

**Noise Assessment
Report**

**Eastbourne Road,
Willingdon**

**Prepared for
Danescroft (FREOF V Willingdon) LLP**

by

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ACRONYMS AND ABBREVIATIONS

'A' weighted	The weighting that is applied to measured sound pressure levels so that the levels correspond more closely to the subjective response of the human ear - expressed as dB(A)
ABC Method	BS 5228 Method for determining the threshold of significance and associated construction impacts
°C	Degrees Celsius
BRE	Building Research Establishment
BS 5228	British Standard 5228:2014 "Code of practice for noise and vibration control on construction and open sites" (2014)
BS 8233	British Standard 8233:2014 "Guidance on sound insulation and noise reduction for buildings – Code of practice" (2014)
CIRIA	Construction Industry Research and Information Association
CRN	Calculation of Railway Noise (1996)
CRTN	Calculation of Road Traffic Noise (1988)
dB	Decibel – unit of measurement of sound
EHO	Environmental Health Officer
$L_{A10,T}$	Noise level exceeded for 10% of the time period (T) expressed in decibels with an A weighting
$L_{Aeq,T}$	A weighted equivalent continuous noise level over a time
L_{Amax}	A weighted maximum noise level
ms^{-1}	Metres per second
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPSE	National Policy Statement for England
SEL	Single Event Noise Exposure Level
SLM	Sound Level Meter
SMA	Stuart Michael Associates Limited
WDC	Wealden District Council
WHO	The World Health Organisation



1.0 EXECUTIVE SUMMARY

- 1.1 This Report has been produced by Jason Mills with respect to an Appeal by Danescroft (FREOF V Willingdon) LLP, the Applicant.
- 1.2 The Author of this report has over fifteen years' experience in the private sector specialising in the assessment and management of matters relating to noise for residential development.
- 1.3 In this report I set out my experience then describe the scope of review, the planning background, local noise environment, the application details, applicable National and Local policies that have been used to develop the robust proposals presented for this site.
- 1.4 From on-site observations, road traffic noise from Eastbourne Road and the broader highway network are the dominant noise within the site. Therefore, the existing noise environment has been established via noise monitoring and noise modelling using SoundPLAN. The noise monitoring has been used to verify the noise baseline noise model. Future noise levels within the Site and at local sensitive receptors have been assessed using the SoundPLAN noise model.
- 1.5 Impacts from development generated road traffic have been assessed at local sensitive receptors adjacent to the local highway network, south of the Site and north of the Site. There is predicted to be a "Negligible" increase in noise levels at all the receptors south of the Proposed Development during the daytime and the night time due to development generated traffic.
- 1.6 However, there is predicted to be a "Minor", "Moderate" and "Major" decrease in daytime noise levels and a "Negligible", "Minor" and "Moderate" decrease in night time noise levels at receptors to the north of the Site due to the "barrier" effect of the Proposed Development.
- 1.7 All receptors are residential dwellings which considered "high" sensitivity to noise. The magnitude of impact to the south of the Site is predicted to be "Negligible", therefore significance of increase in noise levels is considered "Slight Adverse". It is noted that locating new development between a noise source and an existing receptor will act as a noise barrier and therefore the significance of the decrease in noise levels to receptors to the north of the site is considered "Slight Beneficial", "Moderate Beneficial" and "Large Beneficial".



- 1.8 Within the development site, façade noise levels have been calculated at the approximate locations of the proposed dwellings. Façades with an unobstructed view of Eastbourne Road are predicted to experience the highest noise levels.
- 1.9 Throughout the development there are façades where noise levels are above 50 dB during the daytime and 45 dB during the night time. Mitigation measures are proposed to ensure internal noise levels meet BS 8233, WHO guidelines and local planning policy.
- 1.10 The use of double-glazed windows incorporating acoustically attenuated ventilation with comparable sound reduction will reduce internal noise to within guideline levels.
- 1.11 With regard to noise levels in private gardens within the Site, all plots will have an area which is predicted to experience daytime noise levels below 55 dB and the majority will experience noise levels below 50 dB.
- 1.12 The report has also calculated the potential worst-case impacts of construction noise at nearby sensitive receptors. The employment of best practical means should be adopted to minimise construction noise insofar as practicably possible.



