for Local Planning Schemes of the Planning and Development (Local Planning Scheme) Regulations 2015

Several sections of the deemed provisions for local planning schemes are relevant to this proposal, and in particular the relevant sections of Clause 67 – Matters to be considered by local Government.

Local Planning Policies

Shire of Northam Local Planning Policy Number 21 – extractive Industry

The objectives of the Policy are:

- Assist Council in determining applications for Extractive Industries by providing general guidelines and outlining matters Council will have regard for in assessing applications;
- Outline the information to be provided by applicants when requesting Development Approval for Extractive Industry;
- Provide for appropriate ‘buffers’ between Extractive Industry and sensitive land uses;
- Protect and maintain the existing landscape character, native vegetation, productive agricultural uses and general amenity of the Shire;
- Ensure those portions of the Shire of Northam controlled roads affected by the activities relating to Extractive Industries are maintained to a minimum acceptable standard at no extra burden or cost to Council.
- Prescribe an annual road maintenance contribution, applicable to all Extractive Industries within the Shire of Northam, for recovery of expenses towards maintenance and repair of roads due to heavy and/or extraordinary traffic associated with the operation an Extractive Industry, in keeping with Sections 84 and 85 of the Road Traffic Act 1974; and
- Ensure that the prescribed road maintenance contribution correlates with activity and usage of the Shire of Northam road network.

The Policy also provides guidance on –

- The information to be submitted with a development application; and

- The matters the Shire will have regard for when considering an application for development approval.

STATE PLANNING FRAMEWORK

State Planning Policy 2.4 – Basic Raw Materials (SPP2.4)

SPP2.4 sets out the matters which are to be considered and given effect by the Western Australian Planning Commission (WAPC), and local governments in considering zoning, subdivision and development applications for extractive industries.

The objectives of SPP2.4 are as follows:

- identify the location and extent of known basic raw material sources;
- Protect priority resource locations, key extraction areas and extraction areas from being developed for incompatible land uses which could limit future exploitation;
- Ensure that the use and development of land for the extraction of basic raw materials does not adversely affect the environment or amenity in the locality of operation during or after extraction; and
- Provide a consistent planning approval process for extractive industry proposals including the early consideration of sequential land uses.

Lot 150 has been identified as “Extraction Area” on the Policy Area – Resource Protection Map (figure 2) in SPP2.4 (Appendix 7)

State Planning Policy 2.5 – Rural Planning

SPP2.5 is the basis for planning and decision making for rural and rural living land across Western Australia.

It is a key objective (section 4 (c) of SPP2.5) to secure significant basic raw material resources and provide for their extraction.

SPP2.5 acknowledges that basic raw materials are essential for the construction of buildings, roads, and other infrastructure, and also for the sustainability of agricultural production.

In accordance with Clause 5.12.1 (b) of the policy, where development is proposed for land use that may generate off-site impacts, there should be application of separation distances used in environmental policy and health guidance, prescribed standards, accepted industry standards and/or Codes of Practice, followed by considering –

- i. whether the site is capable of accommodating the land use; and/or
- ii. whether surrounding rural land is suitable, and can be used to meet the separation distances between the nearest sensitive land use and/or zone, and would not limit future land uses; and
- iii. whether if clauses (i) and/or (ii) are met, a statutory buffer is not required.

State Planning Policy 4.1 – State Industrial Buffer

The objectives of this policy are:

- To provide consistent state-wide approach for the definition and securing of buffer areas around industry, infrastructure and special uses;
- To protect industry, infrastructure and special uses from the encroachment of incompatible land uses;
- To provide for the safety and amenity of land uses surrounding in industry, infrastructure and special uses; and
- To recognise the interests of existing landowners within the buffer areas who may be affected by residual emissions and risks, as well as the interests, needs and economic benefits of existing industry and infrastructure which may be affected by encroaching incompatible land uses.

RELEVANT PLANNING CONSIDERATIONS

Buffers

In accordance with Clause 5.12.(c) of SPP2.5, where a development is proposed for a land use that may generate off-site impacts and does not meet the standard outlined in clause 5.12.1 (b) (refer State Planning Report Framework – SPP2.5 of this report), then more detailed consideration of off-site impacts may be required.

Noise emitted by quarry activities is governed by the Environmental Protection (Noise) Regulations 1997 (the Regulations). The regulations 7, 8 and 9 cover such activities.

Resource Group (WA) considers that noise and vibration are aspects of the proposal that may generate off-site impacts. Resource Group (WA) has consequently engaged SLR Consulting Australia Pty Ltd to undertake a desktop assessment (modelling) of acoustic effects associated with the proposed activities, to evaluate compliance with relevant regulations, and if necessary, identify appropriate in-principle noise control measures to achieve conformity with the Regulations

An acoustic assessment report titled “Grass Valley Quarry – report numbers 675.11334-R03 – dated May 2018 is attached (appendix 8).

Note: Dust monitoring was not undertaken as the quarry has yet to commence. However, it is considered that dust can be managed effectively at the site through the application of ‘best practice’ site management practices in line with the relevant Regulations.

Methodology

The noise assessment methodology is set under Pt 3.1 of the report [attached]

Transport Management

Control of noise from truck movements will be achieved by moderating speed in any difficult areas and by keeping trucks well maintained. Regular inspections of road trucks, specifically for noise sources such as mufflers and exhaust brakes will be carried out in compliance with WA Road Traffic Act 2012 and the Vehicle Noise Standard ADR83/00.

The following will be adhered to on-site:

- Maintenance of internal roads so as to avoid corrugation;
- Use of broadband reversing alarms on all earthmoving equipment as an alternative to the beeper type;
- A stop sign at the junction of the quarry access road and Clydesdale road – all vehicles to stop with road trucks in particular announcing their intent by radio of their access onto Clydesdale road; and
- Minimal use of exhaust brakes along Clydesdale road. Exhaust breaks within the quarry confines will be banned

Safety Management

All quarries operate under the provisions of the Mines Safety and Inspection Act 1994 and Regulations 1995. These are administered by the Department of Mines, Industry Regulations and Safety (DMIRS).

The regulation is achieved through the DMIRS Safety Regulations and Reporting Systems (SRS).

All quarries upon commencement are required to register with the SRS system. As part of the registration a Project Management Plan is required to be produced and lodged on line after all planning approvals are in place and prior to commencement. Officers from the Safety Division of DMIRS inspect the operations in relation to health and safety.

Complaints Mechanism

The following complaints mechanism is proposed:

1. Contact details will be prominently displayed at the entrance to the quarry operations
2. A complaints book will be provided and maintained by Resource Group (WA) Pty Ltd, or its contractors.
3. Upon receipt of a complaint, Resource Group, or its contractor will investigate and action the complaint
4. If a complaint is found to be legitimate, Resource Group will, where possible undertake any reasonable action to mitigate the cause of the complaint, and where possible take reasonable steps to prevent recurrence in the future.
5. Details of any complaints, the complainant, investigations and any resulting actions and the reasons will be recorded in the Complaints Book.
6. The Shire of Northam will be informed of any complaint or any other report provided to a Government Department within 5 working days.
7. The Complaints book will be made available for viewing or requested details made available to the Northam Shire or any other statutory official upon request.

Site Rehabilitation

As outlined in the 'Proposal' section of this document, a phased rehabilitation of the site will occur during the life of the quarry.

The primary objective of the site rehabilitation is to ensure that the site is closed, decommissioned and rehabilitated in an ecological sustainable manner, consistent with agreed outcomes and final land uses, and without liability to the Shire. To achieve this, Resource Group (WA) will rehabilitate the bulk of the land to pasture safe for grazing by –

- Leave natural buffer zone facing Clydesdale Road;
- Batter final faces to an acceptable angle as per normal practice required by DMIRS;
- Infill benches with oversize and fill to assist with agreed angle of repose; (see Appendix 12-13 for pit designs and final faces)
- Progressively removing all infrastructure, internal road, hardstand areas, non-natural materials from the site at the end of the project;
- Removing all materials, equipment and plant associated with their operations at the end of the excavation;
- Removing from site all contaminated material (If any) prior to closure;
- Ensure landforms and other geomorphological features are compatible with the locality and end use (pasture), and be sustainable in the long term;
- Ensure that weed levels will not cause significant impacts on rehabilitation; and
- Monitoring the rehabilitation efforts to ensure that any area not meeting completion criteria are added to or replaced as necessary to enable the relevant criteria to be met.

CONCLUSION

This application is proposed in a manner that is consistent with the objectives of the Rural Zone of the Shires Local Planning Scheme No. 6.

WE consider that the enclosed information and plans are sufficient to enable Shire staff to advertise the proposal and for Council to determine the application favourably. We respectfully request the application is tabled on the agenda for the next available Ordinary Council Meeting.

Should you require any additional information or have any questions regarding the proposal, please do not hesitate to contact the undersigned.

Sincerely Yours



RESOURCE GROUP (WA)

Tony Nicholson

Director

PO Box 332

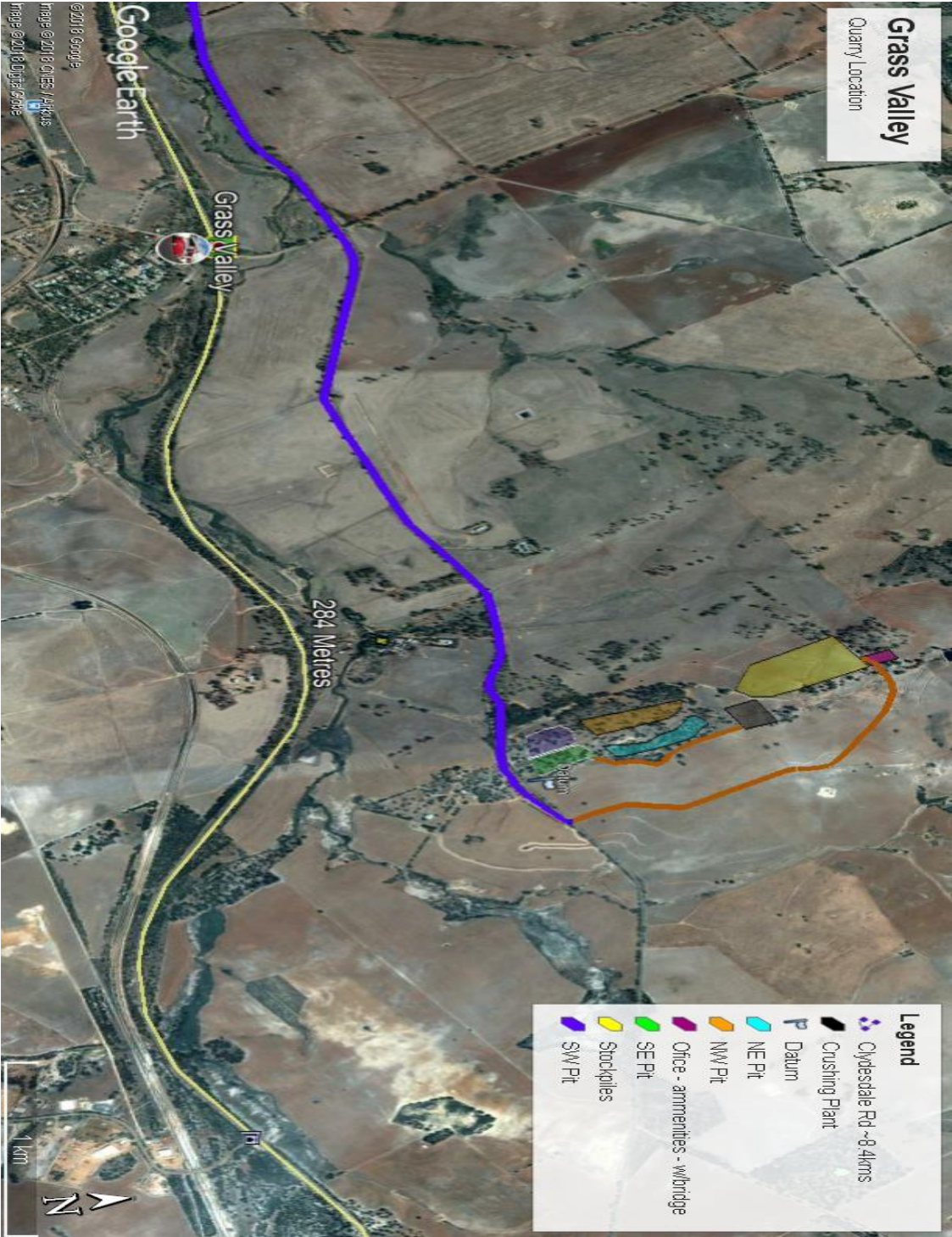
Inglewood WA 6052

Phone: 0439.418401

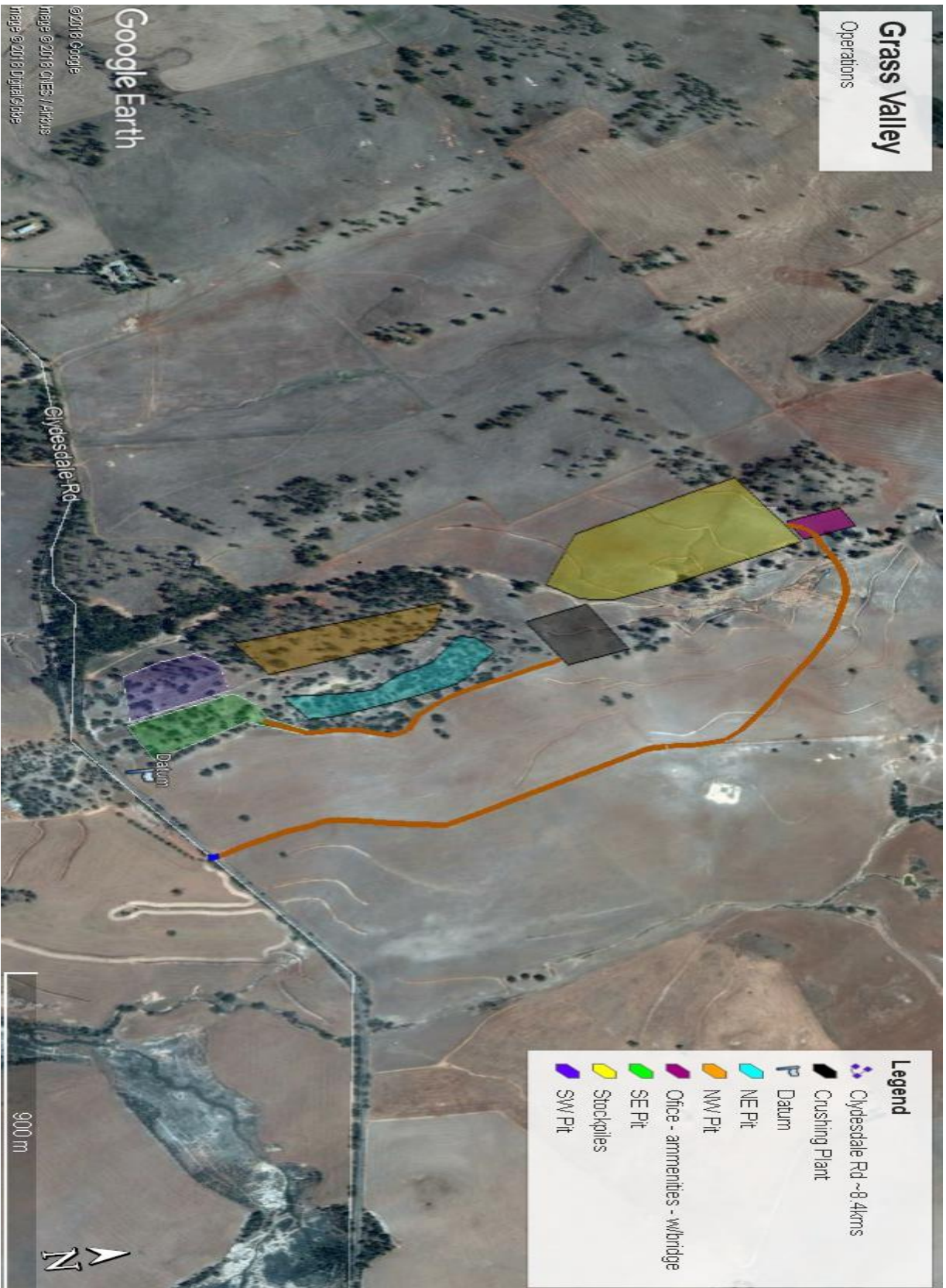
Email: tonynicholson@resourcegroup.com.au

