Employment Use Development Noise Impact Assessment

Mwyndy Cross, Pontyclun

Talbot Green Developments Limited

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1.0	24 November 2025	S. Skingle	V. Taylor	V. Taylor
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Basis of Report

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1.0 Introduction

Talbot Green Developments Limited has appointed SLR Consulting Limited (SLR) to undertake noise impact assessment for a proposed employment development at Mwyndy Cross, Pontyclun (the Site).

This document has been prepared to inform a prospective planning application within Rhondda Cynon Taf County Borough Council (RCTCBC) for following development options.

- *"Option 1: "Erection of employment facility Option 1: Erection of a 9,980sqm Class B1c light industrial building with associated access, parking, drainage, landscaping, services and utilities."*

  and

- *Option 2: "Erection of employment facility Option 2: Erection of a 21,490sqm Class B8 data centre with associated access, parking, drainage, landscaping, services and utilities."*

This report has been prepared to inform noise impacts from the proposed development following the assessment principles of British Standard BS 4142:2014 + A1:2019 *Methods for rating and assessing industrial and commercial sound*. It has been developed in accordance with overarching national and local requirements for planning and noise, as well as the relevant technical standards and guidance in the assessment of noise impacts.

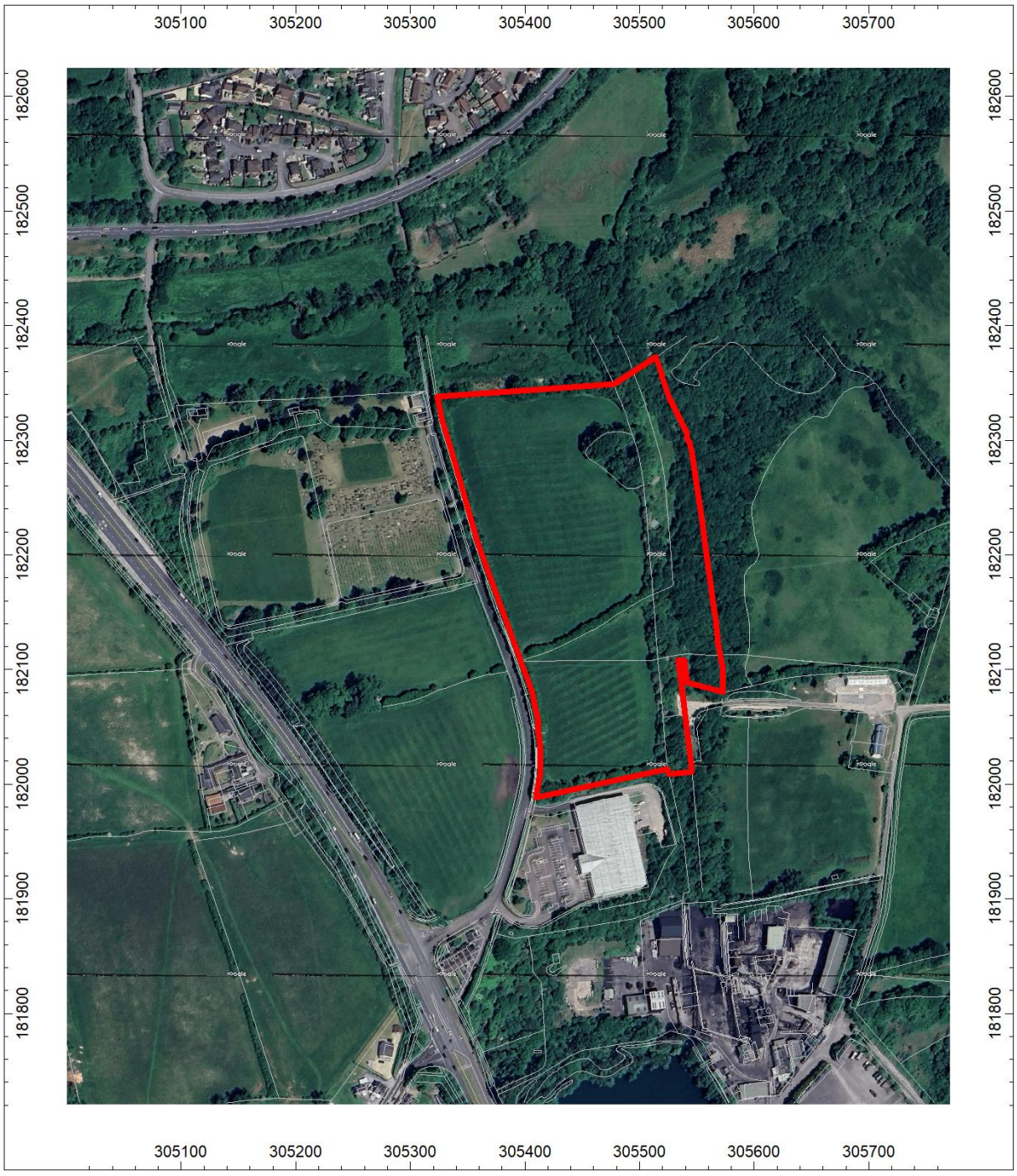
This report has been prepared and checked by Suitably Qualified Persons as defined in Section 8.0. Whilst reasonable effort has been made to ensure that this report is easy to understand, it is technical in nature. To assist the reader, a glossary of terminology has been included in Appendix A.

2.0 Site Description

The development Site occupies a portion of land of nominally 6.18 hectares to the north of Mwyndy and south of Cross Inn (Llantrisant), comprising of previously used agricultural land.

The area subject to development (red line) has been highlighted in Figure A below amongst an aerial view for context.

Figure A: Site Location and Aerial View



2.1 Proposed Development

The planned proposal has included for development options including Class B1c light industrial building or Class B8 data centre. This has been proposed within a single building of west and south facing aspects with associated access, parking, drainage, landscaping, services and utilities.

Access to the Site has been proposed with entrances from Mwyndy Cross to the west.

The proposed development associated with varying employment uses has been proposed in to comprise of single footprint rectangular building with areas of external circulation and parking. The employment use has been envisaged to include a proportion of building footprint as office space.

The layout of the proposed scheme has generally included 15 – 20 m standoff between proposed employment use building and west Site boundary, along with minor changes in land height.

During design development, the proposed floorspace quantum of the development scenarios have reduced slightly when compared to the scale of development considered herein. Our modelling of a larger footprint building simply renders our assessment of impacts as robust.

2.1.1 Proposed Noise Generation from Employment Activities

The proposed site plan shown in Appendix B has indicated the location for where employment activities would be likely to occur on the Site. The activities have been considered in the cumulative assessment of environmental noise impacts as follows:

- Vehicle movements on along the newly formed access route.
- Movement of HGVs and forklifts around external loading bays.
- Use of parking areas.
- Breakout noise from buildings.
- External plant and equipment.

For employment use development of this nature, exacting operational information has been considered to remain largely unknown given the potential variation between future uses and proposed operators. Some level of reasonable assumption has therefore been necessary in forming noise impact assessment for the employment use scheme.

Given the scale of the proposed employment use development, further detail has been provided for the potential for noise impacts on the wider road network, outside of the redline boundary.

2.2 Noise Sensitive Receptors

The Site has been noted in a mixed commercial and residential area. Those noise sensitive receptors (NSRs) of consideration within this assessment have been referenced from land and property search information in terms of existing residential development in the immediate vicinity, as:

A. Cefn Park Farm, Mwyndy, Pontyclun, CF72 8PN.
B. Mwyndy Terrace, Mwyndy, Pontyclun, CF72 8PQ.
C. Lynwood House, Mwyndy, Pontyclun CF72 8PL.
D. Cross Inn. With closest receptor at Beaufort Court, Cross Inn, Pontyclun CF72 8BL.

It has otherwise been considered that Cefn-y-Parc Cemetery to the west of the development could be noise sensitive to some degree when open during the daytime. Furthermore, it has been noted that various land area surrounding the proposed development remains under common ownership with the applicant.

The nearest NSRs have been annotated in context to the proposal in Figure B below.

Figure B: Identification of Nearest Noise Sensitive Receptors

3.0 Planning and Noise Guidance

3.1 Planning Policy Wales (Edition 12, February 2024)

Planning Policy Wales (PPW) sets out the Welsh Government's planning policies for land use. The PPW has been supplemented by Technical Advice Notes (TANs), Circulars and policy clarification letters which in combination with the PPW provides the national policy framework for Wales.

PPW has acknowledged that relevant considerations for *commercial, industrial and other potentially polluting development* likely to include factors such as the impact on health and amenity, including noise. It has identified that problematic forms of sound can be generally experienced as noise pollution, and these can affect amenity or be prejudicial to health or a nuisance. It has stated that lower levels of noise can still be annoying or disruptive and impact on amenity and as such should be protected through the planning process.

> *"Proposed development should be designed wherever possible to prevent adverse effects to amenity, health and the environment but as a minimum to limit or constrain any effects that do occur."*

With respect to potentially polluting development, the PPW states that:

> *"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…"*

A framework for addressing environmental factors including noise and soundscape have been included within the latest revisions of PPW.

> *"The planning system …should consider the long-term effects of current and predicted levels of …noise pollution on individuals, society and the environment and identify and pursue any opportunities to reduce, or at least, minimise population exposure to … noise pollution, and improve soundscapes, where it is practical and feasible to do so."*

In following of the above, it has been noted that consultation has been undertaken to the draft revision of planning guidance 'Technical Advice Note 11: Air Quality, Noise and Soundscape' and 'Supporting Document 1: Soundscape Design', under the wider revision of planning guidance in relation to air quality, noise and soundscape[1]. This documentation has highlighted that early input from acoustics professionals into the design of a development provides an opportunity to maximise the benefits of taking an integrated approach to design, to achieve the best environmental and human health outcomes from the project.

At the time of writing, this emerging documentation and revision of Technical Advice Note 11 (TAN 11) remains at consultation draft therefore does not represent a material planning consideration. Reference will therefore be maintained with respect to TAN 11: Noise (October 1997).

[1] https://www.gov.wales/revised-planning-guidance-relation-air-quality-noise-and-soundscape

3.2 Technical Advice Note 11 Noise (October 1997)

This Technical Advice Note (TAN) has been considered in conjunction with PPW, as a document to be considered by the Local Planning Authority when determining the proposed application.

> *"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…when determining planning applications for development which will either generate noise or be exposed to existing noise sources."*

In the case of noise generating development, TAN11 acknowledges in Paragraph 8 that Local Planning Authorities must ensure there is not *"an unacceptable degree of disturbance"*. Furthermore, that noise characteristics and levels can vary depending on the source and activity involved, such that the character of noise should be considered alongside its level.

TAN11 provides in Paragraph 11 that suitable measures to mitigate the impact of noise should be proportionate and reasonable and ideally through engineering improvements at source, layout and adequate distances between noise sources and sensitive receivers as well as administrative procedures such as with the use of operating time restrictions.

Annex B of TAN11 highlights that the suitable assessment method of BS 4142 is appropriate for external areas and general guidance within buildings can be found within BS 8233. Where TAN11 Paragraph B17 has provided superseded versions of these British Standards, the latest versions have been considered within this report and primarily from BS 4142:2014 +A1:2019.

3.3 BS 4142:2014 +A1:2019

The British Standard BS 4142:2014 +A1:2019 *Methods for Rating and Assessing Industrial and Commercial Sound* (BS 4142) notably describes methods for rating and assessing sound of an industrial or commercial nature. It has been referenced where required in policy and guidance documents to assess the potential impact of sound of an industrial and/or commercial nature, at existing and proposed noise-sensitive receptor locations within the context of the existing sound environment.

Certain acoustic features can increase the significance of impact from a comparison of the specific sound level to the background sound level where these features are likely to affect perception and response. Where such features are present at the assessment location, a character correction (or penalty) to the specific sound level is made to obtain the rating level. This can be approached from subjective, objective and reference methods.

- Tonality: A correction of 0 dB to + 6 dB for sound ranging from not tonal to prominently tonal.
- Impulsivity: A correction of up to + 9 dB can be applied for sound that is impulsive.
- Intermittency: A penalty of + 3 dB can be applied if on/off conditions are readily distinctive within the reference time interval over the period of the greatest amount of on-time.
- Other characteristics: A penalty of + 3 dB can be applied in the absence of all other defined characteristics, where the specific sound contains a distinctive feature in the residual acoustic environment.

