THE AUSTRAL BRICK CO. PTY LIMITED
NEW BERRIMA CLAY/SHALE QUARRY – PA 08-0212
RESPONSE TO ADDITIONAL INFORMATION REQUESTED BY DP&I

1. Please justify why the local roads (and corresponding intersections) namely, Cavendish Street, Old Bowral Road, Lyle Avenue, Kirkham Road, Oxley Hills Road and Kiama Street have not been modelled as part of the traffic impact assessment. Justification provided in the EA (sections 5.1.2.3 and 5.1.3.3) is inadequate. You may also wish to refer to Council's submission for further info.

Response

Mr Craig Hazell of Traffic Solutions responded to this request as follows.

> *"The proposal is estimated to generate only 17 vehicle trips in the peak hours with only 13 of these being heavy vehicles utilising the haulage route. This is an average of 1 truck vehicle every 4min and 37s or 1 truck every 8min 34s approaching or departing (i.e. in either direction). The potential truck traffic generated by the proposal of 13 heavy vehicle trips per hour will not create traffic delays at any intersection in isolation. Therefore the modelling of these intersections was considered to be unnecessary."*

Essentially, this response is based upon the professional judgement of an experienced traffic engineer who spent time at each intersection along the route during peak hour observing traffic movements through each intersection. When undertaking predictive assessments of any environmental issue, reliance needs to be placed upon the professional judgement of an experienced traffic engineer rather than modelling just for the sake of it.

2. Section 5.1.3.2 of the EA states "The modelling assumed additional 17 vehicle movements in the morning and evening peak hours comprising 7 truck and 4 cars entering the site and 6 trucks exiting the site in the morning peak hour and the reverse in the evening peak hour". Please clarify what happens to the 7th truck that enters but does not seem to exit the site.

Response

Mr Craig Hazell of Traffic Solutions responded to this request as follows.

> *"The 7th truck enters in the peak hour analysed but departs the site in the next hour."*

3. The air quality impact assessment of PM_{10} assumed a worst case scenario involving surplus stockpile haulage rate of 9 trucks per day (section 5.7.6). However, the traffic impact assessment did not seem to account for these surplus stockpile haulage trucks. Furthermore, section 2.5.2 states that 45,000 cubic metres of material would have to be transported off site during stages 1-3 or stored in the excavation area. Please clarify if any of the surplus material would be transported off site and if it will, please justify why these 9 trucks per day were not included in the traffic impact assessment. If, however, 45,000 cubic metres of material is to be stored on site, please clarify where in the excavation area will it be stored and whether this material will be available all at once or progressively.

Response

The Department's assumption with respect to the air quality PM_{10} assessment that 9 "additional" truckloads of material per day would be despatched from site is in error. The reference to 9 loads per day related to overburden relocation on site. Section 6.3.3 of the air quality assessment clearly explains that the 9 loads per day relates only to a 0.6km haulage distance from the quarry to the surplus overburden stockpile area (SOSA). The reference to these trucks leaving the site (and requiring coverage in the traffic assessment) is not correct.

The 45 000 tonnes of material which would be stockpiled within the surplus overburden stockpile area would be despatched within the maximum number of movements nominated for the site in the EA (Section 2.6.4). As a consequence of the assumptions for off-site and on-site truck movements adopted for the PM_{10} assessment, the predicted PM_{10} levels are considered appropriate.

All surplus material would be stored in the surplus overburden stockpile area and transported off site when required. It is envisaged the materials would be transported form the quarry in small quantities for up to a week or so at a time. In any event, as outlined above, the number of truck movements despatched from the site during any hour or on any one day would be equal to or less than the nominated maximum level of 136 truck movements or 68 loads per day.

4. Please note that the traffic impact assessment assumed worst case scenario of 68 loads or 132 movements (instead of 136), (Sections 5.1.3.2 and 5.1.5 of the EA and Sections 2.2 and 4.2 of the Traffic Specialist's report). Please confirm which is correct.

Response

136 is the correct number.

5. Please explain how excavation works will be progressed (i.e. will the excavation area for stages 1-3 followed by area for stages 4-6 be open all at once or is it likely to be opened in cells).

