

UK Remediation, Hill Barton Business Park

Commercial Noise Assessment





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Entran Limited
2nd & 3rd Floors
Northgate House
Upper Borough Walls
Bath
BA1 1RG

T: 0117 937 4077
www.entranltd.co.uk



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1 INTRODUCTION

- 1.1 Entran Ltd has been commissioned to undertake an assessment pertaining to commercial activities associated with proposed plant items at the UK Remediation Ltd Soil Treatment Facility at Hill Barton Business Park, Exeter.
- 1.2 The assessment has been undertaken to support a permit application and considers sound arising from all site activities at the nearest residential receptors in the context of the existing sound levels in the area.
- 1.3 Details of the site, including plant quantities and expected usage, have been compiled based on information provided by the applicant and are understood to be representative of the proposed site activities.
- 1.4 This report is necessarily technical in nature and contains terminology relating to acoustics and noise. Therefore, a glossary together with a brief introduction to the subject of noise has been provided in Appendix A.
- 1.5 Additionally, BS 4142:2014 recognises that the context of a sound is important when defining the potential for subjective nuisance. The word “sound” is therefore used as opposed to “noise” to describe any sound assessed in the context of the BS 4142 assessment.
- 1.6 The assessment was undertaken by Stuart Berry, who is a Principal Consultant with 15 years’ experience in conducting environmental noise and vibration impact assessments for a range of project types. Stuart holds an MSc in Environmental and Architectural Acoustics and is a Member of the Institute of Acoustics.



2 SITE DESCRIPTION

- 2.1 The site is located within the existing Hill Barton Business Park, north of the A3052. The surrounding area is largely industrial with existing operations including waste treatment activities, asphalt plant, logistics operations, an incinerator and general heavy vehicle movement.
- 2.2 The nearest residential receptors and their respective distance from the nearest boundary are detailed in Table 1.

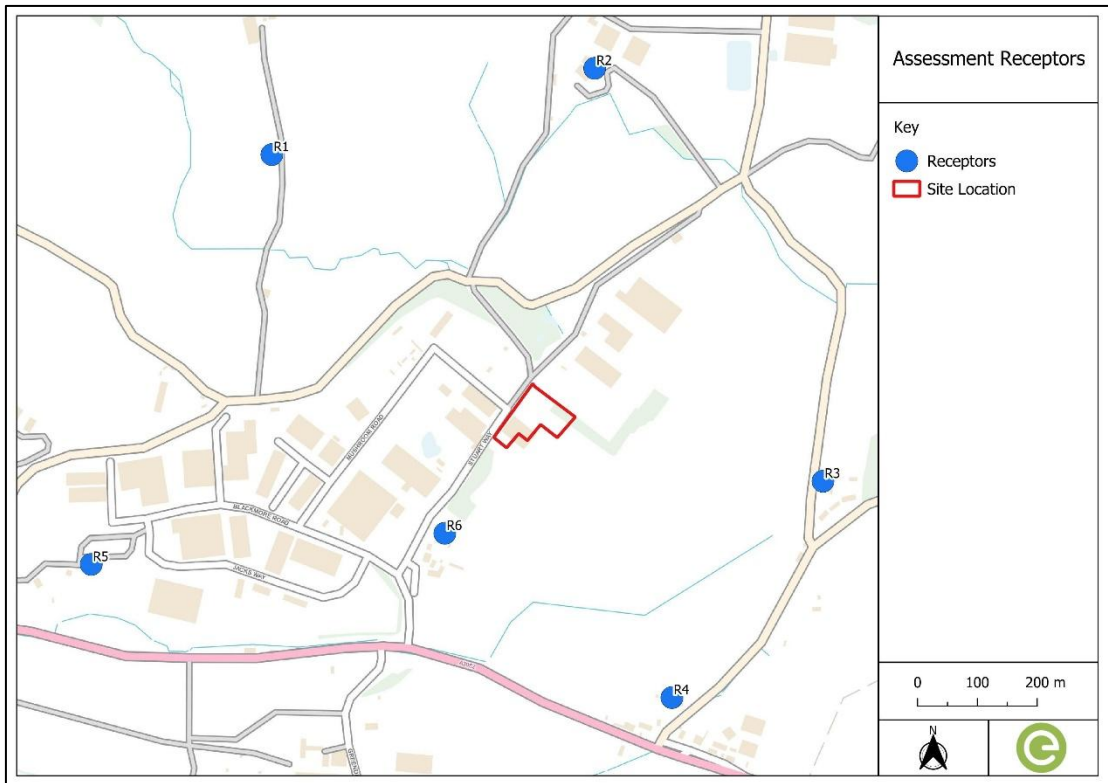
Table 1: Residential Receptors

ID	Distance from nearest boundary, m
R1	580
R2	545
R3	430
R4	475
R5	705
R6	170

- 2.3 The residential receptors and site location are presented in Figure 1.