2.0 QUALIFICATIONS AND EXPERIENCE

- 2.1 My name is Jason P Mills. I hold a Master of Engineering Degree in Environmental Engineering, a Master of Science Degree in Air Pollution Management and Control and a Post Graduate Diploma in Acoustics and Noise Control. I am an Associate Member of the Institute of Acoustics. I have over fifteen years of experience in the assessment and management of noise and air quality matters. I have assisted both the public and private sector clients in relation to assessing and mitigating against the impacts of traffic, rail and industrial noise.
- 2.2 I am a Senior Environmental Engineer at Stuart Michael Associates (SMA), an independent consultancy that specialises in transportation and infrastructure planning, road safety audits, flood risk assessments, traffic, civil, structural and environmental engineering.
- 2.3 I have been instructed to produce a Report to accompany the Proof of Evidence submitted by David Neame. The report considers and address potential noise issues which may be raised during the Public Enquiry. Stuart Michael Associates was appointed by Danescroft (FREOF V Willingdon) LLP (the Appellant) in July 2020 to advise upon the noise considerations in connection with its proposal to submit a planning application for a residential development along with a medical centre on land at Hindsland, Eastbourne Road, Lower Willingdon (the “Site”).



3.0 SCOPE OF REVIEW

3.1 This Report has been produced to accompany the Proof of Evidence provided by David Neame. The Report covers potential noise issues relating to the proposed development of land at Hindsland, Eastbourne Road, Lower Willingdon, BN20 9NU.

3.2 It should be noted that Wealden District Council (WDC) did not object to this proposal in terms of matters within my area of expertise and accepted the principles outlined in the Noise and Vibration assessment report submitted in support of the planning application.

3.3 Polegate Town Council have raised an objection. There have also been third-party objections which concern my discipline and these are summarised below:

- Polegate Town Council object on noise and vibration grounds, however the Town Council give no specific reasons for their objection;
- Third party objection due to *“increase in noise, dust and air pollution from additional traffic including construction traffic”*; and
- Third party objection due to *“negative impact on locality and nearby properties – noise, disturbance, light pollution and an increase in traffic fumes, loss of daylight and loss of privacy”*.

3.4 This Report therefore covers the following:

- A review of the Noise assessment; and
- A review of the changes in noise levels at existing sensitive receptors.

3.5 The evidence I have provided for this Appeal in this Report has been prepared and is given in accordance with guidance provided by my Professional Institution. I confirm that the opinions expressed are my true and professional opinions.



4.0 BACKGROUND

- 4.1 The Appeal site extends to an area of approximately 6.48ha and is currently occupied by one vacant dwelling adjacent to the Site access and a derelict playing field on the northern side of Eastbourne Road approximately 1.6km north of central Willingdon.
- 4.2 The Appeal Site comprises former sports pitches, the construction of which necessitated extensive engineering works, the implementation of artificial drainage and the inclusion of amenity grass species.
- 4.3 The description of the proposed development is as follows:
- Outline Application with all matters reserved except for access (excluding internal estate roads beyond the access to serve the medical centre plot) for demolition of existing vacant dwelling and erection of up to 180 no. dwellings and medical centre together with all parking, servicing and on-site open space.*
- 4.4 The application is supported by a masterplan to demonstrate how the site could satisfactorily accommodate the proposed number of dwellings.
- 4.5 A noise assessment of the Appeal Site was undertaken in February 2021.
- 4.6 From on-site observations, it is evident that road traffic noise from the A2270 Eastbourne Road and the wider highway network is the dominant noise source. Therefore, the baseline noise levels at local sensitive receptors and within the Site have been determined through modelling of road traffic using method detailed in Calculation of Road Traffic Noise (CRTN). The computer modelling program SoundPLAN, which incorporates the method detailed in CRTN, has been used to model noise levels.
- 4.7 Noise surveys were undertaken in 2017 to establish the existing noise environment of the Site as part of the previous Mornings Mill Farm planning application (WD/2017/1942/MEA). Due to the on-going Covid-19 pandemic and resulting changes in road traffic flows and therefore reduced noise from the lower number of vehicles, additional noise surveys would underestimate baseline noise levels and would not have been representative of pre-pandemic conditions.



Therefore, the results from the Morning Mills planning application noise surveys were used to verify the noise modelling for the Site.