- The rating sound level is equal to the specific sound level if there are no acoustic features present or expected to be present.

The significance of sound depends upon both the margin by which the rating level exceeds the background sound level and the context in which the sound occurs. An initial estimate of the impact of the specific sound is made by subtracting the measured background sound level from the rating level.

- Typically, the greater the difference, the greater the magnitude of the impact;
- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around +5dB 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. It is an indication that the specific sound source has a low impact, depending on the context.

BS 4142 has stipulated that context is important when assessing the impact of sound of a commercial and/or industrial nature. Amongst a range of advocated considerations, this can include mitigation, residual sound levels, location, and absolute sound levels in the consideration of context.

The scope of BS 4142 recognises that human response to sound can be subjective as affected by many factors, both acoustic and non-acoustic. The significance of its impact can depend on various factors such as the exceedance to the background level, its absolute level, time of day and change in environment, as well as local attitudes to the source of sound and character of the neighbourhood.

3.4 Local Planning and Noise Guidance

It has been understood that RCTCBC are preparing a revised Local Development Plan (2022 – 2037) that will replace the current Local Development Plan (LDP) for Rhondda Cynon Taf (2006 – 2021). The current LDP will remain in force given that, at the time of writing, the Revised LDP has not been adopted.

3.4.1 LDP for Rhondda Cynon Taf (2006 – 2021)

It has been acknowledged within the current LDP that pollution may cause significant damage to human health, quality of life and residential amenity, in addition to impacting on the natural and built environment.

Policy AW 10 has been provided to ensure that new development would not result in unacceptably high levels of pollution, including noise:

> *"Policy AW 10 – Environmental Protection and Public Health*
>
> *Development proposals will not be permitted where they would cause or result in a risk of unacceptable harm to health and / or local amenity because of:-*
>
> *… 2. Noise pollution ... Or any other identified risk to the environment, local amenity and public health or safety unless it can be demonstrated that measures can be taken to overcome any significant adverse risk to public health, the environment and / or impact upon local amenity."*

4.0 Baseline Survey Summary

The following section has referred to a study of environmental sound levels carried out between Wednesday 7th August 2024 and Monday 12th August 2024, defining baseline conditions for the development.

The period of surveying was proposed to avoid road works that were being carried out on the A4119 at Mwyndy Cross, as associated with a housing development west of the A4119 (Cefn yr Hendy, being developed by Taylor Wimpey). It has been established through liaison with RCTCBC, that The Public Health and Protection department have stated a baseline noise survey should not be carried out while these works are in progress.

This section has therefore included a baseline survey summary when the road works will be temporarily ceases for the Eisteddfod between Saturday 3rd and 10th August 2024. Data has only been referenced herein, within this agreed period of monitoring to establish a suitable baseline for the proposed employment scheme and without A4119 road works in place.

4.1 Weather Conditions

The time history of weather conditions has provided that average wind speed fell below 5 m/s for most of the survey and there was an absence of significant rainfall, generally providing conducive conditions for environmental sound monitoring.

Wind speed gusts were noted above 5 m/s during a few isolated periods of the study along with infrequent periods of light rainfall. A data handling exercise has informed that the prevailing sound levels for assessment purposes do not change where these infrequent adverse weather conditions have been excluded. Notwithstanding, the following information has been referenced from the weather filtered dataset.

4.2 Equipment and Measurements

Pre-development environmental sound measurements were carried out using the following equipment listed in Table A as holding valid calibration at the time of measurements.

Table A: Sound Monitoring Equipment

Loc.	Description	Manufacturer	Type	Serial Number	Laboratory Calibration Date	Certificate Number
1	Sound Level Meter	RION	NL-52	331823	22/09/2022	TCRT22/1591
	Pre-Amplifier	RION	NH-25	21774		TCRT22/1591
	½" Pre-Polarised Microphone	RION	UC-59	18250		TCRT22/1591
	Calibrator	RION	NC-74	34336013	04/10/2023	TCRT23/1706
2	Sound Level Meter	Cirrus	CR:171B	G400059	21/12/2023	205707
	½" Pre-Polarised Microphone	Cirrus	MK:224	216587D		205705
	Calibrator	Cirrus	CR:515	99960	16/02/2024	208681
	Outdoor kit	Cirrus	MK172	2546	21/12/2023	205707

Loc.	Description	Manufacturer	Type	Serial Number	Laboratory Calibration Date	Certificate Number
3	Sound Level Meter	Cirrus	CR:171B	G302667	22/12/2023	205660
	½" Pre-Polarised Microphone	Cirrus	MK:224	217661A		205658
	Calibrator	Cirrus	CR:515	94806	23/04/2024	213175
	Outdoor kit	Cirrus	MK172	o957	22/12/2023	205664
	Weather Station	Davis Instruments	Vantage View	MT211213036	N/A	N/A
4	Sound Level Meter	Cirrus	CR:171B	G300561	09/05/2024	213962
	½" Pre-Polarised Microphone	Cirrus	MK:224	217658A		213964
	Calibrator	Cirrus	CR:515	87922	18/08/2023	197591
	Outdoor kit	Cirrus	MK172	2312	09/05/2024	213963

The sound level meters and matched calibrators confirmed to Class 1 acoustic accuracy, with the calibration chain of equipment maintained traceably to national standards, no greater than one year for the sound calibrator and two years for the sound level meter. The SLM was hand calibrated before measurements and further checked upon completion of the survey. No significant drift was observed with calibration offsets of 0.0 dB to 0.3 dB.

The monitoring protocol consisted of substantially unattended readings over the survey period. Each location was otherwise attended in the morning of Wednesday 7th August 2024 and Monday 12th August 2024 to describe the existing sound climate at each location.

The following sound level indices have been reported at 15-minute intervals in decibels (dB):

- $L_{Aeq,T}$ – The A-weighted equivalent continuous sound level over the measurement period.
- $L_{A90,T}$ – The A-weighted sound level exceeded for 90% of the measurement period.
- $L_{A10,T}$ – The A-weighted sound level exceeded for 10% of the measurement period.
- $L_{Amax(F)}$ – The maximum A-weighted sound level during the measurement period.

Full survey results describing unattended monitoring periods have been provided for the above-listed metrics within Appendix C.

Sound level measurements were provided in free-field conditions at four locations, 1.5 m above ground, to understand the residual and background sound levels representative of the nearest receptors to the proposed employment development. The equipment was located in land under common ownership to the applicant, therefore serves as proxy to the NSRs considered within this assessment and directly representative without NSR land access, as:

Location 1. In the field opposite Mwyndy Terrace and spaced nominally 5 m from the edge of the road opposite No. 5, to directly reflect this NSR.

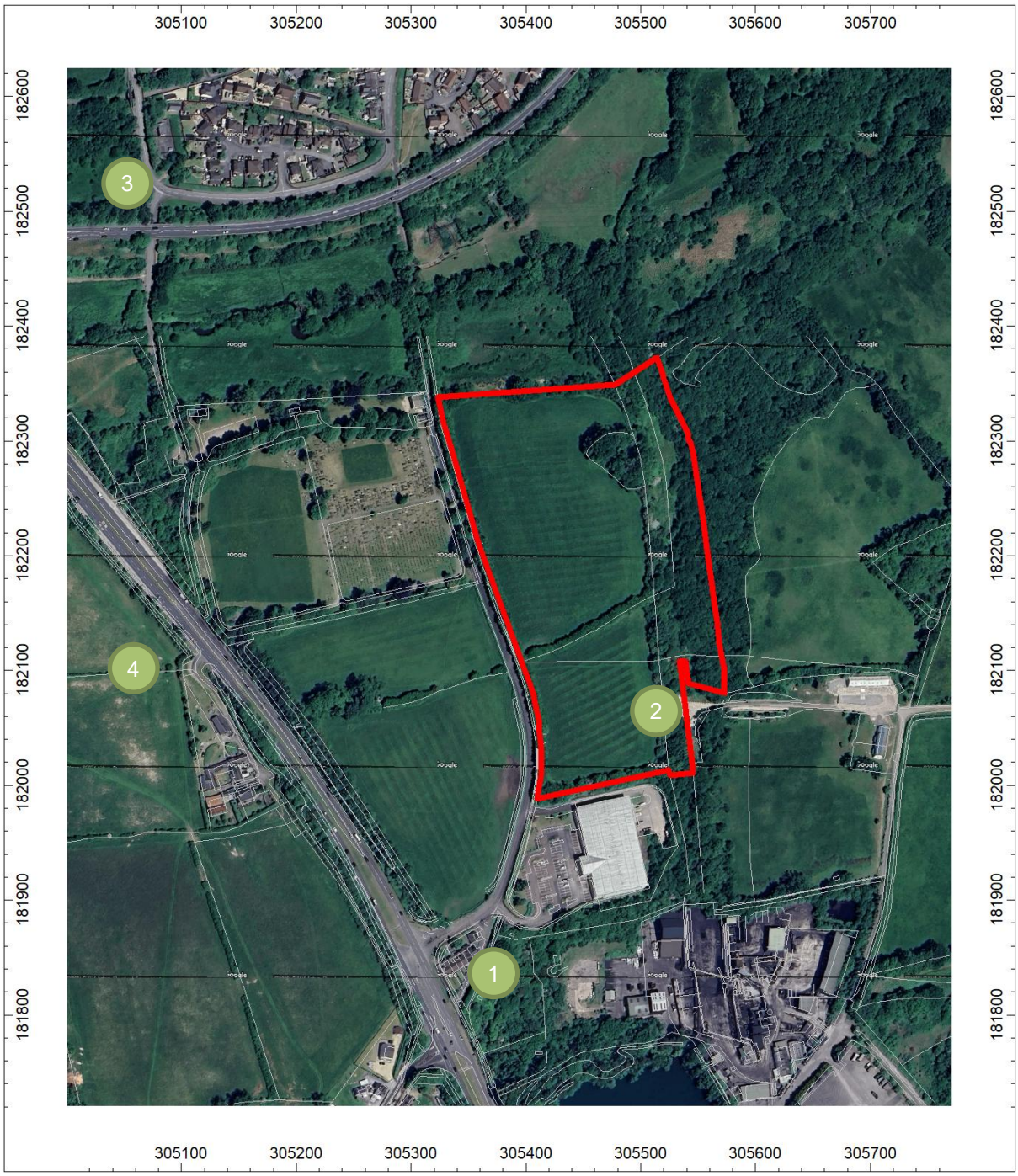
Location 2. In the southeast corner of the site and towards the east boundary as far as readily accessible, away from any transportation sources and as a proxy of Lynwood House nominally 190 m east.

Location 3. In an area of land nominally 10 m set back from Cardiff Road and 40 m north of the A473, to represent NSRs to the north at Cross Inn. The weather station was located at this location.

Location 4. In the field adjacent to Cefn Park Farm and set back nominally 45 m from the nearside carriageway of the A4119 to reflect the adjacent farmhouse.

The monitoring Locations have been annotated on the plan of Figure C below.

Figure C: Baseline Sound Monitoring Location



4.3 Sound Climate

The following notes were made to define the sound climate at each location, based on observations at the start and end of the surveying period. At all locations, local road traffic noise was the dominant noise source, with sound from the natural environment including occasional birdsong and vegetation rustling.

Location 1. Road traffic noise from A4119 dominant, including a steady flow of low-speed traffic adjacent. Occasional high-altitude aircraft noted overhead.

Location 2. Road traffic noise dominant from distant sources west and north. Distant and intermittent construction noises also audible from west including reverse sirens.

Location 3. Road traffic noise dominant with cars passing on A473, A4119 and Cardiff Road. Community noise included people in the street.

Location 4. Road traffic noise from A4119 dominant.

4.4 Residual and Background Sound Levels

The 'typical' residual and background sound levels have been reported in Table B in accordance with BS 4142, with background levels as established from histograms of the recorded dB $L_{A90,15min}$ data provided within Appendix C.

In line with Section 8.1.4 of BS 4142, the monitoring duration has reflected the range of sound levels for the period assessed. In practice, there has been no single level for background sound where this is a fluctuating parameter. A representative value tending to the mode has been used, which is neither the lowest nor mean average value of dB $L_{A90,T}$ according to the assessment standard. Data has been split into day, evening and night periods given multi-modal data at each Location as dominated by road traffic noise.

