

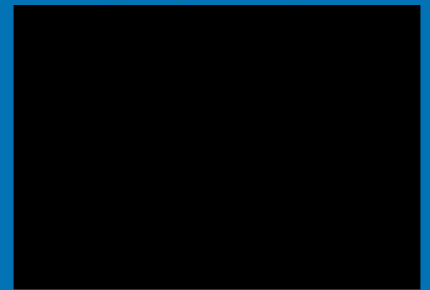


**Independent Acoustic
Consultancy Practice**

Noise Impact Assessment

**Derwen Recycling Limited
Skewen**

7942/NIA1



Noise Impact Assessment

Project: Derwen Recycling Limited

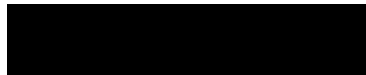
Site Address: Neath Abbey Wharf
Neath Abbey
Skewen
Neath
SA10 6BL

HA Reference: 7942/NIA1

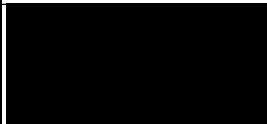
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1. INTRODUCTION

We understand a new concrete batching system is proposed at Derwen Recycling Limited, Neath Abbey Wharf, Neath Abbey, Skewen, Neath, SA10 6BL.

The existing use of the site is a recycling facility with multiple screeners, loading shovels and excavators on site. Which has been situated on the site for +10years.

From drawings provided a static concrete batching unit is proposed in the northeastern corner of the site which is fed by a loading shovel and lorries are filled with material.

A noise impact assessment of the proposed operation is to accompany the planning application.

Source sample measurements have been taken of the machinery being loaded and running.

This report has therefore been commissioned to determine existing background sound levels and predict noise levels from proposed activities and plant, allowing an assessment of the impact to be made.

2. CRITERIA

2.1 Planning Policy Wales

The Welsh Government's Planning Policy Wales (Edition 12) dated February 2024 sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters which together with PPW provide the national planning policy framework for Wales.

Reference to noise is made in Paragraph 6.74: Framework for Addressing Air Quality and Soundscape, which states that:

"6.74 The planning system should maximise its contribution to achieving the well-being goals, and in particular a healthier Wales, by aiming to reduce average population exposure¹⁶¹ to air and noise pollution alongside action to tackle high pollution hotspots. In doing so, it should consider the long-term effects of current and predicted levels of air and noise pollution on individuals, society and the environment and identify and pursue any opportunities to reduce, or at least, minimise population exposure to air and noise pollution, and improve soundscapes, where it is practical and feasible to do so".

Reference is also made to noise in Paragraphs 6.7.15 - 17:

"Location of Commercial, Industrial and other Potentially Polluting Development

6.7.15 For the purposes of this section, potentially polluting development includes commercial, industrial, energy¹⁶⁴ and agricultural or transport infrastructure. Such development should be located in areas where there is low potential for public exposure, or where its impact can be minimised. Novel or new development types may potentially cause pollution and should be carefully considered, and where appropriate, decisions should be based on the precautionary principle.

6.7.16 Relevant considerations in making planning decisions for potentially polluting development are likely to include:

- location, including the reasons for selecting the chosen site itself;*
- impact on health and amenity;*
- effect of pollution on the natural and built environment and the enjoyment of areas of landscape and historic and cultural value;*
- impact on groundwater and surface water quality;*
- effect on biodiversity and ecosystem resilience, including where there may be cumulative impacts on air or water quality which may have adverse consequences for biodiversity and ecosystem resilience;*

- *the risk and impact of potential pollution from the development, insofar as this might lead to the creation of, or worsen the situation in, an air quality management area, a noise action planning priority area or an area where there are sensitive receptors; and*
- *impact on the road and other transport networks, and in particular on traffic generation, particularly where the proposed development is not transport infrastructure itself.*

6.7.17 *The location of potentially polluting development adjacent to sensitive receptors will be unacceptable where health and amenity impacts cannot be minimised through appropriate design and mitigation measures. It is the overall expectation that levels of pollution should be reduced as far as possible and for this reason the location of potentially polluting development should be taken into account as part of overall strategies in development plans to ensure it can be appropriately located and maximum environmental benefits can be gained through measures such as green infrastructure.”*

2.2 Technical Advice Note (Wales) 11

The below summarises the advice given TAN11 (1997) regarding new noise generating developments.

“3. This note provides advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business. It outlines some of the main considerations which local planning authorities should take into account in drawing-up development plan policies and when determining planning applications for development which will either generate noise or be exposed to existing noise sources.

4. Local authorities should adopt a corporate approach and ensure close co-operation between planning and environmental health departments when considering noise and noise generating developments.

Development Control

Noise generating development

8. Local planning authorities must ensure that noise generating development does not cause an unacceptable degree of disturbance. They should also bear in mind that if subsequent intensification or change of use results in greater intrusion, consideration should be given to the use of appropriate conditions.

9. Noise characteristics and levels can vary substantially according to their source and the type of activity involved. In the case of industrial development, for example, the character of the noise should be taken into account as well as its level. Sudden impulses, irregular noise or noise which contains a distinguishable continuous tone will require

special consideration. In addition to noise from aircraft landing and taking off, noise from aerodromes is likely to result from engine testing as well as ground movements. The impact of noise from sport, recreation and entertainment will depend to a large extent on frequency of use and the design of facilities. Advice on assessing noise and on factors to consider in relation to the major noise sources including roads, railways, airports, industrial and recreational noise and their measurement is given in Annex B.

