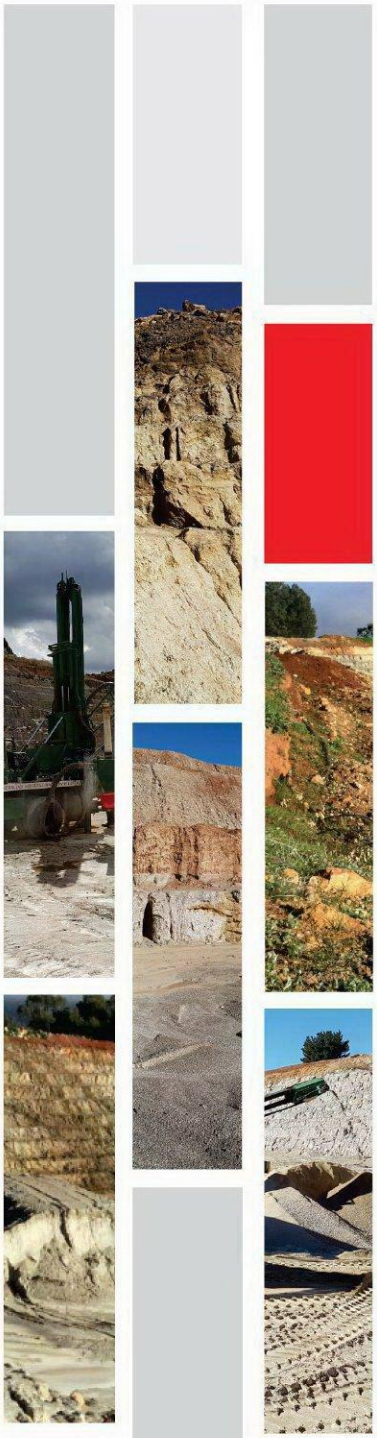

APPENDIX J

Noise & Vibration Assessment

DOC18/188732

PGH BRICKS & PAVERS

PGH Bricks & Pavers Ltd

Noise Assessment
for:
Andersons Clay Mine
Environmental Impact Statement

November 2018

vgt
Environmental
Compliance
Solutions Pty Ltd

PO Box 2335 Greenhills NSW 2323
P (02)4028 6412 E mail@vgt.com.au
www.vgt.com.au ABN 26 621 943 888

Prepared by:

VGT Environmental
Compliance Solutions Pty Ltd

PGH Bricks & Pavers Ltd

Noise Assessment
for:
Andersons Clay Mine
Environmental Impact Statement
November 2018

Prepared by:	
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Report Date:	27/11/2018/2018	
Report Number:	3618_AN_EIS_NA_F0	
Report Authorised by:	Tara O'Brien	27/11/2018
	Joe Gauci	27/11/2018
Checked by:	Rich Mason	27/11/2018

Revision Table

Date	Version
3/09/2018	3618_AN_EIS_NA_D0
3/10/2018	3618_AN_EIS_NA_D1
27/11/2018	3618_AN_EIS_NA_F0

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Figures

List of Tables

Section 1. Introduction

1.1. Background

The subject land is described as Lot 2, DP 856969, 253 Shaw Road, Springdale Heights, located in the suburb of Springdale Heights, approximately 7km north east of Albury, see *Figure One.*

The land contains a functioning mine known as Anderson's Clay Mine.

The property is owned by PGH Bricks and Pavers Pty Ltd under freehold title.

A development application is being sought for the proposed expansion of an existing clay mine located at 253 Shaw Street, Springdale Heights. The proposed development is deemed to be a Designated Development in Schedule 3 of the Environmental Planning and Assessment Regulation 2000 and a request for the Secretary's Environmental Assessment Requirements (SEARs) was made in April 2017. The SEARs were issued by the Secretary on the 18th of May 2017.

The aim of this report is to provide additional information, as guided by the SEARs to assist the Department and relevant authorities in determining the development application.

1.2. Secretary's Requirements

1.2.1. SEARs

The SEARs require that the EIS, which will include this report, shall address the following issues relating to noise.

Table 1. Noise Issues to be Addressed

Key Issue	Where Addressed in this Document
In particular, the EIS must include; • A comprehensive description of the development, including: ○ A detailed rehabilitation plan for the site;	This Document
The EIS must address the following specific issues: **Noise-** including a quantitative assessment of potential: • construction and operational noise and off-site transport noise impacts of the development in accordance with the *Interim Construction Noise Guideline, NSW Industrial Noise Policy* and *NSW Road Noise Policy* respectively;	Section 5
• reasonable and feasible mitigation measures to minimise noise emissions; and	Section 5
• monitoring and management measures	Section 5 & Section 6

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1.2.2. Council Requirements

Table 2. Albury City Council Noise Issues to be Addressed

Key Issue	Where Addressed in this Document
The following issues should be considered and satisfactorily addressed: • Noise impacts- including blasting, traffic and other relevant sources	Section 5

1.2.3. EPA Requirements

Table 3. EPA Noise Issues to be Addressed

Key Issue	Where Addressed in this Document
Objectives of the proposal should be clearly stated and refer to and including the following. • Environmental protection measures, including **noise mitigation measures**, dust control measures and erosion and sediment control measures.	Section 5
• Mitigation and management options that will be used to prevent, control, abate or mitigate identified potential environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.	Section 5
Potential Impacts of Noise The goals of the project should include design, construction, operation and maintenance of the facility in accordance with relevant policies, guidelines and criteria and in order to minimise potential impacts from noise.	Section 5 & Section 6
Any potential noise sources should be assessed in accordance with the *Industrial Noise Policy* (INP) (EPA, 2000), and where required mitigation measures are proposed (e.g. appropriate equipment chosen to minimise noise levels). All residential or noise sensitive premises likely to be impacted by the development must be identified and included in the assessment.	Section 5 & Section 6

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Key Issue	Where Addressed in this Document
The proposed development may see an increase in traffic movements associated with the transport of material. The number of traffic movements associated with the proposal should be quantified and potential noise impacts associated with these traffic movements need to be assessed in accordance with the NSW Road Noise Policy (DECCW, 2011).	Section 5
Where blasting is proposed, the following details of the blast design should be included the noise assessment. • Bench height, burden spacing, spacing burden ratio; • Blast hole diameter, inclination and spacing; and • Type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.	Not applicable

Section 2. Statutory Requirements and Guidelines

2.1. Environmental Planning and Assessment Act 1979

The clay extraction activities will continue to be subject to the provisions of the AEAP&A Act for any subsequent changes or modifications to the operations. Additionally the operations will need to be able to demonstrate compliance against the current Conditions of Approval issued under the provisions of the EP&A Act.

2.2. Noise Policies

The NSW Industrial Noise Policy (2000) has been replaced by the Noise Policy for Industry (2017). It sets out requirements for the assessment and management of noise from industrial premises in NSW. The policy aims to ensure that noise is kept to acceptable levels whilst supporting the social and economic value of industry in NSW.

