Technical Assessment

Site Address:	Mead House, Mead House Lane, Hayes, Middlesex, UB4 8EW
Project Reference No:	NP-011791
Subject:	Assessment of Noise Emissions for a Prior Approval Application
Client:	Reliant Care Limited
Reported By:	C Hawkins-Smith, PGDip, MIOA
Checked By:	T. Watkin, MSc, MIOA
Date:	05/11/2024

Introduction

NOVA Acoustics has been commissioned to provide an acoustic assessment of the suitability of an existing day centre (Mead House) for conversion into 14 no. residential dwellings. The application for the change of use is made under Schedule 2, Class MA of the Town and Country Planning (General Permitted Development Amendment) Order 2024 (as amended).

The purpose of this technical assessment is to detail the level of commercial noise emissions incident on the proposed development building and develop a scheme of mitigation measures, where required.

Both external and internal noise surveys have been undertaken to establish the baseline noise levels. The results of the surveys have been used to inform this assessment and determine if the existing building envelope provides sufficient levels of sound insulation.

Relevant Noise Guidance

The guidance and legislation documents used in the assessment are as follows:

- Town and Country Planning Act (General Permitted Development) Order 2024 (as amended)
- National Planning Policy Framework (2023)

Town and Country Planning Act (General Permitted Development)

The application falls under permitted development guidance, which is assessed under the Town and Country Planning Act. The latest revision of the Town and Country Planning Act (General Permitted Development), which was published in 2024, provides details of permitted development under Schedule 2, Part 3 – 'Class MA'. This is defined on the following page.

"Development consisting of a change of use of a building and any land within its curtilage from a use falling within Class E (commercial, business and service) of Schedule 2 to the Use Classes Order to a use falling within Class C3 (dwellinghouses) of Schedule 1 to that Order."

The following is stated regarding factors that should be assessed as part of a permitted development application of this nature:

"Before beginning development under Class MA, the developer must apply to the local planning authority for a determination as to whether the prior approval of the authority will be required as to—

(a) transport impacts of the development, particularly to ensure safe site access;

(b) contamination risks in relation to the building;

(c) flooding risks in relation to the building;

***(d) impacts of noise from commercial premises on the intended occupiers of the development**"*

Further planning practice guidance is provided on the government's website, with the following stated regarding permitted development:

"The statutory requirements relating to prior approval are much less prescriptive than those relating to planning applications. This is deliberate, as prior approval is a light-touch process which applies where the principle of the development has already been established. Where no specific procedure is provided in the General Permitted Development Order, local planning authorities have discretion as to what processes they put in place. It is important that a local planning authority does not impose unnecessarily onerous requirements on developers, and does not seek to replicate the planning application system.".

National Planning Policy Framework (2023)

Whilst it is understood that a prior approval application should be assessed using a 'light touch' towards planning, it is thought that the aims of the NPPF are still relevant and should also be considered.

The following is stated paragraph 191, section 15:

"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 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; and*

c) *Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."*

Further to the above, it is thought that the 'Agent of Change' principle should be also considered in relation to the application. This will ensure that unreasonable restrictions are not imposed on the neighbouring businesses as a result of the residential development. Regarding this, the following is stated in paragraph 193 of the NPPF:

"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."

Considering the requirements of the Town and Country Planning Act, it is thought that the site should be assessed based the contribution of noise from **commercial sources exclusively**. This should ensure that the agent of change principle is fully considered, which is in accordance with the requirements of the NPPF.

Site Description

The proposed development is for the partial change of use from Use Class E to Use Class C3 (residential) on the ground and first floor. The second floor is to remain as existing. The site is positioned off the miniature roundabout connecting Hayes End Road and Mead House Lane, both located within the town of Hayes.

The site was most recently used as a day centre, however this ceased operating in March 2024 and the building has since been vacant. A total of 14 no. residential apartments are proposed, spread evenly across the two floors undergoing change of use.

The proposed floor plans are available in Appendix D.

Environmental Noise Survey

Three sound level meters were utilised during the survey; two located externally and one positioned internally. The equipment register and survey weather conditions can be found in Appendix A & B, respectively.

The following table outlines the measurement dates and particulars.

