



LUSTRE

CONSULTING

109A OXFORD ROAD - READING

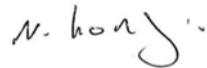
PLANT NOISE ASSESSMENT

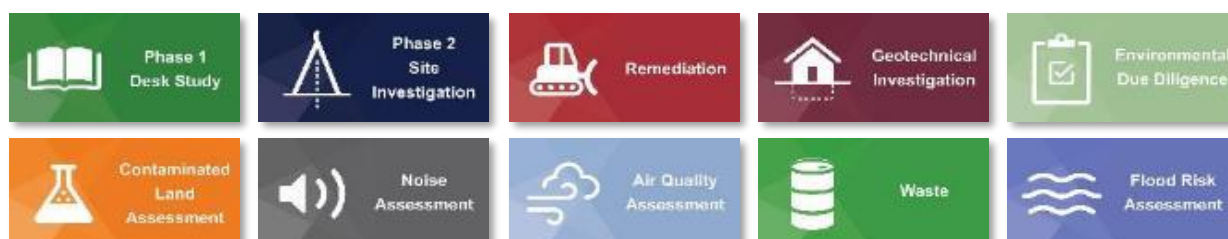


NON-TECHNICAL SUMMARY

SUMMARY	
Site	Fat Twins, 109a Oxford Road, Reading, RG1 7UD
Proposed Development	It is understood that proposals involve the refurbishment of an existing ground floor office with additional storage at basement level into a fast food takeaway. As part of the refurbishment, new kitchen extract plant shall be installed. This plant will terminate to atmosphere (supply and extract) at the west and south façade respectively.
Current Use	The site currently comprises a former office (vacated) at both ground and basement floor level. Not associated with the proposal, private residential dwellings exist at both first and second/top floor level. No external amenity space exists within the immediate vicinity of the site.
Sources of Potential Noise	The noise climate at the site was considered to be dominated by two way traffic noise from Oxford Road. To a lesser extent, additional road traffic could be heard at the site from the surrounding road network. Immediately opposite the site along Oxford Rd exists a small parade of shops. Additionally, an existing separate fast food takeaway opposite the site along Zinzan Street was in operation during the survey
Environmental Noise Monitoring Survey	An environmental noise survey was undertaken at the proposed development to assess noise levels affecting the new/refurbishment build site. The results of the noise survey were considered indicative of prevailing climate, taking into account measurement positions and dominant noise sources.
Concluding Remarks	Based on the noise survey results, calculations have been undertaken to predict noise levels at identified Noise Sensitive Receptors (NSR's). Based upon source sound level data provided by the proposed installer, compliance in line with the requirements BS4142:2014 will be achieved. The local planning authority may require additional limits on plant noise.



PROJECT RECORD				
PROJECT NAME	109A OXFORD ROAD - READING			
CLIENT	ARCHITECTURE DESIGN LIMITED			
REPORT DETAILS				
TYPE	NOISE ASSESSMENT			
REFERENCE	3947\NL\JUNE 2021\NA			
ISSUE DATE	JUNE 2021			
AUTHOR	NICK LONG MSc BA(Hons) IENG MIOA SENIOR ACOUSTIC CONSULTANT			
REVIEWER	MATT DEAN BEng (Hons) CEng CEnv C.WEM MCIWEM FOUNDER & CEO			
REGISTRATION OF AMENDMENTS				
REVISION	DATE	AMENDMENT DETAILS	REVISION AUTHOR	REVISION REVIEWER
 LUSTRE CONSULTING 2nd Floor North The Fitted Rigging House The Historic Dockyard Chatham Kent, ME4 4TZ t 01634 757 705 e info@lustreconsulting.com w lustreconsulting.com  CHAS Accredited Contractor  Constructionline Part of Capita plc				





CONTENTS

1.0	INTRODUCTION.....	3
2.0	NOISE SURVEY	7
3.0	NOISE SURVEY RESULTS.....	10
4.0	DESIGN APPRAISAL	11
5.0	CONCLUSIONS	13

TABLES

Table 1: Summary of Measured Noise Levels (NMP1).....	10
Table 2: Manufacturer Supplied Plant Noise Data	11
Table 3: Assessment	12

FIGURES

Figure 1: Site Location Plan (in pink)	3
Figure 2: Proposed Site Layout (ground floor)	4
Figure 3: Proposed Site Elevation (proposed supply and extract highlighted) ¹	4
Figure 4: Noise survey location (Day and Night)	8





