

sharps acoustics

**Land off York Close, Market
Bosworth**

Note on noise source data following
Inspector's request for information

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1.0 Introduction

- 1.1 Sharps Acoustics LLP (SAL) was commissioned by Gladman Developments to undertake a noise impact assessment for the development described below:

"Outline planning application for the erection of up to 100 dwellings (including 40% affordable housing) with public open space, landscaping, sustainable drainage system (SuDS) a vehicular access point and the demolition of one residential dwelling. All matters reserved except for means of access."

- 1.2 We carried out that assessment and produced a report (dated 21st August 2023) which was submitted with the planning application for that scheme. We concluded that:

- With the proposed screening along the access road, there would be no significant adverse effects due to noise as a result of this scheme so the circumstances do not need to be avoided and planning permission need not be refused.
- During the day, there would be a small but noticeable change in the character of the area in York Close due to noise from the additional vehicles and this would not result in a significant adverse effect.
- At night, there would be a negligible effect.

- 1.3 SAL understand that the Council agrees with these conclusions.

- 1.4 Planning permission was refused by Hinckley and Bosworth Borough Council for reasons other than noise and the refusal has been appealed. SAL have been informed that the Planning Inspector has requested additional information, as follows:

"The Noise Impact Assessment (Sharps Acoustics LLP, 21 August 2024) at paragraph 4.2 refers to "SAL library data for a single car passing in this kind of environment is that, typically, the single event level, L_{AE} would be 69dB, L_{AE} at 10m". Can the appellant elaborate on this, in particular the environment/vehicle movement that the library data is based on?"

- 1.5 This note is intended to provide the additional information requested.

2.0 SAL library data – what is the L_{AE} and how is it used?

- 2.1 "SAL" is a shortening of the name of Sharps Acoustics LLP. Our library data comes from our extensive experience over many decades of noise monitoring and prediction work. We have carried out measurements of noise from vehicle movements associated with many environments similar to York Close including within car parks; adjacent to access roads; suburban side roads; and in cul-de-sacs. Our data contains a range of levels which may be present from vehicles turning into drives, pulling out of drives, coasting to a stop, passing by, parking and pulling away.

- 2.2 Each level that we have recorded includes all of the sound energy from each noise “event” along with the distance at which the event occurred. For a vehicle passing, this distance is the closest point between the measurement microphone and the noise source. The sound energy from an event (such a vehicle passing by) is then processed to compress all of the sound energy that was present in that event into a single second. This is a technique routinely used by acousticians for events such as vehicles trains passing. Each event would take a different amount of time, but by compressing each event into a single second (called the “single event level”, denoted as the L_{AE}), comparisons and calculations are made easy. This removes the necessity of factoring in the amount of time for which each event is present.
- 2.3 Our database shows that the typical noise level from a single vehicle passing at the speed expected in an environment similar to York Close would be 69dB, L_{AE} . (Other events such as turning in or out or parking etc would produce a lower L_{AE} , so this represents a reasonable worst case).
- 2.4 To calculate the overall noise levels due to the movements of the additional proposed vehicle movements, we use this typical L_{AE} , scale up this value by the number vehicles expected, correct for time (effectively removing the 1 second compression to evaluate the sound for the period of interest), distance and any reflections or barrier effects and are able to predict the resultant levels at each nearby residential façade.

3.0 The effect of vehicle type and type of environment present

- 3.1 The environment considered in this assessment is a relatively quiet cul-de-sac, such as York Close. Almost all vehicle movements in this type of environment are cars, although there are also occasional light goods vehicles (mainly from online shopping deliveries) and very occasionally other, larger vehicles such as bin lorries.
- 3.2 There are two main sources of noise from these vehicles: the vehicle’s engine and from the vehicle’s wheels. The amount of noise from each of these depends principally on the speed of the vehicle (although the road surface can also play a part). In more recent times, the type of vehicle also affects levels, since hybrids and electric vehicles produce significantly less engine noise.
- 3.3 At the sorts of speeds which vehicles travel in this type of environment, wheel noise is very low and the principal source of noise is the vehicle engine. Although in the last five years or so, the number of hybrid and electric vehicles has risen sharply, the value used in this assessment has been based on historic data and has not been adjusted to allow for the increased presence of electric vehicles. The predicted level would be slightly lower if electric vehicles were substituted for petrol / diesel vehicles assessment so the errs slight on the side of caution.
- 3.4 The majority of movements in York Close are from cars and the majority of additional vehicle movements resulting from the presence of the development would also be cars. In SAL experience, the level of noise from movements of light goods vehicles which have petrol or diesel engines is very similar to the level from cars with the same engine type. In some cases (eg. older diesels vans), they can be a little higher but just as often these vehicles have electric engines (eg. Amazon delivery vans all have electric engines). The L_{AE} of 69dB therefore results in a reliable estimate of noise levels.