Response

The method of extraction is outlined in Section 2.5.2 of the EA. Essentially, extraction would involve the extraction of the full area of Stage 1 to a depth of 665m AHD over a period of approximately 8 years. When extracting the shale, emphasis would be placed upon balancing the removal of the overburden materials and the underlying fresh shale. Therefore, it would take a few years to remove the overburden from the Stage 1 area. Once all overburden is removed from the Stage 1 area and only shale is present, the extraction would involve the extraction to the levels nominated as 665m AHD (Base of Stage 1) 655m AHD (Base of Stage 2) and 645m AHD (Base of Stage 3).

Once extraction approaches the base of Stage 3, the Proponent would commence the overburden removal from Stage 4 to ensure sufficient fresh shale is exposed for extraction, prior to the removal of the last shale from the floor of Stage 3. The same process of progressing downwards in benches would occur, i.e. extraction to 665m AHD (Stage 4), 655m AHD (Stage 5) and 645m AHD (Stage 6).

6. Please provide additional justification as to how the project's water demand of 8.05ML/yr will be satisfied from the harvestable right of 4.59ML (i.e. confidence in rainfall).

Response

Harvestable Rights

Under the Water Management Act 2000 ("the Act") a landholder has the right to capture 10% of the average regional rain water run-off on the land by means of a dam or dams having not more than the total capacity calculated in accordance with Schedule 1 of the Act, providing such structures are located on minor streams only (i.e. first and second order streams only). This water can, in most cases, be used for any purpose.

The harvestable right is calculated using a multiplier value, available from online maps on the NSW Office of Water (NOW) website. These multiplier values vary across NSW and allow a landholder to calculate the maximum size of dam(s) that they may construct under their harvestable right.

The multiplier values limit the size of harvesting structures and, as a result, effectively limit the potential amount of water that might be captured by a landholder to 10% of the average regional rainfall.

Note that the harvestable right as calculated from the multiplier values does not nominate how much water can be used annually. Rather, it nominates the maximum permissible capacity of harvesting structures. There is no restriction on a landholder to use whatever water becomes available in these structures as a result of rainfall and runoff. Theoretically, such structures might be filled several times annually, with the captured water being drawn off for use on each occasion.

As a result, a harvestable right of 4.59ML means that dams (or similar) with a total capacity of 4.59ML are permissible. The 4.59ML figure is not the maximum amount of water that can be used from harvestable right dams. The actual amount of water used from them might be a much higher figure because the dams would have filled numerous times as a result of rainfall and runoff. Our modelling (based on catchment conditions and rainfall patterns) predicts that the harvestable right structures could supply at least 8.05ML of demand annually.

In using whatever water is available from a harvestable right structure, a landholder would not necessarily breach the requirement to only capture a maximum of 10% of the average regional rainfall on their land. This is because the harvestable right multiplier value takes the rainfall into account and limits the capacity of harvesting structures so that they can't, effectively, capture any more than 10% of the long-term average regional rainfall.

7. Please confirm the maximum depth of excavation. Figures 2.4 and 5.7 of the EA show excavation of up to 645m AHD, whereas section 5.12.3 of the EA states excavation of up to 630m AHD.

Response

The maximum extraction depth would be 645m AHD. The reference to 630m AHD is in error and relates to the maximum depth at which drilling defined the shale resource on the property. The proposed maximum depth of extraction would be 15m higher.

8. Figure 2.2 of the EA shows borehole logs BH 2, 7, 12, 13 and 14 and indicates that their depth is up to 630m AHD. Could you please provide borehole logs (indicating the depth) for the remaining boreholes as per Figure 2.2 of the EA.

Response

A copy of a figure displaying geological bore logs for all bores drilled is attached.

9. Section 5.3.6.5 of the EA states that the construction noise criteria will be exceeded by 4dB at one location with the implementation of mitigation measures. However, Section 5.1.1 of the noise specialist's report states that with the implementation of further measures the construction noise criteria may be exceeded by 2dB. Please clarify what is the exceedance, if any, of the construction criteria and if necessary propose further measures to ensure criteria is met.

