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Our Ref: SS/J3614/18155

Date: 28th February 2022

Chris Dixon

Magnum Fabrications Ltd
Magnum House
18 High Street
Donington
PE11 4TA

Dear Chris,

Response to Blue Tree Acoustic report 03041-590101

The following letter is my response to the letter from Blue Tree Acoustics of 9th February 2022.

It is not our practice to include all raw data in environmental noise assessment reports but we always make it available on request, usually for the local EHO and local residents and most certainly for fellow acousticians. I received no such request from the reviewer but am happy to oblige. I have placed a data pack online which should contain all the info the reviewer stated that he lacked. This is the link, Donington. (see [1]footnote for full URL).

I hope that the reviewer will respond by releasing the data from his 2017 survey, which he references in his letter.

My response to the points raised is shown in red in the Appendix. Some items are numbered to cross reference and avoid recapitulation. I am deliberately not commenting on the pejorative aspects of his letter.

It is reasonable that George Barnard are concerned that their operations could be imperilled by future residents' complaints. It is also the case that homes are needed and town centres are good places to build them. In everyone's interests I am happy to clarify the following

1) Regards noise from George Barnard.

[1] https://aapb-my.sharepoint.com/:f:/g/personal/live_aapb_co_uk/Ev84as18OJBDtOENEl3FpyIBaYcynoWCp4N-9rkXY9hfTg?e=rITxKD

The noise sources at George Barnard were only intermittently noisy when I visited. However, I know well that things could be different when the site is busy.

I have carried out several occupational and environmental surveys at woodworking sites over the last 18 years. Experience tells me that, when busy, internal reverberant noise levels within George Barnard's production areas could be between $L_{Aeq.T}$ of 78 and 85 dBA continuously and that the dust extractors which were operating for a few minutes over our survey of several hours could well be going all day. That's what my assessment assumed i.e. that the brief periods of noise measured could be continuous and it is for that reason that that the whole site was assumed to experience a free field level of L_{Aeq} 55 dB(A) as a worst case.

2) Regards Background Sound

Whilst the ProPG impact classification is based on an open site, the BS 4142 Assessment is based on what the future residents will experience and by that time the topography will have changed. Magnum Fabrications will have demolished their production buildings and new residences will stand at different locations.

I "think" the following will be the case:-

- North-facing facades will experience lower background noise levels than south-facing ones in the daytime and the opposite will be the case at night. (the northern facades face the A52 which does not quieten at night as much as the High Street)
- The west of the site will experience higher background sound levels than others due to the continuous operation of fixed plant at Budgens, particularly in summertime.

Given the uncertainties, I think the approach of using the modal level in the report was reasonable. I agree that the lower levels for background sound should be taken into account. These are documented in the report so that they can be considered by planning.

My reviewer disagrees with these two points and energetically dissects my assessment to hypothesize a higher "Excess Over Background" than I estimated. But to what end? Whilst the standard states that a greater impact exists for an increasing "Excess over Background", there is no more onerous classification under the standard than "significant adverse impact" which both the reviewer and I agree is appropriate.

What matters most once the impact is estimated is context (it is quiet for much of the time and most of the night) and whether anything can be done about it (fencing and ventilation on dwellings). These issues are addressed in the report.

The significant difference between the reviewer and me is that the reviewer considers that, with reference to National Policy Planning Guidance, the development should be classed at "Significant Observed Adverse Effect" Level whereas I consider it "Observed Adverse Effect" Level.

I would submit the following in response:

- If I were sure that every living room and bedroom had a window openable and not facing any industrial noise source and that most of the amenity area in each dwelling could be sheltered from industrial noise, I would likely have ascribed the impact at "No Observed Adverse Effect" Level
- If I considered that, with mitigation in place, residents were unable to escape from industrial noise without exposing themselves to noisy or poorly ventilated living rooms and bedrooms **OR** that industrial noise was prevalent in most of the amenity area for most of the daytime and evening above ProPG recommended levels I would likely have ascribed the impact at "Significant Observed Adverse Effect" Level.