Location	Survey Dates	Measurement Particulars
MP1	18 – 21/10/24	Equipment protruding 1m from of a first-floor window on the southern façade, nearest to the surrounding commercial premises. A -3 dB façade correction has been applied.
MP2	18 – 21/10/24	Equipment protruding 1m out of a first-floor window on the northern façade. A -3 dB façade correction has been applied.
MP3	18 – 21/10/24	Microphone attached to a tripod approximately 1.5m above the ground and located internally on the first floor. All façade openings to the room were closed.

Table 1 – Measurement Methodology

The figure below outlines the site surroundings and measurement locations:

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Figure 1 – Measurement Locations and Site Surroundings

Context & Subjective Impression

The neighbouring buildings are understood to be residential in nature, including Springfield House to the south and Hayes Park Lodge to the immediate east. Some commercial properties are present to the southwest, namely 'Graham Plumbers Merchant Hayes' approx. 115m away, however no commercial noise was audible at and around the site.

The building has historically been of medical and community use, including as an NHS GP surgery, a Covid-19 vaccination centre, and most recently a day centre. The site is located within a green belt area but is not subject to any restrictions under article 4.

The existing acoustic climate was low to moderate in level, mainly consisting of light vehicle movements along Hayes End Road. A slight tonal beeping was also noted by the site engineer, although the source could not be identified and subjectively only just perceptible. Upon equipment collection, building works including drilling were taking place on a property to the west.

Internally, the acoustic environment was generally quiet. A slight humming tone from the boiler was audible, but not intrusive. No commercial noise was audible internally.

The existing in-situ glazing is understood to be standard non-acoustic double glazing, (e.g., 6mm glass, 16mm air cavity, and 4mm glass). The composite performance of the outer façade including the contribution from the masonry and glazed elements is expected to be upwards of 35 dB R_w.

Measurement Results Summary & Results

The following table shows the noise levels measured during the environmental survey. The time history graphs showing the full measurement periods can be found in Appendix C.

Location	Measurement Period ('T')	Octave Frequency Band (Hz, $L_{eq,T}$, dB)							$L_{Aeq,T}$ (dB)	'Typical' $L_{AFmax,1min}$ (dB) [1]
		63	125	250	500	1k	2k	4k		
MP1 (External)	$L_{eq,16hr}$ (Day)	56	53	50	46	45	40	38	50	--
	$L_{eq,8hr}$ (Night)	49	47	46	42	40	36	36	46	68
MP2 (External)	$L_{eq,16hr}$ (Day)	52	47	43	39	38	36	35	44	--
	$L_{eq,8hr}$ (Night)	45	42	38	34	33	30	30	39	57
MP3 (Internal)	$L_{eq,16hr}$ (Day)	41	37	33	31	30	25	23	34	--
	$L_{eq,8hr}$ (Night)	37	34	30	23	20	21	20	28	38

Notes:
[1] The typical L_{AFmax} is the value exceeded fewer than 10 times throughout the night-time period.

Table 2 – Sound Level Results Summary

Commercial Noise Analysis

As can be seen in the time history graphs in Appendix C, the acoustic environment is quiet and follows a diurnal pattern with 'typical' fluctuations in level throughout the daytime and night-time periods. This is generally the case in areas where road traffic noise is dominant in the environment.

Internally, the measured noise levels are very low. A constant low hum from the boiler was audible, which may have contributed to the flatter time history graph, however this was not intrusive.

Discussion

The measured internal noise levels do not exceed the BS8233:2014 criteria during the day and night-time periods, and the subjective impression of the site engineer was that no commercial noise was audible within the proposed development. This is a positive indicator that the proposed development is suitable for residential occupation.

Comparing the external levels to the internal levels, it is thought that the existing outer envelope provides appropriate levels of sound reduction against commercial noise, enabling the proposed development to be suitable for residential occupation.

Careful consideration should be given to the separating floor between the retained second floor area and the residential space below. It is understood that the second floor was used as offices when the building was last in use, however sound levels within office and commercial areas can vary. To protect the residential amenity of future occupants, it is advised that the separating floor in this area achieves 53 dB $D_{nT,w} + C_{tr}$.