The Interim Construction Noise Guideline sets out ways to deal with the impacts of construction noise on residences and other sensitive land uses. 'Construction' is defined in the Guideline to include the erection, installation, alteration, repair, maintenance, cleaning, painting, renewal, removal, excavation, dismantling or demolition of, or addition to, any building or structure, or any work in connection with any of these activities, that is done at or adjacent to the place where the building or structure is located. There are buildings or structures to be constructed on the site therefore this guideline is not applicable.

The NSW Road Noise Policy aims to identify the strategies that address the issue of road traffic noise from:

- existing roads;
- new road projects;
- road redevelopment projects; and
- new traffic-generating developments.

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The Road Noise Policy also defines criteria to be used in assessing the impact of such noise.

2.2.1. Current Council Consent Conditions

In August 1983, the Albury -Wodonga Development Corporation granted a permit (number N72), which approved the mining of clay brick within the north-eastern portion of the subject land. The activity involved an area of 7.975 hectares. The permit did not include an end date to the approval.

Council consent conditions that pertain to the management of Noise are reproduced below.

'4. The permit holder shall ensure that all mobile plant and vehicles and engine-powered equipment are fitted with effective silencers and spark arrestors, which shall be so maintained as to be fully effective at all times..

11. The permit holder shall ensure that no operations, including cartage of material, shall take place outside the daytime hours between 6:00am and 6:00pm Monday to Saturday inclusive, nor on a Sunday, Christmas Day or Good Friday, except for essential plant maintenance.'

DOC18/188732

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - Site Location	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 01/05/2018 & Google Maps 2018	***Our Ref:***	3618_BAN_NV_DA17_C001_V1_F1.cdr
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Sheet:	1 of 1	***Tenure:***	Permit Number N72	***Projection:***	N/A	***Project Manager:***	TO
Version/Date:	V1 03/08/2018	***Client:***	PGH Bricks & Pavers Pty Ltd	***Contour Interval:***	N/A	***Office:***	Thornton

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N

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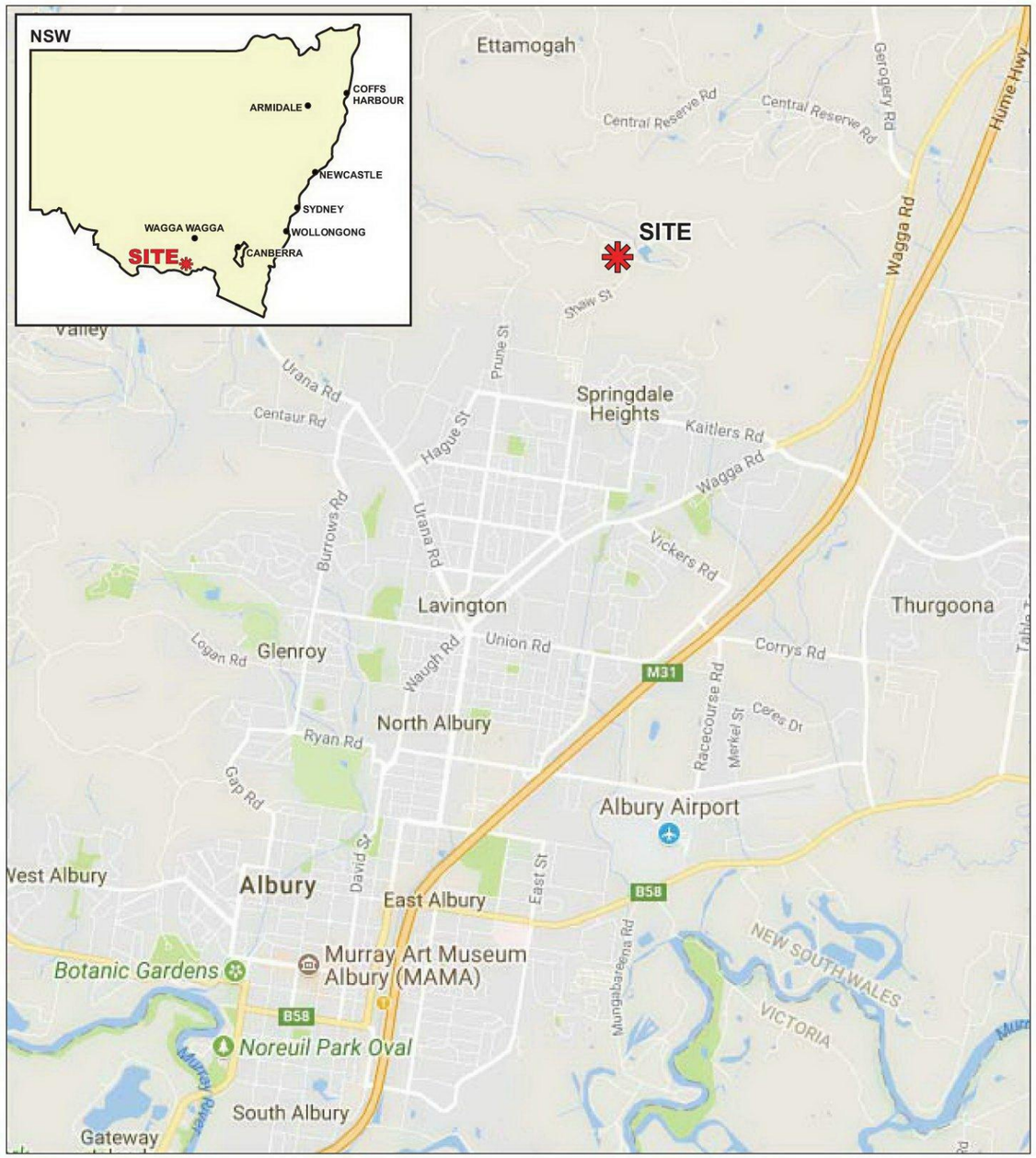