APPENDIX 1 – LOCATION PLAN

Quarry Location



APPENDIX 2 – AREA OF OPERATION



APPENDIX 3 – TITLE DEED

WESTERN



AUSTRALIA

| | |
|-------------------------------|---|
| REGISTER NUMBER N/A | |
| DUPLICATE EDITION 1 | DATE DUPLICATE ISSUED 3/11/2010 |

VOLUME
1778FOLIO
760

RECORD OF CERTIFICATE OF TITLE UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

THIS IS A MULTI-LOT TITLE

LAND DESCRIPTION:

LOT 8444 ON DEPOSITED PLAN 123364
LOT 805 ON DEPOSITED PLAN 224730
LOT 2080 ON DEPOSITED PLAN 249154
LOT 2078 ON DEPOSITED PLAN 249155
LOT 150 ON DEPOSITED PLAN 300080

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

GRANT COLLARD COOKE
ANGUS JOHN COOKE
BOTH OF POST OFFICE BOX 5, GRASS VALLEY
AS TENANTS IN COMMON IN EQUAL SHARES

(T I111851) REGISTERED 21/5/2002

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS: (SECOND SCHEDULE)

1. L436292 MORTGAGE TO RABOBANK AUSTRALIA LTD AS TO LOT 8444 ON DP 123364, LOT 805 ON DP 224730, LOT 2080 ON DP 249154, LOT 2078 ON DP 249155 ONLY REGISTERED 23/9/2010.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 1778-760 (8444/DP123364), 1778-760 (805/DP224730), 1778-760 (2080/DP249154), 1778-760 (2078/DP249155), 1778-760 (150/DP300080)
PREVIOUS TITLE: 1703-85
PROPERTY STREET ADDRESS: 792 CLYDESDALE RD, GRASS VALLEY (150/DP300080).

END OF PAGE 1 - CONTINUED OVER

RECORD OF CERTIFICATE OF TITLE

REGISTER NUMBER: N/A

VOLUME/FOLIO: 1778-760

PAGE 2

LOCAL GOVERNMENT AUTHORITY: SHIRE OF NORTHAM

NOTE 1: L461934 LAND DESCRIPTION AMENDED ON ORIGINAL CERTIFICATE OF TITLE - BUT NOT SHOWN ON CURRENT EDITION OF THE DUPLICATE.
NOTE 2: SKETCH ON ORIGINAL SUPERCEDED PAPER TITLE AMENDED - BUT NOT SHOWN ON CURRENT EDITION OF THE DUPLICATE.
NOTE 3: DEPOSITED PLAN 300080 HAS YET TO BE PRODUCED.



Application D565070
Volume 1703 Folio 85

WESTERN



AUSTRALIA

REGISTER BOOK
VOL. FOL.
1778 760

CERTIFICATE OF TITLE

UNDER THE "TRANSFER OF LAND ACT, 1893" AS AMENDED

I certify that the person described in the First Schedule hereto is the registered proprietor of the undermentioned estate in the undermentioned land subject to the easements and encumbrances shown in the Second Schedule hereto.

Dated 23rd September, 1987

REGISTRAR OF TITLES



ESTATE AND LAND REFERRED TO

Estate in fee simple in Avon Locations 805, 2078, 2080, 8444 and portion of Avon Location 2116, as being lot 150 on DP 300080, delineated on the map in the Third Schedule hereto.
As to the said Location 8444 only: limited however to the natural surface and therefrom to a depth of 60.96 metres.

FIRST SCHEDULE (continued overleaf)

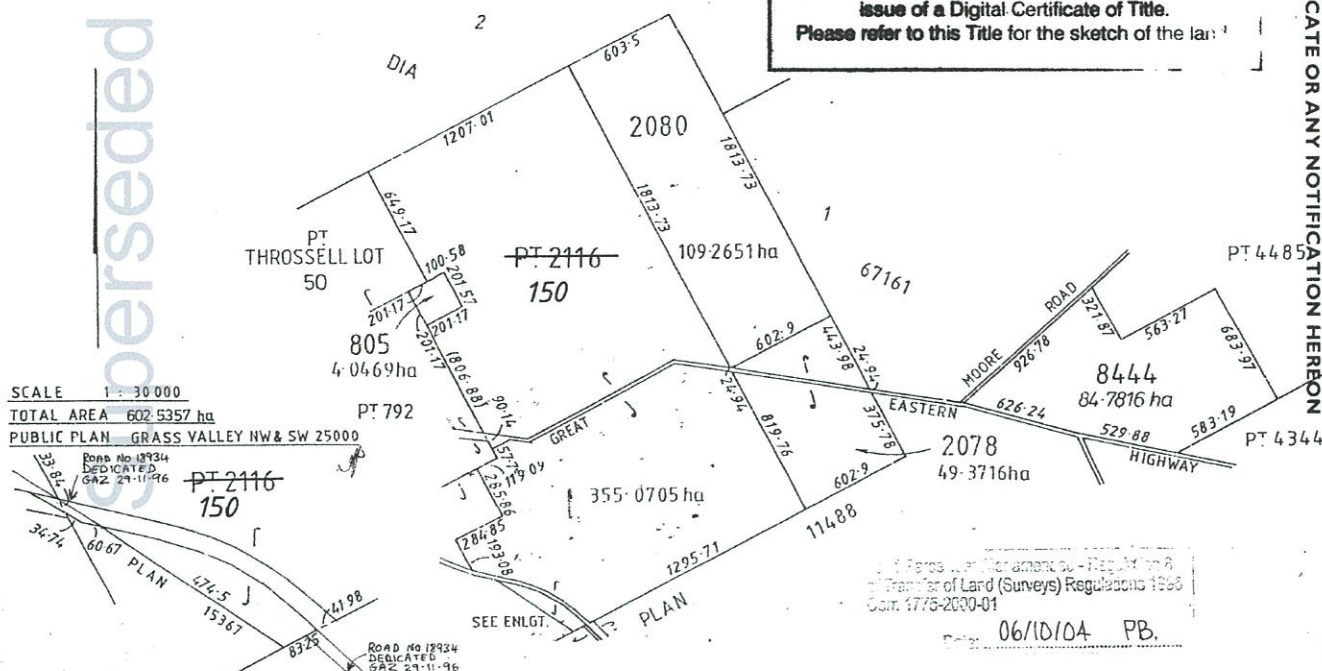
John Barnard Cooke of Grass Valley, Farmer.

SECOND SCHEDULE (continued overleaf)

1. MORTGAGE A758727 to Commonwealth Development Bank of Australia. Registered 4.12.73 at 1.38.76. Discharged E231514 10.11.89.

THIRD SCHEDULE



The Deposited Plan for this Certificate of Title is to be produced. The Plan and Lot number have been allocated as an interim measure to enable issue of a Digital Certificate of Title. Please refer to this Title for the sketch of the land.



NOTE: RULING THROUGH PLAN AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT. ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

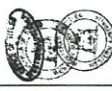

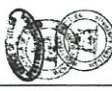



FIRST SCHEDULE (continued)

NOTE: RULING THROUGH AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT.
ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

| REGISTERED PROPRIETOR | INSTRUMENT | | REGISTERED | TIME | SEAL | INITIALS |
|---|------------|---------|------------|------|---|---|
| | NATURE | NUMBER | | | | |
| Angus John Cooke and Grant Collard Cooke both of Box 5, Grass Valley, as tenants in common in equal shares. | Transfer | I111851 | 21.5.02 | 8.39 |  |  |
| The correct address of the registered proprietors is now <u>Post Office Box 5, Grass Valley.</u> | By | I621590 | 10.9.03 | 9.15 | | |

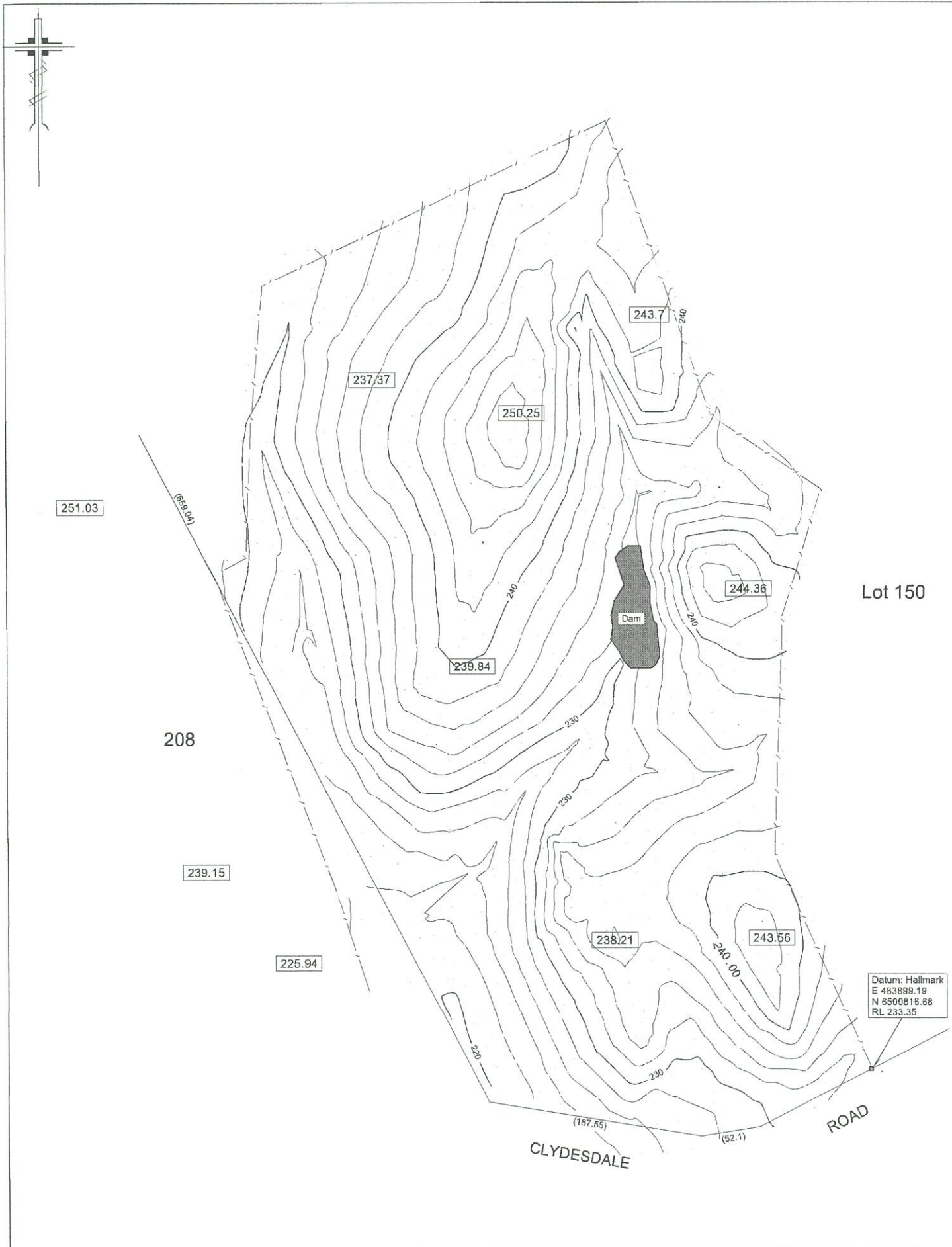
SECOND SCHEDULE (continued)

NOTE: RULING THROUGH AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT.
ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

| INSTRUMENT | | PARTICULARS | REGISTERED | TIME | SEAL | INITIALS | REGISTERED OR LODGED | NUMBER | CANCELLATION | NUMBER | REGISTERED OR LODGED | SEAL | INITIALS |
|------------|---------|------------------------------------|------------|------|---|---|----------------------|---------|--------------|---------|----------------------|---|---|
| NATURE | NUMBER | | | | | | | | | | | | |
| Mortgage | D684277 | to National Australia Bank Ltd. | 29.2.88 | 9.31 |  |  | | | | | | | |
| Mortgage | I111854 | to National Australia Bank Ltd. | 21.5.02 | 8.39 |  |  | | I111852 | Discharged | I111852 | 21.5.02 |  |  |
| Mortgage | I621590 | to Commonwealth Bank of Australia. | 10.9.03 | 9.15 | | | | I621587 | Discharged | I621587 | 10.9.03 | | |