I think it fair to assess the impact from the site as falling between those two stools and that the assessment of "Observed Adverse Effect" is correct.

The report accompanying the application remains robust and in my opinion is the only assessment of prestige that should be considered by the planning authorities.

Yours Sincerely

Sean Sullivan

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Appendix – Response to Blue Tree Acoustics review

The standard states the information required for a BS4142 assessment in its Section 12. The first required element of information to be reported is a statement of qualifications, competency, professional memberships, and experience directly relevant to the application of BS4142, of all personnel contributing to the assessment. This is absent from the Acoustic Associates Peterborough report, and the errors contained within the report unfortunately suggest a lack of experience and competency in undertaking BS4142 assessments.

1) Page 1 states that I am a member of the IOA. My CV is in the datapack.

It also seems that the report has not been checked, with errors such as L_{Aq} dB(A)' (rather than L_{Aeq} 50 dB(A)') and 65-36=28 being stated.

2) The report has been checked– see Page 1 of the report.

The competency of the personnel contributing to the assessment can be decided by the Council or Planning Inspectorate, should an appeal follow.

In fact, much of the BS4142 information to be reported is either missing or incomplete in the Acoustic Associates Peterborough report. Whilst BS4142 does state, "Report the following, as appropriate," it is common good practice that there be sufficient information for a suitably qualified practitioner to be able to clearly understand and interpret the presented data and conclusions of an assessment. I have found this not to be the case here.

measurements should be either free-field or facade, and should be labelled as one or the other. There are no such labels, and I do not know the conditions of the various measurements. The importance is that a facade measurement requires a -3dB correction to allow for reflected sound, which a free-field measurement does not.

3) I enclose further info in the data pack.

The noise monitoring locations are marked up on Drawing 6.2 (reproduced below). There are no photos or sufficient descriptions of the measurement locations, so the reader simply does not know the precise position of the microphones. BS4142 requires a photo or a dimensioned sketch to show the information, stating, "Measurement locations, their distance from the specific sound source, the topography of the intervening ground and any reflecting surface other than the ground, including a photograph, or a dimensioned sketch with a north marker. A justification for the choice of measurement locations should also be included. " There is no justification given for the selected measurement locations, and no confirmation that the requirements of BS4142 were satisfied. There are no statements describing which sound level meter was used at each measurement location, and the quality of the sound level meters is also not stated; it is not clear whether they are Class 1 quality, as required by BS4142.

4) Further info is in the data pack.



Logging measurements were made at Location A and Location B for just under a week, starting on Wednesday 06/10/2021 and ending on Wednesday 13/10/2021. The report does not state the measurement period that each sound level meter was set to log for these measurements. As Location B data is later used to attempt to establish a background sound level for the BS4142 assessment, it is critical that the measurement period be at least 15 minutes, as required by BS4142. I assume it was 15 minutes, but BS4142 requires clarity in the reporting.

5) Logging was at 15 minutes intervals at A and B. Additionally Location A logged impulsive noise events at 1 minute intervals.

Generally, the assessment states that these measurements started at 1100 hours on Wednesday 06/10/2021 (see Paragraph 6.2 and Table 4). However, Appendix 3 appears to show that data at Location A started being collected at 1114 hours. Appendix 4 suggests a measurement start time of 1145 hours at Location B, but Table A5.1 shows 1130 hours at that location. I originally thought that Table A5.1 was part of the Appendix 4 data, but I now believe that there were 2no sound level meters around Location B and that the Appendix 4

sound level meter was being set up whilst the Table A5.1 data was being collected. It would seem that the '1100 hours' phrasing is used loosely, to mean 'any data gathered between 1100-1200 hours'. Again, there is no clarity or precision in the information provided in the report.

6) Measurement results confirming this are in the data pack.

Table A5.1 does state 15-minute measurement periods, and I base my assumption about all Location B data on this, but this assumption is not certain. The 94.5dB L_{Amax} shown occurring at Location B in the Table A5.1 1130 hours measurement is not shown in Appendix 4, and what appears to be a level of at least 85dB L_{Amax} in the 5th or so measurement shown in Appendix 4, is not stated in Table A5.1. This supports the idea that the attended Table A5.1 Location B measurements are made with a different sound level meter to the Appendix 4 Location B data. The report should detail which sound level meter was used for which measurements, but it does not.

