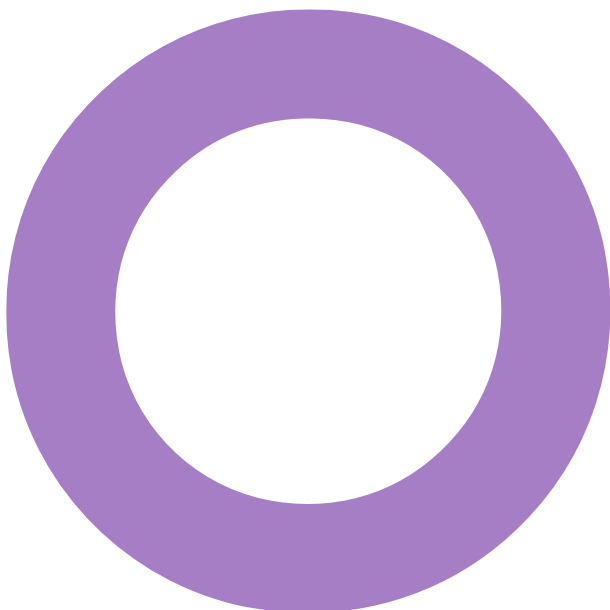


**Navigator Quarter.
Land adjacent to Southampton
Airport, Eastleigh.**
**blocwork (Eastleigh) LLP and
Southampton International
Airport Limited (SIAL).**

ACOUSTICS

NOISE IMPACT ASSESSMENT

REVISION 02 – 17 OCTOBER 2025



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	14/03/2025	Draft issue	JR	AS	BD
01	24/03/2025	Minor adjustments to wording	AS		BD
02	17/10/2025	Cumulative assessment and reflection assessment both added	JR	AS	BD

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1. Introduction.

Hoare Lea has been appointed to provide a Noise Impact Assessment for Navigator Quarter, a development proposed on Land adjacent to Southampton Airport.

This report summarises and assesses the potential noise impacts associated with the proposed development.

2. Site context.

2.1 The proposed development.

The project is described as follows:

"Hybrid Planning Application - Outline application for development of the land adjacent to Southampton Airport to provide employment floorspace of up to 92,000 sqm (GIA) within Use Classes E(g) (ii & iii), B2 and B8 with ancillary offices and areas for service yards, car parking, landscaping, ancillary buildings and associated activities, and access from Wide Lane (all matters reserved except for access). Full planning application for initial infrastructure works and construction of new access road including site levelling and other engineering works"

As an employment development is proposed, this noise impact assessment focusses on the potential noise impacts from the development. The potential noise impacts assessed are those from any external building services plant associated with the development and from vehicles using the new access road.

While noise impacts on the development (from environmental sources such as the airport, for example) will be a consideration for design, they are not considered to be a material concern for planning.

The layout of new units is to be arranged so that breakout noise is minimised as best as practically possible. I.e. loading bays and openings are to be positioned facing away from nearby sensitive receptors and/or screened by other buildings.

Given that the proposed development buildings are close to the Southampton Airport runway, there is a potential for the buildings to reflect aircraft noise and influence the noise levels perceived from aircraft activity at nearby noise sensitive receptors. Therefore, an assessment of the influence of proposed development on aircraft noise levels is provided in Section 7 of this report.

2.2 The site.

The site is located in Eastleigh, adjacent to the Southampton airport runway, with industrial and residential buildings situated to its north.

Figure 1 show the site in the context of the surrounding area, noting the nearest sensitive properties and industrial areas. This figure includes the nearby Sites of Special Scientific interest. However, this assessment focusses on the potential impacts of noise on humans only. The impacts of noise on wildlife are considered within the Ecology assessment for the development.

As shown, the closest sensitive receptors are to the north and west of the site boundary. Figure 2 defines key receptors for reference. Protecting against adverse noise impacts at these receptors is considered to likely protect all receptors against adverse noise impacts from building services plant associated with the proposed development, as other more distant receptors would be subject to lower noise levels and comparable existing sound climates.

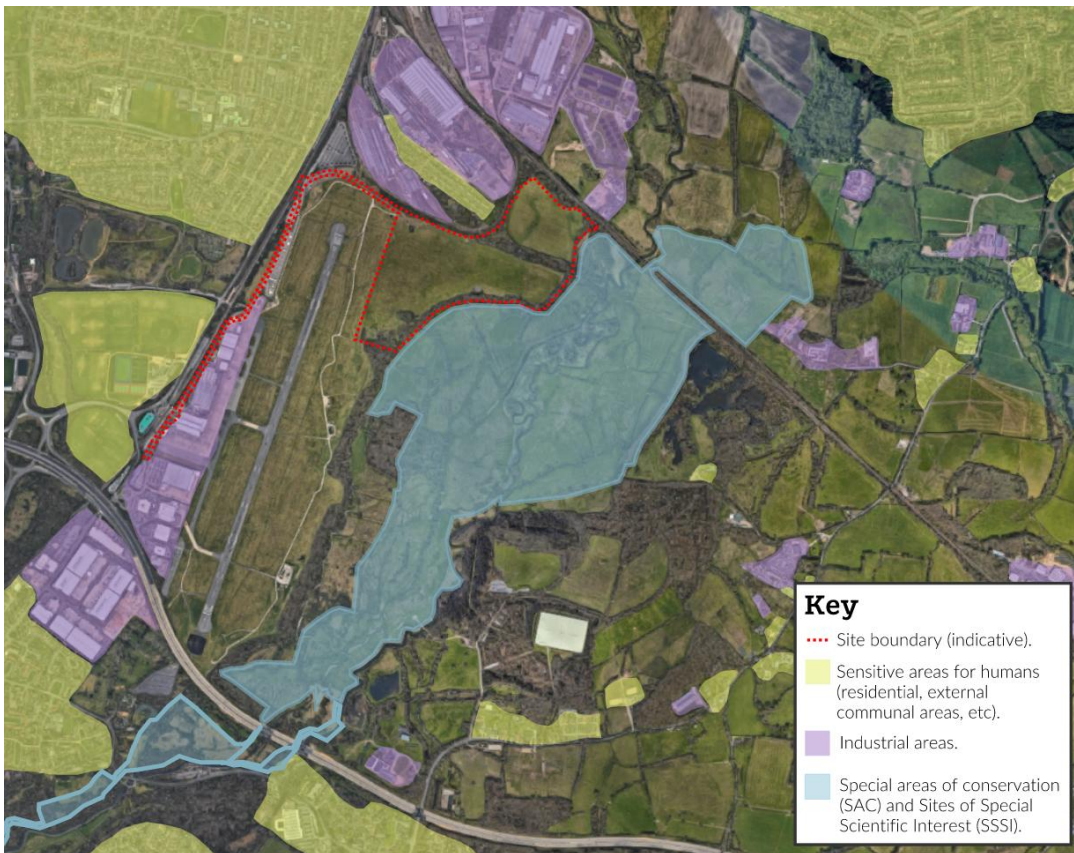


Figure 1: Site context.

