

Eastleigh Railway Depot: Plot 320

Noise Mitigation and Management Plan – Condition 24

Report 2060393-RSK-RP-001-(01)

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1 Introduction

1.1 Overview

RSK Acoustics Ltd (RSKA) has been instructed by Savills, on behalf of Diageo Pension Trust Limited, to prepare a Noise Mitigation and Management Plan to discharge planning condition 24 relating to the proposed operational use of Plot 320 within the Eastleigh Rail Works site, Campbell Road, Eastleigh (SO50 5AD). The requirement is associated with the granted planning permission (Application No. F/20/87841).

Condition 24 states:

“Prior to each phase of the development within Area 2 being brought into use, a noise mitigation and management plan covering that phase shall be submitted to and approved in writing by the local planning authority. The plan shall include details of the ongoing noise management and monitoring of the site, including proposed mitigation measures to minimise the impacts on the amenity of neighbouring residents. The development shall then accord with the approved plan.”

A noise report with ref. 297519-06(04) was submitted in 2019 to support the application detailing the prevailing baseline conditions at the site, assessing the impacts from the proposals on existing sensitive receptors and detailing the positioning of an acoustic barrier along the southern boundary of the site.

1.2 Report Aims

This report aims to:

- Describe the activities operating at Plot 320;
- Detail appropriate noise control measures, by incorporating:
 - appropriate noise management; and
 - a complaint handling system.
- Recommend suitable best practicable means (BPM) and mitigation measures (where required), to reduce the potential for disturbance at local residential receptors.



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2 Activity Details

2.1 Site Location

Plot 320 (open plot) is situated within the south-eastern portion of the Eastleigh Railway Depot industrial area, Eastleigh, Hampshire.

The plot is bounded to the north and east by rail tracks used for train maintenance purposes within the wider site and adjacent to the South West Main Line; to the west, by an internal access road which also gives access to outdoor plots 310 and 315. Along its extension to the south, the plot faces a row of residential dwellings on 137 – 175 Campbell Road situated approximately at 30 metres from the plot's boundary.

A large, grassed area extends beyond the east boundary of the site with further open land to the south of Campbell Road properties, which denotes the beginning of Southampton Airport.



Figure 1 Site location plan (extracted and edited from drawing 'Proposed Master Plan' no. 004, rev. P16 issued by MH Architects)



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2.2 Proposed Operations

The only activity at the site will be restricted to car storage with no public access.

During a typical working day, the vast majority of cars would be self-driven when delivered to and taken from the site thus frequent car movements are expected throughout opening hours. The movement of HGV transporters is expected to be minimal.

A small portable office cabin will be installed and manned during working hours. Fixed or mobile plant items are not proposed to operate within the site. Based on the above, noise from vehicle movements at low speeds is deemed as being the primary noise source operating at the site.

In addition, the site is expected to accommodate four 40-foot containers dedicated to long-term storage only; noise sources are therefore not associated with this item.

2.3 Working Hours

Proposed hours of operation are 08:00 – 18:00 Monday to Friday and 09:00 – 13:00 on Saturday.



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3 Sensitive Receptors

This section identifies the existing noise and vibration sensitive receptors within close proximity to the activity boundaries. These are situated along Campbell Road, with house numbers 137 to 175 facing Plot 320.

