

SHARPS REDMORE

ACOUSTIC CONSULTANTS ▪ Established 1990



Report

Environmental Noise Report

79-81 Heath Street,
Hampstead

Prepared by

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Date 8th May 2019

Project No 1818457

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This report has been prepared with all reasonable skill, care and diligence commensurate with an acoustic consultancy practice under the terms and brief agreed with our client at that time. Sharps Redmore provides no duty or responsibility whatsoever to any third party who relies upon its content, recommendations or conclusions.

1.0 Introduction

- 1.1 Sharps Redmore has been instructed by Design Squared Ltd on behalf of Celtic Bakers to carry out an environmental noise assessment at 79-81 Heath Street, Hampstead, London NW3 6UG to assist with a change of use application from an estate agents to a bakery.
- 1.2 The surrounding area is a mixture of residential and ground floor commercial with busy daytime traffic along Heath Street.
- 1.3 The purpose of this report is to assess the proposed plant/extraction associated with the bakery use. Assumptions have been made based on the details provided in accordance with BS 4142:2014, to ensure the protection of the amenity of neighbouring residents and other sensitive receptors.
- 1.4 Section 2.0 contains a discussion of the available methods of assessment and assessment criteria. Section 3.0 of this report contains details of the environmental noise survey, Section 4.0 contains the assessment and the conclusions are shown in Section 5.0.

2.0 Assessment Methodology and Criteria

National Policy

- 2.1 The National Planning Policy Framework (NPPF), as amended in July 2018, sets out the Government's economic, environmental and social planning policies for England and "these policies articulate the Government's vision of sustainable development." In relation to noise, paragraph 180 states:

"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."*

- 2.2 The NPPF and NPPG reinforce the March 2010 DEFRA publication, "Noise Policy Statement for England" (NPSE), which states three policy aims, as follows:

"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."*

- 2.3 Together, the first two aims require that no significant adverse impact should occur and that, where a noise level which falls between a level which represents the lowest observable adverse effect and a level which represents a significant observed adverse effect, then according to the explanatory notes in the statement:

"... all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into consideration the guiding principles of sustainable development. This does not mean that such effects cannot occur."

- 2.4 Therefore taking an overview of national policy it is clear that when considering the impact of noise one must consider the significance of any impact. The presence of an adverse impact in itself is not sufficient to refuse permission.

- 2.5 Objective guidance on the assessment of noise from plant and machinery can be found in BS 4142:2014 which describes a method for rating and assessing sound of an industrial and/or commercial nature according to the following summary process:

- i) Determine the background sound levels, in terms of L_{A90} , at the receptor locations of interest.
- ii) Determine the specific sound level of the source being assessed, in terms of L_{AeqT} level (T = 1 hour for day or 15 minutes at night), at the receptor locations.
- iii) Apply a rating level acoustic feature correction if the source sound has tonal, impulsive, intermittent or other characteristic which attract attention.
- iv) Compare the rating sound level against the background noise level; the greater the difference between the two, the higher the likelihood of complaints of the noise.
- v) Differences (rating – background) of around +10 dB is likely to be an indication of significant adverse impact (SOAEL) depending on context; a difference of +5 dB is likely to be an indication of adverse impact, depending on context. 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 upon context.

2.6 The general intent of the planning system is to ensure that a development does not result in 'significant adverse impacts on health and quality of life' (NPPF para 180). BS 4142:2014 considers that the threshold of 'significant adverse impact' is likely to be around 10 dB or more... depending on upon the context.

2.7 As can be seen above 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 exceeds the background sound level and the context in which it is placed.

Local Policy

2.8 The requirements of Camden London Borough Council regarding new building services are shown in the following table as an extract from LB Camden's Local Plan 2017:

Table 2: Extract from Camden Local Plan 2017: Appendix 3 Noise thresholds:

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 57dB _{L_{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 88dB _{L_{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.

