128 Albert Street
Camden
London

Environmental Noise Survey and Residential Noise Impact Assessment Report

30232/PNA1 (Rev 5)

20 May 2024

For:
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Hann Tucker Associates

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Document Control

Rev	Date	Comment	Prepared by	Authorised by
5	20/05/2024	Updated Environmental Noise Survey		
			Sandy Wilson Consultant BSc(Hons)	Robin Honey Director BA(Hons), MIOA
4	15/02/2024	Updated to address comments	Sandy Wilson Consultant BSc(Hons)	Robin Honey Director BA(Hons), MIOA
3	05/07/2023	Updated following manned site noise measurements	Sandy Wilson Consultant BSc(Hons)	Robin Honey Director BA(Hons), MIOA
2	16/11/2022	Updated with existing plant noise data	Sandy Wilson Consultant BSc(Hons)	Robin Honey Director BA(Hons), MIOA
1	08/11/2022	Updated following manned site noise measurements	Sandy Wilson Consultant BSc(Hons)	Robin Honey Director BA(Hons), MIOA
0	21/10/2022	-	Sandy Wilson Consultant BSc(Hons)	Robin Honey Director BA(Hons), MIOA

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Contents

Attachments

1.0 Introduction

New items of building services plant have been installed on the roof terrace of 128 Albert Street in Camden, London. We understand our client is seeking retrospective planning consent.

Hann Tucker Associates have therefore been commissioned to undertake an environmental noise survey and plant noise assessment with reference to the requirements of the Local Authority.

The report presents the methodology and findings of our environmental noise survey and plant noise assessment.

2.0 Objectives

To inspect the site to familiarise ourselves with its layout and surroundings in order to identify suitable accessible locations for environmental noise measurements.

To establish by means of an unmanned 24-hour survey the existing $L_{Amax,}$ L_{Aeq} and L_{A90} environmental road, rail and air traffic noise levels at 1No. secure and accessible on-site position, using fully computerised noise monitoring equipment.

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 and to minimise the possibility of noise nuisance to neighbours.

To assess the noise emissions from the installed plant, based upon manned measurements on-site and data with which we are provided, and comment upon the acceptability.

To advise on noise control measures if required with reference to the requirements of the Local Authority.

3.0 Site Description

3.1 Location

The site is located at 28 Albert Street in Camden, London. The location is shown in the Location Map below.

Location Map (Map data ©2022 Google.)

The site falls within the jurisdiction of the London Borough of Camden.

3.2 Description

The site is located at 128 Albert Street which is a one-way residential street. The site is bound by Albert Street to the west, Delancy Street to the south, Arlington Street to the east and Parkway to the north. It is next door to Fitness First gym, and opposite the office is the Spread Eagle public house. The residential building on the street are 3 storey high terrace houses.

The site is shown on the following Site Plan.

Site Plan (Imagery 2022 © Bluesky, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies, The Geoinformation, Map Data © 2022 Google).

4.0 Acoustic Terminology

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

5.0 Acoustic Standards and Guidelines

5.1 Noise Policy Statement for England

The Noise Policy Statement for England (NPSE) was published in March 2010 (i.e. before the NPPF). The NPSE is the overarching statement of noise policy for England and applies to all forms of noise other than occupational noise, setting out the long term vision of Government noise policy which is to:

"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

The Explanatory Note to the NPSE has three concepts for the assessment of noise in this country:

NOEL – No Observed Effect Level
This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise.

LOAEL – Lowest Observable Adverse Effect Level
This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level
This is the level above which significant adverse effects on health and quality of life occur.

None of these three levels are defined numerically and for the SOAEL the NPSE makes it clear that the noise level is likely to vary depending upon the noise source, the receptor and the time

of day/day of the week, etc. The need for more research to investigate what may represent an SOAEL for noise is acknowledged in the NPSE and the NPSE asserts that not stating specific SOAEL levels provides policy flexibility in the period until there is further evidence and guidance.

The NPSE concludes by explaining in a little more detail how the LOAEL and SOAEL relate to the three NPSE noise policy aims listed above. It starts with the aim of avoiding significant adverse effects on health and quality of life, then addresses the situation where the noise impact falls between the LOAEL and the SOAEL when *"all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development."* The final aim envisages pro-active management of noise to improve health and quality of life, again taking into account the guiding principles of sustainable development which include the need to minimise travel distance between housing and employment uses in an area.