1.0 INTRODUCTION

- 1.1 This Plant Noise Assessment has been prepared for the refurbishment and additional development of a site located off 109a Oxford Road, Reading, RG1 7UD by Lustre Consulting Limited (Lustre) for Architecture Design Limited (the Client). The assessment has been undertaken in accordance with our fee proposal dated 20/04/2021, which was formally approved by for Architecture Design Limited on 28/04/2021.
- 1.2 The site, broadly rectangular in plan, is centered at National Grid Reference 470970, 173366, and occupies an approximate area of 0.018ha as shown in Figure 1. The Client requires this plant noise assessment to support refurbishment works at the site. It is understood that proposals involve the refurbishment and fitout of a fast takeaway at ground floor level only. Formally, this ground floor space was a letting agency complete with kitchen and WC, along with additional storage space at basement level. At first and second floor exists independent private dwellings which are accessible via to the rear of the building from Zinzan Street.
- 1.3 This plant noise assessment shall be conducted in full accordance with BS4142:2014 'Methods for rating and assessing industrial and commercial sound'. An indicative building service duct layout drawing is shown in Figure 2, which shows the proposed supply and extract plant terminating to atmosphere relative to the building.

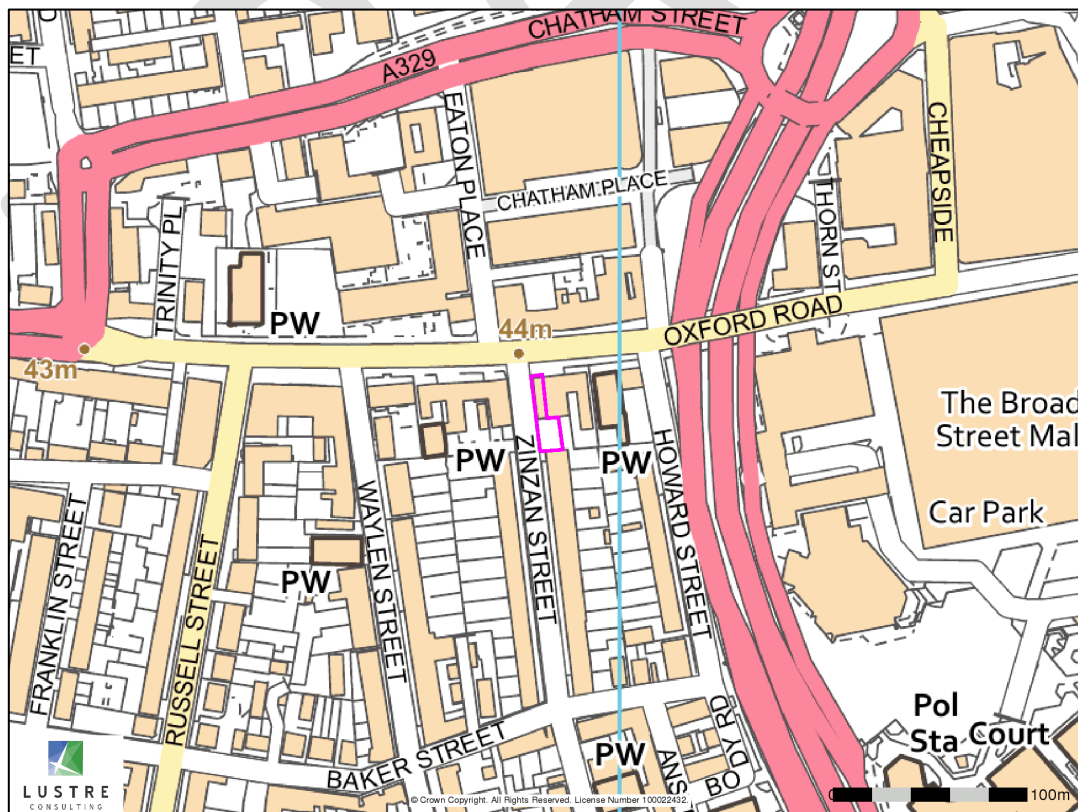


Figure 1: Site Location Plan (in pink)



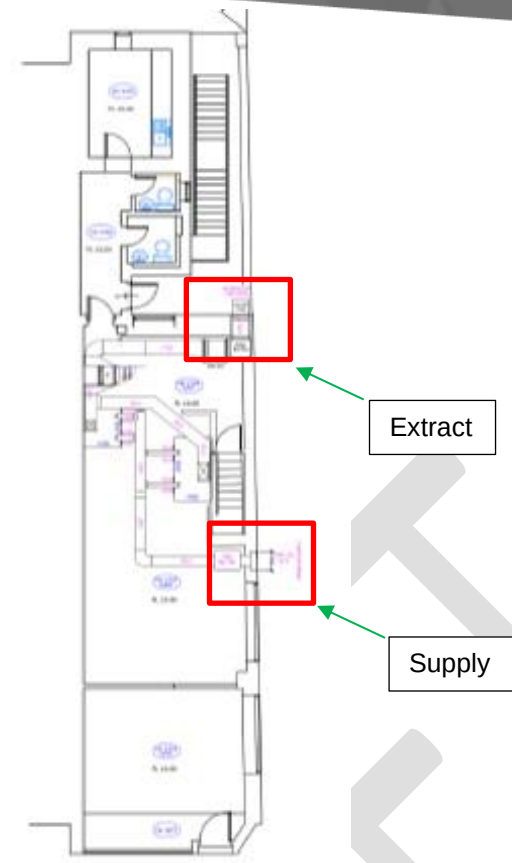


Figure 2: Proposed Site Layout (ground floor)



Figure 3: Proposed Site Elevation (proposed supply and extract highlighted)¹

¹ Springfield Catering Direct quote dated 12/01/2021.