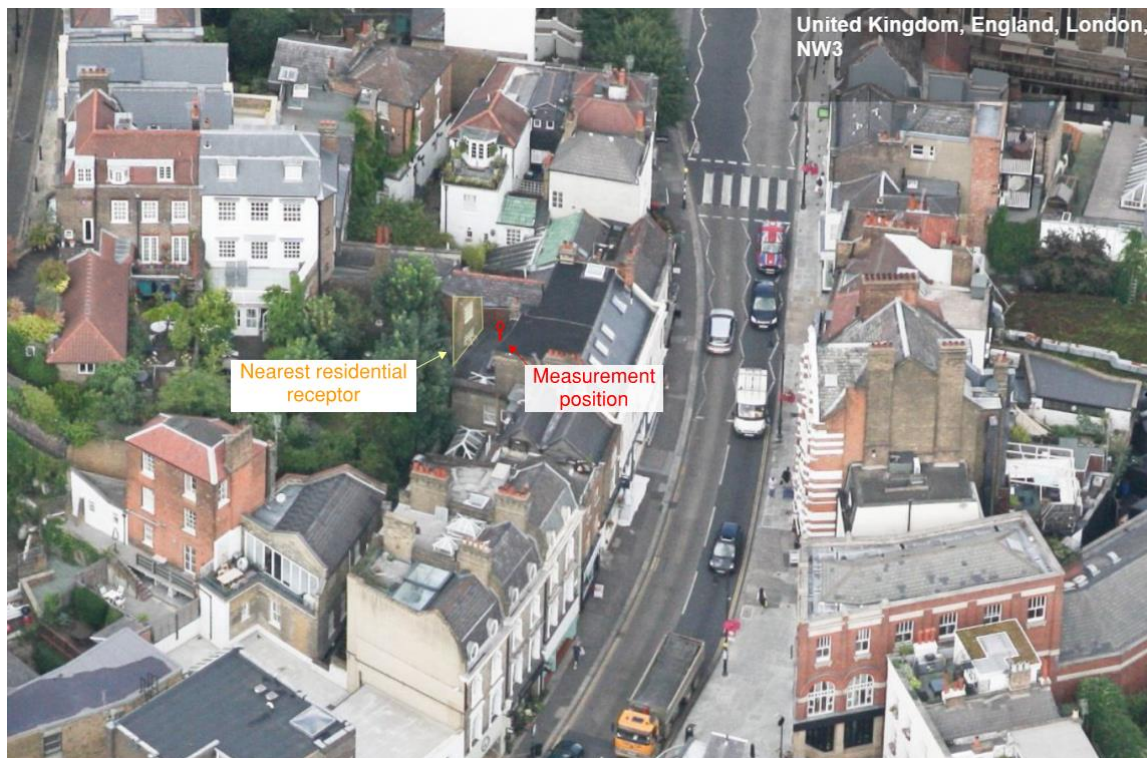
**levels given are for dwellings, however, levels are use specific and different levels will apply dependent on the use of the premises.

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.

3.0 Survey Details

3.1 A daytime noise survey was undertaken on the rooftop terrace of 81 Heath Street, London on the 11th December 2018; the position, shown in Figure 3.1 below was representative of the existing noise climate at the nearest residential façades.

Figure 3.1: Monitoring location and sensitive receptor:



3.2 Weather conditions throughout the survey period were dry with a light easterly breeze, suitable for noise measurements. The noise climate could be described as steady with constant and consistent road traffic noise from Heath Street dominating the noise climate.

3.3 All measurements were taken using a Type 1, 01 dB Fusion sound level meter (SLM) which was calibrated before and after use. Sample measurements periods were generally 15 minutes intervals.

3.4 Site notes and full results of the survey are shown in Table A1 in Appendix A and summarised in Table 3.1 below:

Table 3.1: Summary of survey results

Survey Summary	Typical Ambient L_{Aeq} , dB	Typical Background L_{A90} , dB
Daytime (0700-2300)	48	43

