

Planning and Development Board

8 April 2019

SUPPLEMENTARY REPORT

PAP/2018/0744

Land South of Junction 10, Trinity Road, Dordon

Approval of reserved matters for appearance, landscaping and scale relating to “Phase 2 Unit 4” of development addressing land east of Trinity Road

for St Modwen Development’s Ltd

Introduction

This application is included on the Board’s agenda for the 8th April.

The report and the recommendation refer to additional work that was to be undertaken by the applicant. The report refers to there being an update to be provided at the meeting.

The applicant has completed the additional work and thus it is considered appropriate to have that circulated to the Board prior to the meeting and thus this supplementary report has been provided for Members. Copies will be made available at the meeting.

Matters Arising

The key issue that was outstanding was the undertaking given by the applicant at the meeting on 22 March, to carry out a noise “test” to demonstrate that HGV reversing alarms would not be audible at Freasley. That test has now been completed and the resultant report is attached at Appendix A.

The test involved the placing of an HGV at a point within the proposed service yard closest to Freasley. The headline result was that the alarm became inaudible beyond a distance of 125 metres. Freasley is over 400 metres distant. The test did not allow for any of the proposed mitigation measures – the acoustic fence, the mounding and the landscaping. As a consequence the applicant considers that there would be no adverse noise impact arising from the proposals. Members will be aware from the previous report that the Environmental Health Officer had no objection to the proposed layout with the noise assessments included within the original application. This latest “test” confirms that response.

In respect of the other matters then:

- The applicant has agreed to an acoustic fence being added to the southern boundary of the service yard.
- Additional planting will be provided at the “pinch point” referred to in the previous report.
- The applicant has confirmed that the estate will be retained and managed by St Modwen. This can provide added controls to estate management. These measures would include the

installation of yellow lines; the engagement of a traffic control enforcement company and a security company together with the installation of CCTV cameras.

This application is just for one Unit on phase two and thus it would be unreasonable to condition the submission of an estate wide management plan at this stage. However it would be possible to condition a site management operations plan for this unit and it is suggested that this is the case.

- Given the results of the noise “test” the applicant considers that any condition restricting the use of the site by vehicles with refrigeration units would not be reasonable. They do however accept a condition requiring there to be no refrigeration plant or equipment to be installed at the site without Local Authority approval.

Recommendation

That planning permission be granted as set out in Appendix A together with additional conditions and amended plans as outlined in the reports now referred to the Board

Background Papers

Applicant email 29/3/19

Applicant email 1/4/19

Tamworth East Phase 2a (Unit 4). Reversing Beeper Assessment, March 2019.

Introduction

Following submission of the noise impact report reference 'REP-1005500-05-AM-20180924-Noise Impact Assessment-Rev 2' dated 27th November 2019, concern has been raised by the Members of the council regarding the potential noise impact of reversing beepers on the nearest residential dwellings located at Freasley to the south west, set at a distance of approximately 400 metres from the centre of the service yard.

The submitted report includes a desktop assessment of the reversing beepers, conducted in accordance with BS4142, which indicates that the noise impact from reversing beepers will be 'low'. In addition, the report considers a worst-case scenario, stating that, *'the calculated levels do not include for the screening effect of the landscape treatments or for molecular absorption at the principal alarm frequencies. After allowance for these factors, it is expected that alarm noise incident at the dwellings would be at least 10dB lower than the values given in the calculation'*.

Furthermore, the predicted noise levels have been assessed against the guidance of BS8233 and states that *'noise associated with HGV movement, section 7 indicates that immission levels at the nearest dwellings would be below L_{Aeq} 25dB for vehicle movement and below L_{Aeq} 20dB for reversing alarms. These levels would enable the BS 8233 requirements for gardens to be achieved and also the internal requirements when windows are open'*.

It is understood that the Members have asked for reassurance on the matter with additional information on the following:

- a) a layman's guide to reversing alarms and the type of noise they produce
- b) conduct and report on a basic experiment to show that reversing alarms will not be heard at Freasley.

Information on both sections is attached below.

Guide to Reversing Alarms.

Reversing alarms are designed to prevent accidents in the workplace and are usually set to automatically sound when a vehicle engages their reverse gear. On the basis that these alarms only operate during these times, noise from these alarms are not normally longer than a few seconds in duration.