Noise from industrial and commercial developments

B17. The likelihood of complaints about noise from industrial development can be assessed, where the Standard is appropriate, using guidance in BS 4142: 1990. Tonal or impulsive characteristics of the noise are likely to increase the scope for complaints and this is taken into account by the "rating level" defined in BS 4142. This "rating level" should be used when stipulating the level of noise that can be permitted. The likelihood of complaints is indicated by the difference between the noise from the new development (expressed in terms of the rating level) and the existing background noise. The Standard states that, 'A difference of around 10 dB or higher indicates that complaints are likely. A difference of around 5 dB is of marginal significance'. Since background noise levels vary throughout a 24 hour period it will usually be necessary to assess the acceptability of noise levels for separate periods (e.g. day and night) chosen to suit the hours of operation of the proposed development. Similar considerations apply to developments that will emit significant noise at the weekend as well as during the week. In addition, general guidance on acceptable noise levels within buildings can be found in BS 8233: 1987."

TAN11 refers to BS 4142:1997 and BS 8233:1987. These have been superseded by BS 4142:2014+A1:2019 (see Section 2.3 below) and BS 8233:2014 (see Section 2.4 below).

2.3 British Standard 4142:2014+A1:2019

British Standard 4142:2014+A1:2019 "Methods for rating and assessing industrial and commercial sound", provides current guidance for the assessment of industrial noise affecting residential receivers.

This standard describes a rating method comparing L_{Aeq} noise levels from the industrial source with pre-existing background L_{A90} levels at the residential receiver. It advises at a difference (industrial noise - background) of:

- +10dB or higher, likely to be an indication of a significant adverse impact, depending on the context.
- A difference of + 5dB, likely to be an indication of an adverse impact, depending on the context.

- 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.

A sliding scale of penalties can be applied to industrial/commercial sound levels which have acoustically distinguishing characteristics, including tonality, impulsivity and intermittency.

Tonality – A penalty of 2dB for a tone which is just perceptible at the noise receptor, 4dB where it is clearly perceptible, and 6dB where it is highly perceptible.

Impulsivity – A penalty of 3dB for impulsivity which is just perceptible at the noise receptor, 6dB where it is clearly perceptible, and 9dB 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 3dB can be applied

Intermittency – If intermittency is readily distinctive against the residual acoustic environment, a penalty of 3dB can be applied.

BS 4142:2014 states under Section 11;

“Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the following.

- 1) *The absolute level of sound. For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low.*

Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.

Where residual sound levels are very high, the residual sound might itself result in adverse impacts or significant adverse impacts, and the margin by which the rating level exceeds the background might simply be an indication of the extent to which the specific sound source is likely to make those impacts worse.

- 2) *The character and level of the residual sound compared to the character and level of the specific sound. Consider whether it would be beneficial to compare the*

frequency spectrum and temporal variation of the specific sound with that of the ambient or residual sound to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous sound by comparison to the acoustic environment that would occur in the absence of the specific sound. Any sound parameters, sampling periods and averaging time periods used to undertake character comparisons should reflect the way in which sound of an industrial and/ or commercial nature is likely to be perceived and how people react to it.

NOTE 3 Consideration should be given to evidence on human response to sound and, in particular, industrial and/or commercial sound where it is available. A number of studies are listed in the “Effects on humans of industrial and commercial sound” portion of the “Further reading” list in the Bibliography.

- 3) *The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as:*
- i) facade insulation treatment;*
 - ii) ventilation and/or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and*
 - iii) acoustic screening.”*

In addition to the above, the Association of Noise Consultants (ANC) have produced a Technical Note to BS 4142:2014+A1:2019, dated March 2020 (v1.0).

It states under ‘Other Contextual Matters’ – *“The assessor may also wish to consider matters such as the:*

- character of a particular neighbourhood;*
- former uses at or close to a site;*
- legitimacy of the industrial use, e.g. planning permissions or environmental permits;*
- implementation of best practicable means for a given process or activity; or*
- local convention or perceptions.*

When relying on such matters, it is incumbent for the assessor to make clear all elements of context.”

It goes on to say, *“There is no theoretical limit to how the context can or should influence the impact assessment, but any alteration of the conclusions of an assessment due to context should be sufficiently explained and justified for the specific circumstances in question.”*

2.4 British Standard 8233:2014

British Standard 8233:2014 'Guidance on sound insulation and noise reduction for buildings' includes internal noise criteria of habitable rooms in residential dwellings, as shown below;

Table 2.1 – BS 8233:2014 Internal Ambient Noise Criteria for Habitable Rooms

Location	Desired		Reasonable *	
	07:00 to 23:00	23:00 to 07:00	07:00 to 23:00	23:00 to 07:00
Living room	35 dB $L_{Aeq,16hr}$	-	40 dB $L_{Aeq,16hr}$	-
Dining room/area	40 dB $L_{Aeq,16hr}$	-	45 dB $L_{Aeq,16hr}$	-
Bedroom	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$	40 dB $L_{Aeq,16hr}$	35 dB $L_{Aeq,8hr}$

* 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 5dB and reasonable internal conditions still achieved."

3. SOUND SENSITIVE RECEIVERS

In order to set environmental noise limits, it is first necessary to define the existing ambient and background sound climate at the agreed nearest Sound Sensitive Receivers (SSRs).

Figure 3.1 below shows the development site and the closest existing SSRs.