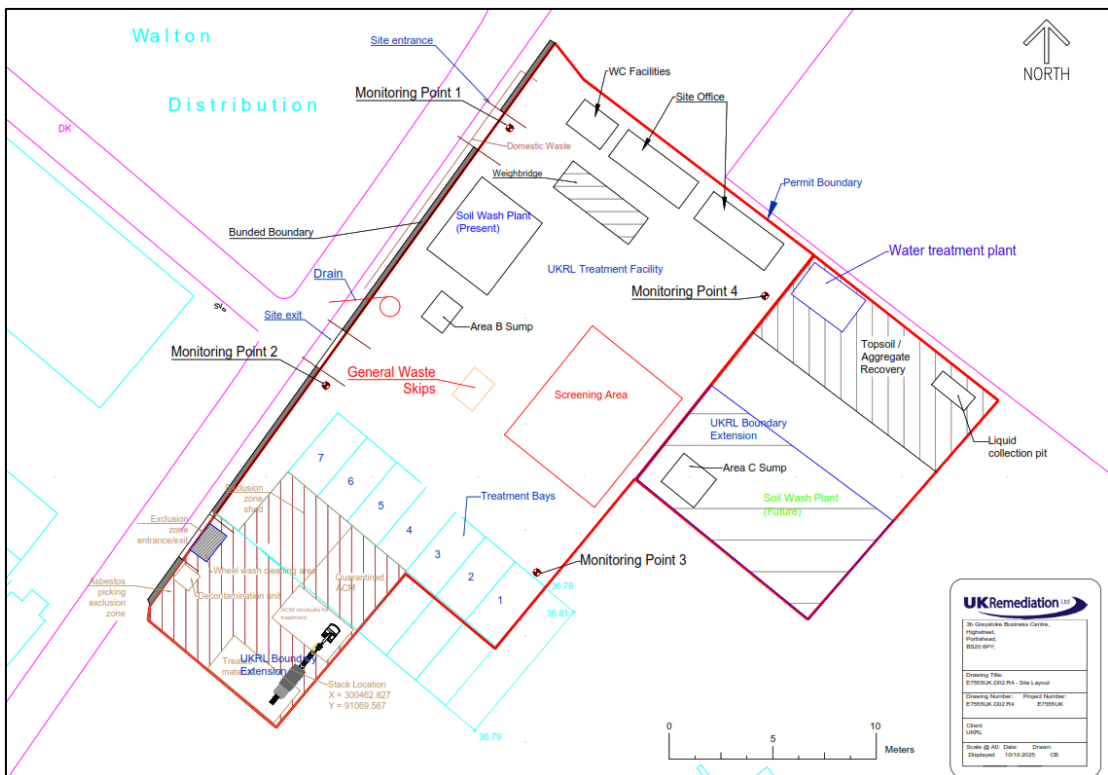


Figure 1: Site Location and Nearby Identified Receptors



2.4 The proposed site layout is presented in Figure 2.

Figure 2: Site Layout





3 ASSESSMENT METHODOLOGY

National Policy: National Planning Policy Framework 2025

3.1 The National Planning Policy Framework (NPPF) sets out the Government's economic, environmental and social planning policies for England. It attempts to summarise in a single document all previous national planning policy advice. Taken together, these policies articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

3.2 Under Section 15; Conserving and enhancing the natural environment, the following is stated in paragraph 187:

“Planning policies and decisions should contribute to and enhance the natural and local environment by: ...

preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability...”

3.3 The NPPF goes on to state in paragraph 198 that:

“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason”

British Standard BS 4142:2014+A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound

3.4 British Standard BS 4142:2014+A1:2019 *Methods for Rating and Assessing Industrial and Commercial Sound* is intended to be used for the assessment of whether sound of industrial



and/or commercial nature is likely to give rise to complaints from people residing in nearby dwellings. BS 4142 states that such sound can include:

- 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 premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

3.5 The procedure contained in BS 4142 for assessing the likelihood of complaints is to compare the measured or calculated sound level from the source in question, the '*specific sound level*', at the assessment position with the background sound level. Where sound contains acoustic features, such as tonality, impulsivity or other noticeable characteristics then a correction is added to the specific sound to obtain the '*rating level*' that reflects the contextual setting of the site.

3.6 To assess the likelihood of complaints, the measured background sound level is subtracted from the rating level. BS 4142 states:

'Typically, the greater this difference, the greater the magnitude of the 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 or a significant 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, depending on the context.'*

The Institute of Environmental Management & Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment (2014)

3.7 The Institute of Environmental Management and Assessment (IEMA) have published the '*Guidelines for Environmental Noise Impact Assessment*'. The guidelines are applicable to



noise impact assessment for any scale of development proposal, including core principles to achieve effectively integration with the EIA, and provide advice on the issues that need to be considered in a noise impact assessment and whether the appropriate conclusions are being reached. The factors include:

- The appropriateness of the noise parameters used for the situation;
- The reference time period used in making the assessment;
- The level, character and frequency content of the noise sources under investigation; and,
- How the predicted noise levels relate to relevant Standards and guidelines.

3.8 The guidelines also recommend that the assessor should determine the degree of impact based on evidence derived from the assessment.

The Professional Practice Guidance on Planning and Noise (2017)

3.9 The '*Professional Practice Guidance on Planning and Noise*' (ProPG) was produced by a Working Group consisting of representatives of the Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and Chartered Institute of Environmental Health (CIEH) to provide acoustical practitioners with guidance on the management of noise within the planning system in England.

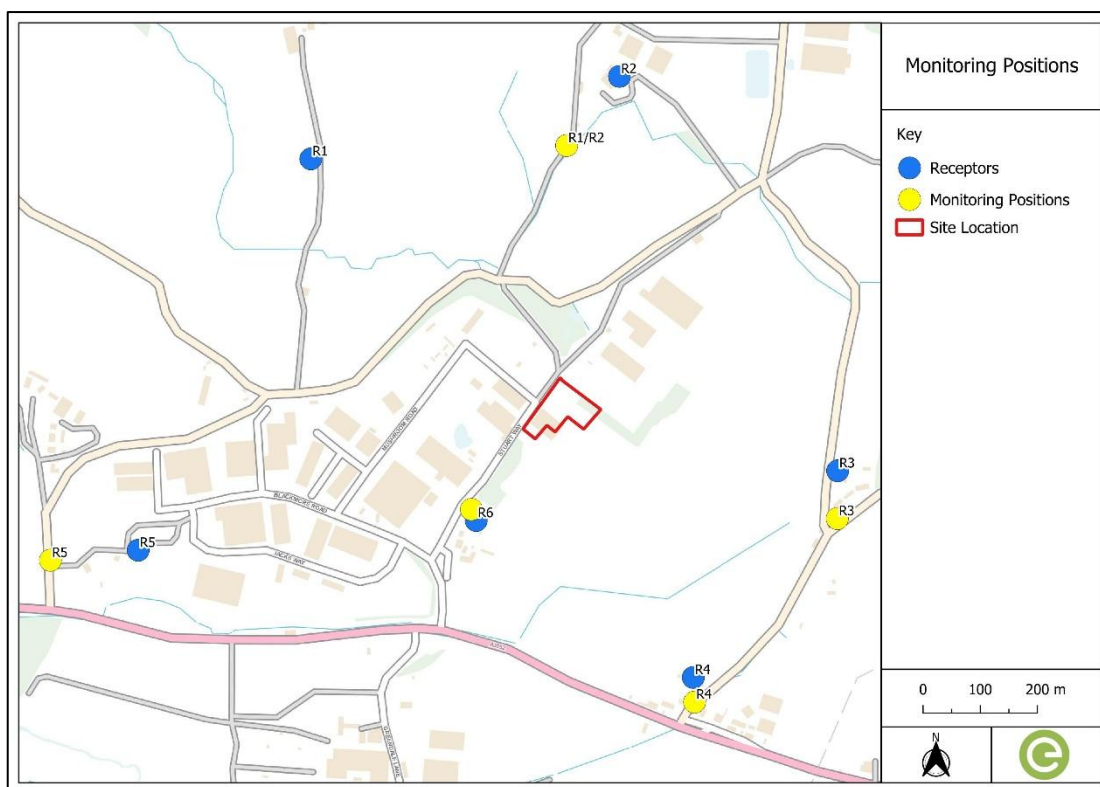
3.10 The reparation of the ProPG acknowledges and reflects the Government's overarching NPSE, the NPPF and Planning Practice Guidance (including PPG-Noise), as well as other authoritative sources of guidance. It provides advice for Local Planning Authorities (LPAs) and developers, and their respective professional advisers which complements Government planning and noise policy and guidance and, in particular, aims to:

- advocate full consideration of the acoustic environment from the earliest possible stage of the development control process;
- encourage the process of good acoustic design in and around new residential developments;
- outline what should be taken into account in deciding planning applications for new noise-sensitive developments;
- promote appropriate noise exposure standards; and
- assist the delivery of sustainable development.

