



MACH
GROUP

GWENT POLICE OPERATIONAL FACILITY

Environmental Noise Assessment
GPOF-MAL-XX-XX-RP-Y-9000

Willmott Dixon



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1.0 INTRODUCTION

MACH has been appointed by Willmott Dixon to undertake an environmental noise survey at the proposed site of Gwent Police Operational Facility in Cwmbran.

The development is a police custody facility which includes fleet, police hub and training facilities. Therefore, the noise survey undertaken is required to assist with the following:

- Establishing the existing noise levels across the site.
- A façade assessment to ensure internal noise levels meet any required internal noise level criteria.
- Determine appropriate background noise level to be able to set the noise limits at a later date for building services plant to protect neighbouring noise sensitive receptors.

Detail of the noise survey is presented within APPENDIX A.

1.1 Performance Standards

The table below outlines the various performance standards and guidance documents which have formed the basis of the acoustic design.

Document	Documents used for guidance
BS 4142:2014	✓
BS 7445	✓
BS8233	✓
STD/Z/DG/078	✓
BREEAM 2018 (See APPENDIX D)	✓

Table 1.1: Performance Standards

1.2 Planning Conditions

MACH is not aware of existing planning condition for Gwent Police Operational Facility imposed by the local authority. If existing planning conditions are in place MACH should be informed.

2.0 SUITABLY QUALIFIED ACOUSTICIAN - BREEAM

All design work for this project has been completed or reviewed by a suitably qualified acoustician (SQA) as per BREEAM requirements. The SQA detail has been presented in the table below:

Suitably Qualified Acoustician	
Name	Max Reynolds
Degree	BSc Hons - Music Systems Engineering MSc Hons Architectural Engineering: Environmental Design
Institute of Acoustic Membership	Member of Institute of Acoustics
Total Years of Relevant Experience	10 Years (2012 – Present)
Total Years of Relevant Experience in previous 5 Years	5 Years

Table 2.1: Suitably Qualified Acoustician

Note: Mach Acoustics Ltd is also registered with the Association of Noise Consultants (ANC)

3.0 ENVIRONMENTAL NOISE SURVEY

To establish the existing environmental noise levels on site, a noise survey was conducted between 11:16 on the 11/10/2022 and 11:28 on the 12/10/2022. For more information on the methodology of this survey, site information and survey data, see APPENDIX A Environmental Noise Survey

3.1 Site Description

The site is located on Turnpike Road, Cwmbran, NP44 2XJ and is situated next to the A4042 which is the primary source of noise contributions. The site is 200 metres from Crownbridge school.

3.2 Site Map

The site in relation to its surroundings and nearest noise sensitive receivers is presented in Figure 3.1.



Figure 3.1 - Proposed Development (Red) and Nearest Noise Sensitive Receivers (Blue)

3.3 Summary of $L_{Aeq,T}$ Measurements

The table below presents the noise parameters recorded at the fixed microphone positions for the average ambient noise levels.

Location	Period, T	Start	End	$L_{Aeq,T}$ (dB)
Fixed Location 1 (East)	Daytime (16hour)	07:00	23:00	65
	Night-Time (8hour)	23:00	07:00	60
Fixed Location 2 (West)	Daytime (16hour)	07:00	23:00	62
	Night-Time (8hour)	23:00	07:00	55

Table 3.1: Summary of fixed location measurements

3.4 Summary of $L_{Aeq,1hr}$ Noise Levels

Based on the results of the environmental noise survey as outlined within APPENDIX A of this report, the $L_{Aeq, 1hr}$ noise levels representative of the local noise climate has been produced by means of logarithmically averaging the fixed measurement data to fit this time period as shown in Table 3.2.

Location	Date	Start	End	Duration	$L_{Aeq,1hr}$ (dB)
Fixed Measurement Location 1	11/10/2022	11:15	12:00	00:45:00	63
		12:00	13:00	01:00:00	64
		13:00	14:00	01:00:00	65
		14:00	15:00	01:00:00	66
		15:00	16:00	01:00:00	66
		16:00	17:00	01:00:00	67
	12/10/2022	09:00	10:00	01:00:00	65
		10:00	11:00	01:00:00	65
Fixed Measurement Location 2	11/10/2022	12:00	13:00	01:00:00	62
		13:00	14:00	01:00:00	62
		14:00	15:00	01:00:00	62
		15:00	16:00	01:00:00	63
		16:00	17:00	01:00:00	63
		12/10/2022	09:00	10:00	01:00:00
	10:00		11:00	01:00:00	61

Table 3.2: $L_{Aeq, 1hr}$

As shown in Table 3.2, 67 dB $L_{Aeq, 1r}$ is the highest measured $L_{Aeq, 1hr}$ noise level at the fixed measurement 1 position on the east side and 63 dB $L_{Aeq, 1r}$ is the highest measured $L_{Aeq, 1hr}$ noise level at the fixed measurement 2 position on the west side.

3.5 Summary of Background Noise Levels, L_{A90}

The table below presents measured noise levels of the L_{A90} values measured on site. These will be discussed further in the plant noise impact assessment to ensure a representative value will be used in relation to the proposed operational hours.

Date	Location	Period, T	Average	L_{A90} (dB)
11/10/2022-12/10/2022	Fixed 1	Daytime (16hour)	Mode	61
		Night Time (8hour)	Mode	44
11/10/2022-12/10/2022	Fixed 2	Daytime (16hour)	Mode	54
		Night Time (8hour)	Mode	42

Table 3.3: Summary of Fixed Location Measurements

4.0 FAÇADE NOISE BREAK-IN ASSESSMENT

4.1 Police Custody Suites Design Guide

This standard provides recommendations and guidance regarding the design, specification, building and use of police custody buildings. Regarding acoustics, its aims are to maintain privacy between adjoining areas, minimise disturbance of acoustically sensitive spaces and minimise stress to custody staff and building users.

4.1.1 Internal Ambient Noise Levels

Recorded Interview Rooms and Interview Monitoring Rooms are particularly sensitive to the intrusion of external noise. The following statement is made regarding these spaces:

“Noise levels from mechanical and electrical services within Recorded Interview Rooms and Interview Monitoring Rooms should not exceed NR 25 (Leq). Mechanical and electrical services noise includes noise from plant rooms and from plant areas in other parts of the building or site, as well as noise generated within the room itself.”