Table A5.1 states that measurements were made whilst 'attended', but this appears to be untrue. Ostensibly, the sound level meter was attended until 1 155 hours, but I believe the technician left Location B at that time to set up a sound level meter at Location C. I believe 2no meters were logging at Location B, unattended from 1 156 hours or so, with another sound level meter running at Location C from 1200 hours, attended (see Table A5.2). The last note at Location B is at 1155 hours, and unattended measurements are made there until 1300 hours.

7) It was attended intermittently.

Table A5.2 provides data gathered at Location C. This declares 15-minute measurements, and 3no hours of logging data are presented, presumably for assessment of traffic noise at the front of the site measured on Wednesday 06/10/2021. There is 1no single measurement on Wednesday 13/10/2021, and 2no more on Tuesday 30/11/2021. This table, which sets out measurement data for Location C, appears to also include 2no LAeq values for Location A (shown in red in the table, with no other mention of monitoring at Location A at these times. It is baffling that the Location A measurement data from Tuesday 30/1 1/2021 is not set out in its own right, and that all of the other data collected at Location A is not also presented (for example, maximum noise levels are not given).

8) Further info is in the data pack.

It appears that the Tuesday 30/1 1/2021 data is an afterthought intended to allow a correction from Location A to Location C, given that Location C is the actual position of the dwellings (whereas the long-term logging was done at Locating A). Again, bafflingly, data had been collected at Location A throughout the entire Location C Wednesday 06/10/2021 to Wednesday 1 3/10/2021 measurement period, but the datasets are not compared.

9) Yes – it is a correction.

It is surmised that this is because the Location A measurements were erroneously started at 1114 hours rather than 1115 hours, thus the Location A measurements are simultaneous to, but not in sync with, the Location C measurements.

There are no night-time measurements at Location C. Location C appears to be the actual area where dwellings will be built, and traffic noise levels at this location should be established. Location A itself is not a location of interest, and seems to have been used for convenience rather than to find key information.

10) Location A data was used to determine ambient (predominantly traffic) levels.

Table 4 summarises some of the data from the logging measurements at Location A (approximately 15m from the curbside) and Location B. The maximum noise levels measured at Location A are stated as being measured over 1-minute periods. This does not appear to be correct based on the Location A plots at Appendix 3 (as stated above, Appendix 3 should declare the measurement period, yet it does not). If the Appendix 3 and Appendix 4 data are indeed 1-minute measurements, then the 15-minute LA90requirement of BS4142 is not met. If the Appendix 3 and Appendix 4 measurements are 15-minute measurements, then then 1-minute L_{Amax} statement is incorrect.

11) See item 5

Table 4 then finds 59.3dB LAeq in the day, 51.2dB LAeq at night, and 72dB L_{Amax} to be the correct value in terms of maximum noise ingress at night at Location A. The wording under Section 7.2.2 then states that there is an assumption that Location A will have maximum noise levels 4dB higher, but gives 64dB LAeq in the day, 56dB LAeq at night, and 77dB L_{Amax} at night. These are in fact 5dB higher than the Table 4 values.

12) Yes. There is a typo it should state 5 dB not 4 dB.

The 5dB difference appears to come from the 2no afterthought measurements of Tuesday 30/11/2021, where the differences in LAeq between Location A and Location C are 5.5dB and 4.9dB, respectively. There is no statement as to the difference in road traffic maximum noise levels, which will be point source rather than line source and more likely to require a higher correction. There are also problems with Location A apparently being shielded from half of High Street, whereas Location C (the actual position of the proposed residential facades) is not. Location C data appears to not actually be used, other than to us 2no measurements to attempt to derive a difference from Location A to Location C. Certainly, the assessment would benefit from measurement at Location C at night.

