NOISE MANAGEMENT PLAN

Site:	Fox Corner Quarry
References:	51-803-R2
Date:	24 November 2025
Client:	D. B. Standing & Son Limtied

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QUALITY ASSURANCE

Report references	51-803-R2

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02		

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EXECUTIVE SUMMARY

Site Address	Fox Corner Quarry, Woburn Road, Health and Reach LU7 0BA
Grid Reference	E 492754, N 229189
Proposed Development	Recycling Operation for Environmental Permit (EP) application for the storage (keeping) prior to removal, and treatment (all types of handling/processing) of waste.
Background	A Noise Impact Assessment was produced by E3P dated 7th November 2025 (51-803-R1-2) to assess the potential impact of noise upon noise-sensitive receptors. Mitigation measures were recommended in the NIA and are discussed in detail here.
Who is this plan for	This Noise Management Plan should be reviewed by the operator and staff of the site and any associated contractors who visit or operate at the site.

CONTENTS

1. INTRODUCTION

1.1. DESCRIPTION OF WORKS

The EP is required for the proposed recycling operations involving the storage (keeping) prior to removal, and treatment (all types of handling/processing) of waste. Proposed processes which can be carried out on site will include the following:

- Compacting (by loading shovel/360° excavator).
- Movement of and Sorting of Material (with loading shovel/360° excavator).
- Screening (by using appropriate mechanical screening plant and equipment).
- Separation (by using appropriate mechanical screening plant and equipment).
- Crushing (by Crusher).
- Blending (by loading shovel / 360° tracked excavator and trommel).

The waste site will typically be open during the following hours for all waste operations, i.e. depositing, sorting, moving, storing and removing waste:

- Monday to Friday - 07:00 – 18:00.
- Saturday - 07:00 – 13:00.
- Sundays, Bank/Public holidays - Closed.

However, it is understood that Saturday operations will primarily comprise maintenance and housekeeping and therefore, noise levels are likely to considerably below that of the weekday operations. As such, only weekdays will be assessed.

1.2. MAINTENANCE AND REVIEW OF THE NMP

The site manager or equivalent is responsible for the NMP and ensuring people are trained, where relevant. This NMP should be stored digitally and available to whomever requires access with a physical copy kept in the site office.

The plan should be reviewed annually or following any changes to plant and/or operations. No training is required for the review or implementation of the plan.

The site manager, or equivalent , should be responsible for the maintaining of records of complaints and associated investigations due to noise on site.

Where complaints are received, the site manager should undertake or employ a suitable consultant to carry out noise monitoring.

2. GUIDANCE

2.1. ENVIRONMENT AGENCY (2022) NOISE AND VIBRATION MANAGEMENT: ENVIRONMENTAL PERMITS

Environmental permits have conditions that require operators to control pollution – this includes controlling noise and vibration. E3P note that the following are required competencies and standards required in relation to Noise Assessments submitted as part of an Environmental Permit Application:

Noise impact assessments should be carried out to an appropriate standard and by competent personnel, for example, holders of either an Institute of Acoustics:

Diploma in Acoustics and Noise Control

Certificate of Competence in Environmental Noise Measurement, with relevant experience

Monitoring noise in the environment is a specialist field. Monitoring should be carried out by a qualified acoustician who can demonstrate competency in environmental work rather than, for example, occupational health and safety work.

You must use 'BS 4142: Methods for rating and assessing industrial and commercial sound' to quantify the level of environmental noise impact from industrial processes.

In rare circumstances, other methods may also be appropriate, for example, NANR45 for assessing existing low frequency sound inside a residential property.

If you want to assess impact using another method, you should discuss and agree this with your regulator before you start the assessment.

Where vibration is an issue, you should contact your regulator for specific advice.

E3P note from the above and the guidance that the EA require a BS 4142 assessment to be conducted.