As for internal ambient noise levels within other spaces, guidance contained within BS8233:2014 and the British Council for Offices (BCO) Guide to Specification 2014 is recommended with regards to both external noise intrusion and noise from mechanical and electrical services.

Based on the above, MACH refers to BS8233:2014 and BCO in the following sections to establish internal ambient noise limits criteria.

4.2 Criteria - Internal Ambient Noise Limits - Residential – BS8233:2014

As the proposed development includes areas intended for overnight occupation, these rooms were assessed as being residential spaces. The standard design guide for internal noise levels for residential developments is within BS8233: 2014 ‘Guidance on sound insulation and noise reduction for buildings’. BS8233 states that to achieve adequate sleeping and living conditions, background noise levels should be 30 dB L_{Aeq} or less within bedrooms at night, and 35 dB L_{Aeq} or less within Living rooms during the day. The advised levels are tabulated below.

Activity	Location	07:00 – 23:00	23:00 – 07:00
Resting	Living Room	35 dB L _{Aeq} , 16 Hour	-
Dining	Dining Room	40 dB L _{Aeq} , 16 Hour	-
Sleeping	Bedroom	35 dB L _{Aeq} , 16 Hour	30 dB L _{Aeq} , 8 Hour

Table 4.1 - BS8233 internal noise levels

BS8233:2014 - NOTE 7 states;

“Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.”

BS 8233: 2014 provides no definitive methodology for assessment of L_{Amax} levels.

The WHO Community Noise Guidelines 1998 states that in order to avoid sleep disturbance within bedrooms during the night, the internal sound pressure level should not exceed 45 dB L_{Amax} . It is widely accepted that noise events should not exceed 45 dB L_{Amax} more than 10-15 times during the nighttime period (23:00 – 07:00).

4.3 Criteria - Internal Ambient Noise Limits - Offices – BS8233:2014 & BCO

The standard guidance documents available for the specification on internal noise levels for office developments include BS8233:2014 and the BCO Guide to Specification. BS8233:2014 provides values in terms of $L_{Aeq,T}$ where BCO provides values in terms of NR ($L_{eq,T}$). Only BS8233:2014 comments on the time period T, and states it should be representative of the activity involved. Therefore, for the purpose of this noise survey the $L_{Aeq,1hour}$ will be reported.

For non-domestic buildings, BS 8233:014 provides the following noise limits.

Activity	Location	Design Range (dB $L_{Aeq,T}$)
Speech or telephone communications	Department store, Cafeteria, canteen, kitchen	50 – 55
	Concourse, Corridor, circulation space	45 – 55
Study and work requiring concentration	Library, gallery, museum	40 – 50
	Staff/meeting room, training room	35 – 45
	Executive office	35 – 40
Listening	Place of worship, counselling, meditation, relaxation	30 – 35

Table 4.2: BS 8233 Typical Noise Levels in Non-Domestic Buildings

4.4 Design Targets

Based on the previous sections it is considered that the interview rooms, being sensitive to external noise and as the primary intended activity is listening, should be designed for internal noise levels in the region of 30 – 35 dB $L_{Aeq,T}$. Regarding cells, the most onerous internal ambient noise level target provided by BS8233 is ≤ 35 dB $L_{Aeq,16hour}$ for daytime, and ≤ 30 dB $L_{Aeq,8hour}$, ≤ 45 dB $L_{Amax, 8 Hour}$ during night-time. The rest of the sensitive spaces evaluated as offices should be designed for internal noise levels in the region of 35 – 40 dB $L_{Aeq, T}$.

To summarise the above, Table 4.3 outlines spaces and the internal ambient noise levels limit correspondingly.

Space	07:00 – 23:00	23:00 – 07:00
Interview Room	30 – 35 dB $L_{Aeq, 1 Hour}$	-
Office	35 – 40 dB $L_{Aeq, 1 Hour}$	-
Cell	35 dB $L_{Aeq, 16 Hour}$	30 dB $L_{Aeq, 8 Hour}$ 45 dB $L_{Amax, 8 Hour}$

Table 4.3: Internal Ambient Noise Levels

4.5 Façade Noise Levels

As shown in Table 3.2, 67 dB $L_{Aeq, 1hr}$ is the highest measured $L_{Aeq, 1hr}$ noise level at the fixed measurement 1 position and 63 dB $L_{Aeq, 1hr}$ is the highest measured $L_{Aeq, 1hr}$ noise level at the fixed measurement 2 position.

4.6 Noise Mapping

The measured noise level data has been used to calibrate a detailed model in CadnaA noise prediction software, such to more accurately understand and assess the propagation of noise across the site.

CadnaA is an industry standard noise propagation software. The software calculates how sound travels over distance. The models take into account reflections off hard surfaces, ground absorption, geometrical spreading. The calculations are performed in accordance with ISO 9613: Attenuation of sound during propagation outdoors.