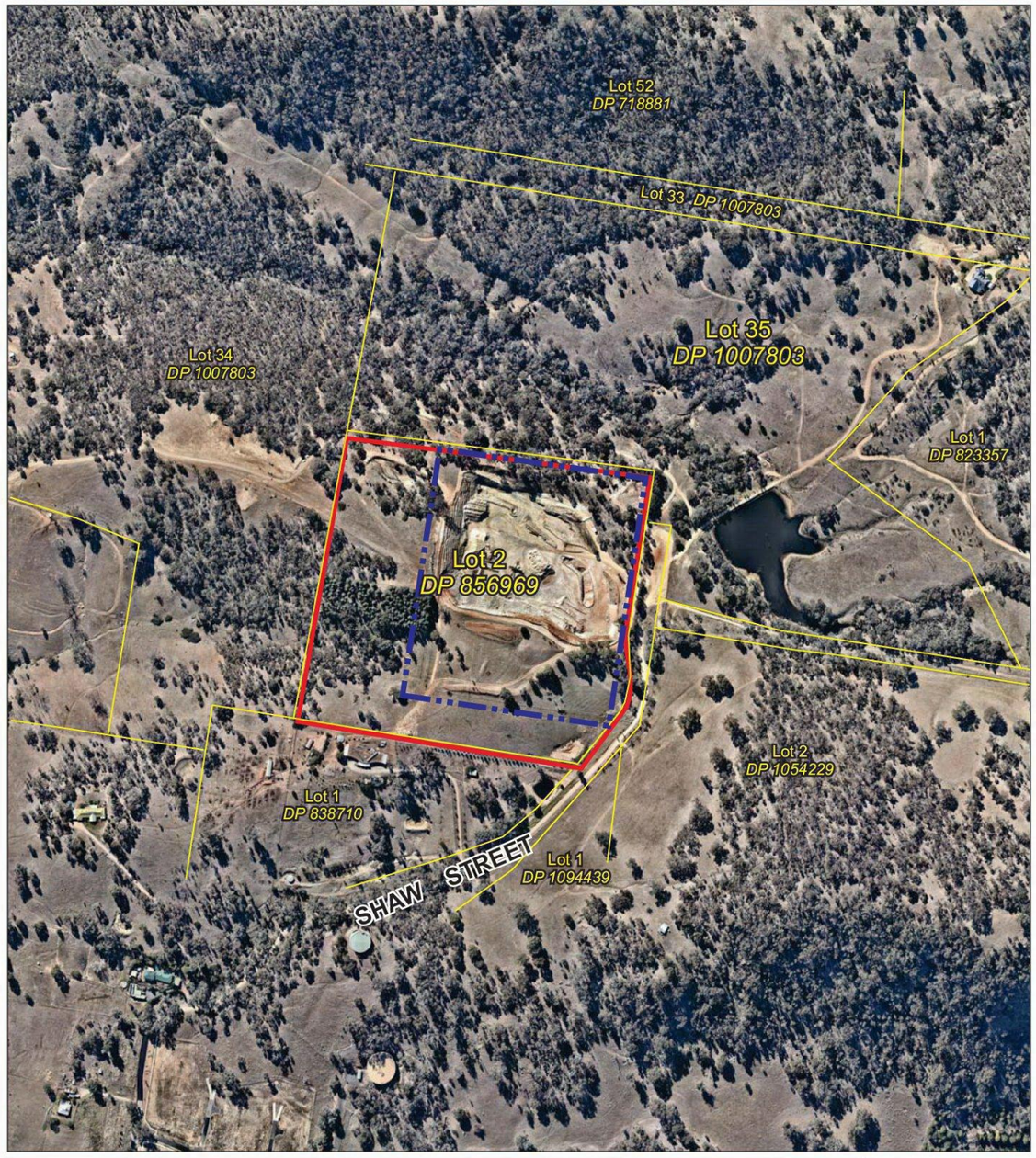

Approx Scale: 0 1 2km

Approx Scale: 0 150m

Legend

- Site *(Lot 2 DP 856969)*
- N72 Consent Boundary
- Lot Boundary

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
Signed:
Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date: 27/11/2018

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - Site Layout	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 01/05/2018 & Landair Surveys	***Our Ref:***	3618_BAN_NV_DA17_C002_V1_F2.cdr
Figure:	TWO	***Council:***	Albury - Wodonga Shire Council	***Survey:***	Landair Surveys - Image Flown 08/02/2017	***Plan By:***	SK/JD
Sheet:	1 of 1	***Tenure:***	Permit Number N72	***Projection:***	MGA	***Project Manager:***	TO
Version/Date:	V1 03/08/2018	***Client:***	PGH Bricks & Pavers Pty Ltd	***Contour Interval:***	1m	***Office:***	Thornton

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N

0 50m

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6014000 N

495000 E

Humbug Gully

Dam 2

In-pit Sedimentation Dam

Stockpile

Haul Road

Humbug Gully Catchment

Site Access

Stockpile

6013750 N

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
Signed:
Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date: 27/11/2018

Dam

Nearest Residence

SHAW STREET

495250 E

495500 E

LEGEND

Feature/Domain	
	Property Boundary
	Consent Boundary *(N72)*
	Water Management Area
	River/Major Drainage Line
	Road
290	Contour
	Area of Disturbance

Section 3. Proposed Development

The proposal is for the extension of an existing mine to extract and process a maximum of 50,000 tonnes of clay/shale in any year for a period of up to 20 to 30 years.

Mining campaigns are undertaken approximately three times each year, with each campaign lasting around four weeks. Up to 50,000 tonnes (approx. 25,000m^3) is currently mined per annum. Mining is undertaken using a combination of a dozer, dump truck and excavator which rip the clay and shale and push the raw material up into one or more internal stockpiles within the mine floor. The stockpile is managed by a front end loader which is also used to load trucks when transporting the clay/shale to the Jindera brickworks. As the material can be quite hard, screening of the material will be undertaken within the pit floor so as to reduce the volume of oversize material transported to the brickworks and make more efficient use of the material won.

The extension of the mine will increase the footprint of the mine from 4.7Ha to approximately 11Ha (see *Figure Three*). There will be no change to the consented extraction depth of 50 metres. Operating hours will also remain identical.

There will be no change to the currently consented extractions rates, mining campaign frequency and duration and transportation due to this mine extension.

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Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - Proposed Extension Area	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 01/05/2018 & Landair Surveys	***Our Ref:***	3618_BAN_NV_DA17_C003_V1_F3.cdr
Figure:	THREE	***Council:***	Albury - Wodonga Shire Council	***Survey:***	Landair Surveys - Image Flown 08/02/2017	***Plan By:***	SK/JD
Sheet:	1 of 1	***Tenure:***	Permit Number N72	***Projection:***	MGA	***Project Manager:***	TO
Version/Date:	V1 03/10/2018	***Client:***	PGH Bricks & Pavers Pty Ltd	***Contour Interval:***	1m	***Office:***	Thornton

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N

0 50m

vgt Environmental Compliance Solutions Pty Ltd

6014000 N

495000 E

Humbug Gully

Dam 2

In-pit Sedimentation Dam

Stockpile

Haul Road

Humbug Gully Catchment

Site Access

Stockpile

6013750 N

Dam

Nearest Residence

SHAW STREET

495250 E

495500 E

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
Signed:
Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date: 27/11/2018

LEGEND

Feature/Domain	
	Property Boundary
	Consent Boundary *(N72)*
	Water Management Area
	Proposed Extension Area
	River/Major Drainage Line
	Road
290	Contour
	Area of Disturbance

Section 4. Existing Environment

4.1. Topography

The mine is located along a ridgeline north of Albury with elevations ranging from 320m RL in the south west and down to 300m RL in the north. The north of the site is characterised by natural woodland leading to the Humbug Gully drainage line before rising again to Mount Miser at approximately 350m RL. The south of the site leads downslope to grazing land before levelling into the outer suburbs of Albury. To the west the ridgeline continues through woodland and grazing land for approximately 900m before gradually dropping back into a gully along which Prune Street follows. The east of the site leads to the tributaries of Bardwell Gully commencing at the foothills of One Tree Hill at approximately 470m RL.

