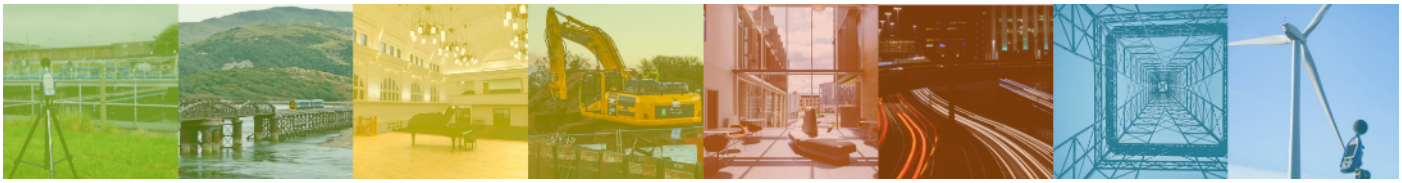

Technical Note

Title:	Land West of Shoreham Road, Small Dole - Response to EHO comments		
Client:	Wates		
Reference:	2062077-RSKA-TN-001-(02)		
Date:	24 September 2025		
Prepared:	Matthew White	Approved:	James Blakeley

1 Introduction

This note has been produced by RSK Acoustics Ltd (RSKA) in response to comments from the Horsham District Environmental Health and Licensing on noise, as replicated in Appendix A, following the issue of our noise impact assessment for the site, ref: 2062077-RSKA-RP-001-(03).

The application is in outline with detailed matters relating to appearance, layout, scale and landscaping the subject of a subsequent reserved matters application. On this basis, the illustrative layout submitted as part of this application is subject to change as part of the detailed design process that will be undertaken at a later stage. Notwithstanding this, based on the submitted noise report and our further comments outlined in this note, it is considered that all noise concerns can be satisfactorily addressed.

2 Response to Comments

1. *From reviewing the report we note that noise levels on the eastern facades of plots 1-8 and plots 28 and 29 i.e. those closest to the A2037 will be in the region of 54dB. With windows open, allowing a 13dB for an open window, internal noise levels during periods of warm/hot weather will be in the region of 41dB and so above the internal noise criteria detailed as in BS 8233: 2014 (Guidance on sound insulation and noise reduction for buildings). Individual noise events in these plots is also likely exceed 45 dB LMax more than 10 times a night which is also not compliant with the above mentioned guidance.*

RSKA comments:

The nearest facades on the development are set back approximately 25-30m from the A2037.

The acoustic strategy under background ventilation is with open trickle vents (assumed 2 per room). With this configuration, desirable internal noise levels are achievable ($L_{Aeq,T}$ and L_{AFmax}).

With windows sufficiently open to control peak summer overheating, in line with the Approved Document O (ADO) simplified method, an external to internal level difference of approximately 10dB is expected (equivalent to a total window opening of 4% of the floor area). This would suggest an internal noise level at night of 39dB $L_{Aeq,8h}$ and 54dB L_{AFmax} in bedrooms on the worst affected façade facing the road under this condition. This is compliant with the ADO requirements for bedrooms at night when controlling peak summer overheating.

2. *In order to achieve acceptable internal noise levels and prevent overheating windows on the façades of the above plots which face the A2037 will need to be kept closed and potentially costly mitigation and ventilation systems would need to be installed and maintained for the lifetime of the development.*

RSKA comments:

See comments above on overheating mitigation. Enhanced mechanical ventilation or cooling should not be required to comply with ADO.

3. *In our view the above mitigation should however be seen as the last solution once all available site layout solutions to address noise have been explored. This view is detailed in Figure 2/Note 5 of ProPG which states Designing the site layout and the dwellings so that the internal target levels can be achieved with open windows in as many properties as possible demonstrates good acoustic design.*

RSKA comments:

Note 5 of Figure 2 in ProPG states that a good acoustic design is where as many properties as possible can meet the internal requirements with windows open. For properties where this is not achievable, it also states that internal noise levels can be assessed with open trickle vents.

Based on the modelling, the majority of properties will experience good acoustic conditions with windows partially open or closed. For the properties closest to the A2037, we have demonstrated that these properties will achieve good internal acoustic conditions with windows closed and trickle vents open. We have also demonstrated that opening windows to control peak summertime overheating will be acceptable in line with the relaxed noise requirements in ADO under these conditions.

4. *We note the comment in section 4.6 All assessed external amenity are within the BS8233 recommended upper limit of 55dB LAeq,16h, with a significant majority of the site within the desirable limit of 50dB LAeq,16h.*

RSKA comments:

The worst affected garden (plot 29) would experience “acceptable” rather than “desirable” acoustic conditions in external amenity spaces, <u>without</u> account for an acoustically rated perimeter fence around the garden.

It is confirmed that gardens will include for a 1.8m high solid close-boarded fence. With the perimeter fence, noise levels within all gardens are expected to meet the desirable 50dB $L_{Aeq,16h}$ level.

Close-boarded fences should be a minimum of 1.8m high and of solid, unperforated timber construction with a minimum surface density of 10kg/m^2.