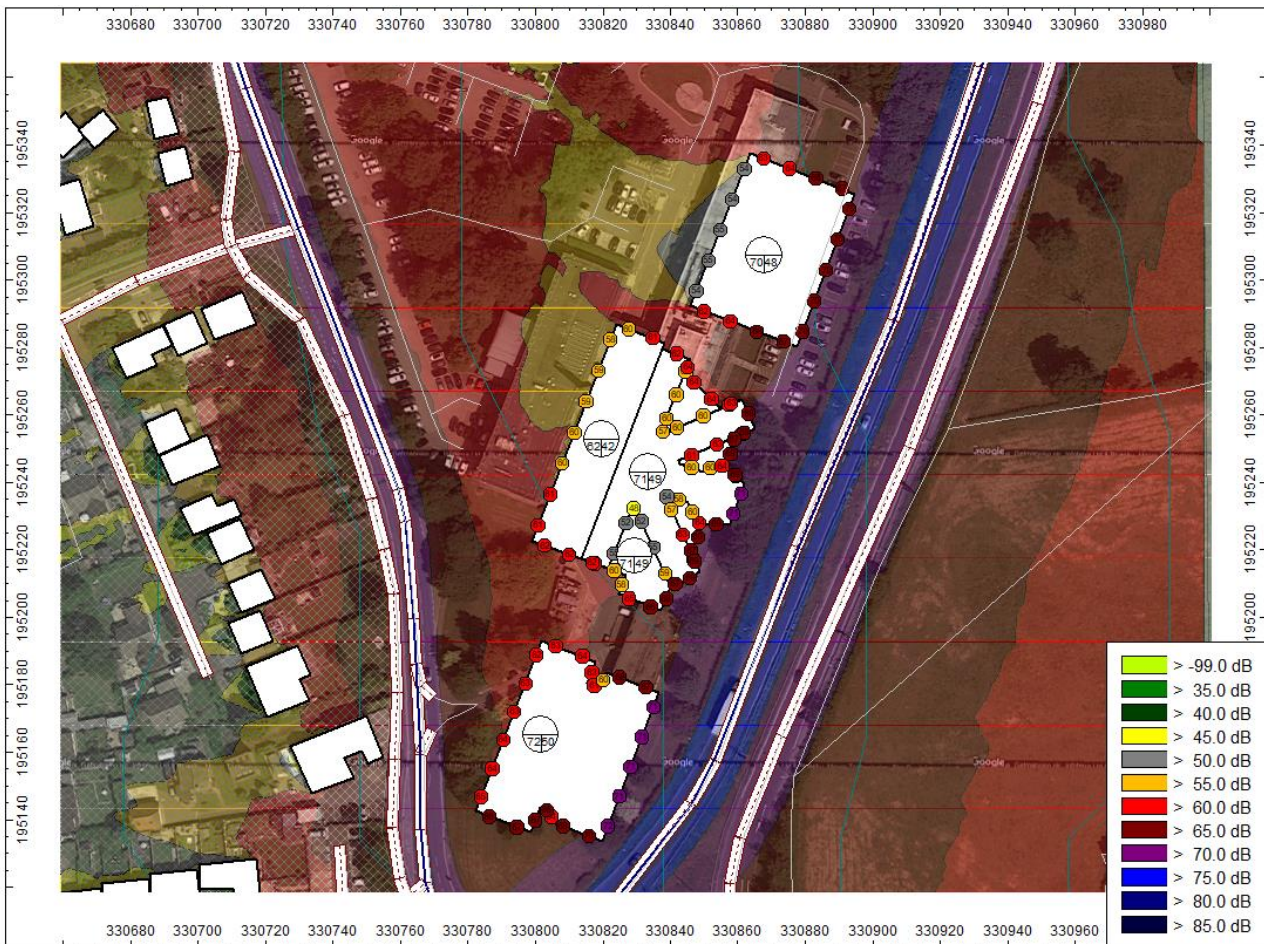


Figure 4.1 - CadnaA Map Showing the Predicted Façade Level – Day time



Figure 4.2 - CadnaA Map Showing the Predicted Facade Level - Night time

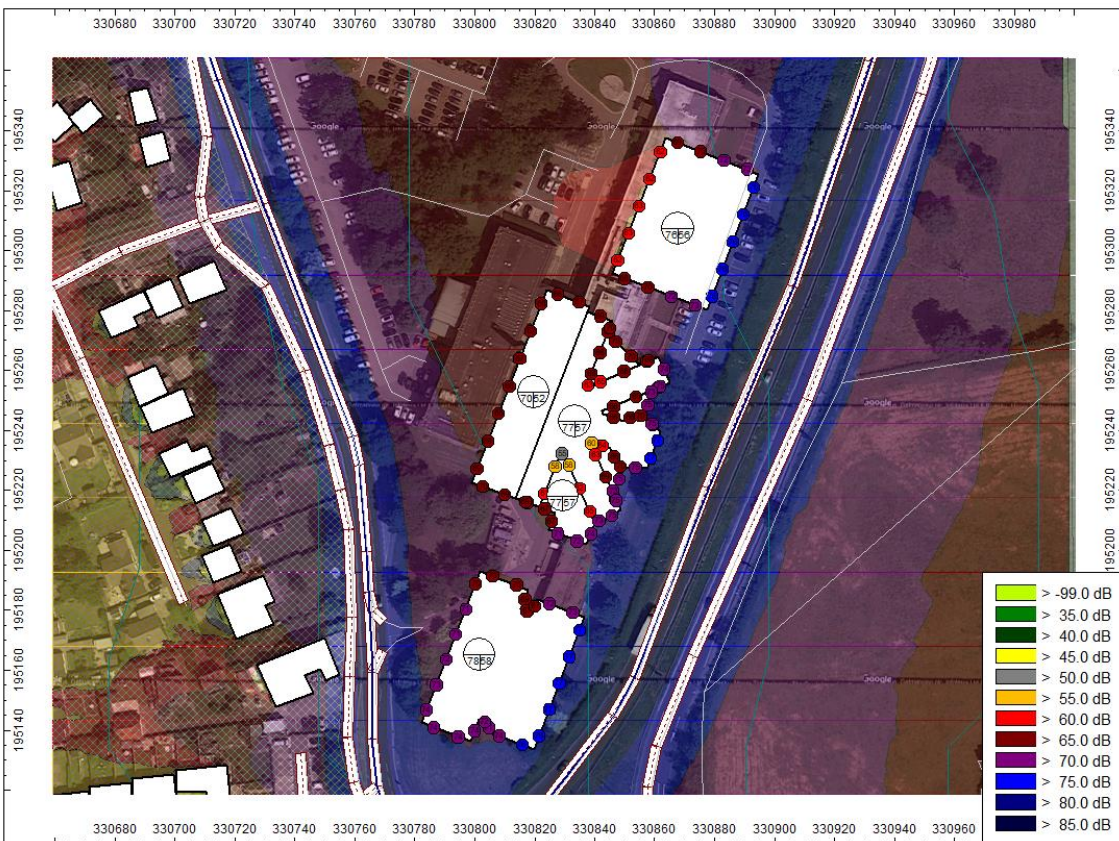


Figure 4.3 - CadnaA Map Showing the Predicted Facade Level - L_{Amax} Night time

4.7 Noise Exposure Categories

Due to the varied predicted noise levels on different facades of the proposed development, noise exposure categories have been set to allow different ventilation and façade specification assessment to be carried out.

