

Ribeye Steakhouse First Street

Environmental Noise Survey and Plant Noise Assessment Report

32638/PNA

14 October 2025

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Environmental Noise Survey and Plant Noise Assessment Report 32638/PNA

Document Control

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1	14/10/2025	Updated to assess plant noise emissions to consented office development			
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0	12/09/2025	-			
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1.0 Introduction

Hann Tucker Associates Limited (Hann Tucker) has been commissioned by Raju W. Haider to undertake a noise assessment for a site in Manchester.

It is understood that residents on City Road East have raised concerns about noise emissions from the kitchen extract plant serving Ribeye Steakhouse, located on Medlock Street. These issues have arisen following the demolition of a building on the corner of Medlock Street, which previously provided screening to the now affected properties.

Hann Tucker Associates has therefore been commissioned to undertake a detailed environmental noise survey at the site to establish baseline noise conditions as presented herein.

Suitable plant noise emission criteria based on the requirements of the of the Local Authority and/or the application of BS 4142: 2014+ A1:2019 have been established, and a plant noise impact assessment undertaken.

2.0 Objectives

To undertake an environmental noise survey to establish the existing L_{Amax} , L_{Aeq} and L_{A90} environmental road, rail and air traffic noise levels at selected accessible positions.

To undertake additional attended noise level measurements of the existing extract plant servicing Ribeye Steakhouse.

The survey will enable noise emission limits from the development to be identified with reference to the requirements of the Local Authority and/or the application of BS 4142: 2014 + A1:2019 and to minimise the possibility of noise nuisance to neighbours.

To assess the noise emissions from the proposed plant, based upon data with which we are provided, and comment upon the acceptability.

To advise on noise control measures if required.



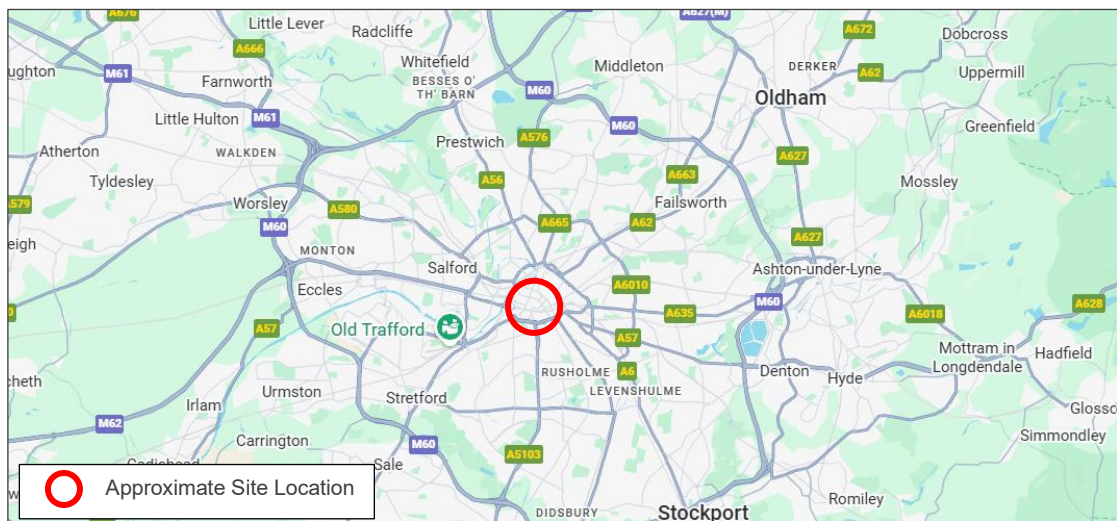
3.0 Acoustic Terminology

For an explanation of the acoustic terminology used in this report please refer to Appendix A enclosed.

4.0 Site Description

4.1 Location

The site is in Manchester. The location is shown in the Location Map below.