2.2. BRITISH STANDARD BS 4142:2014+A1: 2019 – METHODS FOR RATING AND ASSESSING INDUSTRIAL AND COMMERCIAL SOUND

This standard describes methods for rating and assessing sound of an industrial or commercial nature which includes:

- Sound from industrial and manufacturing processes.
- Sound from fixed installations which comprise mechanical and electrical plant and equipment.
- Sound from the loading and unloading of goods and materials at industrial and / or commercial premises; and
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from processes or premises, such as that from forklift trucks, or that from train or ship movements on or around an industrial or commercial Site.

The procedure detailed in the standard compares the measured or predicted specific noise level from any of the above with the background sound level at a residential dwelling. The measured background sound level at a receptor should be reliable and should not necessarily ascertain a lowest measured background sound level, but rather to quantify what is typical.

The specific noise level also acknowledges the reference time intervals depending upon whether the noise source operates during daytime (1-hour) or night-time (15-minute) periods.

There are several 'penalties' which can be attributed to the specific sound level depending upon the 'acoustic features' of the sound level under investigation as follows:

TONALITY

- +2 dB: where the tonality is just perceptible.
- +4 dB: where the tonality is clearly perceptible; and
- +6 dB: where the tonality is highly perceptible.

IMPULSIVITY

- +3 dB: where the impulsivity is just perceptible.
- +6 dB: where the impulsivity is clearly perceptible; and
- +9 dB: where the impulsivity is highly perceptible.

INTERMITTENCY

- +3dB: where the intermittency is readily distinctive against the acoustic environment.

In addition to the above, there is a penalty for 'other sound characteristics' of +3 dB where a sound exhibits characteristics that are neither tonal nor impulsive, though are readily distinctive against the acoustic environment. BS 4142 goes on to state that the rating level is equal to the specific sound level if there are no such features present or expected to be present.

Assessment of the rating level relative to the background sound level can yield the following commentary:

- Typically, the greater this difference (between the rating level and the background sound level), the greater the magnitude of impact.
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact.

3. RECEPTORS

3.1. RECEPTOR LIST

Table 3.1 details the list of receptors considered in the assessment.

Table 3.1 Receptor List

RECEPTOR REFERENCE	LAND USE	DIRECTION FROM SITE	APPROXIMATE DISTANCE TO SITE BOUNDARY (m)
1 Brickhill Road	Residential	West	180
8 to 20B Brickhill Road		Southwest	185
Heath & Reach Veterinary Surgery	Commercial	Southwest	300

Figure 1 Receptor Locations

4. NOISE SOURCES AND PROCESSES

4.1. NOISE IMPACT ASSESSMENT (NIA) CONCLUSION

The BS 4142 assessment determined that the predicted rating levels would exceed the background sound level at all receptors during the existing and proposed scenarios with no change between the two as a result of the proposed change.

In order to determine the final outcome of the assessment, the context must be considered, in accordance with BS 4142:2014+A1:2019, Section 11. The factors to be considered are discussed below:

4.1.1. BASELINE CONDITIONS

It is noted from the previous NIA that uncertainty in the assessment was controlled via the following precautions/procedures:

- Both the sound level meter and calibrator have a traceable laboratory calibration and the meter was field-calibrated both before and after the measurements.
- The measurement location is considered representative of the existing noise climate outside the nearest residential dwellings to the proposed development.
- Background monitoring was undertaken during favourable weather conditions (e.g. dry and under 5m/s wind speed)

4.1.2. THE ABSOLUTE LEVEL OF THE SOUND

The worst case absolute noise level at the façade of the most affected receptor is 50 dB $L_{Aeq,1hr}$. Assuming 10 dB for attenuation provided by an open window, this would result in the internal noise level exceeding the daytime resting criterion of 35 dB, by up to 5 dB.

As such, this does not change the outcome of the assessments. Indeed, this reinforces the significant adverse effect due to existing operations and further supports the low impact due to the proposed permit operations.