Noise Exposure Category	Noise Exposure Category	Noise Exposure Category
1	2	3
≤60dB LAeq,1hr	61dB – 66dB LAeq,1hr	67dB – 72dB LAeq,1hr



Figure 4.4: Noise Exposure Categories

4.8 Natural Ventilation Feasibility Assessment

An open window typically provides between 10 to 15 dBA of sound attenuation. MACH Acoustics typically take 13 dBA as the sound attenuation provided by an open window ventilation strategy. Subtracting this figure from the predicted façade noise level gives a predicted internal noise level.

	Highest LAeq,T (dB)		
	NEC 1	NEC 2	NEC 3
Design Target	≤35		
Highest Measured Noise Level at the Façade	60	66	72
Open window attenuation	-13		
Predicted Indoor Ambient Noise Level	47	53	59

Table 4.4: Predicted Indoor Ambient Noise Level

As the table shows, based on the noise levels measured, predicted indoor ambient noise levels are likely to exceed the design limits with windows open. Therefore, openable windows should not be relied upon as part of the ventilation strategy. Mechanical ventilation is seen as a suitable ventilation strategy for this development.

4.9 Minimum Façade Specification

The table below provides the minimum sound reduction indices for windows, solid façades, and roofs to meet the BS8233 internal noise level requirements.

Noise Exposure Category	Façade Element	Minimum Required Sound Reduction Indices						
		125	250	500	1000	2000	4000	R _w
1	Window	22	25	31	34	31	37	32
	Solid Façade	24	34	40	45	49	49	43
	Roof	24	34	40	45	49	49	43
2	Window	24	25	31	42	44	49	36
	Solid Façade	24	34	40	45	49	49	43
	Roof	24	34	40	45	49	49	43
3	Window	24	25	31	42	44	49	36
	Solid Façade	34	34	40	55	55	55	45
	Roof	22	37	43	49	57	57	45

Table 4.5: Minimum Façade Specification

5.0 NOISE BREAK-OUT ASSESSMENT

5.1 Criteria

BS 4142:2014 “Methods for rating and assessing industrial and commercial sound” describes a method of determining the level of noise of an industrial nature, together with the procedures for assessing whether the noise in question is likely to give rise to complaints from persons living in the vicinity. As such, an assessment to BS 4142 is typically called for within planning conditions.

The likelihood of complaints in response to a noise depends on various factors. BS 4142 assesses the likelihood of complaints by considering the margin by which the noise in question exceeds the background noise level.

5.2 Design Target

It is currently unknown whether the local authority has specific plant noise limits; however, BREEAM 2018 Pol 05 credit is understood to be targeted, the plant noise rating level limit has been set in accordance with BREEAM 2018 Pol 05 credit. The plant noise limit at the nearest receptor is therefore subject to agreement with the local authority.

As per the BREEAM 2018 Pol 05, the plant noise rating level limit at the nearest noise sensitive receptor has been set to 5 dB below the existing background noise levels (L_{A90}) throughout the day and night. For the purposes of assessment, MACH Acoustics has used the **typical** daytime and night-time background noise level based on the L_{A90} histogram data in APPENDIX B.

Position	Time Period	Assessed Background Noise Level (dB L_{A90})	Plant Noise Rating Level Limit dB $L_{A,r,T,r}$	
			At Nearest Sensitive Receivers	At Nearest Window of Development
Fixed 2	Daytime (07:00 - 23:00)	54	49	51
	Night-Time (23:00 - 07:00)	42	37	39

Table 5.1: L_{A90} Background Noise Levels for Plant Noise Break-out Assessment

5.3 Plant Noise Breakout Assessment

A comprehensive noise breakout assessment will be completed once data/layouts are made available and provided to MACH.

APPENDIX A ENVIRONMENTAL NOISE SURVEY

To establish the existing environmental noise levels on site, a noise survey was conducted between 11:16 on the 11/10/2022 and 11:28 on the 12/10/2022.

This site assessment was undertaken by Aaron Andrews of MACH Group.

A.1 Site Description

The site is located on Turnpike Road, Cwmbran, NP44 2XJ and is situated next to the A4042 which is the primary source of noise contributions. The site is 200 metres from Crownbridge school.

A.1.1 Subjective Noise Climate (On-site)

Noise Type	Noise Characteristics	Sources
Dominant	A primary contributor of noise levels on the site.	Road Traffic
Other Noise Contributions	Contributors to the remainder of the noise climate on site.	On-site Activity Noise

Table A.1.1 - Subjective Summary of the Noise Sources

A.1.2 Non-Representative Noise Sources

During the survey, no noise events occurred which would be deemed as atypical of the site location.

A.2 All Measurement Locations

To help with the understanding of the site and measurement locations all the measurement positions are presented on the map below. Photos of the locations in situ are in the following sections.