13) This statement is not correct. An L_{Amax} event may occur from anywhere including from a bird squawking next to a microphone

Source measurements (i.e., measurements intending to evaluate the level of sound coming from George Barnsdale & Sons Ltd) are undertaken at Location D, Location E, and Location F. There are no nighttime source measurements. The measurements total to the following at each location:

Location D	36 minutes and 34 seconds
Location E	8 minutes and 44 seconds
Location F	8 minutes and 20 seconds

These sum to less than Ino hour.

14) These were representative of noise from site during 3 visits over several hours.

Drawing 6.1 of the Acoustic Associates Peterborough report shows 4no sound source locations around the George Barnsdale & Sons Ltd site. This is clearly an oversimplification, and noise egress from the site is complex.

15) It is comprehensive in explaining the significant noise sources from site operational at the time of the visit. However, the BS 4142 Assessment is more pessimistic and assumes their provenance could be from anywhere.

All measurements are made on a Wednesday, and there are neither any measurements or notes before 0956 hours, nor after 1525 hours.

16) This is not correct - see Appendix A5.2.

There is no description of key elements, such as whether the George Barnsdale & Sons Ltd windows and doors were opened or closed, and whether the site operation was typical or not while the measurements were being taken.

17) All windows were closed and sealed. They did not appear to be openable.

I believe there has been no attendance during the period of 2300-0700 hours at all; only 2no unattended logging sound level meters — 1no at Location A (facing traffic) and 1no at Location B (adjacent to the fire station) — provide data during that period. There is no explanation as to why there are no logging measurements at Location D, Location E, Location F, or anywhere else to the east of the proposed development site. There is no explanation as to why there are no nighttime measurements at Location D, Location E, Location F, or anywhere else exposed to the George Barnsdale & Sons Ltd noise.

18) This is not correct. I attended early morning on 30th November 2021 and the works were closed. It was also raining (contrary to Met Office forecast). I returned just after 06:30 and was told that the site had just opened (the lights were on though the works were quiet). It is my understanding that operations start at 06:30. Also note that the meter at Location A had audiologging switched on.

Less than 1no hour of data, gathered only on Wednesdays, and only in the middle of the daytime period, under unknown commercial operating conditions, is insufficient for assessment of noise impact from George Barnsdale & Sons Ltd's operation. This is insufficient to enable a correct BS4142 assessment during the day, and clearly affords no justification for making statements or drawing conclusions about what does or does not happen at night. I know from my experience of the site that there is noise generated at George Barnsdale & Sons Ltd at night. Indeed, some areas of the site have permission to operate 24 hours per day. It is understood that Acoustic Associates Peterborough did not contact George Barnsdale & Sons Ltd to better inform or plan their undertaking of the assessment.

19) We were asked not to contact any of the neighbouring premises. A short time averaging period is acceptable for steady noise levels such as those from roof extract plant. The short duration of the operations of the sources during the survey period is why the measurement period is short (and also of course why the assessment penalised the noise for intermittency).

BS4142 requires decisions to be made, and declarations to be made about the methods used to establish the various key pieces of information. One key piece of information is the Specific Sound Level. This is incorrectly termed the 'Specific noise level' in the Acoustic Associates Peterborough report. A value of 55dB(A) is declared. The comment states that measurements made at Location D, Location E, and Location F support the 55dB(A) value for both day and night periods. The calculation and justification for this are not given. There has been no nighttime monitoring at Location D, Location E, or Location F, and no site attendance at night.

20) The assessment assumes the worst-case that the daytime operations also occur at night. Our understanding is that the site opens at 06:30. The comments from the reviewer on his own assessment would seem to confirm that assumption.

The 1st measurement of Wednesday 13/10/2021 at Location D appears to show that 58dB(A) can occur, and was dominated by the adjacent George Barnsdale & Sons Ltd site.

21) This noise lasted 50 seconds. Assuming night-time the $L_{Aeq,15minutes}$ would **58 + 10*log(50/900) = $L_{Aeq\ ,15minutes}$ 45.4 dB(A)**

The 2nd measurement was 61dB(A).

