



TECHNICAL NOTE – WSP response to noise comments

DATE:	28 July 2023	CONFIDENTIALITY:	Public
SUBJECT:	F/22/93194 - Ageas Bowl - Response to Noise Comments		
PROJECT:	70073579 - Ageas Bowl, Southampton	AUTHOR:	Toby Lewis
CHECKED:	Mike Ledbetter	APPROVED:	Toby Lewis

INTRODUCTION

The WSP Noise Impact Assessment (NIA) 'Ageas Bowl, Southampton', dated January 2022 (report reference 70073579), was submitted with the planning application (Eastleigh Borough Council application reference F/22/93194) for a mixed-use development including residential development, a care home, and a hotel.

This note provides a response to internal consultee comments made by Jon Pyke, Pollution Control Officer at Eastleigh Borough Council (EBC), on 15 March 2023. It should be noted that a revised NIA is in preparation, due to a revision in the proposed development layout, and this NIA does address some of the points raised below.

CONSULTEE COMMENTS

The comments include general observations and specific questions. Those considered relevant are set out below.

General observations

- a) What would be the nett benefit or impact on neighbouring dwellings?
- b) There is no Agent of Change assessment with respect to the Ageas Bowl.

Specific Questions

1. Can the applicant set out in tables, assessment of noise impact to dwellings using BS4142 as advised by this department in 2021 and discussion on any residual impacts. Ordinarily, this department advises a limit of a Rating Level being ten decibels below the background sound level subject to context of existing ambient noise.
2. Please confirm the events to be held at Ageas Bowl are like stadium sports events only such as the lively Cricket 100s used in the assessment?
3. Advise, what are the number of residual impacts in private amenity spaces above 50 dB(A)?
4. Advise, has noise outside the stadium such as pedestrians and event induced road traffic and car parking noise been included in the assessment?
5. Please provide information on 'uncertainty' and what are the remedial actions if noise levels are more than has been predicted by the assessment?
6. Please assess the positive or negative impact or 'side effect' of the development to existing neighbouring dwellings.

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WSP RESPONSES

The following responses relate to the points raised in the section above.

General observations

- a) The development proposal does not include any uses expected to generate significant levels of noise. Some development traffic would be generated, but this would result in increases to the total traffic flows on Botley Road (the most impacted road) of less than 10% which would result in an increase of less than 0.5 dB from that road link. Given the influence of road traffic noise from the M27 motorway, any increase to the overall ambient sound level would be less still.

Any additional noise generated from the use of the extended car parks to the north-east of the stadium would be inconsequential given the dominance of the M27 road traffic noise at the isolated dwellings in proximity to them. The EBC Screening opinion, provided in October 2022, recognised that significant effects from the operational stage of the development were unlikely.

In terms of nett benefit, it is thought that any acoustic screening afforded to existing dwellings from the proposed development would be of marginal significance.

- b) This comment is puzzling as a central theme of the NIA relates to noise from the Ageas Bowl and to ensuring that the development is designed to minimise unacceptable impacts therefrom, based on the worst-case (noisiest) operational conditions anticipated from regular sporting events (a 'Hundred' cricket event which includes brief excerpts of music played through the PA system). Section 5 of the NIA explicitly includes Agent of Change considerations for all three commercial noise sources in proximity to the development site.

In the process of modelling noise from all sources in combination, the actual noise generated from the Ageas Bowl has been increased by 4 dB to account for the additional annoyance of the sound (compared to more steady noise sources, like road traffic). The proposed residential development has been assessed and designed to BS 8233/ProPG criteria based on the modelled sound levels with this decibel penalty incorporated and, on that basis, the site falls within the negligible to low risk category.

Given that noise levels from regular sporting events will be relatively benign, and there are existing residential receptors that are closer to the Ageas Bowl than those proposed, the likelihood of unreasonable restrictions being imposed on its use because of the development is considered to be low and therefore in compliance with the Agent of Change Policy.

Specific Questions

- 1) There is only one noise source that could be assessed based on the principles of BS 4142 and that is Pitters Commercial which is located to the north of the development site.

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The specific sound level predicted from this source at the closest proposed receptor location is 47 dB. Based on the BS 4142 approach, this specific sound level could be subject to the addition of a feature correction of 6 dB to account for impulsive sound characteristics which could be clearly perceptible at the assessment location. The rating level at the closest receptors would therefore be 53 dB $L_{Ar,T}$.

The background sound level, based on the annual mean of hourly values during the Pitters opening hours, is 46 dB L_{A90} , which is commensurate with the predictions of road traffic noise from the M27 (50 dB $L_{Aeq,16h}$ – which, as we would expect, is slightly higher than the corresponding L_{A90}).

The initial impact estimation for operations at Pitters is therefore as set out in Table 1 below.