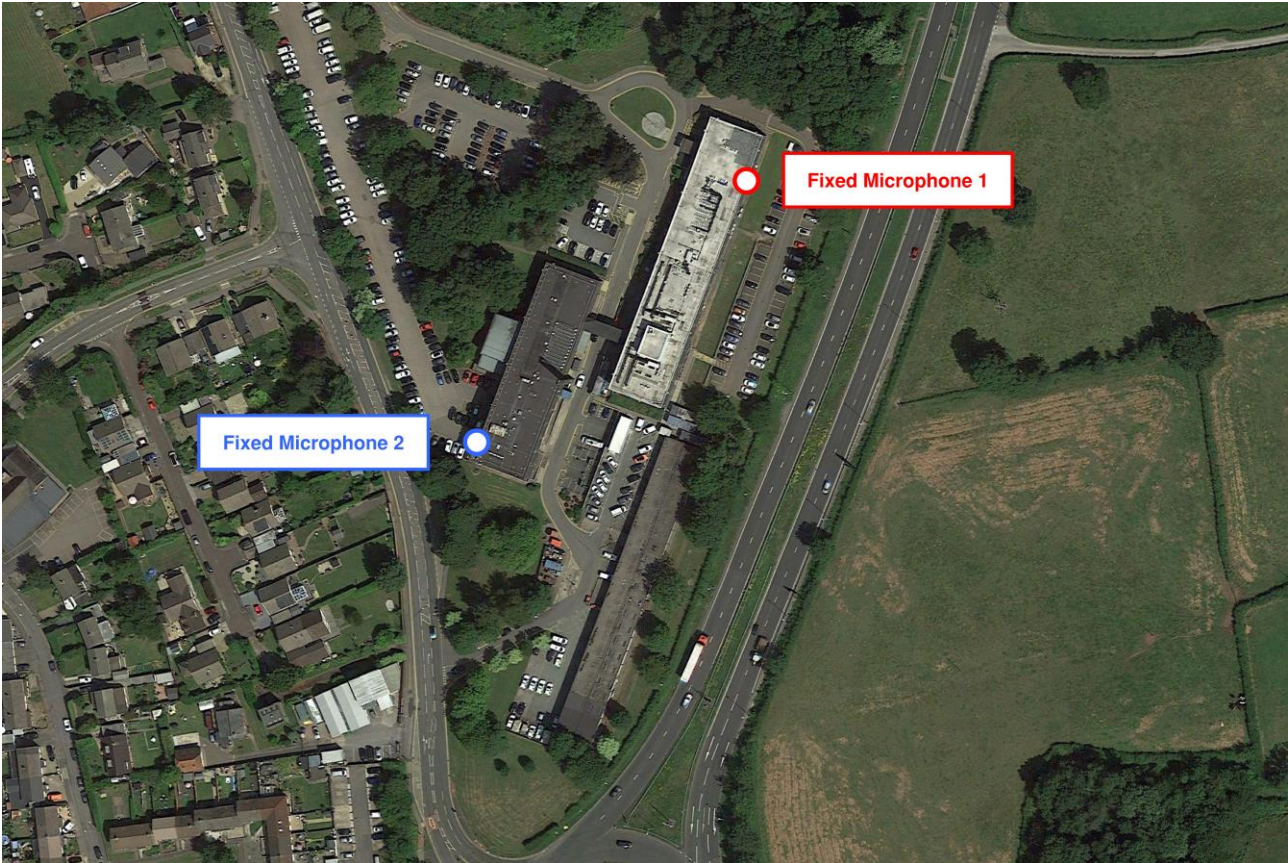


Figure A.2 - All Measurement Locations on a Map

A.3 Fixed Measurement 1

A fixed microphone position was used to record noise levels between 11:46 on the 11/10/2022 and 11:10 on the 12/10/2022, where the fixed long-term meter was set to measure consecutive 'A' weighted 5-minute time samples. Measurements have been taken in free field conditions

To help with the understanding of the site and the measurement locations, the figures below present the location of the microphone position(s) in situ. The results of the environmental noise survey are provided within section A.3.2.

A.3.1 Fixed measurement Location – F1



Figure A.3.2:- Fixed Measurement F1 location in situ

A.3.2 Fixed Measurement 1 Results

The following graph presents the noise levels recorded over the measurement period at the fixed location (F1).

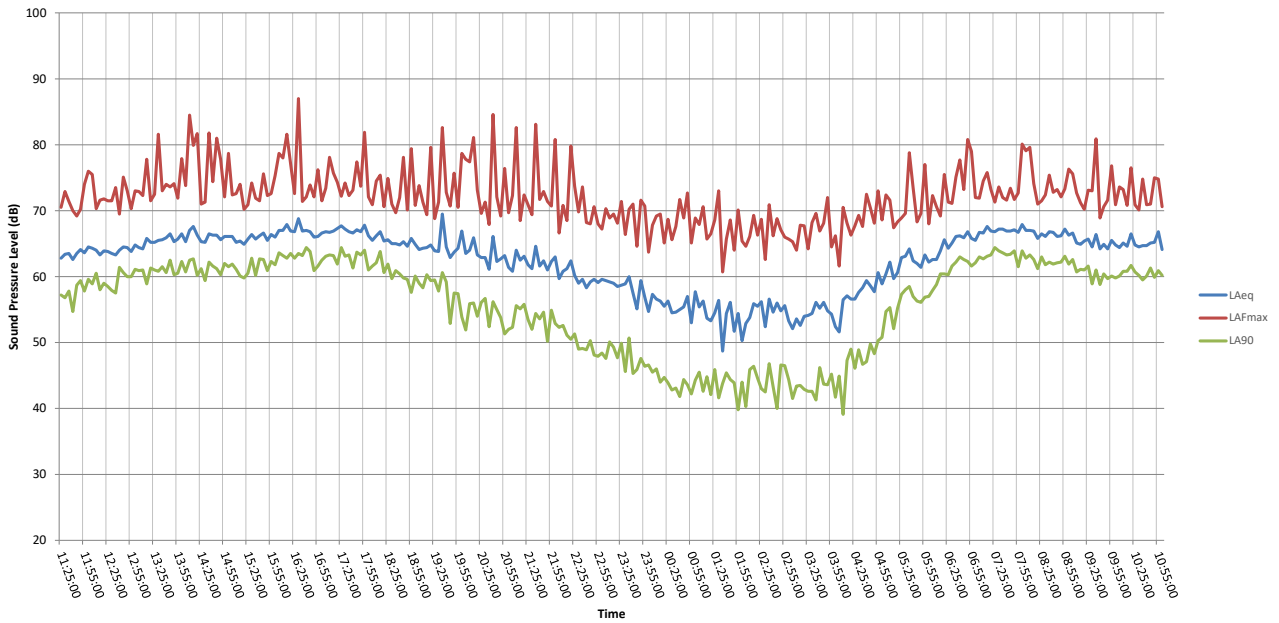


Figure A.3.2 - Sound Pressure Level at fixed location, F1

A.4 Fixed Measurement 2

A fixed microphone position was used to record noise levels between 11:49 on the 11/10/2022 and 11:25 on the 12/10/2022, where the fixed long-term meter was set to measure consecutive 'A' weighted 5-minute time samples. Measurements have been taken in free field conditions

To help with the understanding of the site and the measurement locations, the figures below present the location of the microphone position(s) in situ. The results of the environmental noise survey are provided within section A.4.2.