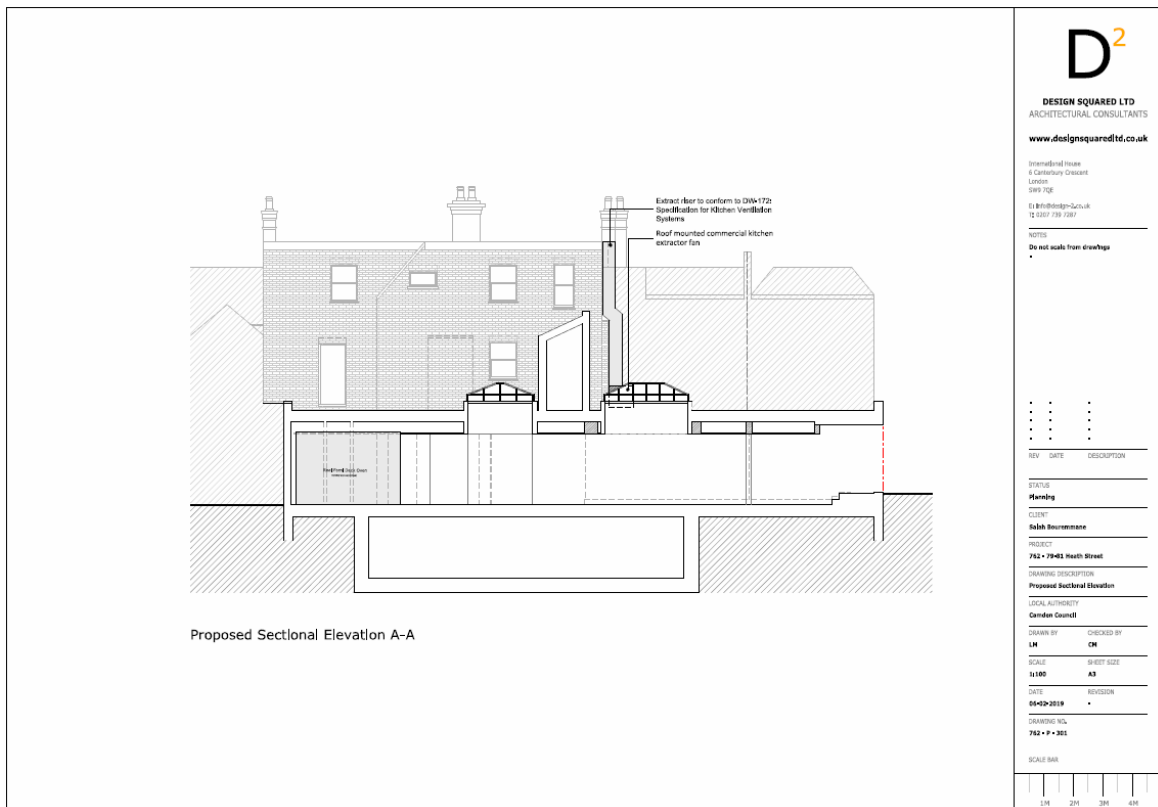
3.5 Based on the noise survey undertaken, and our understanding of the LPA's requirements, the following criteria have been adopted:

Table 3.2: Adopted criteria

Time period	Criteria L _{Aeq} (dB)
Daytime (0700-2300)	33 dB (43-10)

- 3.6 It is understood from the applicant that this will be a day time only operation. If any of the plant were to operate at night, further noise measurements of the existing soundfield would need to be made in order to assign the correct night time criteria.
- 3.7 The position of the proposed WC flue extraction is shown in Figure 3.2 below. The external noise source (at the top of the flue) would be approximately 3-4m from the nearest residential window. Indicatively, further plant in terms of the kitchen extract and supply fans and an external VRF condenser to serve the internal FCUs will be sited at the rear of the property adjacent to the skylight and Tianyi Clinic as shown below, in the region of 5m from a residential property.

Figure 3.2: Proposed location of w.c. extraction and flat roof plant



- 3.8 A Thai restaurant and take away exists immediately next door to the proposal with opening hours up to 2300 hours midweek and Saturdays. Extraction equipment exists for the kitchen operations of the restaurant adjacent to the bakery proposal.
- 3.9 Precise details of the proposed plant for this proposal are not known at this stage and it is proposed to set plant noise limits at the nearby receptors for both non-tonal and tonal sources in terms of typical daytime background levels measured and LBC criteria. This is an approach that SR has used on many commercial applications where details of proposed plant are not known at the change of use planning stage and is not an unusual situation.
- 3.10 The noise limits can be set by an appropriate planning condition which can then be designed to at a later point incorporating enclosures, screening and other attenuation if considered necessary or appropriate.