4.1.3. THE CHARACTER AND LEVEL OF THE SOUND

E3P noted that road traffic along Woburn Road to the southwest of the site was audible and was observed to be relatively constant and contain a significant portion of HGVs, many of which were assumed to be associated with quarries/waste uses within the surrounding area.

As such, sources of an industrial nature exist but operations on site include intermittent and impulsive sounds that are not existent elsewhere in the vicinity.

Accordingly, the assessment and AFC applied are considered robust and accurate.

4.1.4. THE SENSITIVITY OF THE RECEPTOR AND EXISTING DESIGN MEASURES

The receptors are residential, permanent and are therefore considered to be highly sensitive. Given that details of the existing receptors are not known, it is assumed that no design measures are incorporated, i.e. open windows relied upon. Based on the absolute noise levels at the façade, the internal noise levels would exceed BS 8233:2014 criteria during the day and lead to significant impact.

Given the contextual factors discussed above in accordance with BS 4142:2014+A1:2019, it is concluded that the existing sound sources currently have a significant adverse impact at the receptors although the introduction of the new processes as part of the permit would not worsen this situation when accounting for context.

4.2. NOISE SOURCES

Table 4.1 Description of noise emitting processes

SOURCE	MEASURED SOUND PRESSURE LEVEL, $L_{Aeq,T}$ (dB)	MEASUREMENT DISTANCE (m)	ON-TIME IN HOUR (SECONDS)	CALCUALTED SOUND POWER LEVEL, L_{WA} (dB)
Excavator loosening soil with bulldozer collecting	70.5	8.7	3600	97.3
Screener operating and loaded with bulldozer	74.5	20.7	3600	108.8
Vans loaded on weigh bridge	62.9	3.0	300	69.7
Crusher fed by excavator	80.2	10.0	3600	108.2
The Screener being fed by a small Bulldoze	81.4	10.0	3600	109.4

4.3. OVERVIEW OF NOISE PROCESSES AND EMISSIONS

The application proposes to allow recycling operations involving the storage (keeping) prior to removal, and treatment (all types of handling/processing) of waste.

It is understood that the above works and associated plant are already in place and, as such, E3P have conducted attended source measurements of all activity on site to inform this assessment.

The on-site sources of noise are to remain unchanged.

It is considered the most significant noise sources associated with the development are:

- Excavator loosening soil with bulldozer collecting.
- Screener operating and loaded with bulldozer.
- vans loaded on weigh bridge.
- Crusher fed by excavator.
- The Screener bring fed by a small Bulldozer.

5. CONTROL MEASURES AND PROCESSES AND EMISSIONS

5.1. APPROPRIATE MEASURES/BEST AVAILABLE TECHNIQUES (BAT)

Table 5.1 Actions and procedures which will be in place to achieve appropriate measures/BAT

ACTIVITY	OPERATIONAL HOURS/DAYS	CONTROL MEASURES (APPROPRIATE MEASURES/BAT)	CONTRIBUTION TO OVERALL IMPACT	ACTION TAKEN IF OUTSIDE OPTIMUM PARAMETERS
Screener and crusher area	All	Install a barrier at a total of 4 m height along the south western edge of this area from the ground level where the screener and crusher is proposed at the location of the current bund. Any barrier must be solid construction, be free from holes and sealed at the base.	High	Remedial measures required to reduce noise output from screener and crusher at receptors to the south west.
	All	Daily visual inspection, yearly full mechanical inspections, trained staff using equipment. Regular toolbox sessions on standard procedures.	High	Cease operation and investigate reasons for elevated sound levels.

5.2. ONSITE MONITORING PROCEDURES

Table 5.2 Description of onsite processes which will ensure impacts do not increase on site

DESCRIPTION OF PROCEDURE	PROCEDURE	WHEN WILL THIS BE CARRIED OUT?	CORRECTIVE ACTION
Replacing old/faulty equipment	Procurement of new equipment where repair isn't possible	When equipment requires replacing	Replace equipment that have sound levels which are equivalent or lower in sound level compared to existing equipment.