A.4.1 Fixed measurement Location – F2

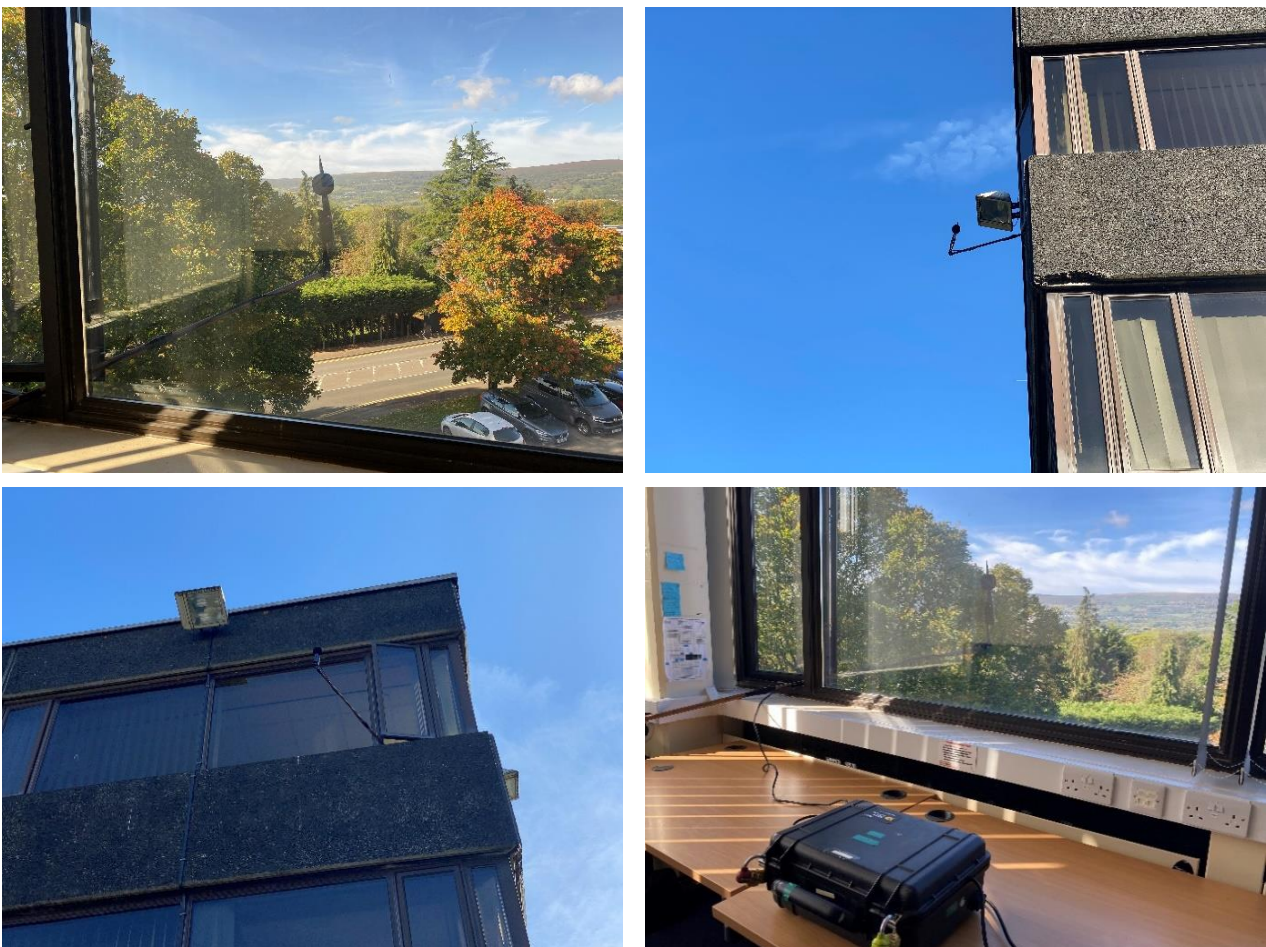


Figure A.4.1 - Fixed Measurement F2 location in situ

A.4.2 Fixed Measurement Results

The following graph presents the noise levels recorded over the measurement period at the fixed location (F1).

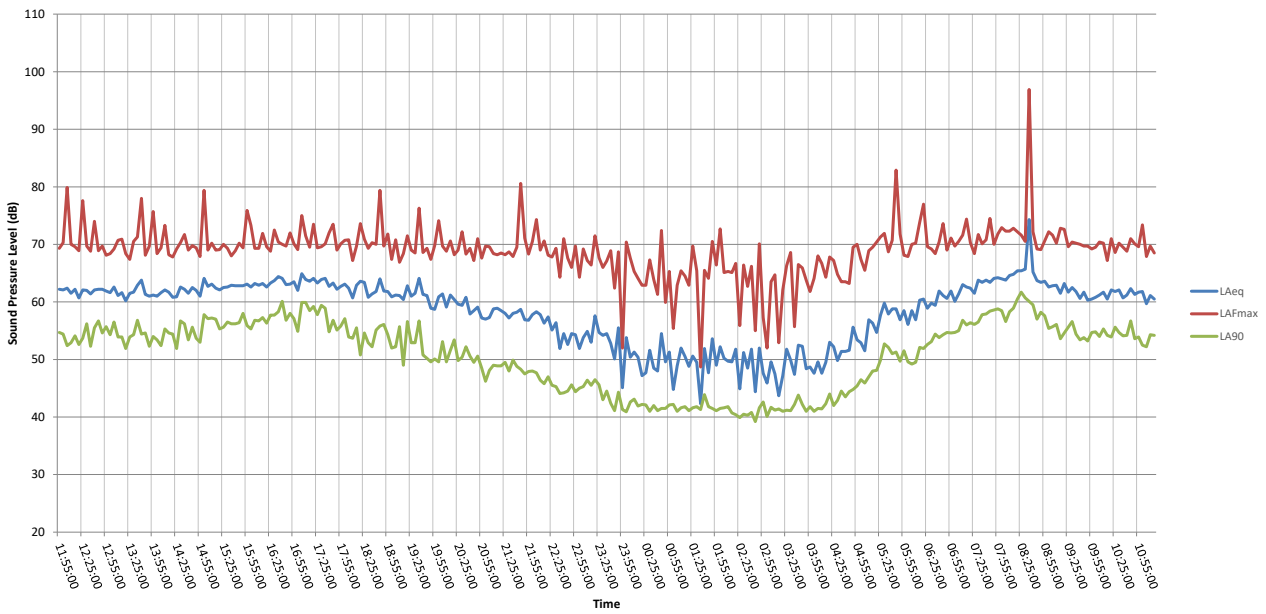


Figure A.3.2 - Sound Pressure Level at fixed location, F2

A.5 Spot Measurement

Spot measurements help quantify existing noise levels at different points around the site.

