

16 June 2020

The Commissioners
Independent Planning Commission,
Level 3 201 Elizabeth Street
Sydney 2000

Dear Commissioners,

Re: SSD5899 Brandy Hill Quarry Expansion

I enclose my submissions.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Peter Rees', written in a cursive style.

Peter Rees

16.6.20

SSD 5899: SUBMISSION BY MR. PETER REES TO THE INDEPENDENT PLANNING COMMISSION

The writer: I am a retired specialist in planning and environmental law, practising in the period 1969 -2010. My clients included Lake Macquarie (City Solicitor), Great Lakes Council, Newcastle City Council and Cessnock City Council and I have appeared in the Land and Environment Court and instructed in superior jurisdictions.

INTRODUCTION

Substantial community concern emerges from the applicant's and the Department's proposed timetable for truck traffic that will be generated by Brandy Hill Quarry's expansion.

In this submission, the localities of Woodville, Wallalong, Hinton, Largs, Bolwarra Heights and Bolwarra are called the 'Western Sector'. The reason for this collective description is that the furthest west of the quarry site a noise receiver was positioned, noise receiver 11 (1), was a mere 2 klm distant from the actual quarry (2); by road, 1klm from the quarry entrance; and situate near the intersection of Croft Road with Paterson Road adjoining the quarry site.

Woodville, Wallalong and Hinton are within the Port Stephens local government area. The other localities are within the Maitland LGA.

This submission deals with the

- a. the extraordinary amount of quarry traffic that will be generated at the quarry entrance at the intersection of Clarence Town Road with Brandy Hill Drive if the application receives consent with either the applicant's or the Department's proposed conditions adopted;
- b. the effects traffic generated by the quarry expansion proposal will have on the residents in the Western Sector;
- c. the failure to meet the SEARS requirement relating to the off-site transport noise impacts on the Western Sector; and
- d. the failure to meet the SEARS requirement relating social impacts for the Western Sector.

Should this application receives conditional consent and the hours of operation on the road network proposed by either the applicant or the Department's draft conditions A12 and A13 are imposed, the passing heavy quarry truck traffic with its noise will produce an adverse effect on the amenity of the residents in the Western Sector.

This submission also refers to the other Department's draft conditions to which amendments are sought; and also to recent case law touching upon social impact and amenity.

(1) ViPac 26 September 2018 Figure 3.3 A6-15.

(2) op.cit. Table 3 A6-11

1. TRUCK MOVEMENTS: PROPOSED LOAD DESPATCH HOURS and HOURS

Hanson requires in page 3 of its letter 14 May 2020 to the Department:

"...For these reasons we request normal product dispatching to occur:"

(Comment: what is "normal?")

Monday to Friday

5am – 10pm (no number of loads given)

10pm – 5am: (no number of loads given) x 20 nights p.a.

Saturday

6am – 6pm (no number of loads given)

Yet that position is at variance with the *Conceded Project (Amended RTS)* on its page 1. It is really impossible to know what it wants except as a quasi 24/7 operation: see T4 Driver at 6 and Farquhar at 24, 29 June.

Again at p.2 of the letter: *Conceded Project: Maximum of 30 laden loads despatched per hour in the daytime period (7am to 10.00pm)*".

Daytime is 7am -10pm? So 15 hours x 60 movements per hour = 900 movements

Plus other loads at other times in all totalling over a maximum 506 laden trucks per day i.e 1012 trips, remembering that 506 empty trucks have to go into the quarry to get their loads.

Again, this conflicts with the statement on p1 of the letter e.g. *No more than 301 laden loads between 7am and 10.00pm*. Even so, 301 loads involve 602 truck trips between 7am-10pm on the road network. Surely the greater the number, the greater the impacts on amenity.

The Department seeks a little more certainty in its draft conditions A12 and A13.

Monday to Friday

5am – 6am 18 movements (comment i.e. 9 loads)

6am – 7am 24 movements (i.e. 12 loads)

7am – 6pm 60 movements per hour (i.e. 30 loads per hour in that period)

6pm - 10pm (an unspecified number of movements/loads for) 20 days p.a.

Saturday

6am –7am 24 movements i.e. 12 loads

7am – 6pm 60 movements per hour i.e. 30 loads per hour

Sunday Nil.

The Department's timetable produces in the period Monday - Friday, 332 loads i.e. 664 trips each day on the road network.

Whether one looks at what can be gleaned from Hanson's or the Department's position on truck movements, one is faced with an extraordinary exploitation of Hanson's parcel of land that will directly adversely affect the surrounding rural residential settlements and the residential districts through which vehicles transporting its products must pass.

This quarry traffic will be imposed on the local road network and an effect of that traffic load is shown in the following paragraph.

2. THE CONGESTION AT THE INTERSECTION OF BRANDY HILL DRIVE AND CLARENCE TOWN ROAD

If there are to be 60 movements each hour for 11 hours between 7am and 6pm over the entrance to the quarry, then a truck every minute of each hour can traverse that entrance and intersection.

Compare the conflicting statements in Intersect Traffic's Report (November 2014) prepared for the applicant

- *Sidra modelling of the local road network with the additional traffic generated by this proposal added to existing traffic has shown that both the Clarence Town Road / Brandy Hill Drive and Brandy Hill Drive / Seaham Road intersections will continue to operate satisfactorily at least through to 2024. (Executive Summary p2)*

with the conclusion in that Report

- *Sidra modelling of the local road network with the additional traffic generated by this proposal added to existing traffic has shown that both the Clarence Town Road / Brandy Hill Drive and Brandy Hill Drive / Seaham Road intersections will continue to operate satisfactorily at least through to 2044. (p26)*

From my non-expert viewpoint, the proposed condition for 60 movements each hour in that period will be *carte blanche* for chaos at those intersections and road safety will surely be compromised.

3. THE NEED TO MODIFY THE PROPOSED HOURS FOR PRODUCT TRANSPORTATION

This need stems from the likely impact from heavy quarry truck traffic that will be travelling the roads in the Western Sector should this application receive consent

3.1 Evidence of the applicant's Mr. A. Driver is

"The other 25 percent of our deliveries head west a long Clarence Town Road, over Dunmore Bridge, along Paterson Road and into Newcastle Street, and then from there they can head up to Maitland." (29 June, T4 at 24 -26).

The EIS states

“ a very small number of trips head west towards Maitland ...The westerly route towards Maitland is due to difficulties crossing the Paterson River at Hinton and Woodville.” (EIS p.199).

25% is not a very small number of trips and while there may be only a slight delay when crossing the Woodville single lane Dunmore Bridge, it is scarcely a difficulty.

Further, the statements re traffic directions and proportions should not be taken as fixed because the number of laden trucks departing the quarry in a particular direction is a function of the location of the site ordering the quarry product. There must inevitably be days where the number of loads that depart in a westerly direction down Clarence Town and Paterson Roads exceeds the number .1

3.2 A Key Issue in the DG's SEARS is Noise, whereby the applicant is required to include

“a quantitative assessment of potential:

...off-site transport impacts...”

Neither the EIS nor the TIAs provided by the applicant deal with the impacts of truck traffic noise westward beyond Receptor 11 situated close to the quarry site. There is no expert acoustic evidence to assist the Commission on this issue but it would reasonable to infer from the facts that the residential communities on the Western Sector ought be afforded some protection from impacts that do not need science to prove/disprove they exist.

The applicant has not satisfied that SEARS requirement in respect of the Western Sector. We have no information whatsoever from the applicant in respect of existing or predicted noise or vibration effects from passing quarry generated heavy vehicle traffic in these localities. For more abundant caution, there should be restrictions imposed on certain of the hours of operation for that traffic so as to avoid sleep disturbance and impacts on health of the occupants of affected residences. The restrictions are facilitated by clause 16(1)(b) SEPP (Mining, Petroleum Production and Extractive Industries) 2007. The restrictions will be reflected by amendments to draft Departmental conditions A12 and A13.

The applicant's proposed conditions for hours of product despatch, driven by commercial goals, do not achieve the necessary reasonable balance of its interests vs. community amenity and are clearly unacceptable from any environmental viewpoint. The Department's proposed conditions do not achieve that balance.

3.3 Residential development in the Western Sector is strongly represented along

- Clarence Town Road Woodville (albeit sometimes of the rural-residential type),
- Paterson Road, Woodville,
- Paterson Road, Largs/Bolwarra Heights (suburban), and
- High Street Wallalong, with the village of Hinton and the town of Morpeth beyond.

Regretfully, the Commission, when taking a view, did not travel over the Dunmore Bridge and then south on Paterson Road towards Maitland, into the more densely residential areas that address those roads (vide Site Inspection & Locality Tour Notes para.5) in the Western Sector.

Apart from the spaced residential development at Woodville, there are 3.5 klms of homes stretching from Paterson Road's intersection with Dunmore Road at Largs/Bolwarra Heights to that Road's intersection with the Flat Road further south, a route that inbound and outbound trucks will travel. It is a typical suburban dwelling house environment. Most of those homes bound Paterson Road and some again have their nearest exterior wall/facade about 10m-20m from the road boundary (see photo Attachment). By any measure, it would be reasonable to conclude that the occupants of those homes would be impacted by quarry truck noise and vibration, particularly during the night when sleep is a *sine qua non* of life. Please see the 4 attached photos.

While only seven of the submissions made to the Department are from the Bolwarra area, there would be many occupants of those homes in the 3.5 klms stretch that would be unaware of this SSD. Their lack of knowledge or submissions to the SSD ought not preclude the prevention or mitigation of obvious impacts from the passing quarry traffic.

There is about 1klm of residential development that closely addresses High Street, Wallalong with short separation from the road to the facades of the homes. The applicant does not exclude trucks travelling on High Street down to the Hinton bridge or return.

3.4 When dealing with acoustic monitoring near the Brandy Hill Quarry site, ViPAC, the applicant's environmental consultants, recorded a Truck Movement Measurement for a Truck and Dog between 77 – 81 LAmx for a distance of 16 m from Seaham Road (ViPAC 2018 p25). While it is not known whether the sources were laden or not, the distance is within the range of distance for the facades of the Largs/Bolwarra Heights and Wallalong residences. I also understand the max is not peak but the noise would be equivalent to a passing freight train at 15 metres, a sound that would wake more than the living.

3.5 The applicant would have been well aware of MCC's letter dated 9 April 2017 (please see next paragraph 6 and Appendix A) as well of the objections posted on the Department's website in respect of the perceived traffic noise impacts on the western road network. Indeed on 18 January 2019 Hanson's environmental consultant, R.W. Corkery & Co., responded by letter to the Community Consultative Committee for Brandy Hill Quarry's question on notice viz.

"Community Stakeholder Engagement

29. Can you confirm that you are preparing a VPA and if so will it include contributions for any of the following:

...

- *Any measures to mitigate noise/traffic /dust to residents along probable haulage routes including Brandy Hill Drive, Seaham Road through Nelsons Plains, Raymond Terrace Road, Clarence Town Road , Paterson Road and Belmore Road as ALL properties along these roads will be negatively impacted.*

The response was:

Hanson is in the process of negotiating a VPA with Port Stephens Council. The terms of the VPA will include provisions for infrastructure and for road maintenance, with a number of items specified for attention and funding...” (R.W.Corkery 18 January 2019 p10).

The response did not really answer the mitigation sought for the noise/traffic/dust in any local government area.

4. Maitland City Council (MCC) recognised the traffic noise and vibration problem from the quarry traffic on its roads and made representations to the Department about them.

On 5 April 2017 it wrote to the Director, Resource Assessments to identify potential impacts (copy letter attached Appendix A). It outlined the ‘Traffic impact’ including heavy vehicle traffic noise and associated vibration impacts, and sought to restrain these by seeking inclusion in a traffic management plan provisions to mitigate the perceived impacts from the quarry traffic. It will be seen that MCC requested consideration be given, relevantly, to

“3. Self-imposed heavy vehicle traffic speed during early hours through built areas of Largs, Bolwarra Heights/Bolwarra and Lorn.

