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Attn: Mr James Ashton

Dear James,

**RE: ACOUSTIC REVIEW OF THE ENVIRONMENTAL IMPACT STATEMENT,
MARTINS CREEK QUARRY – SUPPLEMENTARY REPORT**

1. INTRODUCTION

The Environmental Impact Statement (EIS) for Martins Creek Quarry, prepared by Monteith & Powys Pty Ltd and various sub-consultants in September 2016, was placed on public exhibition by the Department of Planning & Environment (DP&E) for the period 13 October to 24 November 2016. A report describing a review of the EIS was prepared for the Martins Creek Quarry Action Group (MCQAG) on 24 November 2016, however at that time not all acoustic aspects of the EIS could be reviewed due to the proponent's delays in providing additional requested data related to the site noise model used to predict quarry operating noise levels to nearby receptors. This supplementary report describes additional comments and recommendations arising from a review of the noise model and should be read in conjunction with the previous review report.

2. NOISE

The EIS includes a Noise Impact Assessment (NIA) report in Appendix I, prepared by RCA Acoustics. This section presents comments and recommendations arising from a further review of that report.

The following section headings appear to be numbered incorrectly, however the sections have retained their earlier numbering from the 24 November 2016 review report to assist in reading the two reports together. The majority of sections in the previous report have been omitted from this supplementary report as no new information or recommendations have arisen since the previous report was prepared.

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:

Source sound power levels – The previous review report noted not all of the listed source sound power levels in the NIA are correct and provided some examples. Spot checks of the noise model files provided by the proponent have indicated that the lower sound power levels have been used in the NIA, confirming the previous conclusion that the noise model under-predicts noise levels from the quarry.

An example to clearly illustrate this point relates to the proposed new access road direct to Dungog Road, particularly when comparing noise levels indicated by the contours to traffic noise levels reported in the NIA. The majority of noise contour figures in Appendix B of the NIA include noise from truck traffic on the access road from the quarry to Dungog Road, with the obvious exception of the ‘existing operations’ contours as that road does not currently exist. The best figures to determine predicted noise levels from the access road only are ‘Year 5 morning despatch’ and most figures for Years 10, 15 and 20 which include quarry plant operating in areas fairly remote from Dungog Road.

The Year 5 morning despatch figure, including a 3 m/s NW wind, indicates a noise level of less than 35 dBA at the nearest residence to the south of the access road, which is 256 Dungog Road and known as Receptor ID 40 according to Table 1 in Section 4.2.1 of the NIA. According to Table 17A, Receptor ID 40 is expected to receive 32 dBA for the Year 5 early morning product despatch scenario which is consistent with the contours. This receptor is approximately 230 m south of the access road, although this distance has been scaled from the contour figures so is subject to a tolerance of perhaps +/-30 m.

Section 6.5.2 of the NIA presents calculated traffic noise levels, from truck and other traffic on Dungog Road, to various receptors. As Dungog Road and the quarry access road carry exactly the same trucks, noise levels from the access road and from Dungog Road would be similar assuming vehicle speed and other relevant parameters are similar. However, Table 25 indicates proposed traffic noise levels from trucks alone, calculated from the difference between the existing and predicted traffic noise levels in the table after swapping the predicted results at 150 m and 300 m as highlighted in bold font below as they were obvious entered into NIA Table 25 in the wrong order, are:

- 256 Dungog Rd 30 m 59.5 – 53.0 = 58.4 LAeq
- 281 Dungog Rd 150 m **52.9** – 46.9 = 51.6 LAeq
- 279 Dungog Rd 300 m **50.0** – 43.9 = 48.8 LAeq

A receptor at approximately 230 m from Dungog Road would receive approximately 50 LAeq, from simple interpolation of the traffic noise levels above, which is 18 dBA higher than at Receptor ID 40 at 230 m from the access road indicated in the noise contour figures as described above. This is approximately equal to the 16 dBA under-prediction reported for road trucks in the previous review report, with a sound power level of 92 dBA adopted for road trucks in the NIA compared to a typical sound power level of 108 dBA for this source type.

While it is true that vehicle speeds and other relevant parameters may not be the same on the access road and on Dungog Road, an error of 18 dBA is far too large to be explained by any differences in input assumptions.

RECOMMENDATION: With such a large error demonstrated above as an example, and other example errors in model input data described in the previous review report, all noise model results in the NIA are demonstrated to be unreliable and should be discarded. The entire NIA should therefore be rejected.

3. CONCLUSION

The additional information presented above clearly demonstrates significant failure of the NIA to predict noise levels and noise impacts from the project to nearby sensitive receptors. A demonstrated difference of approximately 18 dBA in road truck noise levels reported in the NIA, due to the same trucks travelling on the proposed access road and on Dungog Road, cannot be explained by differences in reasonable assumptions such as vehicle speed, rounding errors or other factors. The difference is primarily related to errors in source sound power levels entered into the noise model and, with other sound power errors also identified and previous reported, it is clear that all noise model results are unreliable and generally under-predict noise levels from the project.

The NIA concludes noise levels from the project are generally acceptable at most receptors, however updated noise levels from a significantly revised NIA are likely to show unacceptable exceedances of relevant criteria at a number of residences near the quarry and along the road transport route through Paterson. Mitigation measures to minimise these criteria exceedances have the potential to completely change the quarry plan, for example by sterilising some currently proposed extraction areas close to receptors or requiring larger noise barriers in the form of earth mounds which consume additional ground area, which may have follow on effects on the economic, ecology, visual impact, air quality and other specialist studies and therefore require the entire EIS to be rejected.

Alternatively, in the absence of a significant change to the project to mitigate the noise impacts, a number of rural residential lots are likely to be drawn into a zone of affectation for the project and require application of the Voluntary Land Acquisition and Mitigation Policy. This outcome would at least affect the economic and social impact studies in the EIS and is also likely to result in the EIS being rejected.

Please contact the undersigned for any further information or discussion.

Yours faithfully,

A handwritten signature in dark ink, appearing to read 'M Bridges', written in a cursive style.

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