The figures below present the location of the microphone position(s) in situ.

The results of the measured levels at these location(s) are also presented in Table A.6.

A.5.1 Spot Measurement - S1

This spot measurement was taken between 11:48 and 11:55 on 12/10/2022 approximately 10m from Turnpike Road, located north of the proposed development site.



Figure A.5.1 - Spot Measurement S1 in situ

A.5.2 Spot Measurement – S2

This spot measurement was taken between 12:00 and 12:05 on 12/10/2022 approximately 10m from the roundabout connecting Turnpike Road and the A4042.



Figure A.5.2 - Spot Measurement S2 in situ

A.6 All Spot Measurement Results

The L_{Aeq} , L_{AFmax} , and L_{A90} levels measured from all spot measurements are shown in Table 4.2 below.

Measurement Location	Start	End	Duration	$L_{Aeq, T}$ (dB)	L_{AFmax}	L_{A90}
S1	11:48:16	11:55:00	0:06:44	64.2	81.8	50
S2	12:00:02	12:05:00	00:04:58	67.7	76.4	63.3

Table A.6 - Spot Measurement Results Table

A.7 Measurement Equipment

Item	Serial No.	Last Calibration	Certificate No.	Calibration Due
NTI Precision Sound Analyser XL2 TA	A2A-08695-E0	26/09/2022	180612	26/09/2024
NTI Pre-amplifier MA220	7182	26/09/2022	180612	26/09/2024
NTI Microphone Capsule MC230	216353A	26/09/2022	180607	26/09/2024

Item	Serial No.	Last Calibration	Certificate No.	Calibration Due
NTI Precision Sound Analyser XL2 TA	A2A-13174-E0	03/09/2021	UK-21-073	03/09/2023
NTI Pre-amplifier MA220	8073	03/09/2021	UK-21-073	03/09/2023
NTI Microphone Capsule MC230A	A14429	03/09/2021	UK-21-073	03/09/2023

Table A.7 – Measurement Equipment

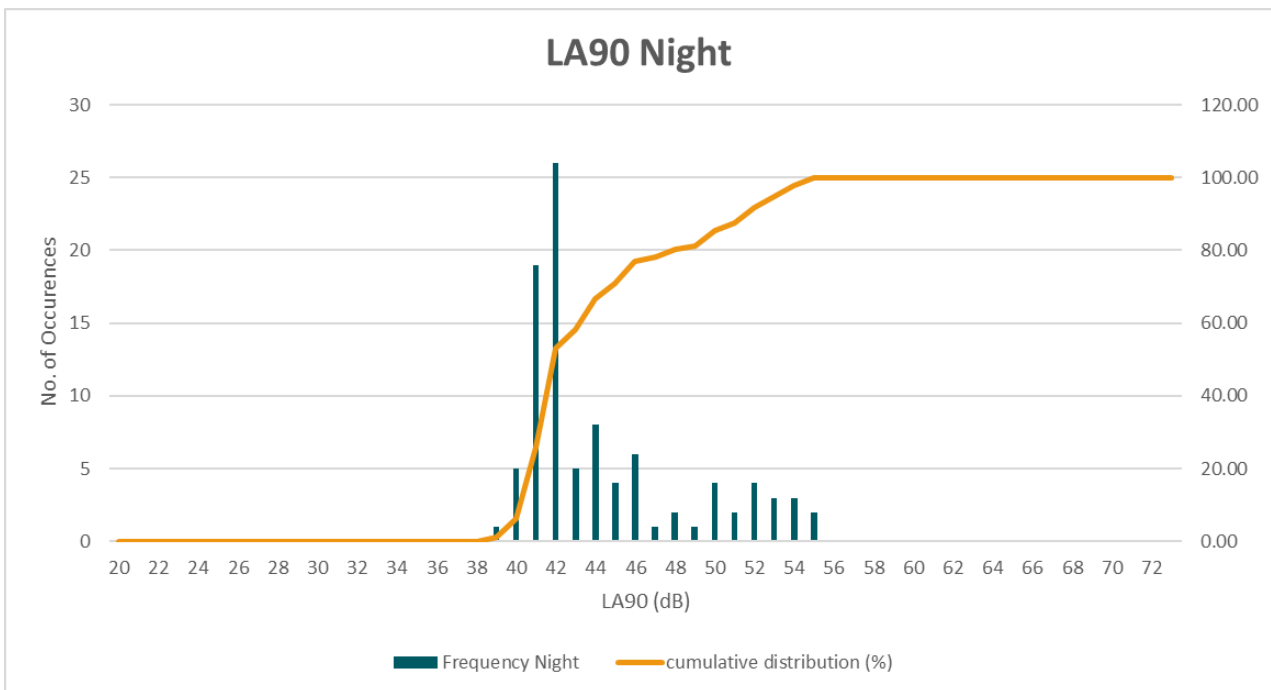
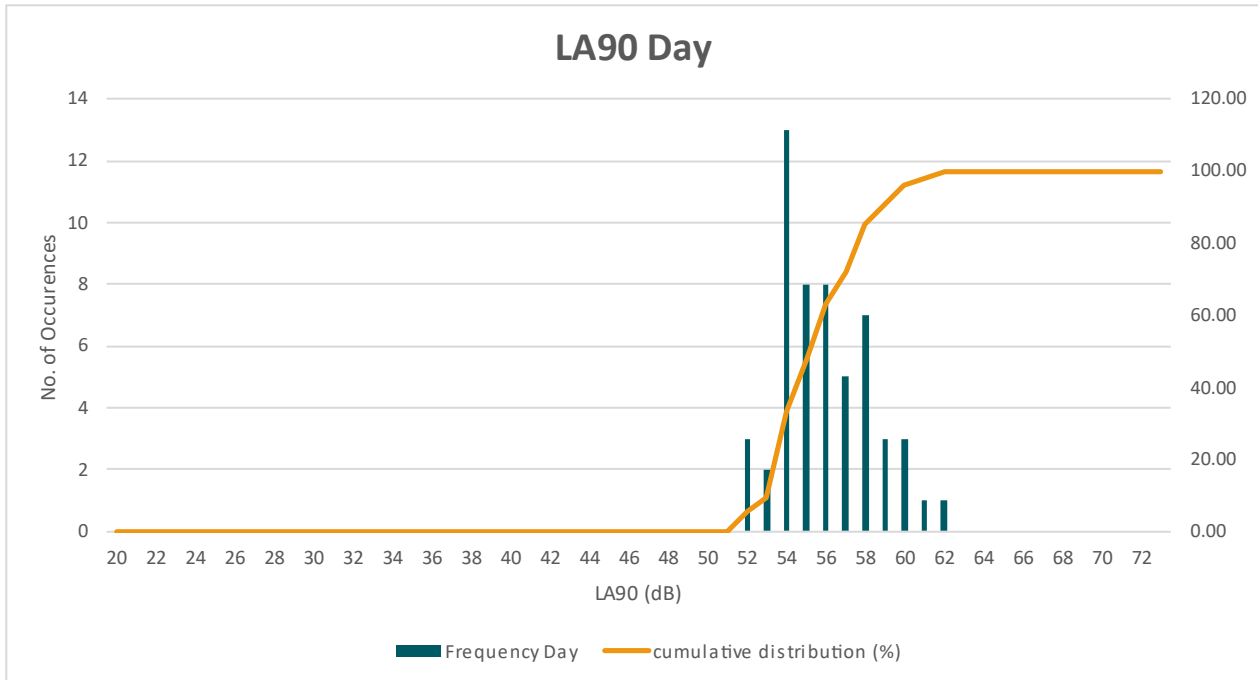
A.8 Meteorological Conditions

