



**REVIEW OF ACOUSTIC ASSESSMENT
MARTINS CREEK QUARRY EXPANSION (SITE)
BUTTAI GRAVEL PTY LTD
47.5216.R5A:MSC**

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1.0 INTRODUCTION

1. An Environmental Impact Statement prepared for Buttai Gravel Pty Ltd in relation to an expansion of the Martins Creek Quarry (“the Expansion EIS”) included an acoustic report prepared by RCA Acoustics.
2. The acoustic report was apparently submitted in draft format to the Department of Planning and required amendment/updating at the request of the Department.
3. Late last year Dungog Council was provided a copy of the Expansion EIS that included an acoustic report from RCA Acoustics, being identified as reference 10723 – 404.9 revision 9 dated August 2016.
4. In 2016 Dungog Shire Council commenced Class 4 proceedings in the Land and Environment Court (Proceedings 15/40287) in relation to the quarry and environmental impacts arising from the transport of extracted material, of which excessive noise is an issue.
5. The Class 4 proceedings are currently on foot and include on behalf of the quarry acoustic reports provided to the Council. Those reports present different material to that presented in the acoustic assessment in the Expansion EIS, with respect to the operations of the quarry and trucks utilising the quarry and their impact upon residents.
6. The acoustic assessment in the Expansion EIS presents material that is different to that provided in the acoustic report for the Class 4 proceedings to such an extent that there is a marked difference between the presentation of information.
7. There is material contained in the Expansion EIS as to existing operations and the impact those operations have on residents.
8. There is material presented to Council in the Class 4 proceedings that would be relevant in terms of the Expansion EIS, particularly with respect to the expansion that has occurred at the quarry without consent of Council. However, the specific material for those proceedings cannot be disclosed at this point in time.

2 INTRODUCTION TO THE ACOUSTIC REPORT

9. The Expansion EIS acoustic report identifies that the Martins Creek Quarry is now managed and operated by Buttai Gravel Pty Ltd who took over operation from State Rail in 2012.



10. The acoustic report identifies that the quarry has operated under various approvals and Environment Protection Licence number 1378. The acoustic assessment has failed to provide copies, dates or references to the various (noise) approvals so as to place such approvals in the context of the operation of the quarry.
11. The introduction of the Expansion EIS Acoustic report identifies that there is a proposal to increase the output of the quarry up to 1.5 million tonnes of hard rock material per annum.
12. However, of relevance to the application that is before the Department is the failure of the acoustic report to identify the fact that the quarry was the subject of an Environmental Impact Statement (“the 1990 EIS”) prepared by DP James (dated July 1990), resulting in development consent number 171/90/79 issued by Dungog Council dated 7 March 1991 and a revised consent dated 21 June 1991.
13. The council has identified that complaints have been received in relation to disturbance impacts because of the current quarry operations generating an output greater than that set out in the 1990 EIS and upon which the council contends the approval for current operation relates.
14. The Council contends that there are no other EIS documents or acoustic assessments that identify an expansion of the quarry to the current output. Furthermore, the Council has no applications or more importantly any approvals to permit the quarry to occur at the level that is identified in the introduction of the EIS acoustic report, i.e. in the order of 800,000 to 900,000 tonnes of high-quality andesite rock.
15. Of relevance to identification of the operating quarry is that the 1990 EIS identified that the estimated annual production of the quarry would be between 250,000 and 300,000 tonnes per year with 70% of the production being removed by rail with the balance (i.e. 30%) by road.
16. The 1990 EIS identified that the existing quarry production would remain the same but that the area of extraction would be an adjacent parcel of land.
17. The 1990 EIS submitted to the Council identified that in 1990 about 24 truck movements per day would on average be required to ship 80,000 tons per annum by road assuming shipping occurs 50 weeks per year. 5.5 days per week and average loads of 23 tons.