5.2 National Planning Policy Framework (NPPF)

The following paragraphs are from the NPPF (published December 2023):

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.

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."

Paragraph 191 also references the Noise Policy Statement for England (NPSE). This document does not refer to specific noise levels but instead sets out three aims:

- "Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

- Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

- Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development."

5.3 Planning Practice Guidance on Noise

Planning Practice Guidance (PPG) under the NPPF has been published by the Government as a web based resource at http://planningguidance.planningportal.gov.uk/blog/guidance/. This includes specific guidance on Noise although, like the NPPF and NPSE the PPG does not provide any quantitative advice. It seeks to illustrate a range of effect levels in terms of examples of outcomes as set out in the following table:

Perception	Examples of Outcomes	Increasing effect level	Action
Not noticeable	No effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
		Lowest Observed Adverse Effect Level	
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, 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.	Observed Adverse Effect	Mitigate and reduce to a minimum

Perception	Examples of Outcomes	Increasing effect level	Action
	Potential for some reported sleep disturbance.		
		Significant Observed Adverse Effect Level	
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, 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
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable hard, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

5.4 Local Authority Requirements

The Site lies within the jurisdiction of London Borough of Camden. The 'Camden Local Plan' (adopted in July 2017) includes the following policy in relation to noise vibration.

"Policy A4 Noise and vibration

The Council will seek to ensure that noise and vibration is controlled and managed.

Development should have regard to Camden's Noise and Vibration Thresholds (Appendix 3). We will not grant planning permission for:

a. *development likely to generate unacceptable noise and vibration impacts; or*
b. *development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses.*

We will only grant permission for noise generating development, including any plant and machinery, if it can be operated without causing harm to amenity. We will also seek to minimise the impact on local amenity from deliveries and from the demolition and construction phases of development."

Appendix 3 of Camden Local Plan describes their requirements for industrial and commercial

noise emissions. See below extraction from the Camden Local Plan.

"A relevant standard or guidance document should be referenced when determining values for LOAEL and SOAEL for non-anonymous noise. Where appropriate and within the scope of the document it is expected that British Standard 4142:2014 'Methods for rating and assessing industrial and commercial sound' (BS 4142) will be used. For such cases a 'Rating Level' of 10 dB below background (15dB if tonal components are present) should be considered as the design criterion).

Table C: Noise levels applicable to proposed industrial and commercial developments (including plant and machinery)

Existing Noise sensitive receptor	Assessment Location	Design Period	LOAEL (Green)	LOAEL to SOAEL (Amber)	SOAL (Red)
Dwellings**	Garden used for main amenity (free field) and Outside living or dining or bedroom window (façade)	Day	'Rating level' 10dB* below background	'Rating level' between 9dB below and 5dB above background	'Rating level' greater than 5dB above background
Dwellings**	Outside bedroom window (façade)	Night	'Rating level' 10dB* below background and no events exceeding 57dBL_{Amax}	'Rating level' between 9dB below and 5dB above background or noise events between 57dB and 88dB L_{Amax}	'Rating level' greater than 5dB above background and/or events exceeding 88dBL_{Amax}

**10dB should be increased to 15dB if the noise contains audible tonal elements. (day and night). However, if it can be demonstrated that there is no significant difference in the character of the residual background noise and the specific noise from the proposed development then this reduction may not be required. In addition, a frequency analysis (to include, the use of Noise Rating (NR) curves or other criteria curves) for the assessment of tonal or low frequency noise may be required.*

***levels given are for dwellings, however, levels are use specific and different levels will apply dependent on the use of the premises.*

"The periods in Table C correspond to 0700 hours to 2300 hours for the day and 2300 hours to 0700 hours for the night. The Council will take into account the likely times of occupation for types of development and will be amended according to the times of operation of the establishment under consideration."

"There are certain smaller pieces of equipment on commercial premises, such as extract ventilation, air conditioning units and condensers, where achievement of the rating levels (ordinarily determined by a BS:4142 assessment) may not afford the necessary protection. In these cases, the Council will generally also require a NR curve specification of NR35 or below, dependant on the room (based upon measured or predicted Leq,5mins noise levels in octave bands) 1 metre from the façade of affected premises, where the noise sensitive premise is located in a quiet background area."

