



ACOUSTICAL INVESTIGATION &  
RESEARCH ORGANISATION LTD

Duxons Turn  
Maylands Avenue  
Hemel Hempstead  
Hertfordshire  
HP2 4SB

Registered in England No. 00603110 Secretary R C Harding BSc

Consultants in Acoustics, Noise Control  
and specialist Electro-Acoustic Systems,  
Laboratory and On-Site Testing Services

Director  
A J Jones BSc PhD CPhys MInstP HonFIOA  
Principal Consultants  
W R Stevens MIOA  
D L Watts BEng CEng FIOA  
Laboratory Manager  
M Sawyer MIOA

Telephone: +44(0)1442 247146  
E-mail: [airo@airo.co.uk](mailto:airo@airo.co.uk)  
Web: <https://www.airo.co.uk/>

DLW/KH/7167/L4

Mr J Fullagar  
c/o Farris Associates Ltd  
4 Claridge Court  
Lower Kings Road  
Berkhamsted  
Hertfordshire  
HP4 2AF

5 February 2020

Dear Mr Fullagar,

## **57 SOUTH PARK GARDENS**

In accordance with Farris Associate's instructions on your behalf, AIRO has built a digital noise model and produced coloured sound exposure plots.

The digital model has been based on Drawing HP4/1432/P/001 of the existing situation and Drawing HP4/1432/P/01 rev K of the proposed site layout, both by Richard Farris.

The modelling software used has been NoiseMap which implements the calculation methodology set out in the Department of Transport document Calculation of Railway Noise 1995.

The model was verified by comparing the calculated and measured sound level at the measurement position described in AIRO Report DLW/7167 dated 25 July 2018.

The following coloured sound exposure plots are enclosed (attached) with this letter:

- a) the existing situation (G/7167/L4/1)
- b) the latest development proposals without specific sound mitigation measures (G/7167/L4/2)
- c) the latest development proposals with sound mitigation measures (G/7167/L4/3)
- d) comparison sound exposure between b) and c) to show the sound level reductions due to the proposed mitigation (G/7167/L4/4).

The sound exposure plots are based on a grid of calculation points at 1 metre intervals at a height of 1.2 metres above local ground level (approximately the head height of an adult standing).

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The acoustic barrier proposals are a 2.5 metre high fence along the railway boundary, 1.8 metre high fences along the north and south boundaries and between plots and 3 metre high screens around garden areas extending out from each house.

The screens are envisaged as comprising a 1 metre high brick wall with 2 metre glass or perspex transparent panels above.

In the existing without development case, the sound exposure in the garden is generally in the range 65 to 69 dB  $L_{Aeq}$ .

With development but not including any specific sound mitigation measures, it may be seen that the homes themselves afford significant protection to the east of the houses including the existing property and garden adjacent to the eastern site boundary.

The inclusion of the proposed barrier, fences and screens reduces the sound exposure in the areas close to the houses to around 55 dB  $L_{Aeq}$  and generally in the gardens to around 63 to 66 dB  $L_{Aeq}$ .

In the screened garden areas, sound levels are reduced by around 8 to 15 dB. Sound levels in other parts of the gardens towards the railway are reduced by around 2 to 10 dB.

Reductions of 5 to 9 dB are subjectively perceived as up to a halving in loudness (on average) and typically described as significant. Reductions of 10 to 15 dB may be described subjectively as substantial. Reductions of 3 to 4 dB would generally be described as noticeable.

The proposed barrier, fences and screens package can be seen to provide local areas close to the houses with sound exposure substantially reduced to guideline levels and a significant reduction in other parts of the gardens.

The development itself affords significant additional protection to existing properties and gardens to the east.

Yours sincerely

*DL Watts*

David Watts

Enc.