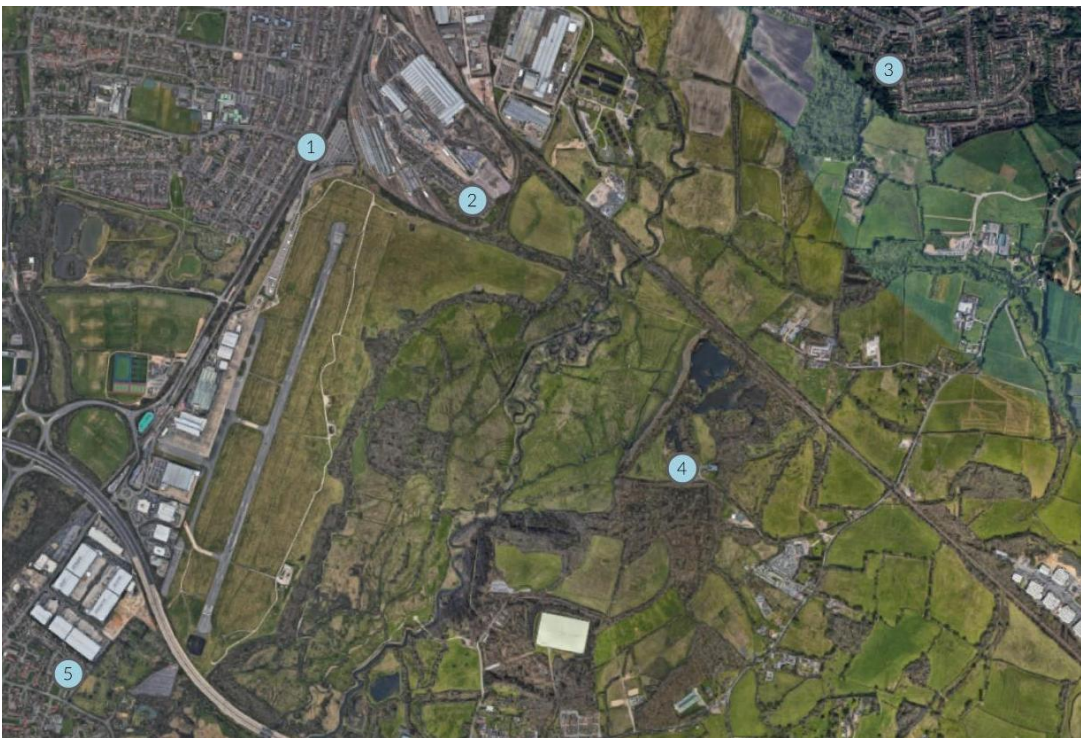


Figure 2: Assessment receptors.

2.3 Cumulative developments.

The following schemes are proposed close to the site.

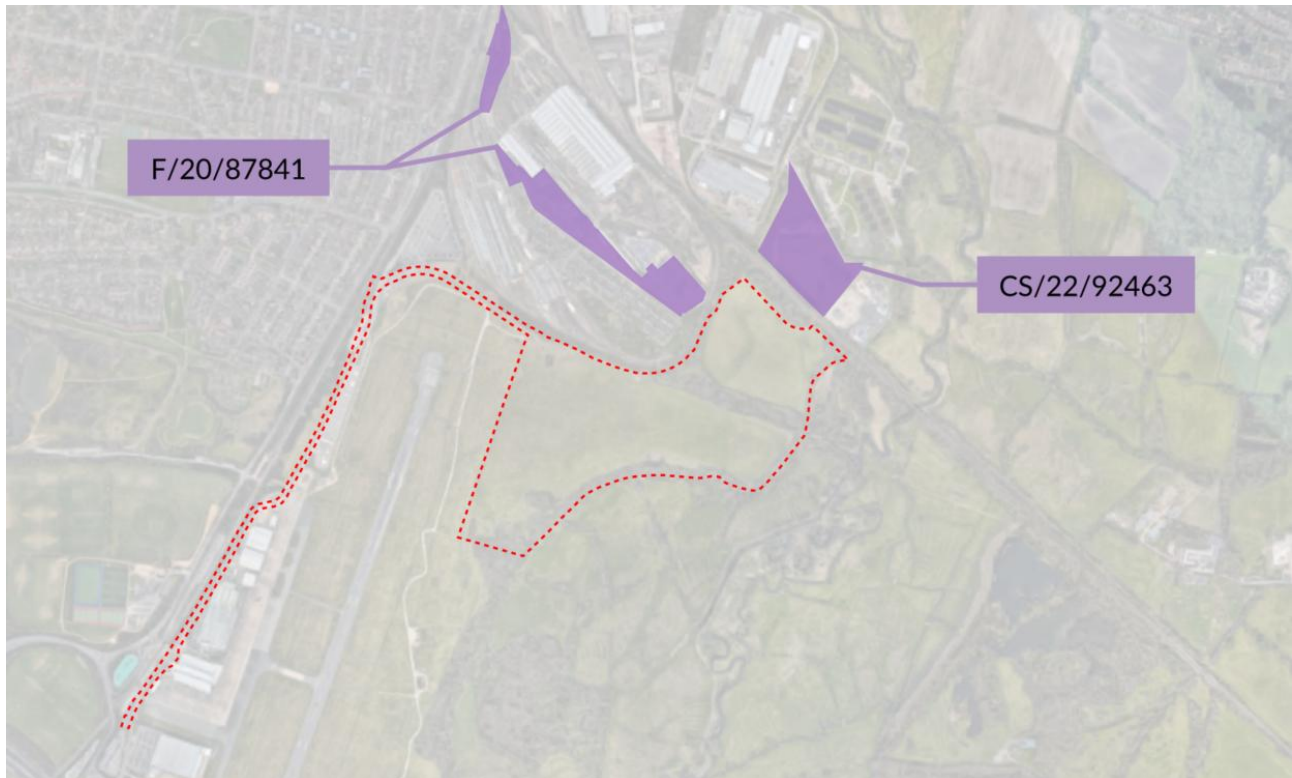


Figure 3: Cumulative schemes.