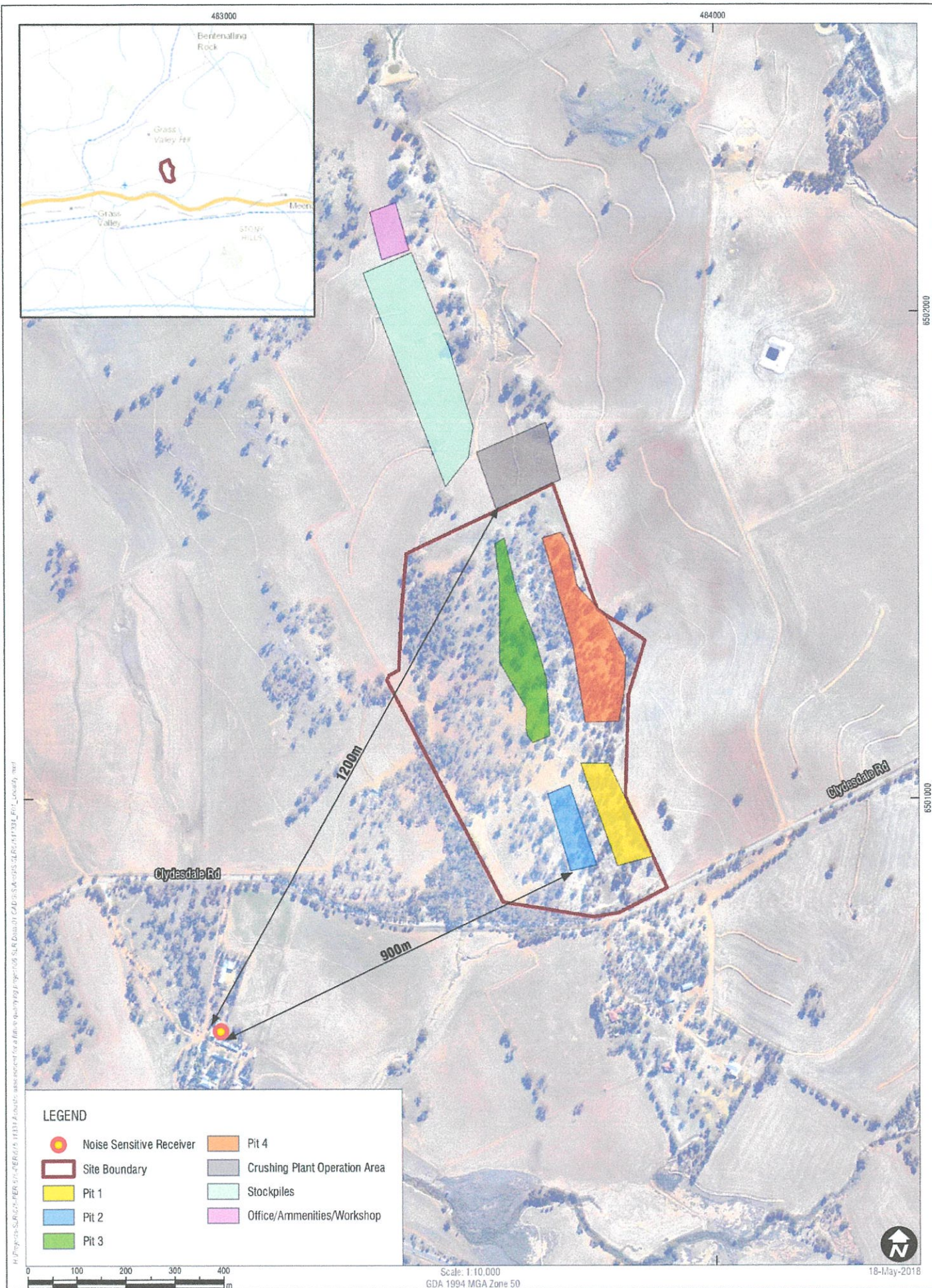
CERTIFICATE OF TITLE VOL. 1778 760

APPENDIX 4 – QUARRY CONTOURS

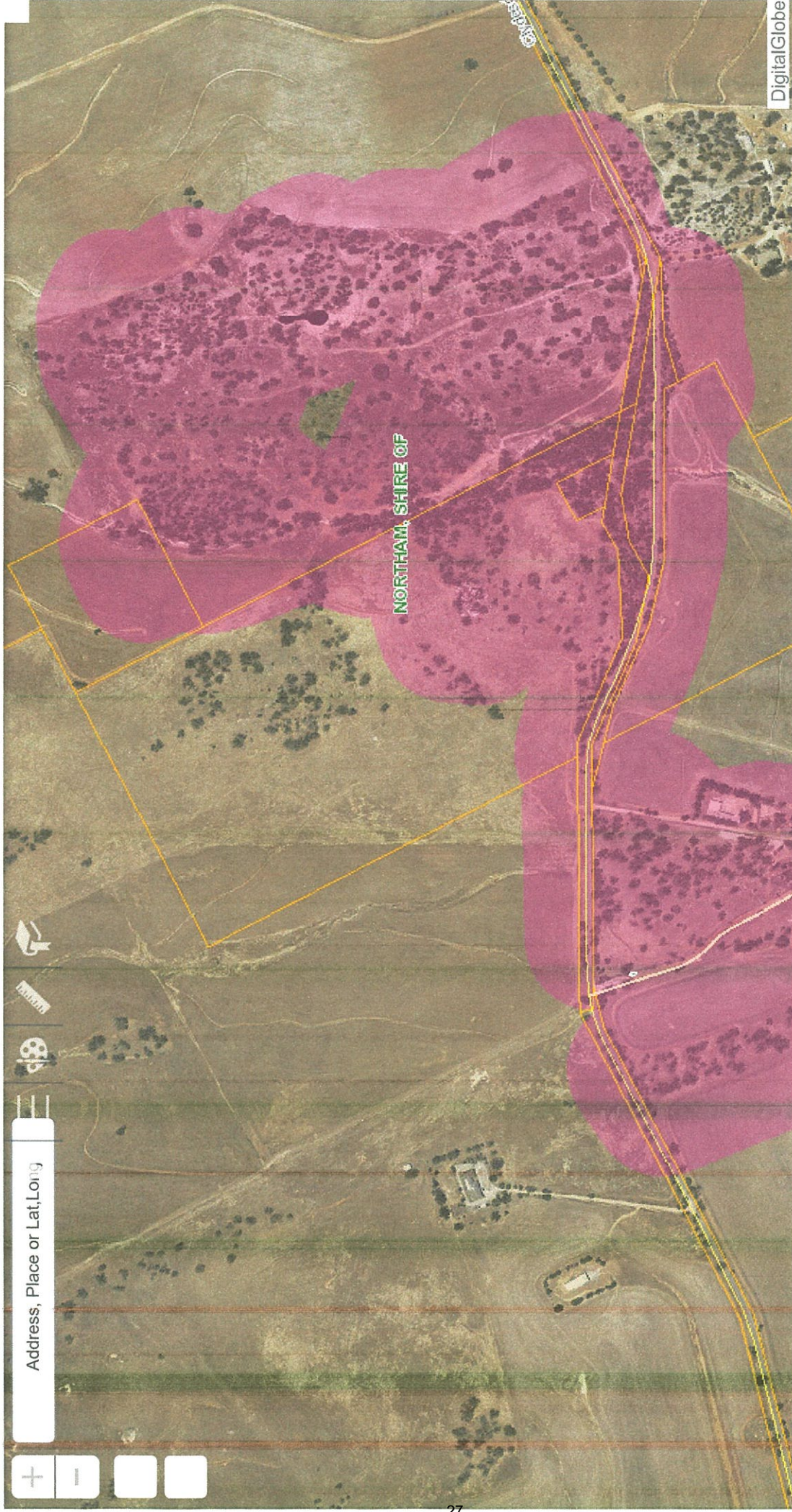


| | | | |
|---|--|--|---|
| PAUL KRAFT & ASSOCIATES. PO BOX 428 NORTHAM 6401 Phone: 9574 2690 Fax: 9574 2991 | FEATURE SURVEY OF PORTION LOT 150 ON DP 300080 CLYDESDALE ROAD GRASSVALLEY SHIRE OF NORTHAM | C/T Vol: 1778 Fol: 760 Vert Datum: AHD Horiz Datum: MGA Based on SSM PTH 26 | Scale: 1:3000 Original Sheet Size A3 |
| Surveyor: Paul Kraft | Date: 05/04/2018 | | |

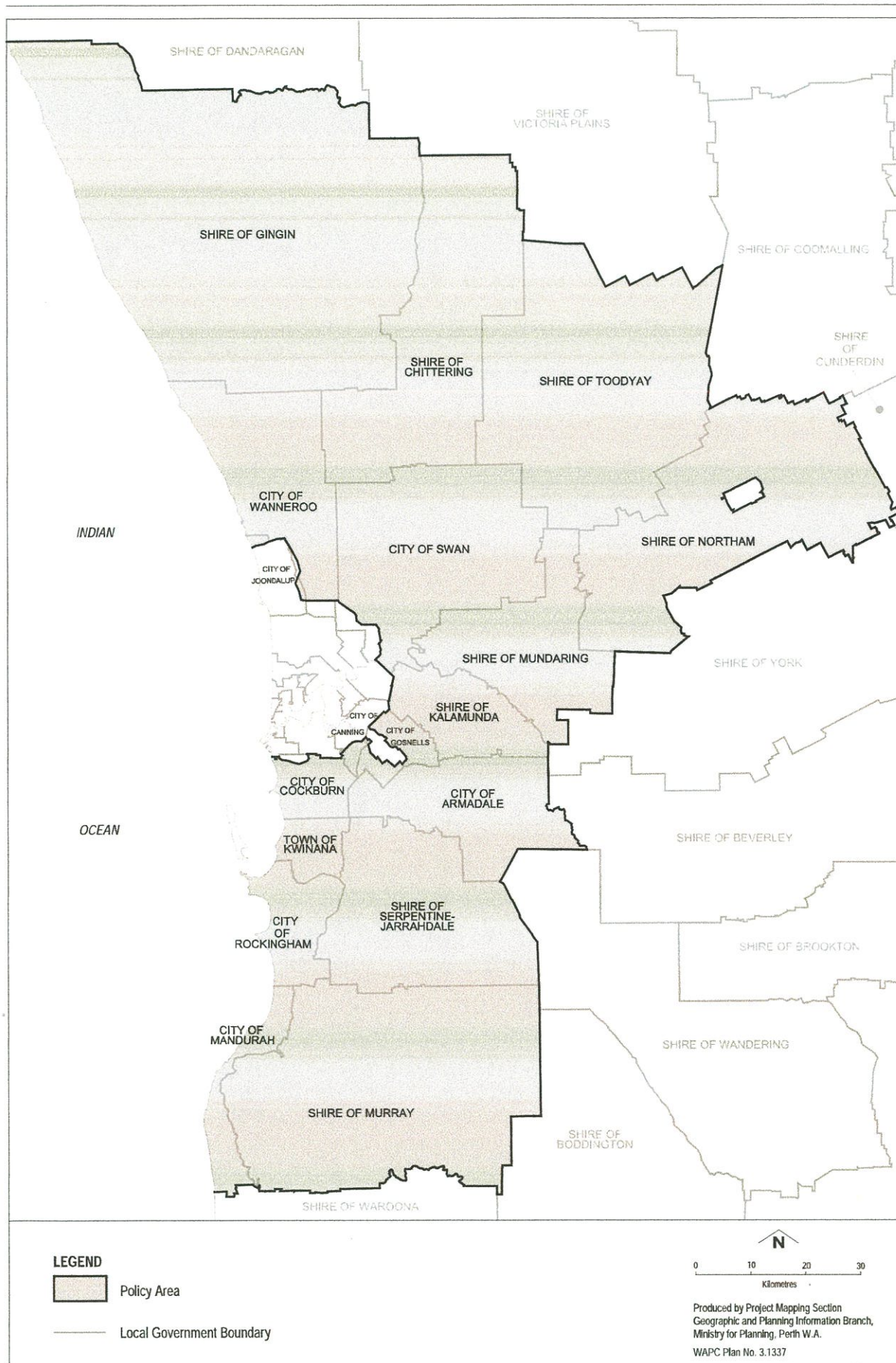
APPENDIX 5 – NOISE AFFECTED LOCATION



APPENDIX 6 –FIRE ZONE MAP



APPENDIX 7 - SPP2.4 'RESOURCE PROTECTION MAP'



Local Governments Included in Policy

Figure 1

APPENDIX 8 - ACOUSTIC ASSESSMENT REPORT

CLYDESDALE ROAD QUARRY PROJECT GRASS VALLEY

Acoustic Assessment

Prepared for:

Resource Group WA Pty Ltd
PO Box 332, Inglewood WA, 6052

SLR Ref: 675.11334-R03
Version No: v0.1
May 2018



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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Resource Group WA (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

| Reference | Date | Prepared | Checked | Authorised |
|--------------------|-------------|---------------|------------|------------|
| 675.11334-R03-v0.1 | 21 May 2018 | Anshuman Sahu | Binghui Li | Binghui Li |
| 675.11334-R02-v0.1 | 18 May 2018 | Anshuman Sahu | Binghui Li | Binghui Li |
| 675.11334-R01-v0.1 | 15 May 2018 | Anshuman Sahu | Binghui Li | Binghui Li |
| | | | | |
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1 Introduction

Resource Group WA (the Applicant) proposes an quarry development at Lot 150 DP300080 (C/T Vol 1778 Fol:760), Clydesdale Road, Grass Valley within the Shire of Northam, Western Australia.

SLR Consulting Australia Pty Limited (SLR) has been commissioned to undertake a desktop assessment of acoustic effects associated with the proposed quarry development, to evaluate compliance with the *Environmental Protection (Noise) Regulations 1997* (the Regulations), and if necessary, identify appropriate in-principle noise control measures to achieve compliance.

2 Project Overview

2.1 Site Locality

The proposed quarry development is located to the north of the Clydesdale Road and surrounded by a mixture of agricultural and undeveloped land, as shown in the site locality of the quarry in **Figure 1**. The quarry site comprises of four quarry pits, one crushing plant operation area, a stockpile zone and a site office and a workshop.

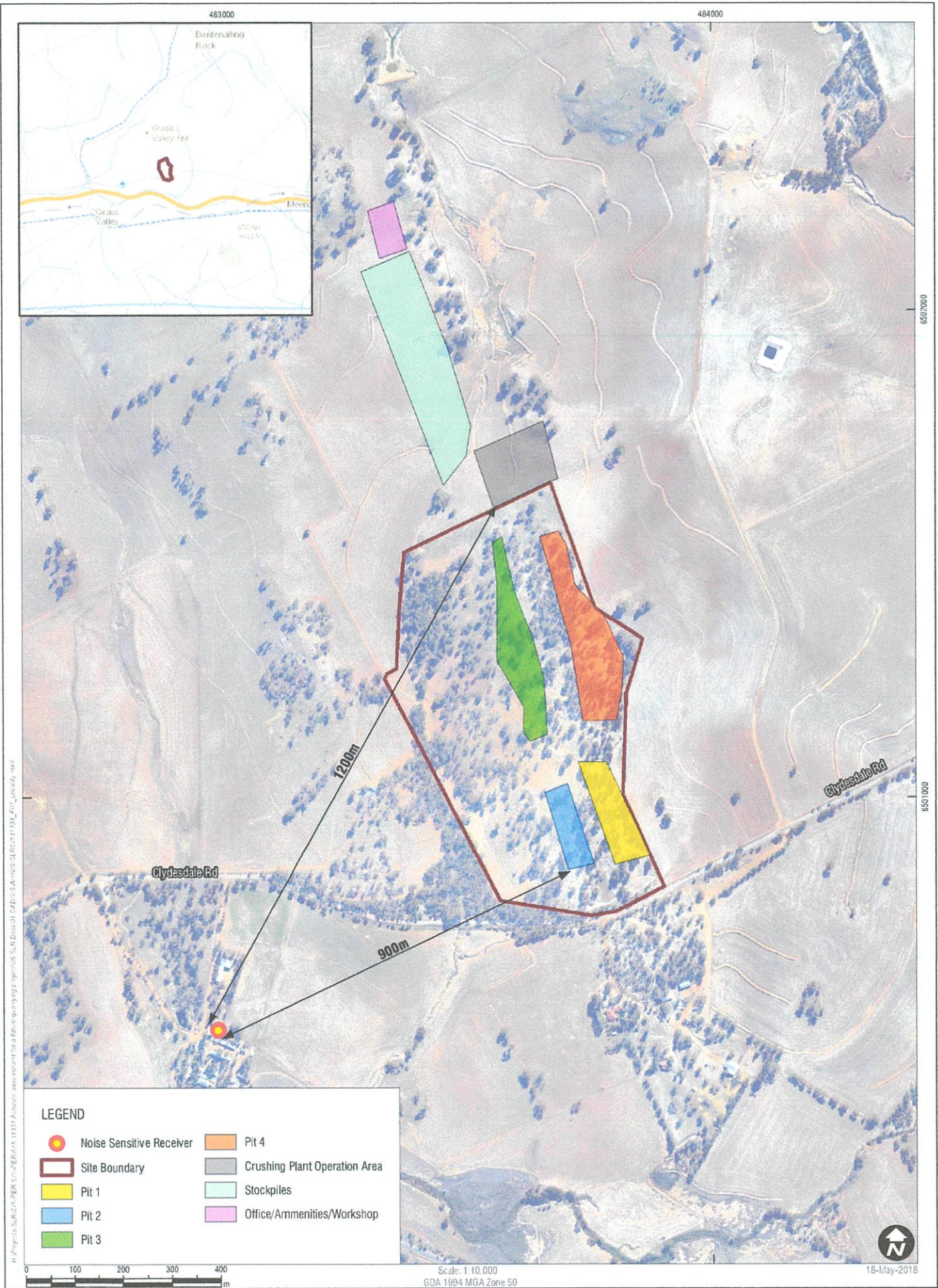
The most adjacent noise sensitive receiver (NSR) that has the potential to be affected by the noise from the proposed quarry operation is a residential premise which is located to the southwest of the quarry site, between Clydesdale Road and the Great Eastern Hwy, and nearly 900 metres away from the nearest quarry pit (i.e. Pit 2 as in **Figure 1**).