18. Of significance to the Expansion EIS is that the Daracon Group undertook significant capital expenditure in 2013 and 2014 to ensure that the quarry was being operated at optimal levels, to improve operations and to lower operating costs. Documentation before Council identifies the upgrading of the quarry included a crushing screen upgrade, two new wheel loaders and a new rigid dump truck having expenditure greater than \$3 million.
19. What is missing from the Expansion EIS Acoustic Report is identification of a relatively small quarry operation approved by Council in the early 1990s, purchase of the quarry by the Daracon Group in 2012 and significant expenditure to increase the capacity of the quarry.
20. I am instructed that Council has no development application on their files for an intensification of the quarry use because of the Daracon Group purchasing the quarry. Therefore, in assessing the subject application that is to provide tonnage in the order of 1½ million tonnes per year it is incorrect to base the application on an unapproved 800,000 to 900,000 tonnes per annum but must be placed in the context of the original application which Council indicates was in the order of 250,000 to 350,000 tonnes per annum, with 30% of that tonnage being transported by road.
21. Section 1.1 of the Expansion EIS Acoustic Report identifies increasing the hours of operation of the quarry from that approved by Council.
22. Section 1.1.2 identifies that the applicant seeks to consolidate existing operations and approvals without identifying what are the existing approvals.
23. The fundamental acoustic issue for the Council is the increase in capacity of the quarry that has occurred without any approval from Council, excessive noise from the quarry, and the impacts primarily in terms of road traffic noise because of truck operations which are significantly greater than the average 24 trucks per day identified in the 1990 EIS.
24. The Expansion EIS Acoustic Report refers to SEARs issued by the Department, which are general criteria in terms of developments and would not appear to have knowledge of the approvals for what was basically a small quarry which has dramatically increased its output.
25. The Expansion EIS noise assessment identifies traffic operations and proposed working areas of the quarry which were not provided in the acoustic report for response the Class 4 proceedings.



3 ISSUES OF CONCERN

26. What is of concern in the Expansion EIS is identification in Section 3.4 of the EIS Acoustic Report that there was significant concern for the community for heavy vehicle movements along Station Street/Grace Avenue, Martins Creek, where the road is very close to the dwellings.
27. The identification of this very fact on page 12 of the acoustic assessment accompanying the EIS is a matter that has not been admitted to Council.
28. Also on page 12 of the acoustic assessment is identification that the applicant is proposing as part of the essential part of the business that the tertiary processing plant would operate in the evening as soon as possible. Apart from seeking an extension in the operating hours there is an issue in terms of the consequences of allowing the tertiary plant to operate in the evening and whether that leads to an increase in trucks movements is not identified in that section.
29. Under Section 4.1 for the existing environment there is a listing of residential properties with classifications being given to either primary production or village but still of the nature of a rural situation.
30. On page 14 is identification the acoustic environment of the township of Martins Creek is dominated by sound from the existing quarry during the day, both from quarry operations and traffic accessing the quarry.
31. The Expansion EIS Acoustic Report identifies that in the absence of quarry operations the area would be considered a quiet rural area dominated by natural sounds and traffic on Dungog Road and the railway line.
32. Section 5 of the Expansion EIS refers to existing noise levels with Table 2 presenting Rating Background Levels from unattended noise logging to reveal for Location A, ambient background levels in the day, evening and night time-period to be below 30 dB(A). For Dungog Road 33 dB(A) in the day, 23 dB(A) in the evening and 18 dB(A) at night.
33. The presence of such ambient noise levels indicates a quiet area in the absence of sound from the quarry.
34. Table 3 identifies that attended measurements in Station Street (identified as Location C) gave rise to a quarry site noise contribution of 55 dB(A) which by reference to Table 1 indicates Station Street occurs in NAG1.



35. Bearing in mind the general criteria for intrusive noise levels are 5 dB above the background level then even utilising the default background level of 30 dB(A) nominated in the INP the results in Table 3 indicate that the quarry site noise as determined that Location C for daytime operations is in the order of 25 dB(A) above the default background level and therefore presents an acoustic impact that would not be endorsed by either the EPA or the Council. Generating an industrial noise level 30 dB(A) above the background represents a very significant impact.
36. Section 5.3 is related to what has been identified as existing traffic and transport sound levels to identify in Table 4 an allocation of noise levels attributed to existing traffic noise.
37. However, the results in Table 4 do not identify the contribution of noise associated with the subject quarry versus that of the existing traffic and more importantly the contribution that would occur from the number of trucks permitted by the Council under the existing consent.
38. Section 5.5 refers to rail traffic in the area that in turn seeks to identify rail traffic noise at various distances from the track for the existing situation (Table 6) and the proposed future rail traffic (Table 7). Comparing the rail traffic noise levels to the ambient background level indicates the Leq noise level over a 24-hour period is significantly above the ambient background level and as such must generate an impact where the assessment is based upon averaging over a period of time. Tables 6 & 7 do not identify the range of noise levels (either maximum or sound exposure level) associated with rail traffic to distinguish clearly between freight traffic and passenger traffic, to place in context the contribution that occurs from the existing operations attributed to the quarry versus operations without the quarry.
39. The acoustic report makes no identification of what was the rail traffic situation prior to the current owners purchasing the quarry and whether there has been an increase or decrease in the amount of rail traffic, just as there is no information in the traffic section identifying the increase in road traffic because of significant upgrading of the development by the current operators after 2012.
40. Section 5.5.1 indicates that the that if night-time rail loading were to be approved and the quarry successful in developing expanded markets, then there would be an increase above what has been identified as RING trigger levels that as such would lead to a requirement to consider reasonable and feasible mitigation for trains.