Figure 3.1 – Site Plan Showing Nearest SSRs

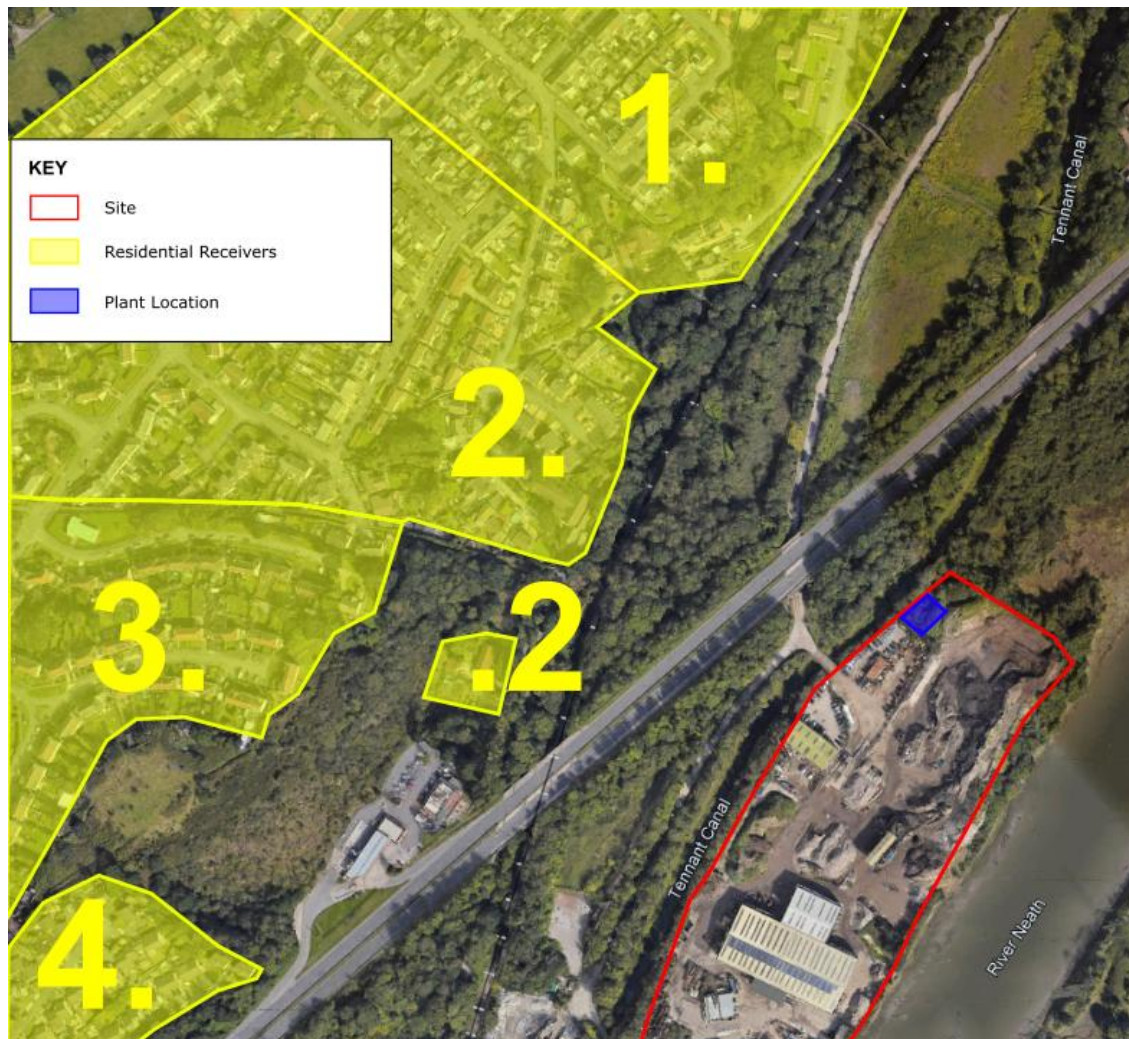


Table 3.1 – Nearest Sound Sensitive Receivers (Distance to Nearest Boundary)

SSR	Description	Distance (m)
1	Residential dwellings to the north of site, along Compton Road	240
2	Residential dwellings to the north of site, along Cardonnel Road	170
3	Residential dwellings to the north of site, along Parc Bryn	280
4	Residential dwellings to the west of site, along Bay View Close	250

4. ENVIRONMENTAL NOISE SURVEY

4.1 Procedures

Background sample measurements have been carried out between 1212hrs and 1418hrs on Monday, 27 April 2026 at positions A and B.

Continuous monitoring was not undertaken over 24/48hrs as secure monitoring locations could not be found. The site also operates daytime hours only (0700 – 1700hrs Weekday, 0700 – 1300hrs Saturday).

Road traffic from the A465 controls the ambient and background climate during the day and is a steady noise source throughout the daytime period. Due to constant and consistent road traffic flows it is expected that background levels shall not shift excessively from one hour period to the next. Measured 1-hr background sound levels are therefore considered representative.

Data including L_{Amax} , L_{Aeq} and background L_{A90} was logged at 1 minute intervals over the monitoring period, along with continuous audio and 100ms data to allow source identification and further detailed analysis of results if required.

Site plan in Figure 4.1 above shows the development site and continuous monitoring positions used, namely:

Figure 4.1 – Monitoring Locations**Table 4.1 – Continuous Monitoring Location Details**

Position	Description
A	Located on Cardonnel Road, Position chosen as representative for backgrounds for the closest residential receivers
B	Located on Compton Road, Position chosen as representative for backgrounds for the closest residential receivers

Note: All microphone positions approximately 1.5m above local ground level.

4.2 Meteorological Conditions

Approximate weather conditions are shown in the time history graph in Figure B.1 of Appendix B.

To summarise, the weather conditions during the monitoring period were dry with an occasional breeze.

