

Tech Note

To:	Fiona Fitzgerald	From:	Will Fairman
Company:	Arun District Council	Pages:	2
CC:	Kevin Wawman Alastair Dineen Ellie White Simon Davis	Date:	15 th February 2019
Project:	AS10285 Land to the West of Orchard Business Park, Yapton	Ref:	AS10285.180326.ADS
Subject:	Response to Objection from Arun District Council's Environmental Health Department		

Please see below my comments on the points raised in your objection, summarising what we discussed over the phone.

1. The site and plot layout don't appear to have been considered in order to mitigate noise impact sufficiently. Amenity land (i.e. garden) is placed closest to the known noise source (extractor fan).

2. Assessment of noise from the industrial units has taken account of the existing set up rather than the worst-case scenario for the existing business class use of all units. This could mean that any intensification of the site within existing planning permissions would have a detrimental impact on these dwellings once occupied. For environmental health to be satisfied, the acoustic consultants must consider the worst possible situation, as detailed above.

Regarding comments 1 and 2 above, we discussed that although on site your perception of the extractor fan was that it was loud in comparison to the background sound level, the BS4142 assessment as detailed in section 6.0 and Appendix C of our attached Acoustic Design Statement indicates that the specific sound level of the extractor fan, assuming active for half the working day, is actually equal to the background sound level. We agreed on site that it would be prudent to add a 3dB penalty to this due to intermittency. The addition of the 1.8m boundary fence would provide a loss of approximately 6dB(A). This was calculated using the following equation:

$$A_{\text{barrier}} = 10 \log (3 \pm 20N)$$

$$N = 2\delta/\lambda$$

δ = path difference

Therefore, the rating level for the extractor fan is 41dB(A) (3dB(A) below background sound level, indicating a low impact.)

We also agreed that there would be a lot of uncertainty and subjectivity regarding an assessment of what noise sources could be present within the business park in the future, as opposed to assessing the existing scenario. You mentioned a potential way to tackle these issues is to put into place relevant post-completion planning conditions to ensure the desired acoustic environment is achieved at the necessary locations on the proposed development before any dwelling is occupied.

3. The acoustic report has not provided outside amenity noise levels in the gardens across the entire site to show compliance with the WHO standards, only an assumption that this will be the case. Instead they have assumed that a single point source of noise is present and based their assumptions on that. As far as I am aware, there may be multiple potential point sources (from the industrial units) and a line source of noise from the road. Further, the WHO guidelines of 50 – 55 dB LAeq are for steady continuous noises such as traffic, and the noise from the extractor unit clearly does not fit into this category.

AS10285 Land to the west of Orchard Business Park, Yapton

This memo and any attached files are confidential and copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. Unless otherwise expressly agreed in writing, nothing stated in this communication should be legally binding. If delivery to the intended recipient is not possible for any reason, please notify us immediately.

4. From my visit with Daniel Saunders from Clarke Saunders on Friday 16th March 2018 I stood approximately where the garden of Plot 5 is proposed to be whilst the extraction unit from the industrial estate was on. It is my opinion that the noise from the extraction unit would constitute a Statutory Nuisance under the Environmental Protection Act 1990 and therefore the development, if approved, would curtail use of the industrial site in contradiction to the NPPF which seeks to avoid unreasonable burdens on existing businesses due to nearby changes to noise sensitive land use, specifically contrary to paragraphs 170e and 180 of the NPPF.

We discussed that the main source of noise on the west side of the site is North End Road. Measurement position 1, as indicated in our attached Acoustic Design Statement, is located close to the road to enable us to accurately calculate the noise propagation across the development from North End Road.

Using the measured $L_{Aeq,16hour}$ 63dB(A) at position 1, and taking into account the cylindrical propagation characteristics of a line source such as a road, we can assume at least a 3dB loss due to the doubling of distance from the road to the centre of the Plot 4 Garden as a worst case location (see equation below), and at least another 5dB reduction due to line of sight screening from the proposed 1.8m boundary fence (using the barrier loss formula specified above), achieving the WHO upper guideline level of 55dB.

$$63 - 10 \log \left(\frac{2}{1} \right) = 60$$

Due to the cylindrical propagation of a line source such as a road, we can assume this is consistent across the western side of the site adjacent to North End Road. Furthermore, we measured $L_{Aeq,16hour}$ 51dB(A) at measurement position 2, which is in a position representative of the rear gardens at the eastern side of the site. The BS4142 assessment referred to above takes into account the noise from the extractor unit to the Plot 5 garden (worst case location).

5. After reviewing the raw data it needs to be considered that this location has very high noise levels throughout the day, evening and into the early hours (2/3am) and no indication of the reasons for this has been provided. The proposals to mitigate this are to ensure that windows are sealed shut and alternative ventilation is installed. I believe this will not provide sustainable well-built residential properties for future residents.

6. The noise levels in the raw data appear very high for this area, especially through the night, no explanation or justification for this was given in the report. My awareness of the noise environment for this site conflicts with the raw data given (for example L_{Aeq} of low 50's at 1 or 2am shown in the raw data).

Whilst on the phone we compared some of the worst case $L_{Aeq,5min}$ measurements during the night-time period with the corresponding $L_{A90,5min}$ measurements during the same 5-minute period. For example, The $L_{Aeq,5min}$ at measurement position 1 at 03:50 on Tuesday 20th March 2018 was 54.1dB. However, the measured L_{A90} for this period was just 29.4, which is indicative of the background noise level during that measured period. This shows that the higher $L_{Aeq,5min}$ is likely due to a car pass by within that period. This is indicated by the higher L_{Amax} of 76.1dB during the same 5-minute period.

We also discussed your comment regarding alternative ventilation, noting that this is only applicable to the facades facing North End Road (see Figure AS10285/GP1 in the attached Acoustic Design Statement). As stated in the report, there is no reason why windows in these areas cannot be opened as a matter of personal preference, or for purge ventilation. Furthermore, there is no acoustic specification required for all other areas of site since internal noise levels can be achieved in bedrooms and living rooms with windows open.