2.2 Proposed Quarry Operations

The quarry is proposed to operate from 7:00 am to 5:00 pm Monday to Friday and 7:00am to 4:00pm on Saturday. Road trucks are proposed to arrive on the quarry site approximately 6:30am to 7:30am via Clydesdale Road and Watson Road.

The majority of noise generating machinery and activities will be located within the crushing plant operation area, with the major noise sources listed in **Table 4** in Section **3.1.3**.

The quarry operation is proposed to have a production period of 3 – 4 months per year, and the rest as the quieter non-production sales period of 8 – 9 months per year.



2 ASSESSMENT CRITERIA

Noise emitted by quarry activities is governed by the *Environmental Protection (Noise) Regulations 1997* (the Regulations). Regulations 7, 8 and 9 cover such activities.

There are different assigned noise levels in the Regulations for sensitive, commercial and industrial type premises. The assigned noise levels for noise sensitive premises vary depending on the time of the day and how close the noise sensitive premises are to industrial and commercial areas and to major or secondary roads. The assigned noise levels always apply at the premises receiving the noise.

As there are no commercial and industrial premises or major or secondary roads in the vicinity of the receiver, no influencing factor for the assigned noise level of the noise sensitive receivers is applied. The levels of noise that are allowed to be received at the identified nearest NSR under the Regulations (assigned levels) are shown in **Table 1**.

Given the proposed quarry development is proposed to operate from 7:00 am to 5:00 pm Monday to Friday and till 4:00pm on Saturday, the applicable daytime noise criteria have been highlighted in **Table 1**.

Table 1 Table of Assigned Noise Levels

| Type of premises receiving noise | Time of day | Assigned Level (dB) | | |
|---|---|---------------------|-----|-------------------|
| | | LA10 | LA1 | L _{Amax} |
| Noise sensitive premises (e.g. Residential) | 7:00 am to 7:00 pm Monday to Saturday | 45 | 55 | 65 |
| | 9:00 am to 7:00 pm Sunday and public holidays | 40 | 50 | 65 |
| | 7:00 pm to 10:00 pm all days | 40 | 50 | 55 |
| | 10:00 pm on any day to 7:00 am Monday to Saturday and 9:00am Sunday and public holidays | 35 | 45 | 55 |

Regulation 7 of the Regulations requires that if noise emitted from any premises when received at any other premises cannot reasonably be free of intrusive characteristics of tonality, modulation and impulsiveness, then a series of adjustments must be added to the emitted levels (measured or calculated) and the adjusted level must comply with the assigned level. The adjustments are detailed in the following table and are further defined in Regulation 9(1):

Table 2 Table of Adjustments

| Adjustment where noise emission is not music these adjustments are cumulative to a maximum of 15 dB | | |
|---|-----------------------------|--------------------------------|
| Where tonality are present | Where modulation is present | Where impulsiveness is present |
| +5 dB | +5 dB | +10 dB |

- Tonality is defined in Regulation 9(1) as being present where the difference between the A weighted sound pressure level in any one third octave band and the arithmetic average of the A weighted sound pressure levels in the two adjacent one third octave bands is greater than 3 dB in terms of $L_{Aeq,T}$ where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\text{ Slow}}$ levels.
- Modulation is defined as a variation in the emission of noise that —

- is more than 3 dB $L_{A_{Fast}}$ or is more than 3 dB $L_{A_{Fast}}$ in any one third octave band;
 - is present for at least 10% of the representative assessment period; and
 - is regular, cyclic and audible.
- Impulsiveness is defined as present where the difference between $L_{A_{peak}}$ and $L_{A_{maxS}}$ is more than 15 dB when determined for a single representative event.

Based on the source noise levels, the types of activities and distances between the quarry site and NSR, no adjustments to the assigned noise levels in **Table 1** are considered to be applicable in this instance.

3 NOISE ASSESSMENT

3.1 Methodology

A noise model was prepared based on the modelling platform SoundPLAN. The software allows the use of various internationally recognised noise prediction algorithms. The CONCAWE algorithm was selected for this assessment, as it enables meteorological influences to be assessed, and has been recognised by the *Western Australian EPA Environmental Noise Guidelines* as an appropriate algorithm for predicting environmental noise from industrial sources. The model takes into account the land topography.

The noise level predictions are undertaken for receivers with 1.5 m height above ground level.

It is important to note that the actual noise levels in practice may vary from the conditions modelled. Levels will vary in practice; however we have taken into consideration this uncertainty.

3.1.1 Ground Absorption

To provide a conservative assessment approach, hard ground (100% sound reflective) was assumed for the quarry and processing areas; considering the rural settings of the surrounding area being farm land or undeveloped land with grass or trees, 100% sound absorptive ground condition has been assumed elsewhere in the surrounding area.

3.1.2 Meteorological Conditions

The SoundPLAN model included the meteorological parameters outlined in the EPA *Guidance for the Assessment of Environmental Factors Environmental Noise, Draft No.8*; these parameters are highlighted in **Table 3**. The modelling also assumed a worst case scenario for wind direction, i.e. blowing in a direction from the source to the receiver.

Table 3 Meteorological Conditions Used in the Noise Predictions

| Time of Day | Temperature | Relative Humidity | Wind Speed* | Pasquill Stability Category |
|----------------------|-------------|-------------------|-------------|-----------------------------|
| Day (07:00 to 19:00) | 20°C | 50% | 4 m/s | E |

* - Wind has been modelled orientated so that it blows from the source to the receiver.

3.1.3 Source Noise Levels

The source sound power levels used in the modelling are shown in **Table 4**. These levels are based on source level data provided, manufacturer published data, SLR in-house library data and relevant industry guidelines (e.g. *BS 5228-1:2009 Code of practice for noise and vibration control on construction and open sites – Part 1 Noise*).

Table 4 Modelled Source Sound Power Levels

| Equipment | Quantity | Octave Band Source Spectral Level, dB (unweighted) | | | | | | | | Total A-weighted, dB |
|-----------------------|----------|--|-----|-----|-----|-----|-----|-----|-----|----------------------|
| | | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | |
| Cat 980 wheel loaders | 2 | 95 | 105 | 100 | 101 | 102 | 101 | 91 | 85 | 110 |
| Water Cart | 1 | 88 | 83 | 85 | 80 | 80 | 77 | 73 | 64 | 85 |
| Cone Crusher | 2 | 115 | 115 | 112 | 111 | 109 | 107 | 102 | 92 | 114 |
| Primary Crusher | 1 | 117 | 117 | 114 | 113 | 111 | 109 | 104 | 94 | 116 |
| Deck Screen | 5 | 94 | 95 | 104 | 106 | 104 | 105 | 104 | 105 | 112 |
| Drill Rig | 1 | 115 | 121 | 114 | 117 | 113 | 112 | 107 | 106 | 119 |
| Wash Screen | 1 | 99 | 109 | 101 | 101 | 102 | 99 | 96 | 93 | 112 |
| Dump Truck | 1 | 106 | 99 | 99 | 99 | 99 | 104 | 99 | 80 | 107 |
| Sales Delivery Truck | 1 | 109 | 102 | 102 | 102 | 102 | 107 | 102 | 83 | 110 |

3.1.4 Noise Modelling Scenarios

Based on the operational information provided by the client, predictions were made for the quarry operation scenario with the following operation assumptions. The worst case plant and machinery locations are assumed, i.e. being close to the southwest boundary of the crushing area as shown in **Figure 1**.

- Day time operation (7:00 am to 7:00 pm Monday to Saturday).
- All identified major noise sources as listed in **Table 4** are operating simultaneously, being as the worst case consideration.
- The sound levels referred to in this report represent the LA10 emission level.

Considering that the assessed NSR is much closer to the Great Eastern Hwy than the access/egress route for road trucks into the quarry pit, it is expected that the traffic noise from road trucks are much lower than the baseline traffic noise from the Great Eastern Hwy. The noise emissions from road trucks is also considered as secondary compared with the noise associated with the crushing plant operations. As such, the traffic noise from road trucks is not assessed in this study.

3.2 Results

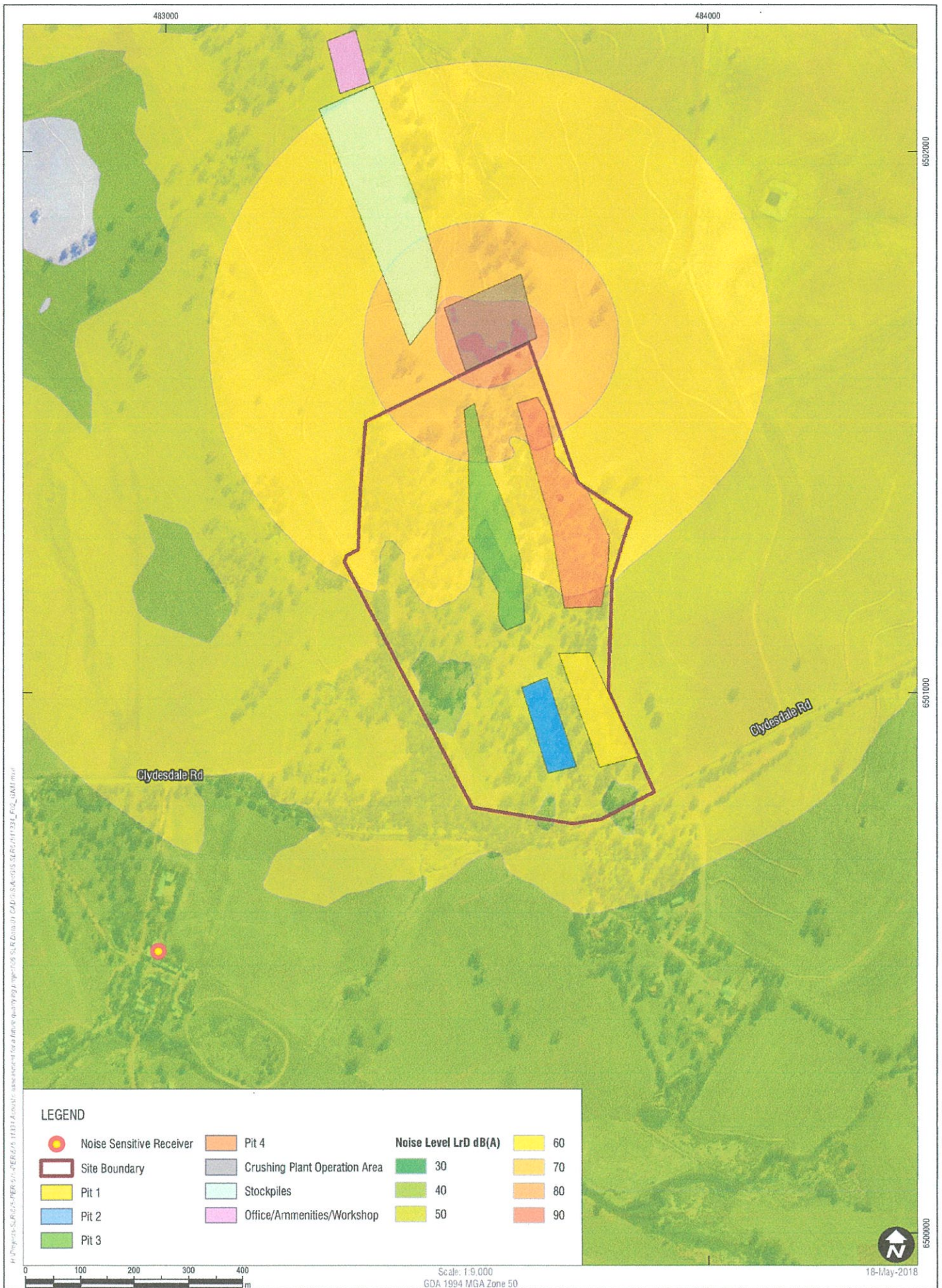
The predicted unmitigated noise level at the NSR has been calculated according to the modelling methodology detailed in **Section 3.1** and are shown in **Table 5**.

The modelling results show that the noise levels from the proposed quarry operations result in compliance with the daytime criteria at the assessed NSR location. The grid noise map covering the quarry and surroundings is also presented in **Figure 2** below.

Table 5 Predicted Noise Levels at the NSR

| NSR | Noise level L_{A10} , dB | | Expected Outcome |
|-------|----------------------------|----------|------------------|
| | Daytime | | |
| | Predicted | Criteria | |
| NSR 1 | 44 | 45 | Compliance |

It is recommended that noise model validation is to be conducted based on site monitoring once the proposed quarry comes into full operation.



APPENDIX A

ACOUSTIC TERMINOLOGY

1 Sound Level or Noise Level

The terms "sound" and "noise" are almost interchangeable, except that in common usage "noise" is often used to refer to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure capable of evoking the sense of hearing. The human ear responds to changes in sound pressure over a very wide range. The loudest sound pressure to which the human ear responds is ten million times greater than the softest. The decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is 2E-5 Pa.

2 "A" Weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an "A-weighting" filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People's hearing is most sensitive to sounds at mid frequencies (500 Hz to 4000 Hz), and less sensitive at lower and higher frequencies. Thus, the level of a sound in dBA is a good measure of the loudness of that sound. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dBA or 2 dBA in the level of a sound is difficult for most people to detect, whilst a 3 dBA to 5 dBA change corresponds to a small but noticeable change in loudness. A 10 dBA change corresponds to an approximate doubling or halving in loudness. The table below lists examples of typical noise levels

| Sound Pressure Level (dBA) | Typical Source | Subjective Evaluation |
|----------------------------|--|-----------------------|
| 130 | Threshold of pain | Intolerable |
| 120 110 | Heavy rock concert Grinding on steel | Extremely noisy |
| 100 90 | Loud car horn at 3 m Construction site with pneumatic hammering | Very noisy |
| 80 70 | Kerbside of busy street Loud radio or television | Loud |
| 60 50 | Department store General Office | Moderate to quiet |
| 40 30 | Inside private office Inside bedroom | Quiet to very quiet |
| 20 | Unoccupied recording studio | Almost silent |

Other weightings (e.g. B, C and D) are less commonly used than A weighting. Sound Levels measured without any weighting are referred to as "linear", and the units are expressed as dB(lin) or dB.