There are two types of HGV reversing alarm in common use – the traditional 'tonal' (beeper) and the increasingly common 'white noise' variety.

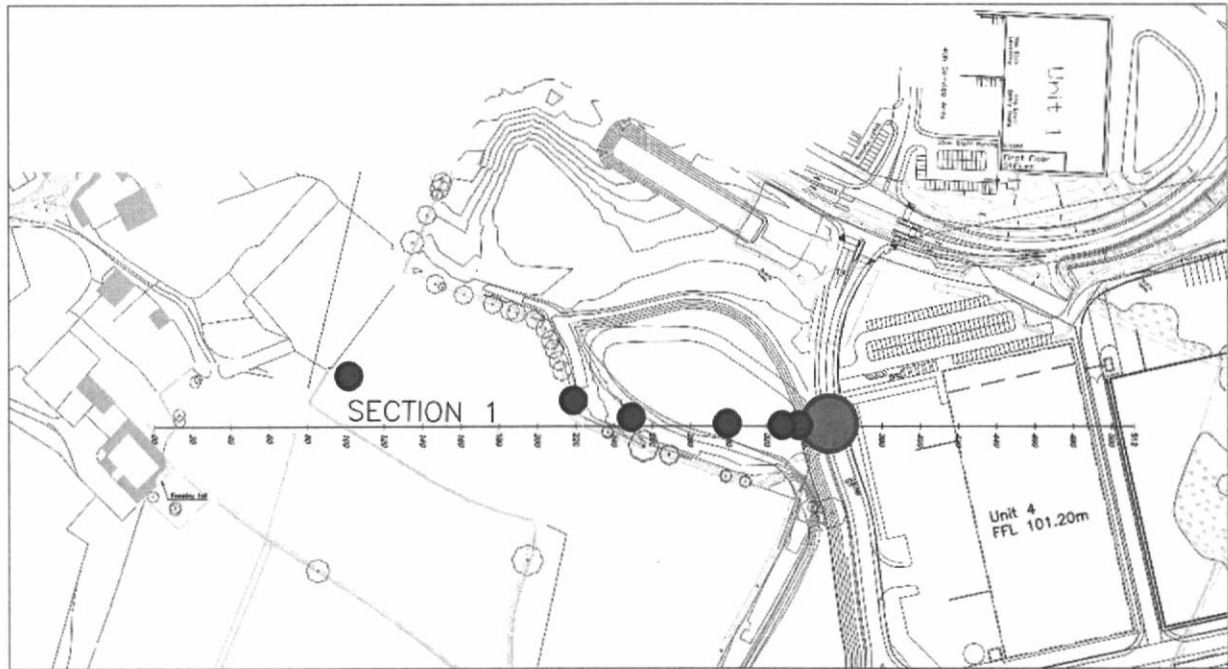
The white noise type of reversing alarm produces a broadband noise output (equivalent energy at all frequencies) by generating random noise that sounds like a detuned FM radio. These types of alarms are favoured for their ability to be less noticeable at distance from the source, unlike the traditional beeper which have a dominant tone at a set frequency.

Manufacturer's data indicates that, for tonal alarms, the most common produce a noise level of 88 to 90dB at a distance of 1 metre. In the case of white noise alarms, these normally produce a noise level in the order of 94dB at a distance of 1 metre. In both instances, these alarms are designed to be highly directional in order that highest levels of noise are at the rear of the vehicle (facing towards the direction of travel), with lower levels of noise to the side and front of the vehicle.

On-site Reversing Beeper Testing (March 2019).

Hoare Lea Acoustics attended the Tamworth East Phase 2 site on the afternoon of Tuesday 27th March 2019. For the purposes of the exercise, a road rolling vehicle with an on-board reversing beeper (white noise) had been provided and was positioned in the proposed western corner of the Unit 4 service yard, a position

deemed to be closest to the Freasley residential dwellings (indicated in PURPLE below). This position was confirmed through the use of GPS coordinates in conjunction with on-site markers dictating the extent of the Unit 4 service yard. The vehicle was orientated so that the rear of the vehicle was facing towards the residential dwellings and the reversing beeper was set to run continuously for the duration of the test. This particular beeper had an on/off cycle of approximately 0.8 seconds and with the reversing beeper unit located approximately 1 metre from the rear of the vehicle.