Conclusion

A baseline survey has been conducted to assess the prevalence of noise associated with commercial sources incident on the proposed development building. Based on the subjective impression of the visiting consultant and the measured data from the survey, it is concluded that there would be minimal to no impact from commercial noise, and therefore, the site is considered suitable for conversion to residential under Class MA.

The findings of this report will require written approval from the Local Authority prior to work commencing.

Appendix A – Measurement Equipment

Piece of Equipment	Serial No.
Svantek SV971A Class 1 Sound Level Meter	141413
Svantek 971A Class 1 Sound Level Meter	141417
Svantek 971A Class 1 Sound Level Meter	141420
Svantek Calibrator SV33B	125774

Table 3 – Measurement Equipment

All equipment used during the survey was field calibrated at the start and end of the measurement period with negligible deviation noted. All sound level meters are calibrated every 24 months, and all calibrators are calibrated every 12 months by a third-party calibration laboratory. All microphones were fitted with a protective windshield for the entire measurements period. Calibration certificates can be provided upon request.

Appendix B – Meteorological Conditions

As the environmental noise survey was carried out over a long un-manned period no localised records of weather conditions were taken. However, all measurements have been compared with met office weather data of the area, specifically the closest weather station, and the data from the weather station is outlined in the table below. When reviewing the time history of the noise measurements, any scenarios that were considered potentially to be affected by the local weather conditions have been omitted.

The analysis of the noise data includes statistical and percentile analysis and review of minimum and maximum values, which aids in the preclusion of any periods of undesirable weather conditions. The weather conditions were deemed suitable for the measurement of environmental noise in accordance with BS7445 Description and Measurement of Environmental Noise. The table below presents the average temperature, wind speed and rainfall range for each 24-hour period during the entire measurement.

Weather Conditions – Hayes (Approx. 1.2km NEE of Site)				
Time Period	Air Temp (^{0}C)	Rainfall (mm/h)	Prevailing Wind Direction	Wind Speed (m/s)
18/10/24: 00:00 – 23:59	6.4 – 19.1	0.0 – 3.6	S	0.0 – 3.2
19/10/24: 00:00 – 23:59	8.3 – 20.0	0.0 – 3.0	S	0.0 – 2.4
20/10/24: 00:00 – 23:59	9.6 – 17.5	0.0 – 2.4	SW	0.0 – 3.4
21/10/24: 00:00 – 23:59	9.5 – 14.6	0.0	SW	0.0 – 2.2

Table 4 – Weather Conditions

Rainfall occurred during the following periods:

- 18/10/24: Moderate intermittent raid between 22:00 and 00:00 hours.
- 19/10/24: Continuation of rainfall from previous day between 01:00 and 02:00 hours.
- 20/10/24: Short light showers occurring intermittently between 08:20 and 11:00 hours and 12:00 until 14:00 hours.