- F/20/87841, X/23/96250 - Eastleigh Railway Works: Construction of up to 2,444 sq m of employment buildings plus open storage.
- CS/22/92463 - Chicken Hall Lane: Material Recycling Facility and Associated Infrastructure.

Both schemes are approved, but not yet operational.

The likely noise emissions from each of these schemes are considered in the cumulative assessment contained in Section 8 of this report.

2.4 The sound climate.

The general sound climate in the area is described as follows:

- Noise from the airport runway is dominant when in use.
- When active, plant and operational works noise from the north of site is a dominant source of noise, along with very intermittent railway noise.
- Road traffic is also a key source of noise and can dictate the sound environment when neither the airport runway or plant/operational works are active sources. This originates mainly from the M27, running to the south of the site, and the A335, running to the west of the site.
- Natural sound sources (birdsong and wind in foliage) are also present in the absence of noisier events throughout site and in the surrounding area.

3. Assessment criteria.

3.1 National and local policy.

Ultimately, the noise impact assessment serves to demonstrate noise associated with the scheme complies with the requirements of the following national and local policy, summarised in Appendix A:

- Noise Policy Statement for England
- National Planning Policy Framework
- Planning Practice Guidance – Noise
- Eastleigh Borough Local Plan 2016-2036

3.2 British Standard BS 4142.

BS 4142 (British Standards Institution, 2019) provides guidance for assessing commercial operations and fixed building services plant noise. The British Standard provides an objective method for rating noise impacts from industrial and/or commercial operations. The assessment of the impacts is based on the subtraction of the pre-existing background sound level ($L_{A90,T}$) from the rating level ($L_{A,r,Tr}$).

The standard does not give a definitive method for determining the background sound level but instead, as a commentary, states that *“the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods”*.

Clause 8.1.4, which discusses the monitoring duration, states *“there is no “single” background sound level as this is a fluctuating parameter. However, the background sound level used for the assessment should be representative of the period being assessed.”* As a note to this clause the following commentary is given on obtaining a representative background sound level:

“To obtain a representative background sound level a series of either sequential or disaggregated measurements ought to be carried out for the period(s) of interest, possibly on more than one occasion. A representative level ought to account for the range of background sound levels and ought not automatically to be assumed to be either the minimum or modal value.”

The rating level is defined objectively as the specific source noise level in question (either measured or predicted) with graduated corrections for tonality (up to +6 dB), impulsivity (up to +9 dB), intermittency (+3 dB) and other sound characteristics (+3 dB) which may be determined either subjectively or objectively, if necessary.

The background sound level is subtracted from the rating level and the difference used to assess the impact of the specific noise source:

- A difference of around +10 dB is likely to be an indication of a significant adverse impact, depending on context.
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on context; and
- A difference of +0 dB or less is an indication of the specific sound source having a low impact, depending on the context.

4. Acoustic survey.

4.1 Methodology.

To quantify the sound climate in the area, an acoustic survey has been conducted by Hoare Lea at two locations across site. This survey consisted of long-term noise level measurements via logging sound level meters between 5th November 2024 and 12th November 2024.

Position 1 was chosen to quantify the sound energy of the airport runway, and to measure background sound levels that would be representative of the sound climate at assessment Receptor 1.

Position 2 was chosen to gain a fair representation of the sound energy produced by construction and plant noise to the north of the site location, whilst also measuring background sound levels representative of the sound climate at Receptor 2.

The sound level measurements positions discussed are shown in Figure 3.



Figure 4: Noise monitoring locations.

The automatic sound level meters recorded continuous samples of the following third-octave band, fast-time weighted metrics: ambient sound level ($L_{Aeq,T}$), maximum sound level (L_{AFmax}), and background sound level ($L_{A90,T}$).

All measurements were undertaken at a height of 1.4 metres above local ground level and were considered to be under semi free-field conditions, being at least 3.5 metres from any significant acoustically reflective surface other than the ground.

The sound level meters were calibrated immediately before and after each measurement period. No significant drift in level was noted. The measurement instrumentation used is listed in Appendix B attached.

During the measurement period the weather was not monitored on site, but was observed remotely, and during site visits. No precipitation was noted and there were predominantly low winds during the survey period.

4.2 Results.

For information, Appendix C contains plots showing the sound levels measured at Position 1 and Position 2 throughout the course of the survey period. Figure 4 and Figure 5 show the range of background sound levels measured at Position 1 and Position 2 respectively. These charts also show the number of measurements made at each integer level as a percentage of the overall number of measurements made.