41. However, the acoustic assessment has failed to identify the noise contribution attributed to rail traffic for the development and the subsequent impact of the proposal that in any event would appear to be somewhat undefined.
42. Section 5.6 purports to address the issue of industrial noise from the subject quarry and identifies on page 27 that the intrusiveness criterion is background +5 dB (measured over a 15-minute period) and the amenity criterion occurs over the entire period.
43. The acoustic assessment indicates that the amenity levels are already exceeded at some residences in NAG1 but fails to identify the intrusive noise levels that would apply and that the intrusive target is already exceeded. This is despite an earlier table to identify an exceedance.
44. Table 8 presents project specific noise levels that have been nominated for the subject development, and despite the Rating Background Level that has been assigned to the various areas has taken a default limit of 30 dB(A) as identified in the *Industrial Noise Policy*.
45. However, the nature of the criteria that is nominated as an intrusive noise target for the various areas in Table 8 on page 28 of the report indicates the applicant is proposing to have noise levels that are significantly greater than the ambient background level +5 dB. The proposed “incremental” increase above the normal intrusiveness criterion is significant.
46. There is no discussion as to the appropriateness of the acoustic criteria in protecting the amenity of the community who choose to live in rural environments. This is a matter of concern to the council with respect to the subject application.
47. There has been criticism of the use of a default level of 30 dB(A) in rural areas associated with mining of which are one matter before the Chief Judge of the Land and Environment Court with respect to the Warkworth Mine highlighted the unacceptable situation of the default background level and that the intrusive noise targets based upon a default background of 30 dB(A) would give rise to significant disturbance to residents. The same situation occurs for the subject development and is a matter that should be addressed.
48. A Class1 Appeal before the Chief Judge of the Land & Environment Court concerning the Warkworth Mine (Bulga Milbrodale Progress Association Inc v the Minister for Planning and Infrastructure and Warkworth Mining Ltd [2013] NSW LEC 48) having decision date of 15th April 2013 commences the discussion on noise issues from paragraph 256.
49. The residents reported substantial negative impacts because of the (then) current operations and were concerned with a result of any increased noise limits under the Project.



50. The decision identified that there were noise operational noise limits set at 38 dB(A) for the Warkworth Mine, which is similar to that specified for NAG3 in Table 10 and 3 dB higher than that for NAG1 and NAG2 for the daytime operation. The decision identifies that the court heard evidence from a number of residents in terms of the disturbance from the mine.
51. The Chief Judge was not satisfied that the likely noise impacts as permitted by the proposed noise criteria were acceptable even when those limits were acceptable under the INP. In paragraph 275 the Chief Judge was satisfied that based on compliance with the INP criteria the noise levels were at a level sufficient to impact on amenity, including sleep disruption.
52. Paragraphs 296 - 316 identifies the procedure set out in the *Industrial Noise Policy* document for determining criteria. The decision was critical of increasing the INP limit to cater for the existing and proposed operations without due regard to the amenity of residents. As discussed later the Expansion EIS acoustic report proposed higher levels than obtained from the INP.
53. The concept of permitting noise levels well above the background + 5 dB nominal limit becomes relevant in that Table 10 presents the project specific noise levels based upon the intrusive noise target.
54. By reference to the Environment Protection Licence there is identification that the operation of the quarry is not to cause offensive noise.
55. The acoustic assessment has not identified the definition for offensive noise.
56. Under the *Protection of the Environment Operations Act* offensive noise is defined as a noise that is harmful to an individual, or interferes with their rest and repose. The Environment Protection Licence relates to the site and therefore on the basis of the acoustic assessment accompanying the Expansion EIS it would appear there is potential for operations of the quarry to interfere with the residents' rest and repose, particularly in terms of operations that would occur in the EPA night (10 PM to 7 AM Monday to Saturdays, or to 8 AM on Sundays), that must be considered in the context of the proposed expansion and including the proposal to increase the operating hours.
57. Section 5.7.2 of the Expansion EIS acoustic assessment indicates despite having project specific noise levels that are significantly greater than the existing ambient background +5 dB(A) the analysis in Table 11 indicates further modification of the criteria should occur to suit the subject development.
58. On viewing Table 11 it is inappropriate to allow a noise limit of 45 dB(A) for stripping activities when the INP criteria nominated in Table 10 is 35 dB(A) despite from Table 8 the ambient background level during the daytime period NAG1 and NAG2 is 28 dB(A).