Objective

- 1.4 The objective of this Plant Noise Assessment is to determine the potential impact of noise from supply and extract as detailed at identified noise sensitive receptors (NSR's).
- 1.5 This report will be conducted in full accordance with relevant BS guidance, including BS4142:2014 '*Methods for rating and assessing industrial and commercial sound*'
- 1.6 Currently, the proposed site is likely to be subject to local authority planning conditions, as defined in BS4142:2014.

Site Setting, Potential Noise Sources

- 1.7 The site is located on the corner between Oxford Road and Zinzan Street in what is primarily a mixed commercial and residential area. The main NSR's that could be effected by the proposed plant have been identified as the flat above the proposed ground floor development. There does not appear to be any gardens or amenity space directly facing/ over etc. by the plant location, the plant extract and supply is positioned in Oxford Road.
- 1.8 It was noted during the monitoring survey visit that most noise appears to emanate from two way traffic along Oxford Road and to a lesser extent the local road travel network.

Reliance & Limitations

- 1.9 This report has been prepared using published information and information provided by the Client made available at the time of writing only. Lustre Consulting accepts no liability for any information which has become available since this time.
- 1.10 Lustre Consulting owes no duty of care and has no liability to any Third Party who is not authorised by Lustre Consulting to use this report. Any unauthorised Third parties using information contained in this report do so at their own risk.
- 1.11 Third party information which has been reviewed and used to inform the assessments presented herein, including public records held by various regulatory authorities and environmental database data has been assumed to be true and accurate.
- 1.12 This assessment has been carried out to determine the potential impacts posed to future end users, along with other key receptors, based on the current development. Should revisions in the development proposals result in a change any assessment parameters





detailed in this report, a re-assessment of the impacts and associated mitigation measures should be carried out.

Report Structure

- 1.13 Chapter 2 of the report presents the method of the environmental noise survey undertaken at the site with a description of the survey results in Chapter 3. Chapter 4 highlights the assessment and Chapter 5 provides concluding remarks. Supplied in the appendices is supporting guidance and planning policy for the project.





2.0 NOISE SURVEY

Description

- 2.1 An automated unmanned survey was undertaken between 12:57pm Tuesday 25th and 12:15pm Wednesday 26th May 2021.
- 2.2 All environmental sound survey data was measured in accordance with BS7445-1:2003 '*Description and measurement of environmental noise.*'

Site Description

- 2.3 Prevailing noise sources include two way road traffic from primarily Oxford Road. Low levels of any other noise which was subjectively witnessed at the Noise Measurement Position 1 (NMP1).
- 2.4 From the site visit, it is understood no external amenity space appears to exist close to the site.
- 2.5 Shown in the figure below is the noise survey location. Measurements were undertaken at ground floor roof level in a free-field position, at Noise Measurement Position 1 (NMP1) for both day and nighttime. All measurements were undertaken to the rear of the of the site, as shown below in figure 3.
- 2.6 To assist the reader, the following appendices are provided:
- Appendix A: Acoustic terminology.
 - Appendix B: Planning and policy guidance documents.
 - Appendix C: Criteria
- 2.7 Sample graphical survey data is available in Appendix D.
- 2.8 In keeping with appropriate guidance, namely ISO 1996-1:2016 '*Acoustics — Description, measurement and assessment of environmental noise*', day is defined as 07:00 – 23:00 and night 23:00 - 07:00.





Figure 4: Noise survey location (Day and Night)

2.9 Whilst on site, the following conditions should be noted for both day and nighttime measurements:

- The meter was setup within a free field location to the rear of the site, as shown in the figure above.

Metrological Conditions

2.10 Meteorological conditions during the measurement period were in line with recommendations for environmental noise surveys, with minimal wind (<5m/s) during the survey. An air temperature between 12°C and 20°C was noted during the survey. The cloud cover was moderate during all measurement periods. The meteorological conditions did not affect the measurement results.