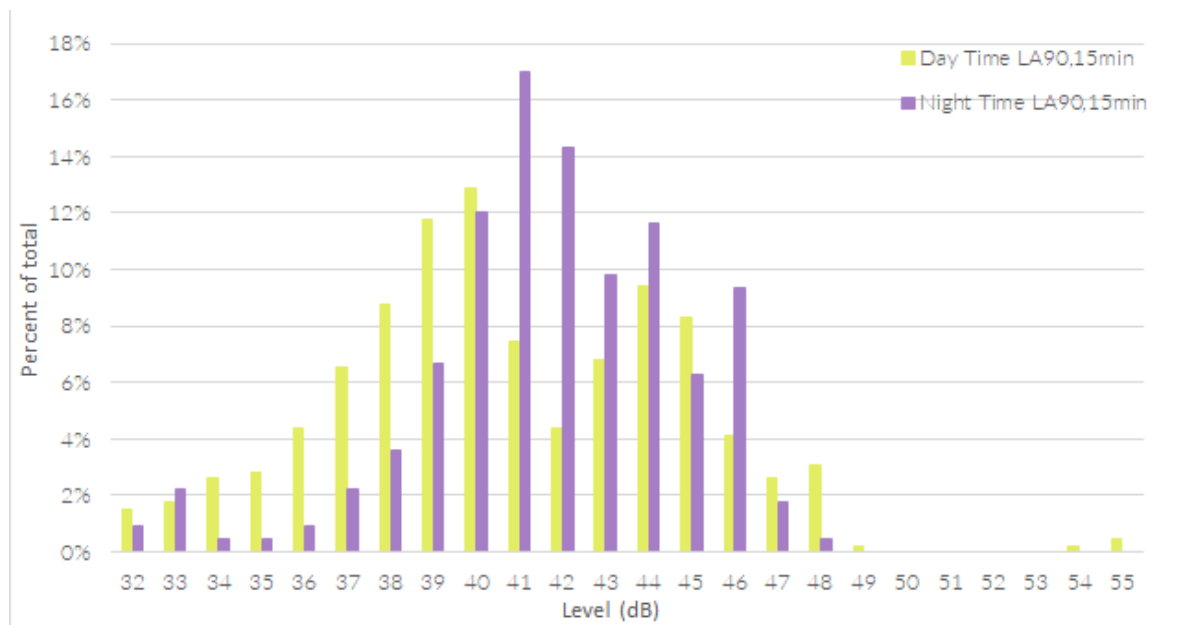


Figure 5: Day and night-time LA90,15 min at Position 1

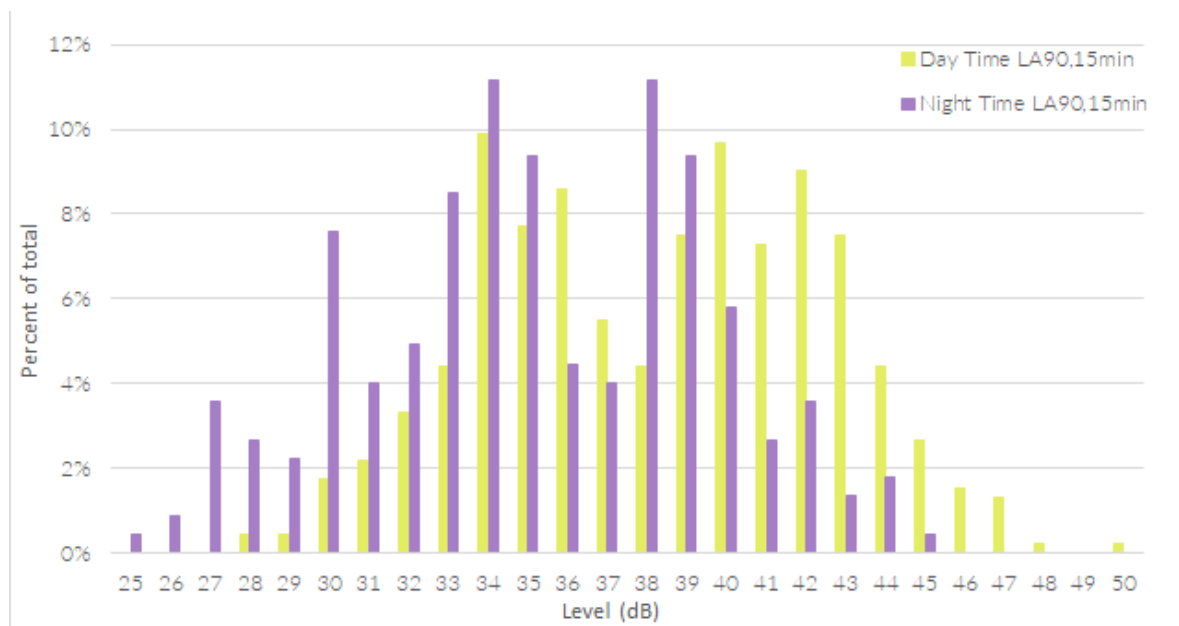


Figure 6: Day and night-time LA90,15 min at Position 2

The results shown in Figure 4 and Figure 5 are all expressed as 15-minute-long measurements. This is in accordance with the BS 4142 night-time measurement period but is shorter than the 1-hour daytime period given in the standard. Nevertheless, a shorter measurement period is a conservative basis for characterising existing background sound levels.

Using Figure 4 and Figure 5, along with the time-history data provided in Appendix C, appropriate background sound levels at both measurement positions have been determined.

For Position 1, these are as follows:

- LA90,15 min 33 dB is considered to be a reasonable representation of typical daytime background sound levels (07:00-22:00).

- $L_{A90,15 \text{ min}}$ 39 dB is considered to be a reasonable representation of typical night-time background sound levels (23:00-06:00).

Similarly for Position 2, these are as follows:

- $L_{A90,15 \text{ min}}$ 33 dB is considered to be a reasonable representation of typical daytime background sound levels (07:00-22:00).
- $L_{A90,15 \text{ min}}$ 30 dB is considered to be a reasonable representation of typical night-time background sound levels (23:00-06:00).

Notably, the measured sound data infers that night-time background levels at Position 1 are higher than daytime levels. Whilst it is not possible to categorically identify the source that created this uncommon trend in noise levels, it is clear that there was some localised continuous source causing background levels of noise to increase overnight. This would likely have been a very local source of noise due to the data from Position 2 not following this same trend. Consequently, it is reasonable to assume, as a conservative assumption, that typical day and night-time sound levels for all receptors can be represented by the data recorded at Position 2.

5. Building services plant.

5.1 Noise limits.

The following noise limits are proposed for building services plant serving the development:

Period of operation	Noise limits
Daytime (07:00-23:00)	$L_{Ar,1\text{hour}}$ 33 dB
Night-time (23:00-07:00)	$L_{Ar,15\text{minutes}}$ 30 dB

Table 1: Proposed noise limits for building services plant associated with the development.

These limits have been derived based on:

- characterising background sound levels according to measurements made at Position 2; and
- building services plant noise not exceeding typical background sound levels, which according to BS 4142 guidance corresponds to a likely low impact, depending on context.