Data Taken from: <https://www.timeanddate.com/weather/>

Date	Time (hh:mm)	Temperature (High / Low) (°C)	Humidity (%)	Pressure (hPa)	Wind Speed (m/s)	Wind Direction	Conditions
11/10/2022	06:00	12/4	90	1028	5	ESE	Cool
	12:00	14/13	63	1026	6	ESE	Cool
	18:00	13/10	75	1024	6	SSW	Passing Clouds
12/10/2022	00:00	13/12	79	1022	5	S	Cool
	06:00	14/12	78	1020	8	SW	More Clouds than Sun
	12:00	15/13	84	1019	7	SW	Overcast

Table A.8 - Meteorological Conditions

APPENDIX B LA90 HISTOGRAM



APPENDIX C BS 4142

BS 4142:2014 “Methods for rating and assessing industrial and commercial sound” describes a method of determining the level of noise of an industrial nature, together with the procedures for assessing whether the noise in question is likely to give rise to complaints from persons living in the vicinity. As such, an assessment to BS 4142 is typically called for within planning conditions. The likelihood of complaints in response to a noise depends on various factors. BS 4142 assesses the likelihood of complaints by considering the margin by which the noise in question exceeds the background noise level.

BS 4142 states that one should ‘obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level from the rating level and consider the following:

- a) Typically, the greater this difference, the greater the magnitude of the impact.
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around + 5 dB is likely to be an indication of an adverse impact, depending on the context.
- d) 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 aforementioned rating level is based upon the specific noise level of the noise source in question. A correction should be applied to the specific noise level to obtain an increased rating level if ‘a tone, impulse or other characteristic occurs, or is expected to be present, for new or modified sound sources. To summarise, BS4142 section 9.2 advises the following with regards to corrections for acoustic characteristics:

- **Tonality** – for sound ranging from not tonal to prominently tonal the Joint Nordic Method gives a correction of between 0 dB and +6 dB for tonality. Subjectively, this can be converted to a penalty of 2 dB for a tone which is just perceptible at the noise receptor, 4 dB where it is clearly perceptible, and 6 dB where it is highly perceptible.
- **Impulsivity** – A correction of up to +9 dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level., Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor, 6 dB where it is clearly perceptible, and 9 dB where it is highly perceptible.
- **Other sound characteristics** – Where the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied
- **Intermittency** – When the specific sound has identifiable on/off conditions, if the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

APPENDIX D BREEAM NEW CONSTRUCTION SCHEME

The BREEAM New Construction Scheme is an environmental assessment method for rating and certifying the performance of buildings. The credits available under the scheme, to ensure the building's acoustic performance meet the appropriate standards for its purpose, are as follows.

D.1 BREEAM 2018

D.1.1 Hea 05 Acoustic performance

No. Credits	Description	Testing Requirement
1	The sound insulation between rooms and other occupied areas complies with the performance criteria given in Section 7 of BS 8233:2014. Alternatively, propose performance standard based on demonstrably best practice. *	A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures outlined in BREEAM 2018.
1	Achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014.*	A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures outlined in BREEAM 2018.
1	Achieve the requirements relating to sound absorption and reverberation times, where applicable, set out in Section 7 of BS 8233:2014 *	A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures outlined in BREEAM 2018. For spaces where the acoustic environment is controlled through the use of defined amounts of sound absorption, installation of a specification compliant with the BS 8233:2014 criteria demonstrates compliance. A site inspection by the developer or SQA is required to confirm that a compliant specification has been installed.
* Rooms with specific functions – for educational spaces (teaching and lecture spaces) refer to BREEAM 2018 education criteria, for medical treatment rooms refer to BREEAM 2018 healthcare criteria.		

BREEAM 2018 Available Acoustic Credits – Hea 05

D.1.2 Pol 05 Reduction of noise pollution

No. Credits	Description	Testing Requirement
1	There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site.	N/A
	OR	
	Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:2014 is commissioned. Noise levels must be measured or determined for: Existing background noise levels: at the nearest or most exposed noise-sensitive development to the proposed assessed site including existing plant on a building, where the assessed development is an extension to the building Noise rating level from the assessed building.	The noise impact assessment must be carried out by a suitably qualified acoustic consultant. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise sensitive development, must be at least 5dB lower than the background noise throughout the day and night. If the noise sources from the assessed building are greater than the levels described above, measures have been installed to attenuate the noise at its source to a level where it will comply.

BREEAM 2018 Available Acoustic Credits – Pol 05