Reasons: heavy vehicle traffic associated with the quarry travelling at early hours through built areas such as Bolwarra/Bolwarra Heights where dwelling setbacks from the main road are 15m to 20m. (b) Empty trucks travelling to the quarry are more likely to cause higher traffic noise at higher speeds (c) Heavy vehicle (sic) especially laden vehicles may cause excessive vibration on nearby dwellings. (Author’s note: there have been more dwelling houses erected addressing Paterson Road nearer the Dunmore Road intersection since the MCC letter and those homes are erected very close to the Road boundary, by reason of the reduction in size of lots in that subdivision).

“4. Travel conditions such as limiting travel speed by agreement where issues are raised through government agencies associated with school traffic, and child care centres and aged care centres and the like along identified access routes.

Reason: To ensure road safety around school, and ensure that environmental amenity is maintained.

“8. Heavy vehicles are permitted to operate at PBS Level I General Mass Limits (GML) up to but not exceeding 50.5 tonnes Gross Combination Mass along Belmore Road Lorn, Paterson Road Largs, Hinton Road subject to posted local restrictions.

Reason: General access on all roads includes Roads and Maritime Services controlled bridges subject to load limits that form part of the local road network in the Maitland local government area. A 50.5 tonne road limit applies to Belmore Bridge, over the Hunter River, and Dunmore Bridge and Hinton Bridge over the Paterson River.”

Apart from a problematic attempt in the draft Condition B41-Traffic Management Plan, the Department does not specifically and adequately address MCC’s requests. In any event, it is the writer’s view that a traffic management plan, being an applicant’s self-regulating instrument, is an

ineffective way to deal with impacts. Clear enforceable conditions of consent are required to regulate, control and mitigate such impacts on the community.

5. **Clause 16(1)(b) SEPP (Mining, Petroleum Production and Extractive Industries) 2007** enables the imposition of a suitable and reasonable condition in all the circumstances:

16 Transport

(1) Before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following—

- (a) require that some or all of the transport of materials in connection with the development is not to be by public road,*
- (b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools,*
- (c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads.*

Interestingly, the Department in its Report, after stating that it has considered the clause and advice from the road authorities, including MCC, states

“Upon the evaluation of potential traffic, road noise and social impacts, the Department has recommended conditions to limit product transport movements during the early morning period and prohibit product transport during the night.” (p64)

Yet its proposed condition that allows an unspecified number of loads in M-F period 6pm -10pm x 20 days p.a., fails the prohibition.

6. The applicant's and the Department's proposed early hour and late hour road operations must be rejected since those operations can be subsumed into daytime operations alone, facilitated by the storage of product on site of the project by the applicant using daytime trips. If it be a major project then it should be of sufficient size to provide adequate on-site storage facilities and further processing of product if necessary. It is simply unacceptable to sacrifice the amenity of the community when the applicant, selling what seems to be its land's unique and valuable products, can easily stipulate to its customer that the product can only be supplied in the daytime. The Department's acquiescence in *flexibility* is unnecessary (paras. 6.1.16 et seq. Report on the Brandy Hill Quarry Expansion Project May 2020).
7. Another of the General Requirements of the SEARS is

Social and Economic – including:

- ***an assessment of potential impacts on local and regional communities including impacts on social amenity;***
- ***a detailed description of the measures that would be implemented to minimize the adverse social and economic impacts of the development.***

The applicant has not satisfied that Requirement for the Western Sector.

8.1 The World Health Organisation has issued a Report on Environmental Noise Guidelines for the European Region (WHO 2018). That research is relevant for the Brandy Hill Quarry road traffic. Its findings really are of universal application and they should not be dismissed as applying to somewhere else on this planet. It is notable that the NSW Road Noise Policy 2011 references a WHO (2002) publication on effects of noise on sleep.

“Abstract: The main purpose of these guidelines is to provide recommendations for protecting human health from exposure to environmental noise originating from various sources: transportation(road traffic ...) noise...” (WHO 2018 p1).

At pp xvi and 30 are the recommendations for road traffic noise:

*For average noise exposure the GDG strongly recommends reducing noise levels produced by road traffic below **53 decibels (dB)**Lden as road traffic noise above this level is associated with adverse health effects. (GDG is the Guideline Development Group)*

*For night noise exposure, the GDG strongly recommends reducing noise levels produced by road traffic during night time below **45 dB L night** as night time road traffic noise above this level is associated with adverse effects on sleep.*

A guiding principle is

- Reduce exposure to noise, while conserving quiet areas (p xv).

And at page 32:

The evidence on health outcomes for exposure to road traffic noise for the general population, where the exposure to high levels of noise produced by road traffic (average /night time):

For average noise exposure:

1. *Cardiovascular disease*
2. *Annoyance*
3. *Cognitive impairment*
4. *Hearing impairment and tinnitus*
5. *Adverse birth outcomes*
6. *Quality of life, well-being and mental health*
7. *Metabolic outcomes*

For night noise exposure

1. *Effects on sleep.*

8.2 ViPAC 2018 REPORT

At para 5.4.3, cites Practice Note 3 (Sleep Disturbance Impact) referencing the earlier NSW Road Noise Policy 2011 (RNP):

“Those guidelines indicate that

- *Maximum internal noise levels below 50-55 dB(A) are unlikely to cause awakening reactions, and*
- *One or two noise events per night with maximum internal noise levels of 65-70 dB(A) are not likely to significantly affect health and well-being.*

There is a difference between the 2018 WHO Report's sleep disturbance range and the RNL's range, the WHO's having lower criteria. The RNP recommends different criteria for day and night cf. the Lden criterion that is a weighted combination of day and night noise levels. But the WHO traffic noise guidelines deserve more than a glance and there should be no disagreement about the effects of exposures.

9. We are completely in the dark about the existing and likely impacts of BH quarry vehicle traffic noise and vibration upon the residential parts in Woodville, and the extensive residential parts of Largs, Bolwarra Heights and Bolwarra that address Clarence Town and Paterson Roads. Similarly, that darkness affects Wallalong and beyond. The ViPac 2018 Report uses the receiver R19 along Brandy Hill Drive *situated at a setback distance approximately 31 metres from the road.* (p26 para 7.2.4 emphasis added).

Yet there are dwelling houses situate along Clarence Town Road and Paterson Road that observe distances of approximately **half** such setback from the road. Similarly, at Wallalong.

But there is nothing at all about the existing and predicted noise levels and sleep disturbance in either route. Nor is there information in respect of vibration from the quarry truck traffic.

10. SOCIAL IMPACT

The Social Impact Statement Update (SIA December 2017- 'USIA') is Appendix 3 in the Response to Submissions by Hanson Construction Materials Pty. Limited.

In respect of the Woodville – Bolwarra segment of the development application, the USIA quotes part of the Maitland City Council's letter dated 5 April 2017 for the residents to have a say in relation to impacts especially during peak periods of operation of the quarry or when the combined effects of the Martins Creek Quarry (presently subject of a SSD application) and the B H Quarry producing noise exceedances; and that a Transport Management Plan should link with a Noise Compliance Strategy (p41). However the mechanism whereby the outcomes of that linkage can override conditions of a development consent is not presented – admittedly an almost impossible exercise.

The USIA does recognise "***The major source of concern to local people is the potential of 24/7 operation of the Brandy Hill Quarry and subsequent significant increases in truck movements on the local road system. The potential impacts on amenity and lifestyle are likely to be experienced most acutely by those living near the Quarry, and along Brandy Hill Drive.***" (p54).

The USIA fails to deal with the impact of the increased heavy truck movements will have on the residents of the Woodville – Bolwarra segment and the Wallalong - Hinton areas and beyond part where there is a strong residential presence, far exceeding the number of residences on Brandy Hill Drive given the residential development. With the greatest respect, the mitigation strategy to

formalise a Community Consultative Committee (p59) will do little to remove the impact of the increases in the heavy quarry traffic that will ensue if the application is granted. My experience with CCCs is that they are mostly developer information sessions and miniscule change flows from them for the benefit of the community.

Some of the submissions of the residents of the Western Sector are set out in Appendices ~~3~~^{B, C} and ~~4~~^L hereof. There is a strong element of solastalgia in many of the submissions made in this matter, such being described by Preston CJ "*...as the pain or sickness caused by the ongoing loss of solace and the sense of desolation connected to the present state of one's home and territory*" (Bulga Milbrodale Progress Association Inc v. Minister for Planning and Infrastructure and Warkworth Mining Limited [2013] NSWLEC 48 (15 April 2013)). His Honour continued:

"As noted in Telstra v Hornsby Shire Council at [192], in determining the nature and scope of amenity and the impact of a proposed development on amenity, the consent authority may consider the community responses to the proposed development as set out in the submissions made to the consent authority. The community responses are aspects of the public interest. In considering the community responses, an evaluation must be made of the reasonableness of the claimed perceptions of adverse effect on the amenity of the locality." [355]

His Honour also noted the Warkworth matter which went onto the Court of Appeal [2014] NSWCA 105 at [295]

"As his Honour pointed out, at [430], the evidence of the community responses was relevant to a consideration of noise impacts, air quality, visual impacts and more generally, the social impacts on the community. All of those factors were aspects of the overall public interest."

The community responses in this matter are more than reasonable .

11. SUBMISSION AS TO HOURS AND DAYS OF TRANSPORT OF QUARRY PRODUCTS

Because of the failure of the applicant to satisfy those two SEARS requirements in respect of the Western Sector and having regard to the submissions of persons who have expressed concerns about the impact of quarry traffic generation in the Western Sector, when combined with all the other submissions, the application ought be refused consent. However, if the Commission be disposed to grant consent it is respectfully submitted that conditions A12 and A13 be modified for the transportation of quarry product and concrete into the Western Sector.

THE DRAFT CONDITIONS OF CONSENT

12.1 The DPIE's Draft Condition A12 and the use of "movement"

At the outset, the condition is ambiguous brought on by the parenthesis "(ie either arrival or dispatch)". The parenthesis gives the reader a choice, promotes uncertainty and needs to be deleted. (See discussion T15 at 36 onwards, O'Donoghue, 29 May).

Therefore

- A definition of “movement” is to be added to the “DEFINITIONS” in the draft conditions: **‘Movement’ in relation to truck traffic means a single trip such that, for example, a truck entering the quarry premises constitutes one movement and a truck exiting the quarry premises is another movement.”**
- **A12** be replaced with

A12 Truck movements at the site must not exceed 20 movements per hour provided however the number of movements in respect of laden quarry traffic outbound from the site for destinations in a westerly direction shall not exceed the maximum number of movements per hour that occurred in the period 1 January 2020 to 30 June 2020 for such traffic outbound westerly from the site. The applicant is to provide the Planning Secretary with details of those movements in that period within 28 days from the date of this consent.

- 12.2** Amend draft condition A13, in respect of the **Permissible Hours for Product loading and dispatch** to

6am to 6pm Monday to Saturday.

- 12.3** A22 amend **b(ii)** so it commences

(b) provide to the Planning Secretary and the CCC details of the consultation undertaken including...

- 12.4** B7 amend to read

The Applicant must implement and comply with the Noise Management Plan approved by the Planning Secretary.

- 12.5** B20 amend to read

The Applicant must implement and comply with the Blast Management Plan approved by the Planning Secretary.

- 12.6** B27 amend to read

The Applicant must implement and comply with the Air Quality Management Plan as approved by the Planning Secretary.

- 12.7** B38 amend to read

The Applicant must implement and comply with the Water Management Plan approved by the Planning Secretary.

- 12.8** B39 amend to read

The applicant... on its website at the end of each calendar month.

(note: the reason for that time stipulation is 6 months is far too long a time interval,

12.9 B43 amend to read

The Applicant must implement and comply with the Traffic Management Plan approved by the Planning Secretary.

13.0 B52 amend to read

The Applicant must implement and comply with the Biodiversity and Rehabilitation Plan approved by the Planning Secretary..

13.1 D3 amend to read

The Applicant must implement and comply with the Environmental Management Strategy as approved by the Planning Secretary.