4.8 The outline methodology employed in the noise assessment submitted with the Planning Application is detailed below:

- Utilise recorded sound levels (CD10.2, paragraph 4.6, page 15) to verify the SoundPLAN noise model and establish the baseline noise profile of the site;
- Determine the constraints on proposed sensitive receptors with respect to British Standard 8233:2014 “Guidance on sound insulation and noise reduction for buildings – Code of practice” World Health Organisation (WHO) “Guidelines on Community Noise” and “Night Noise Guidelines for Europe” and the BRE / CIRIA document “Sound control for homes”;
- Determine the impacts from construction activities on local receptors using British Standard 5228:2014 “Code of practice for noise and vibration control on construction and open sites”;
- Determine the magnitudes of impacts using the method detailed in Design Manual for Roads and Bridges (DMRB) and significance of impacts using the Criteria Used to Define Noise Sensitive Receptors (Watts, 1984) (CD10.2, Table 2.4, page 12) from development generated traffic on existing sensitive receptors.



5.0 POLICY BACKGROUND

- 5.1 The application design has been prepared in accordance with the relevant National and Local Policies as listed below.

National Policy

Policy	Key Provisions
National Planning Policy Framework (NPPF) (updated 2021)	Paragraph 180 of the NPPF states: <i>“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:</i> <i>a) Mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;</i> <i>b) Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.”</i> Additionally, Paragraph 182 states: <i>“Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.”</i>
Planning Practice Guidance (PPG)	Plan-making and decision making need to take account of the acoustic environment and in doing so consider: • whether or not a significant adverse effect is occurring or likely to occur;



- whether or not an adverse effect is occurring or likely to occur; and

- whether or not a good standard of amenity can be achieved.

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation. As noise is a complex technical issue, it may be appropriate to seek experienced specialist assistance when applying this policy.

The document goes on to provide a definition for the levels of noise exposure at which an effect may occur:

“Significant observed adverse effect level: this is the level of noise exposure above which significant adverse effects on health and quality of life occur.

Lowest observed adverse effect level: this is the level of noise exposure above which adverse effects on health and quality of life can be detected.

No observed effect level: this is the level of noise exposure below which no effect at all on health and quality of life can be detected.

A fourth effect level is also introduced:

Unacceptable Adverse Effect: Extensive and regular changes in behaviour and/or an inability to mitigate the effect of noise lead to psychological stress or physical effects.

It is important to understand that as the PPG-N does not specifically provide any advice with respect to noise levels/limits for different sources of noise, it is appropriate to consider other sources of advice and guidance documents when considering whether new developments would be sensitive to the prevailing acoustic environment and the PPG-N signposts a number of appropriate guidance documents.

**Noise Policy Statement
for England (NPSE)**

The National Policy Statement for England (NPSE) aims to “*through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*



- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life"*

Local Policy

Document	Key provisions and policies
Wealden District Development Plan	The Council's current statutory development plan consists of the adopted Wealden District Core Strategy Local Plan (February, 2013), the 'saved' policies of the adopted Wealden Local Plan (1998) and the Affordable Housing Delivery Local Plan (May, 2016)
Wealden District Local Plan (1998) (saved policies)	The WDC CS does not present specific policies relating to noise. Saved Policy EN27 Proposals for development will be permitted when the following layout and design criteria are met:- (2) the proposed development should not create an unacceptable adverse impact on the privacy and amenities of adjoining developments and the neighbourhood by reason of scale, height, form, noise and traffic movements;



