

Monday, 21st November 2016

Ref: 20757L02cPKmdw

BCP (Havant) LLP
c/o Barwood Capital
Grange Park Court
Roman Way
Northants NN4 5EA

C.c. Mr. Martyn Stutchbury, Stutchbury Associates Limited.

C.c. Mr. Michael Gibbens, Taurus Developments Limited.

C.c. Mr. Laurence Alden, Goodrich Consulting LLP.

Dear Martyn,

Response to Environmental Health – Noise Impact Assessment to support Reserved Matters Application for 1 Unit and 3 Unit Layout: Project Velocity, Stanbridge Road, Havant, Hampshire.

This letter forms a technical response to the planning consultation responses (ref: APP/15/00284) issued via e-mails by Mr. David Fitzgerald¹, Environmental Protection Manager of East Hampshire District Council on behalf of Havant Borough Council. This is with respect to noise associated with the proposed 1 Unit and 3 Unit proposals for the Project Velocity development at Stanbridge Road, Havant in Hampshire.

Comments from Mr. Fitzgerald are in response to the noise impact reports (ref: 20757R01aPKmdw 20757R02aPKmdw) dated Friday 29th July 2016 issued by Environoise Consulting Limited to support the planning application.

1 Unit Scheme

Section 10.1.1 of the report (ref: 20757R01aPKmdw) recommended a 2.4m high close boarded timber barrier along the north-eastern boundary of the site parallel with a railway line. In response to this part of the report, the following comment was made by Mr. Fitzgerald:

There will an increase in the noise level from the site, the assessment shows the issues will have an impact during the night-time period. The mitigation that is proposed is the installed is a 2.4 metre high fence along the boundary with the railway line. My concern and the ultimate issue is the construction of the fence is not appropriate, as the specification does not take into account the reflective noise off of the railway line, now heading towards the properties in Nutwick road, causing increase noise levels from the railway traffic.

¹ E-mail from David Fitzgerald, East Hampshire District Council to Martyn Stutchbury, Stutchbury Associates Limited via Heather Lealan Havant Borough Council on 13th October 2016.

The design of the proposed 2.4 metre high fence needs to be resubmitted with the railway line façade being constructed of absorbent material, thereby reducing the impact of reflective noise caused from trains, Other alternative solutions will be considered if they provide the same end result.

3 Unit Scheme

Section 9.1 of the report (ref: 20757R02aPKmdw) recommended a 3m high close boarded timber barrier along the eastern boundary of the site parallel with a railway line. In response to this part of the report, the following comment was made by Mr. Fitzgerald:

There will an increase in the noise level from the site, the assessment shows the issues will have an impact during the night-time period. The mitigation that is proposed is the installed is a 3 metre (eastern boundary) and 2.4 metre (south eastern boundary) high fence along the boundary with the railway line. My concern and the ultimate issue is the construction of the fence is not appropriate, as the specification does not take into account the reflective noise off of the railway line, now heading towards the properties in Nutwick road, causing increase noise levels from the railway traffic.

Purpose of Letter

This letter presents an assessment done to predict the potential difference in reflected rail noise impact on houses on Nutwick Road with the proposed 'reflective' close boarded timber fences and an absorptively lined (to railway side) fence for the 1 Unit and 3 Unit scheme.

Noise propagation calculations have been done using SoundPLAN^{®2} noise modelling software. The data files and parameters used to create the model are presented in section 1. The details of the assessment done, results and conclusions are presented in section 2. Screenshots of the SoundPLAN[®] model are presented in Appendix A.

² By Braunsetin + Berndt GmbH.

1 Noise Model

1.1 SoundPLAN

- 1.1.1 Noise propagation calculations have been done in accordance with ISO 9613-2³ prediction methodology utilised in Version 7.4 of SoundPLAN© software. The data files and parameters used to create the model are presented in Table 1.1.