4 ENVIRONMENTAL SOUND MEASUREMENTS

- 4.1 Existing noise conditions in the vicinity of the proposed development have been determined by an environmental noise survey conducted between 12th and 17th February 2026.
- 4.2 Attended monitoring was undertaken on 17th February 2026 to obtain a difference correction for measurements between the unattended measurement position. The monitoring positions and nearby receptors are indicated on Figure 3.

Figure 3: Identified Receptors and Monitoring Positions



- 4.3 A summary of the unattended survey is provided in Table 2.



Table 2: Summary of Unattended Survey

Date	Measured Sound Pressure Level, dB					
	Day Time (07:00 - 23:00)			Night-time (23:00 - 07:00)		
	L _{Amax,F}	L _{Aeq,T}	L _{A90,T}	L _{Amax,F}	L _{Aeq,T}	L _{A90,T}
R1/R2						
12/02/2026	80.6	50.9	44.3	80.6	48.4	41.5
13/02/2026	82.6	53.2	46.9	77.4	46.0	37.8
14/02/2026	79.1	50.4	40.8	71.4	46.9	42.8
15/02/2026	80.8	51.8	45.0	78.5	47.0	40.3
16/02/2026	79.6	52.4	46.0	70.3	45.9	39.0
17/02/2026	83.6	54.5	45.6	-	-	-
R6						
12/02/2026	92.7	57.8	51.1	88.5	56.0	46.1
13/02/2026	94.3	58.2	52.1	81.2	56.2	50.5
14/02/2026	89.2	55.6	49.1	78.3	50.3	46.5
15/02/2026	90.6	53.0	49.8	80.0	50.2	43.1
16/02/2026	96.3	58.2	51.3	88.7	53.1	49.1
17/02/2026	85.9	58.4	52.3	-	-	-

Maximum levels represent the highest L_{Amax,F} sound level during the given period.
 The period L_{Aeq,T} is obtained from the logarithmic average of measured sound levels.
 The period L_{A90,T} and L_{A10,T} is obtained from the average of the measured sound levels.

4.4 Attended measurements obtained at R3-R5 are presented in Table 3.

Table 3: Summary of Attended Survey Measurements

Position	Time	Measured Sound Pressure Level, dB re. 2x10 ⁻⁵ Pa.			
		L _{Amax,F}	L _{Aeq,T}	L _{A10,T}	L _{A90,T}
R3	10:25	64.3	52.5	54.7	42.6
	11:35	65.9	56.7	60.5	45.5
	12:45	66.9	55.3	59.4	41.6
<i>Summary</i>		66.9	55.2	58.2	43.2
R4	10:50	78.5	62.9	66.3	50.1
	12:00	75.8	63.0	66.2	52.1
	13:10	73.1	63.7	66.9	52.4
<i>Summary</i>		78.5	63.2	66.5	51.5
R5	11:10	77.4	56.8	55.0	47.4
	12:20	73.0	57.0	58.2	48.6
	13:30	79.9	58.1	54.6	48.0
<i>Summary</i>		79.9	57.3	55.9	48.0

4.5 There was some rainfall during the unattended survey, and average wind speeds remained below 2 m/s. There was significant rainfall on Sunday the 15th February. However, this data was not used to obtain background sound levels and does not affect the identification of assessment sound levels. Average levels are consistent between each measurement period and weather conditions are therefore not considered to have significantly affected the data.

4.6 Weather conditions during the attended survey were dry with average wind speeds below 1 m/s.



4.7 Weather data is presented in Appendix C1.

4.8 Measured background sound levels have been compared to the unattended position at R1/R2 to obtain a difference correction to allow identification of representative long term background sound levels. The measured background sound levels and differences are presented in Table 4.

Table 4: Summary of Supplementary Attended Survey

Position	Date Time	Background Sound Level, dB $L_{A90,15min}$		Difference (rounded down to nearest 0 dP), dB
		Attended	Unattended (P1)	
R3	10:25	39.6	46.6	-4
	11:35	42.5	48.9	-3
	12:45	38.6	46.3	-4
	Summary	40.2	47.3	-4
R4	10:50	50.1	46.9	3
	12:00	52.1	45.8	6
	13:10	52.4	45.4	7
	Summary	51.5	46.0	5
R5	11:10	47.4	47.7	0
	12:20	48.6	45.8	2
	13:30	48.0	49.9	-1
	Summary	48.0	47.8	0

4.9 Background sound levels at representative positions R1/2 and R6 have been obtained by statistical analysis during the operational periods (daytime 07:00 – 18:00, Saturday 08:00 – 13:00).

4.10 Activity within the wider industrial site was clearly perceptible at R6 and the ambient environment was dominated by HGV movements and ancillary activities at the closest industrial unit, and distant road traffic on the surrounding road network. The UK Remediation site ceased operations on Friday the 13th February to allow measurement of background sound levels at R6 without the contribution from any existing activity. Notwithstanding this, the measured weekday data is consistent across all days which indicates that the existing site does not significantly affect the background sound levels.

4.11 Data from the 13th February was used to identify weekday background sound levels at R6. Data from the 14th February was used to identify background sound levels during Saturday daytime. Statistical analysis at these locations is presented graphically in Appendix B.

4.12 Background sound levels at R3 – R5 have been calculated based on the identified difference corrections.



4.13 The adopted background sound levels are presented in Table 5.

Table 5: Background Sound Levels for Assessment Periods

Period	Monitoring Position	Background Sound Level, $L_{A90,T}$, dB
Weekday 07:00 – 18:00	R1	47
	R2	47
	R3	43
	R4	52
	R5	47
	R6	52
Saturday 08:00 – 13:00	R1	41
	R2	41
	R3	37
	R4	46
	R5	41
	R6	51

4.14 All noise measurements were undertaken by competent individuals with experience in environmental noise monitoring. Measurements were obtained in accordance with the principles of BS 7445: 2003: '*Description and measurement of environmental noise*'.