DESCRIPTION OF PROCEDURE	PROCEDURE	WHEN WILL THIS BE CARRIED OUT?	CORRECTIVE ACTION
Monitor the movement and delivery of material	Ensure BAT are followed during these processes and determine whether any additional measures could be carried out	On a weekly basis.	Retraining of staff or movement of delivery areas

5.3. MONITORING OF SITE SOUND LEVELS

Figure 2 Plan showing locations of sound level measurement positions used to monitor sound from the site

Table 5.3 Description of sound monitoring procedures

MEASUREMENT LOCATION	FREQUENCY OF MEASUREMENT	MINIMUM MEASUREMENT DURATION	MEASUREMENT PERIOD	OPERATING CONDITIONS ON SITE	EXPECTED SPECIFIC SOUND LEVEL
NMP1	Every 3 Months	1 Hour	Within operational hours	Screener and crusher must be operational	37 dB
NMP2					38 dB

The following provides commentary on the procedures to follow where measured sound levels are in excess of the expected results in Table 5.3:

- The site manager should be responsible for carrying out the investigation or a similarly responsible individual.
- During the investigation it is important to attribute, where possible, where the noise emanated from. Due to existing industrial uses on site, the breach of sound pressure levels could be attributed to off-site uses. Where this is the case, a repeat of the survey should be undertaken when off-site uses are quieter or have ceased.
- The immediate steps to be taken, should on-site sources be responsible, is to cease or wind down operations until the source of the noise can be found.
- The plant/process producing excessive levels of noise should be repaired/replaced as soon as possible or where a process is found to be the issue, retraining of staff should be undertaken immediately.
- Replacement/repair of equipment should take place as soon as reasonably possible or at least before the next 3 monthly monitoring.
- In the long term, review of BAT should be undertaken to ensure that future excessive levels of noise are avoided where possible.

6. COMPLAINTS RECORDING

A site diary, plus forms to record complaints, should be completed by the Site manager and input into the IMS, or similar.

All complaints from third parties should be forwarded to the Site manager.

The Site manager should ensure that:

- The complaint is investigated to identify the cause, if necessary, this may involve direct communication with the complainant.
- In the event of elevated levels of noise being detected, the presence of 'abnormal' onsite activity is assessed and if necessary preventative action is taken that will prevent a reoccurrence of the same problem. These actions must be documented.
- The Complainant should be contacted and given information on the investigations conducted and actions taken as appropriate.
- Complaints involving a location with Local Authority Contracts will be reported in line with specific Contract requirements and timescales. Local procedures may need to be in place to ensure these are adhered to.
- If the investigation indicates that the complaint has not been justified this should be clearly recorded on the report. All complaints must be logged.

6.1. ELEVATED NOISE LEVELS

Any elevated levels of noise identified will be mitigated as follows:

- The Site manager will investigate the source of the noise and carry out a range of checks at the identified source of the elevated levels if it is found to be originating from within the site. As part of these checks, the Site manager will consider the need for further monitoring.
- Any noise monitoring will be completed in accordance with BS 4142:2014+A1:2019. Monitoring locations will be agreed with the EA prior to undertaking monitoring.
- The results of any noise monitoring will determine whether the site is causing an unacceptable impact at the receptor in question.
- The Site manager will then ensure the plant is being operated to the manufacturer's specification and ensure that any improvements required to minimise the noise levels are made.

To further mitigate the elevated levels, the following actions shall also be considered.

- The replacement of equipment identified as generating excess noise.
- Once the improvements identified by the Site manager have been completed, the manager will commission a further set of monitoring to ensure that the improvements have met the required standard. If the levels are still not being met then the manager will repeat the request for improvements and subsequent monitoring until the limits are met.

If operational failings are identified, the retraining of employees should take place to ensure that all employees operate to the required standards. If the failings are identified as part of the operating techniques, then the problem will be raised as part of the review of control measures.