4.0 Proposed plant noise limits

- 4.1 The main external plant zone which is proposed as part of this application is indicatively to be sited at the rear of the proposal.
- 4.2 The plant will indicatively consist of kitchen extract and supply fans and an external VRF condenser to serve the internal FCUs. There will also be a main building roof mounted extract fan serving the WC sited at high level.
- 4.3 The measured typical daytime period L_{Aeq} values are summarised above in table 3.1 and therefore the plant noise emissions would need to be controlled to 10 dB below the typical background L_{A90} during the times of operation or 15 dB below if the source is tonal or intermittent in nature further to LBC criteria within the local plan.
- 4.4 The details of proposed plant selections are not known at this stage, but will be developed by the appointed contractor in due course. Therefore in the absence of plant information to undertake a specific assessment the proposed approach is to identify and set plant noise limits which will form the design basis at a later point.
- 4.5 Based on the measured typical background noise levels, the following cumulative rating level limits in tables 4.1 and 4.2 would apply at the nearest noise critical receptors for the new plant.

Table 4.1 – Proposed plant noise limits at nearby receptors $dB L_{Aeq, 15 \text{ minutes}}$ for non-tonal sources

Receptor	Typical Background L_{A90} , dB	Proposed Limit L_{Aeq} , dB
Daytime (0700-2300)	43	33

Table 4.2 – Proposed plant noise limits at nearby receptors $dB L_{Aeq, 15 \text{ minutes}}$ for tonal sources

Receptor	Typical Background L_{A90} , dB	Proposed Limit L_{Aeq} , dB
Daytime (0700-2300)	43	28

- 4.6 It is not considered that, given the existing noise climate, a tonal element correction will be required as there exist similar noise sources from the extraction system serving the Thai restaurant and take away. The use is proposed for daytime hours only.

5.0 Conclusions

- 5.1 Environmental noise surveys have been carried out on the site to establish the existing ambient and background noise levels at likely times of operations in line with the requirements of LBC. Existing commercial operations operate along Heath Street immediately adjacent to this proposal.
- 5.2 Suitable criteria have been identified for plant emissions and plant noise limits have been identified at the nearest critical receptors to inform future design. Local screening, enclosures and other attenuation can be considered where necessary in order to ensure that these criteria will be met. It is suggested that these criteria are conditioned within the change of use application.
- 5.3 Further details will be developed in conjunction with Sharps Redmore and contractors as the detailed design progresses.
- 5.4 Taking into account the above it is concluded that the site can be developed as proposed without causing significant impact or disturbance to local residents as advised by the National Planning Policy Framework.