4.3 Measurement Equipment

The following measurement equipment was used during the surveys:

Table 4.2 – Noise Monitoring Equipment List

Make	Description	Model	Serial Number	Last Calibrated	Certificate No.
Norsonic AS	Calibrator (114.07dB @ 999.39)	1251	31429	09 October 2025	U52326
NTi	Type 1 - Sound Level Meter	XL2-TA	A2A-08723-E0	11 June 2025	UK-25-074
	Preamplifier	MA220	1820	11 June 2025	UK-25-074
	Filters	XL2-TA	A2A-08723-E0	11 June 2025	UK-25-074
	Microphone Capsule	MC230	9381	11 June 2025	UK-25-074
NTi	Type 1 - Sound Level Meter	XL2-TA	A2A-14577-E0	21 June 2024	UK-24-065
	Preamplifier	MA220	7485	21 June 2024	UK-24-065
	Microphone Capsule	MC230	A15594	21 June 2024	UK-24-065

Measurement systems were calibrated before and after the surveys and no variation occurred.

Note: Copies of traceable calibration certificates for all equipment are available upon request.

4.4 Results

The following Table 4.3 shows L_{Aeq} and L_{A90} sound pressure levels measured at positions A & B respectively.

Table 4.3 – Summary of Results

Position	Start Time (hh:mm)	Duration (mm:ss)		
			L_{Aeq}	L_{A90}
A	12:12	60:00	63	61
B	13:18	60:00	59	57

The ambient and background climate was controlled by road traffic on the A465.

5. SOURCE SAMPLE MEASUREMENTS

5.1 Procedure

Noise measurements of the concrete batching plant have been undertaken including loading of the hopper and the machine running. Monday, 20 April 2026.

This consisted of the plant being loaded by a loading shovel and the machine operating without material passing through.

Parameters logged included duration, L_{Aeq} & L_{A90} and third octave band spectra, along with continuous audio and 100ms data to allow detailed post analysis of results.

5.2 Results

The following details results of sample measurements undertaken.

Table 5.1 – Source Sample Measurement Results

Description	Distance from source (m)	Duration (mm:ss)	L_{Aeq} (dB)
Position 1 - Approximately 10m west of the vibratory mechanism and conveyor belt*	10m	09:23	65.1
Position 2 - Located off site on the opposite side of Tennant Canal**	40m	09:13	61.3

*Existing site operations attributed to this noise level

**Road traffic noise from the A465 was controlling at this position.

Octave band spectra is included in Figure B.2 in Appendix B.

Table 5.2 – Residual Sample Measurement Results

Description	Distance from source (m)	Duration (mm:ss)	L_{Aeq} (dB)
Position 1	-	09:32	59.9
Position 2	-	03:34	61.2

6. NOISE MODELLING

Our analysis has used the proprietary iNoise (v2026.1) computer modelling software, in conjunction with procedures of ISO 9613.

This model allows noise levels from noise sources (including building facades) to be predicted over large distances and varying terrain. Attenuation is included accounting for distance, air absorption, ground absorption and screening losses from site topography/local structures.

Standard LiDAR DTM 1m data has been used for terrain modelling

The analysis predicts resultant noise levels at the SSRs.

Drawings used in our assessment are referenced in Appendix E.

6.1 Source Plant Noise Data

Source noise data used in the model for the concrete batching plant and vehicle activities is detailed in Appendix C.1, taken from measured levels on site as discussed in Section 5, source noise data from BS 5228 and in-house database figures;

Table 6.1 – Source Data Used In Noise Modelling

Activity	Measurement Type	Distance From Source (m)	LAeq	% On-time / Number Of Events
Concrete Batching Plant	On Site	10m Approx	64*	100% On-time
32t Lorry Movement	BS5228-1 Table C.11	10m Approx	82	4no Vehicles in worst case 1hr
30t Wheeled Loader Loading Dump Trucks	BS5228-1 Table C.9	10m Approx	77	50% On-time

*Measurement taken was corrected using spectra from site activity taken prior to concrete batching plant operating

6.2 Noise Model Scenarios

Figure 6.1 below shows the proposed layout of the plant which has been replicated in our model.

Figure 6.1 – Layout Drawing



Note: The above locations are based on Hunter Acoustics site observations. Please advise if locations of activities are to change.

6.3 Noise Model Results

6.3.1 Daytime 1hr Assessment Period

Predicted levels at critical receiver locations are shown in Table 6.2 below;

Table 6.2 – Daytime Noise Map Predictions

Sound Sensitive Receiver (SSR)	Level Above Ground	Predicted Daytime $L_{Aeq,1hr}$ (dB)
SSR1 (Glan Yr Afon)	1.5m	48
	4.5m	47
SSR2 (Bendle Close)	1.5m	49
	4.5m	48
SSR2 (57A Cardonnel Road)	1.5m	48
	4.5m	47
SSR2 (65 Cardonnel Road)	1.5m	48
	4.5m	47
SSR3 (18 Parc Glas)	1.5m	45
	4.5m	44

The noise map model in Figure C.1 of Appendix C shows the predicted daytime noise contour plot across the surrounding area to critical SSRs at 4.5m above local ground height.

7. ASSESSMENT OF INDUSTRIAL NOISE IMPACT

7.1 Assessment of Daytime Industrial Noise Impact

7.1.1 Acoustic Character Correction

It is proposed to include no character correction for the new concrete batching plant and associated operations for the following reasons.

Derwen Recycling is a well-established industrial source in the area being located in this current location for +10 years.

The activities proposed with the new concrete batching plant are similar to current operations i.e. dump trucks, front mounted wheeled loaders, stationary consistent noise source (concrete batching plant).