Table 1 – Pitters Commercials – Initial impact Estimation

Assessment Location	Specific Sound Level, dB	Feature Correction, dB	Rating Level, dB	Background sound level, dB	Rating Level minus background sound level, dB	Initial impact estimation
Garden	47	6	53	46	7	Between adverse and significant adverse
Rear facade	45	6	51	46	5	Adverse

The initial impact estimation is modified based on all pertinent contextual factors which, in this case, include:

- The absolute sound level generated by activities at Pitters is relatively low and lower than any relevant absolute criterion (such as the ProPG¹, BS 8233² or WHO³).
- The specific sound level is lower than the residual sound level.
- The sensitivity of the affected receptors has been reduced through the acoustic recommendations for the façade treatments, which will comprise a minimum glazing specifications, acoustic ventilators, and intermittent extract fans to allow ventilation of habitable rooms without opening windows.

¹ ProPG: Planning and Noise. New Residential Development. ANC, CIEH, IOA. May 2017.

² BS 8233:2014 Guidance on sound insulation and noise reduction for buildings. BSI. 2014.

³ World Health Organisation Guidelines on Community Noise 1999.

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- iv) The business operations pre-date the occupation of the houses, so future residents will occupy those homes with knowledge and reasonable expectations.

All these contextual factors justify a downward modification of the initial impact estimation to below that of adverse impact. The national policy objectives to avoid 'significant adverse impact' and 'minimise and reduce adverse impact' (via acoustic barriers and façade treatments, as recommended here) and local policy tests⁴ have been met.

It is noted that the EBC response suggests a *'limit of a Rating Level being ten decibels below the background sound level subject to context'* is commonly sought but there would be no justification for a numerical limit so prohibitively low in these circumstances. Furthermore, the stated position does appear to conflict with advice in the local plan which suggest that *'the acceptability of noise levels will be determined on a case by case basis'*.

- 2) The Ageas Bowl is most used for cricket events, of which the Hundred events are considered the most intense and noise generating. The attended measurements of noise from a Hundred event are therefore considered to be representative of worst-case (noisiest) sporting events.

The Ageas Bowl is also, less frequently, used for other events. Based on discussions with Neil Scott (Senior Pollution Control Officer at EBC) and Ian McGuinness (Senior Licensing Officer at Southampton and Eastleigh Licensing Partnership) in March 2023 the warmer months are dominated by the sporting calendar so its rarely possible to programme large music events (which take some days to set-up and dismantle).

There are typically only one or two large music events per annum and event management plans are agreed for these on a case-by-case basis by the Safety Advisory Group (local authority led group including other interested parties such as the fire service and local constabulary). The event management plans include agreed noise levels and finish times, designed to avoid unreasonable disturbance of local residents. There is also usually one firework display at the Ageas Bowl each year.

It would not be appropriate to design the development, or recommend mitigation measures, to achieve specific acoustic criteria based on highly infrequent events such as concerts as the acceptability of these types of events is largely assessed based on their frequency of occurrence. A reasonable degree of tolerance is expected from residents with respect to noise from these types of events on the basis that they are only occasional.

The introduction of the additional noise sensitive receptors proposed should not prompt EBC (or the Southampton and Eastleigh Licensing Partnership) to tighten any timings or noise limits applicable to events at the Ageas Bowl compared to those contemplated under the existing circumstances.

⁴ Eastleigh Borough Local Plan (2016-2036) Policy DM8, Pollution

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- 3) The development layout has been designed to screen the majority of private amenity spaces from noise. Based on the sound levels in the majority of each garden (and the most valuable amenity space immediately adjacent to the rear façade in each case), sound levels are below 50 dB $L_{Aeq,16h}$ in 8 gardens, between 50 and 55 dB $L_{Aeq,16h}$ in 85 gardens and marginally above 55 dB $L_{Aeq,16h}$ in 9 gardens.
- 4) The noise survey undertaken during the Hundred cricket event included noise from pedestrians and event road traffic noise.

As explained in (a) above, it is anticipated that development generated road traffic will have a negligible impact on existing road traffic noise levels. Based on discussions with EBC, it is understood that event attendees make good use of the park-and-ride facilities which minimises the numbers of private vehicles accessing the wider site.

- 5) There are some uncertainties implicit in any noise assessment, although WSP seek to minimise the extent that those may affect assessment outcomes.

In this type of assessment, the most common uncertainties arise from a lack of engagement with businesses and facilities which may generate varying levels of noise which might not be captured by a snap-shop survey. These uncertainties were minimised by engaging with the operators of Pitters and the Ageas Bowl, to ensure that the nature of their operations was understood and appropriately assessed.

Uncertainties in measurements were minimised by using in-calibration type one instrumentation that was fit for purpose and deployed by competent experts and by undertaking both attended and unattended measurements.

Modelling uncertainties were minimised by using a well validated three-dimensional noise model which was locally verified based on measurement data.

- 6) As stated in (a) above, no significant effects are anticipated on existing residential properties as a result of the development.

SUMMARY

This technical note provides a response to the points raised by the EBC Environmental Protection Officer in connection with the NIA submitted with the application for a mixed-use development at the Ageas Bowl.

A revised noise assessment, currently in preparation, will include an assessment of a revised layout and will also incorporate some of the information presented in this note. For completeness, a copy of this note will be appended to the revised noise assessment.