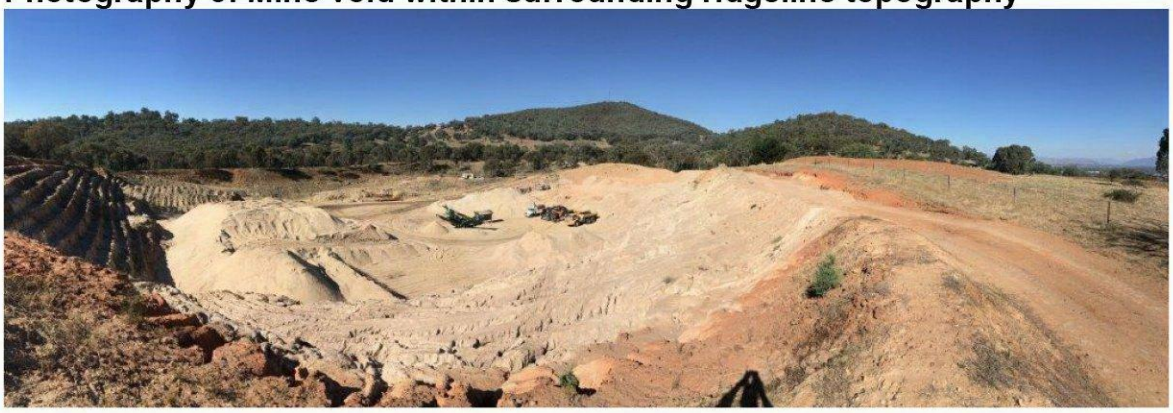
The mine itself is set into the ridgeline with the void presently at about 300m RL, 10 to 15 metres below the natural ground level.

Photography 1: Slopes to the south of the site

DOC18/188732

Photography 2: Ridgeline to the west of the site

Photography 3: Mine void within surrounding ridgeline topography



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4.2. Sensitive Receptors

Six sensitive receptors have been identified around the site and are shown on *Figure Four.* Elevation profiles are also provided below sourced from Nearmaps data to demonstrate the current and likely acoustic shielding due to the development.

4.2.1. R1 Acoustic Environment

The resident approximately 200m to the south of the site is down slope of the mine therefore the active mine faces are not visible and acoustically shielded. A number of overburden and topsoil stockpiles have been placed as acoustic and visual screening between the residence and the active pit as additional protection.

4.2.2. R2 Acoustic Environment

Sensitive receptor R2 is located approximately 500m to the north east of the site is at an approximate elevation of 360m RL. Due to the elevation of the residence it is likely that noise from the mining activities are somewhat audible at the residence.

4.2.3. R3 and R4 Acoustic Environment

These residents are approximately 600m to the west of the site is located downslope of the mine therefore well shielded from the mining activities.

4.2.4. R5 and R6 Acoustic Environment

Both these residences are located downslope of the mine and are approximately 500 to 600 distant therefore well shielded from the mining activities.

DOC18/188732

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - Location of Sensitive Receptors	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 01/05/2018	***Our Ref:***	3618_BAN_NV_DA17_C004_V1_F4 .cdr
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Version/Date:	V1 03/10/2018	***Client:***	PGH Bricks & Pavers Pty Ltd	***Contour Interval:***	N/A	***Office:***	Thornton

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N

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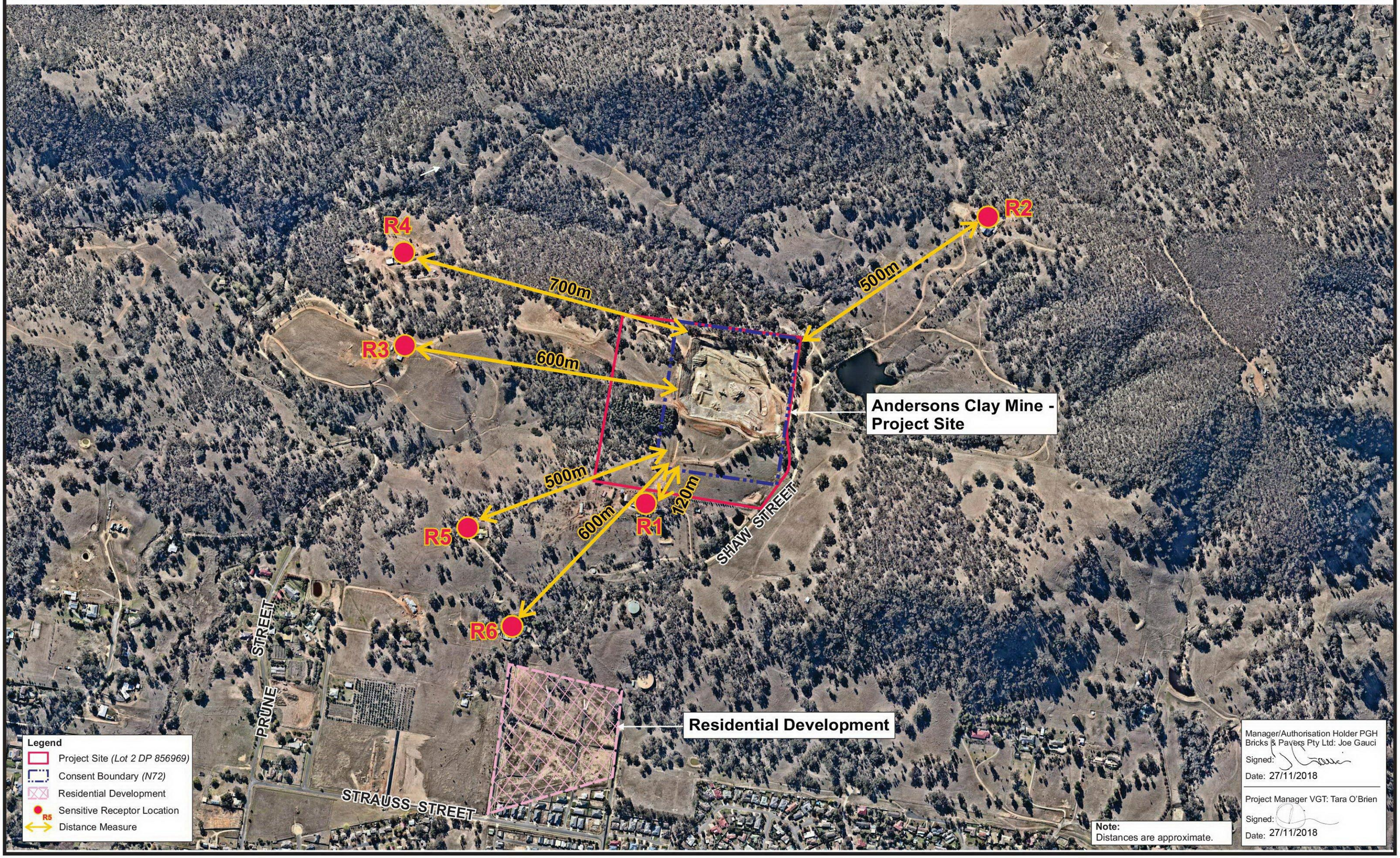

