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Our Ref: 2669/PJ/070411

7 April 2011

The General Manager  
Oberon Council  
PO Box 84  
OBERON NSW 2787

**Attention: Mark Dicker/Jaclyn Burns**

Dear Leanne

**Re: Response to Oberon White Granite Quarry Submission re: Proposed Dwelling Lot 12  
DP 603429, 173 Titania Road, Oberon DA 10.2011.1.1**

Umwelt (Australia) Pty Limited (Umwelt) has been requested by Hugh and Sue Webb to respond to the objection to DA 10.2011.1.1 dated 18 March 2011 by Mudgee Stone Company. Please find following responses to the issues raised:

**1. Distance of Dwelling to Quarry Activities**

Noted

**2. Background Noise levels and Noise Criteria**

The comment in the statement of environmental effects (SEE) about background noise levels was making a general statement that in these types of areas a background noise level of 30 to 35 dB(A) was expected. It is agreed that a background noise level of 30 dBA for this site is appropriate for planning purposes making the appropriate noise criteria for the quarry development 35 dB(A).

**3. Noise Modelling and Potentially Received Noise**

Mudgee Stone Company's comments in its submission do not change the fact that the noise modelling presented in the environmental assessment (EA) in regard to the proposed dwelling on Lot 12 is inaccurate and can't be relied on. As pointed out in Mudgee Stone Company's submission, the company knew this prior to the EA being lodged and made publicly available. The additional modelling undertaken by Spectrum Acoustics for Mudgee Stone Company indicates that the subject knoll has a significant noise attenuation effect that is real and has not been taken into account.

In regard to the noise exceedances predicted by the additional modelling undertaken by Spectrum Acoustics, the modelling indicated a 1 to 2 dB(A) exceedance under worst case operational conditions (not including rock hammering) for Years 1 and 20 with operations including the intermittent use of a rock hammer predicted to result in a maximum 3.4 dB(A) exceedance.

PlanningNSW notes that a 2 dB exceedance of a nominated project-specific noise level is minor, a 3 to 5 dB exceedance is moderate and exceedances of greater than 5 dB are significant. Using this as a guide, the Department's contemporary approach to the implementation of the noise conditions in current consents is based on:

1. the acquisition of significantly affected property(s) upon request (i.e. where noise levels result in a greater than 5 dB(A) exceedance);

2. the implementation of additional noise mitigation measures, such as double glazing and insulation upon request at any residence where noise monitoring shows that noise levels are moderately above the recommended noise criteria (i.e. 3 to 5 dBA above the project specific noise levels). It is noted that Webb's at their own expense propose to insulate the dwelling and utilise either 6.38 mm laminated glass or double glazing to reduce potential noise impacts;
3. compliance with the recommended noise criteria at all other privately-owned properties;
4. management of operations in accordance with best practice to minimise noise impacts on the surrounding area;
5. monitoring the noise impacts of the operations to assess the acoustic performance of the operation; and
6. acquisition of any properties upon request if subsequent monitoring shows that the operations are causing additional significant exceedances of the recommended noise criteria.

As an alternative, where noise limits may be exceeded an applicant (Mudgee Stone Company) can choose to negotiate a private amenity agreement with the effected party (in this case Hugh and Sue Webb). Once a private agreement is in place the project-specific noise criteria and potential exceedance of the criteria is no longer covered by a PlanningNSW planning consent or Department of Environment, Climate Change and Water (DECCW) environment protection licence (EPL) condition other than the recognition that the private agreement is in place. In this instance a private agreement has been discussed between the parties but no private agreement is in place.

#### **4. Suggested Additional Mitigation Measures at the Quarry**

The EA does not include any detail of the alternative noise, dust overpressure and vibration mitigation measures that may have been considered to reduce potential impacts at the proposed dwelling location on Lot 12. Mudgee Stone Company's submission of 18 March 2011 does not provide any evidence (other than stating that it is not feasible) that additional noise, dust and vibration mitigation measures cannot be implemented.