The limits in Table 1 are applicable at the façade or external amenity areas of nearby noise sensitive residential receptors, whichever is closest. The limits in Table 1 are expressed as 'rating' levels, meaning that they should account for any warrant character corrections (e.g. tonality or intermittency). Building service plant selections and design are therefore to be cognisant of this, as noise sources with distinct characteristics would need to have lower specific sound levels for the overall rating level to comply.

5.2 High level assessment.

As the parts of the development likely to include building services plant are being submitted in outline, the building services plant strategy is not known at this stage. Nevertheless, the limits in Table 1 are relatively stringent. Even in the presence of reasonable separation distances, it is likely that:

- Careful consideration would need to be given to equipment locations to maximise building screening and manage casing breakout noise.
- All air handling plant would require atmospheric side attenuation.
- Any air source heat pumps, or other heating/cooling plant potentially may require some form of acoustic pack (acoustic enclosure allowing air flow).

Ultimately, the noise emitted by building services plant associated with the development would be dependent on final equipment selections, locations and mitigation. The noise limits in Table 1 can be referenced in a condition attached to the development consent to secure protection. It is considered reasonable that any emergency plant be subject to a 10 dB relaxation to the noise limits in Table 1 to allow for routine testing (and that testing be limited to daytime hours).

6. Noise from access road.

The influence of the proposed development on road traffic noise levels in the area is predominantly expected to be negligible. However, for receptors to the north of site (Receptor 2 in Figure 2), noise from the new access road warrants specific consideration.

Based on traffic flow data provided by the Applicant's Transport Consultant, Steer, it is understood that approximately 3992 vehicle movements (two-way), 961 of which will be HGVs, will pass along Mitchell Way and the new site access road each day. The approximate noise contributions of this have been assessed based on source noise propagation models in CNOSSOS¹ and Parking Area Noise², line source propagation as defined in ISO 9613-2³, and corrections of road traffic noise metrics defined in TRL guidance⁴. Based on a conservative estimation for the sound reduction through a façade with an open window of 13 dB, Table 2 below shows the assessment of predicted noise levels from the new access road at the nearest noise sensitive receptors to the north (receptor 2 in Figure 2) compared to the British Standard BS 8233 criteria, which correspond to the values stipulated in local policy (see Appendix A).

Time period	Predicted noise level	Criteria	Comments on compliance
Daytime (07:00-23:00)	51 dB LAeq,16hour outside	< 55 dB LAeq,16hour outside	Complies – adverse impacts unlikely
	37 dB LAeq,16hour inside	< 35 dB LAeq,16hour inside	Minor exceedance with windows open
Night-time (23:00-07:00)	32 dB LAeq,8hour inside	< 30 dB LAeq,8hour inside	Minor exceedance with windows open

Table 2: Assessment of noise from new access road.⁴

The results in Table 2 indicate that noise from the new access road is unlikely to result in adverse noise impacts in gardens. There is a potential for internal noise levels to exceed local policy criteria with windows open. However, these exceedances are small and are likely to be contextually acceptable for the purposes of temporary natural ventilation⁵. When windows are closed internal noise levels will be considerably lower and likely comply with local policy by more than 10 dB. Furthermore, based on the outcomes reported in the FAMOS project⁶, it is likely that the dense vegetation between the access road and receptors to the north will lessen annoyance related to road traffic noise due to the presence of greenery and visual screening.

7. Reflection assessment.

Noise from the runway is complex. As shown in Figure 4, sound level measurements have been made close to the runway. These measurements have been used to calibrate a noise model to estimate how aircraft noise propagates in the area. By subsequently introducing the development buildings, an assessment of the likely influence of the proposed development on aircraft noise propagation to nearby noise sensitive receptors has been provided. This assumes that the buildings will have a reflection coefficient of 0.8 on the basis of being clad in profiled metal with curved/parapet style roofs.

In practice, the eventual outcome will be influenced by the layout of the buildings. As the proposals are outline at this stage, an assessment has been carried out based on the current proposed layout. This is expected to

¹ Kephalopoulos, S., Paviotti, M., 2016, Common noise assessment methods for Europe (CNOSSOS-EU), JRC

² Bavarian State Office for the Environment, 2007, Parking Area Noise – Recommendations for the Calculation of Sound Emissions of Parking Areas, Motorcar Centers and Bus Stations, as well as of Multi-Storey Car Parks and Underground Car Parks

³ International Organization for Standardization, 2024, ISO 9613-2:2024 Acoustics – Attenuation of sound during propagation outdoors

⁴ Abbott, P. G. and Nelson, P.M., 2002, Project Report PR/SE/451/02 Converting the UK traffic noise index LA10,18h to EU noise indices for noise mapping, TRL Limited

⁵ Association of Noise Consultants, 2020, Acoustics Ventilation and Overheating Residential Design Guide, Institute of Acoustics

⁶ Conference of European Directors of Roads, 2022 FAMOE- Factors Moderating people's Subjective reactions to noise.

provide an indication of the eventual outcomes. It should be noted that noise modelling has been carried out in accordance with ISO 9613-2. In practice, the propagation from aircraft, particularly at low frequencies will be notably more complicated than the calculation algorithms noted in ISO 9613-2. Nevertheless, this is still considered sufficient for assessing the relative influence of the proposed development.

Figure 7 and Figure 8 show the predicted baseline noise level emissions from use of the runway, including ground running, take-off and landing events. Figure 9 and Figure 10 show the same predicted noise level emissions, allowing for the influence of the proposed development buildings on propagation. The values shown are $L_{Aeq,15\text{minute}}$ noise levels at 4.5m height.



Figure 7: Plan view of predicted noise levels from aircraft using Southampton Airport runway – without proposed development.