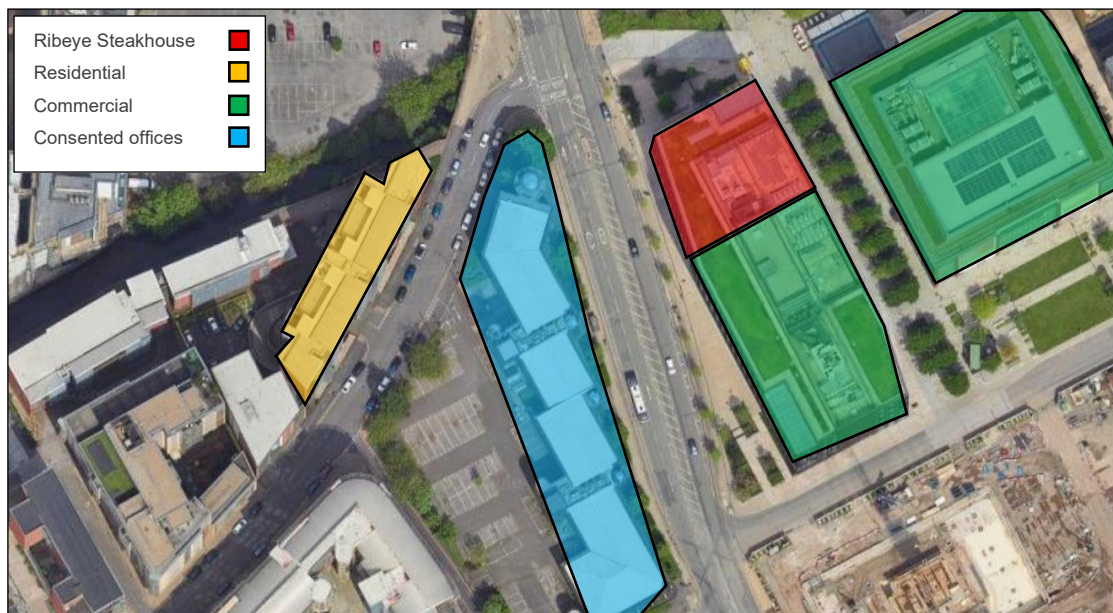
Map Location (Imagery ©2025 , Map data ©2025 Google)

The site falls within the jurisdiction of Manchester City Council.

4.2 Description

The site is surrounded by a mix of modern commercial developments and residential developments. To the immediate east, the area features office buildings with landscaped grounds. To the west and northwest are apartment blocks, car parks, and smaller commercial properties. It should be noted that the buildings highlighted in blue on the plan below are demolished buildings soon to be rebuilt as new office spaces. Manchester City Council has requested that the plant noise assessment is carried out considering these offices as receptors. Therefore, the consented offices are the most effected noise sensitive receptor.

The site is shown in the Site Plan below.



Site Plan (insert copyright info - Imagery ©2025 Airbus, Maxar Technologies, Map data ©2025)Planning Policies, Standards & Guidance

4.3 Policies & Guides

In order to provide a suitable assessment a number of national planning policies have been considered.

All guidance used to form a noise impact assessment is taken from various standards, guidance, and Local Authority requirements as summarised below:

- Local Planning Policy
- British Standard 4142:2014 + A1:2019
- Statutory Noise Nuisance

Detailed information for relevant planning policies and guidance can be found within Appendix B.

4.4 Specific Local Authority Criteria

Manchester City Council's (MCC) Planning and Noise Technical Guidance document (October 2022) states the following:



“The development should be designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location”.

“Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location”.

5.0 Baseline Noise Survey

5.1 Procedure

Fully automated environmental noise monitoring was undertaken by Nick Mitchell BSc(Hons), AMIOA from approximately 10:00 hours on Friday 5 September 2025 to 10:00 hours on Monday 8 September 2025, to establish existing baseline noise levels. Measurements were taken continuously of the A-weighted (dBA) L_{90} , L_{eq} , and L_{max} sound pressure levels over discrete 15-minute periods.