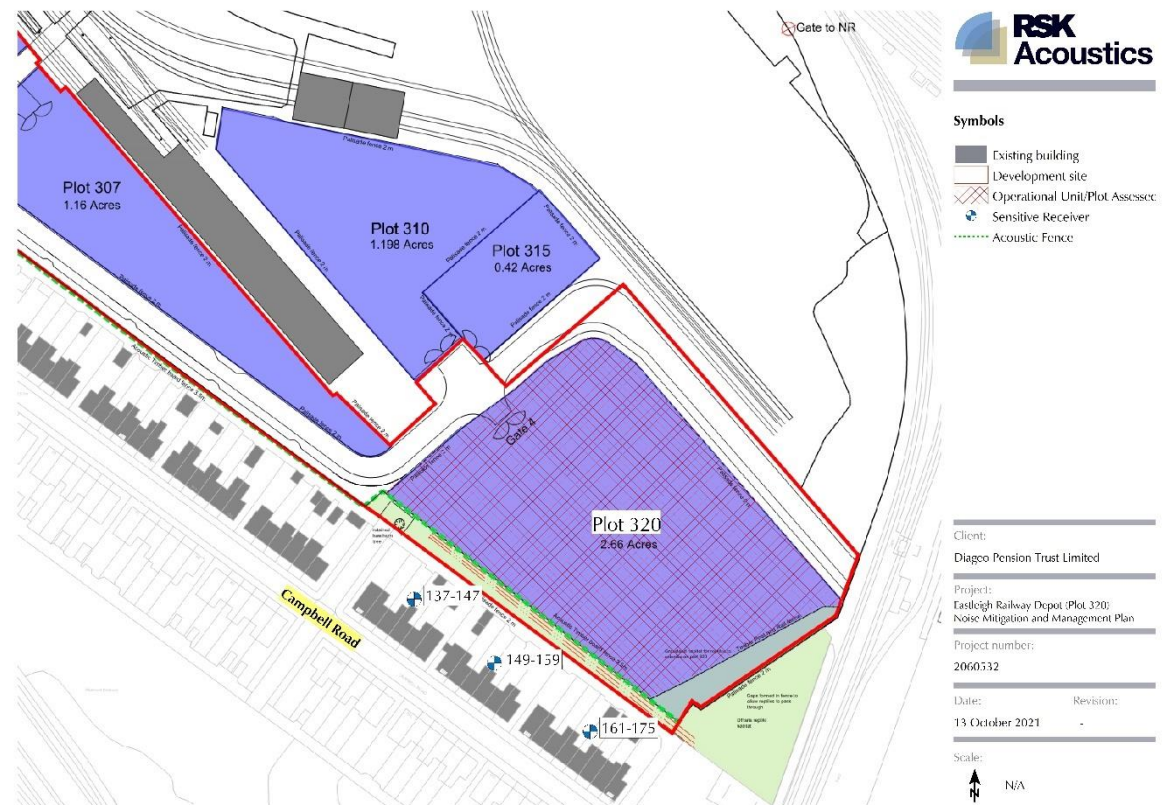


Figure 2 Sensitive receptors



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4 Noise Mitigation and Management Measures

4.1 Best Practicable Means (BPM)

The requirement to use Best Practicable Means (BPM) to mitigate the effects of noise is set out in section 72 of the Control of Pollution Act 1974 and section 79 of the Environmental Protection Act 1990. Best Practicable Means incorporates two essential elements:

- Practicable – this is defined as reasonably practicable having regard, among other things, to local conditions and circumstances; the current state of technical knowledge; and to financial implications; and
- Means – these are the means to be employed, including design, installation, maintenance, manner and periods of operation of plant and machinery; and the design, construction and maintenance of buildings and structures.

The tenant will, in so far as is reasonably practicable, control and limit noise levels so that residential properties and other sensitive receptors are protected from excessive noise from the site. Best Practicable Means (BPMs) shall be employed at all times during the operation of the site. This includes:

- At all times other than in exceptional circumstances, noisy plant or processes with the potential to generate noise or vibration will be situated away from sensitive receptors;
- Vehicles in intermittent use (i.e. idling vehicles) will be encouraged to be shut down;
- At all times other than in exceptional circumstances, the noise from reversing alarms will be controlled or limited without compromising the safety of site personnel;
- The site layout will be designed to minimise reversing;
- All employees shall be provided with an appropriate induction and ongoing briefings regarding the management of environmental noise. This will involve emphasising the need for employees to show consideration to the sensitive receptors, including residential neighbours. They will be briefed on not generating unnecessary noise when on site or when leaving and arriving.

4.2 Mitigation Measures

The following mitigation measures shall be adopted for the operation of Plot 320. It should also be noted that the measures outlined below are pertinent to the mitigation of noise within the wider site and also incorporate a number of other relevant planning conditions.

Acoustic Barrier

An acoustics boundary barrier, positioned adjacent the south-west boundary of the site facing Campbell Road and blocking the line of sight from site activities, will be incorporated into the design (as per planning condition 23). The barrier will have an effective height of 3.5 metres



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running from the site access (between Plot 300 and 303) and reducing to 2 metres height adjacent to 139 Campbell Road along the length of Plot 320.

The specification of a timber fence will include;

- A superficial timber mass of at least 15 kg/m²;
- Avoid using timbers that show signs of warping, knot holes or any visible damage that could affect the sound transmission;
- An absorptive layer, covered with a protective membrane is recommended on the inner side of the barrier to reduce reflected sound to existing closest receptors;
- For a longer life, a lower maintenance solution with potentially more acceptable visual impact other materials could be considered providing they have the same surface density, effective height and an absorbent side facing the noise source;
- The barrier is recommended to have a board timber thickness of at least 25 mm, fixed to timber rails and connected to galvanised steel posts or similar. This ensures that no gaps occur which sound could pass through; therefore, maximising performance.