Instrumentation

- 2.11 Acoustic measurement equipment used during the survey conforms to relevant British Standards, namely BS EN 61672-3: 'Electroacoustics: Sound level meters Periodic tests' and BS EN 60942: 'Electroacoustics: Sound calibrators'.
- 2.12 All calibration certificates are available upon request.
- 2.13 The measurement equipment was calibrated both before and after the survey, where no shift was observed.
- 2.14 All environmental sound survey data was measured in accordance with BS7445-1:2003 '*Description and measurement of environmental noise.*'





3.0 NOISE SURVEY RESULTS

Summary of Survey Results

- 3.1 Table 1 provides a summary of both calculated and measured results. The L_{Aeq} values are the logarithmic averages, while the L_{A90} values are arithmetic averages.
- 3.2 All measurements were primarily by traffic noise for both day and night
- 3.3 All measurements were undertaken in 15min continuous octave samples.
- 3.4 In keeping with appropriate guidance, namely ISO 1996-1:2016 '*Acoustics — Description, measurement and assessment of environmental noise*', day is defined as 07:00 – 23:00 and night 23:00 - 07:00.

Table 1: Summary of Measured Noise Levels (NMP1)

Period	$L_{Aeq15min}$	$L_{A9015min}$
Day (NMP1)	52dB	46dB
Night (NMP1)	46dB	36dB

- 3.5 The above levels are defined as follows:

$L_{Aeq,T}$ The A-weighted equivalent continuous noise level over the time period T. This is the sound level that is equivalent to the average energy of noise recorded over a given period.

L_{A90} The A-weighted assessment period which is often defined as a 'background noise level'. This level is exceeded 90% of the assessment period.





4.0 PLANT NOISE ASSESSMENT

Introduction

- 4.1 At the time of writing, it is understood and indeed unconfirmed the hours of operation for the proposed plant. Therefore, the assessment was undertaken based upon a 24hour continuously operational plant 'worst-case' scenario.
- 4.2 Furthermore, no known planning conditions relating to plant noise was in place. For assessment purposes it is therefore proposed a target of -5dB(A) below prevailing background levels (L_{A90}) is targeted as is typical for a development of this nature.
- 4.3 It has been assumed all proposed plant shall run continuously 24 hours a day, seven days a week, resulting in no intermittency penalties under BS4142:2014.
- 4.4 According to data supplied by the proposed installer, the following data has been presented for external plant noise assessment.

Plant Assessment

- 4.5 Source and supply level data from the installer is unclear. Initial data shows dB(A) level of 62dB(A), with an attenuation of -23dB(A), with a resultant 39dB(A) at 3 metres from the supply grill. Considering the attenuation quoted, it is unclear how this is achieved. **This has been raised with the installer and awaiting confirmation at time of writing.**
- 4.6 For the supply level, assessment has been based 39dB(A) at 3 metres, as quoted by the installer. It is understood this is based upon a duty of 0.94m³/second. It is recommended this is **confirmed with the installer prior to starting on site.**

Table 2: Manufacturer Supplied Plant Noise Data

Element	Model No.	Manufacturer	dB(A) @ 3 metres
Supply	QP400C	Vent-Axia	39
Extract	MUB 450E4	Systemair	41

- 4.7 As previously referenced, it is understood no external amenity space appears to exist within the immediate vicinity of the site. Therefore, assessment has been based upon calculated internal noise levels via an open window at the NSR('s).





4.8 In line with guidance provided from BS8233:2014:

“If partially open windows are relied upon for background ventilation, the (sound) insulation would be reduced to approximately 15dB”

4.9 It is further acknowledged sound insulation via an open window can vary according to window type and nature of source(s). It is for these reasons a more conservative approximation of 12dB shall be adopted for assessment purposes.

Nearest Noise Sensitive Receptor(s)

4.10 The nearest NSR has been defined as the private property situated at first floor level within the same building.

4.11 Assessment has been undertaken highlighting conservative estimated system losses, as defined in table 3 below. Furthermore, sound levels for both Supply and Extract have been summed together for the basis of the assessment.

4.12 Night time background (L_{A90}) has formed the basis of the assessment. As can be seen, this level is lower and therefore more onerous than the corresponding daytime, providing a worst case scenario.

Table 3: Assessment

Total Sound Level @ 3 metres	Tonality penalty	Directivity (90°)	Attenuation via open window	Resultant at NSR	Night time L_{A90}	Resultant – Night time L_{A90}	Comply?
43dB(A)	2dB(A)	-2dB(A)	-12dB(A)	31dB(A)	36dB	-5dB	Yes





5.0 CONCLUSIONS

- 5.0 This report summaries the details of the onsite survey to measure noise levels, in line with current guidance.
- 5.1 Assessment has been undertaken over a more onerous 24 hour worst case continuous use period in accordance with BS4142:2014 'Methods for rating and assessing industrial and commercial sound'
- 5.2 Based upon information provided by the installer, concluding remarks taken from BS4142:2014:
- “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 significant adverse impact. Where the rating level does not exceed the background sound level, this an indication of the specific sound source having a low impact, depending on the context. “*
- 5.3 In conclusion, it is of our opinion receiver sound levels shall be acceptable in accordance guidance. However, resultant 1/1 octave SPL receivers levels must be provided by the installer to confirm compliance prior to installation.