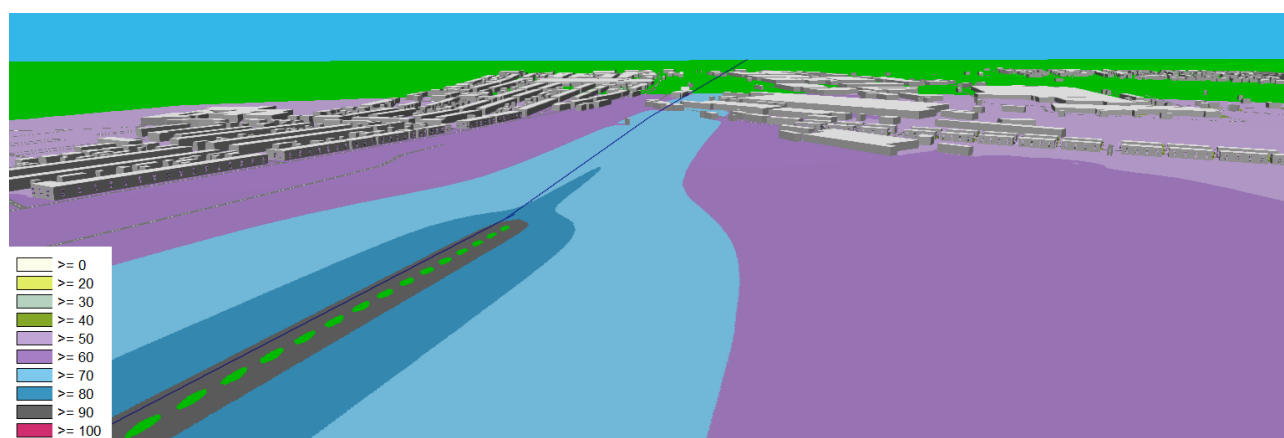


Figure 8: View from south of predicted noise levels from aircraft using Southampton Airport runway – without proposed development.



Figure 9: Plan view of predicted noise levels from aircraft using Southampton Airport runway – with proposed development.

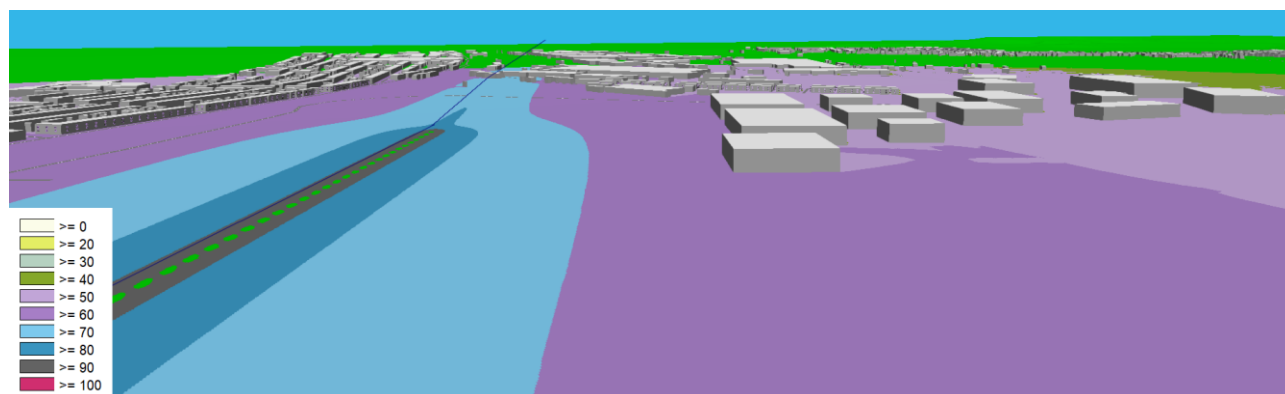


Figure 10: View from south of predicted noise levels from aircraft using Southampton Airport runway – with proposed development.

Table 3 shows the range of predicted noise levels due to aircraft noise, with and without the proposed development, at the two nearest residential areas. This shows that noise levels from aircraft at nearby noise sensitive receptors are not likely to be meaningfully influenced by the development.

Residential property location	Range of predicted, $L_{Aeq, 15min}$ noise levels (dB)	
	Baseline – without development	Prospective – with development
Southampton Road	52 - 66	52 - 66
Campbell Road	50 - 66	50 - 66

Table 3: The influence of proposed development buildings on the ranges of noise levels predicted at nearby noise sensitive receptors.

8. Cumulative assessment.

F/20/87841, X/23/96250 - Eastleigh Railway Works

The noise from the Eastleigh Railway Works is anticipated to be from HGV movements, as well as loading and unloading activities, including the use of forklifts. Therefore, the cumulative effects of noise from the proposed development and Eastleigh Railway Works are unlikely to be perceived as a simple sum of noise levels. In practice, the cumulative impacts are likely to be two different sources of noise perceived separately, the risk being, lack of respite from noise.

An assessment of the likely noise emissions from the Eastleigh Railway Works scheme has been carried out by RSK. This shows that at Campbell Road, noise levels from Eastleigh Railway Works would be high enough to result in an indication of adverse impact, but when contextualised, concludes that noise levels align with standard design targets and are lower than existing ambient sound levels. Noise levels from the proposed development, in particular the access road, would be of a comparable level, but likely have a more anonymous nature, which is why they are assessed via a different methodology.

Considered cumulatively, the assessment would not change in terms of the concluded impact, in relation to recognised guidance. Measured ambient sound levels would also be unlikely to meaningfully change. Moreover, internally, the impacts are unlikely to be perceived. Nevertheless, it should be acknowledged that in external areas, the soundscape generally will be perceived as being more eventful, in terms of noise sources, corresponding approximately to LOAEL (the lowest observed adverse effect level, as defined in Noise Policy Statement for England). I.e., residents in external areas will perceive the additional noise events, but given the context, are unlikely to perceive the cumulative impacts negatively in such way as to result in adverse health impacts.

CS/22/92463 - Chicken Hall Lane: Material Recycling Facility and Associated Infrastructure

No assessment of noise from the Chicken Hall Lane development is known of currently. Noise from a Material Recycling Facility is quite distinctive, in that, along with vehicle and machinery noise, it includes sounds from materials being deposited/moved – particularly glass.

Again, the cumulative effects of the Chicken Hall Lane development, together with the proposed development are likely to be perceived as multiple sources, contributing to additional noise events. This is particularly likely given that background sound levels in the area are low (i.e. in the absence of noise events from Southampton airport, local vehicle movements, or local works, the sound climate is tranquil). Given that the Chicken Hall Lane development and Eastleigh Railway Works are both intermittent sources of noise on the same side of properties on Campbell Road, these will interact cumulatively to a greater extent than the proposed development will.