Table B: Summary of Measured Residual and Background Sound Levels

Measurement Details				Residual sound level dB $L_{Aeq,15min}$		Background sound level dB $L_{A90,15min}$	
Date Range	**Location**	**Period**	**Time HH:MM**	**Range**	**Typical***	**Range**	**Typical***
Wed 07/08/24 – Sat 10/08/24	1	Day	07:00 – 19:00	46 – 54	51	41 – 51	48
		Evening	19:00 – 23:00	43 – 53	45	37 – 48	41
		Night	23:00 – 07:00	39 – 52	44	31 – 50	35
	2	Day	07:00 – 19:00	41 – 55	49	39 – 50	48
		Evening	19:00 – 23:00	37 – 71	44	35 – 58	41
		Night	23:00 – 07:00	35 – 52	37	32 – 47	34
	3	Day	07:00 – 19:00	52 – 60	57	44 – 56	54
		Evening	19:00 – 23:00	50 – 59	53	40 – 54	48
		Night	23:00 – 07:00	41 – 60	44	31 – 52	33
	4	Day	07:00 – 19:00	54 – 62	58	46 – 59	55
		Evening	19:00 – 23:00	52 – 59	57	46 – 54	49
		Night	23:00 – 07:00	46 – 61	50	35 – 57	38

* Typical values of background sound level have been established from counts of data from Appendix C using weather filtered data (excluding any rainfall and wind gusts over 5 m/s) up to Saturday 10th August 2024. Typical residual sound levels have been equated at times of typical background sound.

5.0 Noise Impact Assessment

The impact of noise from the development on the surrounding environment will depend on several factors, including (but not limited to) the time of day, frequency of occurrence and nature of sound source.

Development activities will naturally pose greater noise risk where they have been permitted during noise sensitive periods of the evening and night where the likelihood of annoyance or sleep disturbance increases. Human response to noise depends on sociological factors, attitudes and perceptions which can be difficult to define and account for any individual case.

The recognised methodology for assessment of operational phase impacts has been taken from BS 4142:2014 + A1:2019 *Methods for rating and assessing industrial and commercial sound*. This standard has been noted to include consideration of sound from industrial processes, fixed plant installations, loading and unloading of goods and mobile plant that is intrinsic to the premises (such as forklift trucks). The numerical assessment has been provided below for relevant periods of proposed operation, following the definition of specific sound levels.

5.1 Specific Sound Level Calculations

Given the proposal for employment use development with unknown future operators, a level of assumption has been necessary to describe the likely noise emissions based on similar and approved schemes. All established assumptions and limitations have been outlined herein this section for both development options.

The development masterplan has been used as a baseline for assessing operational emissions from the Site. This has included considerations of the following components based on industry standard methods, and measurements of similar developments:

- Vehicle movements along the access route.
- Movement of HGVs and forklifts around external loading bays.
- Use of parking areas.
- External plant and equipment.
- Breakout from buildings.

The data has been provided in this section as a summary of input data provided in octave bands in Appendix D. Where reference has been made to single figure values, such as sound power level, in all cases the provided spectral values have been used.

The quantification of noise impacts has been considered with extended operation of the scheme over day (07:00 – 19:00), evening (19:00 – 23:00), and night (07:00 – 23:00) periods, where relevant variation in baseline conditions has been provided in Table B.

5.1.1 Vehicle Movements

Appendix D has included trip generation by project transport consultants Pell Frischman, to define the likely number of movements to and from the site at different times of operation, for both options.

Figures for the predicted maximum movements per hour in Table C have been used to determine the likely worst-case hour for movements in the daytime, evening and night periods, as outward estimates of two-way movements. The quantity of cars has been estimated from total vehicles per worst-case hour.

Table C: Vehicle Movements Along the Access Route

Speed, km/h	Vehicle Type	Quantity of Two-Way Movements per Hour		Time of Day	Input Sound Power Level, dB L_{wA}
		Option 1	Option 2		
16	HGV	9	3	Day	93
		0	0	Evening	
		1	0	Night	
	Car	25	46	Day	80
		0	0	Evening	
		39	0	Night	

Given that limited quantity of HGVs would fall below the limit of reliability for CRTN methods[2], being generally about the threshold of 50 No. movements per hour, a haul road method has been used as described by BS 5228-1[3] as defining an equivalent line source in model space. Octave band input data of Appendix D has been taken from SLR's library of measurements of HGVs and cars at 10 mph from similar sites.

5.1.2 Movement of HGVs and Forklifts Around External Loading Bays

An assumption has been made that HGVs could reversing into or about loading areas with additional external movements from forklift trucks. The quantity of HGVs has followed the assumptions of Section 5.1.1, considering operation at both loading areas. A forklift truck has been considered in operation adjacent to each HGV.

Table D: Vehicle Movements Within External Loading Bays

Speed, km/h	Vehicle Type	Quantity of Two-Way Movements Per Hour		Time of Day	Input Sound Power Level, dB L_{wA}
		Option 1	Option 2		
8	HGV Reversing	9	3	Day	90
		0	0	Evening	
		1	0	Night	
	Forklift	20	20	Day	88
		0	0	Evening/	
		10	0	Night	

Some level of assumption has been necessary to define the on-time of each activity of Table D. Reversing of HGVs has been considered as short-lived but slow events, with forklift operations as intermittent and in operation for several trips during any hour.

[2] Section II, Para 30. Department of Transport Welsh Office – The Calculation of Road Traffic Noise. HMSO, 1988.

[3] Section F2.5. British Standard BS 5228-1:2009 +A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise.

An assumption of 10 No. two-way, hourly forklift movements has been provided during the daytime, with half the amount during other times if HGV movements occur. All sources have been considered at 1.5 m height.

5.1.3 Use of Parking Areas

There has been no standard assessment method adopted in the UK for the assessment of noise from proposed parking bays. In general terms, sound from the car park will be characteristic of vehicles entering and exiting, to include short-term noises associated with vehicles arriving and leaving parking bays, as well as people entering and exiting their vehicles.

This assessment has considered the sound emission from all parking bays in accordance with the LfU Study 2007[4] as modelled elements within CadnaA software. The referenced method has been summarised to give sound power levels for parking area sources, considering two movements in and out of each space, standardised from reference measurements at 7.5 m from the parking bay.

The quantity of movements has depended on the trip rates of cars from Table C as expected during different periods of operation, linking to the number of movements in any one hour. These have been provided in terms of parking coefficients and sound power levels within Table E below.

Table E: Car Parking Sound Levels

Option	Total Quantity of Parking Spaces Shown	Total 2-Way Car Movements Per Hour	In or Out Movements Per Space Per Hour	Time of Day	Input Sound Power Level, dB L_{wA}
1	102	25	0.284	Day	83
		0	0	Evening	0
		39	0.443	Night	85
2	92	46	0.250	Day	81
		0	0	Evening	0
		0	0	Night	0

5.1.4 Noise Breakout of Operational Buildings

In assessing the operational noise breakout from the new industrial buildings, some level of assumption has been made to the likely internal sound level and proposed form and construction of façade components.

It has been considered that the typical occupancy sound level of any building used under light industrial use building would be expectedly higher than those for a data centre. Any future operator would have an onus to control internal sound levels below the levels defined by The Control of Noise at Work Regulations (2005). The lower exposure action value of which, at 80 dB $L_{EP,d}$ for any employee, has been used to approximate an internal reverberant sound level 10 dB below, at 70 dB $L_{Aeq,T}$ and immediately inside each façade and roof of every proposed building.

[4] Bavarian State Office for the Environment – Parking Area Noise. Recommendations for the Calculation for sound Emission of Parking areas, Motorcar Centres and Bus Stations as well as of Multi-Storey Car Parks and Underground Car Parks. Revised Edition, 2007.

The employment use building has been assumed as a metal clad structure with proportions of glazed frontage associated with ancillary office uses. The general sound reduction index of metal insulated roof, wall and façade systems has been noted from one proprietary manufacturer[5] in the region of 23 – 58 dB R_w.

There has been the potential for variation in the assessment of sound breaking out of proposed industrial buildings depending on their use. Baseline façade estimates of 27 dB R_w and 24 dB R_w have been for used for respective roof and wall systems, to protect against a moderate level of internal industrial noise within each proposed unit.

The sound spectrum used to define internal reverberant sound pressure levels for industrial use, along with the attenuation from insulated wall and roof systems has been provided within Appendix D. These would comprise a composite dB R_w for the entire façade protecting internal industrial areas and would typically be achieved using steel profiled panelling with interna lining and thermal insulation between leaves.

Smaller areas of lower sound insulating elements (such as fire exit doors and any roof lights) have been considered to have no meaningful effect on noise breakout from employment use areas when rated nominally 27 dB R_w.

5.1.5 External Plant and Equipment

The type, quantity, and nature of plant to be located external to each unit has been subject provided within Appendix D based on similar development.

Table F: External Plant and Equipment

Option	Quantity of Plant Items				
	Generator Flue	Chiller	AHU	Transformer	Condenser
1	0	0	2	4	4
2	12	8	0	4	0

5.1.6 Embedded Mitigation

The masterplan for development has incorporated a layout that generally faces units inwards and away from neighbouring NSRs. The orientation of on-site industrial buildings typically provides shielding for off-site NSRs, which has been considered good acoustic design.

Given the proposed layout, the main component of noise emanating from the Site has been largely identified in terms of external plant.

A scheme of boundary screening has been explored in the proposals for Option 2 as encompassing a parapet screen to rooftop chiller units. This would need to be 1.5 m tall.

The noise level from flues of Option 2 have been considered attenuated to 75 dB(A) at 1 m.

The results in this section have considered embedded mitigation in terms of proposed layout, façade treatment, chiller screening and attenuation.

[5] Acoustic Performance Guide – Insulated Roof, Wall & Façade Systems. Kingspan, 2005.

5.2 Modelling Outputs

To understand specific sound levels for the purposes of assessment, a noise model has been created using CadnaA with input sound power level data from Section 5.1 and Appendix D, with modelling parameters per Appendix D. The on time for all activities and equipment has been accounted for in the defined sound power levels.

The modelling process has followed the technical requirements of ISO 9613 Parts 1 and 2, accounting for all plant items at their developed location. The specific sound level occurring from the development has been equated on listed assumptions during different times of the day, evening, and night.

The following specific sound levels of Table G have been estimated from the described modelling process, with results illustrated in Figure D. Results have highlighted the highest level on the façade, at either ground or upper floor level appropriate to the height of the receptor.

Table G: Specific Sound Levels

NSR Ref	NSR Name	Predicted Specific Sound Level dB $L_{Aeq,T}$		
		07:00 – 19:00	**19:00 – 23:00**	**23:00 – 07:00**
A	Cefn Park Farm	28	27	26
B	Mwyndy Terrace	33	31	30
C	Lynwood House	34	31	31
D	Cross Inn	26	25	23
Highest value at any NSR Option 1		**≤ 34**	**≤ 31**	**≤ 31**
A	Cefn Park Farm	35	35	34
B	Mwyndy Terrace	33	33	33
C	Lynwood House	35	33	33
D	Cross Inn	34	34	32
Highest value at any NSR Option 2		**≤ 35**	**≤ 35**	**≤ 34**

Table G has provided that NSR C would be worst affected for Option 1 and NSR A for Option 2. This has in turn been viewed a result of proximity to mechanical plant of the proposals.

Figure D: Specific Sound Levels – Option 1

Figure E: Specific Sound Levels – Option 2

5.3 BS 4142 Assessment

The following numerical assessments have been provided in Table H and Table I below in accordance with BS 4142 to provide a comparison between the rating sound levels of the proposal against the typical sound levels existing prior to development at the receptors indicated to have the highest incident specific sound level based upon the noise models produced NSR A and NSR D respectively.

Table H: BS 4142 Assessment of Proposed Development – NSR C Option 1

Results	Day 07:00 – 19:00	Evening 19:00 – 23:00	Night 23:00 – 07:00	Commentary
Residual sound level, dB $L_{Aeq,T}$	49	44	37	Representative residual and background sound levels at Location 2 for NSR C, in free-field conditions and shown within Table B.
Background sound level, dB $L_{A90,T}$	48	41	34	
Reference time interval	1-hour	1-hour	15-minutes	
Specific sound level, dB $L_{Aeq,T}$	34	31	31	Highest off-site values from noise modelling results of Table G.
Acoustic feature correction, dB	+ 3	+ 3	+ 3	A 3 dB feature correction has been applied to account for a source that could have intermittent sound characteristics when operational in the residual sound climate. Activity has not been reviewed as either tonal impulsive, or other in character.
Rating level, dB $L_{Ar,Tr}$	37	34	34	Specific sound level plus acoustic feature correction.
Excess of rating over background sound level	- 11	-7	0	
Assessment indicates likelihood of **depending on context*	Low Impact*			Where the rating level does not exceed the background level, this is an indication that the specific sound source will have a low 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.
Uncertainty of the assessment	Not significant			See statement of uncertainty in Section 5.5.