5.5 BS 4142:2014

BS 4142: 2014 describes methods for rating and assessing the effects of outdoor sound levels, of an industrial and/or a commercial nature, "*on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident*".

The impact of a specific sound is indicated by subtracting the existing background noise level from the rating level (i.e. noise level from the proposed items of plant/machinery/etc plus any acoustic feature corrections). The standard states that:

- "a difference of around +10dB or more is likely to be an indication of a significant adverse impact";
- "a difference of around +5dB is of marginal significance is likely to be an indication of an 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".

The noise from the new development is expressed in terms of a rating level and given as a $L_{Aeq\ T}$ noise level. The existing background noise level is expressed in terms of a $L_{A90,\ T}$ noise level. T is the assessment time interval, which is 1-hour for operations during daytime hours (07:00 to 23:00) and 15-minutes for operations during night-time hours (23:00 to 07:00).

BS 4142:2014 states that if a noise source contains an 'acoustic feature', such as tonality, intermittency or impulsiveness, an appropriate penalty should be applied.

5.6 Statutory Noise Nuisance

There is no quantitative definition of statutory noise nuisance. It is generally accepted however, that if the plant noise level is at least 5dB (or 10dB if tonal) below the minimum background $L_{90(15minutes)}$ at 1m from the nearest noise sensitive residential window, then the risk of a statutory noise nuisance is avoided. By adopting this as a design criterion the guidance contained in BS 4142:2014 should also be complied with.

6.0 Survey Methodology

The survey was undertaken by Sandy Wilson BSc(Hons), assisted by Greg Moore BA(Hons).

6.1 Procedure

Fully automated environmental noise monitoring was undertaken from approximately 13:00 hours on Friday 10 May 2024 to 13:00 hours on Thursday 16 May 2024.

During the periods we were on site the wind conditions were light and the sky was clear. We understand that generally throughout the survey period the weather conditions were calm. These conditions are considered suitable for obtaining representative measurement results.

Measurements were taken continuously of the A-weighted (dBA) L_{90}, L_{eq} and L_{max} sound pressure levels over 15-minute periods.

6.2 Measurement Position

The microphone was attached to a pole approximately 2 metres above roof level and placed on a railing at the rear of the property approximately 1 metre from the nearest façade. Therefore, the noise data contains local reflections.

The measurement position is presented on the following Plan:

Plan Showing Measurement Position (Imagery 2024 © Bluesky, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies, The Geoinformation, Map Data © 2024 Google).

6.3 Instrumentation

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

Description	Manufacturer	Type	Serial Number	Calibration
Type 1 ½" Condenser Microphone	PCB	377B02	139312	Calibration on 18/08/2023
Preamp	Larson Davis	PRM902	5161	Calibration on 18/08/2023
Type 1 Data Logging Sound Level Meter	Larson Davis	824	3443	Calibration on 18/08/2023
Type 1 Calibrator	Bruel & Kjaer	4230	1558535	Calibration on 27/07/2023

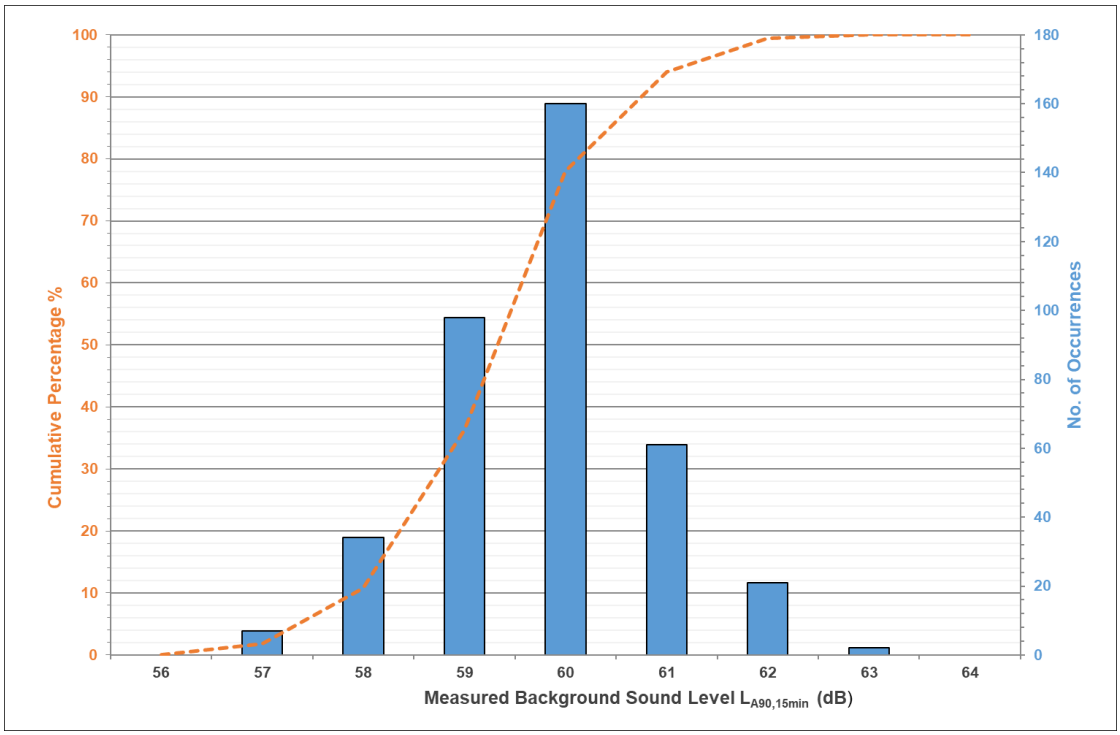
The sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant change was found to have occurred (no more than 0.1dB).