The Site manager will ensure a close liaison with the EA throughout all stages of the process following an identified elevated noise.

6.2. REPORTING MEASURES

In the event of elevated levels of noise and/or vibration being identified, the event should be reported into an appropriate management system by a member of operational staff. Upon notification of an Environmental Incident, the TCM (or designated responsible person) should complete an incident reporting form. The completed form should then be distributed throughout the company for review at operational, management and health and safety meetings.

The system should record any actions taken to rectify the issue, ensure that any necessary actions or review are recorded onto the system and ensure that the person reporting the incident is notified.

The Site manager will investigate the performance failure event within 2 hours and, if necessary, will report the event to the EA. Once the issue has been resolved, the corrective action taken will be entered onto the system and the issue should be closed.

END OF REPORT

Appendix I: Limitations

GENERAL

1. This report and any associated works (together comprising the "Services") were compiled and carried out by E3P for the client (as present in Section 1) under the E3P “Terms of Business” or with those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

2. Unless explicitly agreed otherwise, in writing, this report has been prepared under E3P Standard Terms and Business as included within our proposal to the Client.

3. Project-specific appointment documents may be agreed upon at our discretion and a charge may be levied for both the time to review and finalise appointment documents and also for associated changes to the appointment terms. E3P reserves the right to amend the fee should any changes to the appointment terms create an increased risk to E3P.

4. The report needs to be considered in light of the proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

NOISE AND VIBRATION IMPACT ASSESSMENTS

5. Where a noise or vibration survey is required to inform an assessment, E3P will endeavour to ensure that all noise and vibration measurements taken are robust, representative and reliable in order to inform an accurate assessment.

6. Where mitigation measures are specified in this report, it should be noted that these measures are relative to a specific sound or vibration source, both in terms of the measured sound pressure and vibration level and the character of the sound source. Where either the sound pressure level or the character of the sound varies following completion of the sound survey, E3P cannot be held responsible for any subsequent variations in the proposed mitigation performance.

7. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walkover inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. E3P cannot be held responsible for any disclosures that are provided post-production of our report and will not automatically update our report.

8. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, E3P reserves the right to review such information and, if warranted, to modify the opinions accordingly.

9. E3P does not warrant work/data undertaken/provided by others.

Appendix II: Glossary

NOISE

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source. The most widely used weighting mechanism that best corresponds to the response of the human ear is the “A”-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or LAeq, LA90 etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective but, as a general guide, a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions. An indication of the range of sound levels commonly found in the environment is given in the following table.

Table A Typical Sound Pressure Levels

SOUND PRESSURE LEVEL	LOCATIONS/EXAMPLE
0	Threshold of hearing
20-30	Quiet bedroom at night
30-40	Living room during the day
40-50	Typical office
50-60	Inside a car
60-70	Typical high street
70-90	Inside a factory
100-110	Burglar alarm at 1 m away
110-130	Jet aircraft on take off
140	Threshold of pain

ACOUSTIC TERMINOLOGY

Table B Terminology

DESCRIPTOR	EXPLANATION
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2E-05 Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. “A” weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
LAeq, T	LAeq is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.
LAmax	LAmax is the maximum A-weighted sound pressure level recorded over the period stated. LAmax is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall Leq noise level but will still affect the noise environment. Unless described otherwise, it is measured using the “fast” sound level meter response.
L10 and L90	If a non-steady noise is to be described, it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L10 is the level exceeded for 10% of the time and as such can be regarded as the “average maximum level”. Similarly, L90 is the “average minimum level” and is often used to describe the background noise. It is common practice to use the L10 index to describe traffic noise.
Free-field Level	A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally, as measured outside and away from buildings.
Fast	A time weighting used in the root-mean-square section of a sound level meter with a 125-millisecond time constant.
Slow	A time weighting used in the root-mean-square section of a sound level meter with a 1000-millisecond time constant.
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2E-05 Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. “A” weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.