5. *The proposed development is not, for example, a development in a city centre of near an existing transport network where development may be desirable and where alternative layouts are limited – this is a greenfield development near to a major road where, in our view, the potential impacts from road traffic noise can be designed out. Given this we therefore consider the 50dB criteria for external amenity spaces to be applicable to this site, it is however not clear from the supporting information how many of the proposed dwellings will, even with mitigation, still be subject to noise levels in amenity spaces of 50dB or above.*

RSKA comments for EHO:

See above comments. It is confirmed that gardens will include for a 1.8m high solid close-boarded fence. With the perimeter fence, noise levels within all gardens are expected to meet the desirable 50dB $L_{Aeq,16h}$ level.

6. *6. Given our above comments we are not convinced that the layout represents good acoustic design, as detailed in with ProPG – Planning and Noise. In our view there seems more than enough space within the footprint of the development to move these plots to the west so that they are not located in the noisiest part of the development. This would obviate the need for mitigation measures and the costs of maintaining these measures for the lifetime of the development.*

RSKA comments for EHO:

Based on our comments, we do not consider this to be the case. This application is outline in nature and the site layout has been partly dictated by other limiting layout and landscaping considerations.

Appendix A – EHO Comments

Noise

Environmental Health have reviewed the RSK Acoustic Planning Report, dated 03.04.25, and the fact that a report of this nature has been submitted in support of the application is welcomed. We do however have the following comments to make.

1. *From reviewing the report we note that noise levels on the eastern facades of plots 1-8 and plots 28 and 29 i.e. those closest to the A2037 will be in the region of 54dB. With windows open, allowing a 13dB for an open window, internal noise levels during periods of warm/hot weather will be in the region of 41dB and so above the internal noise criteria detailed as in BS 8233: 2014 (Guidance on sound insulation and noise reduction for buildings). Individual noise events in these plots is also likely exceed 45 dB LMax more than 10 times a night which is also not compliant with the above mentioned guidance.*
2. *In order to achieve acceptable internal noise levels and prevent overheating windows on the façades of the above plots which face the A2037 will need to be kept closed and potentially costly mitigation and ventilation systems would need to be installed and maintained for the lifetime of the development.*
3. *In our view the above mitigation should however be seen as the last solution once all available site layout solutions to address noise have been explored. This view is detailed in Figure 2/Note 5 of ProPG which states Designing the site layout and the dwellings so that the internal target levels can be achieved with open windows in as many properties as possible demonstrates good acoustic design.*
4. *We note the comment in section 4.6 All assessed external amenity are within the BS8233 recommended upper limit of 55dB LAeq,16h, with a significant majority of the site within the desirable limit of 50dB LAeq,16h.*
5. *The proposed development is not, for example, a development in a city centre of near an existing transport network where development may be desirable and where alternative layouts are limited – this is a greenfield development near to a major road where, in our view, the potential impacts from road traffic noise can be designed out. Given this we therefore consider the 50dB criteria for external amenity spaces to be applicable to this site, it is however not clear from the supporting information how many of the proposed dwellings will, even with mitigation, still be subject to noise levels in amenity spaces of 50dB or above.*
6. *Given our above comments we are not convinced that the layout represents good acoustic design, as detailed in with ProPG – Planning and Noise. In our view there seems more than enough space within the footprint of the development to move these plots to the west so that they are not located in the noisiest part of the development. This would obviate the need for mitigation measures and the costs of maintaining these measures for the lifetime of the development.*

Appendix B – Glossary

Terms	Definitions
$D_{nT,w}$	Weighted normalised sound level difference. A single-number rating of the room-to-room sound insulation of a separating construction as installed on site. The higher the value, the better the result
R_w	Weighted sound reduction index. A single-figure quantity which characterises the airborne sound insulating properties of a material or element over a range of frequencies. Used to quantify the maximum sound insulation performance of a construction element when tested under laboratory conditions.
C / C_{tr}	A-weighted spectrum adaptation term, taking account of pink noise or road traffic, respectively. This is term is added to single-number ratings (i.e. R_w or $D_{nT,w}$) to take account of characteristics of a particular sound spectrum (C for pink, C_{tr} for traffic noise).
NR	Noise Rating Level – single figure rating used to quantify indoor ambient noise levels, usually building services noise.
$L_{Aeq,T}$	"Equivalent continuous A weighted sound pressure level" – the level of a notional steady sound which has the same acoustic energy as the fluctuating sound over a specified time period. It is often used for measuring all sources of noise in the environment, which can be referred to as the ambient noise.
$L_{A90,T}$	Noise level exceeded for 90% of the measurement period – provides a measurement of the quieter 'lull' periods in between noise events. It is often referred to as the background noise level.
$L_{Amax,F}$	This is the maximum sound pressure level measured in a given time period with the sound level meter set to 'fast' response.
Reverberation time (RT_{60})	The time for the sound pressure level in a room to decrease by 60 dB after the sound source has stopped.
STC	Sound Transmission Class, American metric indicative of the sound insulation of a building element. It is sometimes considered equivalent to R_w, mostly used in Europe.
T_{mf}	Mid-frequency reverberation time. arithmetic average of the T_{30} reverberation times in the 500 Hz, 1 kHz and 2 kHz octave bands.
T_{20} / T_{30}	Reverberation time, based on the first 20dB or 30dB of the sound decay curve.

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