22) This noise lasted 5 minutes. Assuming night-time the $L_{Aeq,15minutes}$ would be **61.0+ 10*log(1/3) = $L_{Aeq\ ,15minutes}$ 56.2 dB(A).** However this level also included a significant contribution from traffic.

The last measurement at Location E appears to show that 61 dB(A) can occur,and was dominated by the adjacent George Barnsdale & Sons Ltd site.

23) This noise lasted 50 seconds. Assuming it occurred at night-time. the $L_{Aeq,15minutes}$ would be **61.0+ 10*log(50/900) = $L_{Aeq\ ,15minutes}$ 48.5 dB(A).** This was right by the window and an adjustment of several dB should be made for the level at the proposed residents.

It would appear perfectly possible that the industrial noise level of 55dB(A) assumed for daytime is too low. It should be remembered that the Specific Sound Level should be an LAeq level, which might take place for a 1-hour period in the day. It would appear that correct measurement and calculation of the Specific Sound Level has not really been attempted here for the daytime period.

24) It is acknowledged as an approximation, but the evidence shown in items 21-23 that the reviewer has selected indicate that it is robust given that the assessment assumes that noise sources which were intermittently active are always "on".

There are no nighttime measurements, and the potential George Barnsdale & Sons Ltd start-up noise that would occur in the night (pre-0700 hours) has not been assessed. There are no nighttime attendance notes, and the assessment contains no information about the George Barnsdale & Sons Ltd nighttime noise that occurred on any 1no night, let alone on multiple nights.

25) Location A and B logged noise levels at night and in addition Location A logged audio. The worst-case daytime levels which were measured in the daytime were assumed to occur at night-time. I consider this reasonable.

The next consideration is the acoustic feature correction to be applied to the Specific Sound Level in order to find the Rating Level (incorrectly termed the 'Rating Noise level' by Acoustic Associates Peterborough). A 10dB value is selected. I have no way of knowing whether or not this is a correct value; I assume it is reasonable.

This generates a Rating Level of 65dB for both day and night, as found by Acoustic Associates Peterborough. This would seem to be slightly low compared the data actually gathered. There is of course no nighttime data.

26) See item 25.

BS4142 requires a background sound level to be established (incorrectly termed 'background noise level' by Acoustic Associates Peterborough). Here, Acoustic Associates Peterborough take a value of 49dB LA90 in the day and 36dB LA90 at night. This is stated as being the modal background at Location B. Location A has lower background sound levels at night. It is not clear why the Location B values are preferred, other than that they lead to a 'better' BS4142 result.

27) I would have selected a lower level than L_{A90} 36 dB(A) for operations before 06:30. As I understand it they are not significant. Location B has a lower background sound level than Location A in the daytime so my assessment was more onerous.

The selection process is not explained or justified as BS4142 requires it to be. The data showing the statistical distribution of LA90 measurements is not given in the report, and I am therefore not able to comment on the accuracy of the modal statement or on whether it is a suitable representation of the background sound level. It is also important to note that the modal value is not always the correct value for assessment. Indeed, BS4142 states, "A representative level should account for the range of background sound levels and should not automatically be assumed to be either the minimum or modal value." It would appear that such an assumption has been made here.

28) Table 4 shows the minimum and maximum background levels.

It is possible that the values taken are not representative of the worst-affected dwelling locations, and that a lower background sound level should be selected. BS4142 requires, "Background sound level(s) and measurement time interval(s) and in the case of measurements taken at an equivalent location, the reasons for presuming it to be equivalent, "to be stated. These are not stated in the Acoustic Associates Peterborough assessment. As mentioned, the presented survey data declares representative nighttime background sound levels at Location A as being 6dB lower than at Location B.

29) See item 27 and 28 for response.

Assuming the values stated in the report are correct in all cases (i.e., taking the Acoustic Associates

Peterborough results at face value), the BS4142 outcome is +16dB in the day (65dB(A) - 49dB(A)), and the BS4142 outcome is +29dB at night (65dB(A) - 36dB(A)). Acoustic Associates Peterborough inexplicably calculate 65-36 incorrectly as resulting in +28, and present this in Table 5 of the report.