Predicted levels at closest SSRs are indicated well below existing background and ambient levels which are controlled by consistent road traffic on the A465 (between 8 – 17 below background).

7.1.2 *BS 4142:2014+A1:2019 Assessments*

BS 4142 assessments for the daytime scenario are included in Table D.1,

Table D.2 and Table D.3 of Appendix D.

Results of these are summarised in Table 7.1 below;

Table 7.1 – Predicted Daytime Rating Levels at SSRs (1st Floor Level)

Sound Sensitive Receiver (SSR)	Predicted $L_{Aeq,t}$ (dB)	Acoustic Character Correction (dB)	Predicted Daytime Rating Level $L_{Ar,1hr}$ (dB)	Daytime Background Sound Level L_{A90} (dB)	Excess of Rating over Background
SSR1 (Glan Yr Afon)	48	0	48	57	-9
SSR2 (Bendle Close)	49	0	49	57	-8
SSR3 (18 Parc Glas)	45	0	45	61	-16

7.2 Context

Referring to Section 11 of BS4142 (quoted in section 2.4 of this report) the following section outlines the context for combined activities with and without deliveries.

7.2.1 Character of Specific Sound Level

BS4142 advises: “Consider whether it would be beneficial to compare the frequency spectrum and temporal variation of the specific sound with that of the ambient or residual sound to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous sound by comparison to the acoustic environment that would occur in the absence of the specific sound.”

Predicted levels at closest SSRs are indicated well below existing background and ambient levels which are controlled by consistent road traffic on the A465 (between 8 – 17 below background).

It is indicated that activities to do with the concrete batching plant shall be inaudible against the existing ambient climate at receivers.

Outcome: No Modification required.

7.2.2 Former Use of Site

Derwen Recycling is a pre-existing site which has been situated on the land for +10years. As part of day-to-day activities associated with the new plant these shall be identical to current operations. Noise levels from the proposed concrete batching plant are quieter than existing stationary plant items located on the site.

Outcome: No Modification required.

8. GOOD PRACTICE GUIDE

BS 5228-1:2009+A1:2014 gives general information on control of noise at source.

A summary of practical measures in the choice and use of plant to reduce noise is given below:

- Avoid unnecessary revving of engines and switch off equipment when not required.
- Ensure plant and vehicles are properly maintained, check silencers and bearings.
- If the noise is directional, point the source away from noise-sensitive locations.
- Keep internal haul routes well maintained and avoid steep gradients.
- Use rubber linings in, for example, chutes and dumpers to reduce impact noise.
- Minimise drop height of materials.

From past experience, minimising drop heights and conducting 'toolbox talks' with all plant operators on the site to ensure all materials are placed rather than dropped can have a significant impact on overall noise levels off site.

- Limit the use of particularly noisy plant or vehicles.
- Start-up plant and vehicles sequentially rather than together.
- Ensure the plant and vehicles are operated with noise control hoods closed.

In addition, we would advise that broadband reversing alarms should be fitted to all mobile plant on site if not already fitted (and provided it is confirmed safe to do so by a suitably qualified Health & Safety representative).

9. CONCLUSION

A noise impact assessment has been carried out for the proposed concrete batching plant and associated activities at Derwen Recycling Limited, Neath Abbey Wharf, Neath Abbey, Skewen, Neath, SA10 6BL.

Individual 1hour background sound levels have been measured at nearest SSRs and have been used as a basis for assessing the likely impact of new plant operations. Continuous monitoring was not undertaken as no safe locations were available to leave a meter. Plant activities are also to only be daytime hours (0700 – 1700hrs weekday, 0700 – 1300hrs Saturday).

Assessing proposed operations using measured source data and database figures from BS5228-1 in line with British Standard 4142:2014+A1:2019 a low impact has been concluded at all SSRs when taking context into consideration see Section 7.2.

Best practice measures to reduce noise impact from vehicles are discussed in Section 8 and should be followed.