3 Sound Power Level

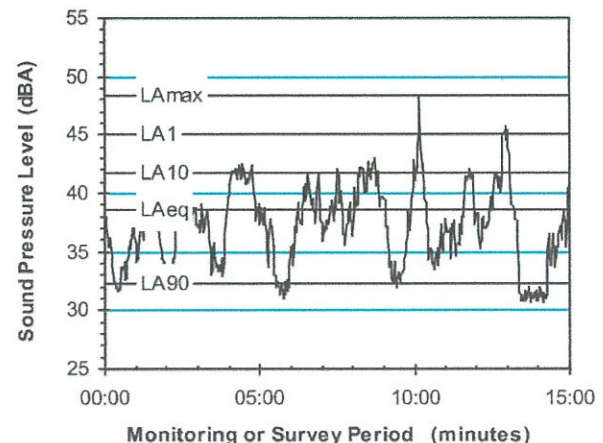
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 1E-12 W.

The relationship between Sound Power and Sound Pressure may be likened to an electric radiator, which is characterised by a power rating, but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4 Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LAN, where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time, LA10 the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating the statistical indices.



Of particular relevance, are:

- LA1 The noise level exceeded for 1% of the 15 minute interval.
- LA10 The noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.
- LA90 The noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.
- LAeq Is the A-weighted equivalent continuous noise level (basically the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

4 Conclusion

SLR has been commissioned to undertake a desktop acoustic assessment of the proposed quarry development at Lot 150 DP300080 (C/T Vol 1778 Fol:760) Clydesdale Road in Grass Valley, Western Australia.

Noise emitted from the proposed quarry development has been considered with regard to the *Environmental Protection (Noise) Regulations 1997*.

The predicted noise levels generated by the major quarry operations, which take into account the land topography, the worst case operation considerations and meteorological conditions, show that the quarry operation complies with the daytime noise criteria.

It is recommended that noise model validation is to be conducted based on site monitoring once the proposed quarry comes into full operation.

When dealing with numerous days of statistical noise data, it is sometimes necessary to define the typical noise levels at a given monitoring location for a particular time of day. A standardised method is available for determining these representative levels.

This method produces a level representing the "repeatable minimum" LA90 noise level over the daytime and night-time measurement periods, as required by the DECCW. In addition the method produces mean or "average" levels representative of the other descriptors (LAeq, LA10 etc.).

5 Tonality

Tonal noise contains one or more prominent tones (i.e. distinct frequency components), and is normally regarded as more offensive than "broad band" noise.

6 Impulsiveness

An impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.

7 Frequency Analysis

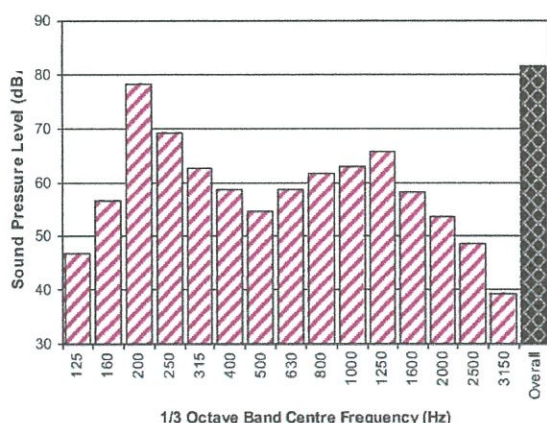
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal. This analysis was traditionally carried out using analogue electronic filters, but is now normally carried out using Fast Fourier Transform (FFT) analysers.

The units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (3 bands in each octave band)
- Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



8 Vibration

Vibration may be defined as cyclic or transient motion. This motion can be measured in terms of its displacement, velocity or acceleration. Most assessments of human response to vibration or the risk of damage to buildings use measurements of vibration velocity. These may be expressed in terms of "peak" velocity or "rms" velocity.

The former is the maximum instantaneous velocity, without any averaging, and is sometimes referred to as "peak particle velocity", or PPV. The latter incorporate "root mean squared" averaging over some defined time period.

Vibration measurements may be carried out in a single axis or alternatively as triaxial measurements. Where triaxial measurements are used, the axes are commonly designated vertical, longitudinal (aligned toward the source) and transverse.

The common units for velocity are millimetres per second (mm/s). As with noise, decibel units can also be used, in which case the reference level should always be stated. A vibration level V, expressed in mm/s can be converted to decibels by the formula $20 \log (V/V_0)$, where V_0 is the reference level (1E-6 mm/s). Care is required in this regard, as other reference levels are used by some organisations.

9 Human Perception of Vibration

People are able to "feel" vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience and expectations, and on other connotations associated with the perceived source of the vibration. For example, the vibration that a person responds to as "normal" in a car, bus or train is considerably higher than what is perceived as "normal" in a shop, office or dwelling.

10 Overpressure

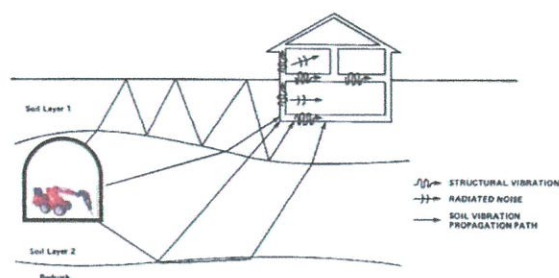
The term "over-pressure" is used to describe the air pressure pulse emitted during blasting or similar events. The peak level of an event is normally measured using a microphone in the same manner as linear noise (i.e. unweighted), at frequencies both in and below the audible range.

11 Regenerated Noise

Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed "regenerated noise", "structure borne noise", or sometimes "ground-borne noise". Regenerated noise originates as vibration and propagates between the source and receiver through the ground and/or building structural elements, rather than through the air.

Typical sources of regenerated noise include tunnelling works, underground railways, excavation plant (e.g. rock breakers), and building services plant (e.g. fans, compressors and generators).

The following figure presents the various paths by which vibration and regenerated noise may be transmitted between a source and receiver for construction activities occurring within a tunnel.



The term "regenerated noise" is also used to describe other types of noise that are emitted from the primary source as a different form of energy. One example would be a fan with a silencer, where the fan is the energy source and primary noise source. The silencer may

effectively reduce the fan noise, but some additional noise may be created by the aerodynamic effect of the silencer in the airstream. This "secondary" noise may be referred to as regenerated noise

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Appendix 9 – MRD Tandem Drive N2

► **Tandem Drive Network 2 With Conditions**
Clydesdale Rd

~~CHIEF OF NORTHAM~~

WHEATBELT

Grass Valley

Great Eastern

Appendix 10 – MRD Tandem Drive N2 Conditions

Tandem Drive Network 2 With Conditions Clydesdale Rd

| OBJECTID | 63511 |
|-------------------|---|
| Road | 4211159 |
| Road Name | Clydesdale Rd |
| Start SLK | 0 |
| End SLK | 13.98 |
| Network Type | Local Road |
| Local Government | Northam |
| Network | Tandem Drive Network 2 |
| From Intersection | Great Eastern Hwy |
| To Intersection | Meenaar North Rd |
| Comments | Null |
| Max Speed | Maximum speed 60 km/h |
| Curfew | Null |
| Conditions | See Low Volume Condition Type A in the Operating Conditions |
| Products | Null |

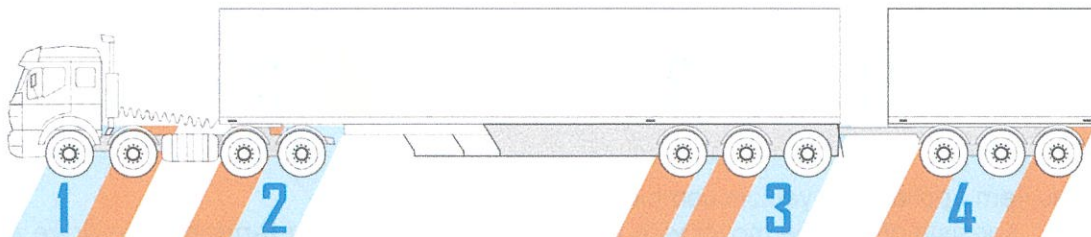
Found 1 results

Tandem Drive Network 2 With Conditions
Clydesdale Rd

Appendix 11 – MRD
RAV Category 2
Combinations

RAV CATEGORY 2

A. RAV Category 2 — Prime Mover, Semi Trailer towing a Pig Trailer - 27.5 m, 65.5 t



Vehicle

5.1 This item applies to a vehicle combination that:

- (a) consists of a prime mover with a single steer or twinsteer axle group and a semi trailer with one (1), two (2) or three (3) axles towing a pig trailer or converter dolly with one (1), two (2) or three (3) axles where the height of the pig trailer and its load (if any) is not more than 3.5 m when measured vertically from the ground;
- (b) has four (4) axle groups; and
- (c) is not carrying a load on the converter dolly.

Conditions

5.2 This vehicle combination may operate on the "RAV Network" prescribed below, provided that:

- (a) it complies with the minimum axle spacing requirements specified in Table A of Clause 6;
- (b) it does not exceed 27.5 m in length;
- (c) the height of a semi trailer may exceed 4.3 m, but not exceed 4.6 m where the trailer is:
 - (i) built to carry livestock;
 - (ii) carrying a crate built to carry livestock;
 - (iii) carrying vehicles on more than one deck; or
 - (iv) carrying an overheight indivisible load(s) or multi-modal container(s);

Network

- 5.3 (a) The vehicle combination must not be driven on any road except a road specified in RAV Network 2, subject to the conditions (if any) specified in the Road Tables;
- (b) In addition to paragraph (a), vehicle combinations above 4.3 m in height must not be driven on the section of Kwinana and Mitchell Freeway between Leach Highway and Powis Street Perth.

Exemptions

5.4 This vehicle combination is exempt from the following provisions:

- (a) 177(1) of the *Road Traffic (Vehicles) Regulations 2014* (Height of vehicles).

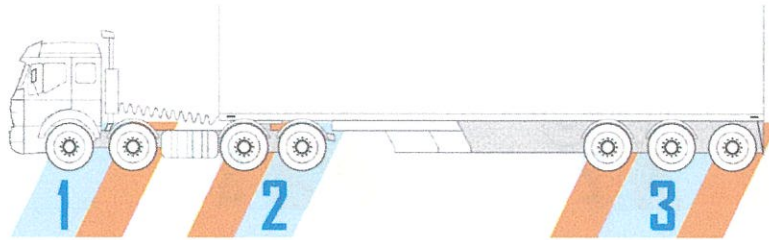
Note

Converter Dolly: Current legislation¹ allows a concession from some of the braking requirements for the towing of unloaded converter dollies in certain circumstances. This is to prevent the wheels of the dolly from skidding when braking. The following is provided as an explanation of that legislative allowance:

¹ Road Traffic (Vehicles) Regulations 2014 r 340 (2)

If the prime mover has a GVM over 12 T and the converter dolly weighs less than 3 T, then the brake control line to the unladen converter dolly may be disconnected providing the supply line remains connected at all times. An unloaded converter dolly must have mudguards covering all wheels.

B. RAV Category 2 — Prime Mover towing a Semi Trailer - 20 m, 47.5 t



Vehicle

- 6.1 This item applies to a vehicle combination that:
- consists of a prime mover with a single steer or a twinsteer axle group towing a semi trailer with one (1), two (2) or three (3) axles; and
 - has three (3) axle groups.
- 6.2 The semi trailer may be a 16.15 m (53') long trailer where the "S" dimension is not more than 10.5 m and the rear overhang is not more than 4.2 m where the load consists of a freight container longer than 48' and up to 53' in length and the load does not project beyond the rear of the trailer.

Conditions

- 6.3 This vehicle combination may operate on the "RAV Network" prescribed below, provided that:
- it complies with the minimum axle spacing requirements specified in Table A of Clause 6;
 - it does not exceed 20 m in length;
 - the height of a semi trailer may exceed 4.3 m, but not exceed 4.6 m where the trailer is:
 - built to carry livestock;
 - carrying a crate built to carry livestock;
 - carrying vehicles on more than one deck; or
 - carrying overheight indivisible load(s) or multi modal container(s);

Network

- 6.4 (a) The vehicle combination must not be driven on any road except a road specified in RAV Network 2, subject to the conditions (if any) specified in the Road Tables;
- (b) In addition to paragraph (a), vehicle combinations above 4.3 m in height must not be driven on the section of Kwinana and Mitchell Freeway between Leach Highway and Powis Street Perth.

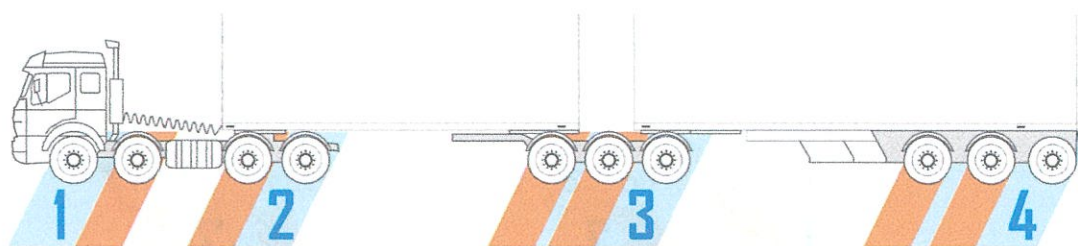
Exemptions

- 6.5 The vehicle combination is exempt from the following provisions:
- 177(1) of the *Road Traffic (Vehicles) Regulations 2014* (Height of vehicles);
 - 173(1) (b) of the *Road Traffic (Vehicles) Regulations 2014* (Distance between point of articulation and rear of semi-trailer) mentioned in subclause 6.2 only;
 - 175(1) of the *Road Traffic (Vehicles) Regulations 2014* (Rear overhang on semi-trailers and dog trailers) mentioned in subclause 6.2 only; and
 - 174(1) (d) of the *Road Traffic (Vehicles) Regulations 2014* (Length of combination)

Note

The 'S' dimension is the distance between the point of articulation (king pin) and the line from which the rear overhang is measured (centre of the rear axle group).

C. RAV Category 2 — B-double - 27.5 m, 67.5 t



Vehicle

- 7.1 This item applies to a vehicle combination that:
- consists of a prime mover with a single steer or a twinsteer axle group towing two (2) semi trailers with one (1), two (2) or three (3) axles each; and
 - has a total of four (4) axle groups.