In practice the proposed development is not notably noise generating in comparison to a Material Recycling Facility and is on the opposite side of the nearest sensitive properties to the Chicken Hall Lane development. Nevertheless, the Chicken Hall Lane development means that properties on Campbell Road are subject to another source of distinguishable daytime noise. How this is perceived (which, as noted above, will likely be limited to external areas) and any subsequent potential adverse health impacts will be heavily influenced by resident expectations. Typically, residents in an area close to an airport and existing works noise will contextually expect/accept intermittent working noise throughout the day. The guidance contained in ISO 12913-2:2018 can be used to investigate this further.

10. Conclusions.

A noise impact assessment has been carried out for Navigator Quarter, a project proposing new employment uses on land adjacent to Southampton Airport.

The development is not considered meaningfully noise sensitive in planning terms but has the potential to be noise generating. Therefore, this assessment has focussed on the potential for adverse noise impacts from the development on nearby noise sensitive receptors.

Noise limits have been derived to protect against adverse noise impacts from building services plant associated with the development. The noise limits derived are based on a conservative interpretation of background sound levels measured on site and the guidance stipulated in the relevant British standard. Conditioning noise limits can secure this protection.

The new access road may be audible, but is unlikely to adversely impact residents in gardens nearby. Noise levels from traffic on the access road will likely be low inside nearby dwellings with windows closed, sufficient to comfortably comply with local policy and British standard guidance criteria. With windows open noise from the access road will be more audible and may minorly exceed local authority criteria. However, this is likely to be acceptable given the context of the area. When considered cumulatively, it is likely that use of the access road, will be noticed as a new source of noise by nearby sensitive receptors in external areas, together with other new sources of noise associated with the cumulative schemes reviewed. However, given the existing sound climate and noise sources, this is not expected to result in adverse effects.

The proposed development is expected to have a negligible impact on aircraft noise propagation, as perceived by nearby residential receptors.

Therefore, the proposed development is considered suitable from an acoustic perspective, provided that noise limits for building services plant are conditioned.

Appendix A: Policy and guidance documentation.

National Planning Policy.

Noise Policy Statement for England.

Noise Policy Statement for England (NPSE) (Department for Environment, Food & Rural Affairs, 2010) advises that noise impacts should be assessed on the basis of adverse and significant adverse effect but does not provide any specific guidance on assessment methods or noise limits.

NPSE introduces the concepts summarised in **Table** that can be applied when considering the significance of noise impacts, which are applied by the World Health Organization.

The document advises that it is not possible to have '*a single objective noise based measure... that is applicable to all sources of noise in all situations*'. NPSE further advises that the sound level at which an adverse effect occurs is likely to be different for different noise sources, for different receptors at different times.

Effect Level	Description
No Observed Effect Level (NOEL)	This is the noise level below which no effect can be detected. In simple terms, below this level of noise, there is no detectable effect on health and quality of life due to the noise being assessed.
Lowest Observed Adverse Effect Level (LOAEL)	This is the level of noise above which adverse effects on health and quality of life can be detected.
Significant Observed Adverse Effect Level (SOAEL)	This is the level of noise above which significant adverse effects on health and quality of life occur.

Table A1: NPSE observed effect levels.

National Planning Policy Framework.

National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities, 2023) sets out the Government's planning policies and how these are expected to be applied. In relation to noise and vibration, NPPF section 15 paragraphs 174, 185 and 187 are presented below:

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

...

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

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

- a. *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
 - b. *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason;*
- and*
- c. *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

'193. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.'

Planning Practice Guidance - Noise.

Online Planning Practice Guidance (PPG) (Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, 2021) has been published online to provide greater details in relation to the relevance of noise to the planning process following the introduction of the NPPF and NPSE.

Under *Noise*, this guidance states, under the heading *"How can noise impacts be determined?"*, that the following should be considered by local authorities:

- *'whether or not a significant adverse effect is occurring or likely to occur;*
- *whether or not an adverse effect is occurring or likely to occur; and*
- *whether or not a good standard of amenity can be achieved.'*

In line with NPSE, this includes identifying where noise exposure is above or below the significant observed adverse effect level and the lowest observed adverse effect level for a given situation during the operation of the Proposed Development.

Further guidance on each of the various observed effect levels set out in the NPSE is provided in the '*Noise exposure hierarchy table*' which is reproduced below in Table 2. It is important to note that no specific noise parameters or target noise levels are defined in the text. Under the heading '*What factors influence whether noise could be a Concern?*', the subjective nature of noise is discussed. It is stated that there is no simple relationship between noise levels and the impact on those affected. This depends on how various factors combine in particular situations.

Perception	Example of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life	Observed Adverse Effect	Mitigate and reduce to a minimum

Perception	Example of outcomes	Increasing effect level	Action
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Table A2: PPG noise exposure hierarchy table of observed effects.

Local policy.

The Eastleigh Borough Local Plan 2016-2036 (Eastleigh Borough Council, 2018) discusses expectations for the consideration of noise in planning, making the following important statements:

"The Council supports the approach of the Noise Policy Statement for England in relation to the effective control of noise within the context of sustainable development."

"Where necessary, the Council will require a noise assessment which will be expected to:

- *identify all significant sources of noise;*
- *assess the likely short and long term impacts of noise generated or exposure to noise; and*
- *propose noise protection measures.*

The following table is taken from the Local Plan. This shows noise criteria that correspond to national guidance:

Standards for Maximum Ambient Noise Levels (in spaces when they are unoccupied) for Dwellings Subject to Transport-Related Noise			
Living Area	Night-Time (2300-0700) LAeq, 8hr	Daytime (0700-2300) LAeq, 16hr	Additional Requirements
Bedrooms	30	35	1. Individual noise events must not normally exceed 45 dB LAmax (measured with fast time-weighting) during the night time. 2. Provision of suitable means of sound attenuating ventilation to allow for the fact that opening windows will render noise insulation ineffective.
Living Rooms	-	35	Provision of suitable means of sound attenuating ventilation to allow for the fact that opening windows will render noise insulation ineffective.
Gardens ^a	-	55	Balconies will need to meet the same standard unless it is clear that they are not intended to be an outdoor living area, for example due to their small size.

Appendix B: Acoustic survey equipment.

Position 1.