4.15 All acoustic measurement equipment used during the noise surveys conformed to Type 1 specification of British Standard 61672: 2003: '*Electroacoustics. Sound level meters. Part 1 Specifications*'. The microphones were fitted with a protective windshield and the sound level meters were situated in a weatherproof case. Microphones were positioned at approximately 1.8 m above local ground level. The noise measurement equipment used during the survey was calibrated at the start and end of the measurement period. There was no significant drift in calibration measurements observed during the survey period.

5 ASSESSMENT

- 5.1 The potential impacts due to on-site activities have been determined by calculation of $L_{Aeq,T}$ sound levels during the operation of the proposed facility. Sources have been modelled based on information provided by the applicant. Calculated sound levels at nearby receptors have been assessed against the identified background sound levels with consideration to any possible corrections for acoustic features.
- 5.2 Sound emission levels from the site have been calculated using predictive computer noise modelling. The noise modelling software (CadnaA) uses algorithms based on ISO 9613 'Attenuation of sound during outdoor propagation' to calculate noise levels generated by potentially noisy sources at receiver locations.
- 5.3 Proposed activities have been assessed to ensure compliance with the relevant design standards contained within BS 4142:2014+A1:2019. The site operational hours are weekdays 07:00 – 18:00 and Saturdays 08:00 – 13:00. The site is closed Sundays and public/bank holidays. Daytime specific levels are considered over a 1-hour period. The locations of modelled sources are presented in Figure 4.

Figure 4: Modelled Source Locations





- 5.4 Details of plant items, including quantities, source levels, and expected use times, are presented in Table 6. The applicant has advised that acoustic panelling will be installed at the soil wash plant and asbestos picking station. The exact reduction of such panelling has not been identified, and a minimal attenuation of 5 dB has been applied to allow for a cautious consideration of the benefit.
- 5.5 Details of adopted octave band sound power levels are presented in Table C1. Resultant sound power levels are presented in Table C2. Modelled sound power levels are presented in Table C3.

Table 6: Plant List

Plant Item	Model	L _{WA}	Quantity	On-time %
21t Excavator	CASE CX210	101	1	25
14t Excavator	CASE CX145	99	1	25
Loading Shovel	CASE 821	104	1	25
Dumper	Volvo ADT30	108	1	25
Lorries	-	108	1	5
Screener	Terex 883	103	1	100
Soil Wash Plant	McLanahan Ultrascrub	98*	2	100
Asbestos Picking Station	M K Group TPS120	112*	1	100

* A minimal -5 dB correction for absorptive panelling has been applied within the modelling

- 5.6 On-site sources have been modelled as point/line sources at 2m above local ground. The site level within the proposed boundary has been modelled at an absolute ground height of 36.5m.
- 5.7 The calculated specific sound levels at the nearest residential receptors are presented in Table 7.

Table 7: Calculated Specific Sound Levels

Receptor ID	Specific Sound Level, dB	
	Existing	Proposed
R1	32	35
R2	37	37
R3	21	25
R4	25	35
R5	22	27
R6	32	48

- 5.8 BS 4142 requires that an acoustic feature correction is applied, where applicable, to the specific sound level in order to obtain a rating level $L_{A,r,Tr}$ at the identified receptor. Any correction is applied in order to consider the effect of additional acoustic characteristics present in the source of interest. The correction is applied based on tonality, impulsivity and



intermittency that may be perceptible at the receptor location. A correction may also be applied where these features may not be present, but the sound may still be distinctive at the receptor.

- 5.9 Calculated specific levels do not exceed the background sound level at all receptors. Additionally, the surrounding area comprises industrial sources and therefore it is unlikely that variations in activity would be discernible over extant activity. Accordingly, no correction for specific features has been applied.
- 5.10 At receptor R6 the specific level does not exceed the background sound level. It is unlikely that the impact of acoustic features would be significant as such features are present within the current acoustic environment; activities from the wider site dominate the ambient environment. However, a cautious correction has been applied for impulsivity at this receptor to account for the potential of impulsive features.
- 5.11 The calculated specific sound levels at the assessment receptors, resultant rating levels, and excess over the identified background sound levels are presented in Table 8.



Table 8: Calculated Specific Sound Levels

Scenario	Receptor	Specific Level, $L_{Aeq,T}$	Acoustic Feature Correction	Rating Level $L_{A,r,Tr}$	Background Level, $L_{A90,T}$	Excess of Rating Level Over Background, dB
Existing	Weekday					
	R1	32	0	32	47	-15
	R2	37	0	37	47	-10
	R3	21	0	21	43	-22
	R4	25	0	25	52	-27
	R5	22	0	22	47	-25
	R6	32	0	32	52	-20
	Saturday					
	R1	35	0	35	41	-6
	R2	37	0	37	41	-4
	R3	25	0	25	37	-12
	R4	35	0	35	46	-11
R5	27	0	27	41	-14	
R6	48	0	48	51	-3	
Proposed	Weekday					
	R1	32	0	32	47	-15
	R2	37	0	37	47	-10
	R3	21	0	21	43	-22
	R4	25	0	25	52	-27
	R5	22	0	22	47	-25
	R6	32	3	35	52	-17
	Saturday					
	R1	35	0	35	41	-6
	R2	37	0	37	41	-4
	R3	25	0	25	37	-12
	R4	35	0	35	46	-11
R5	27	0	27	41	-14	
R6	48	3	51	51	0	

5.12 The calculated rating levels do not exceed the adopted background sound levels at all assessment locations during typical on-site operations. BS 4142 indicates that where the rating level does not exceed the background sound level the impact of the specific sound level is likely to be low.

5.13 The calculated rating levels do not exceed the background sound levels and are unlikely to result in impacts at the nearby residential receptors.

5.14 Additionally, the dwelling at R6 is occupied by site personnel and is immediately adjacent to extant commercial activities within the wider industrial estate. The siting and occupation of this particular receptor further suggest that impacts would not be significant.



Uncertainty

- 5.15 The assessment scenarios as considered within this report are based on the information and assumptions as provided by the applicant and presented within this assessment. Any changes to these assumptions, such as revised design, changes in activities, plant details, or processes would require assessment based on the specific plant items and site details.
- 5.16 The calculation of the specific level is based on available source data and representative information as detailed within this report and is understood to be representative of the activities and sources that would be in-use at the proposed site. A minimal correction has been applied for acoustic panelling to be installed at the soil wash plant and asbestos picking station. No other consideration of individual equipment mitigation (e.g. silencers) has been made. However, the site management plan includes a requirement that all plant is silenced in accordance with the manufacturer's recommendations. Accordingly, source sound power levels may be lower than those provided within this report.