Conditions

- 7.2 This vehicle combination may operate on the "RAV Network" prescribed below, provided that:
- it complies with the minimum axle spacing requirements specified in Table A of Clause 6;
 - it does not exceed 27.5 m in length;
 - The two (2) semi-trailers used in a B-double combination must not exceed 22 m in combined length, measured from the front of the lead semi-trailer to the rear of the second semi-trailer (including the space between the semi-trailers and excluding any rounded front or attachment to the front of the lead trailer);
 - the height of a semi trailer may exceed 4.3 m, but not exceed 4.6 m where the trailer is:
 - built to carry livestock;
 - carrying a crate built to carry livestock;
 - carrying vehicles on more than one deck; or
 - carrying overheight indivisible load(s) or multi modal container(s);

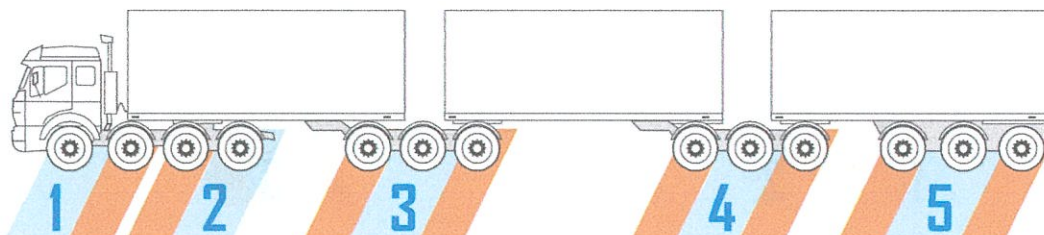
Network

- 7.3 (a) The vehicle combination must not be driven on any road except a road specified in RAV Network 2, subject to the conditions (if any) specified in the Road Tables;
- (b) In addition to paragraph (a), vehicle combinations above 4.3 m in height must not be driven on the section of Kwinana and Mitchell Freeway between Leach Highway and Powis Street Perth.

Exemptions

- 7.4 The vehicle combination is exempt from the following provisions:
- 177(1) of the *Road Traffic (Vehicles) Regulations 2014* (Height of vehicles); and
 - 174(1) (a) of the *Road Traffic (Vehicles) Regulations 2014* (Length of B-double).

D. RAV Category 2 — Short B-triple - 27.5 m, 87.5 t



Vehicle

8.1 This item applies to a vehicle combination that:

- (a) consists of a prime mover with a single steer or twin steer axle group and tandem axle drive group towing three (3) consecutive semi trailers each with one (1), two (2) or three (3) axles; and
- (b) has a total of five (5) axle groups.

Conditions

8.2 This vehicle combination may operate on the "RAV Network" prescribed below, provided that:

- (a) it complies with the minimum axle spacing requirements specified in Table A of Clause 6;
- (b) it does not exceed 27.5 m in length;
- (c) the height of a semi trailer may exceed 4.3 m, but not exceed 4.6 m where the trailer is:
 - (i) built to carry livestock;
 - (ii) carrying a crate built to carry livestock;
 - (iii) carrying vehicles on more than one deck; or
 - (iv) carrying over height indivisible load(s) or multi modal container(s);

Network

- 8.3 (a) The vehicle combination must not be driven on any road except a road specified in RAV Network 2, subject to the conditions (if any) specified in the Road Tables;
- (b) In addition to paragraph (a), vehicle combinations above 4.3 m in height must not be driven on the section of Kwinana and Mitchell Freeway between Leach Highway and Powis Street Perth.
- (c) A RAV must not be driven over a restricted bridge specified as a condition for the following roads in the RAV Network 2 Road Tables:

Carnarvon - Mullewa Rd (Shire of Murchinson)
 Coalseam Rd (Shire of Mingenew)
 Crossman - Dwarda Rd (Shire of Wandering)
 Cubbine Rd (Shire of Quairading)
 Coorow - Greenhead Rd (Shire of Coorow)
 Dangin - Mears Rd (Shire of Brookton and Shire of Quairading)
 Bristol Rd (Shire of Waroona)
 Beecroft Rd (Shire of Goomalling)
 Badjaling South Rd (Shire of Quairading)
 Kellerberrin - Shackleton Rd (Shire of Bruce Rock and Shire of Kellerberrin)
 Belka East Rd (Shire of Bruce Rock)
 Vietch Rd (Shire of Bruce Rock)

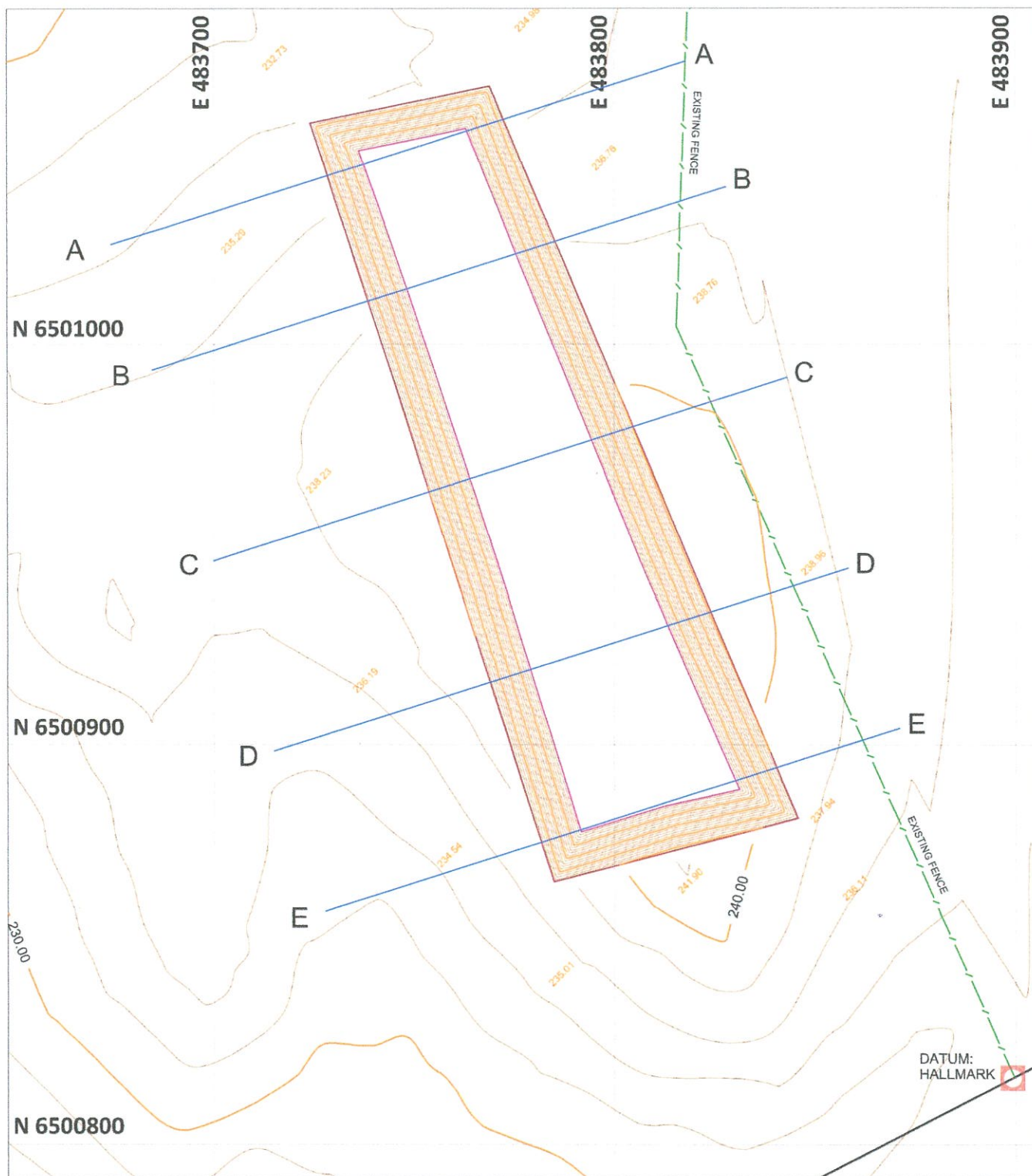
Exemptions

8.4 This vehicle combination is exempt from the following provisions:

- (a) 177(1) of the *Road Traffic (Vehicles) Regulations 2014* (Height of vehicles)

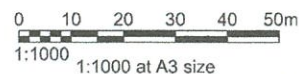
Appendix 12

SE Pit Design



DISCLAIMER
This plan has been prepared for Planning Commission submission only. Dimensions and areas on this plan are subject to change and should not be used for any other purposes.

- Legend**
- Proposed Top of Pit
 - Proposed Pit Floor
 - Cross Sections
 - Boundary
 - Fence
 - Surface Height



| REV | DATE | DESCRIPTION | DRAWN | SURVEYOR | APPROVED |
|-----|------------|----------------------------|-------|----------|----------|
| A | 24/02/2018 | PROPOSED PIT PRELIM. ISSUE | AG | - | SES |
| | | | | | |
| | | | | | |
| | | | | | |

| | |
|---------------------|---|
| CLIENT: | RESOURCES GROUP (WA) Pty Ltd |
| PROJECTION: | HORIZONTAL - MGA VERTICAL - Approx AHD |
| LIMITATIONS OF USE: | The contents of this plan are current and correct as of the date stated within the text on panel. All consultants and persons intending to use this data should satisfy themselves of the plans currency by contacting Total Project Consultants. |

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 e: admin@totalprojectconsultants.com.au
 • project managers
 • licensed surveyors
 • town planning

**PROPOSED PIT SE AREA
ON PART
LOT 150 ON DP 300080
CLYDESDALE ROAD,
GRASS VALLEY**

| | |
|----------|-------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 03 |
| SCALE: | 1:1000 @ A3 |
| REVISION | A |



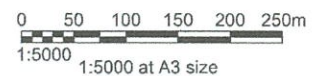
| PT | NORTHING | EASTING |
|----|-------------|------------|
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| ② | 6501064.539 | 483768.894 |
| ③ | 6500865.713 | 483784.972 |
| ④ | 6500881.560 | 483845.745 |
| ⑤ | 6500816.680 | 483802.054 |
| ⑥ | 6500766.196 | 483899.190 |
| ⑦ | 6500758.007 | 483750.606 |
| ⑧ | 6500788.330 | 483565.570 |

Notes:

1. This plan has been prepared for RESOURCES GROUP Pty. Ltd. and should not be used for any other purpose or by any third party unless authorised in writing by Total Project Consultants Pty Ltd;
2. Prior to the commencement of any work, relevant authorities should be contacted for the location of all underground services;
3. Levels are based on SSM PTH 216 and prior to any construction must be verified with a second AHD datum;
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7. Boundaries have been re established but not pegged. Prior to the commencement of any works boundaries should be pegged.

Legend

- Proposed Top of Pit
 Boundary
 Fence
 Surface Height



| REV | DATE | DESCRIPTION | DRAWN BY | SURVEYOR | APPROVED |
|---|------------|-------------------------|--|---|----------|
| A | 24/04/2019 | PROPOSED INT. RM. ISSUE | AC | - | SEP |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| CLIENT: RESOURCES GROUP (WA) Pty Ltd | | | PROJECTION: HORIZONTAL - AUSTRALIAN VERTICAL - MGA | LIMITATIONS OF USE: The contents of this plan are current and correct as of the date created under the version named. All consequences and persons intending to use this data should satisfy themselves of the plans accuracy by conducting Total Station Measurements. | |

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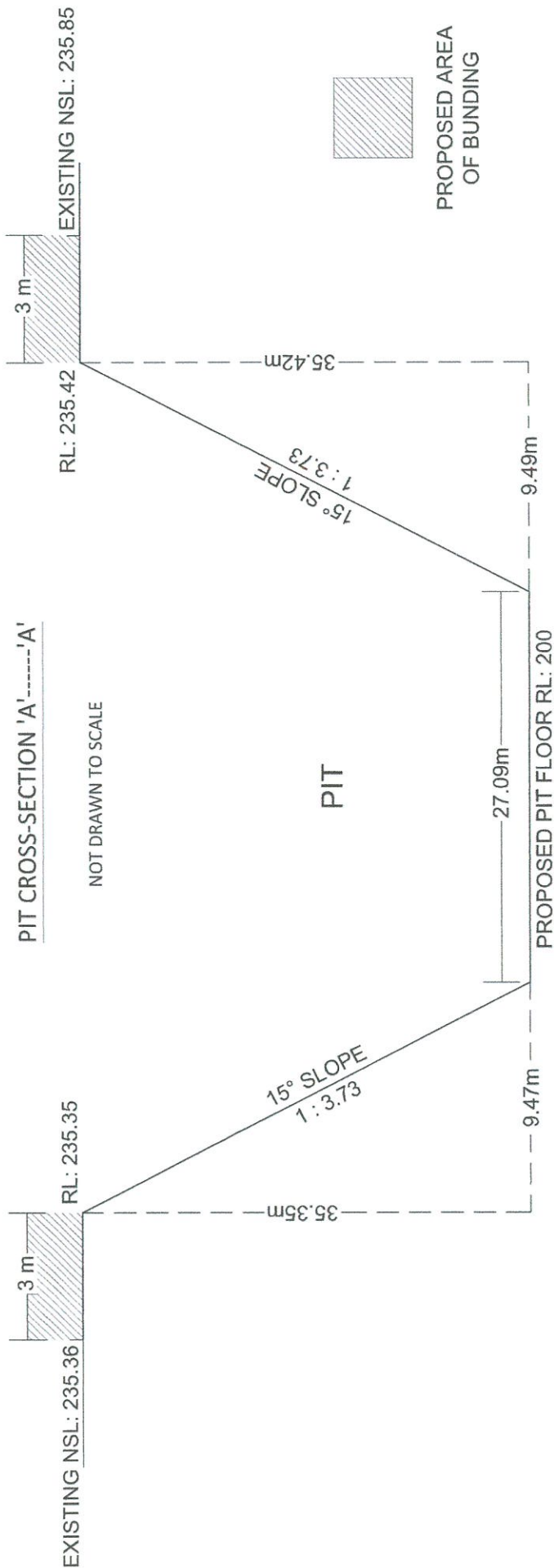
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e: admin@totalprojectconsultants.com.au

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- licensed surveyors
- town planning

PROPOSED SE PIT
LOCATION PLAN ON PART
LOT 150 ON DP 300080
CLYDESDALE ROAD,
GRASS VALLEY

| | |
|-----------|-------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 02 |
| SCALE: | 1:5000 @ A3 |
| REVISION: | A |

1



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 3. Levels are based on SSM PTH 26 and prior to any construction must be verified with a second AHD datum;
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APPROXIMATE PIT DESIGN CAPACITY - 330000 BCM

WALL SLOPE GRADIENT = 1 HORIZONTAL TO 3.73 VERTICAL (15°)

| REV | DATE | DESCRIPTION | DRAWN | SUPERVISOR | APPROVED |
|-----|------------|-------------------|-------|------------|----------|
| A | 24/04/2018 | PIT CROSS SECTION | AG | - | SBS |