APPENDIX A

ENVIRONMENTAL SURVEY DATA

Table A1: Noise survey notes and results

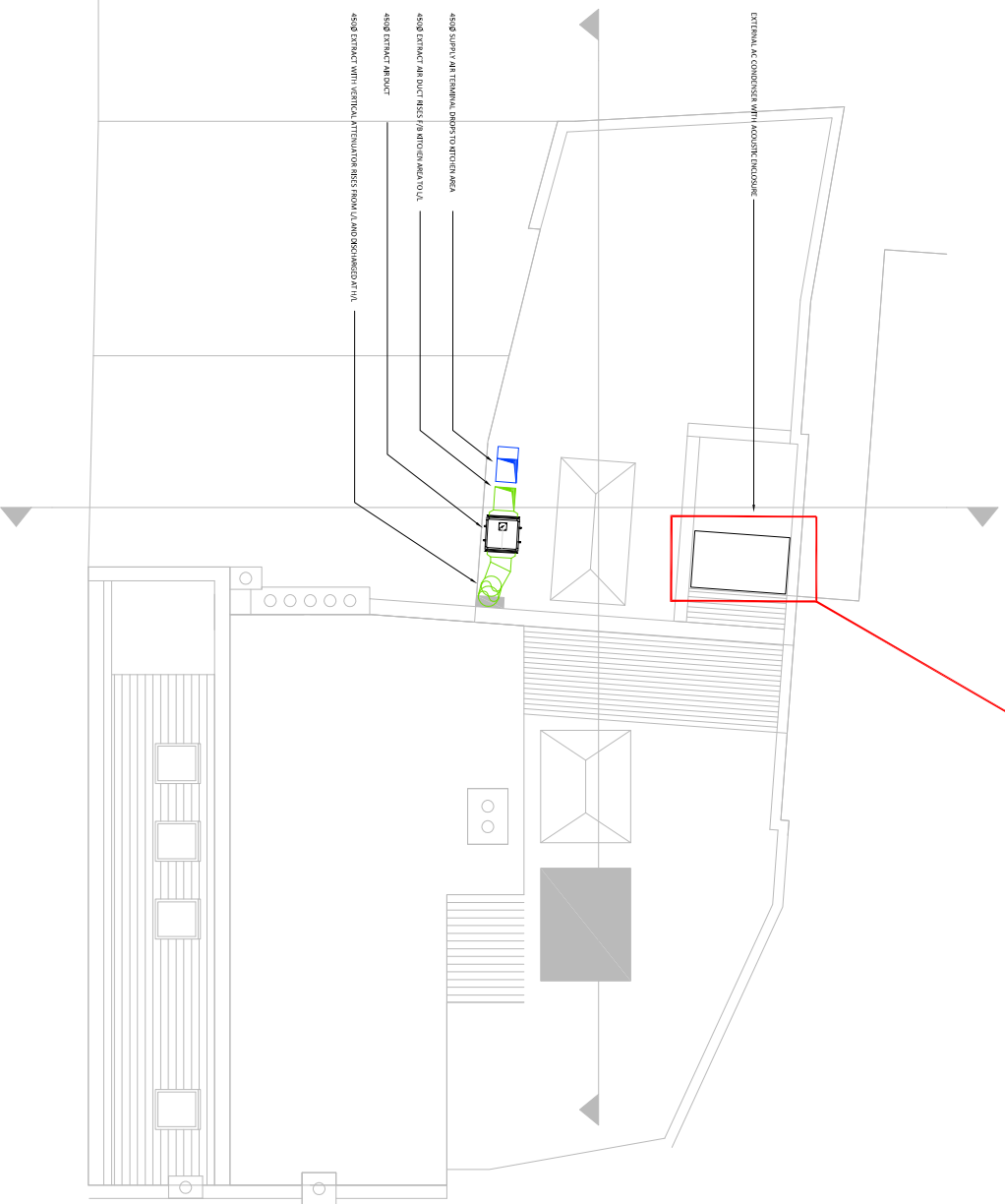
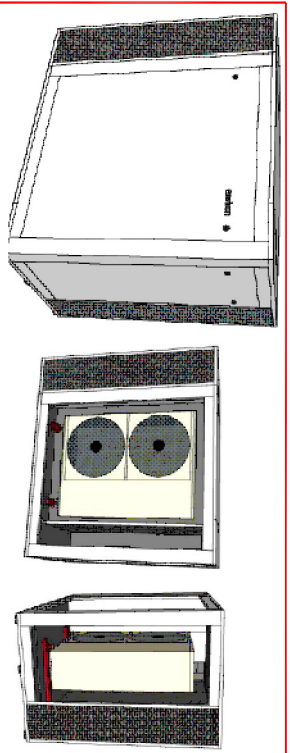
Time	L _{Aeq}	L _{Amax}	L _{A10}	L _{A90}	L _{Amin}	Notes
13:14	47	59	50	43	40	Children's playground audible? Distant sirens Distant aircraft
13:23	48	61	51	43	38	Vacuum audible inside adjacent residence
13:39	47	71	49	42	39	15min measurement
13:55	50	68	50	43	40	More sirens in this period
14:10	49	71	41	44	51	Road noise dominates