Table I: BS 4142 Assessment of Proposed Development – NSR A Option 2

Results	Day 07:00 – 19:00	Evening 19:00 – 23:00	Night 23:00 – 07:00	Commentary
Residual sound level, dB $L_{Aeq,T}$	58	57	50	Representative residual and background sound levels at Location 4 for NSR A, to in free-field conditions and shown within Table B.
Background sound level, dB $L_{A90,T}$	55	49	38	
Reference time interval	1-hour	1-hour	15-minutes	
Specific sound level, dB $L_{Aeq,T}$	35	35	34	Highest off-site values from noise modelling results of Table G.
Acoustic feature correction, dB	+ 3	+ 3	+ 3	A 3 dB feature correction has been applied to account for a source that could have intermittent sound characteristics when operational in the residual sound climate. Activity has not been reviewed as either tonal impulsive, or other in character.
Rating level, dB $L_{Ar,Tr}$	38	38	37	Specific sound level plus acoustic feature correction.
Excess of rating over background sound level	- 17	- 11	- 1	
Assessment indicates likelihood of **depending on context*	Low Impact*			Where the rating level does not exceed the background level, this is an indication that the specific sound source will have a low 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.
Uncertainty of the assessment	Not significant			See statement of uncertainty in Section 5.5.

The numerical assessments of Table H and Table I have highlighted the potential for low impact during operating hours at the worst affected NSRs, where rating sound levels have been predicted at or below the representative background sound levels.

In following of the assessment requirements of BS 4142, these numerical predictions have been considered in context in Section 5.4 below.

5.4 Context

The concept of “context” has been notably emphasised in Section 11 of BS 4142 when considering numerical impacts established from applying the standard.

The purpose of numerical assessments within Table H and Table I have been to review likely noise impacts occurring from new employment use development in a mixed, residential and commercial area, where operation at any time has been outwardly considered.

During operational hours, predictions have provided large differences (i.e. at least 10 dB) between the residual sound level over the specific sound level, such that in context, the ambient sound level should not change by a perceptible degree due to the development. It has subsequently been considered in context that these development activities will be largely indistinguishable for most of the time and some level of masking will be afforded by the residual sound level dominated by transportation infrastructure. In context at any time, the character of the specific sound consisting mainly of constantly operating plant items would be important against the anonymous climate comprising of road traffic.

The morning, evening and night have been considered particularly sensitive periods of operation where it would normally be appropriate to consider that residents could be resting or sleeping within their homes. During these times, it could be expected that residents may choose to leave windows open, where a level difference of approximately 13 dB would normally be expected inside the dwelling through a partially open window. The nearest NSRs have not been noted to contain any sound insulation provisions that allow occupants to keep windows closed (e.g. mechanical ventilation) therefore an open window assessment has been considered appropriate in context.

For any operational hours, resulting ambient noise levels outside or within the worst affected receptors have been predicted to relate to the residual sound climate where this prevails beyond the specific sound levels of this assessment. During these times, the resulting ambient sound level would not change because of the development and comprise mainly of the residual sound from road traffic and extraneous local activities, rather than that of the development as including new employment use operations.

Where any industrial or commercial sound remains audible, as might be possible during periods of operation, then it has been considered possible in context for some minor level of effect. This has been considered relevant for any source character that could have different temporal or spectral characteristics than the prevailing residual climate.

Mitigation has been considered in the employment use development, mainly using appropriate site layout, orientation, façade and boundary controls amongst screening of chillers and attenuation of flues for Option 2.

Predicted noise impacts during any time of the day, evening and night have been supported as low when considering the context of the Site. To protect amenity of surrounding NSRs aligning with the provided assessment, a scheme of conditional controls has been suggested with Section 6.2 of this assessment.

5.5 Statement of Uncertainty

Uncertainty has been considered as a limit to the accuracy of any noise assessment, including associated steps of measurement, calculation, or prediction. Factors have been considered to include (but not limited to) the following:

- The inherent accuracy limitation of methodology in Standards and guidance.
- Variability in meteorological conditions.
- The accuracy of sound source input data of a calculation.

It has been a requirement of the assessment standard BS 4142 to minimise uncertainty to a level commensurate with the intention of the assessment objective. Measures taken in this assessment to minimise uncertainty have included:

- Baseline sound levels have been measured over a reasonably representative weekday and weekend period and therefore provide a good indication of representative background and residual sound levels.
- These baseline measurements were undertaken in accordance with recognised Standards, using a tall environmental windshield and have accounted for only acceptable weather conditions e.g. low wind speeds and precipitation.
- A direct measurement location was used to provide a representative basis for background sound levels at the nearest receiver locations.
- Field calibration checks were undertaken before and after measurements to record very low levels of equipment drift.
- The calculations have been based on measured data in similar situations, where possible, and provided as conservative in other areas as not to under-predict the resulting impacts.

These measures have been considered to reduce uncertainty to a level considered not to have any significance to the outcome of this assessment.

6.0 Additional Noise Impact Considerations

6.1 Off-Site Development Related Traffic Noise

The potential noise impact of any increase in off-site development related traffic noise has been considered in accordance with industry standard guidance from DMRB and CRTN as defined below.

- The Calculation of Road Traffic Noise (CRTN). Department of Transport Welsh Office. HMSO, 1988.
- Design Manual for Roads and Bridges (DMRB), Sustainability & Environmental Appraisal LA111 Noise and Vibration, Version 2. Standards for Highways, May 2020.

CRTN has provided the basis of the UK standard method to predict and measure road traffic noise. A statistical measure has been defined in this approach, termed dB $L_{A10,T}$, as describing road traffic noise level exceeded for 10% of the measurement period (or 90th percentile). This method has established a baseline noise level (BNL) over an 18-hour period from 06:00 to 00:00, termed dB $L_{A10,18h}$, from which statements of impact can be made.

The assessment of off-site development related road traffic requires input from project transportation consultants to define forecast road traffic parameters for noise impact assessment.

The input data for CRTN assessment has been defined from annual average weekday totals (AAWTs) describing development traffic amongst forecast traffic on the highway, relevant to future years. The composition of traffic (% HGV) and other relevant factors including speed and road gradient, have also been necessary to define in the assessment approach. The method has also required for roads to be divided into segments and the BNL established for each segment, with and without development in operation.

DMRB has provided a means to quantify development related road traffic noise impacts where normally considered in short- and long-term periods. For the proposal, a review of short-term impacts has been considered most relevant when established in the opening year 2024 and with the scheme in full operation. The following magnitude of short-term change (or impact) from DMRB has been applied following Table J below.

Table J: Development Related Traffic Magnitude of Short-Term Change

Short Term Noise Change, dB $L_{A10,18h}$	Magnitude
0.0	No change
0.1 – 0.9	Negligible
1.0 – 2.9	Minor
3.0 – 4.9	Moderate
≥ 5.0	Major

6.1.1 Road Traffic Noise Impacts

It has been established from the study of road traffic volumes accompanying the outline planning application that some change in road traffic will occur on the surrounding road networks once the development is in full occupation. Further information has been provided by Pell Frischmann transport consultants for the purposes of this section.

The method to assess road traffic noise impacts has followed that outlined in Section 6.1 considering CRTN and DMRB. Road traffic noise impacts have mainly been considered during the daytime where the scheme would be operational.

In the simplest case, the scoping of road traffic noise impacts has been reviewed along the closest road links leading north and south of the entrance via Mwyndy Cross and A4119, against the change in the baseline noise level in the full opening year of 2030 and including any committed development in the local area.

The scoping exercise has inherently considered road traffic volumes, considering any forecast change to composition, assuming other factors such as speed and ground type remain constant. For these reasons, road traffic noise impacts have been viewed in terms of the magnitude of change, rather than modelling the absolute level at building façades. Speeds have been taken from CRTN considering the local limit and type of road.

All data has been reviewed in terms of AAWT's with and without each Option.

- Table K: Option 1.
- Table L: Option 2.

Flows have been considered as two-way and representative of total vehicles. These have been based on a traffic count survey data in the local area with growth rates to define the full opening year.

Table K: Estimated Composition of Road Traffic – Without and With Option 1, 2030

Link Road	Without Scheme, 2030		With Scheme, 2030		CRTN Speed kmh
Location	AAWT	% HGV	AAWT	% HGV	
Mwyndy Cross (east of A4119) two-way [1]	286	5.4	582	5.4	50
A4119 (north of Mwyndy Cross) northbound	19,310	13.1	19,378	13.1	60
A4119 (north of Mwyndy Cross) southbound	19,534	10.9	19,604	10.9	60
A4119 (south of Ffordd Cefn-Yr-Hendy link) northbound	16,438	13.0	16,510	13.0	60
A4119 (south of Ffordd Cefn-Yr-Hendy link) southbound	15,139	14.1	16,109	14.1	60

[1] Flows at this link have been disclosed to present the entire dataset but would remain below the calculation limit of CRTN of 1,000 AAWT.

Table L: Estimated Composition of Road Traffic – Without and With Option 2, 2030

Link Road	Without Scheme, 2030		With Scheme, 2030		CRTN Speed kmh
Location	AAWT	% HGV	AAWT	% HGV	
Mwyndy Cross (east of A4119) two-way [1]	*286*	*5.4*	*647*	*5.4*	*50*
A4119 (north of Mwyndy Cross) northbound	19,310	13.1	19,395	13.1	60
A4119 (north of Mwyndy Cross) southbound	19,534	10.9	19,617	10.9	60
A4119 (south of Ffordd Cefn-Yr-Hendy link) northbound	16,438	13.0	16,523	13.0	60
A4119 (south of Ffordd Cefn-Yr-Hendy link) southbound	15,139	14.1	16,127	14.1	60

[1] Flows at this link have been disclosed to present the entire dataset but would remain below the calculation limit of CRTN of 1,000 AAWT.

Only those links that have presented valid calculations for CRTN have been considered in following, to explain the worst-case effects on the wider road network.

It has been established that, due to a minor difference in road traffic composition in the local area, that worst-case *negligible adverse* noise impacts would result. This traffic would be disseminated at the connecting road junctions, as to result in *no change* within the wider road network. This has been shown within Table M below.

Table M: Estimated Magnitude of Change from Road Traffic Noise

Location	Short Term Noise Change dB $L_{A10,18h}$		Magnitude of Impact
	Option 1	Option 2	
A4119 (north of Mwyndy Cross) northbound	± 0.0	± 0.0	No change
A4119 (north of Mwyndy Cross) southbound	± 0.0	± 0.0	
A4119 (south of Ffordd Cefn-Yr-Hendy link) northbound	± 0.0	± 0.0	
A4119 (south of Ffordd Cefn-Yr-Hendy link) southbound	+ 0.3	+ 0.3	Negligible adverse

In the case of Mwyndy Cross (east of A4119) two-way, the volume of traffic would fall significantly below the CRTN calculation limit of 1,000 vehicles AAWT. Even if it was applicable to consider a low-flow correction of this link, the magnitude of change could moderate i.e. with respective 3.1 – 3.5 dB change for either Option. However for NSR B:

- the absolute magnitude of sound could not be significant where at or below 55 dB $L_{A10,18hr}$ at the façade and corresponding to the LOAEL from Mwyndy Cross.
- the BNL from the A4119 adjacent would be significantly higher (> 10 dB) than Mwyndy Cross, inferring that any changes to Mwyndy Cross adjacent to NSR B would relate to the A4119 which presents worst-case *negligible adverse* impacts.

In following it has been considered that no residential receptor would be subject to increased road traffic noise levels of any perceptible magnitude (i.e. << 1 dB) in context to the connecting road network. The scoping of road traffic noise impacts has been considered acceptable for the proposed employment use development.

6.2 Predicted Noise Impact and Planning

The evaluated noise impacts in this report should be considered by Rhondda Cynon Taf County Borough Council mindful of Planning Policy Wales, Technical Advice Note 11 and local guidance that define policy and decision-making requirements for planning and noise.