Table 1.1 SoundPLAN© noise model data files and parameters

Input Parameter	Data Source
Base landline map	File supplied Cornish Architects ⁴ : ref: Site Plan – 14021 / TP / 030
Topography	Assumed to be flat.
Bund	Railway bund set at a height of 1.5m.
Receptor positions	Height of 1.5m (ground floor) and 4m (first floor).
Receiver building heights	Assumed 5m (i.e. 2-storeys).
Ground absorption	The ground absorption setting is 0.5 (i.e. mixture of hard and soft ground) in accordance with ISO 9613-2
Reflections	Maximum order of reflection is 1.
Barriers	A 2.4m/3m 'reflective' barrier, and 2.4m/3m barrier lined (to rail line side) with absorption. Reflection loss set at 8 / absorbent coefficient α of 0.8) i.e. Class A.
Noise sources	Line source – rail noise data obtained from noise survey as reported in reports ref: 20757R01aPKmdw & 20757R02aPKmdw.
Wind direction	Default within the ISO 9613-2 prediction methodology assumes a wind speed of 1m/s and 5m/s from source to receiver.
Relative humidity	70%
Temperature	10°C

³ ISO 9613-2: Acoustics – Attenuation of Sound during propagation outdoors: Part 2 General method of Calculation

⁴ Drawings emailed to Environoise Consulting Limited by Elizabeth Dabell, Cornish Architects.

2 Assessment

2.1 Rail Line Noise

- 2.1.1 Overall A-weighted and octave band ambient rail noise levels obtained during the noise survey done as reported in Table 4.1 of the Environoise report (ref: 20757R02aPkmdw) are presented in Table 2.1. These have been used for the SoundPLAN© assessment. The rail line has been modelled as a line source.

Table 2.1 Plant details and associated sound pressure levels

	Leq,15mins at octave band centre frequency (Hz)							LAeq,15mins (dB)
	63	125	250	500	1k	2k	4k	
Rail line noise level	65	65	64	66	65	59	53	68

2.2 Scenarios

- 2.2.1 For our assessments, we have considered 2 scenarios. These are as follows:
- 1 Unit scheme - Comparison of the noise impact on houses on Nutwick Road due to a 2.4m reflective fence and a 2.4m absorptive fence.
 - 3 Unit scheme - Comparison of the noise impact on houses on Nutwick Road due to a 3m reflective fence and a 3m absorptive fence.

- 2.2.2 Figures A1 and A2, Appendix A shows a SoundPLAN© 3D view of the noise model.

2.3 Results

1 Unit Scheme - Reflective Fence compared to Absorptive Fence.

- 2.3.1 Table 2.2 provides details of the calculated noise levels at the nearest dwellings on Nutwick Road with a reflective fence an absorptive fence, and a comparison between the two. Figures A3 and A4, Appendix A shows a SoundPLAN© image of the calculated results.
- 2.3.2 Please note, for a robust assessment, the calculations in Table 2.2 do not include any potential shielding of reflected noise by the trains themselves.

Table 2.2 Noise levels at Nutwick Road dwellings with reflective versus absorptive fence.

Noise level at Dwellings (reflective) [LAeq,15mins dB] A	Noise level at Dwellings (absorptive) [LAeq,15mins dB] B	Difference [dBA] A - B
45.8	45.7	0.1

3 Unit Scheme - Reflective Fence compared to Absorptive Fence.

- 2.3.3 Table 2.3 provides details of the calculated noise levels at the nearest dwellings on Nutwick Road with a reflective fence an absorptive fence, and a comparison between the two. Figures A5 and A6, Appendix A shows a SoundPLAN© image of the calculated results.
- 2.3.4 Please note, for a robust assessment, the calculations in Table 2.3 do not include any potential shielding of reflected noise by the trains themselves.

Table 2.3 Noise levels at Nutwick Road dwellings with reflective versus absorptive fence.

Noise level at Dwellings (reflective) [L _{Aeq,15mins} dB] A	Noise level at Dwellings (absorptive) [L _{Aeq,15mins} dB] B	Difference [dBA] A - B
49.0	48.2	0.8

2.4 Discussion

1 Unit Scheme

- 2.4.1 As can be seen in Table 2.2, reflected noise levels at the nearby dwellings are 0.1dB(A) more with the proposed reflective fence when compared to that with the absorptive fence. A difference of 0.1dB(A) is considered negligible where a minimum 3dB difference is generally considered in the industry to be just noticeable to someone with good hearing under normal listening conditions⁵. We therefore consider that the difference in the level of noise impact as the dwellings on Nutwick Road due the absorptive fence compared to the proposed reflective fence would be negligible.

