

Memo no: 8709.1B

Date: 25/11/2020

Project: Land at South Newsham

Subject: Initial Modelling Results

To: Edward Burton, Miller Homes

From: James Hill

Initial Noise Modelling Results, Land at South Newsham

1. Planning Condition

- 1.1 Planning Condition 27 associated with Outline Application Ref. 17/00499/OUT is shown in Figure 1.

27	<p>No dwelling shall be constructed until an acoustic design scheme has been submitted to and approved in writing by the Local Planning Authority. The scheme shall demonstrate that internal noise levels of 35dB LAeq 16 hours during the day and 30dB LAeq 8 hours and 45dB LAMax 8 hours during the night can be achieved in the main habitable rooms with windows open at the dwellings closest to the A1061. The scheme shall include internal room layouts to show that the main habitable rooms shall have access to a window which can be opened without causing the ingress of obtrusive noise above guidance levels. Thereafter, the approved acoustic design scheme shall be implemented in full before the occupation of the dwelling it relates to and retained in perpetuity.</p> <p>Reason: To ensure a commensurate level of protection against obtrusive noise in accordance with Policy DC22 of the Blyth Valley Development Control Policies DPD and the National Planning Policy Framework.</p>
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Figure 1: Planning Condition 27

- 1.2 The Condition requires that the main habitable rooms meet internal noise levels with windows open.
- 1.3 In addition, Condition 6 references that the development shall be carried out in accordance with Noise Buffer Parameter Plan, 849-NLP SD-90.03C, shown in Figure 2.

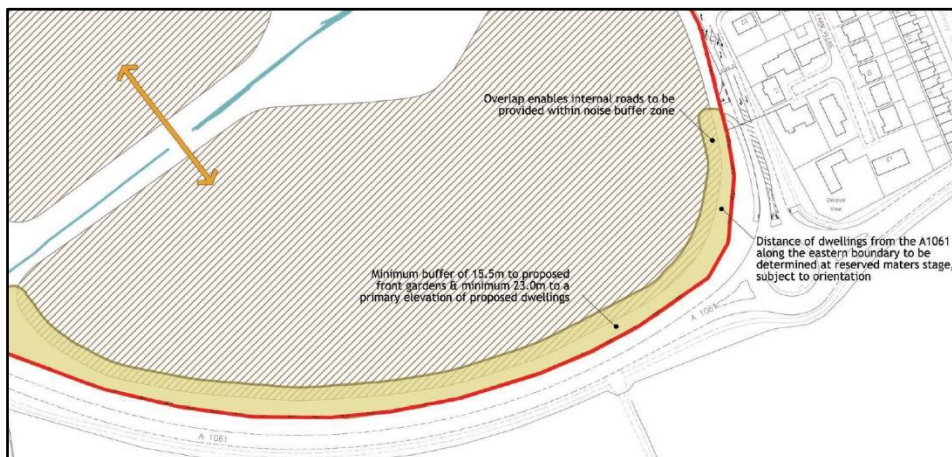


Figure 2: Noise Buffer Parameter Plan

2. Measurement Results

2.1 Noise levels from the A1061 and B1523 were measured for 24 hours from 09:00 on the 19th November 2020.

2.2 Following analysis of previous data, including:

- Noise assessment at outline planning stage
- Noise assessment for the adjacent site to the west
- DEFRA noise map data

A + 3 dB correction has been applied to the measured noise levels from the A1061 to account for reduced traffic flows due to Coronavirus lockdown measures.

3. Initial Noise Monitoring Results

3.1 Based on a typical 15 dB difference between the external and internal noise levels through an open window, noise contours have been plotted for the site, to demonstrate the practicality of meeting the requirements of Condition 17.

3.2 Figure 3, Figure 4 and Figure 5 show the Daytime L_{Aeq} , Night-time L_{Aeq} and Night-time $L_{AF, Max}$ contours respectively. Green areas show where the requirements of the condition can be met, red areas show where the condition is not met.

