



EA Permitting Noise Management Plan

Site Address: William Beech Skip Hire, Betchton Cottage, Sandbach, CW11 2TW

Client Name: Oaktree Environmental

Project Reference No: NP-013325 (NMP)

In partnership with:



Oaktree Environmental
Waste, Planning & Environmental Consultants

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Revision	Reported By	Checked By
01	D Hagan, BSc, MIOA	T. Watkin, MSc, MIOA

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Contact Details

NOVA Acoustics Ltd,
Suite 13, Crown House,
94 Armley Road,
Leeds,
LS12 2EJ

0113 322 7977

www.novaacoustics.co.uk
technical@novaacoustics.co.uk

Delivering sustainable development by promoting good health and well-being through effective management of noise.

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1. Noise Management Plan ('NMP')

This noise management plan outlines the methods by which the site operator will systematically assess and minimise the potential impacts of noise generated by the site. The noise management plan is a working document with the specific aim to ensure that:

- Noise impact is considered as part of routine inspections.
- Noise is primarily controlled at source by good operational practices and 'Best Available Techniques' ('BAT'), including physical and management control measures.
- All appropriate measures are taken to prevent or, where that is not reasonably practical, to reduce noise emissions from the site.

The noise management plan addresses the impact of noise, and the control measures employed to mitigate the risk. These are supported through monitoring procedures to identify elevated levels and review complaints should they arise. The complaints management procedure is also addressed, which includes the management responsibilities.

Site Description & Proposals

William Beech Skip Hire is established within in a primarily countryside area, with scattered residential properties in close proximity.

William Beech Skip Hire functions as an 'non-hazardous waste physical treatment facility'. Mechanical treatment equipment includes a Terex crusher and a picking line complete with a trommel screen (housed inside the tipping shed) and a blower (located outside under a metal canopy). Mobile machinery, including HGVs and excavators, frequently move around the site to deliver and sort waste.

The variation to a bespoke permit included changes to the current operating hours, as well as an extension to the current tipping shed, the movement of the Terex crusher and the addition of a soil screener.

The following is to be include as part of the bespoke permit:

- Picking Line (used for approximately 3-hours a day).
- Terex Pegson Crusher.
- 1no. JCB 531-70 Telehandler.
- 1no. Caterpillar CAT 930K Small Wheel Loader.
- Caterpillar M318D Wheel Excavator.
- Changes to the existing hours of operation (seen in Table 1).
- A new building will be constructed directly behind the existing tipping shed to facilitate additional tipping and to house a new waste shredder.
- Moving the existing crusher to the south of the site and installing a new soil screener in a similar location.

The operating times of the site are presented in the table below.

Periods	Operating Times
Monday – Friday	07:00 – 18:00 hours
Saturday	08:00 – 13:00 hours
Sunday	No operations
Bank & Public Holidays	No operations

Table 1 – Site Operating Hours

1.1 Maintenance and Review of the NMP

- The company Director and Site Manager will be responsible for the NMP and ensuring people are trained.
- The NMP will be kept in the site office.
- The NMP will be reviewed annually, or sooner in the event of substantiated complaint related to noise.
- Training needs are defined in the site EMS. Training will be given to all relevant persons to make sure they are competent in completing noise and vibration survey forms, noise and vibration complaint report forms and the site diary to ensure sufficient monitoring of noise and vibration can be carried out and any problems addressed correctly. This will include training to all new staff and re-training via toolbox talks, as applicable.
- Records of complaints and associated investigations will be maintained by the Site Manager, or suitably trained staff member, if the site manager is not available.
- All employees and sub-contractors of William Beech Skip Hire involved with potentially noise operations will receive training in noise and vibration monitoring and complaint reporting. Training will be given to all relevant persons to make sure they are competent in completing noise and vibration survey forms, noise and vibration complaint report forms and the site diary to ensure sufficient monitoring of noise and vibration can be carried out and any problems addressed correctly.