3 Unit Scheme

- 2.4.2 As can be seen in Table 2.3, reflected noise levels at the nearby dwellings are 0.8dB(A) more with the proposed reflective fence when compared to that with the absorptive fence. A difference of 0.8dB(A) is considered negligible where a minimum 3dB difference is generally considered in the industry to be just noticeable to someone with good hearing under normal listening conditions. We therefore consider that the difference in the level of noise impact as the dwellings on Nutwick Road due the absorptive fence compared the proposed reflective fence would be negligible.

2.5 Conclusion

- 2.5.1 Calculated results indicate that absorptive fences would provide a reduced level of impact of rail noise at the nearby dwellings on Nutwick Road compared to that with the proposed reflective fences for the 1 Unit and 3 Units schemes. However, the differences in reflected

⁵ IEMA IOA Draft Guidelines for Noise Impact Assessment, 2002.

rail noise impact between absorptive fence and proposed reflective fences of each scheme are considered negligible.

- 2.5.2 We conclude that there would be a negligible change in impact at the dwellings on Nutwick Road due to the proposed reflective fence for both schemes and the requirement for an absorptive fence is therefore not justified.

Yours sincerely,



Paul Kelly MIOA
Principal Acoustics Consultant.
For and on behalf of Environoise Consulting Limited

Appendix A: SoundPLAN© Noise Model Images

Figure A1: 3D view of SoundPLAN© noise model – 1 Unit Scheme.

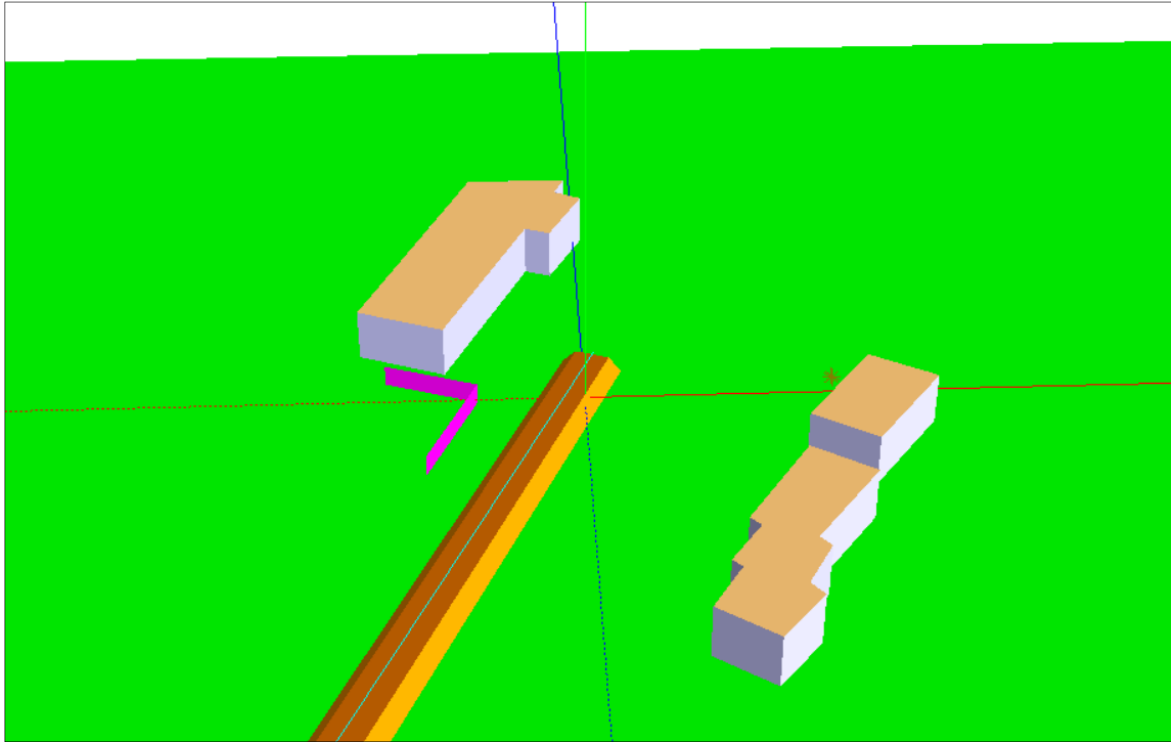


Figure A2: 3D view of SoundPLAN© noise model – 3 Unit Scheme.