Our assessment based on our previous preparation of numerous quarry plans, soil and water management plans, noise management plans etc for quarries and mining operations is that with appropriate water management controls, a noise barrier could be established along the western boundary of the quarry. No design detail has been presented to demonstrate that this would not be feasible and no noise modelling has been undertaken to substantiate the statement that:

'construction of a bund on the western boundary would not provide any significant noise reduction'

In regard to truck movements, preventing vehicles accessing the quarry from the southern end of the carriageway would allow a noise bund to be constructed in this area to provide additional noise attenuation to the proposed dwelling on Lot 12. It would also provide additional noise control should the quarry seek to extract further to the north as discussed as a future option in Mudgee Stone Company's submission. The separation distance between trucks and the proposed dwelling is not as important as the noise attenuation that is achieved between the noise source and the receiver. The construction of a continuous noise bund along the western side of the quarry and the stockpile area could provide substantial noise attenuation particularly in light of the maximum 3.4 dB(A) exceedance that has been predicted at the proposed dwelling site on Lot 12 by Spectrum Acoustics.

In addition it is a commonly used noise mitigation measure in quarries to move rocks that need rock hammering to a location where noise impacts on surrounding residences are minimised. No analysis has been provided in the EA as to where rock hammering locations have been modelled or whether there are certain locations within the quarry that generate less noise impact at the proposed dwelling site on Lot 12. In addition, no noise attenuation measures such as the use of acoustic barriers during rock hammering have been discussed.

Similarly, there are a range of noise attenuation measures other than the use of containers that can be used to reduce noise levels from drilling operations including temporary light weight panels that can be erected around the drilling rig and can be readily moved or relocated as required. We have designed

and investigated the use of such panels for a quarry development that was to be undertaken within approximately 250 metres of a residence.

In regard to blasting impacts, it is possible to reduce the Maximum Instantaneous Charge (MIC) of a blast by placing a greater number of smaller diameter holes and smaller charges in areas where blasting may otherwise exceed acceptable overpressure and vibration criteria. No information has been provided in the EA that quantifies what MIC is proposed to be used at the quarry or what the blasting impacts at the proposed dwelling location on Lot 12 are predicted to be. In addition no information has been provided demonstrating that blast mitigation measures to reduce blasting impacts down to acceptable levels aren't feasible. Our experience based on many environmental assessments for quarry operations involving blasting is that a feasible blast design could be developed that could achieve acceptable blast impacts at the proposed dwelling location on Lot 12.

Similarly, no information is provided in the EA in regard to potential dust impacts at the proposed dwelling location or if suitable mitigation measures can be implemented if required.

All impacts at the proposed dwelling location could be significantly reduced by restricting the rate of quarrying to that required to supply the demand for Alaskite for use in ceramics that require the unique qualities of the Alaskite rather than using it as a hard rock resource to produce aggregates for use in concrete products, sealing aggregates and road base. Quarry products other than for ceramics (i.e. aggregate for use in concrete, road base and sealing aggregate) can be supplied from a range of alternate sources such as Oberon Quarries basalt quarry which is 4 kilometres from the site.

#### **5. Compliance with Applicable Noise Criteria**

If the existing knoll between the quarry and the proposed dwelling was taken into consideration, the proposed expansion of the quarry would only result in a maximum 3.4 dB(A) exceedance of the noise goal as a result of rock hammer operations with this exceedance occurring during day time operations. Outside periods of rock hammering, maximum exceedances of 1 to 2 dB(A) are predicted which in accordance with Department of Planning contemporary approach as discussed in Point 3 above is acceptable. As discussed in response to Point 3 above, up to a 5 dB(A) noise exceedance can be acceptable with the incorporation of noise mitigation measures into receiver dwellings such as insulation and double glazing and/or the use of laminated glass as is proposed by Hugh and Sue Webb.

All proposed noise generating activities at the quarry are proposed to be undertaken during daytime when other noise generation is likely to occur around the dwelling (i.e. washing machines, vacuum cleaners, mowers, pumps etc) and small noise exceedances as less likely to adversely impact on the acoustic amenity of the proposed dwelling.

It is common for consent authorities to include conditions of consent conditions for noise generating operations such as quarries that set out what is required in circumstances where exceedances of up to 5 dB(A) are predicted as discussed in Point 3 above.

#### **6. Failure to Consider Blasting**

The 18 March 2011 submission from Mudgee Stone Company states what the predicted vibration and overpressure levels would be at the proposed residence but does not substantiate how these levels have been derived or what blast design or Maximum Instantaneous Charge they relate to. As discussed in Point 4, there are a range of mitigation measures that the quarry could incorporate into the blast design to reduce potential blasting and vibration impacts at the proposed residence. Mudgee Stone Company has provided no information demonstrating that there are no control measures that could be implemented or what impact these measures may have on the feasibility of the proposed quarry expansion.