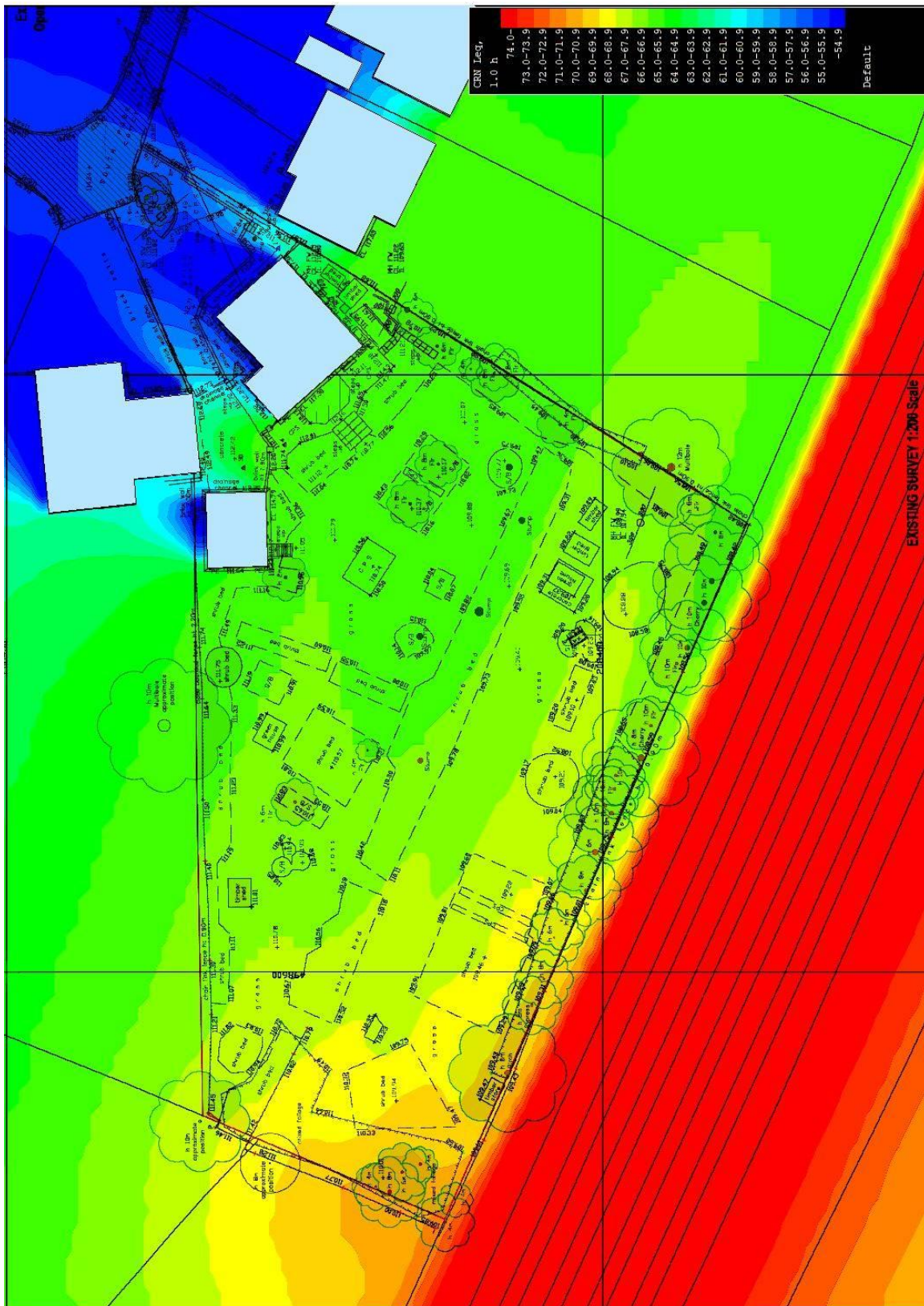
Date FEBRUARY 2020

No. G/7167/L4/1

Client Mr J Fullagar

### 57 South Park Gardens

Daytime Sound Exposure, Development Site as Existing

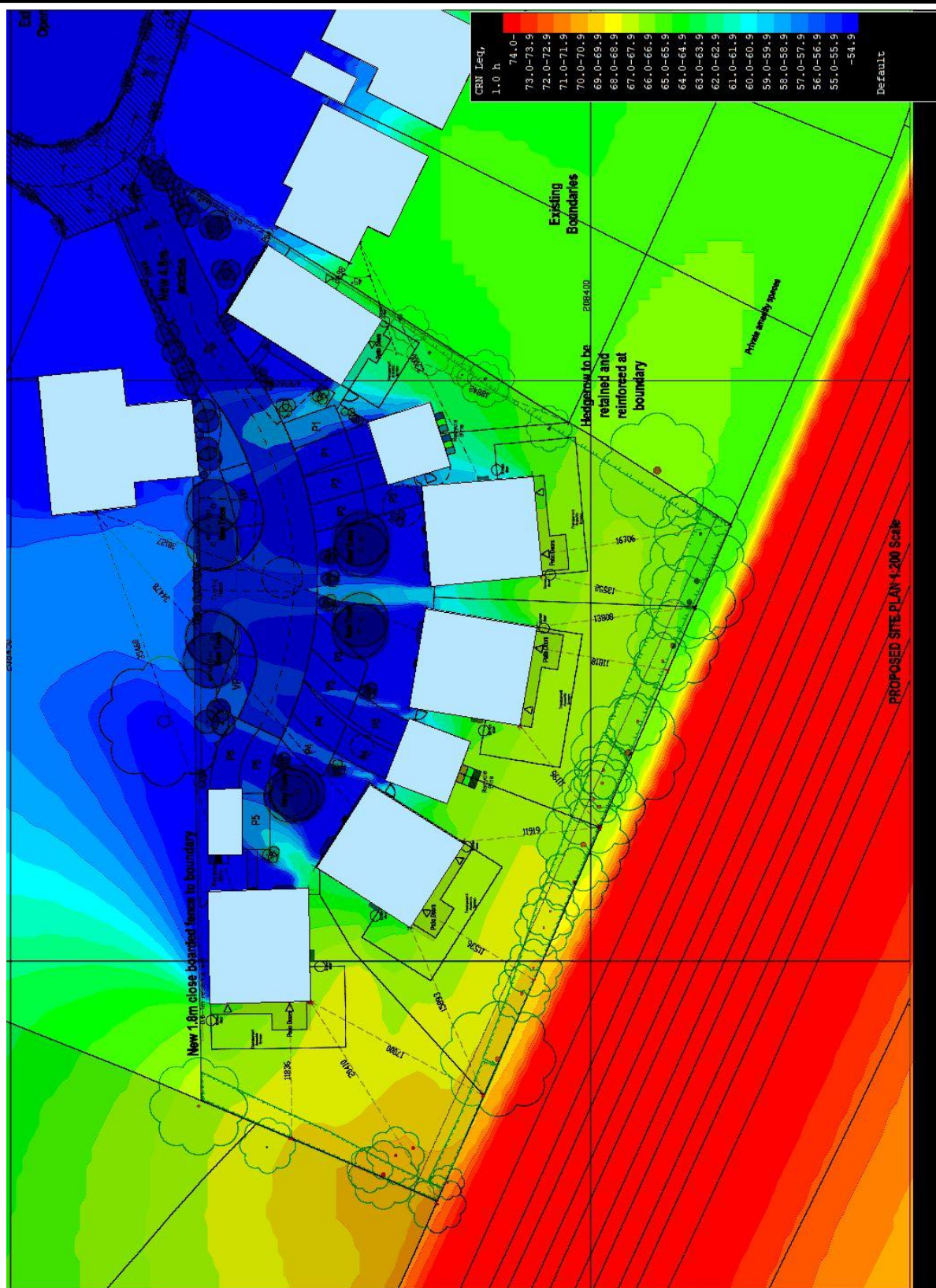




