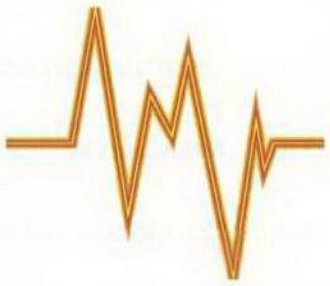

CST Environmental & Acoustic Consultants

Acoustic Report:

17 - 29 Hawley Crescent
London
NW1 8TF

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Issue 2.1 final for submission

Contents Page

Report Prepared by: ... .

Checked by:.....LDS

Date:.....20th June 2010

1.0 Introduction and Description of Proposals

1.1 This report has been commissioned for MTV Networks Europe in support of a forthcoming Town Planning application for the installation of a roof mounted diesel powered emergency stand by generator. The installation will only be used in the event of an interruption to the mains supply. Once operational, some routine testing will be required but this is not expected to exceed one 30 minute period every 30 days.

1.2 The purpose of this report is to demonstrate how the proposals will comply with the local noise standards of the London Borough of Camden who are in this instance the local planning authority. Plans and a specification for the generator have been prepared. Extracts of the working drawings are attached at Appendices v and vi.

1.3 It is proposed to locate a diesel powered stand by generator set in space within the roof void currently occupied by a cold water storage tank which is no longer required. The generator set will be located inside a bespoke acoustic enclosure. Attenuators will be fitted to both the air inlet and discharge points, the discharge being routed through a plenum chamber which itself will be acoustically lined. The attenuators have been selected to keep pressure drop below the 120pa limit, thus overcoming the need to provide additional low pressure fans.

1.4 Access to and egress from the set will be via 2No. single leaf acoustic doors, one on each side of the enclosure to enable access to be maintained to the roof top plant area. The scheme will require only minor changes to the existing profile of the roof with the installation of 2No. "penthouse" louvre housings (6.0 m long x 1.5m wide and 1.0m high). These are shown in the plan attached at Appendix vi.

1.5 The calculated noise emission data for the proposed generated set, as installed, is given in the following table (Table 1):

Table 1

Noise Level	Receiver Location
65 dB(A)	1m combined level (with zero directivity)

2.0 Local Noise Standards

2.1 LB Camden has published and adopted local noise policies. These are to be found within the 2006 Replacement UDP. A number of policies are relevant to these proposals; section 1 of the replacement UDP deals with sustainable development. Policy SD 8 states

" The Council will only grant planning permission of plant and machinery including ventilation or air handling equipment, if it can be operated without causing a loss to local amenity and does not exceed the thresholds set out in Appendix 1 – Noise and Vibration (Table E)".

2.2 For ease of reference the Appendix 1 of the Replacement UDP 2006 sets out the council's noise standards. For ease of reference relevant sections of Appendix 1 together with Table E are reproduced below:

Disturbance from plant or machinery

1.51 Plant and machinery, including ventilation and air handling equipment and any ancillary plant, ducting and equipment can have undesirable impacts on nearby properties. This can relate to their appearance and location as well as the odour and fumes and noise/vibration pollution that can be created.

1.52 The Council seeks to ensure that the level of noise/vibration from all plant and machinery does not increase existing ambient noise levels, therefore planning permission will only be granted for plant or machinery if it can be operated without causing a loss to local amenity and does not exceed the thresholds set out in Table E. In determining whether a proposal may be acceptable, the Council will require planning applications to include details of all proposed plant and machinery associated with a development, including an acoustic report. This may require close co-operation between an environmental or air handling engineer and the architect to agree an acceptable design solution for the particular premises and uses for which the system is designed. Supplementary guidance contains general guidance on minimising the impacts of plant and machinery.

Replacement UDP Appendix 1 Table E

Camden Replacement Unitary Development Plan
Appendix 1 - Noise and Vibration Thresholds

Table E: Noise levels from plant and machinery at which planning permission will not be granted

Noise description and location of measurement	Period	Time	Noise level
Noise at 1 metre external to a sensitive façade	Day, evening and night	0000-2400	5dB(A) <LA90
Noise that has a distinguishable discrete continuous note (whine, hiss, screech, hum) at 1 metre external to a sensitive facade	Day, evening and night	0000-2400	10dB(A) <LA90
Noise that has distinct impulses (bangs, clicks, clatters, thumps) at 1 metre external to a sensitive façade	Day, evening and night	0000-2400	10dB(A) <LA90
Noise at 1 metre external to sensitive façade where LA90 >60dB	Day, evening and night	0000-2400	55dB $_{LAeq}$

3.0 Noise Survey

3.1 A noise survey was undertaken at the subject property from 16th - 19th April 2010. Measurements commenced just after 13:26hrs on 16th April and were collected continuously until around 11:36 on Monday 19th April. The weather was dry and fine for the whole of the survey period.