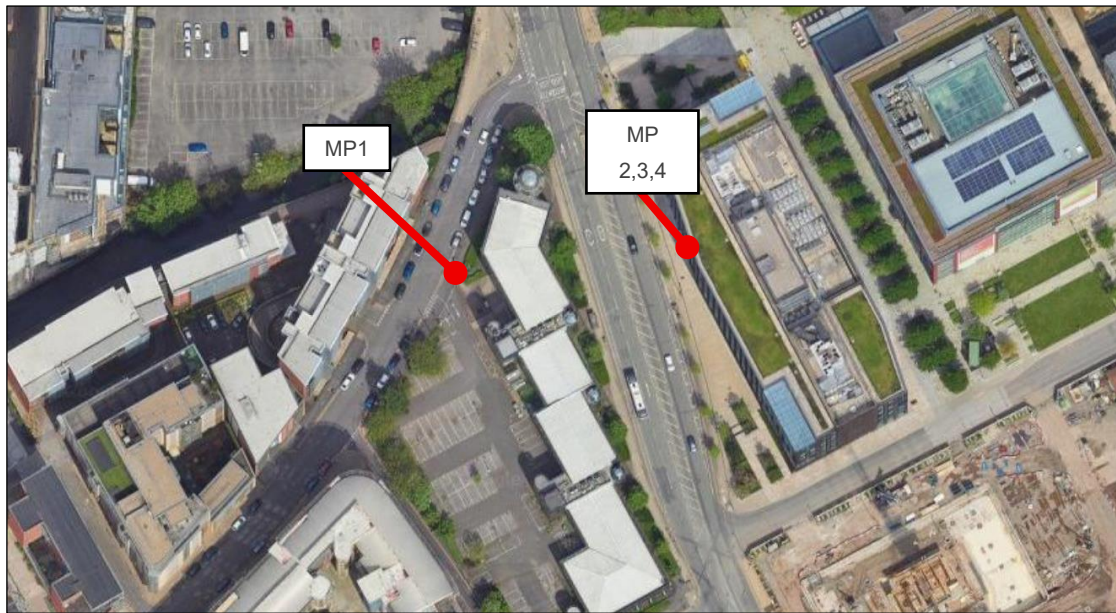
Additional attended measurements were performed between 09:00 hours and 11:00 hours on Friday 5 September 2025 with the purpose of establishing specific noise levels associated with the kitchen extract fans on the external façade of Ribeye Steakhouse.

5.2 Measurement Positions

The noise level measurements were undertaken at 5no. positions as described in the table below.

Position	Type	Description
1	Unattended	To the west of the site, secured to a lamp post on City Road adjacent to the residential receptor. Microphone approximately 3 meters above ground level and in free field conditions.
2	Attended	Measurement taken 2 meters from Ribeye Steakhouse building façade. Meter placed on a tripod approximately 1.5 meters above ground level in free field conditions. Kitchen extract fan off to establish background noise level.
3	Attended	Measurement taken 5 meters from Ribeye Steakhouse building façade. Meter attached to a pole approximately 3.5 meters above ground level in free field conditions and at the same height as the extract. Kitchen extract fan turned on.
4	Attended	Measurement taken 2 meters from Ribeye Steakhouse building façade. Meter attached to a pole approximately 3.5 meters above ground level in free field conditions and at the same height as the extract. Kitchen extract fan turned on.

The positions are shown on the plan below.



Plan Showing Measurement Positions (Imagery ©2025 Airbus, Maxar Technologies, Map data ©2025 - see above)

5.3 Weather Conditions

For the unattended survey between Friday 5 September 2025 and Monday 8 September 2025, local weather reports indicated no notable periods of prolonged and/or heavy rainfall, with temperatures ranging from 12 °C (night) to 23 °C (day) and wind speeds less than 5 m/s. During our time on site, skies were overcast, wind conditions were calm and from a westerly direction and road surfaces were dry.

During the attended survey on Friday 5 September 2025, the weather was generally clear and dry with no periods of rainfall and light wind conditions.

5.4 Instrumentation

The instrumentation used during the survey is presented in the table below:

Position	Description	Manufacturer	Type	Serial Number	Calibration
1	Type 1 Data Logging Sound Level Meter	Larson Davis	LxT	6490	Calibration on 12/09/2024
	Type 1 ½" Condenser Microphone	Larson Davis	PRML x TL1	070074	
	Pre Amp	Larson Davis	377B02	347391	



Position	Description	Manufacturer	Type	Serial Number	Calibration
2, 3, 4, 5	Type 1 Data Logging Sound Level Meter	Larson Davis	LxT	5111	Calibration on 30/05/2024
	Type 1 ½" Condenser Microphone	Larson Davis	3777B02	330047	
	Pre Amp	Larson Davis	PRMLxTL1	55823	
All	Type 1 Calibrator	Larson Davis	Cal200	3083	Calibration on 28/02/2025

Each sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant changes were found to have occurred (no more than 0.3 dB).