14 OTHER MATTERS

14.1 It would have been useful to have information for the following

1. The types of product transport trucks that will use the route of Clarence Town Road west of its intersection with Croft Road e.g truck and dog combinations.
2. The tare/ unladen weight of each of those types of trucks.
3. The loads that those types of vehicle can carry.

Given the important advice of Maitland City Council in Appendix A at paragraphs 7, 8 and 9 on page 5 about the GML not exceeding 50.5 tonnes GCM the Commission should be aware that the RMS has advised me on 4 June 2020 that in respect of the Dunmore Bridge at Woodville

"The Dunmore bridge is open for all general access vehicles."

The term "general access vehicle" has a technical meaning and this issue should be explored further with respect to this application.

14.2 The Voice of Woodville and Wallalong (VOWW) of which I am a member submitted to the Department 9 April 2017 an acoustic report from Bridges Acoustics dated 8 April 2017. The Report is attached as Appendix D. It is not known what attention the Department gave it.

15 CONCLUSION

The Commission would be well aware of the objects of the EP&A Act 1979 in s.1.3, particularly

- (a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,*
- (e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*
- (j) to provide increased opportunity for community participation in environmental planning and assessment.*

And also the matters for evaluation in determining a development application under s. 4.15 of the Act, especially

- (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,*
- (d) any submissions made in accordance with this Act or the regulations,*
- (e) the public interest.*

It is not for the residents to negate the existence any impacts. It is the applicant that must identify any impacts and propose satisfactory measures to eliminate or mitigate them.

The proposed 60 movements per hour at the quarry gate between 7am and 6pm – one every minute – is by any yardstick – unacceptable in planning terms. The intersection of Brandy Hill Drive and Clarence Town Road will be saturated with quarry trucks and will be an anathema for other motorists who will tend to look elsewhere to get to their destination – an unsatisfactory planning outcome.

The applicant was required to include “a quantitative assessment of potential ...off site transport impacts. However we have no information at all from the applicant in respect of noise or vibration effects from existing or predicted passing Brandy Hill Quarry heavy vehicle traffic in the Western Sector.

In the absence of any information on that issue, the residents in the Western Sector ought not be burdened with any greater impacts than they already may suffer from existing heavy quarry traffic.

It is in the public interest that abundant caution prevails such that there should be a restriction on hours of operation for that traffic (as indeed for the quarry traffic elsewhere), so as to contain the resident identified impacts - sleep disturbance and likely impacts on their health.

There is a lack of applicant- provided information on social impact on the Western Sector, the focus being on the residential component around the quarry site and Brandy Hill community. I respectively submit that the lack of evidence for the Western Sector would lead the Commission to find that there is a failure to comply with the SEARS requirement in that respect also.

Social Impact was the subject of the Chief Judge's statement in Gloucester Resources v. Minister for Planning 2019 LEC 7

“As I have found earlier, the Project may well comply with the applicable criteria for air quality and noise, but people perceive that the Project will have a negative impact on their health and wellbeing.” (per Preston CJ para 354).

Because of the non-compliance with the SEARS Requirements and the impacts of the proposal identified in this submission, when combined with all the evidence of other objectors, the formal submission is made that application should be refused consent.

However if the Commission does not accept this submission than I respectfully request that the Commission give consideration to the amendments suggested above such that the residents in the Western Sector are not prejudiced by the failures to address the SEARS Requirements.

A handwritten signature in black ink, appearing to read "Peter Jones".

APPENDIX A

Please see the Attachment to this submission: Maitland City Council letter dated 5 April 2017

Our Ref: 222/451 (1296929)

Phone Enquiries: 4934 9700
Scott Henderson

5 April 2017

Mr Howard Reed
Director Resource Assessments
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Howard

Re: SUBMISSION ON THE BRANDY HILL QUARRY EXTENSION PROJECT (SSD 5899)

Council is writing with regard to the Brandy Hill Quarry Extension Project (SSD 5899) at 979 Clarence Town Road, Seaham currently on public exhibition with the Department of Planning. This letter makes reference to the Traffic Impact Assessment report (June 2016) by IntersectTraffic, and the Noise and Vibration Impact Assessment report (August 2016) by Vipac Engineers and Scientists.

REPORT CONSIDERATIONS

Heavy vehicle trip generation

Council understands the proposed project will set a maximum limit of extraction to 1.5 million tonnes per annum (mtpa). That 822 estimated daily heavy vehicle trips (or 411 deliveries – Sec. 10 TIA) would be generated based on the quarry operating at full capacity.

This is over double the existing annual output of 620,000 tonnes generating traffic at the adopted values of: peak daily traffic at 380 vehicle trips per day (vtpd) and peak hourly traffic at 84 vtp; where the majority of heavy vehicle traffic generated by the site is rigid truck and trailer combinations.

Vehicle trips based on quarry resource deliveries:

Resource extraction case	Resource extraction (tonnes pa)	Daily quarry product deliveries	Daily heavy vehicle trips (delivery component)	Total daily vehicle trips (incl. staff)	Total vehicle pk hr trips
Existing	620,000	170	340	380	84
Proposed	1,500,000	411	822	904	150
Increase	880,000	241	482	524	66

Source: Sec. 4 & 10, Traffic Impact Assessment

It is acknowledged that these quantities represent the quarry operating at capacity; and also that the Traffic Impact Assessment (TIA) report states that "currently there is no demand for the additional material".

Trip distribution

The TIA report states that, "The main haulage route used for transporting the extracted material from the site will not change with all quarry traffic (heavy vehicle) heading south along Brandy Hill Drive to Seaham Road and onto the Pacific Highway at Raymond Terrace." However, "A very small number of trips head west towards Maitland or east towards Clarence Town and Dungog. The westerly route towards Maitland is restricted due to difficulties crossing the Paterson River at Hinton and Woodville."

Council requests that the Department of Planning require the following information from the applicant:

- Identify the heavy haulage routes for these heavy vehicle trips that are proposed through Maitland LGA; and
- What is the estimated number of heavy vehicle trips expected to travel on any identified haulage routes through Maitland (i.e. through the Maitland local government area)?

POTENTIAL IMPACTS

Traffic impact

The impact of heavy vehicle traffic on the Maitland road network includes the following considerations:

- ⚡ time of heavy vehicle travel through Maitland residential areas;
- ⚡ the cumulative effects of road pavement damage and heavy vehicle traffic noise;
- ⚡ the 'traffic bottlenecks' on the major arterial road network during peak traffic periods, and;
- ⚡ the bridge constraints (load limit, single lane) on the road network,

Road pavement damage

Should any of the local roads in the Maitland local government area be identified as a heavy haulage route associated with the Brandy Hill Quarry operation, Council requests the determining authority require:

- The quarry operator to provide road contribution to Council equal in amount as defined in Council's Section 94 Plan – Extractive Industries.

A rigid truck and trailer combination can create a traffic impact on the road pavement up to six (6) equivalent standard axles (6 ESAs) where a standard axle load is equal to eight (8) tonne. A road pavements design life is a function of standard axle repetitions, and it is expected that should heavy vehicle trips travel through the Maitland local government area on local roads there would be some impact to these road pavements. In this regard, Council would seek a road contribution from the quarry operator equal to the formula prescribed in Council Section 94 Plan – Extractive Industries through conditions set on any determination notice issued by the determining authority.

Heavy vehicle traffic noise

The Noise and Vibration Impact Assessment report states that, "Vipac has been advised by Hanson Group that majority of the Brandy Hill Quarry truck movements associated with the existing quarry operations and proposed future expanded quarry operations will utilise Bandy Hill Drive and therefore only this road is considered for potential road noise impacts associated with the quarry". In terms of Brandy Hill Drive, Vipac recommends a limit to the number of heavy vehicles generated by Brandy Hill Quarry to be within traffic noise level government policy guideline limits.

However, should there be a demand for quarry material to be transported through towards Maitland, Council is concerned that traffic noise may have a significant impact due to the cumulative effect of "very small number of trips head west towards Maitland" combined with Martins Creek Quarry heavy vehicle traffic. Should there be heavy vehicle trips identified, Council requests the Department of Planning consider:

- Extending a traffic noise monitoring program to heavy haulage routes through the Maitland local government area through a Noise Compliance Management Strategy as was recommended by Vipac.

Noise monitoring should occur for day, evening and night periods noting that the Noise and Vibration Impact Assessment report states that, "It is Vipacs understanding that the existing quarry is permitted to operate on a 24-hour basis, but that this does not occur at present." Residential areas that may be affected, dependant of heavy haulage routes, may be Largs, Bolwarra Heights/ Bolwarra, and Lorn.

Any exceedance of traffic noise levels above government guidelines through a noise monitoring program at residential area near main roads in the Maitland LGA should require the quarry operator to then cap the number of heavy vehicle trips in a similar manner as has been recommended by Vipac for Brandy Hill Drive. Planning development/ operational triggers that require heavy vehicle traffic limits to be set should be specified in the Traffic Management Plan for the quarry, and copies distributed to local councils affected by such traffic.

Cumulative traffic on road network

Additional heavy vehicle trips generated by Brandy Hill Quarry on the road network in the Maitland local government area may impact on road service levels. The cumulative effects of heavy vehicle traffic generated by Martins Creek Quarry and Brandy Hill Quarry may deteriorate service levels in morning and afternoon peak traffic periods.

Areas to monitor for any cumulative effects of heavy vehicle traffic from the Brandy Hill Quarry with the heavy vehicle traffic from Martins Creek Quarry on the haulage routes identified for this quarry area are:

- Melbourne Street East Maitland traffic especially the interaction with New England Highway and the Lawes Street intersections; Melbourne Street is a state road;
- Belmore Road Maitland traffic especially on approach to Belmore Road/ High Street intersection; Belmore Road is a regional road;
- Paterson Road Bolwarra Height at the Tocal Road intersection; Tocal Road is a regional road;

Should there be heavy vehicle trips from Brandy Creek Quarry that travel these public roads then Council should have a say through the Transport Management Plan developed by the quarry operator.

Health and Wellbeing

In general, there should be consideration to the health and wellbeing of residents that reside along haulage routes associated with the quarry. As mentioned, these haulage routes need to be identified, and monitored through a Transport Management Plan to ensure that Council and residents have a say in relation to the impacts especially during peak periods of operation of the quarry or when there may be excessive combined effects of Martin's Creek Quarry and Brandy Hill Quarry operating at levels that may result in noise levels exceeded in government policy.

The increased operational hours (24/7) could see additional heavy vehicle movements at early morning or late evening hours, and noise levels in this regard needs to be monitored.

- Transport Management Plan should link to a Noise Compliance Management Strategy that considers noise monitoring, and consultation with Council on outcomes.

MITIGATING IMPACTS

Council requests consideration of the following measures to mitigate the impacts of heavy vehicle road transport through the Maitland LGA:

1. The quarry operator prepare a Transport Management Plan (TMP) to minimise the traffic impact on residents located along designated access routes to the quarry.

Reason: A statement of the conditions of travel to heavy vehicle operators travelling to/from the quarry.

2. Maitland City Council seeks a road maintenance contribution associated with the heavy vehicle traffic generated by the quarry where heavy haulage routes are identified on local roads in the Maitland local government area.

Reason: Council's apply a road maintenance contribution to quarry operators that generate heavy vehicle traffic on Council's local road network.

3. Self-imposed limit heavy vehicle travel speed during early hours through built areas of Largs, Bolwarra Heights/ Bolwarra, and Lorn.

Reasons: (a) Heavy vehicle traffic associated with the quarry travelling at early hours through built up areas such as Bolwarra/ Bolwarra Heights where dwelling setbacks from the main road are 15m to 20m. (b) Empty trucks travelling to the quarry are more likely to cause higher traffic noise at higher speeds, (c) Heavy vehicle especially laden vehicles may cause excessive vibration on nearby dwellings.

4. Travel conditions such as limiting travel speed by agreement where issues are raised through government agencies associated with school traffic, and child cares centres and aged care centres and the like along the identified access routes.

Reason: To ensure road safety around school, and ensure that environmental amenity is maintained.