1.2 Noise Sensitive Receptors

Shown in the following figure are the closest noise sensitive receptors ('NSR').



Figure 1 – Site Surroundings (NSRs)

The closest residential NSRs are identified in the table below.

NSR	Approx. Distance from Site Boundary	Description
NSR1	7m NW	A detached two-storey dwelling.
NSR2		A detached single-storey dwelling.
NSR3	346m E	A detached two-storey dwelling.
NSR4	285m SE	
NSR5	256m NW	A single-storey Bed & Breakfast.

Table 2 – NSR Identification

1.3 Noise Sources & Processes

NIA Conclusion

A BS4142 assessment has been undertaken of the proposed bespoke permit application (NP-013325(NIA)).

With respect to the existing permitted operations, the 'worst-case' BS4142 noise impact indicated 'significant adverse impact' which in line with the NPSE equates to noise impact above a 'Significant Observed Adverse Effect Level' ('SOAEL') at all NSRs. It was recognised that lower levels of noise impact

occur when the Terex crusher is not active, however, significant adverse effects were still predicted due to the picking line and CAT mobile plant.

An assessment of the proposed alterations to the site also indicated that 'significant adverse effects' would be present. As such, a mitigation scheme was recommended and should be fully implemented.

Provided the BAT and BPM measures are duly implemented in full, a significant reduction in noise levels at the nearest NSRs is expected.

It was acknowledged that the picking line blower insertion loss targets were necessarily speculative at this stage. The recommendation therefore represents an indicative design target intended to ensure that appropriate control of noise emissions is achievable and consistent with the requirements of BS4142 and the aims of the NPSE.

To ensure that the target can be achieved and validated, it was recommended that the operator undertake a programme of confirmatory noise assessments once detailed specification is available. This should include verification of sound power levels through manufacturer data or on-site testing, refinement of the noise model to reflect actual conditions, and validation measurements following installation to demonstrate compliance with the design criteria. Any deviations from the assumed performance should be reviewed in consultation to identify and implement additional mitigation where required, ensuring continued alignment with Environment Agency requirements.

While the mitigated scheme does not strictly avoid all "significant adverse impacts" at every receptor, it delivers a substantial reduction in noise impact, applies BAT and BPM, and aligns with the NPSE's balanced approach to sustainable development. The contextual factors—including the established nature of the site, the improvement over current conditions, the robust mitigation package, and the commitment to ongoing management—provide a justification for accepting the impact as an appropriate and proportionate outcome under the EA's permitting framework.

External Noise Sources

Description	1/1 Octave Frequency Band (Hz, Lw dB)								LWA (dB)	On- Times
	63	125	250	500	1k	2k	4k	8k		
Existing Operations (Measured on Site)										
HGV Pass-by (Highest 1-sec) ^[1]	98	95	92	94	98	93	88	80	101	[1]
CAT M318D Wheel Excavator Operating	103	107	100	98	102	102	96	83	107	25%
CAT930K Small Wheel Loader Sorting Hardcore	102	103	105	102	99	96	95	88	105	25%
Picking Line Blower	94	96	95	95	95	96	94	89	101	100%
Skip Collection (Full Cycle)	102	101	95	94	93	92	93	82	99	25%
Terex Pegson Crusher – Input	118	119	112	113	110	108	106	97	115	100%
Additional Operations for Bespoke Permit										
HGV Pass-by (Highest 1-sec) ^[3]	98	95	92	94	98	93	88	80	101	[3]
Soil Screener ^[2]	101	102	95	96	93	91	89	80	99	100%
Terex Shredder (mixed waste)	111	105	98	96	96	96	91	85	102	100%
Notes: [1] It was observed that approximately 30 – 40 HGVs enter the site per day, therefore typically 3 – 4 vehicles per hour. On this basis, the upper estimate has been used. [2] Spectrum measured by NOVA Acoustics for a similar site, sound power level based on soil screener noise levels measured by Hepworth Acoustics for the approved planning application ‘23/4563C’. [3] An additional 2no. HGV movements through the site are required to facilitate the additional waste throughput to the new tipping shed building.										