6.0 PROPOSED DEVELOPMENT

- 6.1 From on-site observations, the dominant noise source in the local area is from road traffic noise from the A2270 Eastbourne Road to the south west of the site.
- 6.2 To determine the noise profile of the site, SoundPLAN has been used. The model has been verified using noise measurements recorded in the site.
- 6.3 During the daytime ($L_{Aeq,16hr}$), noise levels range between 62 dB at the southern boundary and 44 dB on the northern boundary. During the night time ($L_{Aeq,8hr}$), noise levels range between 59 dB at the southern boundary and 39 dB on the northern boundary.
- 6.4 Within the development site, façade noise levels have been calculated at the approximate locations of the proposed dwellings. Façades with an unobstructed view of Eastbourne Road are predicted to experience the highest noise levels.
- 6.5 In the southern area of the Site, there are façades where noise levels are above 50 dB during the daytime and 45 dB during the night time at which level an open window would not provide adequate mitigation to achieve internal daytime (35 dB in living rooms and bedrooms) and night time (30 dB in bedrooms) noise levels to British Standards and WHO guidelines. Therefore, mitigation measures are proposed (CD10.2, Section 8) to ensure internal noise levels meet BS 8233, WHO guidelines and local planning policy.
- 6.6 Where façade noise is equal to or above 60 dB at first floor level during the daytime, a window with a sound reduction of 36 dB ($36 - 3 = 33$ dB) would be required to achieve internal noise levels to British Standards and WHO guidelines. Where façade noise is between 54 dB and 62 dB during the daytime, a window with a sound reduction of 33 dB ($33 - 3 = 30$ dB) would be required to achieve internal noise levels to British Standards and WHO guidelines. At all other façades it is proposed that using a standard thermal double-glazed unit with a sound reduction of 27 dB ($27 - 3 = 24$ dB) would be required to achieve internal noise levels to British Standards and WHO guidelines.
- 6.7 The use of double-glazed windows incorporating acoustically attenuated ventilation with comparable sound reduction will reduce internal noise to within guideline levels (CD10.2, paragraph 8.22, page 43).



- 6.8 With regard to noise levels in private gardens, plots within the development site will have an area which is predicted to experience daytime noise levels below 55 dB and the majority will experience noise levels below 50 dB (REF. CD10.2, Figure 7.1, page 24 and paragraph 7.27, page 35).
- 6.9 The report has also calculated the potential worst-case impacts of construction noise at nearby sensitive receptors. Best practical means should be adopted to minimise construction noise insofar as possible (REF. CD10.2, paragraph 8.25, page 43).
- 6.10 With regard to impacts due to development generated traffic, there is predicted to be a “Negligible” (0.1 to 0.2 dB) increase in noise levels at all the receptors south of the Proposed Development during the daytime and the night time (CD10.2, Table 7.10, page 39).
- 6.11 It should be noted that there is predicted to be a “Minor”, “Moderate” and “Major” decrease in daytime noise levels and a “Negligible”, “Minor” and “Moderate” decrease in night time noise levels at receptors to the north of the Proposed Development (CD10.2, Table 7.10, page 39).
- 6.12 All receptors are residential dwellings which considered “high” sensitivity to noise (CD10.2, Table 2.4, page 12).
- 6.13 The magnitude of impact to the south of the Proposed Development is predicted to be “Negligible”, therefore significance is considered “Slight Adverse” (CD10.2, paragraph 7.33, page 39).
- 6.14 The magnitude of impact to the north of the Proposed Development is predicted to be “Minor”, “Moderate” and “Major”, therefore significance is considered “Slight Beneficial”, “Moderate Beneficial” and “Large Beneficial” due to the new development acting as a noise barrier between the noise source and existing receptors (CD10.2, paragraph 7.33, page 39).



7.0 CONCLUSIONS

- 7.1 Impacts due to development generated traffic on local sensitive receptors have been shown to increase by a negligible amount following completion of the development. Comparing the increase in noise levels to DMRB guidance, the change is slight adverse at sensitive receptors to the south of the site.
- 7.2 To the north of the site, impacts following completion of the proposed development are shown to be between negligible and major beneficial to the north of the site. This is a result of screening by the proposed development of road traffic noise on sensitive receptors adjacent to the site.
- 7.3 Based on the results of the construction noise assessment, it has been demonstrated that the impact of construction operations on local noise levels would be acceptable with the employment of best practical means mitigation to minimise construction noise insofar as practicably possible.
- 7.4 With regard to noise levels in private gardens within the Site, all plots will have an area which is predicted to experience daytime noise levels below 55 dB and the majority will experience noise levels below 50 dB as recommended in British Standards and WHO guidelines.
- 7.5 Where internal noise levels do not meet the British Standards and WHO guideline levels with an open window, the use of double-glazed windows incorporating acoustically attenuated ventilation with comparable sound reduction to the window will reduce internal noise to within guideline levels.
- 7.6 In conclusion, it is my professional opinion that the Site is suitable for the development proposals in terms of the noise impacts in the vicinity of the Site and constraints on the southern area of the development which can be overcome with appropriate mitigation.