The range of noise impacts for the proposed development have been deemed acceptable with respect to overarching and local requirements for planning and noise. Suitable measures to mitigate the impact of noise have been considered proportionately and reasonably through engineering improvements at source, layout and adequate distances between noise sources and sensitive receivers.

It is expected that sound from the development would be largely unnoticeable, or just perceptible during the most noise sensitive periods of assessment. If it is possible for the sound to be audible, it is not expected to cause any change in behaviour or attitude. The development could marginally affect the acoustic character of the area but not to the extent that there is a perceived change in quality of life.

It has been considered that suitably worded planning conditions could be used by Rhondda Cynon Taf County Borough Council to ensure that commensurate controls have been adopted in the scheme to minimise any adverse impacts on health and quality of life. These could include a further review and submission for all exacting external plant items, at the relevant design stage and prior to installation.

7.0 Conclusions

Talbot Green Developments Limited has SLR to undertake noise impact assessment for a proposed employment use development at the Mwyndy Cross, Pontyclun.

A noise impact assessment has been carried out in line with BS 4142 methodology by a suitably qualified acoustician. Cumulative rating sound levels have been predicted at nearest sensitive receptors using noise modelling techniques of expected noise emissions from both development Options.

The numerical assessment in Section 5.0 have predicted worst-case rating levels at or below the representative background sound levels during any time of the day, evening or night, for both development Options. Predicted noise impacts during these operating hours have been supported as low, when considering the context of the site.

It has been concluded from the findings of this assessment that the range of noise impacts for the proposed employment use development would be acceptable with respect to overarching requirements for planning and so, noise should not present reasonable grounds for planning refusal.

The likely acoustic effects have been established, and noise would not be expected cause any change in behaviour or attitude or a perceivable change in the quality of life.

Commensurate noise mitigation has been provided in following of overarching requirements for planning and noise and in the consideration of planning approval.

8.0 Closure

The assessment has required a suitable level of technical ability and has been undertaken by a Suitably Qualified Person (SQP). An individual with all the following credentials has been considered a SQP for this assessment:

- Has a minimum of three years' verifiable experience (within the last five years) of providing noise impact assessments in planning. Such experience has clearly demonstrated a practical understanding of factors affecting acoustics in relation to the proposed development use and in the built environment in general, including acting in an advisory capacity to provide recommendations and design advice in planning, and;
- Holds a recognised acoustic qualification and membership of an appropriate professional body. The primary professional body for acoustics in the UK is the Institute of Acoustics.

This assessment has been led and managed by a SQP as defined above.

Where some elements of the assessment (e.g. measurements) have been carried out by an acoustician who does not meet the requirements above, this has been undertaken with the direct guidance and supervision of a SQP who has reviewed, agreed and overseen the measurement methodology and any results obtained.

The SQP confirms that the relevant measurements and calculations:

- Represent good industry practice in accordance with available guidance.
- Are appropriate given the development being assessed and scope of works proposed.
- Avoid invalid, biased and exaggerated claims.

The checker and author of this document confirm that they both comply with the definition of a SQP defined in this Section.

Regards,

SLR Consulting Limited

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Technical Director – Acoustics & Vibration

Appendix A Glossary of Terminology

Employment Use Development Noise Impact Assessment

Mwyndy Cross, Pontyclun

Talbot Green Developments Limited

SLR Project No.: 403.065618.00001

13 February 2026

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 0dB (the threshold of hearing) to over 120dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

Table A-1: Sound Levels Commonly Found in the Environment

Sound Level	Location
0 dB(A)	Threshold of hearing
20 to 30 dB(A)	Quiet bedroom at night
30 to 40 dB(A)	Living room during the day
40 to 50 dB(A)	Typical office
50 to 60 dB(A)	Inside a car
60 to 70 dB(A)	Typical high street
70 to 90 dB(A)	Inside factory
100 to 110 dB(A)	Burglar alarm at 1m away
110 to 130 dB(A)	Jet aircraft on take off
140 dB(A)	Threshold of Pain

A.1 Acoustic Terminology

dB (decibel) — The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (of 20 μPa).

dB(A) — A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.

$L_{Aeq, T}$ — $L_{Aeq, T}$ is defined as the notional steady sound level which, over a stated period T, would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.

$L_{A10, T}$ & L_{A90} — If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L10 is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L90 is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L10 index to describe traffic noise.

$L_{Amax(F)}$ — $L_{Amax(F)}$ is the maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, 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.

Appendix B Drawings

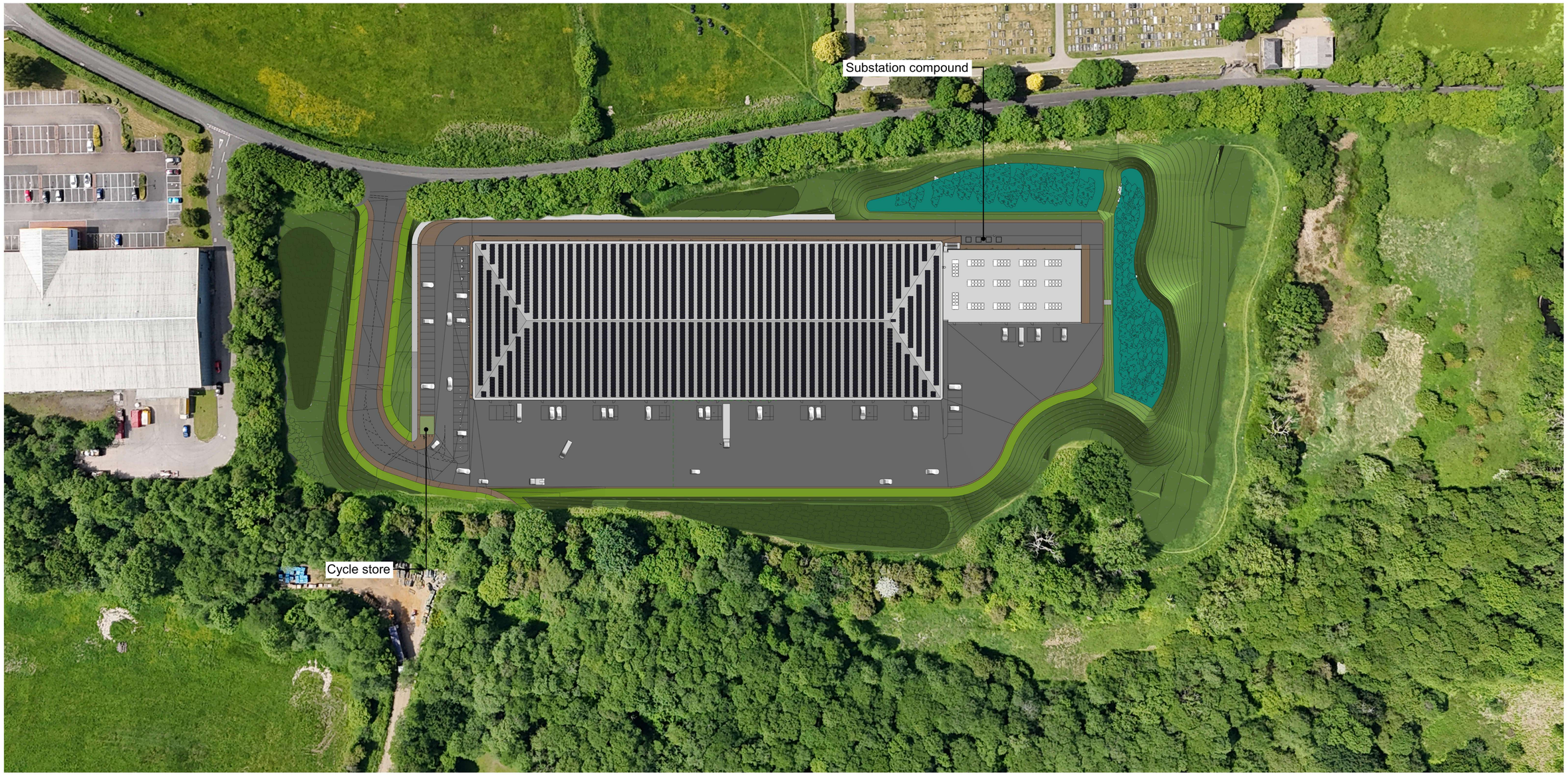
Employment Use Development Noise Impact Assessment

Mwyndy Cross, Pontyclun

Talbot Green Developments Limited

SLR Project No.: 403.065618.00001

13 February 2026



PROPOSED SITE PLAN

LIGHT INDUSTRIAL - Ground Floor 59,000 AOD
Proposed Site Plan
1:500 @ A0

Rev.	Status	Date	Check	Description
P02	S0	27/01/26	BE	Planning application
P01	S0	18/12/25	MH	PAC Issue

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London Cardiff Munich

Project
Mwyndy (Employment Development Site)

Title
Light Industrial - Site Plan Proposed

Job No.	Scale at A0	Classification	Status Revision
4599	1 : 500		S0 P02

Project Code · Originator · Functional Breakdown · Spatial Breakdown · Form · Discipline · Number
MEDS-HMA-ZZ-ZZ-D-A-90001

SCALE 1:500
5 0 5 10 15 20 25
m

PROPOSED SITE PLAN

DATA CENTRE - Ground Floor 59,000 AOD
Proposed Site Plan
1:500 @ A0

Rev	Status	Date	Check	Description
P02	S0	27/01/26	BE	Planning application
P01	S0	18/12/25	MH	PAC Issue

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Project
Mwyndy (Employment Development Site)

Title
Data Centre - Site Plan Proposed

Job No	Scale at A0	Classification	Status Revision
4599	1 : 500		S0 P02

Project Code - Originator - Functional Breakdown - Spatial Breakdown - Form - Discipline - Number
MEDS-HMA-ZZ-ZZ-D-A-90001