5. Limit heavy vehicle volumes to specific periods of the day to minimise impact on residents and road traffic service levels where required by road authorities.

Reason: Peak heavy vehicle traffic generation associated with the quarry may occur for extended periods during major projects may cause noise above statutory thresholds (e.g. Bolwarra/ Bolwarra Heights) and may impact on the service levels of part of the road network (Melbourne Street East Maitland signals at Pitnacree Road and at New England Highway).

6. Heavy vehicle operators that provide services to the quarry maintain their vehicle fleet on a regular basis, and the use of compression braking controlled, where appropriate, through a Transport Management Plan.

Reason: To reduce engine and exhaust noise.

7. Encourage the quarry to use Performance Based Standards (PBS) heavy vehicles with routes for these vehicles approved through the National Heavy Vehicle Regulator (NHVR).

Reason: To minimise non-compliance of heavy vehicle operators with road and travel conditions.

8. Heavy vehicles are permitted to operate at PBS Level 1 General Mass Limits (GML) up to but not exceeding 50.5 tonnes Gross Combination Mass along Belmore Road Lorn, Paterson Road Largs, Hinton Road subject to posted local restrictions.

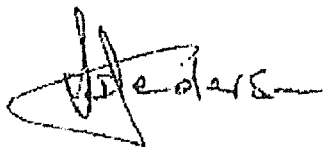
Reason: General access on all roads includes Roads & Maritime Services controlled bridges subject to load limits that form part of the local road network in the Maitland local government area. A 50.5 tonne load limit applies to Belmore Bridge over the Hunter River, and Dunmore Bridge and Hinton Bridge over the Paterson River.

9. The quarry operator / heavy vehicle operators are to comply with the requirements of Roads and Maritime Services.

Reason: State roads are under the care and control of Roads & Maritime Services, and Roads & Maritime Services are asset owners of state bridges in the Maitland local government area.

Should you wish to discuss these matters further please call me 02 4934 9814.

Yours faithfully



Scott Henderson
Coordinator Infrastructure Planning Engineering

APPENDIX B**Objections Woodville extracts**

1. I would like to voice my concerns regarding Brandy Hill Quarry Expansion Project.

Water

Contaminated water leaching into local dams, creeks (Heydons Creek, Barties Creek and Deadmans Creek), overflow flooding to lower Brandy Hill floodplains leading into the Hunter and Paterson Rivers. In close proximity is the Williams River catchment supplying Newcastle with water. Increased flooding events in the area over recent years i.e. 3 floods in 3 years.

Why is there such a diverse colour variation in the water holdings outside the quarry site (dark blue) to the quarry site (green)? Refer Attachment 1 for water courses and dams and colour variation of existing water holdings.

Air

Air quality from the dust cloud which is clearly visible day or night while the quarry is currently operational 6am until 12 midnight.

Noise issue - Constant thumping/battering/vibration noise experienced at our property, 2.67km away from the quarry, until 12midnight. This noise is from the plant operation. If the quarry proceeds to 24hr operation, the residents will be subjected to sleep deprivation due to constant thumping/battering/vibration.

The Hansen Quarry Expansion Project Preliminary Environmental Assessment March 2012 submission states currently approx. 150 truck movements each day (Quarry only) between 6am12pm. The Proposed project expansion states 144 loads per day total (Quarry, Concrete recycling and concrete production) operating 24 hours a day. I find the mathematics of this highly unlikely to be a true representation of what is to happen.

Road safety issue

Currently the trucks exit the quarry in three directions. Clarence Town Rd to the left and right and Brandy Hill Drive straight ahead.

West bound cars travelling at the current speed limit of 100km/h from Seaham to Woodville, have 3 seconds from the crest of the hill to the Brandy Hill Drive/Brandy Hill Quarry intersection. This results in higher risk factors of a collision at the intersection between all road users.

Clarence Town Rd has had multiple fatalities partly due to the condition of the road. There are no turning lanes or verges for road users entering or exiting properties in the vicinity of Brandy Hill Quarry.

Truck impacts usually result in injury to all occupants of motor cycles and cars and minimum damage to trucks. I believe the increased traffic movements and noise are detrimental to the tax paying community paying for the roads.

I have personally observed slow moving trucks not observing the stop signs when entering and exiting the Quarry.

School buses are unable to safely pull over for alighting school children. Majority roads in the area have open drains for excessive water as there is no underground storm water drainage.

The trucks currently cross heritage listed single lane bridges dating back to the 1800's.

Morpeth Bridge

Woodville Bridge &

Hinton Bridge

Each truck and dog capacity load can be up to 50 tonnes of extracted materials from the quarry as stated in RTA Truck and Dog Trailer Combination Fact sheet published Sept 2010 (Attachment 2). The long term damage to existing infrastructure will be catastrophic if/when one bridge fails. Bridges were not built in the 1800's with the knowledge of modern societies loaded heavy vehicle impact.

Land mass

The land clearing is stated as 49 hectares is equivalent to 121.082 acres. Placing this into perspective, it is approximately 40 football fields. Impacts to the surrounding environment and land owners would surely be detrimental to the community.

In conclusion, I must ask the question is a company profits more important than the health and safety of the taxpaying residents of the surrounding districts? Does the employment opportunity by the Quarry outweigh the cost to the local community lifestyle? Does the state put profits before people? I am highly opposed to this proposal to expand the Brandy Hill Quarry proceeding.

2. I have major concerns regarding Brandy Hill Quarry Expansion project affecting not just the community in close proximity but the wider community.

Attached is my submission. Please contact me if you have any difficulty with the attachments.

3. I make the following submission:

General

This is an unusual development application in that while it seeks consent for the removal of 1.5m tonnes of rock over a thirty year period, in each day and night in each year, it fails to provide any definite figure for the number of trucks generated to export that product from its site. The strong inferences that can be drawn from such a position are that

- the number of 904 traffic movements is an ambit claim because
- Hanson recognises that there will be adverse impacts of that traffic on the neighbourhoods through which the trucks will pass and repass, and
- Hanson therefore refuses to stipulate a sensible, reasonable figure for those truck movements, and
- Hanson wants to leave it up to the consent authority to determine the appropriate number.

With the greatest respect to Hanson, it should have stipulated the maximum number of movements it wants to export its product on a daily and weekly basis, and also inform both the public and the consent authority

- where the stipulated traffic will proportionally come and go,
- of the number of trucks that will travel each of the expected routes, and
- the times that travel is expected to take place.

There is so much uncertainty and lack of appropriate information with this application that the consent authority should not determine it. The consent authority should not have to provide certainty to Hanson's development application or be placed in the position of untangling the myriad of conflicting information to do what Hanson should have done at the outset.

The traffic counts are so old that to be required to accept them as being evidence upon which reliable predictions can occur should be rejected. Nevertheless, even with that information, the severe impacts this proposal will cause are:

1. Any night time transit of heavy quarry trucks will cause wholesale sleep disturbance for residents living adjacent to the routes, when the rest of the population in this State sleeps.
2. The heavy quarry traffic will amount to almost of one half of the total traffic on the local roads used for the travel of the quarry trucks.
3. The combined effect of haul traffic generated by a likely expanded Martins Creek Quarry plus the road traffic from any expanded Brandy Hill Quarry on total road traffic on haul roads, given the suggested extreme number of 988 movements, is

unacceptable. 4. The frequency of the truck movements to and from the quarry on the local roads is unregulated such that there will be a continuous line of trucks travelling to and from the quarry during day time, a little less in the night time, in a 24 hour period, a situation hardly satisfactory from the ordinary motorist's point of view.

The proposal to permit a greater number of quarry trucks from Brandy Hill Quarry to travel the road network will have a significant adverse effect on the amenity of the neighbourhoods of Woodville and Wallalong, let alone Brandy Hill, Seaham and Nelson Plains.

Specifically

Our home is on Clarence Town Road Woodville. Other residences are either on or nearby that road.

We leave windows open at night in times of hot weather, which in recent times, has meant for the greater part of the year. With windows open, at present in the rare event that a heavy truck is approaching our home it wakes me up. I can hear that truck on Clarence Town Road well before it even passes by. And also well after it has passed by.

My sleep is also disturbed by heavy vehicles when the windows are closed, albeit for a shorter period.

When a truck passes our home, the noise is greatly disturbing. It is unusually loud and sometimes vibrations accompany the noise. Some quarry trucks are noisier than others.

I would expect that other persons in residences similarly or closer placed to Clarence Town Road, would experience the same effects.

Simply put, the noise at night from a heavy vehicle is likely to wake up a sleeping person and deprive the person from having a fair night's rest. A continual regular flow of heavy vehicles will destroy healthy sleeping patterns.

Those residing in more densely populated locations, such as Wallalong and Bolwarra Heights would also suffer sleep disturbance from night time truck noise.

An expert is not needed to so conclude. It is simply a matter for common sense.

The proposal to allow Brandy Hill Quarry to generate many quarry trucks to travel up and down Clarence Town Road Woodville at night should not be permitted.

4. I am a resident of Woodville.

The existing operation of the Brandy Hill Quarry already causes major problems. Trucks begin travelling on the main rd before sunup (Clarence Town Rd) and this combined with the state of the road causes an unimaginable amount of noise and affecting our quality of life.

Our bedroom window is approximately 50 metres from the road and the continuous feeble attempts at road maintenance DO NOT mitigate the existing road usage noise let alone the expansion applied for.

I have already begun replacing all the road facing windows with double glazed windows and it imposing a severe financial penalty because of a company already operating outside

their approval conditions.

I strongly object to the expansion of the Brandy Hill Quarry.

APPENDIX C

Bolwarra, Bolwarra Heights Objections

1. I am vehemently opposed to the submission, mainly because of the negative impact the increase of heavy vehicle traffic will have on my health and wellbeing. My house sits directly on the road junction between Tocal Road and Paterson Road and will not only have the trucks drive by, but we will suffer from increased noise and air pollution because of the braking and acceleration of turning trucks. The roads and communities along these roads have been suffering from illegal heavy traffic caused by Daracon for years now and the air pollution (particulates from the diesel engines of the trucks) had a negative impact on my health already. If the application is allowed, this would increase by many times and the negative effects on my and my families' health and mental wellbeing cannot be underestimated.
Again, I oppose this application.

2. I live on Tocal Rd, Bolwarra Heights and I'm one of many residents directly affected by the Brandy Hill Quarry expansion
My objections are for the following reasons;
The extend the hours of operation and increase number of trucks on our local roads will be a huge burden on residents along the haulage route and will have a major impact on community expectations and its right to peaceful life, uninterrupted sleep, safety on the roads and clean air and water.
In my view operations of the quarry should be scaled down, clearly defined, regulated and monitored for breaches.
As a resident living on the main haulage route for the quarry trucks I'm very concerned about the following issues:
Noise
Noise from truck travelling on Tocal Rd starts about 5 am, sometimes as early as 4:30 am. We had all our windows replaced to double-glazed, but it didn't help. The noise is relentless. It's impossible to open windows or sit in the garden during the quarry business hours. This has an extremely negative impact on our quality of life and wellbeing.
Road Safety
The trucks often travel in convoys, they are frequently speeding and tailgating, making a turn into our driveway a life hazard. We were nearly killed once by a truck travelling on the wrong side of the road and there are many "near-misses" to report. Daracon claims that its drivers adhere to self-imposed speed limit of 40km/h. The fact is that only small percentage of trucks are Daracon-owned (19 according to their report) and the vast majority of quarry trucks are operated by external transport companies subcontracted by Daracon on an "as needs" basis. Daracon management has no control over those drivers (as stated by the Executive Director / owner of Daracon, David Mingay, during a public meeting held at Paterson school of Arts on the 31/7/14) and the drivers have shown no intention of adhering to a

lower speed limit. There are often trucks in front of our house clearly exceeding 60 km/h limit, especially early in the morning.

Road Quality

Although recent work completed by Maitland City Council on Tocal Road in Bolwarra Heights had initially improved the road surface, it has taken only few months before the road started deteriorating again due to the volume of truck movements. The road has been already resurfaced in part and is in a need of repair again. Although Daracon's trucks are the major cause of Tocal Rd deterioration, as far as I know Daracon never contributed to any repairs. It is the Maitland City Council's residents who are left with the bill. It is unfair that our rates are going towards subsidising Daracon's operations instead of projects benefiting local community.