#### **7. Location of Dwelling**

Hugh and Sue Webb and Umwelt personnel have examined the range of alternate dwelling locations suggested by Mudgee Stone Company and remain of the opinion the proposed location is the best and most feasible of the four locations.

## **8. Potential Future Development of Oberon Alaskite**

Mudgee Stone Company in its submission has indicated that in the future it may wish to extend quarry operations to the north. It is understood that this will be at the end of the currently proposed quarry life which is in excess of 20 years from now. On that basis sterilising the use of the adjoining land (i.e. preventing the establishment of a dwelling) for what might happen in 20 years or more does not make good planning sense without further justification. In 20 years time anything might be feasible including removing the dwelling or Lot 12 becoming part of the future quarry development if the owner agreed.

It is considered based on the modelling and environmental assessment work that has been undertaken that quarrying to the north of the currently proposed area which is further from the proposed dwelling site could be undertaken with appropriate controls for noise, blasting and dust. The construction of an acoustic bund along the western side of the quarry and stockpile area as discussed in Point 4 above, would also be of benefit in reducing potential impacts from future quarrying to the north of the currently proposed area.

In addition, it is likely that quarrying techniques in 20 years time will enable extraction and transport of quarry products to be undertaken in a manner that has a significantly reduced impact compared to current day operations. This has definitely been our experience over the last 20 years of working with quarry developments.

Alternatively the quarry could seek to purchase the adjoining property in 20 years time if it was required as a buffer.

In short, there are many possibilities that could enable the proposed dwelling on Lot 12 to be constructed now without sterilising potential quarry resource to the north of the currently proposed quarry.

## **9. Other Inaccuracies**

Section 3.1 of the SEE does not and is not intended to imply that quarrying of the Alaskite resource does not require blasting. As discussed in Point 4 and Point 6 above, there are a range of mitigation measures that can be incorporated into blasting that appear to have not been considered in the EA including reducing the size of the Maximum Instantaneous Charge in areas where blasting may result in unacceptable impacts on Lot 12.

Mudgee Stone Company's comment in regard to quarry size is noted.

## **Response Conclusion**

In summary, it is considered that the issues raised by Mudgee Stone Company in its submission of 18 March 2011 do not present matters that could not be addressed by better quarry design and mitigation controls. Hugh and Sue Webb have already undertaken to include a range of noise mitigation measures (i.e. use of insulation, laminated glass, hebel panels and orientation of the dwelling) into the proposed dwelling on Lot 12. As discussed in Point 3 above, these measures are typical of the types of controls that quarry operators are regularly required to implement as part of consent conditions for the quarry operation. In this instance Hugh and Sue Webb have undertaken to implement these controls.

In accordance with the requirements of the *Environmental Planning and Assessment Act 1979* it is the responsibility of the quarry operator to minimise as far as is practical and feasible the impact that quarry operations have on adjoining land including Hugh and Sue Webb's proposed dwelling on Lot 12. Mudgee Stone Company has failed to assess what the impacts will be on the proposed dwelling or to demonstrate or substantiate that appropriate controls are not feasible.

As discussed, the control and mitigation measures that Hugh and Sue Webb proposed to incorporate into the dwelling on Lot 12 at their own expense are consistent with typical Department of Planning consent condition requirements for locations where noise exceedances of 2 to 5 dB(A) are predicted from extractive industries such as quarries and mines. Normally it is up to the quarry operator or mine to meet the expense of such noise controls not the owner of the dwelling.

As previously stated, it is considered that the proposed dwelling can be approved and constructed without sterilising the adjoining Alaskite resource and therefore should be approved to enable Hugh and Sue Webb to construct a dwelling on their land as is allowed under planning provisions for Lot 12.

Please don't hesitate to contact Peter Jamieson on (02) 4950 5322 if you would like to discuss any aspects of this response or require any further clarification or information in regard to the proposed dwelling on Lot 12.

Yours faithfully

A handwritten signature in black ink that reads "Peter Jamieson". The signature is written in a cursive style with a long horizontal stroke at the end.

Peter Jamieson  
Director

cc: Hugh & Sue Webb  
1129 Edith Road  
OBERON NSW 2787