Each sound level meter was located in an environmental case with the microphone connected to the sound level meter via an extension cable. Each microphone was fitted with a windshield.

5.5 Results

The results have been plotted on Time History Graphs 32638/TH1 enclosed presenting the 15-minute A-weighted (dBA) L_{90} , L_{eq} and L_{max} levels at each measurement position throughout the duration of the survey. Periods when plant was operational have been discounted when establishing the representative background noise levels.

Based on the above plots the L_{A90} values presented below are considered to be the 'representative' background sound levels determined through statistical analysis of the 15-minute readings in line with BS 4142.

Position	Representative Measured $L_{A90(15min)}$ Background Sound Level (dB re 2×10^{-5} Pa)	
	Daytime (07:00 – 23:00) Hours	Night-Time (23:00 – 07:00) Hours
1	59	52

The following table summarises noise levels recorded at each of the attended measurement positions.



Position	Description	Period	Sound Pressure Level (dB)		
			L _{Aeq,T}	L _{A90,T}	L _{Amax,T}
2	2m from plant location. Plant off.	09:51:05 – 10:11:07	71	60	83
3	5m from plant location. Plant on.	10:22:59 – 10:26:12	83	83	85
4	2m from plant location. Plant on.	10:28:59 – 10:30:47	91	90	93

5.6 Discussion Of Noise Climate

Due to the nature of the survey, i.e. unattended, it is not possible to accurately describe the dominant noise sources, or specific noise events throughout the entire survey period. However, at the beginning and end of the survey period the noise climate was noted to be dominated by road traffic noise.

In terms of the plant noise itself, it was not tonal nor intermittent. However, it was readily noticeable over the residual noise on site.

6.0 Plant Noise Emission Criteria

Building services plant external noise emission levels will need to comply with local planning/environmental authority requirements and statutory noise nuisance legislation.

Based on the results of the noise survey and the requirements of the Local Authority (as outlined in Section 5.2), we propose that the following plant noise emission criteria be achieved incident at the nearest noise sensitive residential windows, in free-field conditions, with all plant operating simultaneously.

Location	Plant Noise Emission Criteria (L _{A,T} , dB)	
	Daytime (07:00 – 23:00 hours)	Night-time (23:00 – 07:00 hours)
1	54	47

The above criteria are to be achieved with all of the proposed plant operating simultaneously.

Noise shall be assessed in accordance with BS 4142:2014 with corrections applied for any plant emitting noise of a tonal or irregular quality.

It should be noted that the above are subject to the final approval of the Local Authority.



7.0 Plant Noise Impact Assessment

7.1 Plant Location

It has been requested by Manchester City Council that plant noise emissions should be calculated at a consented office buildings adjacent to the Ribeye Steakhouse kitchen extract fans. The markup below highlights the location where the offices are expected to be built.



Map showing Kitchen Extract Location (Imagery ©2025 Google, Map data ©2025)

7.2 Plant Operation

It is understood that the kitchen extract currently operates between 15:00 to 23:00 Monday to Saturday and between 12:00 to 15:00 and 16:00 to 21:30 on Sunday.

7.3 Plant Noise Data

The following table presents our attended noise level measurements of the existing kitchen extract unit. As the background noise levels were approximately 20 dBA lower than the noise levels from extract unit, no background correction is necessary. To provide a robust assessment, noise levels measured at 2 meters from the extract fan have been used as worst case.

Plant Description	Specific Sound Pressure Level (dB re 2x10 ⁻⁵ Pa)
Existing Kitchen Extract Fan (@2m)	91



7.4 Plant Noise Impact Assessment

The following tables summarises our predictions of atmospheric noise emissions from the existing plant to the nearest noise sensitive residential window.

Description	Sound Pressure Level (dB re 2×10^{-5} Pa) at Octave Band Centre Frequency (Hz)								dBA
	63	125	250	500	1000	2000	4000	8000	
Existing Kitchen Extract Specific Noise Level @2m	84	84	91	89	84	84	80	75	91
Distance Correction (Point Source)	-24	-24	-24	-24	-24	-24	-24	-24	-24
BS4142 Correction ¹	+3	+3	+3	+3	+3	+3	+3	+3	+3
Calculated Noise Level at Receptor	63	63	70	68	63	63	59	53	70
Plant Noise Rating Level, $L_{A_{Tr}}$	70								
Plant Noise Emission Limit, $L_{A_{Tr}}$	54								
Exceedance	+16								

1: Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

The calculations presented in the table above shows that the kitchen extract fan is expected to cause a 16 dB exceedance of MCC's typical plant noise egress criteria at the noise sensitive receptor. As such, mitigation measures should be provided.