Dust and exposure to diesel exhaust fumes

Houses on Tocal Rd, including ours, are very close to the haulage route and exposed to high volume of dust and diesel engine exhaust emissions from truck movements.

As diesel emissions contain many carcinogenic substances and are known to increase the risk of lung cancer, it is very concerning to us that Daracon proposes to increase the number of trucks travelling through Tocal Rd to as many as 80 per hour.

Environment

As a person who cares about the environment, I was very saddened to learn that Daracon wants to expand its operations and profit at the cost of threatened, endangered and critically endangered species. In my view destruction of such unique habitat cannot be justified by a project that is overwhelmingly opposed by the community, has zero positive impact on community and seems to be solely about economic benefit of an individual / a small group of individuals.

Negative impact on tourism

Paterson, Martins Creek, Bolwarra Heights and Lorn are all small settlements frequented by tourists and cyclists. They are not only significant in their own right, but are also on the route to Barrington Tops. Their reputation as places of safe recreation is currently being ruined / is at risk to be further ruined by noise, dust and truck movements associated with the quarry.

Devaluation of property prices

We are very concerned about our property value dropping due to quarry extension. So far Bolwarra Heights and surrounds has been considered a sought after, leafy, semi-rural area. What Daracon is proposing would change our suburb into an unliveable industrial zone, where nobody would want to live.

Company's Conduct

The company does not have social licence and public trust.

The huge attendance and level of passion with which many local community members spoke at the consultation meeting in Paterson 2/11/16 was indicative of community attitude towards Daracon and the frustration of having to live with the negative impacts of their daily operations.

The executive director David Mingay showed nothing but contempt for the community, even stating in one of the meetings that if it was him being affected by

the quarry he would move. Although this is not about personalities, Mingay's attitude is indicative of Daracon's corporate culture with its huge sense of entitlement and lack of social conscience.

Conclusion

Expansion of Brandy Hill quarry would have an enormous detrimental impact on the lives of thousands of people living close to the quarry and along the haulage route. The economic benefits, including potential jobs, would be limited to a very small group of people.

As negative social and environmental impacts outweigh disproportionately any possible benefits, I urge the NSW Planning Department to reject Daracon's application for the expansion of the quarry. I would like the outcome of the assessment to be a strict definition and regulation of the current operations.

It's also extremely important to consider cumulative impacts of Brandy Hill Quarry and Martins Creek Quarry which also seeks planning approval to increase annual production. The impact of both applications separately, not to mention cumulative impact, on Bolwarra and adjacent suburbs would be beyond devastating.

3. I object to the Brandy Hill quarry expansion due to the increased number of trucks that will need to use the roads around Maitland areas, in particular Paterson Road at Bolwarra Heights. I live in this area and will be adversely affected with regard to road safety, pedestrian safety, truck noise and increased airborne dust that will result from the increased truck movements that will occur if the expansion is approved.
Martins Creek quarry is also applying to expand to 1.5 million tons per year, the cumulative affect of both these quarry expansion applications on Maitland roads from the intersection at Bolwarra Heights (Paterson and Tocal Rds) will be disastrous if both quarry expansion applications are approved, These two application must be considered together by the DoPE with regard to increased truck movements around the Maitland and surrounding areas.
4. I object to the Brandy Hill quarry expansion due to the increased number of trucks that will need to use the roads around Maitland areas, in particular Paterson Road at Bolwarra Heights. I live in this area and will be adversely affected with regard to road safety, pedestrian safety, truck noise and increased airborne dust that will result from the increased truck movements that will occur if the expansion is approved.
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5. I live in Bolwarra Heights and I'm one of many residents directly affected by the operations of Brandy Hill Quarry.

I'm writing to express my opposition to Hanson's development application to increase the quarry output to 1.5 million tonnes per year, destroy native vegetation, extend the hours of operation and increase number of trucks on our local roads. What Hanson is proposing is not compatible with the location of the quarry and its close proximity to historical villages and townships and recreational and tourist activities associated with these settlements. It's in a striking contrast to community expectations and its right to peaceful life, uninterrupted sleep, safety on the roads and clean air and water.

As a resident living in close proximity to the main haulage route for the quarry trucks on Paterson I'm very concerned about noise, road safety, road quality, exposure to dust and diesel exhaust fumes.

I'm also extremely concerned to learn that Hanson wants to expand its operations and profit at the cost of threatened, endangered and critically endangered species. In my view destruction of such unique habitat cannot be justified by a project that is overwhelmingly opposed by the community and seems to be solely about economic benefit.

Expansion of Brandy Hill quarry would have enormous detrimental impact on lives of thousands of people living close to the quarry and along the haulage route. The economic benefits, including potential jobs, would be limited to a very small group of people.

As negative social and environmental impacts outweigh disproportionately any possible benefits, I urge the NSW Planning Department to reject Hanson's application for the expansion of the quarry.

6. The details submitted in my first objection still stand. Noise, vibration & pollution. these country roads were not designed to be frequented by hundreds of trucks per day. This many vehicles will impact greatly those who live on or near this road.
7. The impact of the amount of truck movements on the local roads, Paterson rd, local Rd & Brandy Hill Rd is inconsiderable for the impact of noise & detrimental to the road surface.

We love the area we live in & chose to live here because of the country lifestyle & community.

8. As a resident and ratepayer of the Maitland Shire, I am now writing to you to voice my strong opposition to the proposed expansion of Brandy Hill Quarry, which is currently under submission with the NSW Department of Planning.

I would like to draw your attention to my concerns, re the application for plans for the Expansion of the Brandy Quarry.

I fear that if this project is given approval, it will heavily impact the residents of the Maitland Shire, especially those whose homes are located on or close to the truck routes used to transport the quarried materials through the Maitland Shire.

I base my opposition to this submission for the expansion for the following reasons.

As a resident and ratepayer of the Maitland Shire, I would like to draw your attention to my concerns and voice my strong opposition to the application for plans for the Expansion of the Brandy Hill Quarry.

I fear that if this project is given approval, it will heavily impact the residents of the Maitland Shire, especially those whose homes are located on or close to the truck routes used to transport the quarried materials through the Maitland Shire.

I believe that the application calls for 24-hour plant operation and 7 day per week use of public roads for transportation of materials, will be detrimental to the health and welfare of the residents of this area as this proposal is way outside an acceptable level for supposed residential areas.

I site my concerns in the following areas:

1. Road safety due to the introduction of a large volume of heavy vehicle traffic.
2. A vast increase in noise levels which will be produced by the heavy haulage vehicles
3. Air purity levels, due to dust exuded by the laden vehicles.
4. Increased interruption and congestion to normal road use to Maitland Shire residents. There is already congestion caused by the current volume of trucks at the Belmore Road and, High St intersection Maitland and the Flat Rd & Melbourne St intersection at East Maitland, causing disruption to local traffic flow.
5. Increased interruption, congestion and danger levels to local traffic at the intersection of Paterson Rd and Tocal Rd at Bolwarra Heights.
6. Increase of the already existing damage to Maitland Shire roadways caused by these heavy vehicles.
7. Reduction in Property values due to the increased operation hours and road haulage needs that will be required by the quarry operators.
9. Continued quarrying for another 30 years only reflects the greed of Hansons and the lack of respect they hold not only for the Earth but also the local community.

The extraction of 1.5 million tonnes of hard rock is no more than an abuse of our natural resources and their lack of vision, which is obviously caused by blinding dollar signs.

Greening can take hundreds if not thousands of years and the wildlife that live within that area may never return.

In respect of the on-site infrastructure I would like to know what other Industrial areas have been suggested as there are existing that could be expanded.

The opening hours should be restricted not expanded from the present that are in situ.

Loading should ONLY be done in daylight hours 5 days per week, as previously trucks rumbling down the road from 3am caused health issues with sleep deprivation.

Dust from these trucks is not being monitored nor is the speed at which they travel or ensuring loads are tarped.

At no stage as far as I am aware has compensation been offered to residents who

will be forced to sell up and take a lower price for their property, or have it fitted with sound proofing materials should this GREEDY project be approved.

Factories of this type should be in existing Industrial Estates where the Roads used are limited to Industrial NOT Residential.

Rehabilitation of the site is a joke I suggest after the damage is done it will never be returned to what it was.

1. Roads. Trucks are traversing very narrow country roads that were not established to handle the volume of truck movements that is proposed. A lot of children live in this area and use school buses to and from school. I am concerned for the children's safety if the volume of trucks using these roads is increased. There are insufficient turning bays for cars picking these children up from bus stops too.
2. The amenity of the area will be completely destroyed if the proposals put forward are approved. Increased truck movements will result in constant noise and dust pollution.

I oppose the proposed expansion of the Brandy Hill quarry. The proposal to extend operations to 24 hours per day, 7 days per week and have a maximum product movement of 524 truck loads per day with a whopping 150 truck movements per hour at peak times is completely unreasonable and unacceptable. These truck movements, if approved, would be in addition to the existing and proposed increased truck movements from the Martins Creek quarry, many of which travel the same routes as the trucks from the Brandy Hill quarry. The rural road network was never designed nor constructed to support traffic of this intensity and weight. The amenity of residents on and near the roads travelled by the trucks would be destroyed and property values severely impacted.



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8 April 2017
Ref: J0235-01-R1

Brandy Hill & Seaham Action Group

Attn: Mr Scott Thompson
Mr Neil Ritchie

Dear Scott and Neil,

**RE: ACOUSTIC REVIEW OF THE ENVIRONMENTAL IMPACT STATEMENT,
BRANDY HILL EXPANSION PROJECT**

1. INTRODUCTION

The Environmental Impact Statement (EIS) for the Brandy Hill Expansion Project (the project), prepared by Hanson Construction Materials Pty Ltd and various consultants in February 2017, was placed on public exhibition by the Department of Planning & Environment (DP&E) for the period 10 March to 9 April 2017. This report describes results and conclusions arising from a review of the noise and blasting sections of the EIS, with the principal objective of the review to determine if the EIS contains a comprehensive and accurate assessment of noise, vibration and blasting impacts and to highlight any errors or deficiencies.

The review was commissioned by the Brandy Hill & Seaham Action Group (BHSAG) which is generally against the project as described in the EIS. However, this report presents results from an unbiased review of the EIS as the author is not personally impacted by the existing quarry, does not anticipate being impacted by the project and does not have any relatives or close friends that are likely to be impacted by the project.

2. NOISE

The EIS includes a Noise Impact Assessment (NIA) report in Appendix 9, prepared by Vipac Engineers & Scientists. This section presents comments and recommendations arising from a review of that report.

2.1 Existing Noise Environment

2.1.1 Measured Background Noise Levels

The NIA describes results from a survey to determine background noise levels at five locations (N01 to N04 and N06), plus one location (N05) adjacent to the quarry's weighbridge and one location (N07) near Brandy Hill Drive to determine existing traffic noise levels. Section 4 of the NIA describes the noise survey which consisted of long term measurements over a period of approximately one week and short term measurements during the day over a period of 15 minutes. A summary of results is presented in Table 5 for the long term survey and Table 6 for the short term survey, while Appendix A presents more detailed results from each long term noise monitor. A comparison of results presented in Tables 5 and 6 and Appendix A indicates a number of inconsistencies.

At location N01, Table 5 and Appendix A indicate relatively high noise levels generally over 40 dBA. Figure 6 in Appendix A does not show the typical daily variation in noise levels shown at the other locations. Figure 6 also shows noise levels are always over 40 dBA on 9/9/2014, in direct contrast to

Table 6 which shows a measured background noise level of 30.8 LA90 at 11:25 am on 9/9/2014. Similar comments can be made regarding the LAeq levels. It is impossible for both Table 6 and Appendix A to be correct. Given the lack of obvious daily variation in noise levels in Figure 6, it appears most likely that results from the long term monitor at N01 are in error, not the attended noise survey results.