**APPENDIX A:
ACOUSTIC
TERMINOLOGY**

Parameter	Description
Decibel (dB)	A logarithmic scale representing the sound pressure or power level relative to the threshold of hearing (20×10^{-6} Pascals).
Sound Pressure Level (L_p)	The sound pressure level is the sound pressure fluctuation caused by vibrating objects relative to the threshold of hearing.
A-weighting (L_A or dBA)	The sound level in dB with a filter applied to increase certain frequencies and decrease others to correspond with the average human response to sound.
$L_{Aeq,T}$	The A-weighted equivalent continuous noise level over the time period T This is the sound level that is equivalent to the average energy of noise recorded over a given period.
L_{Amax}	The A-weighted maximum instantaneous noise level
R_w	The weighted (w) sound reduction index (R), a single figure rating of the laboratory airborne sound insulation performance of a construction, usually measured across the frequency range 100-3150Hz. The higher the value, the greater the sound insulation, and the more onerous the requirement.
$D_{n,ew}$	The weighted (w) element (e) normalised (n) level difference (D), an indicator of the ability of a small building element (such as a trickle ventilator) to reduce sound in a particular frequency band. The higher the value, the greater the sound reduction, and vice versa.

**APPENDIX B:
PLANNING AND
POLICY
GUIDANCE
DOCUMENTS**

NOISE POLICY STATEMENT FOR ENGLAND, 2010 (NPSE)

The Noise Policy Statement for England (NPSE) applies to all forms of noise including environmental noise, neighbour noise and neighbourhood noise but does not apply to noise in the workplace.

The Government recognizes that the effective management of noise requires a coordinated and long-term approach that encompasses many aspects of modern society.

The long-term vision of Government noise policy is set out 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.

This long-term vision is supported by three aims:

- 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 NPSE introduces the concept of NOEL, LOAEL and SOAELs, which are described below:

- NOEL – No Observed Effect Level – This is the level below which no observable effect can be detected.
- LOAEL – Lowest Observed 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 effects on health and quality of life can be detected.

PLANNING POLICY GUIDANCE – NOISE, 2014

This guidance is provided online within the UK Government Planning System. The guidance expands upon the concepts of Observed Effect Levels and the following table is provided.

Table: Planning Policy Guidance - Noise exposure hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Outcome
No Observed Effect Level			
Not Noticeable	No Effect	No Observable Effect	No specific measures required
Noticeable but 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. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
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 harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

National Planning Policy Framework, 2019 (NPPF)

The National Planning Policy Framework (NPPF) includes the following statements relating to noise and the requirement to take it into account in the planning process.

Section 15, paragraph 170 (e) of NPPF states:

- *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 or land instability.*

Section 16, paragraph 180 of NPPF states:

- *(a) mitigate and reduce to a minimum potential adverse impact 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;*

Paragraph 182 of NPPF further elaborates on the consideration of existing businesses, as follows:

- *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.*

The NPPF does not provide absolute limits on noise that are acceptable or unacceptable in a given situation. It does, however, set out the “need to ensure that developments do not give rise to significant adverse impacts on health and the quality of life”. In addition, the operations of existing businesses are also protected, with reference to ensuring new developments do not have an adverse effect on their operations.

ProPG: Planning & Noise Professional Practice Guidance on Planning & Noise New Residential Development May 2017

The primary goal of ProPG is to assist the delivery of sustainable development by promoting good health and wellbeing through the effective management of noise. It seeks to do that through encouraging a good acoustic design process in and around proposed new residential development having regard to national policy on planning and noise.

ProPG advocates a systematic, proportionate, risk based, 2-stage, approach. The approach encourages early consideration of noise issues, facilitates straightforward accelerated decision making for lower risk sites, and assists proper consideration of noise issues where the acoustic environment is challenging. It is envisaged that following the guidance contained in this document will increase the likelihood of success of planning applications for new residential development, yet it also provides a clear basis for recommending refusal of new housing development on noise grounds where necessary.

Stage 1: Initial Site Noise Risk Assessment

An initial noise risk assessment of the proposed development site should be conducted by a competent noise practitioner at the earliest opportunity, before any planning application is submitted. The noise risk assessment should provide an indication of the likely risk of adverse effects from noise were no subsequent mitigation to be included as part of the development proposal. It should indicate whether the proposed site is considered to pose a negligible, low, medium or high risk from a noise perspective.