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - R1-R1' (South-North) Elevation Profile	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 1 May 2018 & Elevation Profile from nearmap tool	***Our Ref:***	3618_BAN_NV_DA17_C005_V1_F5.cdr
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Sheet:	1 of 1	***Tenure:***	Permit Number N72			***Project Manager:***	TO
Version/Date:	V1 03/10/2018	***Client:***	PGH Bricks & Pavers Pty Ltd			***Office:***	Thornton

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N

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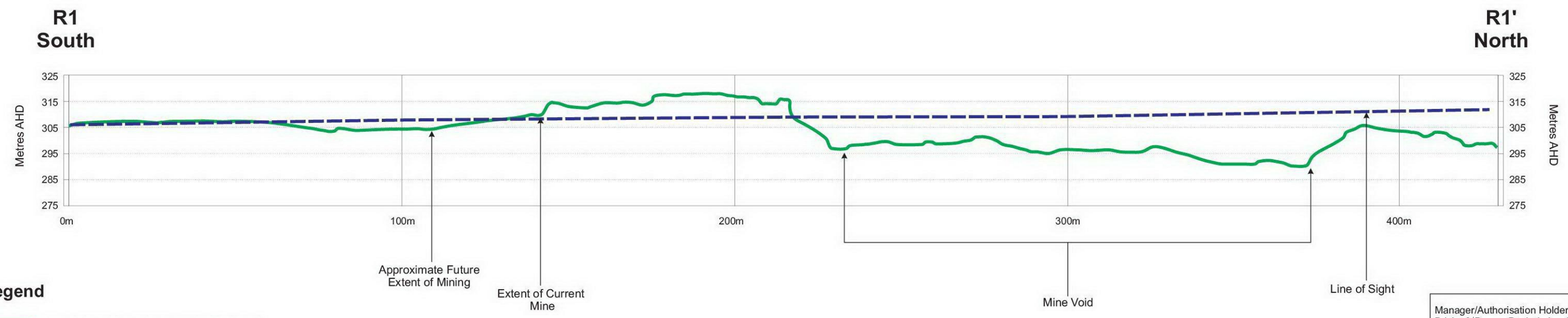

Legend

- Elevation Profile *(nearmap 01 May 2018)*
- Line of Sight
- Cross Section (R1 – R1')

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
Signed:
Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date: 27/11/2018

VGT Environmental Compliance Solutions Pty Ltd 4/30 Glenwood Drive, Thornton NSW 2322 PO Box 2335, Greenhills NSW 2323 ph: (02) 4028 6412 email: mail@vgt.com.au www.vgt.com.au ABN: 26 621 943 888

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - R2 - R2' (East-West) Elevation Profile	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 1 May 2018 & Elevation Profile from nearmap tool	***Our Ref:***	3618_BAN_NV_DA17_C006_V1_F6.cdr
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Version/Date:	V1 03/10/2018	***Client:***	PGH Bricks & Pavers Pty Ltd			***Office:***	Thornton

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N

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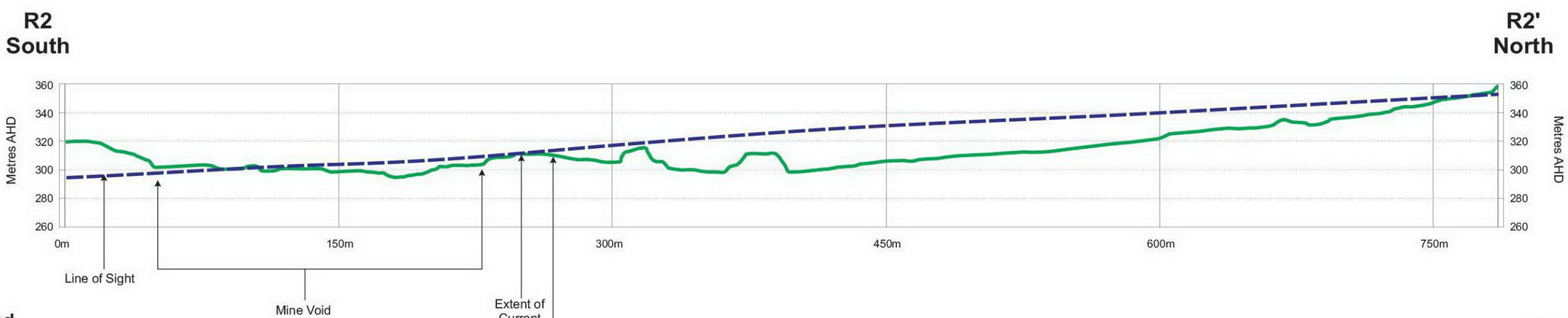

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- Elevation Profile *(nearmap 01 May 2018)*
- Line of Sight
- Cross Section (R2 – R2')

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
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Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date: 27/11/2018

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - R3 - R3' (East-West) Elevation Profile	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 1 May 2018 & Elevation Profile from nearmap tool	***Our Ref:***	3618_BAN_NV_DA17_C007_V1_F7.cdr	This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.
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Sheet:	1 of 1	***Tenure:***	Permit Number N72			***Project Manager:***	TO	
Version/Date:	V1 03/08/2018	***Client:***	PGH Bricks & Pavers Pty Ltd			***Office:***	Thornton	

N

0 150m

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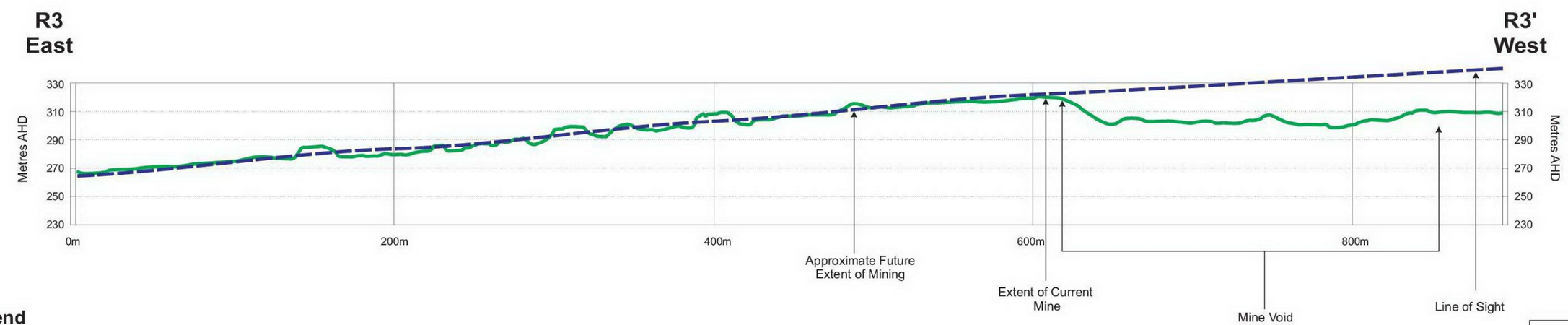