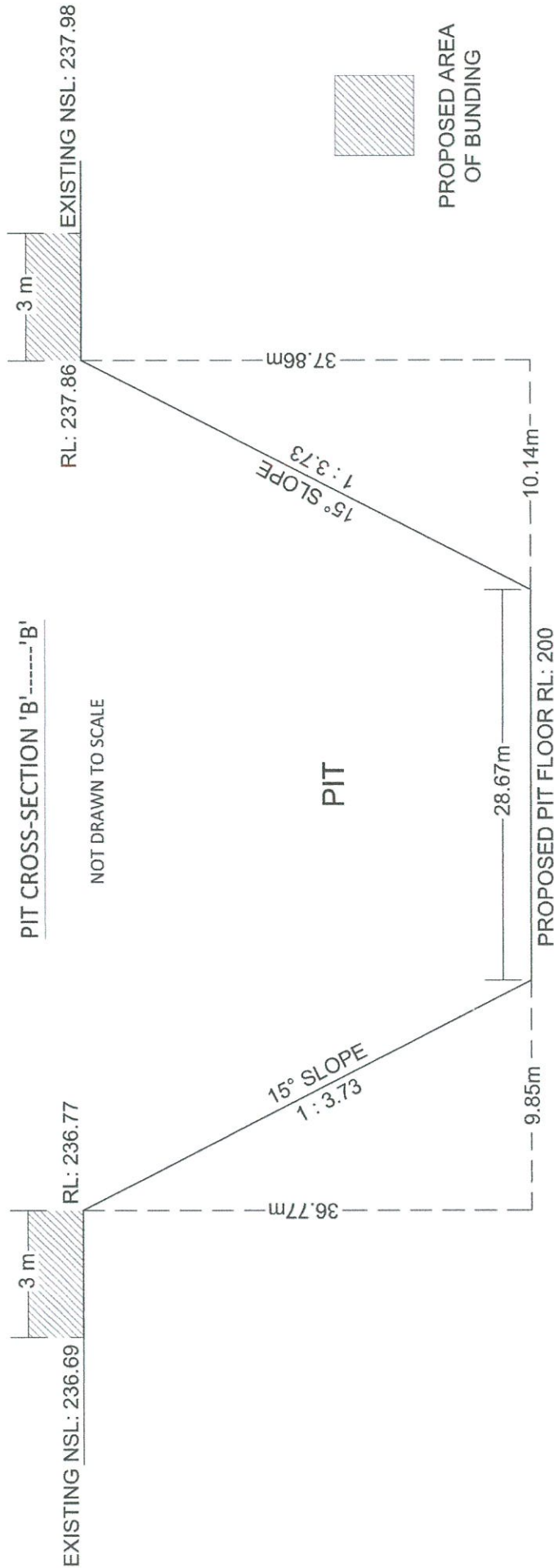
| CLIENT | PROJECTION | LIMITATIONS OF USE |
|--------------------------------|---|---|
| RESOURCES GROUP (WA) Pty. Ltd. | HORIZONTAL - Local VERTICAL - Approx. AND | The contents of this plan are current and correct as of the date stated within the revision panel. All consultants and persons engaged in the preparation and execution of the plans are hereby authorised to sign and certify the plans as correct and true to the best of their knowledge and belief. |

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* project managers
* licensed surveyors
* town planning

PROPOSED PIT SE AREA
CROSS SECTION PART 1
OVER LOT 150 ON DP 300080
CLYDESDALE ROAD,
GRASS VALLEY

| | |
|----------|--------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 01 |
| SCALE | NOT TO SCALE |
| REVISION | A |
| SHEET | 1 OF 5 |

2



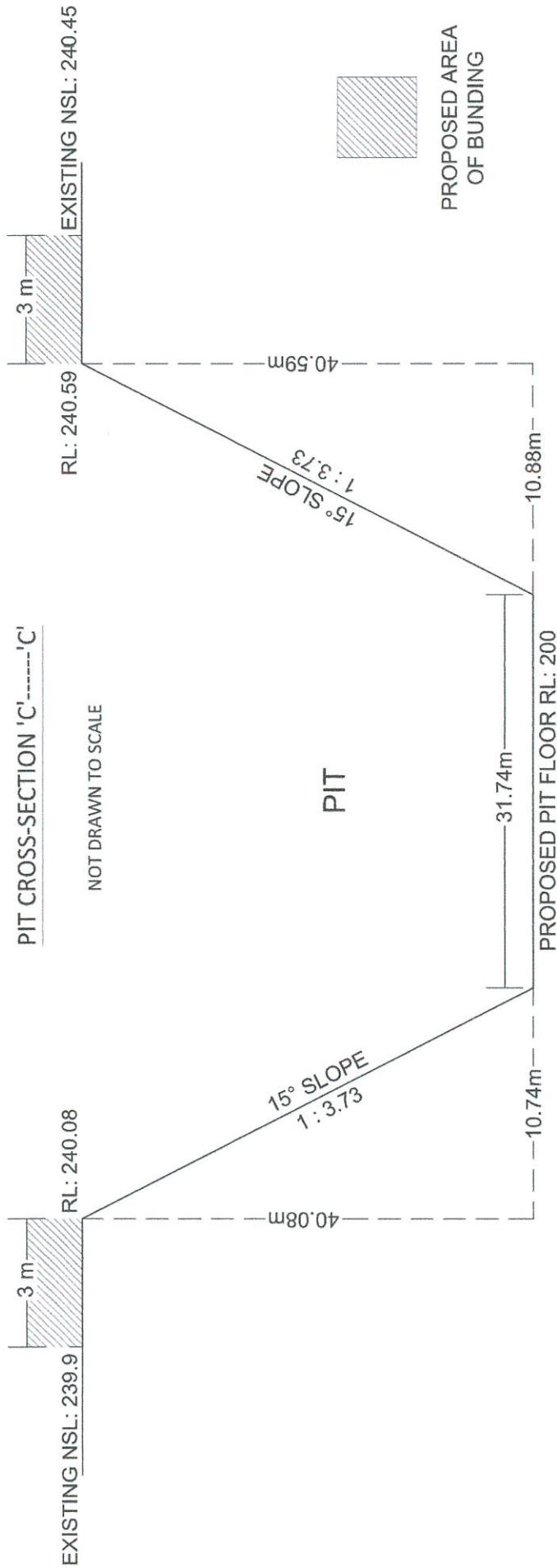
WALL SLOPE GRADIENT = 1 HORIZONTAL TO 3.73 VERTICAL (15°)

APPROXIMATE PIT DESIGN CAPACITY - 330000 BCM

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 - Levels are based on SSM PTH 26 and prior to any construction must be verified with a second AHD datum.
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| REV | DATE | DESCRIPTION | DRAWN | SUPERVISOR | APPROVED |
|--|------------|-------------------|-------|------------|----------|
| A | 24/04/2018 | PIT CROSS SECTION | AC | - | SBS |
| LIMITATIONS OF USE | | | | | |
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| PROJECTION | | | | | |
| HORIZONTAL: UTM | | | | | |
| VERTICAL: AOD | | | | | |
| CLIENT | | | | | |
| RESOURCES GROUP (WA) Pty. Ltd. | | | | | |
| JOB No. | | | | | |
| J2018066 | | | | | |
| PLAN No. | | | | | |
| J2018066 01 | | | | | |
| SCALE | | | | | |
| NOT TO SCALE | | | | | |
| REVISION | | | | | |
| A | | | | | |
| SHEET 2 OF 3 | | | | | |
| PROPOSED PIT SE AREA CROSS SECTION PART 2 OVER LOT 150 ON DP 300080 CLYDESDALE ROAD, GRASS VALLEY | | | | | |
| Total Project Consultants | | | | | |
| p: 08 6141 3154 f: 08 6141 3101 | | | | | |
| e: admin@totalprojectconsultants.com.au | | | | | |
| * project managers | | | | | |
| * licensed surveyors | | | | | |
| * town planning | | | | | |

3




PROPOSED AREA
OF BUNDING

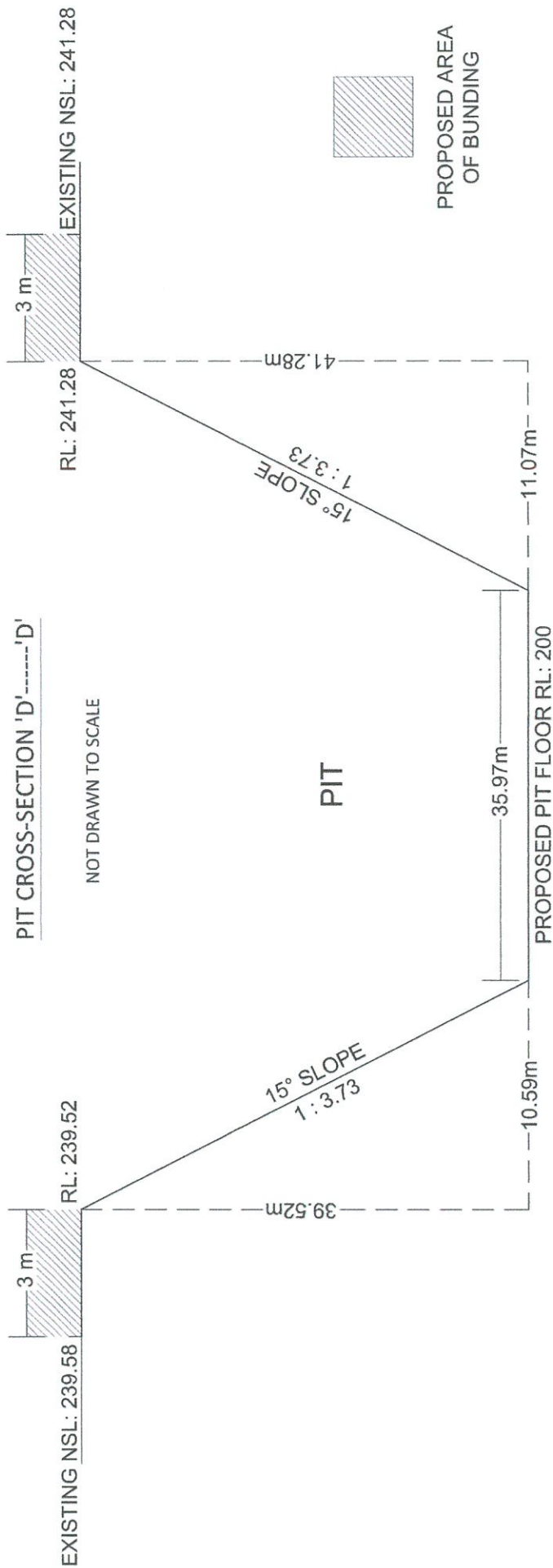
WALL SLOPE GRADIENT = 1 HORIZONTAL TO 3.73 VERTICAL (15°)

APPROXIMATE PIT DESIGN CAPACITY - 330000 BCM

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 2. Prior to the commencement of any work, relevant authorities should be contacted for the location of all underground services.
 3. Levels are based on SSM PTH 26 and prior to any construction must be verified with a second AHD datum.
 4. Total Project Consultants Pty Ltd accepts no responsibility for any physical on site changes to the parcel or portion of the parcel of land shown on this survey including any adjoining neighbours levels and features that have occurred after the date on this survey.
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 7. Boundaries have been established but not pegged. Prior to the commencement of any work boundaries should be pegged.

| | | | | | | | | | | | |
|---|--|----------------------------------|----------------------|-------------|---------------|-----------------|---|---|-------------------------|-----------------------|---------------|
| CLIENT RESOURCES GROUP (WA) Pty. Ltd. | | DESCRIPTION PIT CROSS SECTION | DATE A 24/02/2018 | DRAWN AC | SURVEYOR - | APPROVED SBS |  Total Project Consultants p: 08 6141 3154 f: 08 6141 3101 e: admin@totalprojectconsultants.com.au • project managers • licensed surveyors • town planning | PROPOSED PIT SE AREA CROSS SECTION PART 3 OVER LOT 150 ON DP 300080 CLYDESDALE ROAD, GRASS VALLEY | | | |
| | | | | | | | | JOB No. J2018066 | PLAN No. J2018066 01 | SCALE NOT TO SCALE | REVISION A |

4



WALL SLOPE GRADIENT = 1 HORIZONTAL TO 3.73 VERTICAL (15°)

APPROXIMATE PIT DESIGN CAPACITY - 330000 BCM

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 - Prior to the commencement of any work, relevant authorities should be contacted for the location of all underground services;
 - Levels are based on SSM PTH 26 and prior to any construction must be verified with a second AHID datum;
 - Total Project Consultants Pty Ltd accepts no responsibility for any physical on site changes to the parcel or portion of the parcel of land shown on this survey including any adjoining neighbours levels and features that have occurred after the date on this survey;
 - Due to overwriting, some levels may be switched off for this plan only and;
 - This note is an integral part of this plan and must not be removed;
 - Boundaries have been re-established but not pegged. Prior to the commencement of any work boundaries should be pegged.

| | | | |
|---|--|---|--|
| JOB No: J2018066 | | PROPOSED PIT SE AREA | |
| PLAN No: J2018066.01 | | CROSS SECTION PART 4 | |
| SCALE: NOT TO SCALE | | OVER LOT 150 ON DP 300080 | |
| REV: A | | CLYDESDALE ROAD, | |
| SHEET 4 OF 5 | | GRASS VALLEY | |
| RESOURCES GROUP (WA) Pty. Ltd. | | Total Project Consultants | |
| DESCRIPTION: PIT CROSS SECTION | | tpe | |
| DATE: 24/04/2018 | | p: 08 6141 3154 f: 08 6141 3101 | |
| DRAWN: AC | | e: admin@totalprojectconsultants.com.au | |
| SURVEYED: - | | * project managers | |
| APPROVED: SBE | | * licensed surveyors | |
| LIMITATIONS OF USE | | * town planning | |
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| PROJECTION: HORIZONTAL - Total | | | |
| VERTICAL - Approx. A=0 | | | |