APPENDIX A - ACOUSTIC TERMINOLOGY

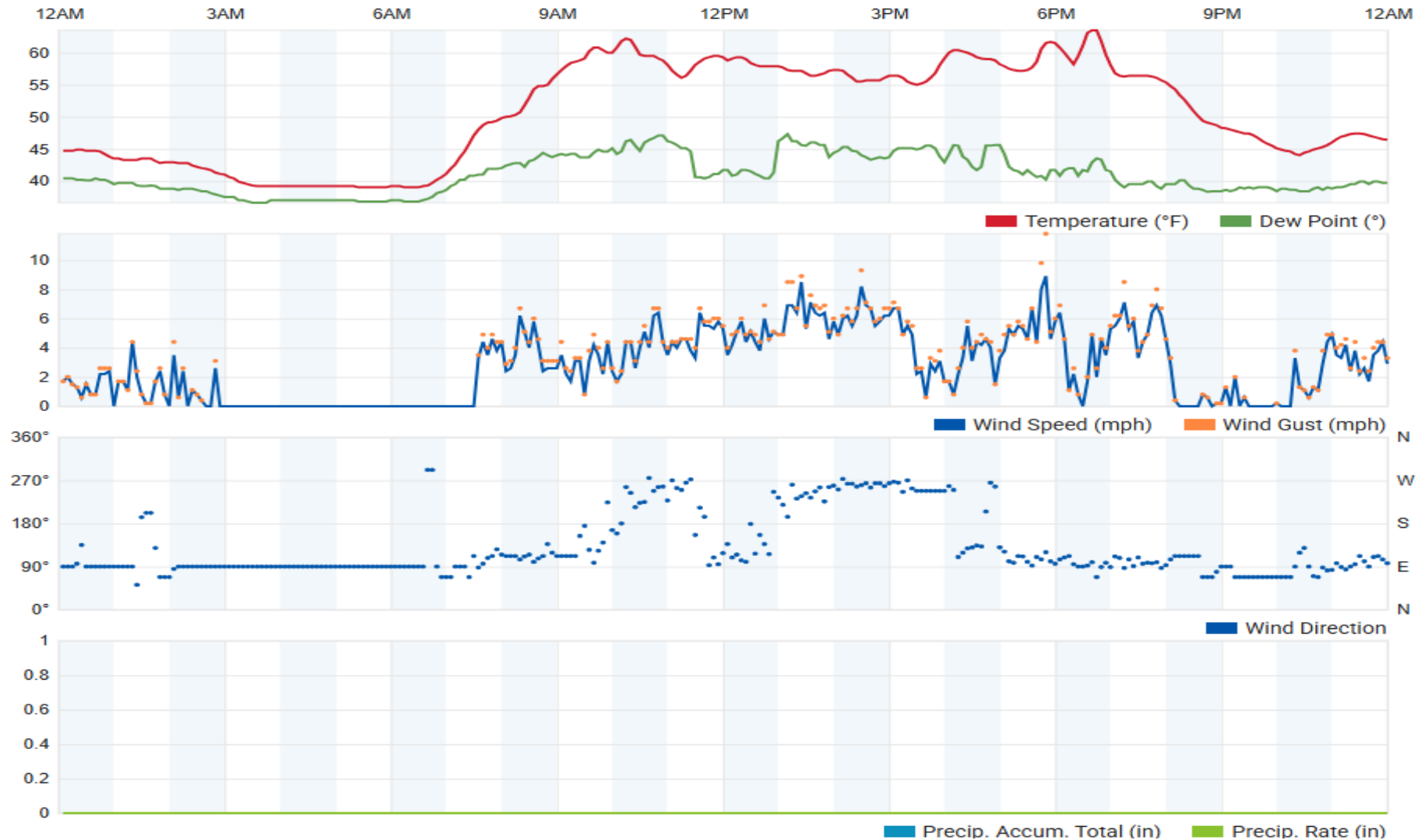
Human response to noise depends on a number of factors including loudness, frequency content and variations in level with time. Various frequency weightings and statistical indices have been developed in order to objectively quantify 'annoyance'.

The following units have been used in this report:

dB(A)	The sound pressure level A-weighted to correspond with the frequency response of the human ear and therefore a persons' subjective response to frequency content.
L_{eq}	The equivalent continuous sound level is a notional steady state level which over a quoted time period would have the same acoustic energy content as the actual fluctuating noise measured over that period.
L_{max}	The highest instantaneous sound level recorded during the measurement period.
L_{10}	The sound level which is exceeded for 10% of the measurement period. i.e. The level exceeded for 6 minutes of a 1 hour measurement.
L_{90}	The sound level which is exceeded for 90% of the measurement period. i.e. The level exceeded for 54 minutes of a 1 hour measurement - used as a measure of background noise.
$L_{Ar,Tr}$	The 'rating' level, as described in BS 4142:2014 – the specific noise plus any adjustment for the characteristic features of the noise.
SSR	Sound sensitive receiver

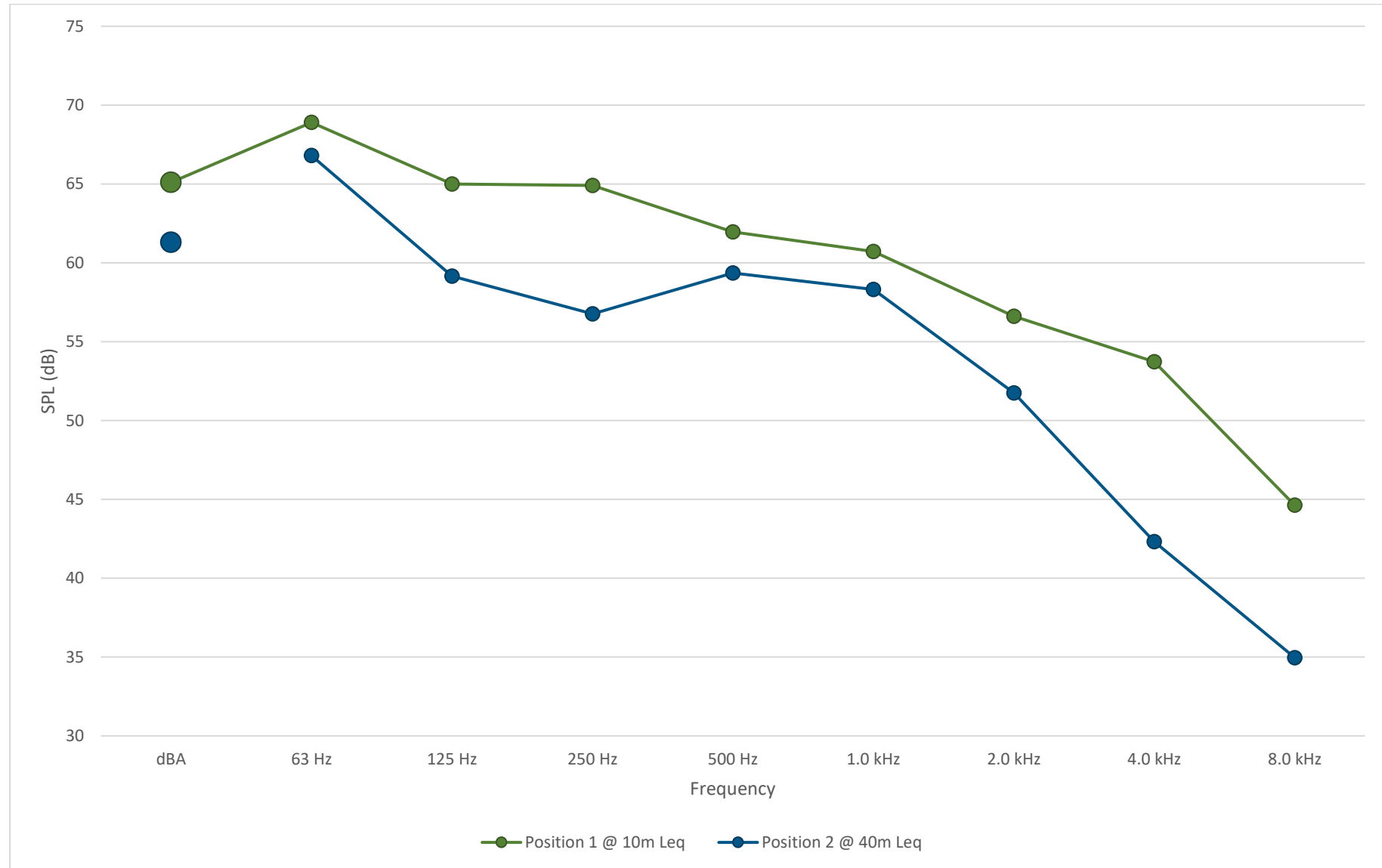
APPENDIX B - DIAGRAMS, GRAPHS AND TABLES