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

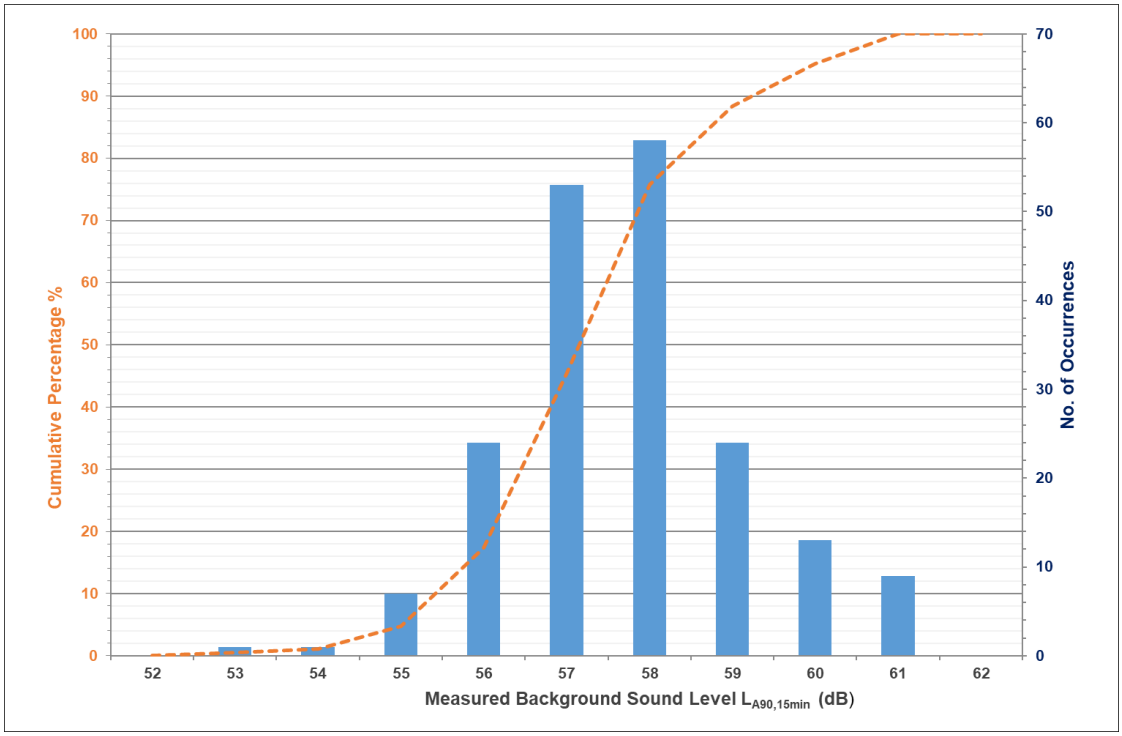
7.0 Results

The results have been plotted on Time History Graph 30232/TH1 enclosed, presenting the 15-minute A-weighted (dBA) L_{90} and L_{eq} noise levels at each measurement position throughout the duration of the survey.