7.5 Recommended Mitigation Measures

In order to control plant noise emissions in line with the proposed criterion, the maximum allowable noise level at 2m from the extract louvre is as follows:

75 dBA at 2m (on-axis).

The above limits should be given to a reputable attenuator provider for the selection of a suitable attenuator.



8.0 Conclusions

An environmental noise survey has been undertaken in order to establish the currently prevailing noise levels.

Plant noise emission criteria have been recommended based on the results of the noise survey and with reference to the Local Authority's requirements.

An assessment has been carried out to determine the plant noise emissions at the nearest noise sensitive window.

Limits have been set at 2m from the louvre with a view to complying with the requirements of MCC.

Appendix A

The acoustic terms used in this report are defined as follows:

dB Decibel - Used as a measurement of sound level. Decibels are not an absolute unit of measurement but an expression of ratio between two quantities expressed in logarithmic form. The relationships between Decibel levels do not work in the same way that non-logarithmic (linear) numbers work (e.g. 30dB + 30dB = 33dB, not 60dB).

dBA The human ear is more susceptible to mid-frequency noise than the high and low frequencies. The 'A'-weighting scale approximates this response and allows sound levels to be expressed as an overall single figure value in dBA. The _A subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted

It should be noted that levels in dBA do not have a linear relationship to each other; for similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is just perceptible.

L_{90,T} L₉₀ is the noise level exceeded for 90% of the period *T* (i.e. the quietest 10% of the measurement) and is often used to describe the background noise level.

L_{eq,T} L_{eq,T} is the equivalent continuous sound pressure level. It is an average of the total sound energy measured over a specified time period, *T*.

L_{max} L_{max} is the maximum sound pressure level recorded over the period stated. L_{max} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the L_{eq} noise level.

Sound Pressure Level (L_p) is the sound pressure relative to a standard reference pressure of 2×10^{-5} Pa. This level varies for a given source according to a number of factors (including but not limited to: distance from the source; positioning; screening and meteorological effects).

Sound Power Level (SWL or L_w) is the total amount of sound energy inherent in a particular sound source, independent of its environment. It is a logarithmic measure of the sound power in comparison to a specified reference level (usually 10^{-12} W).

Appendix B

Planning Policies, Standards & Guidance

B.1 BS 4142:2014 + A1:2019

When setting plant noise emission criteria reference is commonly made to BS 4142:2014 *“Methods for rating and assessing industrial and commercial sound”*.

The procedure contained in BS 4142:2014 provides an assessment of the likely effects of sound on people when comparing the specific noise levels from the source with representative background noise levels. Where the noise contains “a tone, impulse or other characteristic” then various corrections can be added to the specific (source) noise level to obtain the “rating level”.

BS 4142 states that: *“The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs”. An estimation of the impact of the specific noise can be obtained by the difference of the rating noise level and the background noise level and considering the following:*

- *“Typically, the greater this 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.”*
- *“The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.”*

The determination of the “rating level” and the “background level” are both open to interpretation, depending on the context.

B.2 Statutory Noise Nuisance

S79(1)(g) of the Environmental Protection Act 1990 defines a statutory nuisance as “*noise emitted from a premises so as to be prejudicial to health or a nuisance*”. A duty is placed on the Local Authority to serve an abatement notice under S80 if it becomes satisfied that a statutory nuisance exists.

There is however no quantitative definition/objective method in determining statutory noise nuisance, and as such we are not able to definitively advise or determine on such matters. Noise nuisance is subjective and requires multiple factors to be considered, including but not limited to:

- Straining to hear something is *generally* considered not a nuisance, however,
- Noise level (of source and relative to background), timing, duration, type of noise, frequency, location, continuous or repetitive, all factor into judging nuisance.

To mitigate against, though not remove entirely, the risk of a statutory noise nuisance, a noise assessment should be undertaken by a Suitably Qualified Acoustician. Adoption of appropriate and relevant industry standards/guides can provide a structured framework for such assessments, improving the credibility of mitigation efforts. It is also important to also recognise that ongoing management (both active and passive) may also be necessary depending on the context of the situation.