Figure B.1 – Approximate Weather History for Monday, 20 April 2026



Note: Taken from www.wunderground.com - weather station INEATH13 located in Neath [Elev 220 ft, 51.66 °N, 3.85 °W]

Figure B.2 – Source Sample Measurement Results including Octave Band Spectra



APPENDIX C - NOISE MODELLING

C.1 Noise Model Input Data

Table C.1 – Noise Model Sources

Plant Item / Activity	L_w at Octave Band Centre Frequencies, Hz (dB)								L_{wA} (dB)
	63	125	250	500	1000	2000	4000	8000	
Concrete Batching Plant	96	93	93	89	87	84	83	73	93
32t Lorry Movement	127	110	109	104	106	102	99	94	110
30t Wheeled Loader Loading Truck	119	109	101	99	99	100	90	87	105

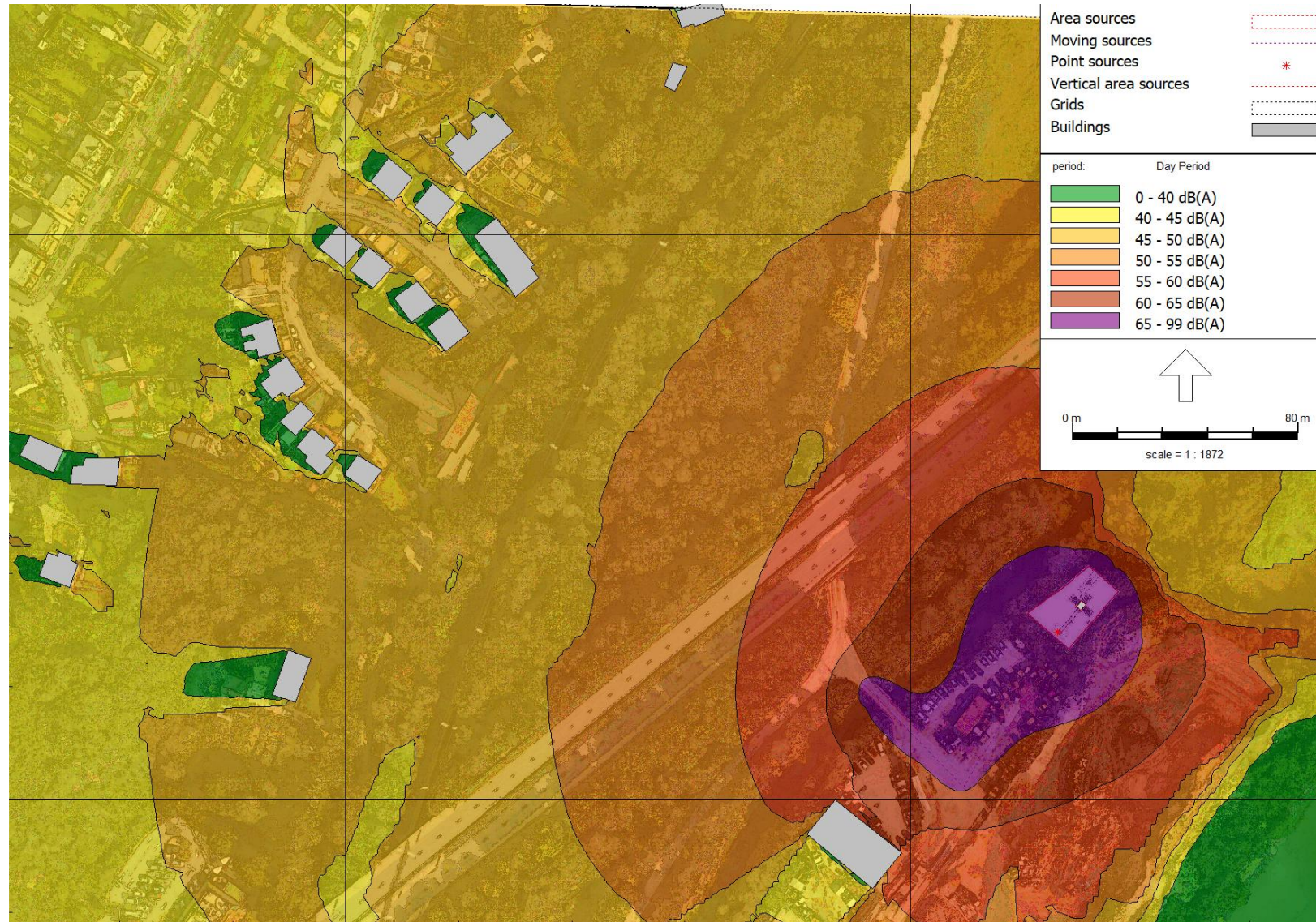
C.2 Noise Model Scenario

Table C.2 – Daytime Modelled Scenario (Worst Case 1hr Period)