3.2 A Svantek 959 integrating sound level meter / noise analyser was used for the measurements (serial number 11229). The meter has traceable calibration and was further calibrated using a Castle Associates calibrator (serial number 0500301) both before and directly after the measurement period – no drift in calibration was found to have occurred.

3.3 A single survey point was established at roof level overlooking Hawley Crescent This point was chosen as a good surrogate for the residential accommodation opposite on the south side of Hawley Crescent. This location also enabled the local noise environment to be measured without interference from the existing air handling and other mechanical plant installed on the roof of the subject building. The survey point and equipment is shown at Appendix iii.

3.4 Measurement data are set out in graphical format at appendix iv.

3.5 Noise levels are expressed in terms of "A" weighted decibels – dB(A) and are shown graphically at Appendix iv. Other metrics used are dB $L_{Aeq\,(T)}$, L_{Amax}, and L_{A90}. In addition a full set of 1/3 Octave data were obtained. These are not appended to this report but can be supplied on request.

4.0 Calculations and Discussion of Results

4.1 The next part of the assessment is to examine the survey results and to suggest appropriate noise criteria in order to meet the local standards as set out in section 2 above.

4.2 The starting point is therefore to identify the lowest recorded background or L_{A90} level from the survey data. The survey data reveals a level of around 48dBL_{A90} was recorded on each night of the survey. This is entirely in accordance with expectations, the noise climate around this location being influenced to a material degree by road traffic.

4.3 Having established the baseline background noise environment (L_{A90}) it is then possible to calculate the noise impact on the nearest identified residential accommodation in order to meet the requirements of Table E of the Camden Replacement UDP 2006. This was done by using standard acoustic prediction calculations and formulae.

4.4 Our calculations are shown in tabulated form below. Standard acoustic sound level prediction formulae are used to derive noise emission standards for the new plant.

4.5 The following table (Table 2) sets plant noise emission criteria which could be incorporated as part of a conditional permission for development.

Table 2 – Calculation of Noise Emission for Proposed Plant

Receptor	Design Consideration
3rd Floor Rear windows of No 1-11 Hawley Crescent (Lawrence House) (Night 23:00 to 07:00)	Background Level recorded = 48.0dBL_{A90} LBC requirement – to meet lowest recorded background minus 10dB Required Noise Emission Level = 48 – 10 = 38dB(A) @ 1metre from receptor Design Criteria (i) Generator Noise Level = 65dB(A) @ 1metre (ii) Distance to receptor = 22 metres *Therefore attenuation due to distance = 27 dB(A) **Total PREDICTED source max noise = 65 – 27 = 38 dB(A)
* Attenuation is derived from standard formula for hemispherical propagation from a point source of 20* log d1/d2 where d1 = 1 metre (from source) and d2 = distance	

5.0 Conclusions

5.1 An acoustic assessment for proposals to install a stand by generator at roof level in the subject building has been undertaken.

5.2 Examination of the proposed design scheme for installing the generator shows that it will be possible for the proposed installation to comply with LBC noise standards as set out in the replacement UDP (Table E).

6.0 Appendix i - Glossary of Acoustic Terms

6.1 Noise is measured in decibels (dB). To establish a reference framework it is useful to consider two noise levels which are at the extreme ends of the range to be considered. At the low end, 35 to 40 dB (A) is the normal noise level in a quiet living room, 35 dB (A) is the noise level given as a target for suburban bedrooms by the Wilson Report; a government report on noise published in 1963. At the high end is the noise level experienced at the pavement edge of a busy city centre street, a level of 75 to 80 dB (A).

6.2 The sensitivity of the human ear varies with pitch or frequency. The designation "A" used in this assessment simply means that the noise level was measured using a meter which is able electronically to respond very closely to the performance of the human ear.

6.3 Decibels are measured using a logarithmic scale, and therefore two numerically equal values cannot be added together arithmetically. Two equal noise levels occurring together form a new level which is 3 dB (A) higher than either alone. Thus two identical vehicles each producing 65 dB (A) outside someone's window will produce, not 130 dB (A), but 68 dB (A) if both engines are running together at the same distance from the microphone.