Table 3 – External Source Noise Levels & Behaviours

Existing Noise Breakout from Buildings

The sound insulation performance of the building structure is presented below along with the internal ambient noise levels measured near the centre of the tipping shed.

Description	1/1 Octave Frequency Band (Hz, dB)								Overall (dB)
	63	125	250	500	1k	2k	4k	8k	
IANL of Tipping Shed (L_{eq})	79	81	78	76	77	76	73	65	82 (A)
Sandwich Panelling (Kingspan Datasheet SRI)	20	18	20	24	20	29	39	47	25 R_w
Concrete Blockwork (INSUL SRI)	41	39	43	51	58	63	68	68	55 R_w
Open Façade Section (SRI)	0	0	0	0	0	0	0	0	0 R_w

Table 4 – Measured / Calculated Internal Noise Levels & Assumed Transmission Losses

Predicted Noise Breakout from Newly Proposed Buildings

A key modification to the site layout involved constructing an additional tipping shed adjacent to and back-to-back with the existing structure. The new shed will perform the same operational function as the current facility but will also house a new shredder. The new tipping shed will be accessed via a new opening from the current shed, thus there will be no direct openings to the new shed extension.

Based on the assumed shredder sound power levels shown in Table 3, building dimensions of 28*28*8m, and the shredder being at least 5m from any element of the external envelope, shown in the table below are the predicted internal ambient noise levels. The predicted levels of noise breakthrough from the shredder into the current shed are also presented below.

Description	1/1 Octave Frequency Band (Hz, L_{eq} dB)								Overall (dBA)
	63	125	250	500	1k	2k	4k	8k	
IANL Predicted in Extension	96	90	84	82	82	82	76	70	88
IANL Breakthrough Predicted in Current Shed	94	88	82	80	80	80	74	68	85

Table 5 – Predicted INAL within Shed Extension & Breakthrough into Current Shed

- Kingspan AWP/60 + I + P - wall upgrade along magenta elevations
- Kingspan KS1000RW – along green elevations
- KS1000 RW/80 + I + PL - Kingspan roof upgrade
- Concrete blockwork to form the lower 3m sections of the façades
- A roller shutter door that remains open along the SE elevation

The manufacturers sound reduction data is outlined in the table below.

Description	1/1 Octave Frequency Band (Hz, dB)								R _w (dB)
	63	125	250	500	1k	2k	4k	8k	
AWP/60 + I + P + W (Kingspan Datasheet SRI)	18	24	37	48	53	55	60	60	48
KS1000 RW/80 + I + PL (Kingspan Datasheet SRI)	18	19	22	29	31	40	58	49	32
Sandwich Panelling (Kingspan Datasheet SRI)	20	18	20	24	20	29	39	47	25
Concrete Blockwork (INSUL SRI)	41	39	43	51	58	63	68	68	55

Table 6 – Sound Reduction Values of Building Fabric Upgrades

In addition to the upgraded building envelope, the soffit of the roof shall be lined with a minimum of a 50mm Class A absorption product (held in place via a perforated steel liner sheet) to minimise the building-up of reverberant sound energy and control noise breakout emissions further.

The Terex crusher and soil screener shall be situated and remain at least 15m from the south-eastern elevation with the roller shutter door opening.

The figure below provides an indicative layout of the mitigation scheme.