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- Elevation Profile *(nearmap 01 May 2018)*
- Line of Sight
- Cross Section (R3 – R3')

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
Signed:
Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date:27/11/2018

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - R4 - R4' (East-West) Elevation Profile	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 1 May 2018 & Elevation Profile from nearmap tool	***Our Ref:***	3618_BAN_NV_DA17_C008_V1_F8.cdr
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Version/Date:	V0 03/10/2018	***Client:***	PGH Bricks & Pavers Pty Ltd			***Office:***	Thornton

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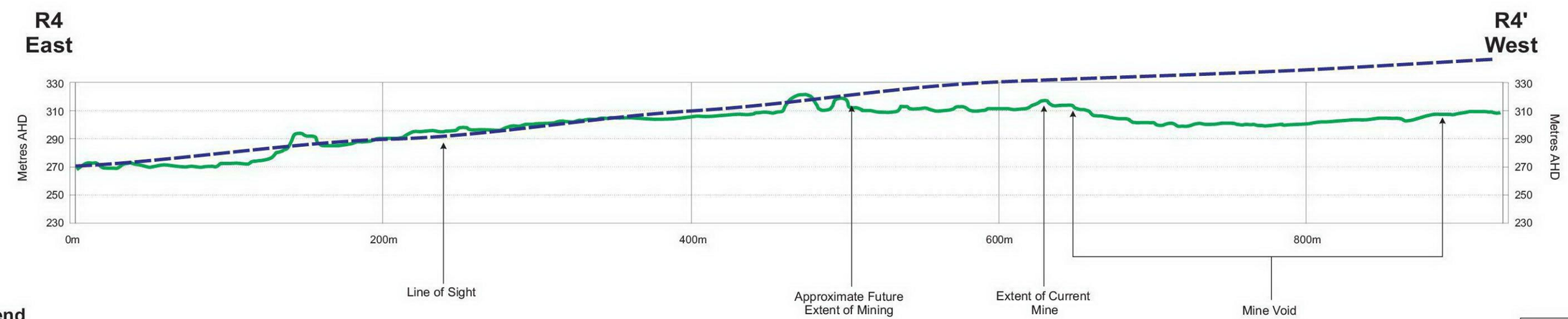
N

0 150m

vgt Environmental Compliance Solutions Pty Ltd



Legend

- Elevation Profile *(nearmap 01 May 2018)*
- Line of Sight
- Cross Section (R4 – R4')

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
Signed:
Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date: 27/11/2018

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - R5-R5' (South-North) Elevation Profile	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 1 May 2018 & Elevation Profile from nearmap tool	***Our Ref:***	3618_BAN_NV_DA17_C009_V1_F9.cdr
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Sheet:	1 of 1	***Tenure:***	Permit Number N72			***Project Manager:***	TO
Version/Date:	V1 03/10/2018	***Client:***	PGH Bricks & Pavers Pty Ltd			***Office:***	Thornton

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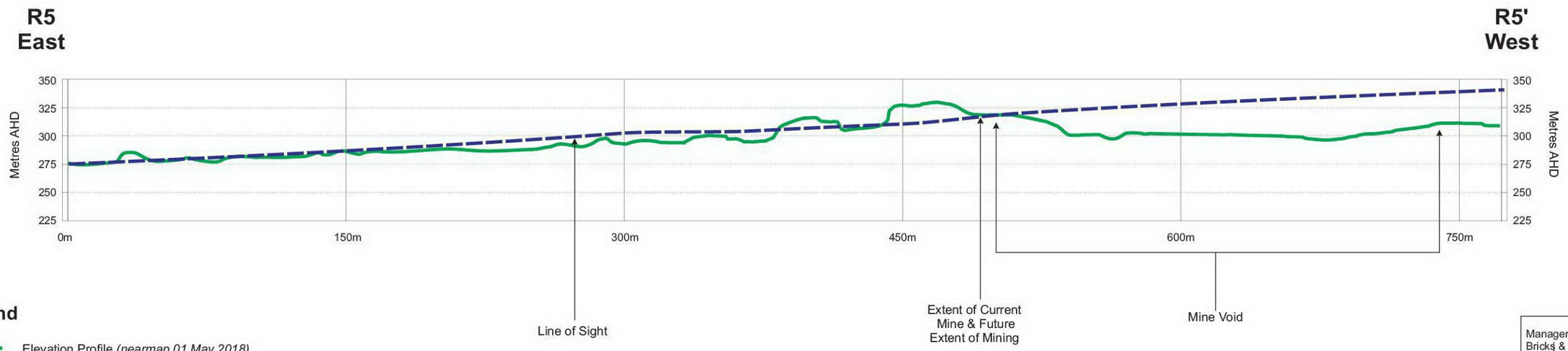
N

0 150m

vgt Environmental Compliance Solutions Pty Ltd



Legend

- Elevation Profile *(nearmap 01 May 2018)*
- Line of Sight
- Cross Section (R5 – R5')

Manager/Authorisation Holder PGH Bricks & Pavers Pty Ltd: Joe Gauci
Signed:
Date: 27/11/2018

Project Manager VGT: Tara O'Brien
Signed:
Date: 27/11/2018

Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - R6-R6' (South-North) Elevation Profile	***Location:***	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 1 May 2018 & Elevation Profile from nearmap tool	***Our Ref:***	3618_BAN_NV_DA17_C010_V1_F10.cdr
Figure:	TEN	***Council:***	Albury - Wodonga Shire Council	***Process/Manipulation:***	Using our cross section base, I matched elevation profile generated by nearmap & traced lines appropriately for end result	***Plan By:***	TO/JD
Sheet:	1 of 1	***Tenure:***	Permit Number N72			***Project Manager:***	TO
Version/Date:	V1 03/10/2018	***Client:***	PGH Bricks & Pavers Pty Ltd			***Office:***	Thornton

This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.

N

0 150m

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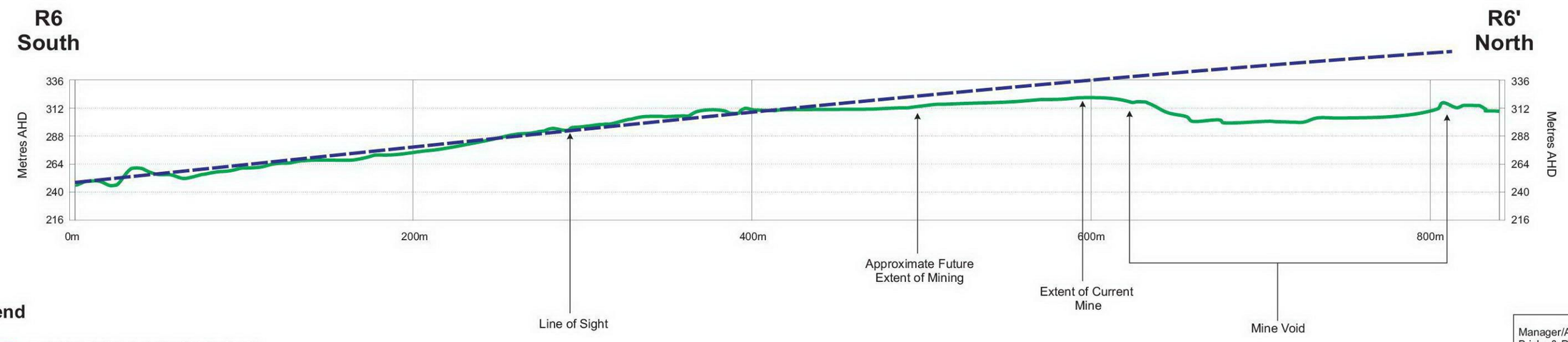