This issue was raised by the Department of Planning & Environment (DP&E) in its adequacy assessment, however the NIA authors replied (refer to NIA Appendix 9B) that the background levels were correct although they could not explain the difference between the long term and attended survey results. As the results cannot both be correct, it is no surprise that an acceptable explanation was not provided.

RECOMMENDATION: Repeat the long term noise survey at N01 to obtain the correct background noise levels and update the adopted noise criteria at this location. Alternatively, acknowledge a problem with the long term monitor results at N01 and adopt the more reliable and believable background levels measured at the nearby N06 location.

At location N04, Table 6 notes quarry noise was audible on occasion in the absence of traffic noise. The *NSW Industrial Noise Policy (INP)* requires noise from the development being assessed to be excluded from the measured background noise levels and the NIA provides no evidence that this step has been completed. Failure to exclude existing quarry noise would tend to increase background noise levels, in turn increasing noise criteria.

The noise monitor photographs in Appendix A indicate the long term monitor at N04 was placed in a wooded area, which tends to increase insect and bird noise and may provide a partial explanation for the high noise levels at this location. Section 4.1 of the NIA notes fans on poultry sheds near N04, which may also explain the atypical results at this location.

Section 4.1 of the NIA acknowledges the unusual noise level patterns in the N01 and N04 results, however the report simply assumed these patterns were due to seasonal insect activity based on some unspecified previous experience at other sites. A more comprehensive attended noise survey, including survey periods during the evening and night, would have confirmed the audible sources of noise during all time periods and removed the need for assumptions.

As seasonal insect or other atypical noise must also be excluded from the results when determining representative background noise levels and noise criteria, the measured noise levels at this location require significant review.

Background levels at N04 were questioned in DP&E's adequacy response, however the NIA authors responded with simple comments rather than a proper review and correction.

RECOMMENDATION: Reassess background noise levels at N04 to exclude existing quarry noise levels and noise from seasonal insects or other atypical sources, at least based on an additional attended noise survey during the day, evening and night. An alternative would be to acknowledge a problem with the long term monitor results at N04 and adopt the more reliable background levels measured at N06, as this location is also in a rural area some distance from Clarence Town Road so it is reasonable to assume similar background noise levels at both locations.

2.1.2 Measured Traffic Noise Levels

The NIA reports results from a survey of existing traffic noise levels at N07 near Brandy Hill Drive, although results at N02 were also referred to when calibrating the traffic noise model in Section 7.2.1 of the NIA. The NIA assumes all measured noise at N07 is due to traffic, at least during the day. While this assumption is technically false, it is an acceptable assumption as the results are unlikely to change significantly during the day if it were possible to measure only traffic noise while excluding other sources such as insects and birds.

The NIA does not describe the exact location of N07, specifically the distance from Brandy Hill Drive to N07, which affects the measured traffic noise levels and traffic noise model calibration. Figure 4 shows N07 is approximately 60 m from Brandy Hill Drive, although the figure is not at the correct scale or sufficiently clear to be certain of this distance. Figure 17 in Appendix A supports the estimated distance of 60 m from Brandy Hill Drive, although again an exact distance cannot be determined from this figure.

RECOMMENDATION: Include a more detailed description of this location, including distance from Brandy Hill Drive as this distance is important for the traffic noise model calibration, in the NIA.

2.2 Noise Criteria

2.2.1 Operating Noise Criteria

Section 5.1 of the NIA developed operating noise criteria according to the INP, although with incorrect background noise levels at least for N01 and N04 as discussed above. Noise criteria should be revised when the correct background noise levels are adopted.

RECOMMENDATION: Reassess operating noise criteria based on the correct background noise levels.

2.2.2 Sleep Disturbance Criteria

The NIA correctly recognises that sleep disturbance criteria are currently uncertain, in the absence of clear research results correlating sleep disturbance with noise levels and character inside a bedroom. Section 5.2.3 of the NIA discusses and adopts sleep disturbance criteria from the *NSW Road Noise Policy* (RNP) which was arguably the preferred approach until release of the *Draft Industrial Noise Guideline* (Draft ING) approximately 2 months before the NIA was completed. Technically the Draft ING does not apply until the final version is released, however the *Interim Construction Noise Guideline* (ICNG) has been commonly adopted since 2009 and is also adopted in the NIA.

The NIA should at least have mentioned, and ideally adopted for most receptors, sleep disturbance criteria in the Draft ING which are intended for industrial sources rather than traffic noise sources. The RNP sleep disturbance criteria would be appropriate for receptors potentially affected by truck noise on Brandy Hill Drive and other public roads. As the Draft ING recommends lower sleep disturbance criteria than the RNP, this can be a significant issue.

RECOMMENDATION: The NIA should at least comment on, and ideally adopt, the Draft ING sleep disturbance criteria for most receptors and retain the RNP sleep disturbance criteria for receptors affected by traffic noise.

2.2.3 Construction Noise Criteria

The NIA correctly reports the construction noise criteria, however the adopted noise affected criteria at some receptors are based on incorrect background noise levels as discussed above.

RECOMMENDATION: Reassess construction noise criteria based on the correct background noise levels.

2.3 Predicted Noise Levels

2.3.1 Operating Noise

Predicted noise levels from the quarrying, processing and loading activities on the site were calculated using noise model software based on the following input data:

Predicted terrain and noise source locations for various future stages – Table 12 merely states the drawings the noise model is based on while the NIA is silent on the sources and their locations in each model. The predicted receptor noise levels are meaningless without this information to place them in context. The EIS is also silent on the ground type (or surface roughness) adopted for the ground surface in the model or over various areas of the ground surface, as this can affect received noise levels.

RECOMMENDATION: Include detailed noise model plans in the NIA, showing modelled terrain and exact source locations, to confirm the noise model reflects the proposed project. The plans must include any modelled barriers, including the height of each barrier. Include data regarding the acoustic centre heights of each source, or source type, as source heights can have a large effect on received noise levels.

Source sound power levels – Table 13 in the NIA lists the modelled sound power levels in octave bands, however not all of the listed source sound power levels are correct. For example, Table 13 lists a sound power level of 112 dBA for a Cat 773 truck, compared to manufacturer's data showing this machine produces 117 dBA.

Similarly, Table 13 lists a sound power level of 99 dBA for a PC600 excavator, compared to published information from Komatsu stating a sound power level of 108 dBA. A WA500 loader produces a sound power level of 111 dBA according to Komatsu, not 101 dBA according to the NIA. The water cart is a 773B similar to a dump truck, however is modelled with a sound power level of 103 dBA compared to a dump truck at 113 dBA (and manufacturer's data at 117 dBA). This understates the water cart sound power level by 14 dBA. Extracts from published manufacturer's data for the three machines mentioned above, or information on where such data can be obtained, is attached in Appendix A.

Sound power levels produced by crushers and screens tend to vary from one unit to the next, and from quarry to quarry depending on the rock types being processed. It is therefore difficult to confirm the listed sound power levels for these sources. Table 13 lists a sound power level of 122 dBA for Screen 3 which is consistent with expectations, however a sound power level of 107 dBA for Screen 5 is unusually low and considered unlikely to be correct without supporting data.

A comparison between Table 13 in the NIA and Section 2.5 including Tables 2.5.1 and 2.5.2 in the main EIS report indicates the following omissions from the noise model:

- There are two WA500 loaders in the quarry, not one;
- Dump truck Cat 773E;
- One crusher (there is insufficient information to determine which of the five crushers was omitted);
- Screens 1, 2 and 4;
- 28 conveyor belts and drives;
- Pre-coat plant;
- Concrete batching plant;
- Concrete agitator trucks; and
- Any hired plant, as mentioned in Section 2.5 of the EIS.

The NIA has therefore understated at least some source sound power levels by 5 to 15 dBA and omitted a number of sources from the assessment. Noise levels at receptors would be significantly higher than predicted in the NIA.

RECOMMENDATION: The NIA should present clear evidence to support the listed sound power levels or correct the NIA to include representative and achievable sound power levels for all modelled sources. It should include all proposed quarry equipment or provide a clear justification for omitting significant noise sources.

The EIS should provide more specific information regarding “other equipment is hired as needed” as hired plant can produce significant noise not considered in the NIA. Alternatively, any project approval conditions must either limit the hired equipment, or otherwise avoid the potential for excessive noise at receptors from the hired equipment.

Modelled atmospheric conditions – Section 6.3 of the NIA states weather data from Paterson (actually from the Tocal automatic weather station) have been used to determine prevailing weather conditions for inclusion in the model. Table 14 in the NIA indicates the model considers noise enhancement from 3 m/s winds in all directions from the quarry, which is a conservative assumption, plus an F class inversion during the night which is appropriate. It is possible that the assumed wind conditions overstate noise levels at some receptors, however a less conservative assessment would not be appropriate in the absence of a detailed analysis of the weather station data as recommended in the INP.

Operating times – Table 15 of the NIA indicates all operations are included in the noise model during the day (except for those incorrectly omitted from the assessment as described above). A subset of operations limited to some crushers, screens, the pug mill, a single loader and road trucks, is included in the noise model for the evening and night period. This is in direct contrast to Table 1.3.2 of the main EIS report which includes ‘load and haul’ (ie excavators in the quarry and off-highway trucks from the quarry to the primary crusher) from 5 am to midnight and the primary crusher from 5 am to 1 am. These very significant noise sources have been omitted from the night noise model.

RECOMMENDATION: The NIA should correctly assess all proposed operations in each time period rather than omitting significant sources from the evening and night noise model.

Predicted noise levels – The NIA presents tables of predicted noise levels, however with significant adjustments required to model input data as described above, the results must be recalculated and reassessed.

RECOMMENDATION: Recalculate predicted noise levels after all required noise model adjustments have been made as recommended above.

Modifying factors – The NIA does not mention or assess modifying factors defined in the INP that have significant potential to apply to the development, including tonal and low frequency noise.

RECOMMENDATION: The NIA should ideally present 1/3 octave predicted noise levels at receptors to demonstrate quarry noise will not be tonal as defined in the INP, or apply tonal penalties to the predicted noise levels where required. This should include reverse alarms fitted to mobile machines which are not currently mentioned or assessed in the NIA, or justify omission of the alarms from the assessment.

The NIA must predict noise levels in octave bands or at least predict both dBC and dBA levels at all receptors to determine the need for the low frequency modifying factor required by the INP.

Noise contour figures – the NIA does not present noise contour figures to show the area affected by the project, including vacant land immediately adjacent to the project site. This is a normal requirement for an assessment of this type, however it is acknowledged that the SEARS did not specifically mention noise contours as a requirement for this project.

RECOMMENDATION: Include noise contour figures in the NIA to show noise levels over vacant land near the project site.

Reassess operating noise levels – When all required amendments have been made to the noise model and noise criteria have been updated based on reliable background noise data, predicted noise impacts from the project must be reassessed. It is believed likely that significant noise mitigation and management measures will be required to meet relevant criteria, however this cannot be confirmed until the reassessment is complete.

2.3.2 Road Traffic Noise

The NIA assessed existing and proposed traffic noise to the closest Brandy Hill Drive residence which is 25 Brandy Hill Drive located approximately 30 m from the road. The NIA specifically stated that only Brandy Hill Drive traffic noise is included in the assessment. However, almost all quarry traffic on Brandy Hill Drive also travels along Seaham Road between Brandy Hill Drive and Raymond Terrace, or at least to Raymond Terrace Road at Nelsons Plains. A review of residences along Seaham Road shows a few that are approximately 30 m from the road and two that are closer, with the closest approximately 20 m from the road. As all quarry related Brandy Hill Drive traffic also passes this residence, it should be included in the assessment.

A significant percentage of quarry trucks travel along Raymond Terrace Road while the remainder travel through Raymond Terrace. With a significant traffic split at Nelsons Plains, there may not be a need to assess traffic noise at more distant residences from the quarry.

RECOMMENDATION: The NIA should assess traffic noise to the potentially most affected receptor, which is most likely to be a residence approximately 20 m from Seaham Road south of Brandy Hill Drive.

