THE EQUUS PARTNERSHIP

Member of the Association of Noise Consultants

CONSULTANTS IN ACOUSTICS

4 WADHAM GARDENS - LONDON NW3

NOISE ASESSMENT REPORT

29th April 2015

Report prepared for:

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1.0 INTRODUCTION

Planning consent is sought for the installation of a car lift and basement parking area in the existing surface parking spaces to the front of 4A Wadham Gardens, this being an Annex of the main house at 4 Wadham Gardens. To support the application the local authority (London Borough of Camden) have requested that an assessment of atmospheric noise emissions from the proposed installation is undertaken with respect to the amenity of neighbouring properties.

The Equus Partnership Ltd has therefore been commissioned to undertake a noise survey to establish existing background noise levels at the site, and to assess atmospheric noise emissions from the units with respect to the local authority requirements.

2.0 DESCRIPTION OF SITE AND PROPOSED INSTALLATION

The subject premises comprise a large, three storey detached house on the south side of Wadham Gardens, opposite the junction with Harley Road. The properties to either side comprise detached houses of a similar nature and scale. The annex (4A Wadham Gardens) adjoins the north-east side of the main house and currently has a paved hard standing area to the front providing off-street parking for two vehicles, which is accessed from the road via manually operated, sliding metal gates.

The proposal entails the installation of a single-vehicle car lift to access a newly created below ground parking area which will be linked to the existing basement accommodation. The car lift will be located in the existing parking area to the front of the annex. The motor and hydraulic pump which provide the power to raise and lower the lift will be located remotely within an new plant room which will be within the premises at basement level.

The nearest potentially affected noise sensitive property is the neighbouring house to the north-east (6 Wadham Gardens), the closest windows of which are approximately 7m from the proposed location of the car lift.

The lift could be required to operate at any time during a 24 hour period.

3.0 ENVIRONMENTAL NOISE SURVEY

An environmental noise survey was conducted from 11.00 on Friday 17th April to 11.00 on Sunday 19th April 2015 to determine the ambient noise levels in the vicinity of the site. A measurement location was established at 1.2m above the ground in existing parking area to the front of the annex, at the boundary to 6 Wadham Gardens, with the L_{Aeq} and L_{A90} values being recorded during the entire survey period over consecutive 15 minute periods. Please refer to ***Appendix A*** for an explanation of the acoustic terminology used above.

3.1 Instrumentation

The following instrumentation was used for the survey:

Brüel and Kjær Precision Sound Level Meter	Type 2260B
Brüel and Kjær ½" Condenser Microphone	Type 4189
Brüel and Kjær Sound Level Calibrator	Type 4230
Brüel and Kjær ½" Windshield	Type UA 0237

The sound level meter was calibrated prior to the commencement of the measurements and checked upon completion. No drift was found to have occurred.

The weather during the measurement period was mild and dry with light winds.

3.2 Survey Results

During the critical night time period, the noise level at the measurement position was found to be mainly influenced by distant traffic. The results are shown on the attached time history graph ***5451/TH1*** attached at ***Appendix B***. The lowest background noise level measured at any time during the survey period was 32 dB $L_{A90\ (15\ min)}$.

4.0 PLANT NOISE DATA

Data provided by the manufacturers for the proposed installation state a noise level of 65 dB(A) measured adjacent to the operating lift, however this is further qualified by the statement that the noise is generated by the motor and hydraulic pump, and not the movement of the lift.

5.0 NOISE CRITERION

The London Borough of Camden have previously indicated that with respect to atmospheric noise emissions from fixed plant installations, they require that when assessed at 1m external to the closest window of the nearest neighbouring sensitive property, total plant noise emissions should not exceed a value 10 dB below the minimum L_{A90} background noise level measured during the proposed operational time period. Based on the results of the environmental noise survey this would equate to a criterion of 22 dB(A) to be achieved at the closest window of the neighbouring property at 6 Wadham Gardens.

6.0 ASSESSMENT

The principal noise source associated with the operation of the lift is motor and hydraulic pump. These plant items are to be located within a masonry construction plant room at basement level below the annex building. The walls and soffit of this plant room will be acoustically lined with 25mm thick mineral wool slabs retained behind perforated or expanded galvanised sheet steel and the door will comprise a 44mm thick solid core leaf fitted with acoustic seals to head, jambs and threshold. On this basis the predicted noise level from the

operation of the motor and hydraulic pump at the neighbouring property is 16 dB(A), which will therefore comfortably comply with the local authority requirement.

Other noise which could be associated with the use of the car lift would include vehicle movements (arrivals and departures), the opening and closing of car doors and the opening and closing of gates to the lift. However, such activities and the associated noise levels would not be any different in character or level, or would not occur any more frequently, than those which are currently generated by the use of the existing hard standing parking spaces and entrance gates, and therefore in this respect the use of the car lift would not be expected to result in any materially significant change in noise levels.

7.0 CONCLUSIONS

Noise emissions from the proposed installation have been assessed taking into account the requirement of the relevant local authority policy. Calculations confirm that subject to the installation of the motor and hydraulic pump within the proposed acoustically treated plant room, the local authority requirements will be achieved at the nearest neighbouring residential premises.

Christopher Hookway
THE EQUUS PARTNERSHIP LTD.

APPENDIX A

Glossary of Acoustic Terminology

Decibel (dB): The Decibel is a logarithmic unit used to express ratios of quantities such as sound pressure or sound power. The logarithmic nature of the unit means that decibel values cannot be added or subtracted in the usual way. An auditory sensation of halving or doubling of loudness equates to a decrease or increase of around 10 dB.

dB(A) or L_A: The A weighted scale is used to take account of the fact that the human ear is more sensitive to sounds at high frequencies than sounds at low frequencies. "A" weighted sound pressure level (sound level) measurements correspond roughly to the subjective impression of loudness of the average listener.

L_{max} : The L_{max} is the maximum sound pressure level (sound level) recorded during any given measurement period.

L_{90} : The L_{90} is the sound level that is exceeded for 90% of the measurement period, and is generally considered to describe the background noise, since it inherently excludes the sounds of transient events.

L_{eq} : The L_{eq} index is used as a method of averaging temporally or spatially varying sound levels. At a given position, it may be defined as the notional sound level which contains the same amount of acoustical energy as the actual (time varying) sound level over the same measurement period. The L_{eq} index has gained wide acceptance for many types of noise assessment, and is now referred to within British Standards 4142 and 8233, and also within Control of Noise at Work Regulations.

APPENDIX B

Noise Survey Results

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TIME HISTORY GRAPH 5451/TH1

Results of Automated Noise Measurements at Position 1

Survey Date: 17-19 April 2015