59. A similar situation occurs for other noise components where the acoustic assessment seeks to raise the criteria simply because the project specific noise levels that would be determined by the INP cannot be achieved.
60. Because of the proposal seeking to increase the licence noise limits, this clearly indicates that the subject development gives rise to an adverse noise impact. The proposed expansion should not be approved. Furthermore, the material in Table 11 indicates that the existing situation needs to be investigated with respect to EPA limits and disturbance to residents.
61. It would therefore appear by the last paragraph on page 31 of the Expansion EIS acoustic assessment that the quarry operation for more than 20 years has exceeded the appropriate acoustic criteria that has been identified in the document and therefore automatically also exceeds the criteria that was identified in the 1990 EIS.
62. If as identified on page 31 of the Expansion EIS acoustic report it is not possible to reconfigure the quarry in such a way that stripping activities can be completely screened from residential receivers, then this is a serious matter that needs to be addressed.
63. Table 11 identifies operations of the quarry that involves processing, pre-coat plant to occur prior to 7 AM, yet the table claims that the EPA sleep arousal criterion does not apply to those activities.
64. Mixing and binding processes that include the operation of the pug mill and one service loader only that may occur from 4:30 AM is claimed in Table 11 that sleep disturbance is not applicable. Similarly, the same situation is presented for stockpiling, loading and dispatch of road transport that occurs at 5:30 in the morning.
65. The EPA sleep arousal criterion has been set since the mid 1980's, to be 15 dB above the background when assessed outside any bedroom window. Therefore, at the time of the 1990 EIS the sleep arousal criterion would apply to the quarry.
66. That position is identified in the first paragraph of Section 5.7.3. However, the Expansion EIS acoustic assessment then seeks to modify the EPA's position in terms of sleep disturbance to present material in terms of road traffic noise and forms the view on the bottom of page 32 that the risk of sleep disturbance only applies during night-time rail loading which is an infrequent activity. However, such a situation does not accord with the identification of operating conditions set out in Table 11.



67. The use of a traffic parameter for sleep arousal from an industrial site is incorrect. The generation of maximum levels from road traffic is not the same as intermittent peaks from industry.
68. The introduction of the document states there is an intent to have rail road activities increase on a 24-hour basis with the development of new markets. Such a development of new markets would there increase night time rail activities that would not be an infrequent activity.
69. The consequence of alternative criteria that applies to road traffic noise, being then applied to the operation of the quarry and rail loading activities that considers a noise level significantly greater than background +15 dB(A) is not a matter that has been proposed or addressed to the community or Council. The maximum noise from the operations of the quarry are not the same as road traffic noise events.
70. Section 5.7.6 identifies an improvement by the proposed expansion in that existing heavy vehicle traffic along Station Street will be removed completely by the construction of a new internal access road for production dispatch.
71. The report has not identified the existing noise that residents along Station Street experience because of heavy vehicle movements, nor the criteria that would apply to that road as it would not be identified as an arterial road.
72. The Expansion EIS acoustic report considers the main trucking route via Dungog Road, Gresford Road/Tocal Road is considered to be an arterial road corridor, thereby having a daytime criterion of 60 dB(A) and night-time criterion of 55 dB(A).
73. The Expansion EIS acoustic assessment has failed to identify the contribution of existing traffic as a result of the quarry operations versus other vehicles, so as to place in context the traffic noise attributed to the subject site.
74. What Table 12 seeks to do is to simply merge all the existing traffic operations. Because of the existing excessive noise generated by vehicles the acoustic report promotes the concept of a further increase in unacceptable noise.
75. The Expansion EIS acoustic report has failed to identify the complaints that have been submitted to Council in relation to the truck movements through Paterson and the level of disturbance that residents attribute to the existing quarry operations that dramatically increased after the change of quarry ownership in December 2012.