BS 4142 states that "*the background sound level must be reliable and suitably represent the particular circumstances and periods of interest. For this purpose, the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods.*" Taking this into account, the following histograms have been created which display the occurrence of each sound level (L_{90}) in a 15-minute period for the day and night-time periods.



Position 1: Statistical analysis of daytime background noise levels (7:00-23:00 hrs)



Position 1: Statistical analysis of night-time background noise levels (23:00-7:00 hrs)

BS4142 states that the background noise should not automatically be assumed to be represented by either the lowest or the mode of the measured L_{A90} noise levels. Based on our analysis of the above histograms, we suggest that the representative background noise levels used in the assessment should be as presented in the table below.

Representative Measured $L_{A90\ (15min)}$ Background Noise Level dB re 2 x 10^{-5} Pa)	
Daytime (07:00 – 23:00) Hours	**Night-Time (23:00 – 07:00) Hours**
59 dBA	56 dBA

8.0 Discussion Of Noise Climate

During the periods we were on site the dominant noise source was noted to be existing plant noise from several neighbouring commercial buildings in the area. It is reasonable to assume that the above results described within Section 7.0 have been elevated by neighbouring plant noise.

We are unsure of which items of plant are serving which commercial properties, however while on site we observed the following approximate items of plant to be running during our environmental noise survey:

- Condensers
- Extract Fans
- Ventilation Systems

However, based on discussion with the Environmental Health Officer (EHO), Edward Davies at London Borough of Camden, we understand that neighbouring plant can be included as part of 'true background' of the area. It should be noted that this, of course, artificially elevates the 'true background'.

We raised our concerns to the EHO regarding this, and the potential for statutory noise nuisance if other plant is removed, however our repeated concerns were dismissed by the EHO; the EHO was quite clear that in Camden's view, true background includes other plant in the area. It was also noted we could use Camden's 'amber' criterion ('LOAEL to SOAEL') which equates to only 5dB below background.

9.0 Plant Noise Emission Criteria

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

With reference to the criteria within Section 5.4, noise emissions from the proposed plant should not exceed a level of 5dB below the measured representative $L_{A90(15min)}$. Therefore, based on the results of the noise survey and the advice above, we recommend the following plant noise emission levels to be achieved with all plant running simultaneously at 1m external to the nearest noise sensitive façade.

'Amber' (LOAEL to SOAEL) Noise Emission Limit (dBA)		
Daytime (07:00 – 23:00) Hours	**Night-Time (23:00 – 07:00) Hours**	**24 Hours**
54dBA	51dBA	51dBA

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

Due to the quantity of neighbouring noisy plant in this vicinity and complaints received (which could be due to neighbouring items of plant) we suggest the above criteria should be agreed with the Local Authority prior to any mitigation works.

10.0 Plant Noise Impact Assessment

We understand the recently installed plant comprises 4no. condenser units to be located on the roof terrace of the property.

Plant Description	Location	Qty	Plant Make	Model Number
Condenser	Roof Terrace	4	Toshiba	MMY-MAP1406FT8P

10.1 Plant Noise Data

Manned noise measurements were undertaken of the plant as it is installed on-site currently. We understand that the condensers are split into a paired system (system 1 and 2) and 2no. units are controlled via each system. A measurement was undertaken with system 1 running independently. The BMS was set to 20°C which we are informed should represent worst case cooling conditions.

In this scenario a measurement of 67dBA at 0.5m was recorded. This measurement was undertaken vertically directly above the units and approximately 1m away from the façade. The results are presented below:

Description	Sound Pressure Level (dB re 2x10-5 Pa) at Octave Band Centre Frequency (Hz)								dBA
	63	125	250	500	1k	2k	4k	8k	
2no. MMY MAP1406FT8P Sound Pressure Level at 0.5m	73	74	69	62	62	55	50	50	67

It should be noted that the technical data sheets for the recently installed plant suggest the new plant has quieter sound power data than the previously installed plant. 81dB L_{wA} currently vs 82dB L_{wA} previously. This does not necessarily correlate with on-site noise data under design duty, however it would be reasonable to assume the new modern plant is more efficient.

10.2 Plant Noise Impact Assessment

We understand that the recently installed units will be operational during daytime hours only.

The following table summarise our predictions of atmospheric noise emissions from the installed plant to the nearest noise sensitive residential window.