- Rion - Microphone:
- Rion - Pre-amplifier:
- Rion - Sound Level Meter:

Position 2.

- Rion - Microphone:
- Rion - Pre-amplifier:
- Rion - Sound Level Meter:

Acoustic calibrator.

Rion - Sound Calibrator:

Appendix C: Time history plots of long-term sound level measurements made.

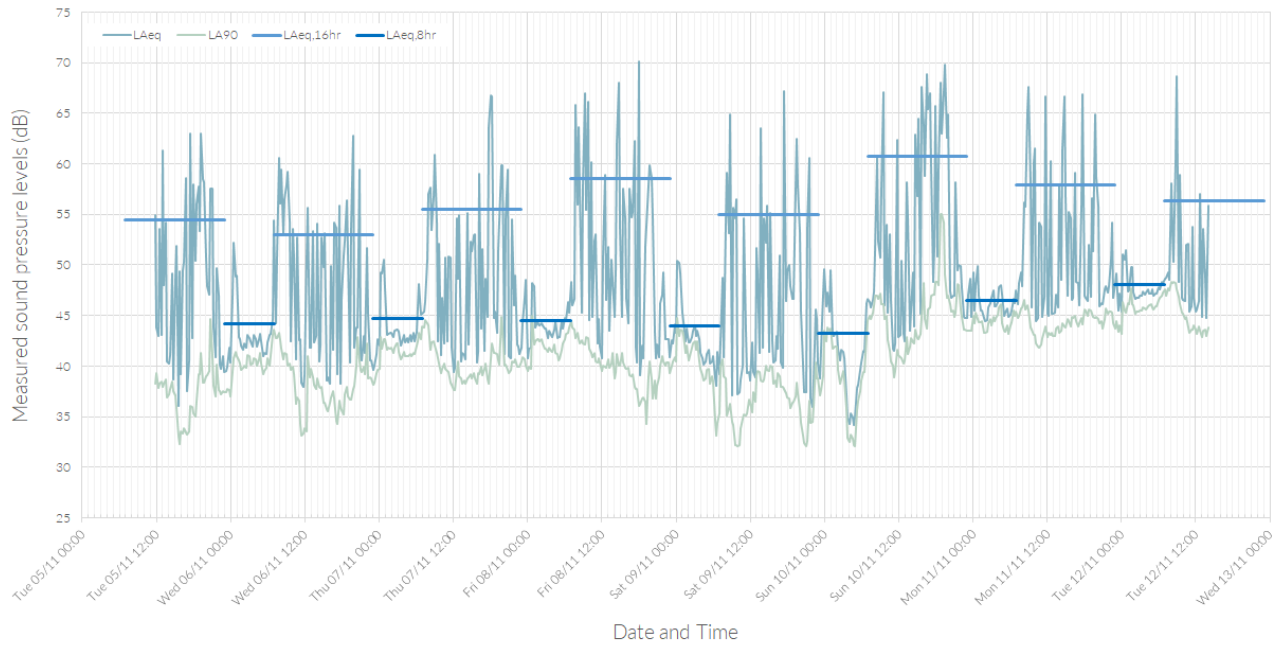


Figure C1: Time history plot showing measured sound levels at Position 1.

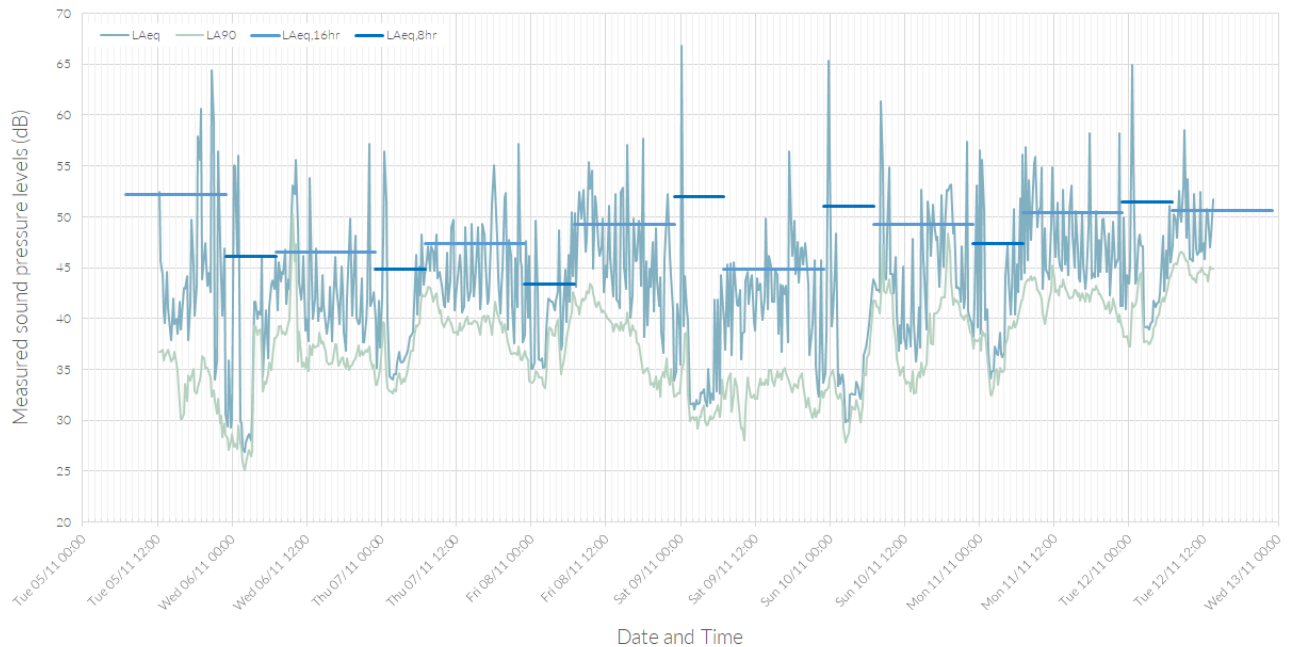


Figure C2: Time history plot showing measured sound levels at Position 2.



ADAM SCOTT

ASSOCIATE

+44 1454 806 742

adamscott@hoarelealea.com

HOARELEA.COM

155 Aztec West
Almondsbury
Bristol
BS32 4UB
England