76. The locations in Paterson are not in other reports identified as Gresford Road but as Duke Street.
77. The results in Table 12 do not identify that they are façade corrected levels. It would appear some locations are measured in proximity to a façade and other not. A +2.5 dB correction for façade reflection (for a free field measurement) is a significant adjustment.
78. The concept of adding 2 dB to the existing traffic noise level is questionable when there is no approval for the current volume of trucks associated with the quarry.
79. The 1990 EIS identified on average 24 trucks a day. As the +2 dB relates to the additional trucks associated with the development and there is no approval for the current level of truck traffic, then the appropriate method for assessing the proposed expansion is to ascertain the existing traffic noise (with only 24 Martins Creek Quarry truck movements a day), then determine the increase in noise as a result of the proposed truck traffic.
80. Section 5.8.4 seeks to introduce the concept of an existing development with 'legacy' noise issues, with the opinion being provided that the subject operation is an existing development with legacy noise issues.
81. An issue that is not identified in Section 5.8.4 is a development consent from Council that restricts the number of trucks on a daily basis and the extraction of material from the subject quarry which from the council's perspective is the 'legacy' noise issue that exists and upon which the illegal activities and the proposed expansion should be assessed.
82. Under the 1990 EIS and the subsequent Council consent the operation of the quarry and the resultant trucks would not create any impact. That is the "legacy" noise basis, not the noise arising from an intensification that occurred without council consent.
83. The Expansion EIS acoustic assessment has identified quite clearly that the current quarry operations generate noise that is significantly greater than what in the Council's opinion applies to the subject site. Identification of the actual acoustic environment without any quarry operations, or the 1990 EIS situation should be the starting point for assessment of the illegal operations and the proposed expansion.



84. The above matters identify the differences between the Expansion EIS acoustic assessment and the 1990 EIS acoustic assessment, which are fundamental matters that must be addressed in terms of the subject application. The provision of pages of tables in terms of predicted noise levels for modified criteria that are well above either the 1990 EIS situation or even the criteria that is obtained when assessed in accordance with the INP is a matter of concern as to the accurate presentation of the acoustic situation for the existing development and the proposed development.
85. The conclusion section of the acoustic assessment, commencing on page 90 of the acoustic report for the Expansion EIS, has an obvious issue with the first paragraph of the conclusion. Not all relevant aspects of the proposed expansion project for Martins Creek Quarry have been identified in the acoustic assessment.
86. The conclusion has failed to identify that the current operations significantly exceed criteria set out in the 1990 EIS and the current operations significantly exceed the general EPA criteria applicable to the subject site.
87. The conclusion identifies that noise from the quarry operation will experience very little change as a result of the proposed expansion project and does not address the fundamental responsibility of an acoustician to address the health and well-being of the community, where noise emission levels are (and will continue to be) well above acceptable noise limits for industrial operations.
88. By reason of the noise levels that have been provided in the Expansion EIS, the community of Martins Creek has had their acoustic amenity significantly impacted by the subject development and will continue to be adversely impacted.
89. The conclusion identifies the Martins Creek Quarry is a long-established facility providing essential resources which is limited in its availability in the area.
90. The fundamental problem is that the acoustic assessment has failed to identify that the “long-established facility” was of a somewhat minor works, with the predominant transport of the material being distributed by rail and only a small percentage to occur by road.
91. The Expansion EIS acoustic assessment has failed to identify that the long-established facility in Martins Creek had in the early 1990s an output in the order of 250,000 to 300,000 tonnes per annum and that the trucking operation was on average 24 trucks per day.



92. The Expansion EIS acoustic assessment has failed to identify the fact that after 2012 there was an intensification of the processing equipment at the quarry so as to increase the output and that no application was provided to the council or an acoustic assessment of the intensification of the quarry.
93. In the absence of identifying the basis of the approvals for the quarry and the operations of the long-established facility prior to the current owners obtaining the site, then the acoustic assessment has not identified the change in acoustic impact that has occurred for the current operation and in turn the proposed further intensification that is the subject of the application.

4 CONCLUSIONS

92. The Expansion EIS acoustic assessment identifies that currently there is a significant acoustic impact occurring in Martins Creek, of which there is now a proposal to provide an alternative road to address that impact which clearly is a matter that should have occurred years ago as a result of the unapproved intensification of the quarry.
93. The differences between the Expansion EIS acoustic assessment and the 1990 EIS acoustic assessment are significantly different in terms of presenting the situation that residents in the vicinity of the quarry and adjacent to the access routes have experienced.
94. In view of the lack of acoustic information with respect to the approved development it is recommended that the council strongly oppose the Martins Creek Quarry expansion that is the subject of the Expansion EIS and that an investigation should be undertaken as to the illegal activities of the quarry in light of the intensification of the plant (and equipment and therefore the tonnage of the quarry) that occurred after 2012.

Yours faithfully,

THE ACOUSTIC GROUP PTY LTD



STEVEN E. COOPER