Stage 2: Full Assessment – the four key elements

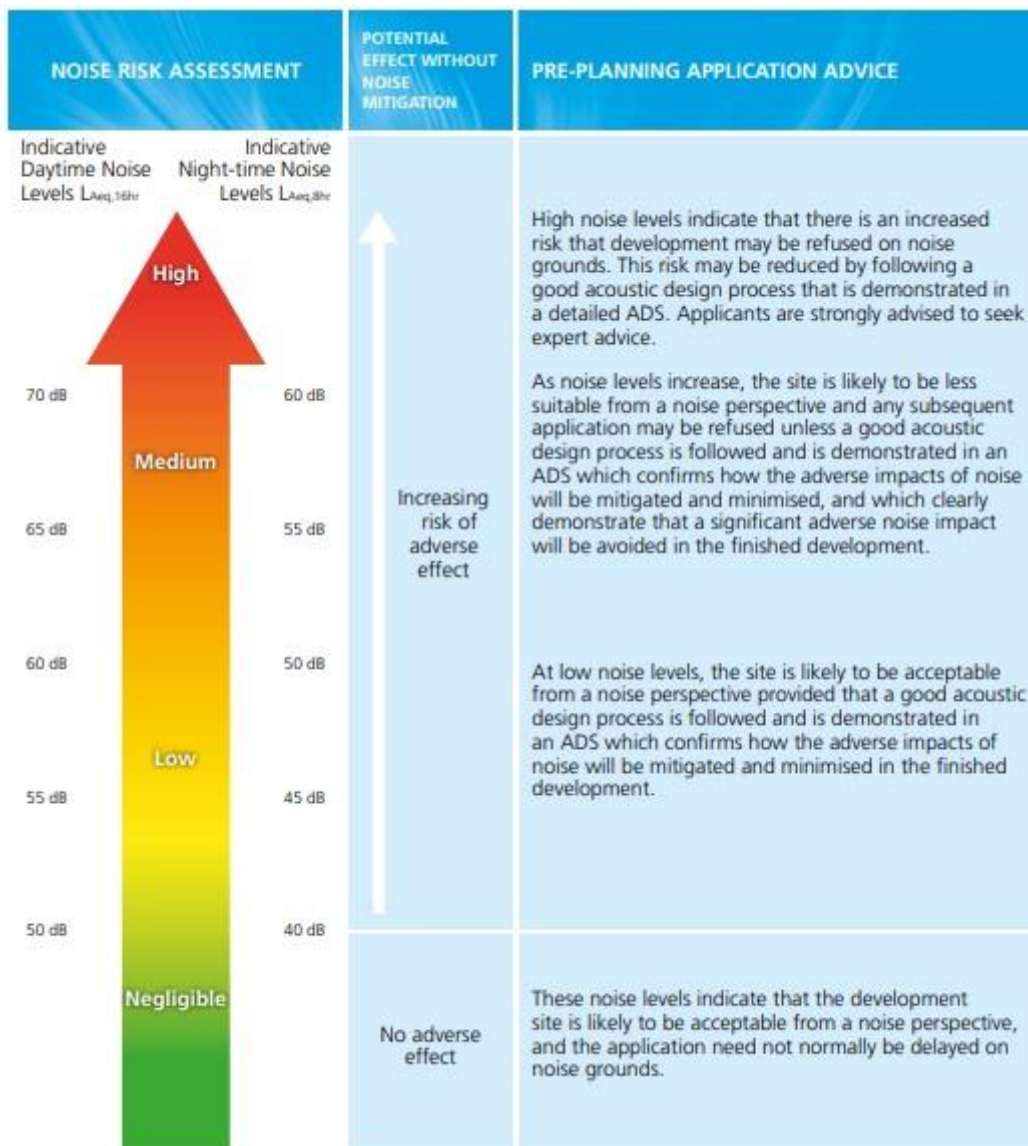
Element 1 – Good Acoustic Design Process Stage 2:

Element 2 – Internal Noise Level Guidelines Stage 2:

Element 3 – External Amenity Area Noise Assessment Stage 2:

Element 4 – Assessment of Other Relevant Issues

Figure: Summary plan for ProPG planning advice.



APPENDIX C: CRITERIA

The following British Standards and Building Regulations have been considered and adhered to in this assessment.

BS8233:2014 'Guidance on sound insulation and noise reduction for buildings'

This standard provides information and guidance on sound insulation and noise reduction for buildings. It deals with the control of external noise and outlines recommendations for occupied rooms.

The following table is taken from the document outlining requirements for internal noise levels in residential accommodation.

Table: Indoor Ambient Noise Levels for Dwellings (BS8233:2014)

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35dB $L_{Aeq,16Hr}$	-
Dining	Dining Room/Area	40dB $L_{Aeq,16Hr}$	-
Sleeping	Bedroom	35dB $L_{Aeq,16Hr}$	30dB $L_{Aeq,8Hr}$

The noise levels presented are based on existing WHO guideline values. The document further recommends that guideline value may be set in terms of SEL or $L_{Amax,F}$, if systematic individual noise events are happening. The values are depending on the character and number of events per night. Sporadic noise events could require separate values. In this instance a target value of 45 dB L_{Amax} has been established as the average L_{Amax} level not to be regularly exceeded in bedrooms at night.