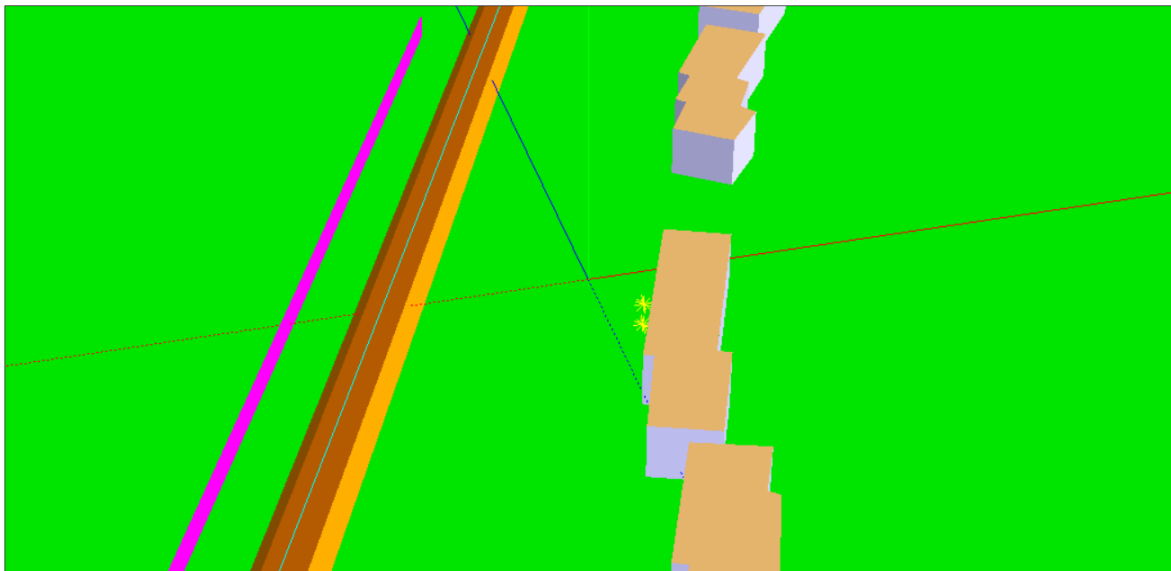


Figure A3: Screenshot of SoundPLAN© calculation with reflective fence – Unit 1 Scheme.

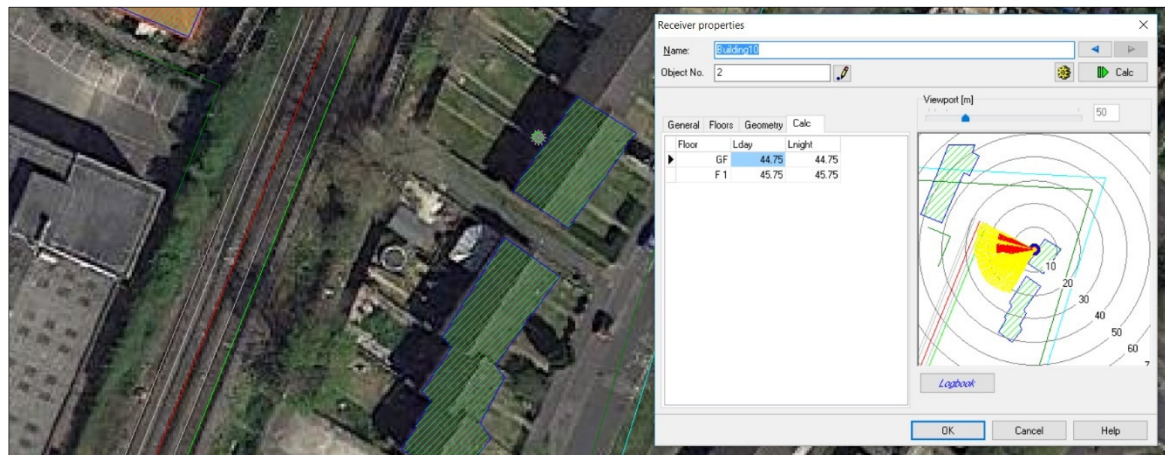


Figure A4: Screenshot of SoundPLAN© calculation with absorptive fence – Unit 1 Scheme.