APPROXIMATE PIT DESIGN CAPACITY - 330000 BCM

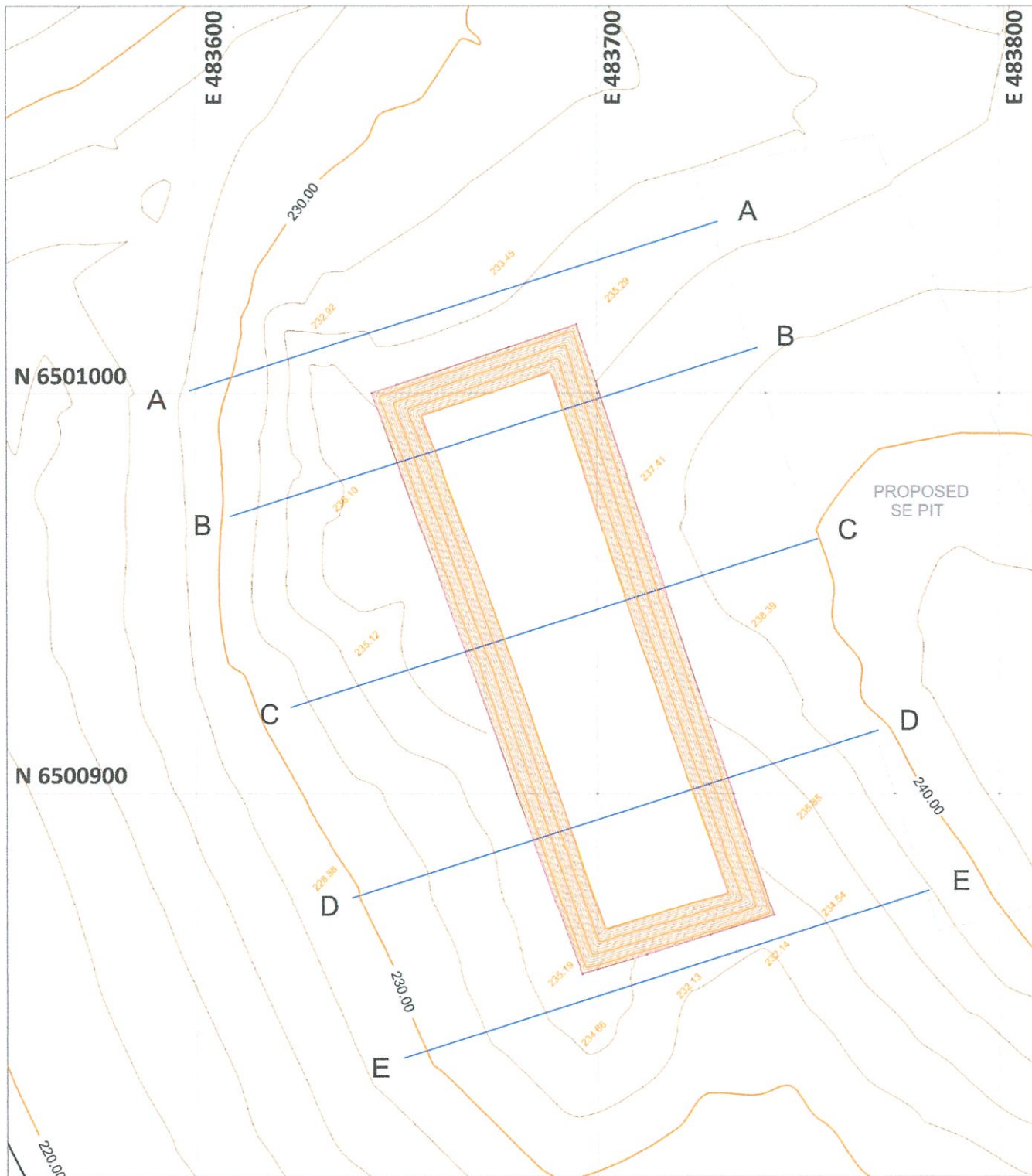
- | REV | DATE | DESCRIPTION | DRAWN | SURVEYOR | APPROVED |
|---|----------|-------------------|-------|----------|----------|
| A | 24/04/02 | FIT CROSS SECTION | AC | - | SBS |
| <div style="display: flex; justify-content: space-between;"> <div> <p>CLIENT</p> <p>RESOURCES GROUP</p> <p>(WA) Pty. Ltd.</p> </div> <div> <p>PROJECTION</p> <p>HORIZONTAL Total</p> <p>VERTICAL Approv.</p> <p>AS-CD</p> </div> </div> | | | | | |
| <p>LIMITATIONS OF USE</p> <p>The contents of this plan are current and correct as of the date of issue. It is to be used on ground as shown and does not represent any liability on the part of the Surveyor. The plan is to be used for the purposes currently by contacting Total Project Consultants.</p> | | | | | |

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| | |
|----------|--------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 01 |
| SCALE | NOT TO SCALE |
| REVISION | A |
| SHEET | 5 OF 5 |

Appendix 13

SW Pit Design



DISCLAIMER
This plan has been prepared for Planning Commission submission only. Dimensions and areas on this plan are subject to change and should not be used for any other purposes.

- Legend**
- Proposed Top of Pit
 - Proposed Pit Floor
 - Cross Sections
 - Boundary
 - Surface Height

0 10 20 30 40 50m
1:1000 1:1000 at A3 size

| REV | DATE | DESCRIPTION | DRAWN | SURVEYOR | APPROVED |
|-----|------------|----------------------------|-------|----------|----------|
| A | 08/05/2018 | PROPOSED PIT PRELIM. ISSUE | AG | - | SJS |
| | | | | | |
| | | | | | |
| | | | | | |

| | |
|---------------------|--|
| CLIENT: | RESOURCES GROUP (WA) Pty Ltd |
| PROJECTION: | HORIZONTAL: MOA VERTICAL: Approx AHD |
| LIMITATIONS OF USE: | The contents of this plan are current and correct as of the date stated within the revision panel. All consultants and persons intending to use this data should satisfy themselves of the plans currency by contacting Total Project Consultants. |

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- licensed surveyors
- town planning

**PROPOSED PIT SW AREA
ON PART
LOT 150 ON DP 300080
CLYDESDALE ROAD,
GRASS VALLEY**

| | |
|-----------|-------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 05 |
| SCALE: | 1:1000 @ A3 |
| REVISION: | A |



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3. Levels are based on SSM PTH 26 and prior to any construction must be verified with a second AHD datum;
4. Total Project Consultants Pty Ltd accepts no responsibility for any physical on site changes to the parcel or portion of the parcel of land shown on this survey including any adjoining neighbours levels and features that have occurred after the date on this survey;
5. Due to overwriting some levels may be switched off for this plan only and;
6. This note is an integral part of this plan and must not be removed.
7. Boundaries have been re established but not pegged. Prior to the commencement of any works boundaries should be pegged.

Legend

- Proposed Top of Pit
- Boundary
- Fence
- Surface Height

| PT | NORTHING | EASTING |
|----|-------------|------------|
| ⑤ | 6500816.680 | 483802.054 |
| ⑥ | 6500766.196 | 483899.190 |
| ⑦ | 6500758.007 | 483750.606 |
| ⑧ | 6500788.330 | 483565.570 |
| ⑨ | 6501000.000 | 483644.000 |
| ⑩ | 6501017.162 | 483694.946 |
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| ⑫ | 6500859.678 | 483744.005 |

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1:5000
1:5000 at A3 size

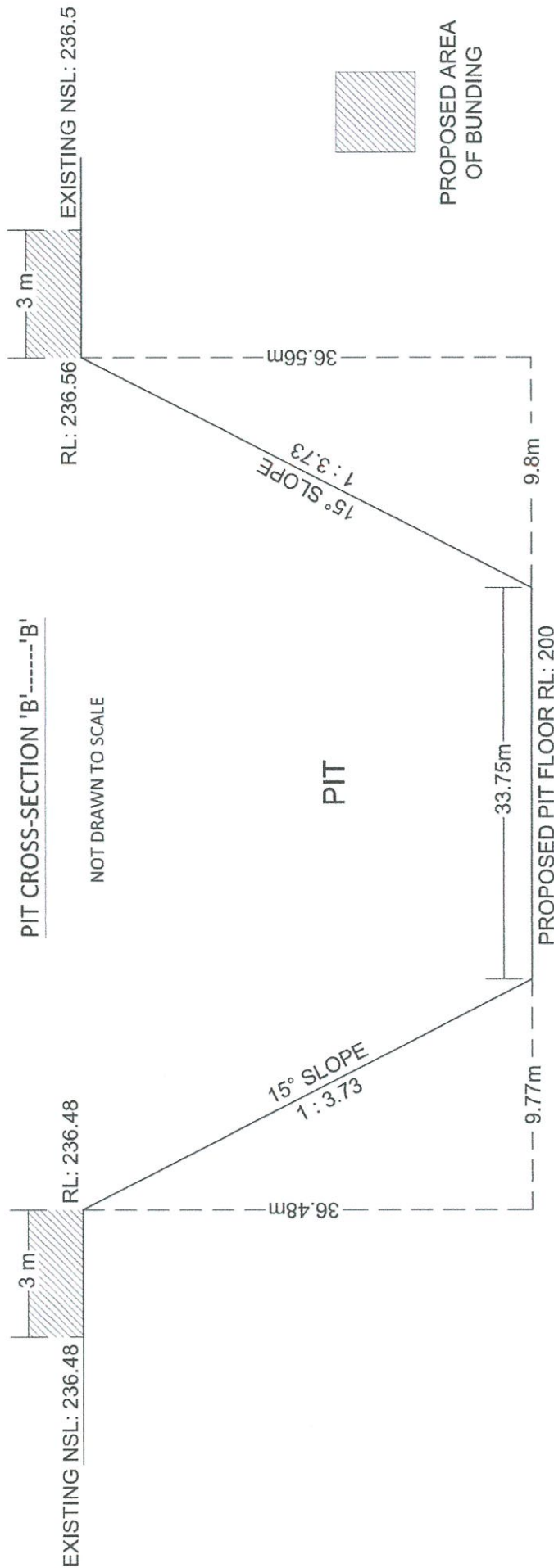
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|-----|------------|--------------------------|-------|----------|----------|
| A | 07/02/2018 | PROPOSED PIT PLAN: ISSUE | AC | - | SUS |
| | | | | | |
| | | | | | |
| | | | | | |

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• town planning

**PROPOSED SW PIT
LOCATION PLAN ON PART
LOT 150 ON DP 300080
CLYDESDALE ROAD,
GRASS VALLEY**

| | |
|----------|-------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 04 |
| SCALE: | 1:5000 @ A3 |
| REVISION | A |

6



WALL SLOPE GRADIENT = 1 HORIZONTAL TO 3.73 VERTICAL (15°)

APPROXIMATE PIT DESIGN CAPACITY - 222000 BCM

- Notes:
1. This plan has been prepared for RESOURCES GROUP (WA) Pty. Ltd. and should not be used for any other purpose or by any third party unless authorised in writing by Total Project Consultants Pty Ltd.
 2. Prior to the commencement of any work, relevant authorities should be contacted for the location of all underground services.
 3. Levels are based on SSM PTH 26 and prior to any construction must be verified with a second AHD datum.
 4. Total Project Consultants Pty Ltd accepts no responsibility for any physical on site changes to the parcel or portion of the parcel of land shown on this survey including any adjoining neighbours levels and features that have occurred after the date on this survey.
 5. Due to overwriting some levels may be switched off for this plan only and;
 6. This note is an integral part of this plan and must not be removed.
 7. Boundaries have been re-established but not pegged. Prior to the commencement of any works boundaries should be pegged.

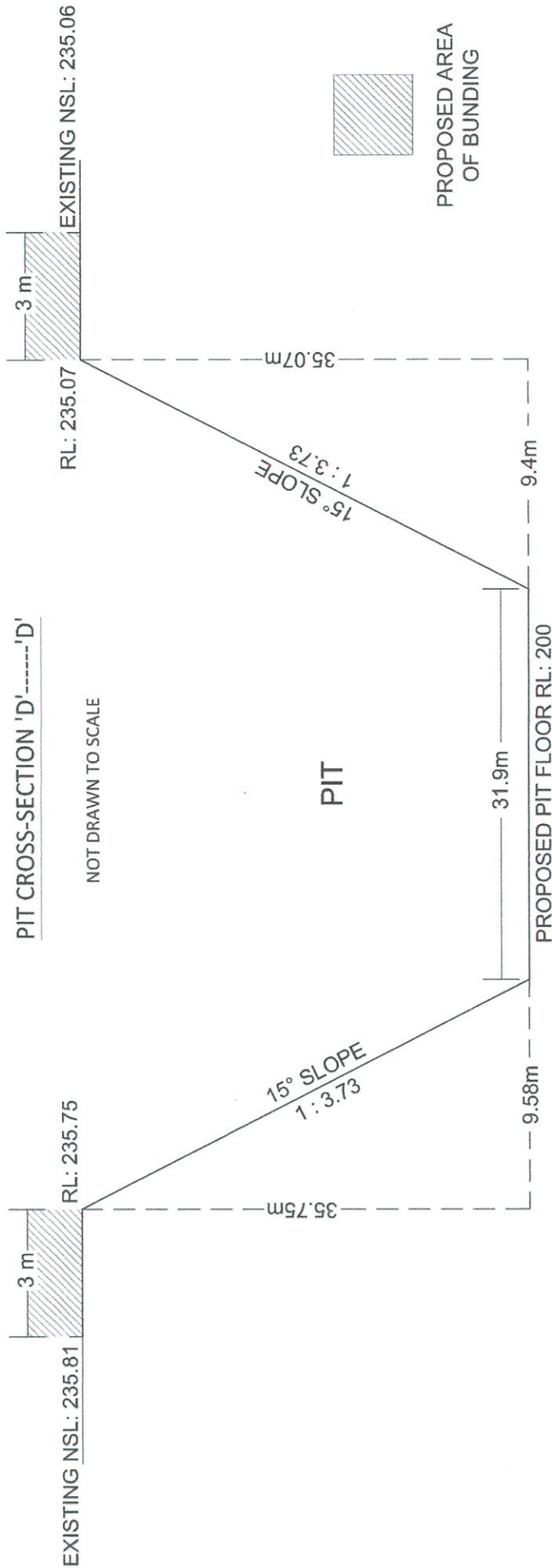
| REV | DATE | DESCRIPTION | DESIGN | SURVEY | APPROVED |
|--------------------------------|------------|-------------------|--|--------|----------|
| A | 08/02/2018 | PIT CROSS SECTION | AC | - | BBB |
| CLIENT | | | LIMITATIONS OF USE | | |
| RESOURCES GROUP (WA) Pty. Ltd. | | | The contents of this plan are current and correct as of the date stated within the revision panel. All consultants and persons engaged in the preparation and execution of the plans are currently, by contacting Total Project Consultants. | | |
| | | | PROBATION | | |
| | | | HORIZONTAL | | |
| | | | VERTICAL | | |

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* project managers
* licensed surveyors
* town planning

PROPOSED PIT SW AREA
CROSS SECTION PART 6
OVER LOT 150 ON DP 300080
CLYDESDALE ROAD,
GRASS VALLEY

| | |
|----------|--------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 06 |
| SCALE | NOT TO SCALE |
| REVISION | A |
| SHEET | 1 OF 3 |

8



WALL SLOPE GRADIENT = 1 HORIZONTAL TO 3.73 VERTICAL (15°)

APPROXIMATE PIT DESIGN CAPACITY - 222000 BCM

- Notes:
1. This plan has been prepared for RESOURCES GROUP (WA) Pty. Ltd. and should not be used for any other purpose or by any third party unless authorised in writing by Total Project Consultants Pty Ltd.
 2. Prior to the commencement of any work, relevant authorities should be contacted for the location of all underground services.
 3. Levels are based on SSM PTH 26 and prior to any construction must be verified with a second AHD datum.
 4. Total Project Consultants Pty Ltd accepts no responsibility for any physical on site changes to the parcel or portion of the parcel of land shown on this survey including any adjoining neighbours levels and features that have occurred after the date on this survey.
 5. Due to overwriting some levels may be switched off for this plan only and:
 6. This note is an integral part of this plan and must not be removed.
 7. Boundaries have been re-established but not pegged. Prior to the commencement of any work boundaries should be pegged.

| REV | DATE | DESCRIPTION | DRAWN | SURVEYOR | APPROVED |
|--|------------|-------------------|--|----------|----------|
| A | 13/05/2012 | PIT CROSS SECTION | AC | - | BBS |
| RESOURCES GROUP (WA) Pty. Ltd. | | | PROJECTION HORIZONTAL 1: 6000 VERTICAL 1: 6000 | | |
| LIMITATIONS OF USE The contents of this plan are correct and correct as of the date stated within the revision panel. All consultants and persons using this plan are advised that the plan is not a final plan and is subject to change without notice. The plan is not to be used for any purpose other than that for which it was prepared and is not to be relied upon for any other purpose. | | | The plan is not to be used for any purpose other than that for which it was prepared and is not to be relied upon for any other purpose. | | |

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- project managers
- licensed surveyors
- town planning

PROPOSED PIT SW AREA
CROSS SECTION PART 8
OVER LOT 150 ON DP 300080
CLYDESDALE ROAD,
GRASS VALLEY

| | |
|--------------|--------------|
| JOB No. | J2018066 |
| PLAN No. | J2018066 06 |
| SCALE | NOT TO SCALE |
| REVISED | A |
| SHEET 3 OF 3 | |