6 MITIGATION

- 6.1 Good practice mitigation measures should be employed at all commercial sites such that specific levels are kept as low as practicable. White noise reversing alarms should be employed as far as practicable, vehicles/plant on-site should be suitably maintained/silenced, and on-site operatives trained in considerate use and good practice.
- 6.2 Acoustic panelling is to be employed at the soil wash station and asbestos picking station plant items.
- 6.3 The assessment of the proposed development, based on the provided information and considerations as detailed within this report, indicates that rating levels due to site activity fall below the background sound level at all identified residential receptors and the impact of sound from the site is likely to be low.
- 6.4 Notwithstanding the above, mitigation should be employed as far as practicable to ensure that the likelihood of adverse impacts remains minimal.
- 6.5 Equipment should be silenced where possible, as per the existing site management plan. Additionally, any further vehicle movements, fixed plant items, or other commercial activity introduced at the proposed development site should be sufficiently mitigated as appropriate such that rating levels at the nearest residential receptors fall below the background sound levels identified within this report.



7 CONCLUSIONS

- 7.1 An assessment has been undertaken for the potential impacts attributable to sound emitted from the UK Remediation Ltd Soil Treatment Facility at Hill Barton Business Park, Exeter.
- 7.2 Information and source data provided by the applicant has been used to calculate the likely specific and rating sound level at the nearest receptors.
- 7.3 Based on the information as detailed within this assessment the likelihood of impacts from proposed activities is identified to be low. Additionally, the existing area is industrial with varying uses and activities. The existing ambient environment is dominated by activity within the wider industrial site and it is unlikely that the proposed use would affect the existing character of the acoustic environment.
- 7.4 The assessment has been undertaken based on the information provided and the associated calculations as detailed within this report. The calculations indicate that significant adverse impacts are unlikely.



APPENDIX A – INTRODUCTION TO NOISE

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB.

The ear is less sensitive to some frequencies than to others. The A-weighting scale is used to approximate the frequency response of the ear. Levels weighted using this scale are commonly identified by the notation dB(A).

A noise impact on a community is deemed to occur when a new noise is introduced that is out of character with the area, or when a significant increase above the pre-existing ambient noise level occurs. For levels of noise that vary with time, it is necessary to employ a statistical index that allows for this variation. These statistical indices are expressed as the sound level that is exceeded for a percentage of the time period of interest.

In the UK, traffic noise is measured as the L_{A10} , the noise level exceeded for 10% of the measurement period. The L_{A90} is the level exceeded for 90% of the time and has been adopted to represent the background noise level in the absence of discrete events. An alternative way of assessing the time varying noise levels is to use the equivalent continuous sound level, L_{Aeq} . This is a notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound.

To put these quantities into context, where a receiver is predominantly affected by continuous flows of road traffic, a doubling or halving of the flows would result in a just perceptible change of 3dB, while an increase of more than 25%, or a decrease of more than 20%, in traffic flows represent changes of 1dB in traffic noise levels (assuming no alteration in the mix of traffic or flow speeds).

Note that the time constant and the period of the noise measurement should be specified. For example, BS 4142 specifies specific sound is assessed over periods of 1 hour during the day and 15 minutes during the night. The noise measurement should be recorded using a 'FAST' time response equivalent to 0.125 ms.



Table A1: Glossary of Terms

Term	Definition
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s_1 and s_2 is given by $20 \log_{10} (s_1/s_2)$. The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is $20\mu\text{Pa}$.
A-weighting, dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
$L_{eq,T}$	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,F}$	A noise level index defined as the maximum noise level during the period T. L_{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
$L_{90,T}$	A noise level index. The noise level exceeded for 90% of the time over the period T. L_{90} can be considered to be the 'average minimum' noise level and is often used to describe the background noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m
Ambient Noise Level	The totally encompassing sound in a given situation at a given time, usually composed of a sound from many sources both distant and near ($L_{Aeq,T}$).
Residual Noise Level	The ambient noise remaining at a given position in a given situation when specified sources are suppressed to a degree such that they do not contribute to the ambient noise level ($L_{Aeq,T}$)
Specific Noise Level	The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source (the noise source under investigation) over a given time interval ($L_{Aeq,T}$)
Rating Noise Level	The specific noise level plus any adjustment for the characteristic features of the noise ($L_{Ar,Tr}$).