Activity	% On-time	Flow	Speed (km/h)	Source Height (m)
Concrete Batching Plant	100	-	-	2.5
30t Wheeled Loader Loading Truck	50	-	-	2.5
Dump Trucks Movements	-	4 (4no 2-way trips)	16	0.75

C.3 Noise Model Contour Plots

Figure C.1 – Daytime Industrial Noise Model $L_{Aeq,1hr}$ Contours at 1.5m Height



APPENDIX D – BS 4142:2014+A1:2019 ASSESSMENTS

Table D.1 – BS 4142 Daytime Assessment at SSR1 (Glan Yr Afon)

Results		Relevant Clause	Commentary
Predicted Level of Daytime Industrial Activity at SSR1	$L_{Aeq} = 48\text{dB}$	7.3.2	Predicted Concrete Batching Plant, Loading activities and HGV movements
Residual sound level	$L_{Aeq} = \text{N/AdB}$	7.3.3	Modelled in iNoise, Concrete Batching spectra corrected for residual climate
Background sound level (daytime)	$L_{A90(0700-2300\text{hrs})} = 57\text{dB}$	8.1.1 8.1.3 8.3	Background sound level measured at Position B in a 1 hour period
Assessment made during the daytime so the reference time interval is 1hr.		7.2	
Acoustic feature correction	0dB	9.2	Reason for no character correction discussed in Section 7.1.1
Rating Level	$(48 + 0) = 48\text{dB}$		
Background sound level (daytime)	$L_{A90(0700-2300\text{hrs})} = 57\text{dB}$	8.3	
Excess of rating over background sound level	$(48 - 57) \text{ dB} = -9\text{dB}$	11	
Assessment indicates a low impact depending on context		11	At 9dB below background BS 4142:2014 advises: "is a low impact, depending on the context"
Uncertainty of assessment		10	Uncertainty in background noise measurements is considered low.

Table D.2 – BS 4142 Daytime Assessment at SSR2 (Bendle Close)

Results		Relevant Clause	Commentary
Predicted Level of Daytime Industrial Activity at SSR2	$L_{Aeq} = 49\text{dB}$	7.3.2	Predicted Concrete Batching Plant, Loading activities and HGV movements
Residual sound level	$L_{Aeq} = \text{N/AdB}$	7.3.3	Modelled in iNoise, Concrete Batching spectra corrected for residual climate
Background sound level (daytime)	$L_{A90(0700-2300\text{hrs})} = 57\text{dB}$	8.1.1 8.1.3 8.3	Background sound level measured at Position B in a 1 hour period
Assessment made during the daytime so the reference time interval is 1hr.		7.2	
Acoustic feature correction	0dB	9.2	Reason for no character correction discussed in Section 7.1.1
Rating Level	$(49 + 0) = 49\text{dB}$		
Background sound level (daytime)	$L_{A90(0700-2300\text{hrs})} = 57\text{dB}$	8.3	
Excess of rating over background sound level	$(49 - 57) \text{ dB} = -8\text{dB}$	11	
Assessment indicates a low impact depending on context		11	At 8dB below background BS 4142:2014 advises: "is a low impact, depending on the context"
Uncertainty of assessment		10	Uncertainty in background noise measurements is considered low.

Table D.3 – BS 4142 Daytime Assessment at SSR2 (Parc Glas)

Results		Relevant Clause	Commentary
Predicted Level of Daytime Industrial Activity at SSR2	$L_{Aeq} = 45\text{dB}$	7.3.2	Predicted Concrete Batching Plant, Loading activities and HGV movements
Residual sound level	$L_{Aeq} = \text{N/AdB}$	7.3.3	Modelled in iNoise, Concrete Batching spectra corrected for residual climate
Background sound level (daytime)	$L_{A90(0700-2300\text{hrs})} = 61\text{dB}$	8.1.1 8.1.3 8.3	Background sound level measured at Position A in a 1 hour period
Assessment made during the daytime so the reference time interval is 1hr.		7.2	
Acoustic feature correction	0dB	9.2	Reason for no character correction discussed in Section 7.1.1
Rating Level	$(45 + 0) = 45\text{dB}$		
Background sound level (daytime)	$L_{A90(0700-2300\text{hrs})} = 61\text{dB}$	8.3	
Excess of rating over background sound level	$(45 - 61) \text{ dB} = -16\text{dB}$	11	
Assessment indicates a low impact depending on context		11	At 16dB below background BS 4142:2014 advises: "is a low impact, depending on the context"
Uncertainty of assessment		10	Uncertainty in background noise measurements is considered low.

APPENDIX E - DRAWING LISTS

The following TEPL & BETON2GO drawings and documents have been used in our assessment;

Table E.1 – Drawing List

Drawing Title	Drawing Number	Rev	Date
Site Plan	11165-000-B	-	05/11/25
MA30 6P 11M BAND	-	-	30/10/25