Appendix C – Noise Survey Time History Graphs

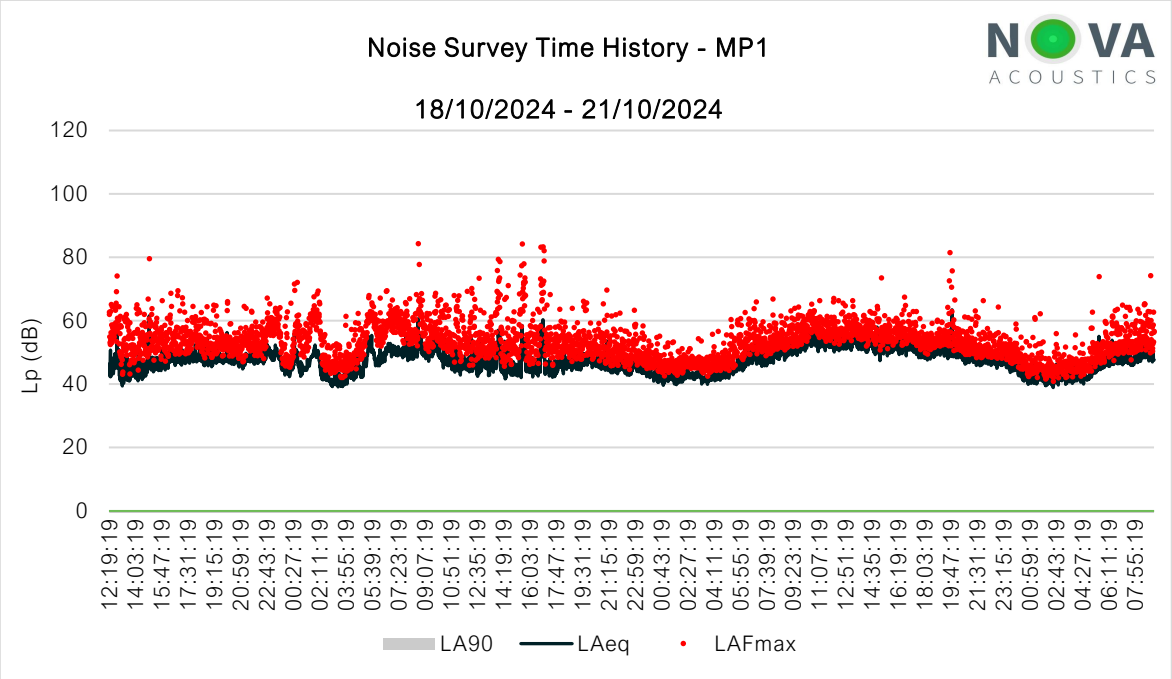


Figure 2 – MP1 Noise Survey Time History (External)

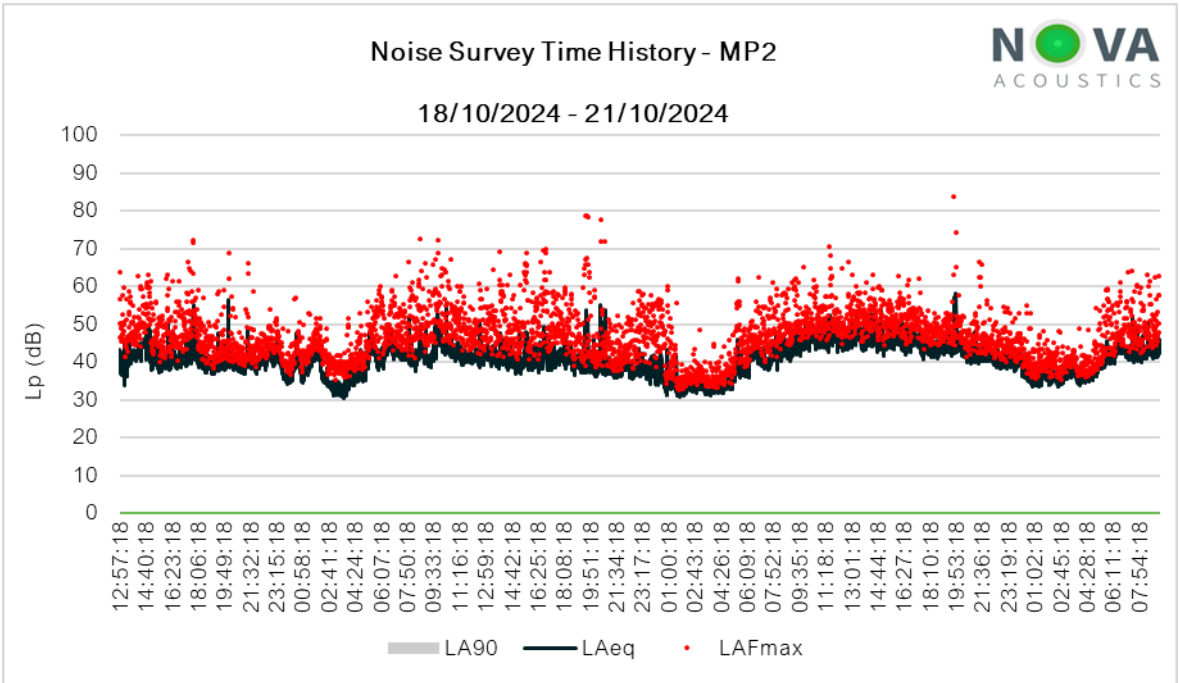


Figure 3 – MP2 Noise Survey Time History (External)