APPENDIX B – FIGURES

Figure B1: Statistical Analysis of Background Sound Levels, R1/R2

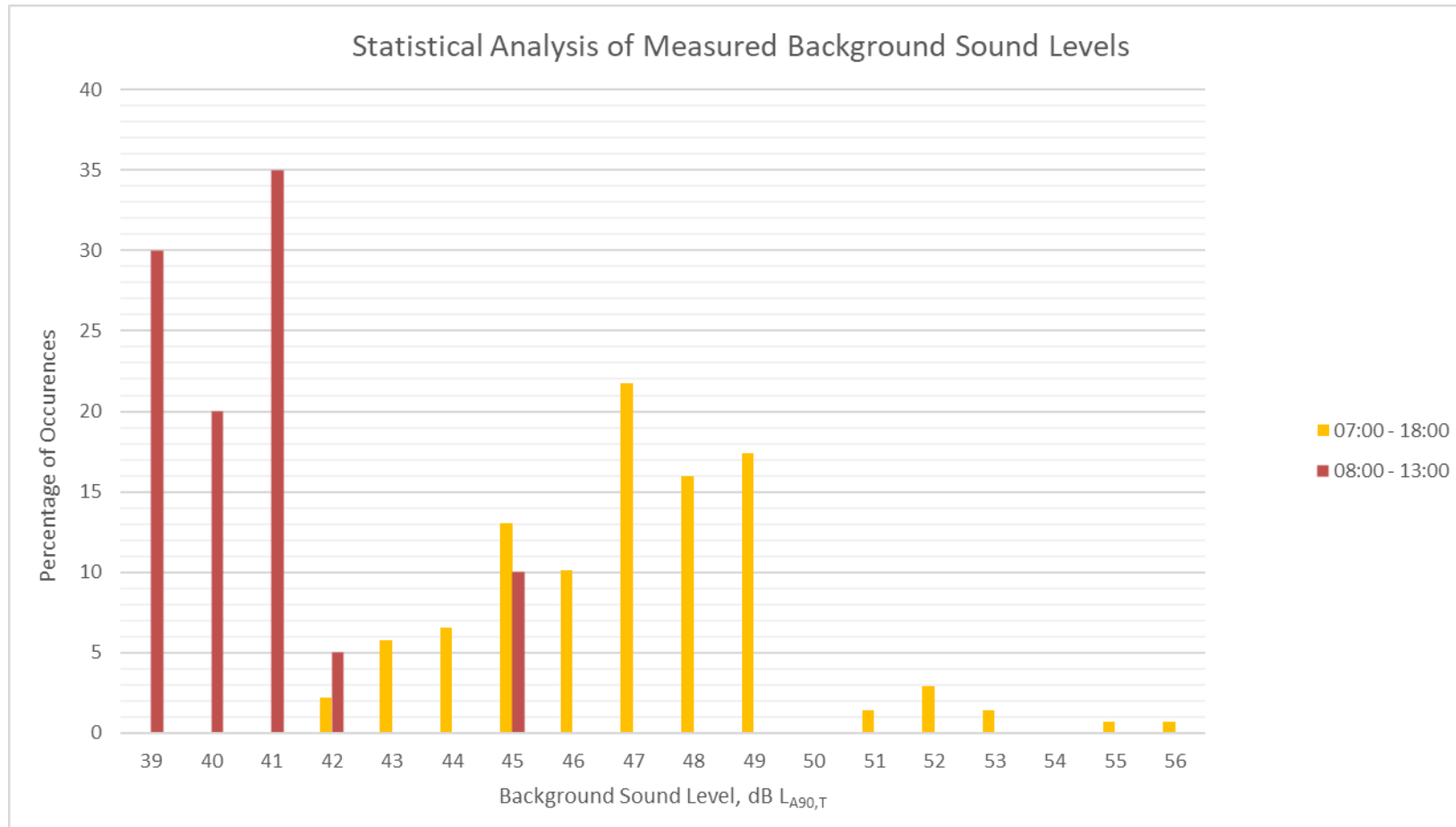




Figure B2: Statistical Analysis of Background Sound Levels, R6