APPENDIX B

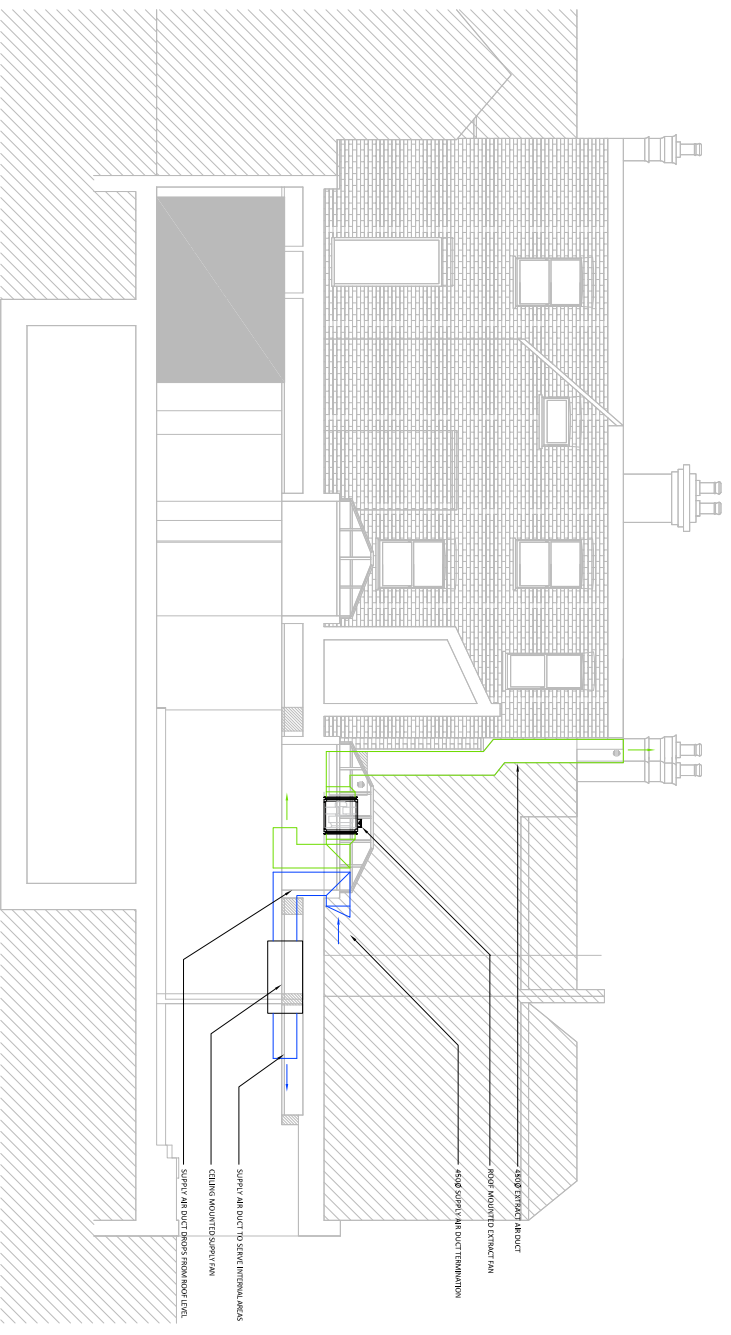
INDICATIVE PLANT LOCATION

Figure B1: Proposed Unit Position

- PLANT ACOUSTIC INFORMATION**
- EXTERNAL AC CONDENSER & ACOUSTIC ENCLOSURE - 30dB(A) @ 1m
 - ROOF MOUNTED EXTRACT FAN - 34dB(A) @ 3m



PROPOSED ROOF PLAN



PROPOSED SECTIONAL ELEVATION

<p>PLANNING</p> <p>1:1 1:1000</p>		<p>Cudd Bentley Consulting</p> <p>14-17, South Colindale Avenue, Colindale, London NW9 1UH 020 8854 2200 020 8854 2201 info@cuddbentley.com www.cuddbentley.com</p>	<p>762 MON PAIN 79-81 HEATH STREET HAMPSTEAD LONDON</p>	<p>ROOF LEVEL INDICATIVE VENTILATION & AC LAYOUT</p>	<p>15/08/24 PO1 PO1 S.S APR19</p>	<p>5472-CBC-00-RF-DR-14-57800</p>
<p>PLANNING</p>						