Noise measurements were then recorded at a series of distances from the rear of the vehicle using either a tape measure (1 metre to 10 metres) and GPS coordinates (10 metres to 250 metres) with notes at each position to indicate the relative level of noise in relation to that of general traffic noise in the local vicinity. (Indicated in RED above).

Weather conditions over the survey period were dry with a temperature approximately 11 degrees Celsius. Wind speeds over the course of the survey were sufficiently low for environmental noise monitoring - less than 5m/s at all times.

All measurements were made with calibrated, precision grade sound level meters in accordance with BS EN 60651 and BS 7445:1993. Details of the equipment used are provided in Appendix 3 – List of Measurement Equipment. All equipment was calibration-checked before and after the survey with no significant drift observed.

Although there were site levelling works occurring at the development site, these were turned off for the duration of the test.

A summary of these measured noise levels is shown in the table below.

Measurement Position	Distance from Rear of Vehicle	L _{Aeq} , dB	Notes
A	1 metre	93.5	Reversing beeper dominant noise source
B	10 metres	81.4	Reversing beeper dominant noise source
C	30 metres	69.8	Reversing beeper dominant noise source
D	50 metres	63.1	Reversing beeper similar to that of traffic noise
E	100 metres	62.7	Reversing beeper below that of traffic noise

Measurement Position	Distance from Rear of Vehicle	L _{Aeq} , dB	Notes
F	125 metres	62.2	Limit of inaudibility – barely audible unless strain to hear
G	250 metres	61.7	Reversing beeper inaudible

The series of measurements indicated that overall noise level of the reversing beeper, though dominant up to a distance of approximately 30 metres, was similar to that of that of the general traffic noise at a distance of approximately 50 metres, and was considered inaudible beyond a distance of 125 metres. The data above indicates that there is a sharp reduction in noise level between 1 metre and 50 metres, with only a marginal reduction in noise at distances beyond this point, as a direct result of existing road traffic noise.

Beyond a distance of 125 metres, noise from the reversing beeper was considered to be inaudible as it was significantly below the level of general traffic noise. Given that there is an additional 200 metres from this point to the nearest residential dwelling, this is a positive indication that noise from reversing beepers will not impact upon the nearest residential dwellings.

Frequency Analysis.

Whilst the reversing beeper was considered to produce white noise, analysis of the recorded data indicated a reasonably strong tone at ~3.1kHz. Given that general traffic noise is normally mid-frequency (500Hz – 2kHz), further analysis of the measured noise levels, concentrating on the 3.15kHz 1/3rd octave band was deemed to be appropriate.

When a sound source radiates into the atmosphere, the sound pressure level experienced at any given location will reduce as the measurement located moves away from the source, and the distance between the two increases.

Where the noise source is considered to be small, such as a reversing beeper, the calculated noise level at a set distance can be calculated using the following standard calculation:

$$\text{Receiver noise level} = \text{Reference noise level} - (20 \times \log (r2 / r1))$$

Where:

r2 is the receiver distance from the noise source

r1 is the reference distance from the noise source

In this instance, the reference noise level was set back 1 metre from the rear of the vehicle, a position 2 metres from the reversing beeper. On this basis a comparison between the calculated noise level and the measured noise level is as follows:

Distance from Rear of Vehicle	Measured L _{eq,3.15kHz} dB	Calculated L _{eq,3.15kHz} dB	Difference, dB
1 metre	80.5	-	-
10 metres	69.1	66.5	+2.6
30 metres	55.9	57.0	-1.1
50 metres	50.7	52.6	-1.9
100 metres	38.7	46.5	-7.9
125 metres	38.7	44.6	-6.2
250 metres	31.7	38.6	-6.9

The table above indicates that in close proximity (<10 metres) the reversing beeper is slightly higher than that predicted by calculation alone. Beyond a distance of 10 metres, the measured noise level dropped significantly below the predicted level. This is anticipated in the report as molecular absorption at the principal alarm frequencies – however, this expected reduction in noise has not been relied upon in the original assessment.

Furthermore, the original assessment did not consider the effect of the proposed landscape treatment including earth mounding approximately 3m above the level of the service yard which will screen the business park from dwellings to the south at Freasley. These additional factors, in conjunction with the attended on-site investigations which deemed noise from reversing beepers at a distance beyond 125 metres inaudible, is a positive indication that noise from reversing beepers within the service yard will not negatively impact upon the nearest residential dwellings.