Legend

- Elevation Profile *(nearmap 01 May 2018)*
- Line of Sight
- Cross Section (R6 – R6')

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4.3. Noise Sources

There are several sources of noise on the Andersons Clay Mine site. The principal source is earth-moving activities, including vegetation and topsoil stripping, overburden and ore extraction, screening and stockpiling, and re-spreading or overburden and topsoil for rehabilitation. The dozer, excavator and loader will produce noise while undertaking clearing, mining and stockpiling activities and also by travelling along the unsealed internal roads. Construction of bund walls will also cause noise impacts on a short term basis. Screening to remove large particles is undertaken on a campaign basis only in conjunction with mining. In general all mining and rehabilitation activities are undertaken on a campaign basis three to four times per annum with a duration of approximately 3 to 4 weeks. Hauling of material to the Jindera site is undertaken at other times during the year and utilises front end loaders and road haul trucks.

Other sources of noise not related to extraction include bird calls, traffic noise emanating for local road use, agricultural activities and wind in nearby trees. No blasting is undertaken on the site.

4.4. Plant and Equipment

The site currently utilises the following equipment.

- Dozer;
- Excavator;
- Front end loader;
- Screen (static);
- Dump truck;
- Haul trucks; and
- Water cart.

4.5. Transportation

Haulage from the site will continue as currently consented to the Jindera Brickworks is undertaken periodically using 33 tonne road haul trucks. Based on a maximum usage of 50,000 tonnes per annum, it would take up to 1,515 loads, or 3,030 truck movements per annum to move this material to the brickworks. Haulage is undertaken on a campaign basis and not spread evenly throughout the year.

4.6. Transportation Hours

Cartage of material will continue as currently consented and only takes place within the consented hours of 6:00am and 6:00pm Monday to Saturday inclusive. No transportation is undertaken on Sundays, Christmas Day or Good Friday, except for essential plant maintenance.

4.7. Transportation Routes

Haul trucks leaving the site will continue as currently consented and travel south down Shaw Street, turn right onto Strauss Street, Left onto Prune Street, turn right onto Kaitlers Road. Proceeding along this road it becomes Hague Street to the south before

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intersecting with Urana Road. Trucks then turn right onto Urana Road which continues to Jindera. The complete route is approximately 12km one way (see *Figure Eleven*).

The route commences on the unsealed portion of Shaw Street for approximately 1km before it reached the sealed portion of the road. The remaining portion of the route to Jindera is sealed. Approximately 3km of the journey is through suburban housing with the remaining portions though rural or rural residential areas.

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Plan of:	Noise Assessment for Andersons Clay Mine Environmental Impact Statement 2018 - Truck Route/Road Surface Plan
Figure:	ELEVEN
Sheet:	1 of 1
Version/Date:	V1 03/10/2018

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N

0 30 60 90 120 150m

vgt
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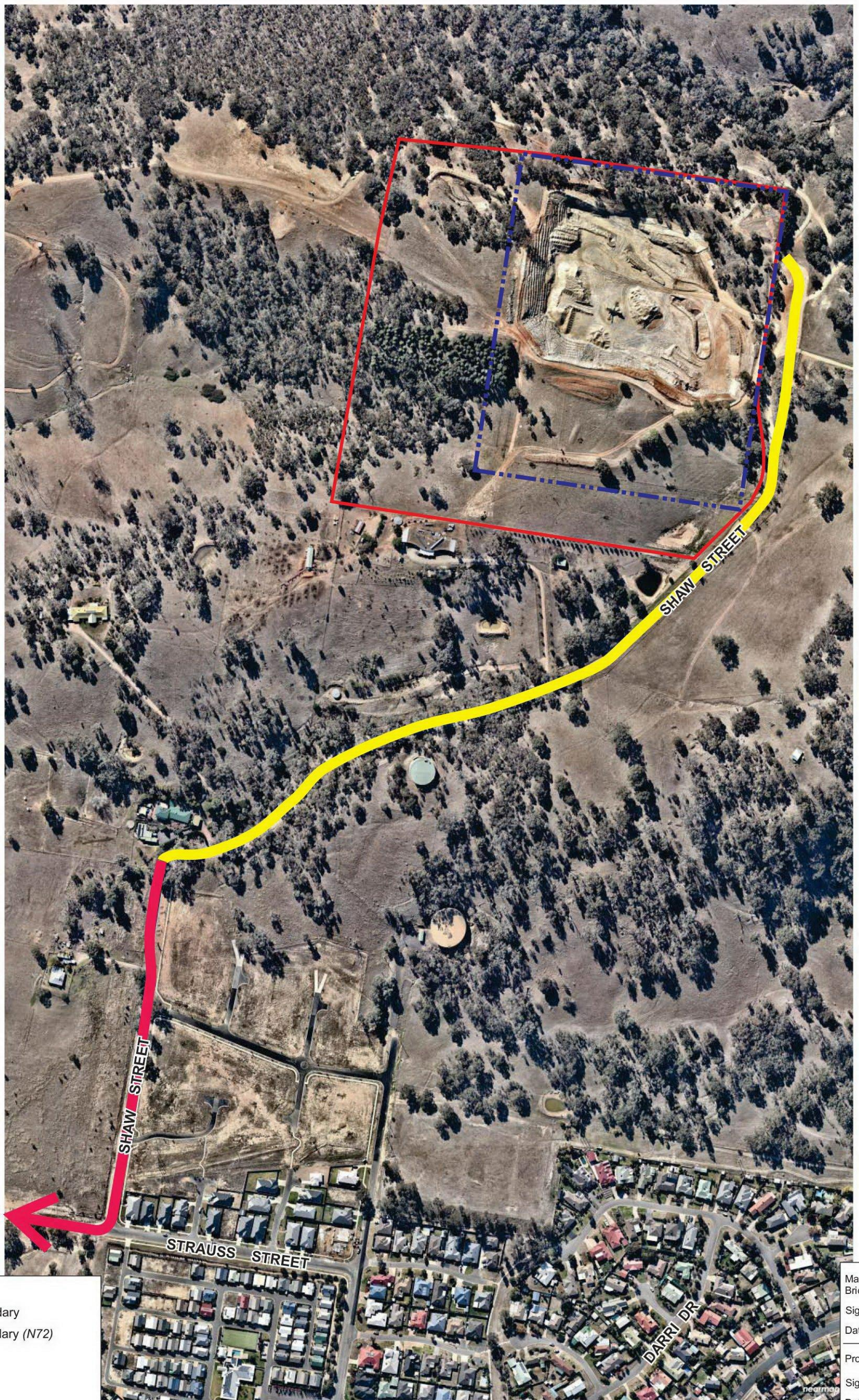
Location:	253 Shaw Street, Springdale Heights, NSW	***Source:***	nearmap - Image Date 01/05/2018	***Our Ref:***	3618_BAN_NV_DA17_C011_V1_F11.cdr
Council:	Albury - Wodonga Shire Council	***Survey:***	N/A	***Plan By:***	JD
Tenures:	Permit Number N72	***Projection:***	N/A	***Project Manager:***	TO
Client:	PGH Bricks & Pavers Pty Ltd	***Contour Interval:***	N/A	***Office:***	Thornton