Response

The noise assessment (summarised in the EA) refers to the 4dB(A) exceedance at Residence 2 during the construction of the southwestern or southern bund wall. This was clearly under the worst case prevailing conditions of a northeasterly wind blowing towards the residence. A review of the recorded wind data for Moss Vale (EA Figure 4.3) reveals that winds from the northeast only occur for less than 15% of the year. Hence, it would be comparatively simple to achieve compliance at Residence 2 by committing to undertaking the construction of the southwestern or southern bund wall during periods when winds are <u>not</u> blowing from the northeast – a common operational practice.

10. Please provide a clear breakdown of projects material to be excavated and what is to be done with it (i.e. clay/shale vs surplus material).

Response

The extraction area within the EA has been defined to maximise the quality of shale that can be recovered from the property within the smallest possible footprint.

In total, approximately 3.6 million tonnes of fresh (unweathered) shale is present within the extraction area with an estimated 350 000 tonnes of clay, 220 000 tonnes of weathered shale and limited quantities of sandstone. It is proposed that all shale and a considerable proportion of clay, weathered shale and sandstone would be removed from site. All of these materials are suited for the manufacture of bricks. Notwithstanding their suitability, Austral

will retain some of the clay and weathered shale on site to assist with the creation of a suitable substrate on the extraction benches and final floor to sustain the vegetation on those areas (as discussed in the EA Section 2.12).

11. The Department would also like to advise you to commence negotiating the Voluntary Planning Agreement with the Council.

Response

The Proponent met with Wingecarribee Shire Council on the 9 December 2011 to commence negotiations regarding the "Voluntary" Planning Agreement. The discussions were extremely fruitful and covered all issues relevant to Council (as raised in its submission). The key issue focussed upon was the contribution for maintenance of the roads along the transport route that were fully or partially finalised by Council.

Table 1 (Road Distance and Responsibility) attached records on the individual roads along the transport route and the extent of Council funding. For those roads that are partially funded, Council will provide the Proponent with the proportion of Council funding to enable a rate per tonne to be calculated for the project. Council indicated it would be seeking a rate of 8 cents per tonne per km on the roads where maintenance is fully funded by Council with the contribution for the partially funded roads being proportional to Council's funding. Discussions were also held regarding whether there would be an up-front payment as part of the agreement with Council.

In light of the above approach, Council will reword the extent of partial funding for the subject roads and in turn the Proponent will calculate the proposed contribution. With this approach to addressing Council's issues originally intended for inclusion in a Voluntary Planning Agreement, the Proponent is now of the view that it would be more appropriate for the road maintenance contribution to be included as a condition of the project approval. Council explained the procedure for creating a Voluntary Planning Agreement which appears lengthy and involved. It would appear to be far more appropriate, that a conditional approach is adopted whereby a rate per tonne is payable to Council (with a CPI adjustment) – subject to the agreement of the DP&I.

12. Please provide the traffic noise impact assessment along the remainder of the local roads where there are nearby sensitive noise receivers. In particular, the traffic noise assessment needs to consider the following local roads: Cavendish Street, Old Bowral Road, Lyle Avenue, Kirkham Road, Oxley Hills Road and Kiama Street.

Response

"The noise assessment undertaken for the Project by Spectrum Acoustics calculated a traffic noise level of 51 dB(A), Leq(1hour) at a receiver 17m from the transport route (Taylor Avenue) on the southern edge of New Berrima. This level is 9 dB below the 60 dB(A) daytime criterion for receivers adjacent to a collector road. Aerial photographs were reviewed to determine the nearest receivers to the local roads referred to in this request. This review established:

- *Cavendish street is in an industrial area with no apparent residences;*
- *nearest residence to Old Bowral Road is at 60m;*
- *nearest residence to Lyle Avenue is at approximately 20m;*
- *there are no residences along the haul route section of Kirkham Road; and*
- *a possible residence on the eastern side of Kiama Road is at 24m.*

Since these residences are all greater than 17m form the transport route to be used, traffic noise levels from the project would not exceed the 51 dB(A),Leq(1hour) predicted at New Berrima. This level is below the daytime criterion of 55 dB(A) for receivers near a local road. The DECCW (now OEH) released the NSW Road Noise Policy (RNP) in March 2011 and replaces the ECRTN, which was the basis of the original traffic noise assessment. The traffic noise criteria in the RNP are the same as the ECRTN criteria for local roads, however, and the criteria for collector roads are essentially less stringent. Compliance with the ECRTN criteria therefore implies compliance with the RNP criteria for this project."