6.4 If one source of noise is 10 dB (A) below an adjacent louder source, then the combined effect will be virtually no different to the louder one alone.

6.5 Experiments have shown that most people will indicate that a noise has become twice as loud, when on a measuring meter it has risen by about 10 dB (A). Also it is generally accepted that a difference in 3 dB (doubling in energy terms) is the smallest incremental step that can be distinguished by the average human ear.

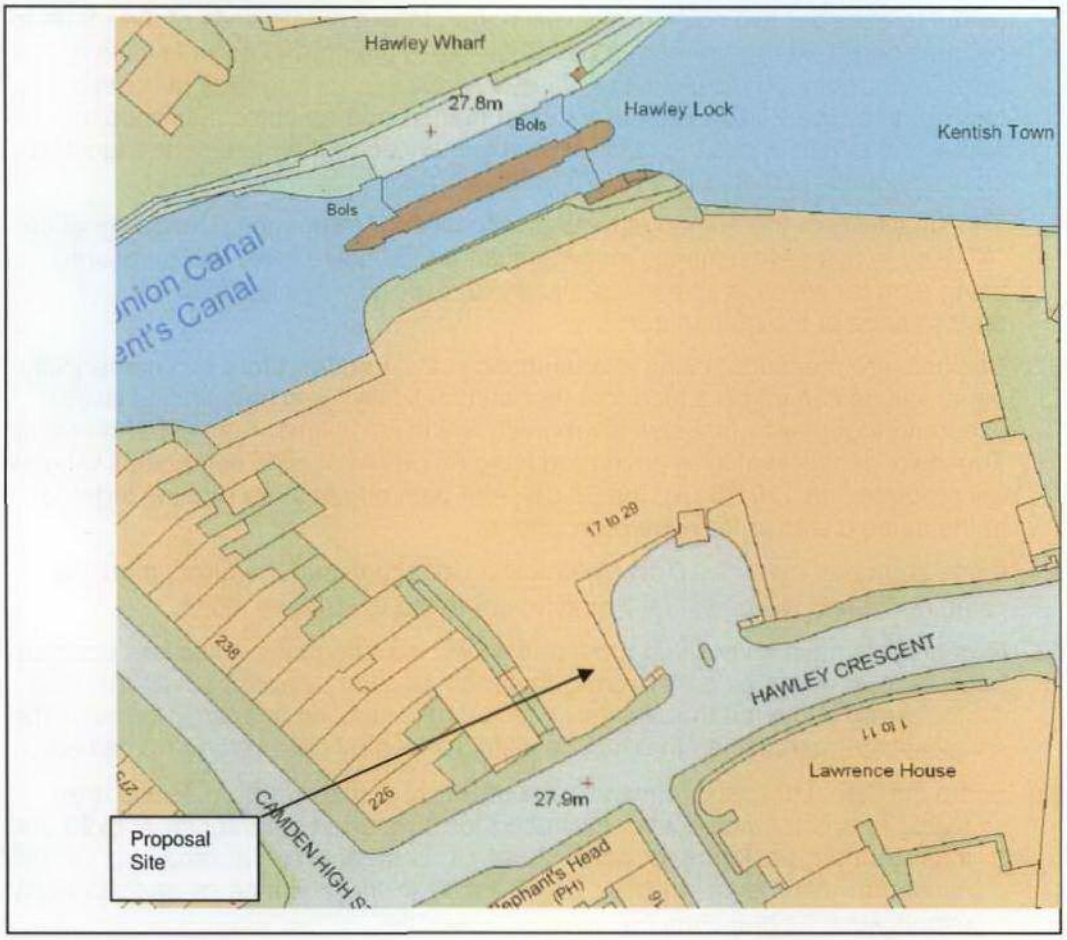
6.6 Some additional acoustic terms are also referred to in this report. These are:

L_A90. This is the noise level exceeded for 90% of a time interval T. L_A90 and it is termed background noise level. It is effectively a measure of the minimum noise level which is experienced in the absence of specific noisy events such as brake squeal or engine backfire.

$L_{Aeq(T)}$ is the equivalent continuous noise level over a time T, which can be described as the "energy - average" noise level.

L_A max is the highest noise level recorded by the measuring meter during a single event e.g. overlying aircraft. In this assessment the meter was set to "slow" response.