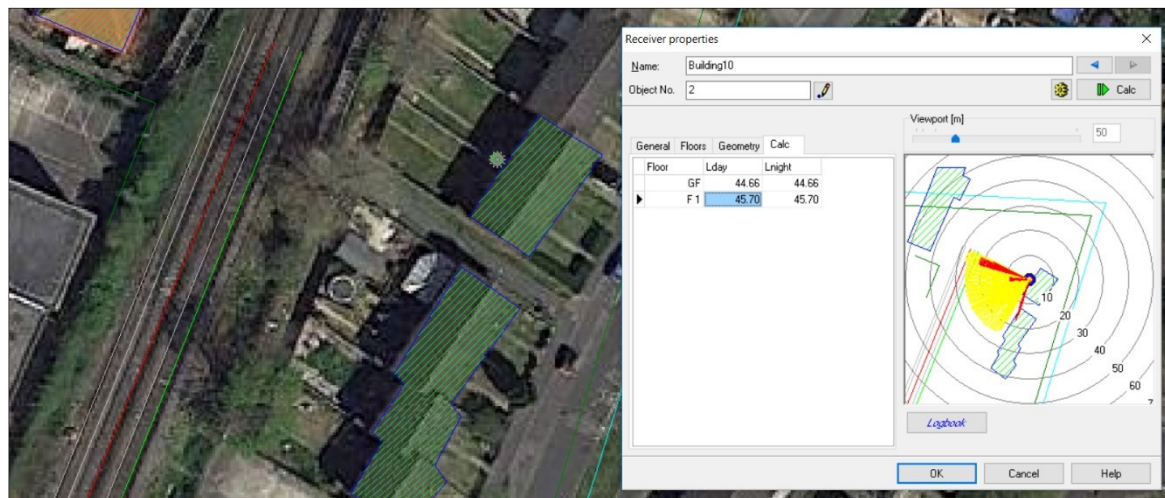


Figure A5: Screenshot of SoundPLAN© calculation with reflective fence – Unit 3 Scheme.

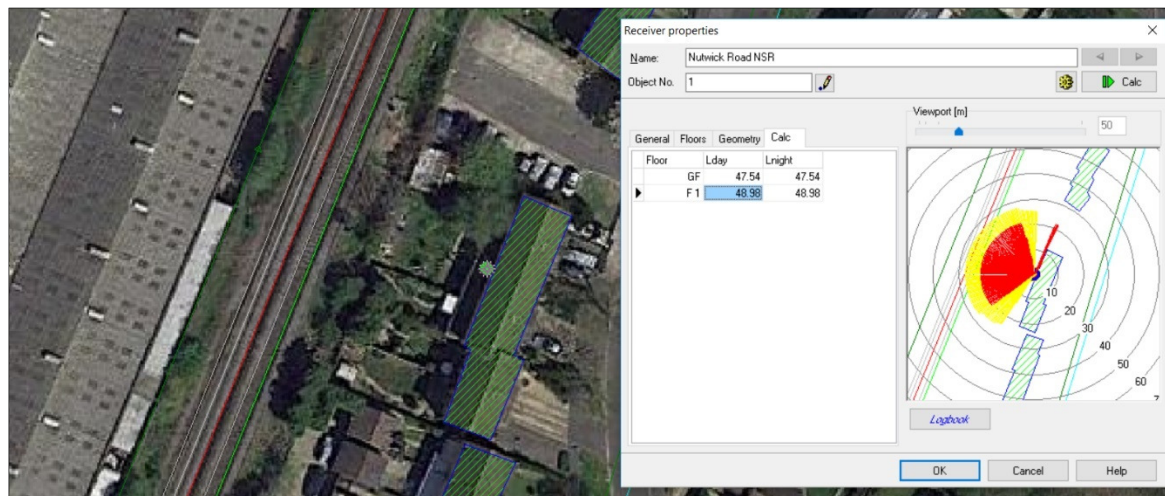


Figure A6: Screenshot of SoundPLAN© calculation with absorptive fence – Unit 3 Scheme.