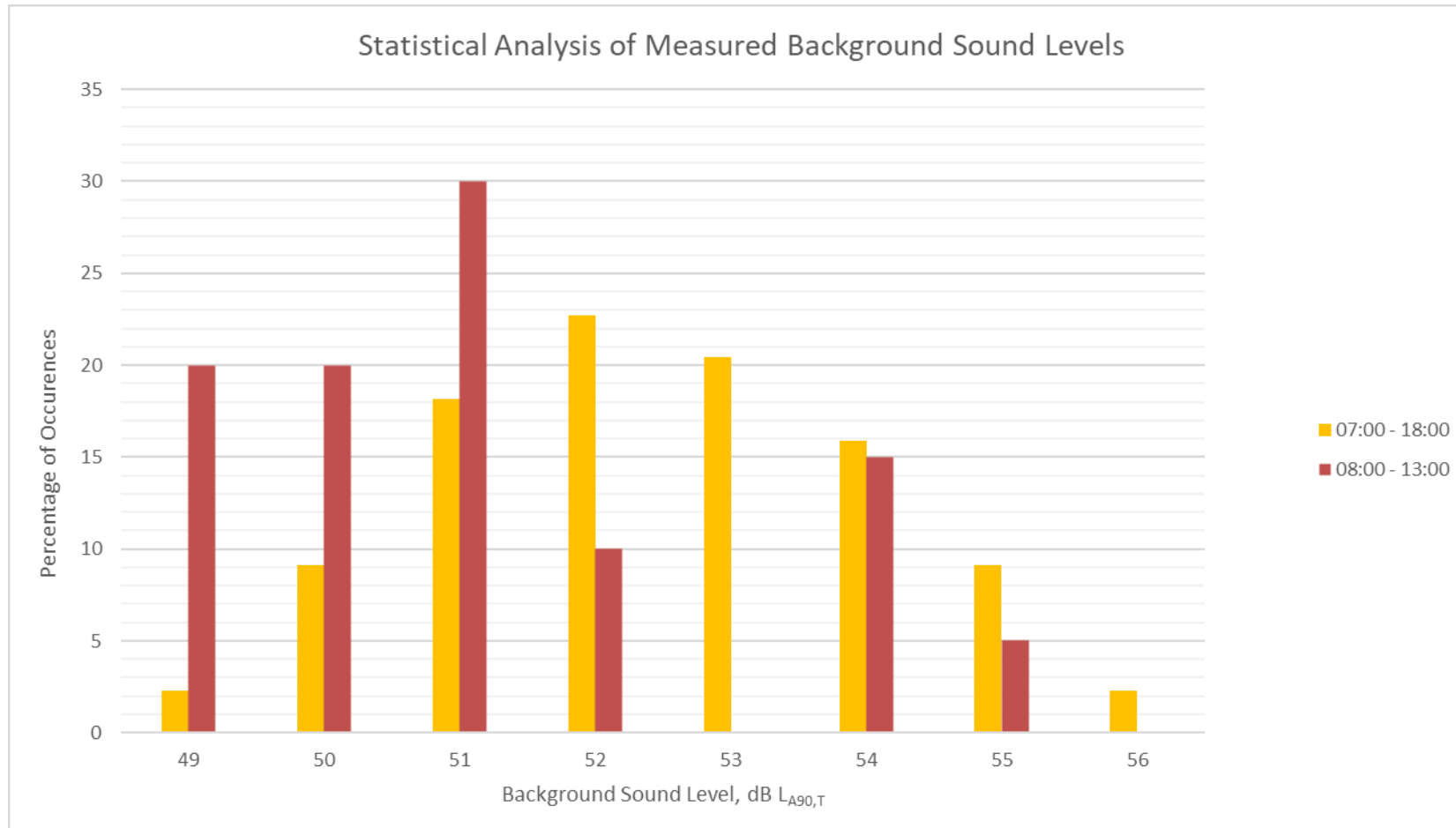




Figure B3: Calculated Sound Contour (Existing), 1.5m

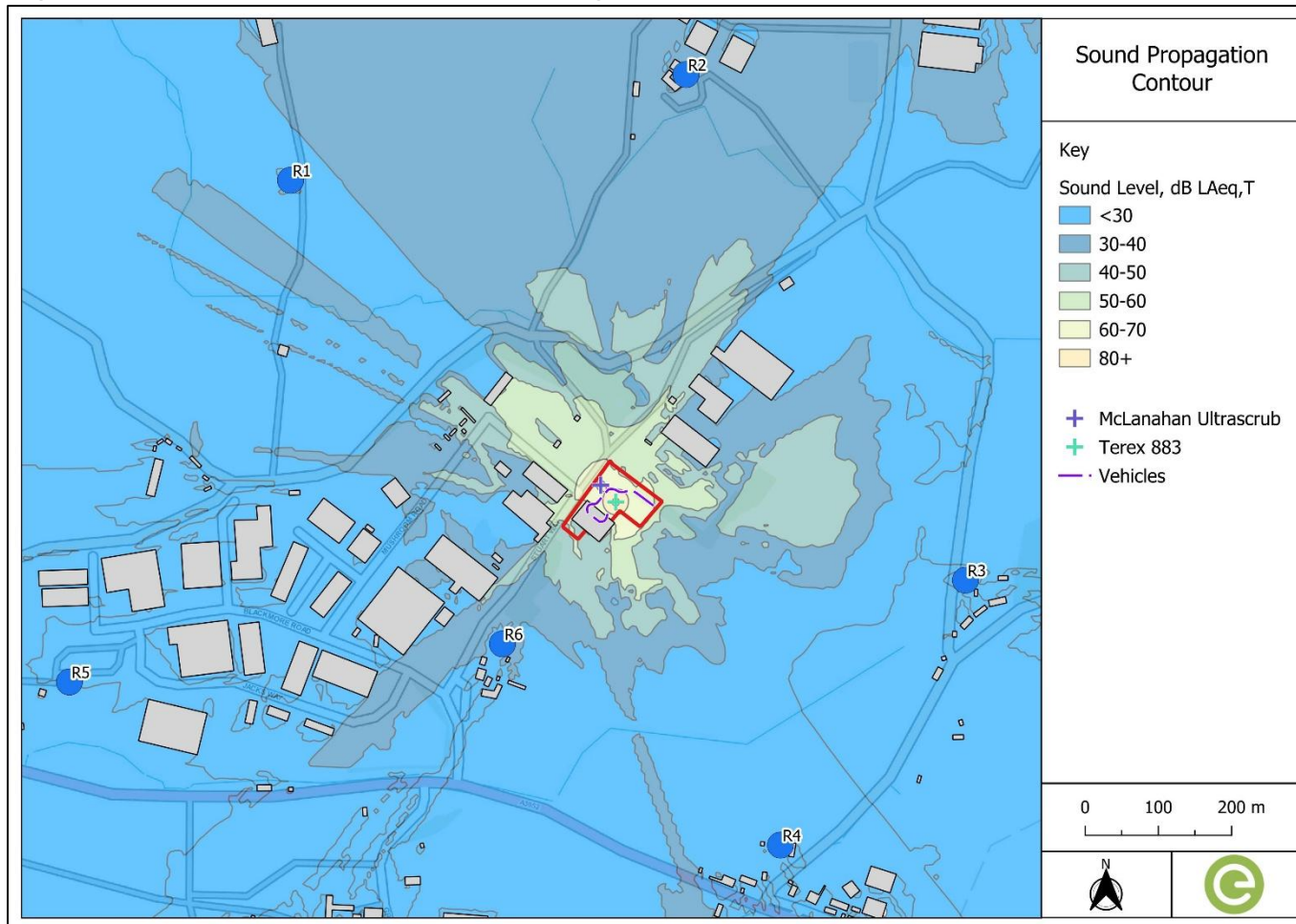
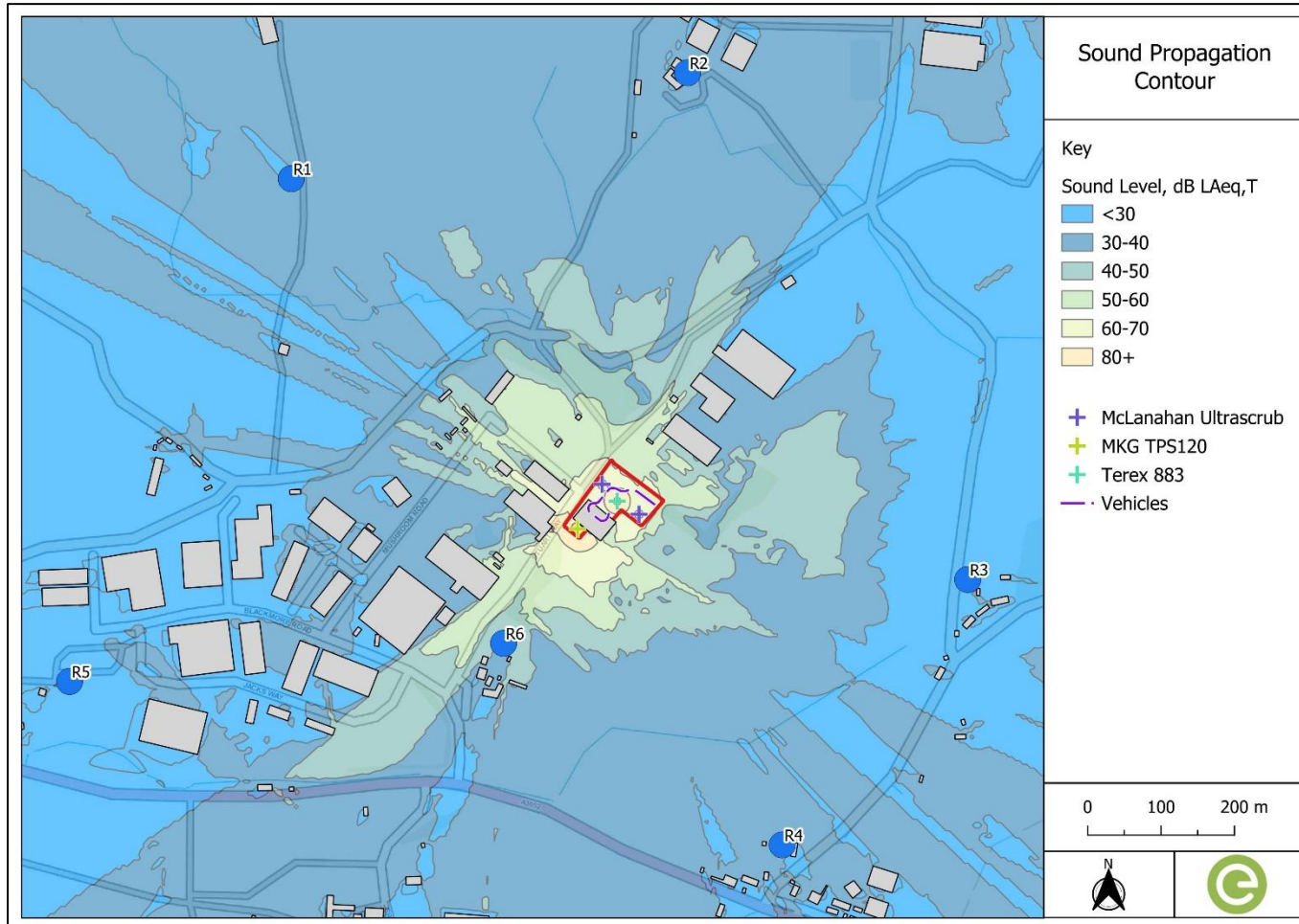