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### 57 South Park Gardens

Daytime Sound Exposure, Development Site as Proposed without Sound Barriers

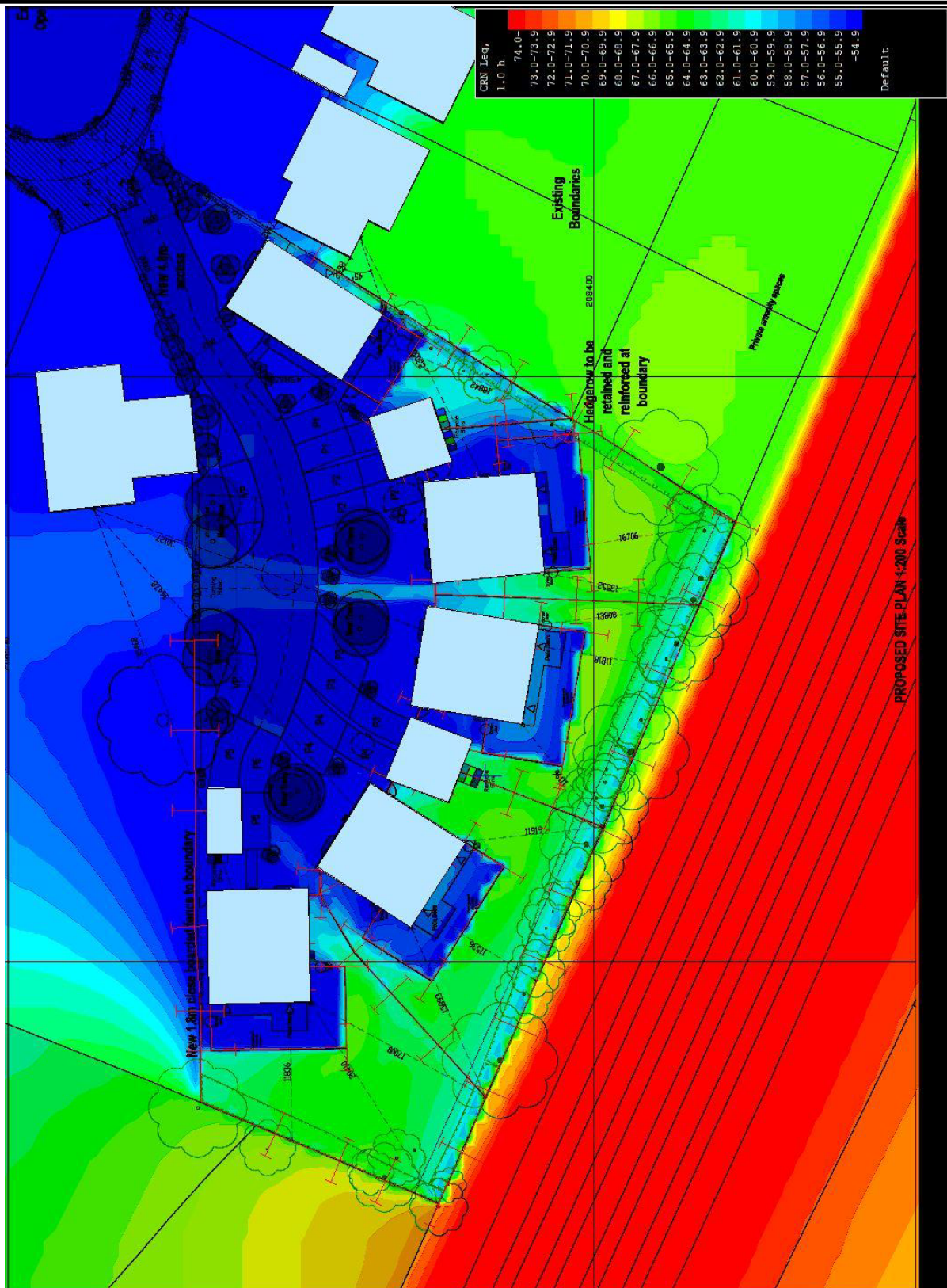




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57 South Park Gardens

Daytime Sound Exposure, Development Site as Proposed with Sound Barriers



Client Mr J Fullagar

### 57 South Park Gardens

Reduction in Sound Level with Sound Barriers compared with No Mitigation