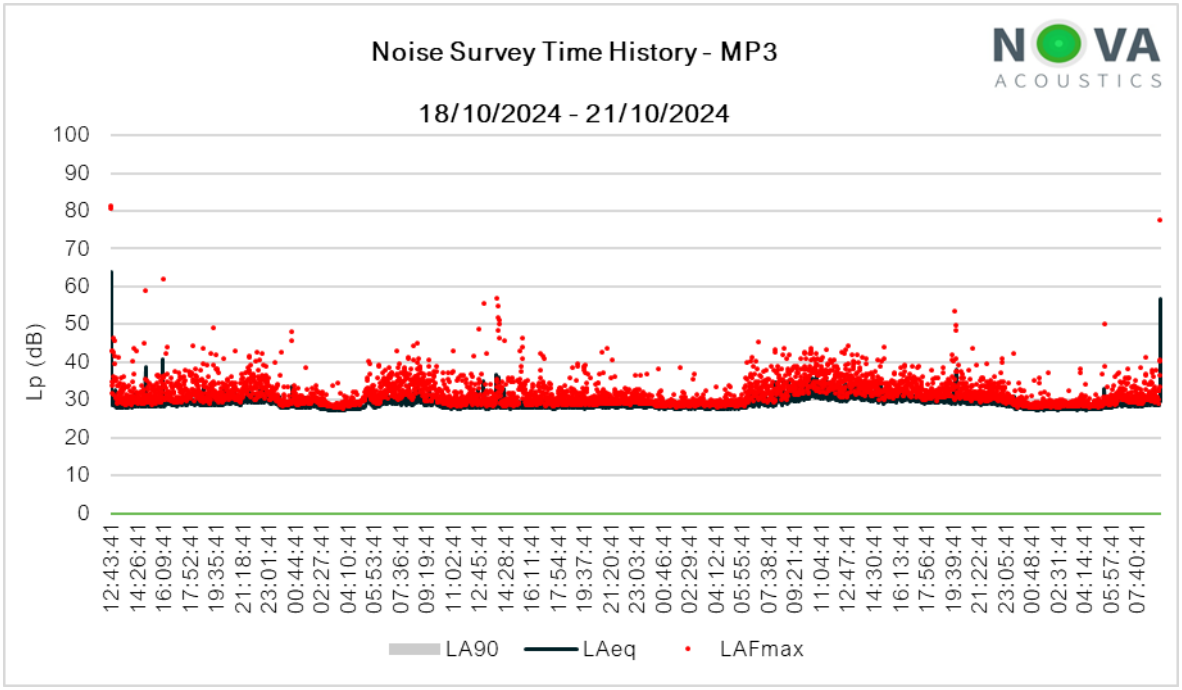
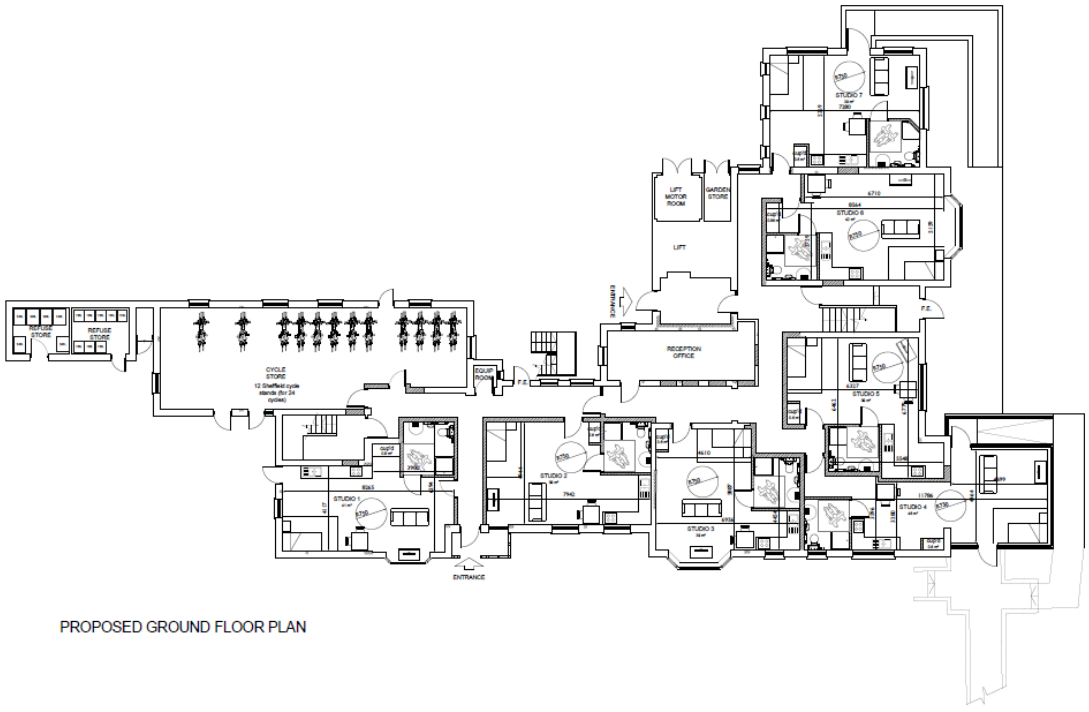
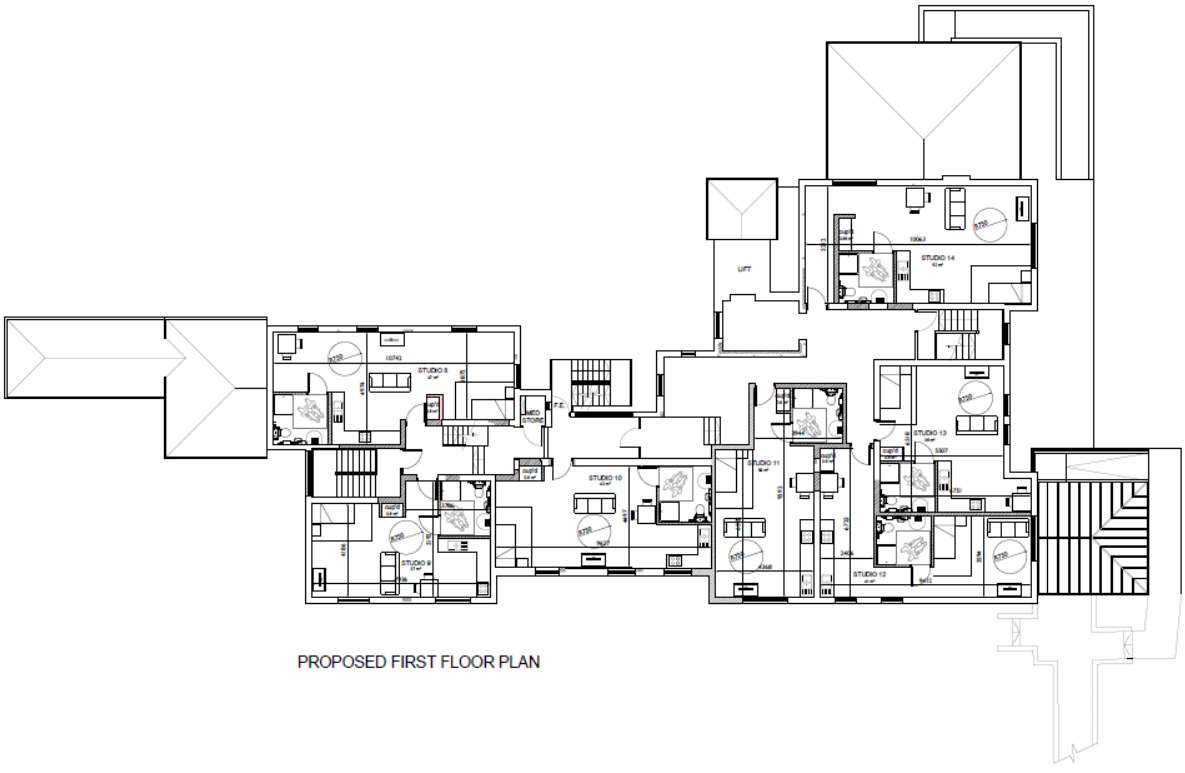


Figure 4 – MP3 Noise Survey Time History (Internal)

Appendix D – Proposed Floor Plans



PROPOSED GROUND FLOOR PLAN



PROPOSED FIRST FLOOR PLAN

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