SCALE 1:500
5 0 5 10 15 20 25
m

Appendix C Survey Data

Employment Use Development Noise Impact Assessment

Mwyndy Cross, Pontyclun

Talbot Green Developments Limited

SLR Project No.: 403.065618.00001

13 February 2026

Figure C1: Sound Pressure Level Time History Graph – All Data – Location 1

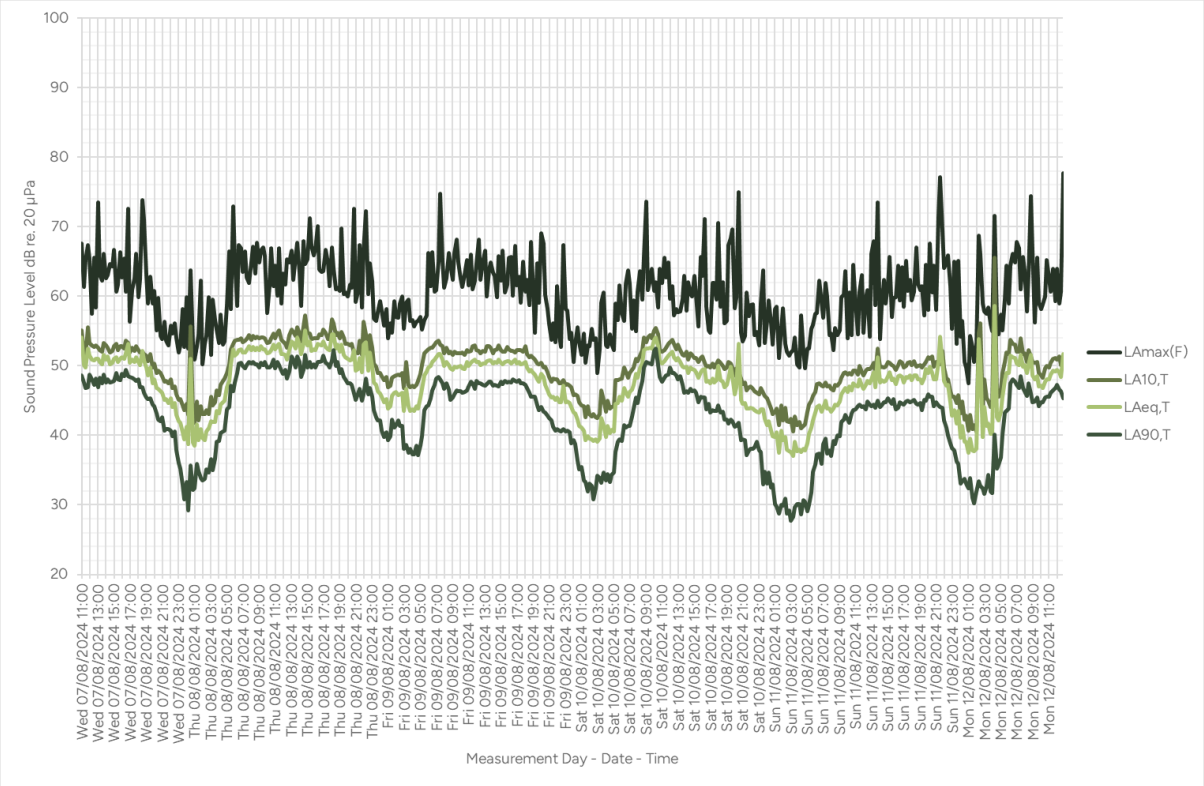


Figure C2: Background Histogram – Filtered up to 10/08/24 & Weather – Location 1

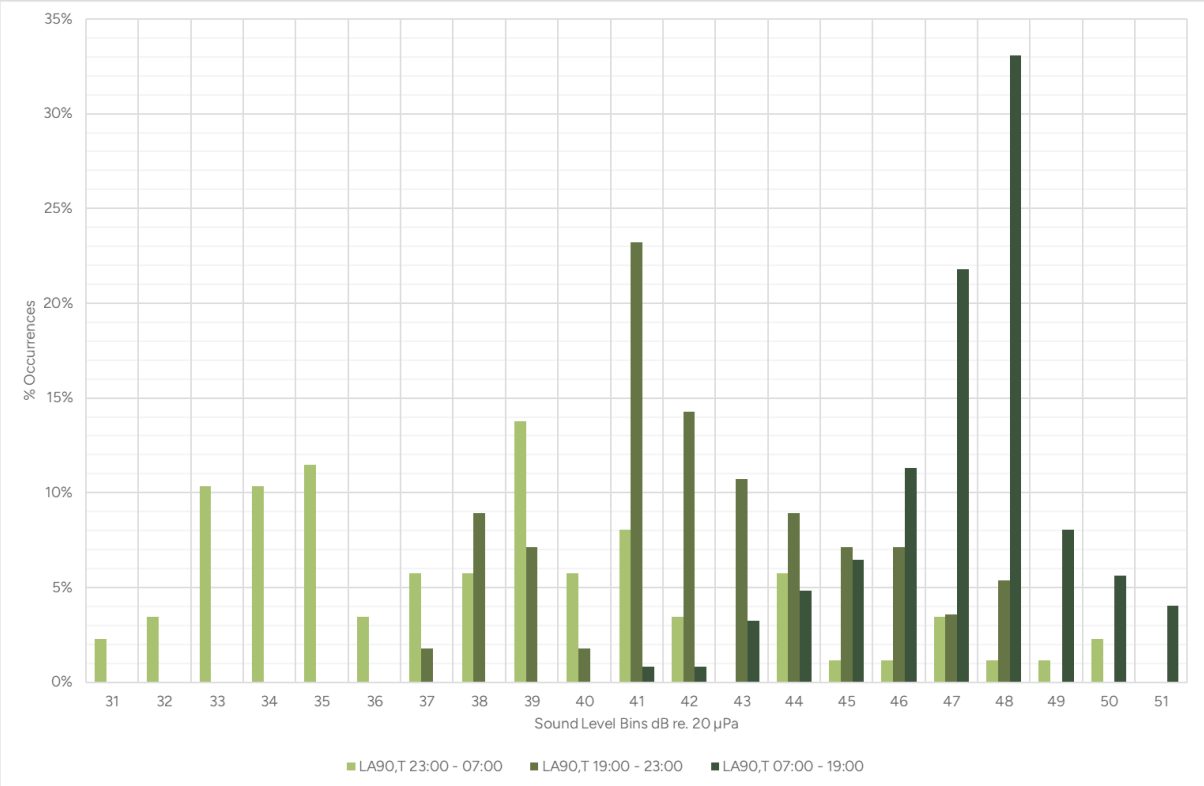


Figure C3: Sound Pressure Level Time History Graph – All Data – Location 2

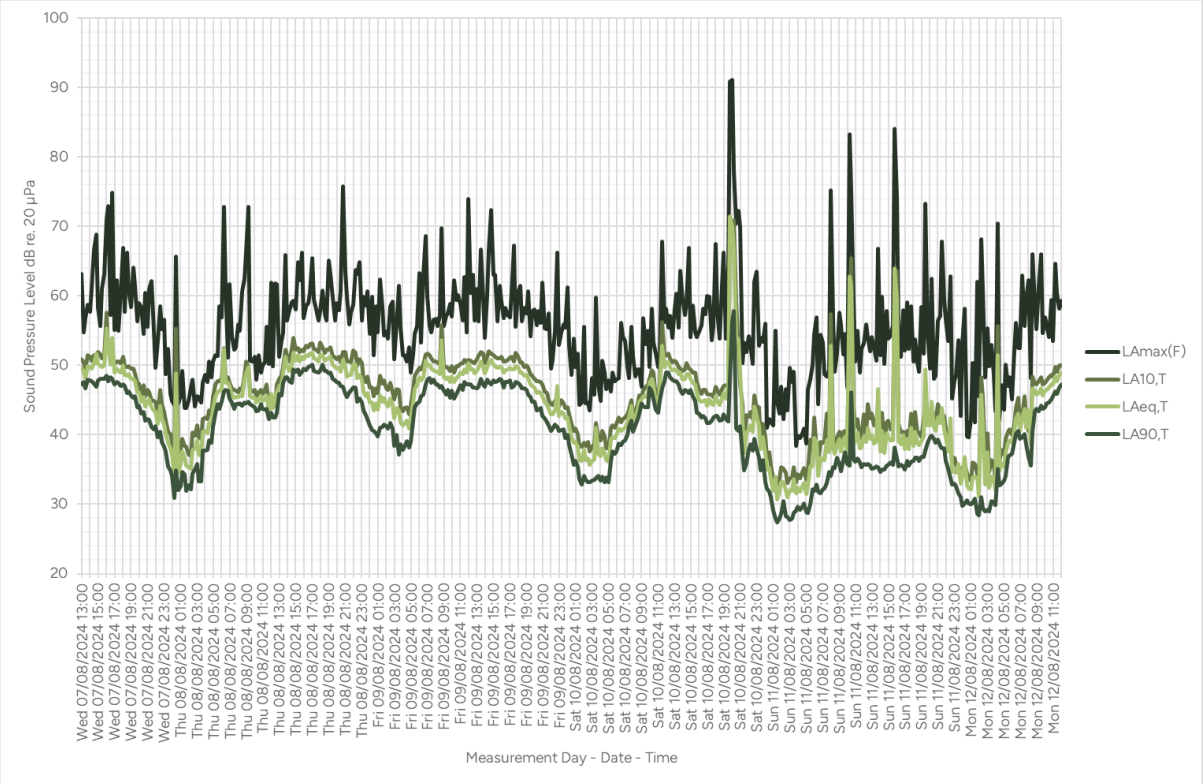


Figure C4: Background Histogram – Filtered up to 10/08/24 & Weather – Location 2

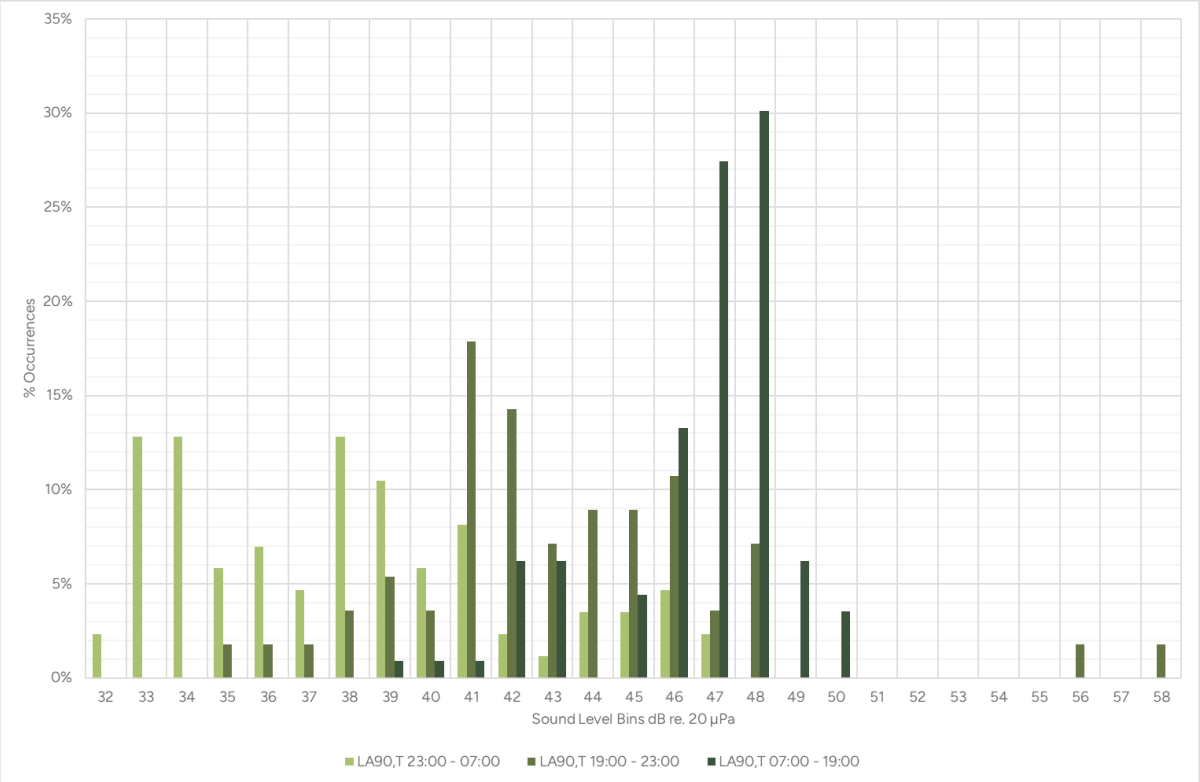


Figure C5: Sound Pressure Level Time History Graph – All Data – Location 3

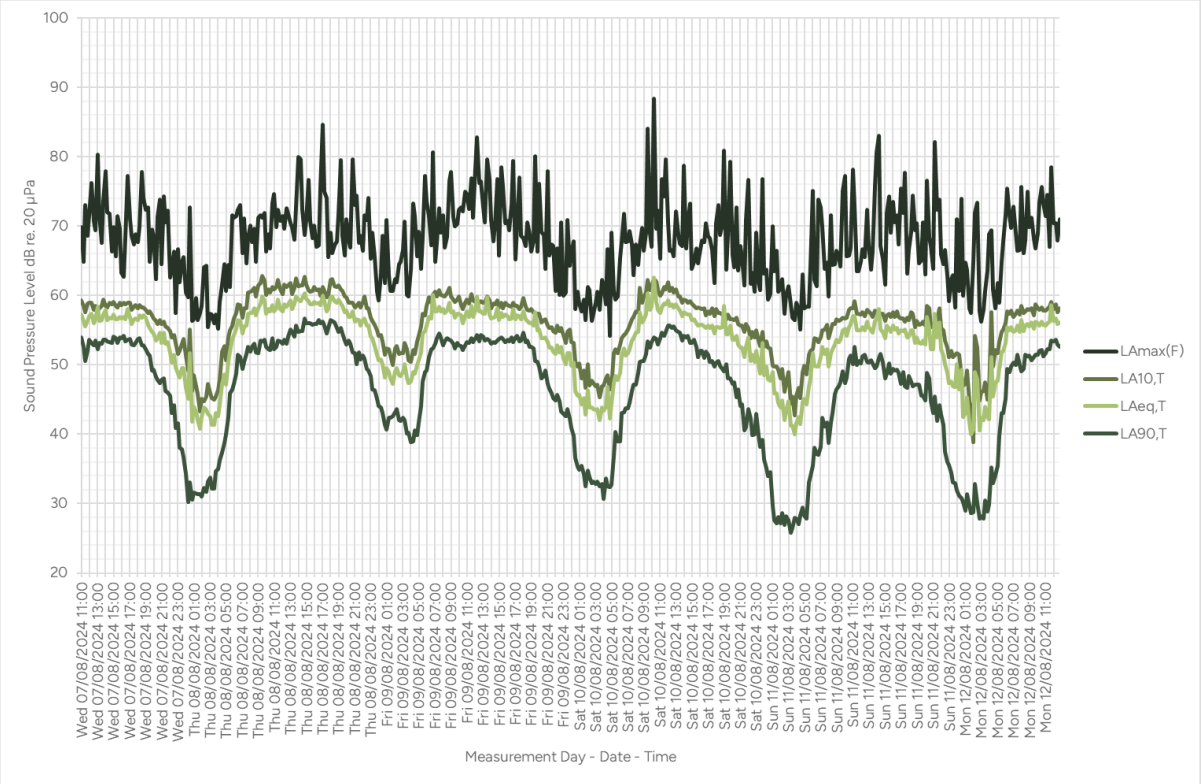


Figure C6: Background Histogram – Filtered up to 10/08/24 & Weather – Location 3

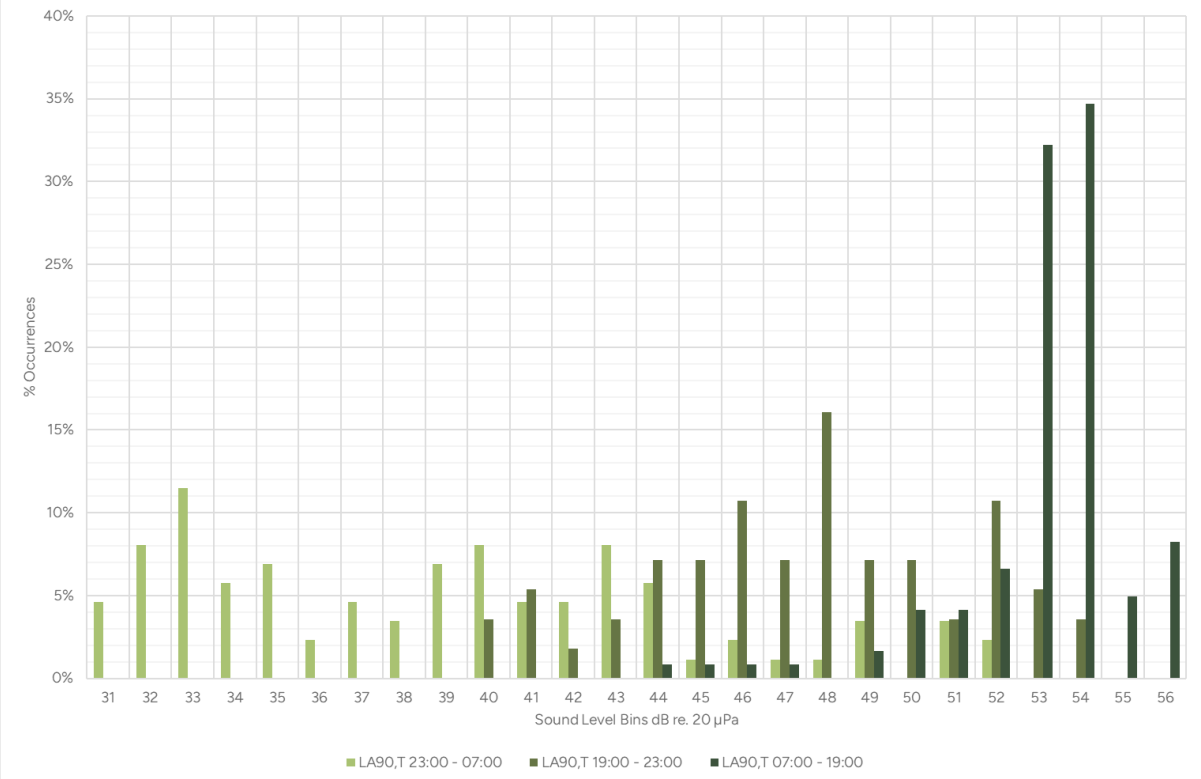


Figure C7: Sound Pressure Level Time History Graph – All Data – Location 4

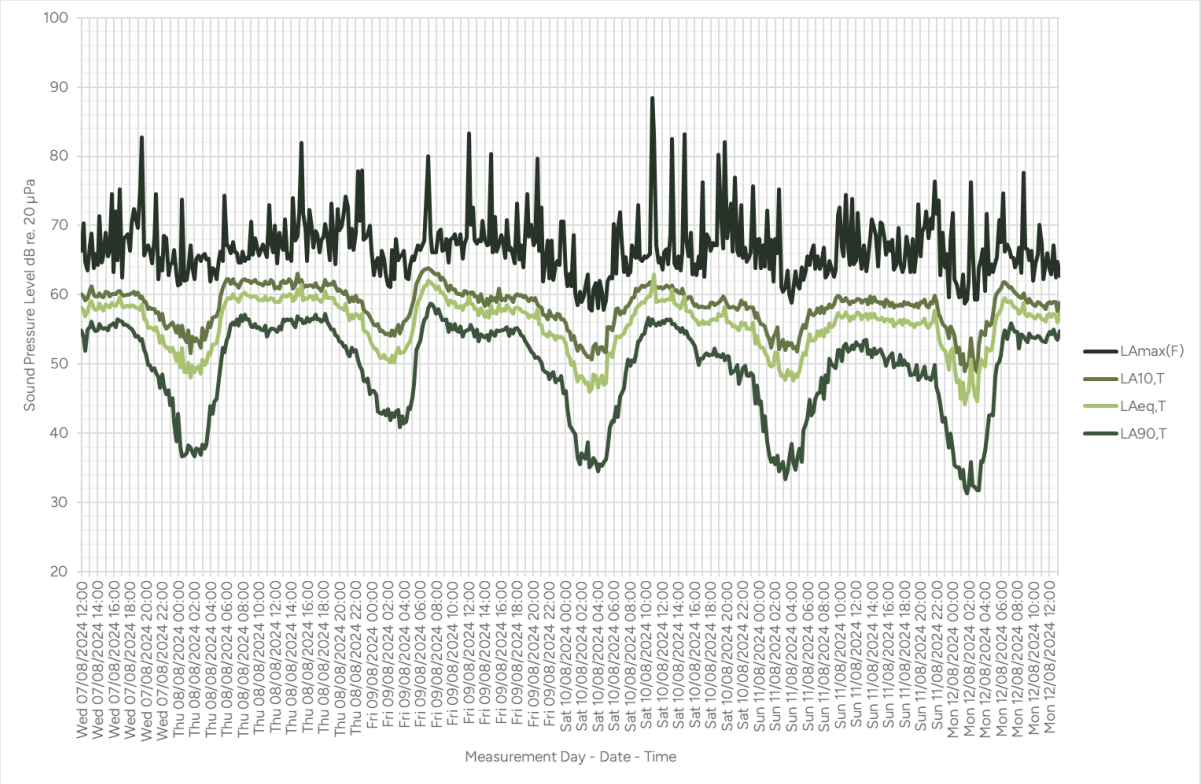


Figure C8: Background Histogram – Filtered up to 10/08/24 & Weather – Location 4

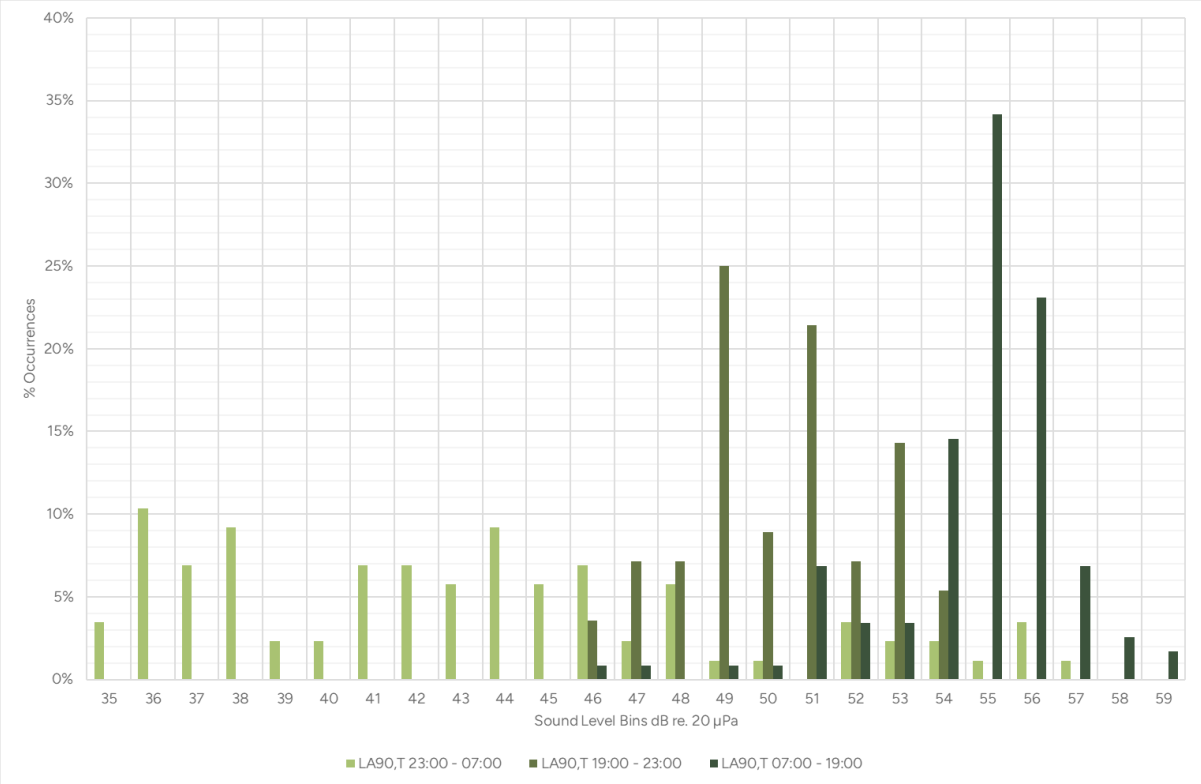


Figure C9: Weather Time History Graph

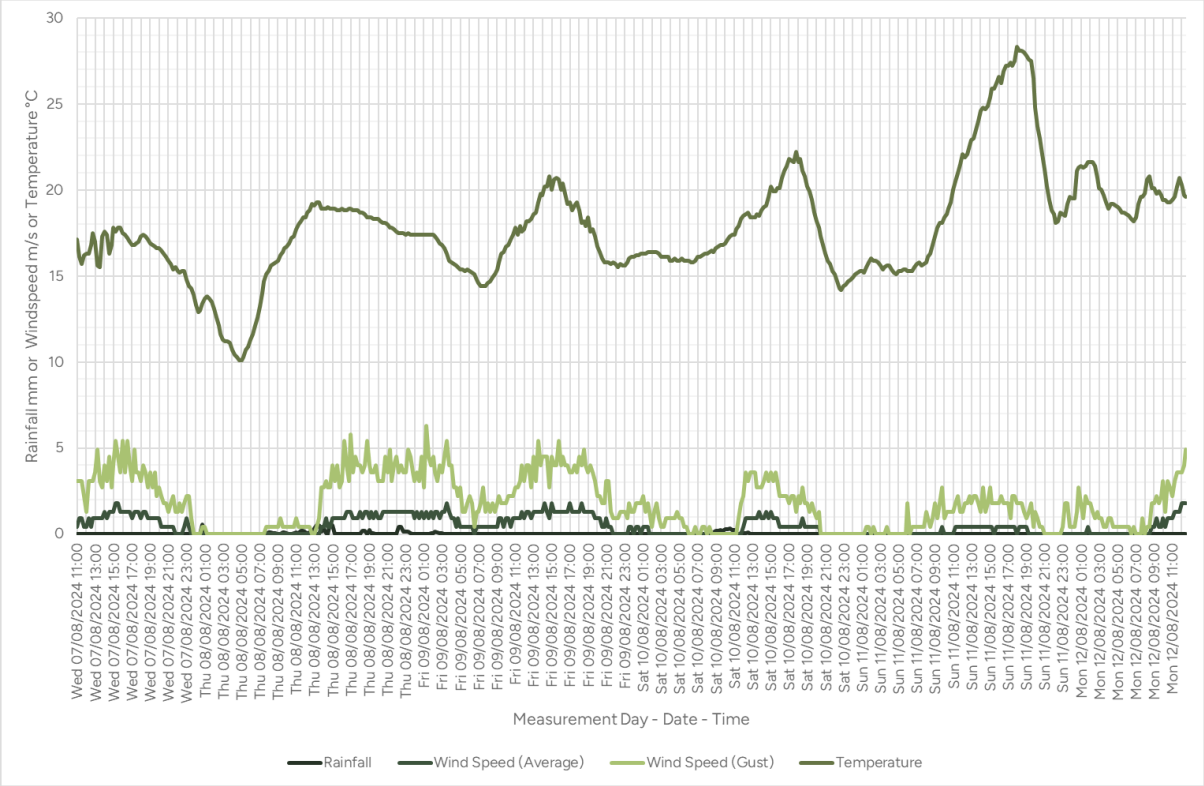
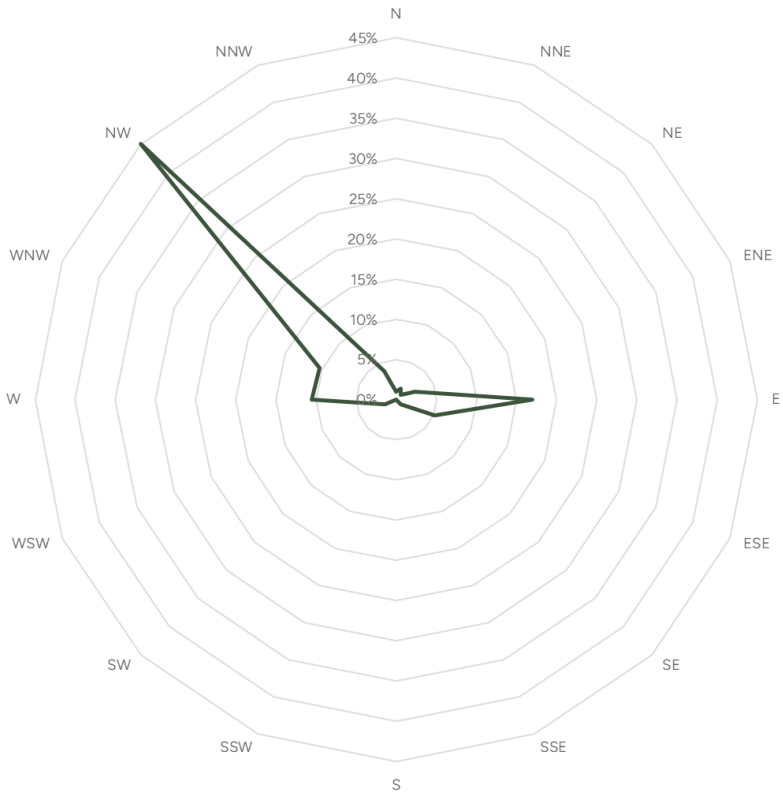


Figure C10: Wind Direction Polar Plot



Appendix D Model Input Data

Employment Use Development Noise Impact Assessment

Mwyndy Cross, Pontyclun

Talbot Green Developments Limited

SLR Project No.: 403.065618.00001

13 February 2026

Table D1: Modelling Parameters and Associated Detail

Model Parameter	Detail
Ground Effect Co-efficient (G)	• G = 0 in all areas. (Where 0 = Hard ground, 1 = soft ground).
Calculation Model	• Industry: ISO 9613:2024.
Order of Reflections	• 3 • Maximum search radius Receiver – 1000 m • Maximum search radius Source – 100 m