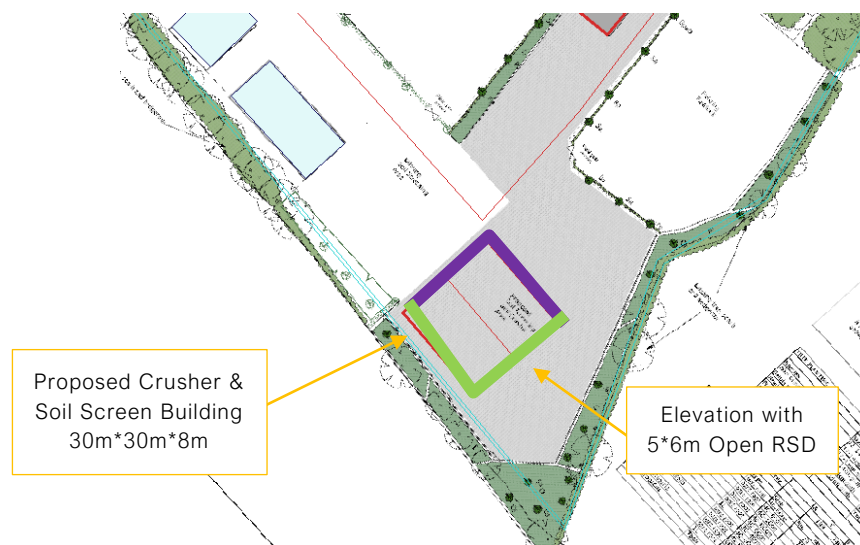


Figure 3 – Proposed Mitigation Scheme: Indicative Layout

The CAT M318D wheel excavator shall also only operate within the hardstanding to the north-west of the current tipping shed. It's working area shall remain as close as possible to the boundary concrete wall, which shall be increased to a height of at least 5m. This working position will be 'robustly' managed.

The picking line blower shall also be fitted with intake/outlet silencers and ideally, an acoustic enclosure to control noise breakout from the fan casing also. Any enclosure should be designed by a specialist, ensuring the minimum insertion loss ('IL') reductions shown in the following table are achieved.

Description	1/1 Octave Frequency Band (Hz, IL dB)							
	63	125	250	500	1k	2k	4k	8k
Min IL for Complete Picking Line Blower Silencers / Enclosure	0	1	6	13	16	24	19	3

Table 7 – Minimum Required IL for Picking Blower

1.5 Control Measures & Process Monitoring

Appropriate Measures & Best Available Techniques (BAT)

Description	Operating Hours	Control Measures / BAT	Impact Contribution	Action Taken if Outside Optimum Process Parameters
Loading Shovel & Excavator Operations	Weekdays 08:00 – 17:00 & Saturdays 08:00 – 13:00	- Reversing alarms will be self-adjusting white noise models. - Vehicle horns to be used as a Health and Safety measure only. - Drops heights will be reduced where practicable. - The appropriate exhaust silencers will be installed. - The access routes throughout the site shall be well maintained ensuring any potholes are filled. - Where possible, all wagon and mobile plant engines will be shut down and not left idling. - Maintain vehicle speeds at low operational speeds within the site (≤ 5-10mph). - Avoid unnecessary engine revving, idling and abrupt manoeuvres where practicable.	Medium	Cease operation and investigate reasons for elevated sound levels.
Trommel/Bailing/Sorting Internal Plant		- The trommel/bailing/sorting plant shall not be left operating without sorting operations taking place. - Avoid exceeding the maximum capacity of the trommel or inputting materials which are likely to generate significantly higher levels of noise (large metallic waste).	Medium	

Description	Operating Hours	Control Measures / BAT	Impact Contribution	Action Taken if Outside Optimum Process Parameters
Shredding Operations		- The on-site shredder shall only be operational once entirely inside the waste transfer and remain at least 5m away from any element of the newly constructed building envelope. - All specifications outlined in Section 1.4 of this NMP shall be implemented in full. - Regular maintenance and checks shall take place to ensure efficient operation. - Consider contacting the manufacturer/technology provider for exhaust silencing options. - Drop heights shall be minimised for waste entering the hooper. - Any shredding plant shall not be left operating without shredding operations taking place.	High	

Table 8 – Noise Control Measures & BAT

Equipment Maintenance

All failed/broken plant and equipment will be replaced with equivalents that produce equal or lower levels of noise. This will be verified with manufacturers technical datasheets or on-site noise measurements.