Description	Sound Pressure Level (dB re 2x10-5 Pa) at Octave Band Centre Frequency (Hz)								dBA
	63	125	250	500	1k	2k	4k	8k	
2no. MMY MAP1406FT8P Sound Pressure Level at 0.5m	73	74	69	62	62	55	50	50	67
Correction for 2no Units	+3	+3	+3	+3	+3	+3	+3	+3	
Hemispherical Conformal Area Distance Loss (0.5 to 3.5m)	-11	-11	-11	-11	-11	-11	-11	-11	
Sound Pressure Level at 1 metre from the nearest noise sensitive receptor	**65**	**66**	**61**	**54**	**54**	**47**	**41**	**35**	**59**

Based on the above predictions of atmospheric noise emissions the table below provides an initial BS4142:2014 assessment.

Results		Relevant Clause	Commentary
Specific Sound Level	L_{Aeq} = 59 dB	7.3.8 7.3.9 7.3.10	Cumulative noise level at the nearest receptor for all items of plant.
Acoustic Feature Correction	+0 dB	9.2	Plant is not deemed to be intermittent or contain tonality.
Rating level	(59+0) dB = 59 dB	9.2	
Background sound level	L_{A90} = 54 dB	8.1.1 8.1.3 8.3	Representative background sound level measured at the proposed development site during the night.
Excess of rating over background sound level	**(59-54) dB = 5 dB**	**11**	**Assessment indicates likelihood of an adverse impact to residents without noise mitigation measures.**
Assessment indicates likelihood of an adverse impact to residents without noise mitigation measures.		11	The excess of the rating level over the background level is high, mitigation measures must therefore be assessed further to ensure good internal acoustic conditions.
Uncertainty of the assessment	Low	10	The background sound level is based on repeatable measurements made over the duration of a number of days.

The above indicates a likelihood of an adverse impact to the residents as measured under the conditions stated in-situ and exceeds the Local Authority requirements during the daytime by 5dBA.

10.3 Mitigation Measures

In order to achieve the requirements of the Local Authority, we recommend mitigation measures to reduce noise levels to a sound pressure level 65 dBA at 1m, with all the plant running when measured in any direction, and thus reducing the noise emissions to 54 dBA at the nearest noise sensitive window, to enable daytime use of plant.

This could be achieved with the following mitigation measures:

- Bolt-on Attenuation Kits
- An Acoustic Enclosure

We understand that **Ambient Acoustics LTD** provide bolt on attenuation kits for certain items of plant. We understand that the level of noise reduction provided by their acoustics kits is approximately 8dBA.

Please find attached an Acoustic Specification for Acoustic Enclosures and a list of suitable suppliers enclosed within this report.

11.0 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 of recently installed plant has been carried out to determine current noise emissions at the nearest noise sensitive window. As installed currently, the plant does not achieve Local Authority requirements at the nearest noise sensitive window.

In order to achieve Local Authority requirements, acoustic mitigation measures have been proposed. Considering other noisy neighbouring plant in the area, we have suggested that any mitigation measures are agreed with the Local Authority.

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.

$L_{90,T}$ — L_{90} 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).

128 ALBERT STREET

ACOUSTIC SPECIFICATION FOR

CONDENSERS

The condenser units shall be supplied complete with acoustic treatment which shall achieve adequate levels of attenuation to ensure that the following limiting sound pressure levels are not exceeded when measured at a distance of 1m (free field over a reflecting plane) or [in any horizontal direction] or [in any horizontal or vertical direction] under any load conditions.

Plant Description	**A-weighted Limiting Sound Pressure Level @ 1m (dB re 2 x 10^{-5} Pa)**
1No. Condenser (Small Acoustic Enclosure **each**)	60
4No. Condensers (1No. Large Acoustic Enclosure)	65

Furthermore they shall not exhibit any significant tonal content.

Exceedances in excess of the measurement tolerance for a Type 1 sound level meter shall constitute a failure.

Any deviations from the above specification must be agreed by, and confirmed in writing to, Hann Tucker Associates.