Legend

- Property Boundary
- Consent Boundary *(N72)*

Truck Route

- Dirt Road
- Sealed Road

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Section 5. Impacts and Mitigation

As there will be no change to the currently consented extractions rates, mining campaign frequency and duration and transportation due to this mine extension, no acoustic measurements have been undertaken. The following describes the expected impacts to the acoustic environment due to the extension of the mine area.

5.1. Topography

The excavation will continue to expand and deepen the ridgeline to the extent of the current consent and west in the extension area as shown in *Figure Three*. The continuation of mining to the south towards receptor R1 will remain as currently consented. The lip of the full excavation in the south will have a natural elevation of approximately 305m RL. Acoustic bunds will be constructed on the southern perimeter to provide acoustic and visual screen to receptor R1.

To the west in the expansion area, the extraction will continue east to west below the ridgeline. The lip of the pit will progress from the current level of approximately 320m RL in the south to 305mRL in the north to slightly lower elevations ranging from 312m to 305m RL.

5.2. Receptors

5.2.1. R1 Acoustic Environment

Under the present consent, the mine will proceed to within 120m of the residence. It should also be noted that the site activities i.e. extraction rate and haulage frequency will remain the same as is currently consented. Therefore there will be no additional impacts to this receptor. The noise impacts to this resident have therefore already been assessed as acceptable with the current control measures implemented, such as acoustic bunding and operational hours.

5.2.2. R2 Acoustic Environment

The expansion of the mine will not be towards this receptor but rather the active mine faces will move to the west and south away from the resident. It is not possible to acoustically shield this receptor with bundwalls due to its high elevation in relation to the mine. The distance from the active mine face will increase from approximately 700m in the west to 840m and 700m in the south to 780m.

As stated above, there will be no increase in noise generating site activities. The receptor will not experience any noise impacts greater than currently experienced and in fact noise levels are expected to lower somewhat with the greater distance to the mine face.

5.2.3. R3 and R4 Acoustic Environment

The active mine face will effectively move closer (100m approximately) to both these receptors in the expansion area although they will still be some 490 to 550 metres distant. Their downslope location makes it unlikely that the noise impacts will be significantly greater than currently experienced. In any case, acoustic and visual bunds will be constructed on the western perimeter of the site to provide additional noise mitigation.

The construction of the bundwalls and land clearing activities are likely to have the greatest impact on the receptors due to the proximity and lack of acoustic shielding at these stages

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of the development. They will, however be short in duration and ultimately improve the acoustic amenity once extraction commences in the extension area.

5.2.4. R5 and R6 Acoustic Environment

Mining in the southern portion of the currently consented area will remain below the natural ground level and the extraction rate and haulage frequency will remain the same as is currently consented. Therefore there will be no additional impacts to these receptors. The noise impacts to these residents have therefore already been assessed as acceptable with the current control measures implemented, such as acoustic bunding and operational hours.

Mining in the extension area, below the ridgeline, will be slightly more distant than the southern area and therefore the noise impacts are expected to be at least identical, if not lesser than currently experienced.

5.3. Plant and Equipment

There will be no changes to the currently used plant and equipment on the site with the exception of the reduction in the need for an excavator for the majority of mining activities due to a change in mining technique. An excavator may still be employed for pre-stripping and selective mining as required. Rates of extraction and hauling activities will also remain identical, that is mining campaigns 3 to 4 times per annum of a duration of 3 to 4 weeks and hauling as required. Therefore there will be no additional noise impacts than currently experienced due to plant and equipment.

Plant and equipment will be maintained in good condition with appropriate noise attenuation such as mufflers etc.

5.4. Transportation

There will be no changes to the volume and frequency of road haulage trucks transporting material to Jindera. Therefore there no change to noise environment is expected.

5.5. Transportation Hours

No change to the currently consented operating hours is being sought therefore there will be no change to the noise environment due to transport hours.

5.6. Transportation Routes

There will be no change to the transportation route and therefore no change to the noise environment expected.

5.7. Cumulative Impacts

There are no proposed changes to the extractions rates and haulage frequency of the site due to the extension area therefore there will be no cumulative impacts to consider within the acoustic environment due to these noise sources.

In addition, there are no extractive industries or other developments within the location that contribute to the acoustic environment.

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5.8. Consultation

PGH has conducted a letter drop in May 2018 to nearby residents to outline the proposed mine extension and provided contact details should residents require more information. To date no responses have been received.

One complaint regarding noise impacts has been received during the period of time PGH has owned the property. Fuge Earthworks, the mining contracting company, was contacted by an Albury Council Officer in August 2018 regarding a complaint received by a neighbour regarding noise and dust. Upon notification, Fuge Earthworks and PGH committed to increasing the frequency of the water cart along the unsealed portion of Shaw Street during hauling operations and further limited the speed of trucks on Shaw Street to 30km/hr. No further complaints were received.

Section 6. Monitoring and Maintenance

To date no noise monitoring has been undertaken and no monitoring for noise is proposed. Should there be any significant changes to the plant and equipment, mining techniques or transportation, monitoring may be considered.

Monitoring may also be undertaken should a complaint be received and results of any investigations and consequent actions recorded. The results will be reported annually in an Annual Environmental Management Report (AEMR), until the ML is relinquished.

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Section 7. References

Ref 1. Albury City Council ((2010) *Local Environmental Plan*

Ref 2. ANZMEC and Minerals Council of Australia (2000) *Strategic Framework for Mine Closure*

Ref 3. NSW Coal Association (February 1995) – *Mine Rehabilitation*

Ref 4. New South Wales Department of Trade & Investment – Resources and Energy (September 2013) *ESG3: Mining Operations Plan (MOP) Guidelines*

Ref 5. VGT (2016) *Mine Operations Plan for: Andersons Clay Mine Springdale Heights*

Ref 6. Personal Communication Tim Fuge (Fuge Earthmoving) 06/07/2017

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- Environmental & Geological Assessments
- Environmental Monitoring & Management
- Quarry/Mine Plans & Rehabilitation Plans
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- Annual Reports
- NATA Accredited Laboratory

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