All plant and machinery will be regularly and properly maintained in accordance with the preventative maintenance schedule of which the appropriate staff will be trained in.

1.6 Operator Monitoring Plan

Monitoring of noise emissions from the site will be undertaken both subjectively and objectively.

Continuous Subjective Noise Monitoring

- All operational staff will, as part of their induction, be made aware of their roles and responsibility. It is the responsibility of all staff to be aware of noise on site and to report any potential noise issues to the sites Operations Manager at the earliest opportunity.
- All staff will have refresher training on noise issues, prevention and management at six-monthly intervals.
- If members of staff report any instances of elevated noise, this should be investigated immediately. In the event that increased noise levels are verified; the source of the noise should be taken out of commission and must be fixed/corrected prior to the equipment being put back into commission.
- A visual inspection of all equipment should be made before use to ensure that there are no obvious faults or malfunctions that could lead to elevated noise levels. It will be ensured that all noise mitigation measures (silencers, etc.) are installed as per manufacturer's guidance.

Objective Noise Monitoring

- A class 2 sound level meter should be purchased to measure sound levels on site. This will take place during typical operations when the site is in use and associated plant vehicles are operating as normal.

Monthly Measurements

Noise levels will be measured at monthly intervals; indicative locations are shown overleaf.



Figure 4 – Indicative Monitoring Locations

- $L_{Aeq,1hour}$ (A-weighted noise levels averaged over a 1-hour assessment period) and L_{AFmax} noise levels will be recorded. Measurements taken on site will be compared with previous measurements. If $L_{Aeq,1hour}$ noise levels increase by more than 3dB from the previous month then the cause of the increase shall be investigated.
- When the source of the elevated noise levels is discovered, remedial work shall be undertaken to reduce noise emissions to 'normal' levels. If complex remedial work is required, the offending equipment will be taken out of commission until repair work is completed. This will be logged in an IMS (Issue Management System).

1.7 Management Control Measures

- Users of on-site plant and equipment complete a daily defect log at the beginning of the working day if they observe that their vehicle is not working to its optimum. An on-site mechanic actions the defect log on the same working day and machines are not used until this action has been completed.
- Tool-box talks are provided by site management on a regular basis to site operatives. These talks include all aspects of the management plans for this site.
- Plant maintenance schedules using the manufacturer's recommendations where vehicles are serviced after 500 hours of operation.
- Pre-use checks are completed prior to using plant and equipment daily.

- Defects are reported and actions are taken to rectify the problem or remove the offending item from service until such time as the issue is resolved.
- All plant and equipment are visually inspected by the operator at the end of the working day.
- Throughout the day operators are vigilant in checking vulnerable areas like exhausts and engine bays.
- Specialist contractors are used to perform maintenance outside the scope and expertise of the site management and operatives.
- All documentation relating to plant and equipment maintenance is retained in the site office for inspection.

1.8 Noise Complaint Investigation

An Issue Management System ('IMS') shall be implemented.

This should be completed by a site manager and should include a site diary, plus forms and records of complaints. Further to this, a complaints procedure should be implemented; this procedure would need to allow for all complaints, feedback and requests made by third parties regarding the site's operational activities, as well as the health and safety performance or quality of service/product.

A phone number for the head office should be available online (it is understood that this available) to allow for any member of the public to lodge a complaint without entering the operational site. The operations manager will be specifically assigned to deal with complaints.

All complaints received from third parties including statutory authorities, statutory consultees, members of the public and representatives of the company will be forwarded to the operations manager to action as below within 2 hours (where feasible). The complaint will be logged in the incident database within 72 hours.