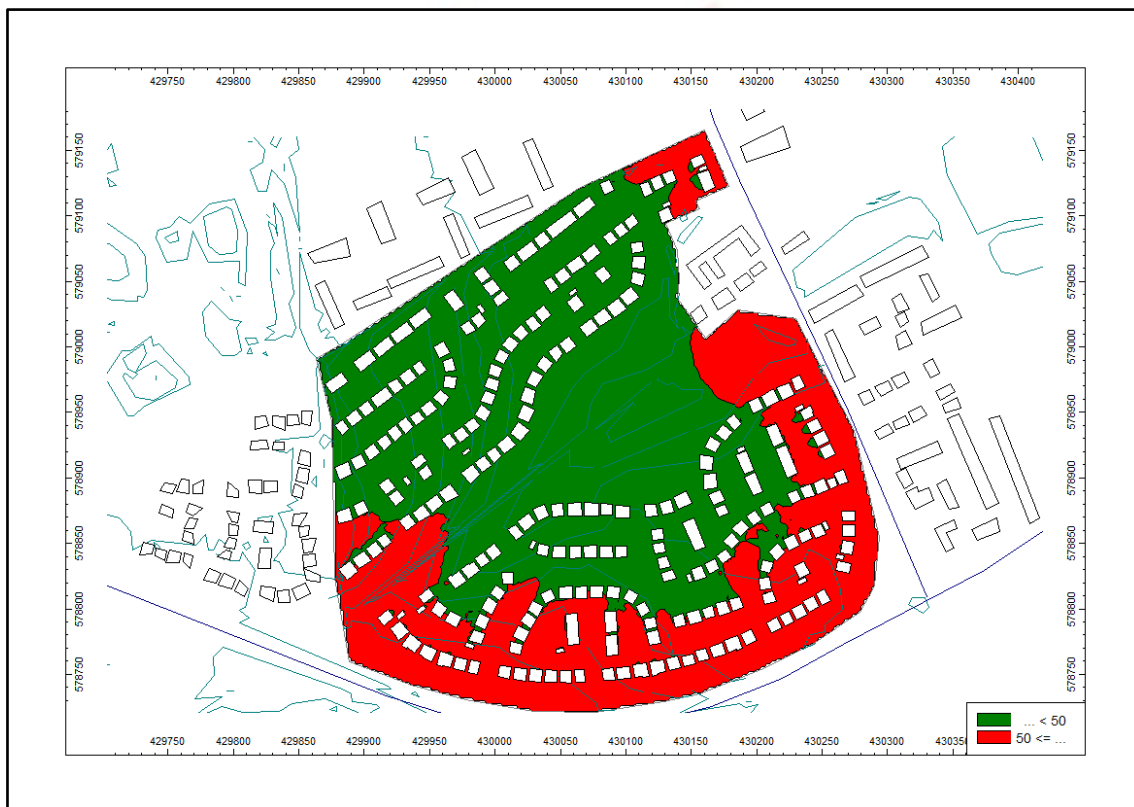


Figure 3: Daytime L_{Aeq} , 16hr noise contours at 1.5m above ground.



Figure 4: Night-time $L_{Aeq, 8hr}$ noise contours at 4m above ground.



Figure 5: Night-time $L_{Af, Max}$ noise contours at 4m above ground.

4. Analysis

- 4.1 Plots around the outside of the site, adjacent to the road, are likely to exceed the limits of the condition with windows open on all façades. Therefore, there is limited benefit to orientating the dwellings to provide 'quiet' façades to the main habitable rooms.
- 4.2 The plots to the centre and back of the site are likely to meet the requirements of the condition, whereas the majority of the plots 1-2 rows back from the roads exceed the limit on at least one façade.
- 4.3 It should be noted that the exact wording of the condition states, "The scheme shall demonstrate that internal noise levels of ... can be achieved in the main habitable rooms with windows open at the dwellings closest to A1061." The initial modelling has included both the A1061 and B1523 roads as noise sources, which is the same as the noise assessment method undertaken at outline stage.
- 4.4 The max noise contours in Figure 5 are based on the highest measured maximum noise event during the night-time period that would not exceed 45 dB L_{AFmax} more than 10 times internally, which is in accordance with noise guidelines on avoiding adverse impacts, such as sleep disturbance; this is consistent with the aims of NPPF. Public Protection commonly require that the internal noise level be based on the highest maximum noise event, but this is not explicitly stated in the condition. If Public Protection require this criterion not to be exceeded at all, more plots than that shown in Figure 5 would be affected.
- 4.5 Noise barriers, or berms, placed along the boundary of the site with the road may reduce the levels at the façade, particularly at the ground floor. However, it will not be possible to mitigate the noise in order to comply with the condition at all plots.
- 4.6 It is therefore considered that the requirements of the Condition associated with the development are not achievable for all plots.
- 4.7 Assuming the condition can be varied and the internal noise level limits be considered with windows closed, the most exposed dwellings will likely require System 3 ventilation with an enhanced acoustic trickle vent.