A comparison of traffic volumes in the EIS Traffic Impact Assessment (TIA) and in Table 16 of the NIA indicate a few differences, for example:

- Table 4 of the TIA shows 1681 vehicles per day (vpd) on Brandy Hill Drive while Table 16 of the NIA shows 1845 vpd;
- Table 5 of the TIA shows 166 heavy vehicles per day on the quarry access road while Table 16 of the NIA shows 240 heavy vehicles currently attributed to the quarry.

While reasons for these and other differences between the TIA and the NIA are not clear, it is acknowledged that these differences are likely to affect modelled traffic noise levels by less than 1 dBA and should not affect the calculated noise level increase due to the proposed increase in quarry traffic.

Table 23 in the NIA has not calculated the proposed increase in traffic noise levels. Rather, it has determined the maximum number of quarry trucks that would cause no more than a 2 dBA increase in traffic noise levels. It would arguably be better for DP&E and the potentially affected community to be informed of the expected noise increase due to the project, rather than a theoretical upper limit on daily truck movements.

The base case, before comparison with criteria or application of the 2 dBA relative increase criterion, should exclude existing quarry traffic noise. This ensures the actual traffic noise impact from the quarry is quantified and correctly assessed to the criteria, particularly the relative increase criterion.

RECOMMENDATION: The NIA should calculate the base case and proposed traffic noise levels, at the potentially most affected receptor(s), with the base case excluding current quarry related traffic.

The NIA adopts a 20 dBA difference between outside and inside a dwelling, which assumes all bedroom windows are closed. This may possibly be the case but is unlikely to be a desirable situation for all residents, as some may prefer to leave their windows open depending on outside air temperatures. A difference of 10 dBA outside to inside is a generally accepted estimate with windows open.

RECOMMENDATION: The NIA should provide justification for assuming all residents close their windows at night and the associated 20 dBA difference from outside to inside a dwelling, compared to the commonly accepted position that some residents would prefer to sleep with window open. Following this, a reassessment of sleep disturbance levels is required, including an assessment of all feasible and reasonable mitigation options.

Section 3.4.1 of the RNP describes a four-step process for assessing traffic noise. Step 2 requires identification of all receptors expected to receive exceedances of the criteria in Table 3 of the RNP, which for Brandy Hill Drive and Seaham Road are 60 LAeq,15hr during the day and 55 LAeq,9hr during the night as correctly reported in Table 8 of the NIA. Step 3 then requires, for each receptor predicted to receive exceedances in Step 2, an assessment of all feasible and reasonable mitigation measures to achieve the criteria. Step 4 requires justification of any remaining exceedances.

It is therefore not sufficient in a traffic noise assessment to simply conclude the increase is less than 2 dBA without also assessing all feasible and reasonable mitigation measures or justifying the lack of such measures. As Table 23 in the NIA indicates existing and future exceedances of the 60 LAeq,15hr day and 55 LAeq,9hr night criteria, and such exceedances are likely to be higher at the closest residence to Seaham Road, an assessment of feasible and reasonable traffic noise mitigation measures is required by the RNP.

Section 4.3 of the RNP discusses noise mitigation strategies for traffic generating developments on existing roads and provides examples of applicable strategies, including regulation of the time of use amongst other strategies. This strategy, in particular, may be applicable to this project. In any case, lack of regulation of time of use as a noise mitigation measure, at least for the more critical night period, must be justified in the NIA.

The SEARS also require consideration of feasible and reasonable mitigation measures, including evidence that there are no such measures available other than those proposed.

RECOMMENDATION: The NIA should assess existing and proposed traffic noise levels to the criteria, not just to the relative increase criterion, and either recommend feasible and reasonable mitigation measures or justify the lack of measures to reduce criteria exceedances. In particular, given the community's concern regarding heavy truck movements at night, regulation of time of use should be considered in the NIA as required by the RNP or justification provided for this measure not being adopted for the project.

Section 7.2.4 of the NIA notes an existing sleep disturbance level of 72 LAmax,9hr and calculates a predicted level of 74 LAmax,9hr, presumably by adding 2 dBA to the existing level. As the LAmax level is caused by a single truck passby event, it is not clear how the proposed 2 dBA increase can be caused by more events per night.

RECOMMENDATION: The NIA should provide reason(s) for the predicted 2 dBA increase in LAmax,9hr levels in Table 24, considering future truck passby events should not be individually louder than existing truck passby events.

The NIA does not address the issue of cumulative noise impacts from the Brandy Hill Quarry Expansion Project and the Martins Creek Quarry Project, specifically in relation to cumulative traffic noise levels. It is acknowledged that the NIA was prepared in December 2015 before the Martins Creek Quarry EIS was publicly exhibited, however the EIS is dated February 2017 which is some months after the Martins Creek

Quarry EIS was available. The issue of cumulative traffic noise levels is known to be important to the adjacent Brandy Hill community.

RECOMMENDATION: The amended NIA should assess cumulative traffic noise levels with the Martins Creek Quarry Project and any other significant traffic generating projects in the area.

2.3.3 Construction Noise

The NIA considers overburden removal and transportation of overburden as construction noise, however this activity can also be considered part of normal operation rather than construction. The NIA does not mention construction work associated with relocating the processing plant to a new southern location.

RECOMMENDATION: The NIA should justify overburden removal and transportation as a construction activity, rather than a part of normal quarry operation. Construction work associated with relocation of the processing plant should be assessed, or lack of assessment justified.

The construction noise assessment does not provide details of the construction noise model. Recommendations above regarding presentation of input data for the operational noise model also apply to the construction noise model. While it is assumed the construction noise model includes transportation of overburden to construct the proposed bund south of the future processing plant, this is not specifically stated in the NIA and the low predicted noise levels imply this is not the case.

RECOMMENDATION: The NIA should provide all relevant details of the construction noise model generally as recommended for the operating noise model including terrain, source location, source height, source sound power and weather details. Assuming the construction model includes building the bund south of the future processing area, then trucks and other earthmoving equipment must be modelled at realistic elevated locations on the bund as will occur during the construction period, to correctly calculate noise levels at receptors. Alternatively, construction of this bund must be included in the operating noise model.

Table 1.3.2 of the EIS main report indicates construction work will occur from 5 am to 8 pm Monday to Friday and 5 am to 5 pm Saturday, which includes the evening and night periods. Table 26 in the NIA only considers construction work during the day.

RECOMMENDATION: The NIA must also calculate construction noise levels for the evening and night, as construction work during these times is proposed in the EIS. The night construction noise assessment must include night weather conditions and a sleep disturbance assessment.

2.4 Addressing the SEARS

2.4.1 Noise Compliance Monitoring

The SEARS require an assessment of monitoring and management measures, in particular real time and attended monitoring. The EIS main report and the NIA both mention a Noise Compliance Management Strategy, with Table 4.3.1 in the EIS report proposing annual noise monitoring although no other details are provided.

Given the likely predicted exceedances of reassessed noise criteria at some closest receptors when background noise levels and noise model inputs are amended, it may be more appropriate to consider quarterly noise monitoring and, as required by the SEARS, to consider real time noise monitoring.

RECOMMENDATION: The EIS and/or the NIA should consider whether annual or quarterly noise monitoring is appropriate upon reassessment of operating, traffic and construction noise

levels, and consider appropriate receptor locations and other details (such as day/evening/night and measurement duration in each time period) for noise monitoring.

The EIS and/or NIA should consider real time noise monitoring as specifically required by the SEARS, and provide relevant justification if real time noise monitoring is not proposed.

3. BLASTING

The EIS includes a Blast Impact Assessment (BIA) in Appendix 10, prepared by Vipac Engineers & Scientists. This section presents comments and recommendations arising from a review of that report.

3.1 Receptor Locations and Distances

Table 2 in the BIA lists closest receptors and their approximate distance from the future quarry pit boundary. A check of these distances with reference to SIX Maps indicates some distances in Table 2 are correct while others are not. For example, R13 at 994 Clarence Town Road is approximately 1,000 m from the southern boundary of the proposed extraction area, compared to 1,300 m reported in Table 2. Receptor R14 at 1034 Clarence Town Road is approximately 970 m from the future extraction area compared to 1,300 m listed in Table 2.

The distances obtained from SIX Maps are acknowledged to be approximate, however potential errors would not be sufficient to explain the differences with Table 2 in the BIA. The future processing area, in which blasting will not occur, was excluded when estimating distances.

RECOMMENDATION: Check all receptor distances listed in Table 2 and update the predicted blast impacts with the revised distances.

3.2 Historical Blast Impacts

Figure 5 in the BIA indicates one previous blast event produced a ground vibration level of 10 mm/s, which is acceptable, however one event produced a level of around 50 mm/s. Presumably this event was monitored at a reference location close to the quarry rather than at a residence, however the BIA is silent on this issue.

RECOMMENDATION: Provide information regarding current blast monitoring locations and, in particular, the monitoring location and other details regarding the single blast producing a measured level of around 50 mm/s.

3.3 Blast Times

The BIA quotes blasting criteria from the ANZECC Guideline, which is acknowledged to be the most appropriate policy document for this project. However, the BIA did not quote the recommended blasting hours from the ANZECC Guideline, which are different from the blasting hours proposed in Table 1.3.2 of the EIS main report. The BIA does not discuss proposed blasting hours.

RECOMMENDATION: Either align the proposed blasting hours in the EIS with the recommended hours in the ANZECC Guideline, or justify the extended hours proposed for this project.

3.4 Conclusion

The BIA concludes the project can meet relevant blasting criteria with appropriate design and management of blast parameters, and recommends each future blast is monitored at one or more receptors to confirm compliance. This conclusion is considered appropriate and is likely to remain appropriate when the reassessed receptor distances are considered.

4. VIBRATION

Vibration from blasting is discussed in the EIS and BIA and reviewed in Section 3 above, however vibration from operation of the quarry and quarry vehicles travelling on public roads has not been addressed in the EIS.

As proposed quarry operations will be hundreds of metres from receptors, non-blasting vibration from the quarry is unlikely to be perceptible at any receptor and does not require specific assessment.

Vibration from heavy vehicle traffic could potentially be perceptible at receptors located 20 m to 30 m from the road, depending mainly on ground conditions between the road and receptor, however exceedances of relevant criteria are considered unlikely and other heavy vehicles not associated with the project would also potentially cause perceptible vibration at these receptors. A comprehensive EIS should have at least acknowledged this issue, however in the expected absence of criteria exceedances a detailed assessment is not necessarily recommended.

5. CONCLUSION

This summary of issues identified during an acoustic review of the Brandy Hill Quarry Expansion Project EIS has indicated significant acoustic issues exist with a high potential to materially affect the results and conclusions of the EIS. A number of conclusions regarding no or minimal acoustic impact are based on erroneous data or assessment methods, where in fact there is a significant chance of criteria exceedances and unacceptable noise impacts at receptor properties from the project as currently proposed.

Given the extent and relative importance of identified deficiencies in the NIA as described in this review, a significant revision to the NIA is required before approval of the project can be contemplated. A consequent reassessment of the project itself may be required to incorporate additional noise mitigation and management measures, however this can only be confirmed after revision of the acoustic assessment is complete.

Please contact the undersigned for any further information or discussion.

Yours faithfully,



MARK BRIDGES BE (Mech) (Hons) MAAS
Principal Consultant

APPENDIX A – Manufacturer’s data for example earthmoving machines used at Brandy Hill Quarry.

This review referred to manufacturer’s noise data for three example earthmoving machines:

Komatsu PC600 Excavator.

A downloadable brochure containing noise data could not be found for this machine, however a press release from Komatsu was found on the website of a distributor of Komatsu products. This press release can be viewed here:

http://www.wacmccandless.com/ne_pressdetail.asp?id=46

The press release mentions an external sound power level of 108 dBA in the sixth paragraph.

Komatsu WA500 Loader.

An extract from a specification document comprising the cover page and page 9 containing noise data, obtained from:

<http://www.komatsuamerica.com/-/media/komatsu/files/equipment-brochures/wheel-loaders/176-600/wa500-7sma.ashx>

is attached. The noise data on page 9, which states a sound power level of 111 dBA, has been outlined in red.