Appendix C

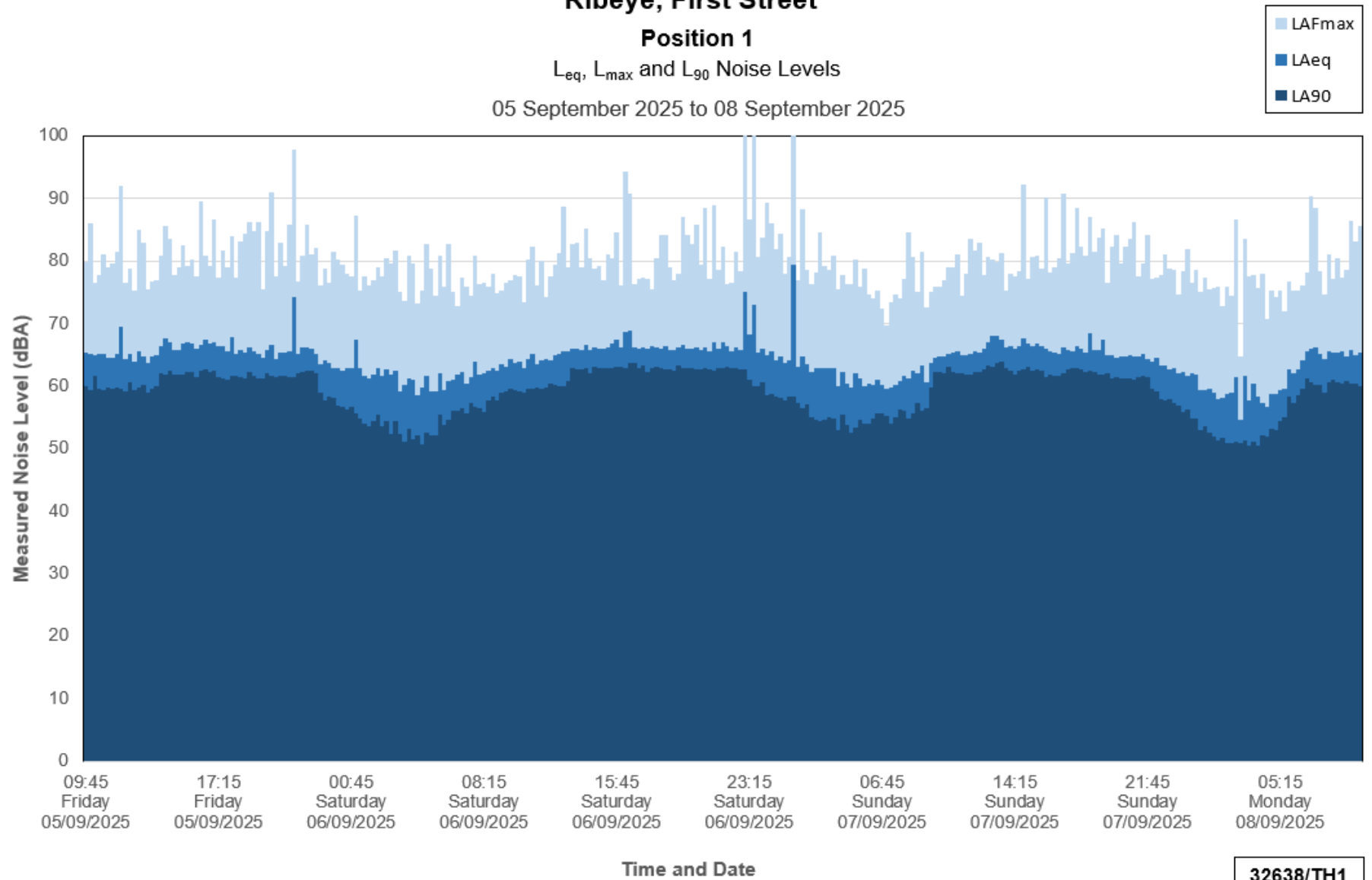
Time History Graphs

Ribeye, First Street

Position 1

L_{eq} , L_{max} and L_{90} Noise Levels

05 September 2025 to 08 September 2025



32638/TH1