In addition, the World Health Organisation (WHO) document "Guidelines for Community Noise" (1999) advises the following:

"For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45dB L_{Amax} more than 10-15 times per night (Vallet & Vernet 1991)."

Outdoor Amenity Space, BS8233 states the following:

For traditional external areas that are used for amenity space, such as gardens and patios, it desirable that the external noise levels does not exceed 50dB L_{Aeq} with an upper guideline value of 55dB L_{Aeq} which would be acceptable in noisier environments. However it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, compromise between elevated noise levels and other factors, such as the convenience of living these locations.... In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should be prohibited.

BS 4142: 2014 'Methods for rating and assessing industrial and commercial sound'

BS 4142:2014 describes methods for determining and assessing noise levels from noise sources with a view to determining the likelihood of adverse impact.

The document has been developed for the purposes of:

- investigating complaints,
- Assessing sound from proposed new, modified or additional sources of sound of an industrial and / or commercial nature; and
- Assessing sound at proposed new dwellings or premises used for residential purposes.

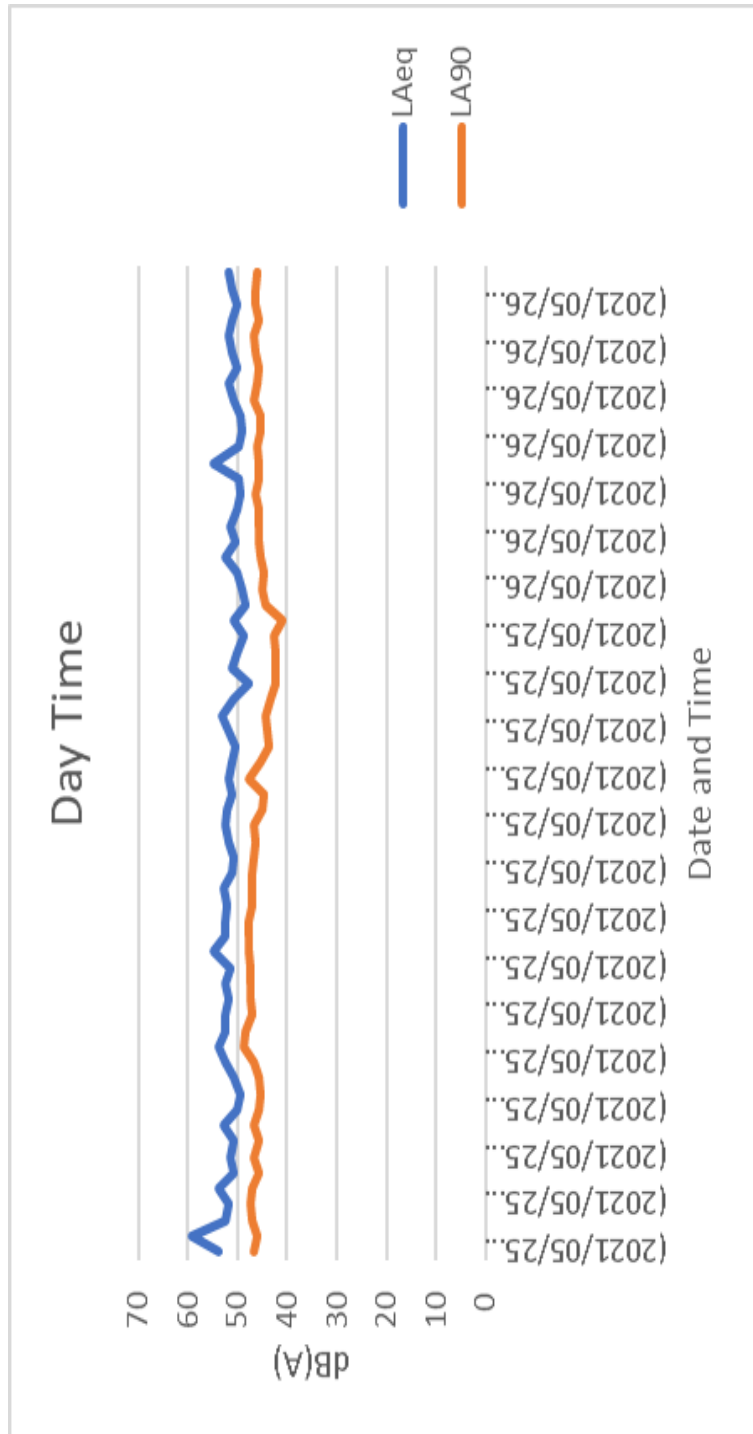
The document is now suitable for the determination of noise nuisance. Furthermore, that standard is not intended to apply to the following sources of noise:

- recreational activities, including all forms of motorsport;
 - music or other entertainment;
 - shooting grounds;
 - construction and demolition;
 - domestic animals;
 - people;
 - public address systems for speech;
 - other sources falling within the scopes of other standards or guidance.
-
- The methodology requires the determination of the specific sound level, corrected for characteristic feature in order to produce a rating level. The rating level is then compared against the background noise level (expressed as $L_{A90,T}$), thereby producing an 'excess of Rating over background sound level' figure. This figure is then used for assessment of likelihood of adverse impact.
 - The standard places great emphasis on the context of the sound environment that is being assessed and the development overall. This is an essential part of the assessment process, particularly when predicting likelihood of adverse impact. However, for guidance the following is included in the standard:
 - Typically, the greater the difference, the greater the magnitude of the impact;
 - A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
 - A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context;

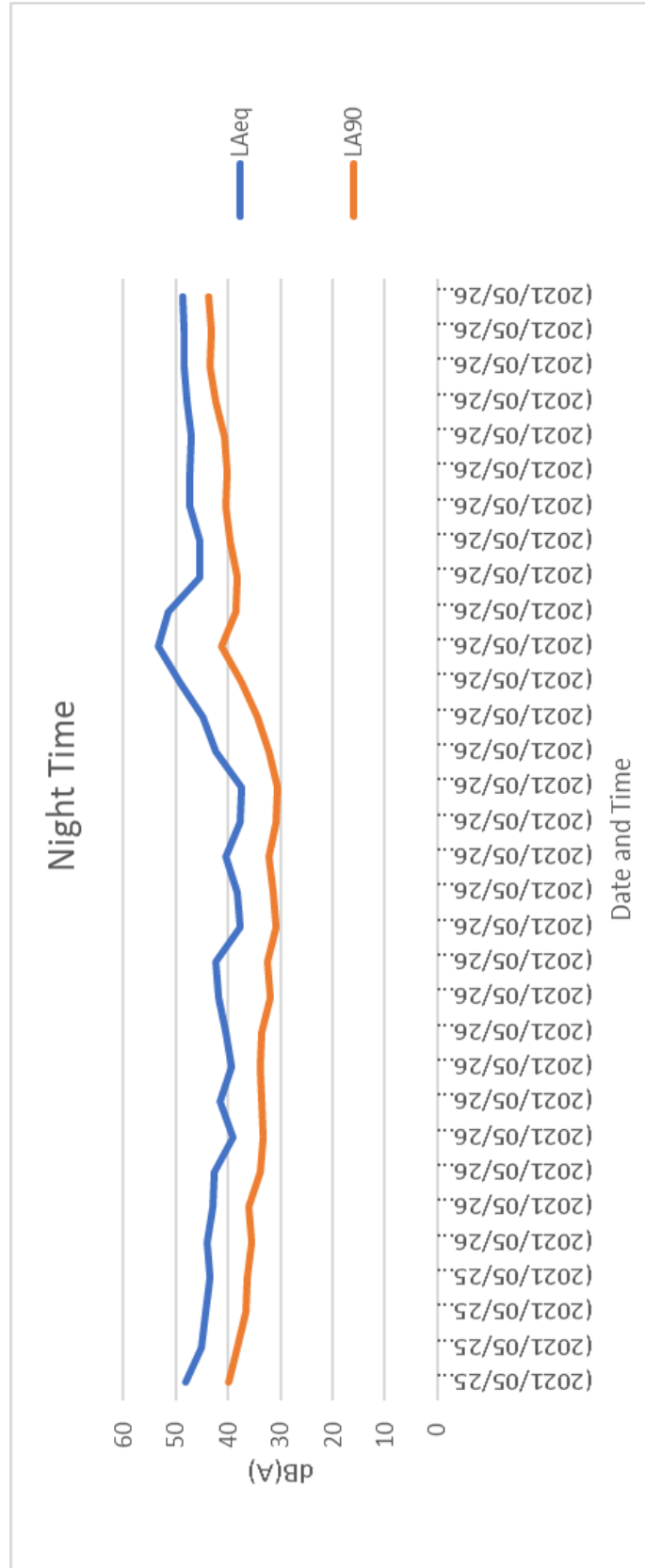
The lower the rating is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. When the rating level does not exceed the background sound level, this is an indication of the specific sound source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

**APPENDIX D:
DESIGN SURVEY
DATA**

Daytime



Night-time





LUSTRE
CONSULTING

2nd Floor North
Fitted Rigging House
The Historic Dockyard
Chatham, Kent, ME4 4TZ
www.lustreconsulting.com

© Copyright Lustre Consulting Limited

The contents of this document must not be copied or reproduced in whole or part without the written consent of Lustre Consulting.