Caterpillar 773 truck.

An extract from a specification document comprising the cover page and page 19 containing noise data, obtained from:

<https://s7d2.scene7.com/is/content/Caterpillar/C712813>

is attached. The external noise section is highlighted. This link allows downloading the document to a file, however due to an error in Caterpillar’s webpage the downloaded file lacks a .pdf extension. Manually adding this extension to the downloaded file allows opening it using standard pdf reader software.

The specification states the external sound pressure level at a distance of 15 m from the machine is 86 dBA. The sound power level can be calculated from this information based on the following formula:

$$\text{Sound Power} = \text{Sound Pressure} + 20 \times \log(\text{distance, m}) + 8$$


$$\text{Sound Power} = 86 \text{ dBA} + 20 \times \log(15 \text{ m}) + 8$$

$$\text{Sound Power} = 117 \text{ dBA.}$$

Note that this formula assumes the 15 m distance is measured from the centre of the machine, not from its closest surface. If the distance refers to the closest surface, assuming an average of approximately 3 m from the centre to the surface as the machine is nearly 6 m wide and over 9 m long, then the effective distance for the above formula becomes 18 m to the centre of the machine and the calculated sound power level is 119 dBA.

KOMATSU®

WA500-7
Tier 4 Interim Engine
Steel Mill Arrangement



NET HORSEPOWER
353 HP @ 1900 rpm
263 kW @ 1900 rpm

OPERATING WEIGHT
84,955 lb
38535 kg

BUCKET CAPACITY
5.25 yd³
4.0 m³

WA500
Steel Mill Arrangement

PHOTOS MAY INCLUDE OPTIONAL EQUIPMENT

WA500-7 Steel Mill Arrangement

OPERATOR ENVIRONMENT

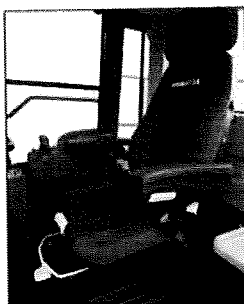
New Designed Cabin

The new cabin offers better ergonomics, more storage space and more features to improve operator comfort.



Operator Seat with EPC (Electronic Pilot Control) Levers

The work equipment control system has an EPC lever console integrated into the higher capacity seat and moves with the seat. The angle of the armrest is fully adjustable for optimum operator comfort. An F-N-R switch is now incorporated in the console. A heated seat is now standard.



Tiltable / Telescopic Steering Wheel

The WA500-7 comes standard with a tiltable and telescopic steering wheel that can be pushed up and out of the way for easy entry and exit of the cab.

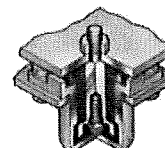


Low Noise Design

Operator's ear noise level : 73 dB(A)

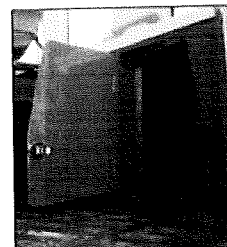
Dynamic noise level (outside): 111 dB(A)

The large cab is mounted with Komatsu's unique ROPS/FOPS viscous mounts. The low-noise engine, hydraulically driven fan, and hydraulic pumps are mounted with rubber cushions, and the cab sealing is designed to provide a quiet, low-vibration, dustproof, and comfortable operating environment.



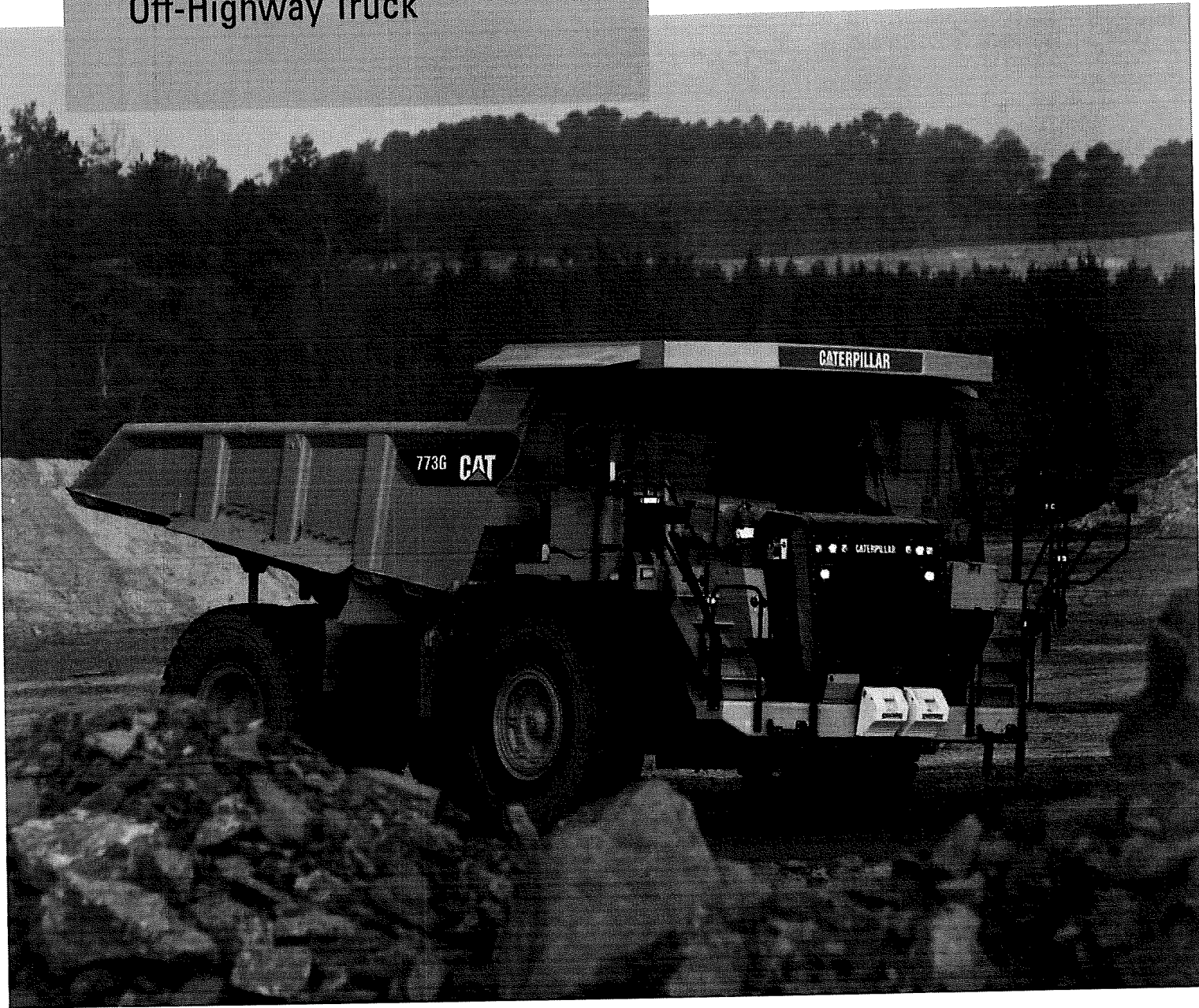
Increased Cab Storage Area

The WA500-7 cab features a storage box on the left hand side of the cab to allow the operator to store items out of the way. A hot or cold box on the right hand side of the cab allows the operator to keep a beverage or lunch warm or cold, depending on the season.



773G

Off-Highway Truck



Engine (Tier 4 Final)

Engine Model	Cat® C27 ACERT™	
Gross Power – SAE J1995	578 kW	775 hp
Net Power – SAE J1349	534 kW	717 hp

Engine (Tier 2 Equivalent)

Engine Model	Cat® C27 ACERT™	
Gross Power – SAE J1995	578 kW	775 hp
Net Power – SAE J1349	546 kW	733 hp

Weights – Approximate (Tier 4 Final)

Maximum Gross Vehicle Weight	102 740 kg	226,503 lb
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Weights – Approximate (Tier 2 Equivalent)

Maximum Gross Vehicle Weight	102 740 kg	226,503 lb
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Operating Specifications (Tier 4 Final)

Nominal Payload Class (100%)	55.3 tonnes	61.0 tons
Maximum Working Payload (110%)	60.8 tonnes	67.0 tons
Not to Exceed Payload (120%)*	66.3 tonnes	73.1 tons
Body Capacity – SAE 2:1	35.75 m ³	46.75 yd ³

Operating Specifications (Tier 2 Equivalent)

Nominal Payload Class (100%)	56.0 tonnes	61.7 tons
Maximum Working Payload (110%)	61.5 tonnes	67.8 tons
Not to Exceed Payload (120%)*	67.1 tonnes	74.0 tons
Body Capacity – SAE 2:1	35.75 m ³	46.75 yd ³

• Capacity with dual slope body – no liner.

* Refer to the Caterpillar 10/10/20 Payload Guidelines for maximum gross machine weight limitations.

Body Hoists (Tier 2 Equivalent)

Pump Flow – High Idle	448 L/min	118 gal/min
Relief Valve Setting – Raise	17 250 kPa	2,502 psi
Relief Valve Setting – Lower	3450 kPa	500 psi
Body Raise Time – High Idle	9.5 seconds	
Body Lower Time – Float	13.0 seconds	
Body Power Down – High Idle	13.0 seconds	

Capacity – Dual Slope – 100% Fill Factor

Struck	26.86 m ³	35.13 yd ³
Heaped 2:1 (SAE)	35.75 m ³	46.76 yd ³

Capacity – Flat Floor – 100% Fill Factor

Struck	26.25 m ³	34.33 yd ³
Heaped 2:1 (SAE)	35.49 m ³	46.41 yd ³

Weight Distributions – Approximate

Front Axle – Empty	53%
Front Axle – Loaded	35%
Rear Axle – Empty	47%
Rear Axle – Loaded	65%

Suspension

Empty Loaded Cylinder Stroke Front	234 mm	9.2 in
Empty Loaded Cylinder Stroke Rear	149 mm	5.8 in
Rear Axle Oscillation	8.1°	

Sound

Sound Standards

- The operator Equivalent Sound Pressure Level (Leq) is 76 dB(A) when SAE J1166 FEB2008 is used to measure the value for an enclosed cab. This is a work cycle sound exposure level. The cab was properly installed and maintained. The test was conducted with the cab doors and the cab windows closed.
- The exterior sound pressure level for the standard machine measured at a distance of 15 m (49 ft) according to the test procedures specified in SAE J88:2008, mid-gear moving operation is 86 dB(A).
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

Service Refill Capacities

Fuel Tank	795 L	210 gal
Cooling System	171 L	45 gal
Crankcase	90 L	24 gal
Differentials and Final Drives	145 L	38 gal
Steering Tank	36 L	9.5 gal
Steering System (includes tank)	54 L	14 gal
Brake/Hoist Hydraulic Tank	176 L	46.5 gal
Brake Hoist System	322 L	85 gal
Torque Converter/Transmission System HRC	70 L	18 gal
Torque Converter/Transmission System LRC	61 L	16 gal

Steering

Steering Standards	SAE J1511 FEB94 ISO 5010:1992	
Steer Angle	31°	
Turning Diameter – Front	23.5 m	77 ft 1 in
Turning Circle Clearance Diameter	26.1 m	85 ft 8 in

Tires

Standard Tire	24.00R35 (E4)
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- Productive capabilities of the 773G truck are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.
- Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

ROPS

ROPS/FOPS Standards

- ROPS (Rollover Protective Structure) for cab offered by Caterpillar meets ISO 3471:2008 ROPS criteria.
- FOPS (Falling Objects Protective Structure) meets ISO 3449:2005 Level II FOPS criteria.



Paterson Road looking North towards i/s with Dunmore Road (around curve)
showing close proximity of homes to Paterson Road



Paterson Road looking North towards i/s with Dunmore Road (around curve) showing Hanson Quarry truck southbound in close proximity of homes



Paterson Road Bolwarra Heights, looking North



Paterson Road Bolwarra i/s Bolwarra Street, looking North