Figure B4: Calculated Sound Contour (Proposed), 1.5m





APPENDIX C – TABLES

Appendix C1: Weather Data, Greendale Exeter

Date	Temperature, °C		Speed, m/s			Precip. Accum.
	High	Avg	High	Avg	Low	
12/02/2026	11.7	8.6	5.4	0.9	0.0	5.1
13/02/2026	11.3	6.1	7.3	1.3	0.0	1.5
14/02/2026	6.9	4.2	7.4	1.6	0.0	1.3
15/02/2026	11.7	8.0	6.4	1.3	0.0	10.9
16/02/2026	10.2	8.0	7.5	2.0	0.0	2.5
17/02/2026	7.0	3.9	2.6	0.4	0.0	0.0



Appendix C2: Source Details

Plant Item	Model	SPL	SPL Distance	LWA	Spectrum Source	% On-Time	Source Height, m
21t Excavator	CASE CX210	-	-	101	BS 5228-1:2009+A1:2014 Table C.2:3	25	1
14t Excavator	CASE CX145	-	-	99	BS 5228-1:2009+A1:2014 Table C.2:3	25	1
Loading Shovel	CASE 821	-	-	104	BS 5228-1:2009+A1:2014 Table C.9:7	25	1
Dumper	Volvo ADT30	-	-	108	BS 5228-1:2009+A1:2014 Table C.4:4	25	1
Lorries	-	-	-	108	BS 5228-1:2009+A1:2014 Table C.2:34	5	1
Screeener	Terex 883	95	1*	103	Entran sample library (screening)	100	1
Soil Wash Plant	McLanahan Ultrascrub	90	1*	98	Entran sample library (screening)	100	1
Asbestos Picking Station	M K Group TPS120	84	10*	112	Entran sample library (screening)	100	1

* Distance is given for target source sound level, as opposed to sample spectrum. Sample spectrum was calibrated within CadnaA and spreadsheet distance calculations are therefore not pertinent to the derivation of the source spectrum. Additionally, a linear distance correction would have no bearing on the sound levels following the linear correction for the target sound level. This information is therefore not pertinent to the assessment.



Appendix C3: Derived Octave Band Source Sound Power Levels

Plant/Item	Octave Band Noise Level dB re. 2×10^{-5} Pa. per Octave Band, Hz								
	31.5	63	125	250	500	1000	2000	4000	8000
21t Excavator	103	103	106	99	96	95	93	92	89
14t Excavator	101	101	104	97	94	93	91	90	87
Loading Shovel	104	104	109	100	100	99	97	95	85
Dumper	114	114	108	107	106	100	100	96	87
Lorries	102	102	107	107	107	103	102	97	95
Screener	89	96	92	98	95	96	98	95	90
Soil Wash Plant	84	91	87	93	90	91	93	90	85
Asbestos Picking Station	98	105	101	107	104	105	107	104	99

Appendix C4: Modelled Octave Band Source Sound Power Levels

Plant/Item	Octave Band Noise Level dB re. 2×10^{-5} Pa. per Octave Band, Hz								
	31.5	63	125	250	500	1000	2000	4000	8000
21t Excavator	97	97	100	93	90	89	87	86	83
14t Excavator	95	95	98	91	88	87	85	84	81
Loading Shovel	98	98	103	94	94	93	91	89	79
Dumper	108	108	102	101	100	94	94	90	81
Lorries	89	89	94	94	94	90	89	84	82
Screener	89	96	92	98	95	96	98	95	90
Soil Wash Plant	84	91	87	93	90	91	93	90	85
Asbestos Picking Station	98	105	101	107	104	105	107	104	99



Appendix C5: Coordinate Data, Point Sources

Name	X	Y	Height, m
Terex 883	300514.3	91114.4	2.0
Ultrascrub	300538.5	91096.3	2.0
MKG TPS120	300458.3	91073.7	2.0
Ultrascrub	300493.7	91137.8	2.0

Appendix C6: Coordinate Data, Proposed Buildings/Structures

X	Y	Height, m
300516.1	91154.3	2.5
300527.3	91146.1	2.5
300524.2	91141.9	2.5
300513.1	91150.1	2.5
300529.8	91144.7	2.5
300541.1	91136.6	2.5
300538.0	91132.3	2.5
300526.7	91140.4	2.5
300509.0	91159.2	2.5
300514.6	91155.1	2.5
300511.7	91151.2	2.5
300506.2	91155.3	2.5

Appendix C7: Coordinate Data, Receptors

Receptor	Coordinates	
	X	Y
R1	300068.1	91548.6
R2	300605.7	91703.2
R3	300990.4	91007.2
R4	300737.1	90643.2
R5	299766.3	90865.9
R6	300357.5	90917.8



Appendix C8: Coordinate Data, Line Sources

X	Y	Height, m
300562.4	91107.6	1.0
300540.8	91123.7	1.0
300535.4	91126.8	1.0
300530.6	91127.2	1.0
300526.7	91126.2	1.0
300523.7	91125.3	1.0
300520.5	91125.2	1.0
300516.5	91125.5	1.0
300511.8	91128.4	1.0
300507.3	91129.3	1.0
300504.6	91129.3	1.0
300501.9	91128.5	1.0
300487.3	91111.0	1.0
300485.7	91109.5	1.0
300484.0	91109.0	1.0
300479.9	91108.8	1.0
300476.2	91107.7	1.0
300473.6	91105.0	1.0
300472.8	91101.4	1.0
300473.9	91097.3	1.0
300477.4	91094.3	1.0
300489.7	91084.8	1.0
300493.6	91084.8	1.0
300496.7	91085.9	1.0
300499.1	91088.8	1.0
300500.7	91094.0	1.0