The fencing plan is graphically presented in Appendix 1.

Tenant specific

- Operating hours, including delivery times will adhere to the consented hours (as per planning conditions 6 and 7), with local residents being notified of any changes to the operating hours of the site. No activities will take place on Plot 320 between 20:00 – 07:00 Monday to Saturday and at no time on Sundays or Public Holidays.
- Activities associated with Plot 320 shall operate with the permitted uses (as per planning condition 4);
- Adherence to site specific rules such as speed limits within internal roads;
- No fixed plant or machinery shall be installed or operated within the plot unless first approved in writing by the local planning authority (planning condition 27).

4.3 Neighbour Notification

Occupiers of nearby properties shall be informed in advance of any exceptional out of hour works where relevant, including the duration and likely impacts. Neighbours will be informed of:



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- The start date;
- The duration and nature of the works;
- Possible impacts; and
- Details of contact names and numbers of appropriate site personnel.

4.4 Complaints Handling

Any external complaint being received in regard to noise or vibration disturbance will be logged and immediately investigated by the tenant. Where necessary, temporary actions will be taken in order to reduce noise levels until further assessment can be carried out. The investigation will look at BPM and the operational methodology used at the time of complaint.

Details from the complaint and all activities undertaken on site will be recorded and remedial actions taken where necessary. Any operational procedures affected by the re-assessment of impacts following the complaint investigation will be reviewed.

 End of Section



Appendix 2: Glossary of Acoustic Terms

Frequency Weighting Networks:

Frequency weighting networks, which are generally built into sound level meters, attenuate the signal at some frequencies and amplify it at others. The A-weighting network approximately corresponds to human frequency response to sound. Sound levels measured with the A-weighting network are expressed in dB(A). Other weighting networks also exist, such as C-weighting which is nearly linear (i.e. unweighted) and other more specialised weighting networks. Variables such as L_p and L_{eq} that can be measured using such weightings are expressed as L_{pA} / L_{pC} , L_{Aeq} / L_{Ceq} etc.

L_p – Sound Pressure Level

The basic unit of sound measurement is the sound pressure level, which is measured on a logarithmic scale and expressed in decibels (dB). The logarithmic scale makes it easier to manage the large range of audible sound pressures, and also more closely represents the way the human ear responds to differences in sound pressure:

$$L_p = 20 \log_{10} (p/p_0)$$

where p = RMS (root mean square) sound pressure; and
 p_0 = reference sound pressure 2×10^{-5} Pa.

L_{Aeq} – A-weighted Equivalent Continuous Sound Pressure Level

Sound levels tend to fluctuate, and as such an ‘instantaneous’ measurement like sound pressure level cannot fully describe many real-world situations. A summation can be made of the measured sound energy over a certain period, and a notional steady level can be calculated which would contain the same total energy as the fluctuating sound. This notional level is termed the equivalent continuous sound level L_{eq} . L_{eq} can be determined over any time period, which is indicated as $L_{eq,T}$ where T is the time period (e.g. $L_{eq,24h}$).

In mathematical terms, for n discrete sound level measurements, L_{eq} is given by:

$$L_{eq,T} = 10 \log_{10} (t_1 \times 10^{L_1/10} + t_2 \times 10^{L_2/10} + \dots t_n \times 10^{L_n/10})/T$$

where t_1 = time at level L_1 dB;
 t_2 = time at level L_2 dB;
and T = total time.

L_{max} – Maximum Sound Pressure Level

This is the maximum RMS sound pressure level occurring within a specified period. The time weighting is usually specified, such as in L_{Fmax} .



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L_N – Percentile or Statistical Levels

Sometimes it is useful to calculate the level which is exceeded for a certain percent of a total period. Background noise is often defined as the A-weighted sound pressure level exceeded for 90% of the specified period T , expressed $L_{A90,T}$.

L_{A,T_r} – Rating Level

Specific sound level plus any adjustment for the characteristic features of the sound.

$L_s = L_{Aeq,T_r}$ – Specific Sound Level

Equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r

Time Weighting

Sound level meters use various averaging times for the measurement of RMS sound pressure level. The most-commonly used are fast (F - 0.125s averaging time), slow (S - 1s averaging time) and impulse (I - 0.035s averaging time). Variables that are measures with time weightings are expressed as L_{AFmax} etc.

■ End of Section