30) This is a typo.

BS4142 states that a value of "around +10dB or more is likely to be an indication of a significant adverse impact. " In the day, the value given of +16dB falls well into that area. At night, the value given should be +29dB (correcting the arithmetic error), and this would be perceived as 4no times louder than the threshold where significant adverse impact starts. As described above, it is perfectly possible for the background sound level to be 30dB(A) (or lower) and for the Rating Level to be 71dB(A) at night, giving +41 dB. Again, it should be noted that the site has not been attended at night by Acoustic Associates Peterborough.

It is certain that the 'significant adverse impact' threshold is reached here.

31) So, there is no disagreement. The reviewer also assumes "significant adverse impact".

The acoustic mitigation proposed for the residential development will have no effect, and will not change this BS4142 outcome. The BS4142 methodology is based on outdoor measurement, and does not consider internal noise levels. Providing 2m fences to gardens will have no effect.

The glazing proposed is standard double-glazing and standard trickle vents — i.e., no enhancement in acoustic protection.

32) ……

a) BS 4142 does not consider internal noise levels. However, the assessment does and recommends mitigation to protect residents. – see section 3.2.2.
b) 2 metre high fences will not have "no effect". See section 9.2.

ProPG reinforces the guidance given in 'Planning Practice Guidance — Noise' (PPG-Noise) that the planning process should be used to avoid a significant observed adverse effect, and to prevent an unacceptable adverse effect from occurring. Clearly, there will be significant adverse effects from the existing industrial noise upon the proposed new dwellings, and in this case ProPG states in the 'Recommendation to the decision maker' section that, "Planning consent should be refused on noise grounds in order to avoid significant adverse effects ('avoid'). "

the Introduction, the scope of this ProPG is restricted to sites that are exposed predominantly to noise from transportation sources. The key concerns regarding new residential development near existing industrial and/or commercial land uses are:

- The future occupants of the new noise sensitive development may be subject to adverse effects of noise, and
- The existing industrial and/or commercial business may become subject to complaints from future occupants of the new noise sensitive development and at risk of having to modify operations and/or incur additional costs.

Where industrial or commercial noise is present on the site and is considered to be 'dominant' (i.e. where the impact would be rated as adverse or greater (subject to context) if a BS4142:2014 assessment was to be carried out), then the risk assessment should not be applied to the industrial or commercial noise component and regard should be had to the guidance in BS4142:2014. The judgement on whether or not to undertake a BS4142 assessment to determine dominance should be proportionate to the level of risk. In low risk cases a subjective judgement of dominance, based on audibility, would normally be sufficient. "

The statement in Paragraph 2.4 of the conclusions is therefore incorrect. ProPG does not permit the Noise Risk Assessment to be applied here, and instead requires BS4142 to be used.

33) The ProPG assessment is not applied to the "industrial noise component" (though includes it). The fact that the BS 4142 Assessment is shown separately in the Conclusions of the report indicate that the assessment is doing the opposite of that.

Paragraph 2.5 of the conclusions states that the overall impact on future residents is found to be no higher than Observed Adverse Effect (i.e., it is Observed Adverse Effect in places). Given that an 'around +10dB' difference in BS4142 terms is 'significant adverse impact' and this site has a difference of at least +29dB, I do not accept that there is only Observed Adverse Effect. Once the dwellings are built and occupied, the impact will remain at least +29dB in BS4142 terms, as the mitigation measures have no effect. There is no proposal to attenuate industrial noise at source. The only viable solution is to attenuate at source and provide the George Barnsdale & Sons Ltd operation with attenuating materials, silencers, etc., such that noise reaching the dwellings is massively reduced. An outcome of +29dB in BS4142 terms represents very high impact.

34) I agree that attenuation at source would be preferable, and the mitigation will not change the BS 4142 Assessment of "significant adverse impact". However, the high "Rating" level should always be taken into context. It is a "worst case" assessment at the closest dwellings.