SUITABLE SUPPLIERS

Of

ACOUSTIC ENCLOSURES

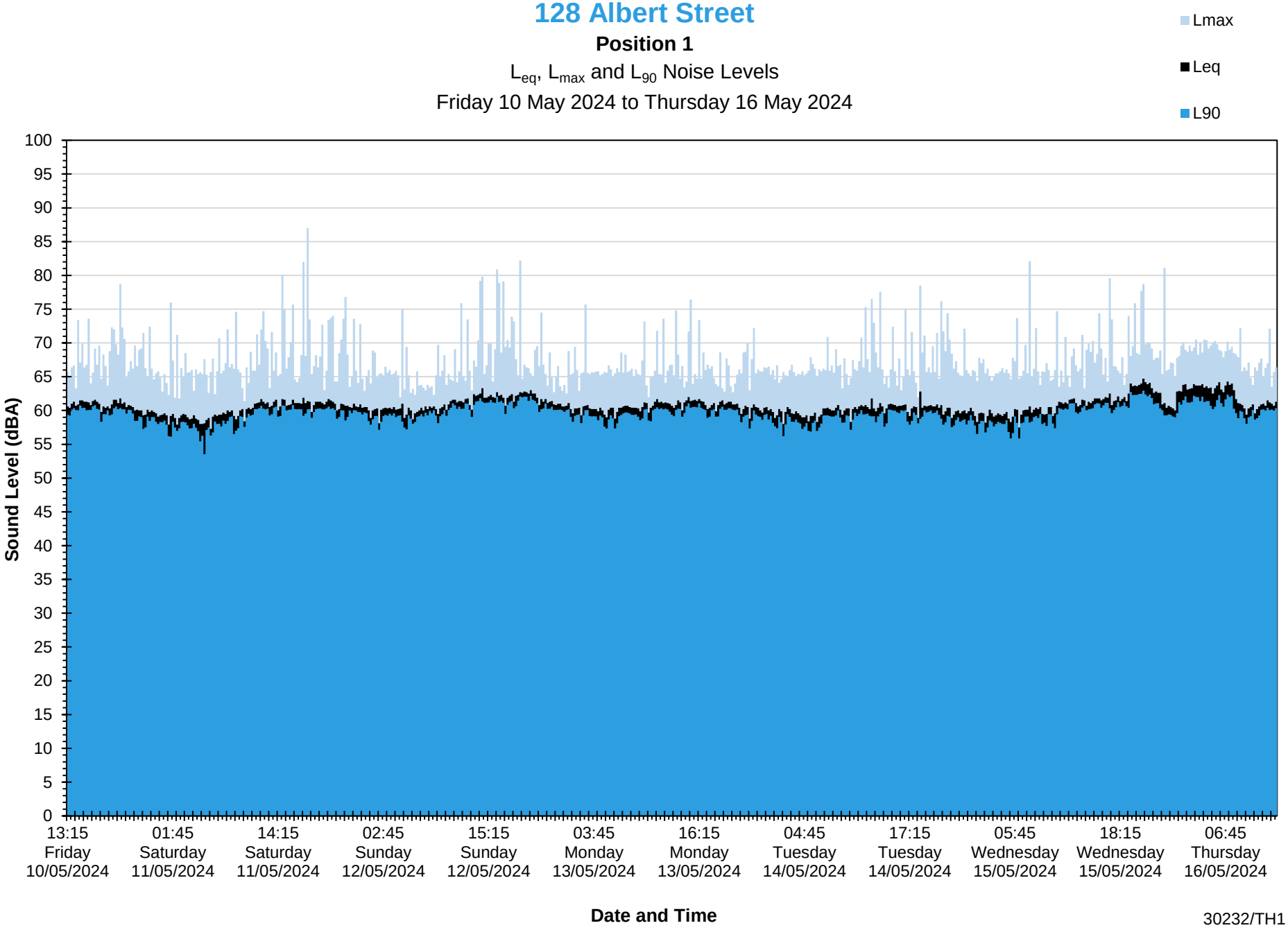
Name & Address	Telephone Number	Contact
IAC Acoustics IAC House Moorside Road Winchester SO23 7US	01962 873000	Paul Gilbert
Allaway Acoustics Ltd 1 Queens Road Hertford SG14 1EN	01992 550825	Jim Grieves Roger Wade
Acoustic Engineering Services (UK) Ltd The Redwood Suite Guardian House Borough Road Godalming Surrey GU7 2AE	01483 495963	Barry Austin Mark Stagg
QuietStar Limited 1 Glen Road Fleet Hampshire GU51 3QS	01252 674327	Luke Willis

128 Albert Street

Position 1

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

Friday 10 May 2024 to Thursday 16 May 2024



30232/TH1