The operations manager will ensure that:

- The complaint is investigated to identify the cause, if necessary, this may involve direct communication with the complainant.
- The noise source will be measured using a class 2 sound level meter and compared with monthly objective monitoring records.
- In the event of elevated noise being detected, the presence of 'abnormal' onsite activity is assessed and if necessary, action is taken immediately to prevent a reoccurrence of the same problem. These actions must be documented.
- The complainant will be contacted and given information on the investigations conducted and actions taken as appropriate.
- All complaints are reported to regional directors and discussed at site meetings.
- Details of other complaints are sent to the other company personnel as appropriate.

If the investigation indicates that the complaint has not been justified this will be clearly recorded on the incident report. All complaints will be logged.

1.9 Reporting Measures

In the event of elevated levels of noise being identified, the event will be reported into the IMS by a member of operational staff. Upon notification of an environmental incident, the site manager will complete an incident reporting form. The completed form is then distributed throughout the company for review at operational, management and health and safety meetings.

All performance failures will be categorised for input into the IMS as follows:

- Minor event: quick fix possible, locally resolved.
- Medium event: brief disruption to service, management intervention required.
- Major event: significant disruption to service.

Each non-conformance category must have a given deadline for rectification. The deadline for each category is:

- Minor Event: within 24 hours
- Medium Event: within 6 hours
- Major Event: within 1 hour

The IMS/EHS will record any actions taken to rectify the issue, ensure that any necessary actions or review are recorded onto the IMS/EHS and ensure that the person reporting the incident is notified. The site manager will investigate the performance failure within a reasonable time frame (ideally 2 hours). Once the issue has been resolved, the corrective action will be entered onto the system, and the issue will be closed.

Appendix A – Acoustic Terminology

A-weighted sound pressure level, L_{pA}	Quantity of A-weighted sound pressure given by the following formula in decibels (dBA). $L_{pA} = 10 \log_{10} (pA/p_0)^2$. Where: pA is the A-weighted sound pressure in pascals (Pa) and p_0 is the reference sound pressure (20 μ Pa)
Background Sound	Underlying level of sound over a period, T , which might in part be an indication of relative quietness at a given location
Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$	Value of the A-weighted sound pressure level in decibels (dB) of a continuous, steady sound that, within a specified time interval, T , has the same mean-squared sound pressure as the sound under consideration that varies with time
Facade level	Sound pressure level 1 m in front of the facade
Free-field level	Sound pressure level away from reflecting surfaces
Indoor ambient noise	Noise in a given situation at a given time, usually composed of noise from many sources, inside and outside the building, but excluding noise from activities of the occupants
Noise Criteria	Numerical indices used to define design goals in a given space
Noise Rating (NR)	Graphical method for rating a noise by comparing the noise spectrum with a family of noise rating curves
Octave Band	Band of frequencies in which the upper limit of the band is twice the frequency of the lower limit
Percentile Level, $L_{AN,T}$	A-weighted sound pressure level obtained using time-weighting “F”, which is exceeded for $N\%$ of a specified time interval
Rating Level, $L_{Ar,Tr}$	Equivalent continuous A-weighted sound pressure level of the noise, plus any adjustment for the characteristic features of the noise
Reverberation time, T	Time that would be required for the sound pressure level to decrease by 60 dB after the sound source has stopped
Sound Pressure, p	root-mean-square value of the variation in air pressure, measured in pascals (Pa) above and below atmospheric pressure, caused by the sound
Sound Pressure Level, L_p	Quantity of sound pressure, in decibels (dB), given by the formula: $L_p = 10 \log_{10} (p/p_0)^2$. Where: p is the root-mean-square sound pressure in pascals (Pa) and p_0 is the reference sound pressure (20 μ Pa)
Weighted sound reduction index, R_w	Single-number quantity which characterizes the airborne sound insulating properties of a material or building element over a range of frequencies



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