Meteorology	• 10 °C Temperature • 70 % Relative Humidity • 3.0 m/s windspeed for direction
Topography	• Lidar composite DTM (1 m resolution) from https://environment.data.gov.uk/survey. • Converted to 1 m contour Shapefile using QGIS software.
Buildings	• Reflective with 1 dB façade loss. • Receptors modelled at 1.5 m height.
Mapping Imagery	• Georeferenced client drawings. • Simplified using AutoCAD LT software.

Table D2: Octave Band Data Used in Noise Modelling

Description	Data	Sound Level dB per Octave Band Centre Frequency Hz								Sum A
		63	125	250	500	1000	2000	4000	8000	
HGV 10 mph	dB L_w	95.4	91.8	89.5	88.1	88.4	86.9	81.3	70.0	93.0
HGV reversing	dB L_w	95.5	90.8	88.0	84.1	84.9	82.2	79.6	74.3	89.6
Forklift	dB L_w	97.5	88.6	85.4	84.9	82.6	79.8	77.6	74.5	88.0
Car 10 mph	dB L_w	91.0	82.4	77.2	74.9	74.6	74.5	67.7	60.6	80.2
Internal	dB $L_{p,rev}$	67.3	66.8	66.7	66.1	65.5	63.0	60.5	59.6	70.4
Generator Flue	dB L_w	63.7	73.4	78.6	81.2	82.0	80.6	75.7	67.0	86.4
Chiller (100% day)	dB L_w	70	87	82	84	89	87	88	88	98
Chiller (85% night)	dB L_w	67	84	88	90	86	84	86	87	95
AHU	dB L_w	60	77	72	74	79	77	78	78	85
Transformer	dB L_w	61	66	61	61	52	44	39	32	61
Condenser	dB L_w	78	93	79	78	80	75	69	68	84

Description	Data	Sound Level dB per Octave Band Centre Frequency Hz								Sum A
		63	125	250	500	1000	2000	4000	8000	
Wall (noise attenuation)	dB R	18	23	35	44	49	50	61	55	45 R_w
Roof (noise attenuation)	dB R	16	16	32	45	49	50	60	52	40 R_w

Table D3: On Site Vehicle Movements – Option 1

Total Vehicles

	ARRIVALS	DEPARTURES	TOTALS
	Trip	Trip	Trip
Time Range	Rate	Rate	Rate
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	8	1	9
06:00-07:00	23	16	39
07:00-08:00	19	3	22
08:00-09:00	16	4	20
09:00-10:00	15	7	22
10:00-11:00	15	7	23
11:00-12:00	6	8	14
12:00-13:00	11	14	25
13:00-14:00	8	14	23
14:00-15:00	7	8	15