7.0 Appendix ii - Location Plan



8.0 Appendix iii - Photographs

17 – 29 Hawley Crescent
View (South) – showing noise monitoring point

9.0 Appendix iv - Survey Data

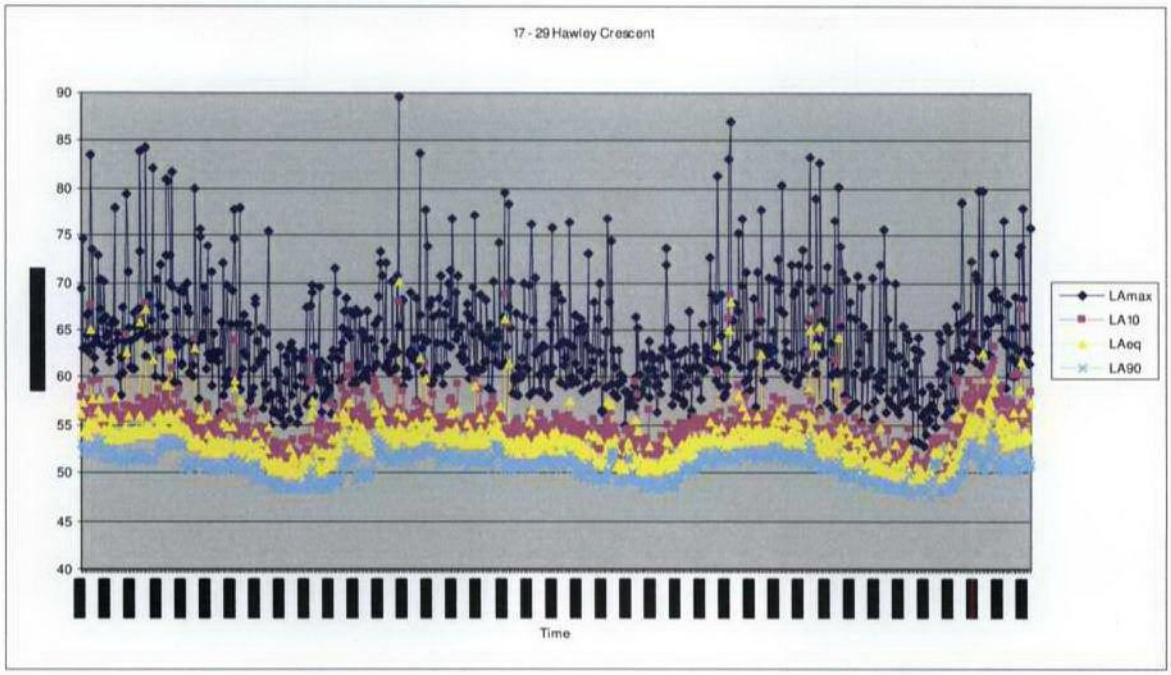
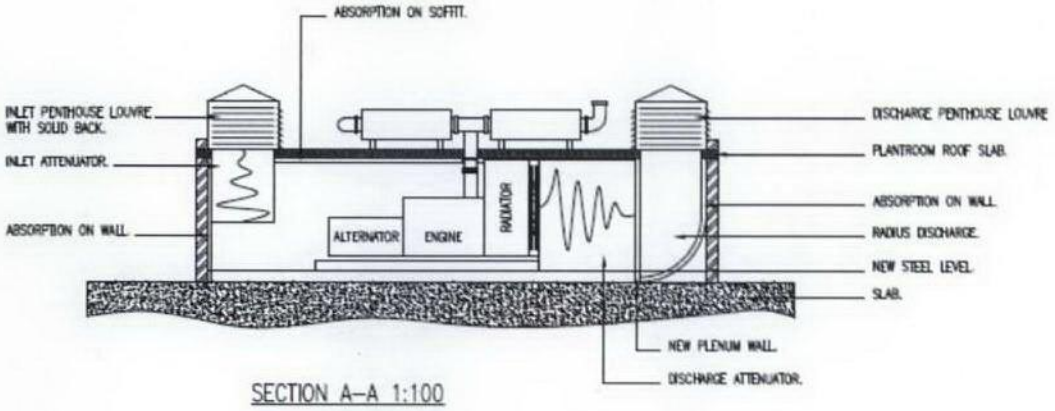


Table 3 – Noise Survey Data 16th – 19th April 2010

10.0 Appendix v - Proposed Plant



SECTION A–A 1:100

Note: Do not scale

Section - Generator Set and Silencer