15:00-16:00	4	14	18
16:00-17:00	3	18	21
17:00-18:00	12	11	22
18:00-19:00	10	13	23
19:00-20:00	1	3	4
20:00-21:00	0	5	6
21:00-22:00	0	0	0
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily Trip Rates:	159	147	306

HGVs

	ARRIVALS	DEPARTURES	TOTALS
	Trip	Trip	Trip
Time Range	Rate	Rate	Rate
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	1	1
07:00-08:00	3	1	4
08:00-09:00	3	2	5
09:00-10:00	5	3	8
10:00-11:00	4	1	5
11:00-12:00	3	2	5
12:00-13:00	5	4	9
13:00-14:00	3	2	5
14:00-15:00	1	1	2
15:00-16:00	1	2	3
16:00-17:00	1	1	2
17:00-18:00	0	0	0
18:00-19:00	0	0	0
19:00-20:00	0	0	0
20:00-21:00	0	0	0
21:00-22:00	0	0	0
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily Trip Rates:	30	20	50

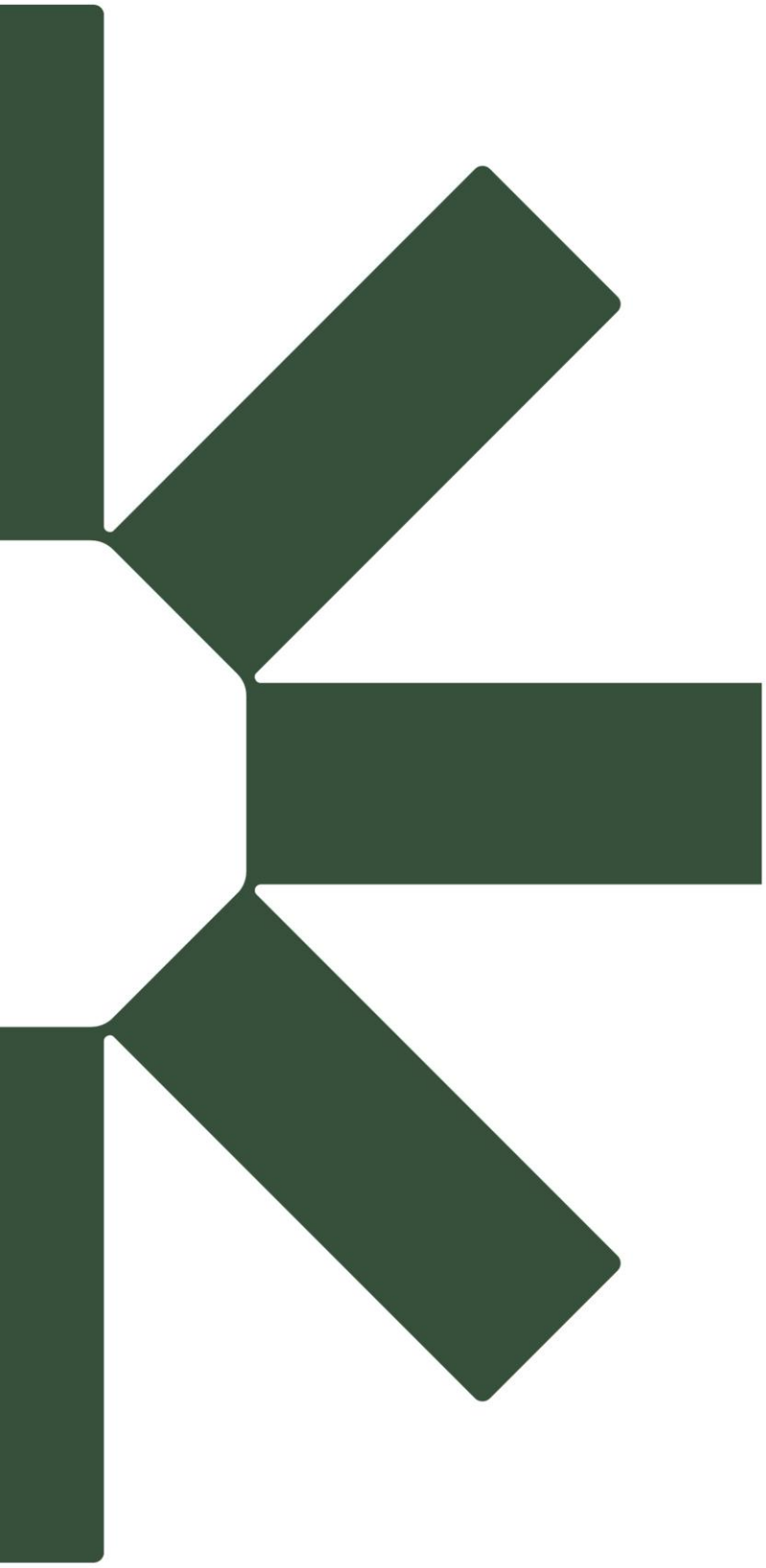
Table D3: On Site Vehicle Movements – Option 2

Total Vehicles

	ARRIVALS	DEPARTURES	TOTALS
	Trip	Trip	Trip
Time Range	Rate	Rate	Rate
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	12	4	16
06:00-07:00	24	12	37
07:00-08:00	39	7	46
08:00-09:00	28	8	37
09:00-10:00	18	10	27
10:00-11:00	12	7	18
11:00-12:00	10	11	21
12:00-13:00	4	6	10
13:00-14:00	7	9	17
14:00-15:00	8	6	14
15:00-16:00	3	24	27
16:00-17:00	3	23	26
17:00-18:00	4	19	23
18:00-19:00	8	19	27
19:00-20:00	1	4	5
20:00-21:00	2	10	12
21:00-22:00	0	2	2
22:00-23:00	2	4	6
23:00-24:00	4	2	6
Daily Trip Rates:	189	187	376

HGVs

	ARRIVALS	DEPARTURES	TOTALS
	Trip	Trip	Trip
Time Range	Rate	Rate	Rate
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	1	1	2
08:00-09:00	1	1	2
09:00-10:00	0	0	0
10:00-11:00	1	0	1
11:00-12:00	0	1	1
12:00-13:00	0	0	0
13:00-14:00	2	2	3
14:00-15:00	1	0	1
15:00-16:00	0	1	1
16:00-17:00	0	0	0
17:00-18:00	0	0	0
18:00-19:00	0	0	0
19:00-20:00	0	0	0
20:00-21:00	0	0	0
21:00-22:00	0	0	0
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily Trip Rates:	5	5	11



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