SoundAnalysis Ltd.

Specialists in Noise and Vibration Control.

REPORT

ON

ENVIRONMENTAL NOISE LEVELS

AT

140 WEST END LANE, LONDON, NW6 1SD.

WITH NOISE IMPACT ASSESSMENT FOR PROPOSED NEW KITCHEN EXTRACT SYSTEM.

Prepared for	**Mr N. Algul / Direct Planning Ltd.**
Date.	**30th June 2010.**
Ref.	**SAH 5021 – 01.**

1.0 Introduction.

Sound Analysis Ltd have been commissioned by Direct Planning Ltd on behalf of the Client to conduct an acoustic survey at the premises to establish the existing environmental noise levels adjacent to the building.

A Planning Application is to be submitted for change of use to hot food takeaway, and the proposal includes a kitchen extract system. The Local Authority will require an Acoustic Survey and noise impact assessment in order to consider the Application.

The survey is to be conducted in accordance with BS 4142 to establish the lowest ambient LA 90 noise level at the appropriate location, in order to determine the design criteria for the proposed new kitchen extract system and fan.

2.0 Date and time of survey

Tuesday 22nd June 2010, 7.00 pm to 11.30 pm.

3.0 Weather conditions.

The weather conditions during the survey were as follows,
Dry and sunny initially, no wind, temperatures 22 – 20 c.

4.0 Instrumentation.

Environmental sound measurements were recorded with a SvanTek 959 Class 1 precision sound level meter which was calibrated before and after the survey.
The weather microphone was fitted with a windshield and mounted on a tripod at a height of 1.2 metres above ground level.

5.0 Noise measurements.

Measurements of LAeq, LA90, LA10, LA max and LA min dB. were taken over repeated periods of 30 minutes for the survey period.

6.0 Measurement location.

Measurements were taken on Billy Fury Way between the railway line and the flats above 130 – 132 West End Lane.

7.0 Measured noise levels.

The resulting noise levels measured during the survey are tabulated on Results sheet ref SAH 5021 / R1.

8.0 Observations.

The premises at 140 West End Road is a small single storey building in a terrace of commercial / retail units located on the bridge over the railway line directly opposite West Hampstead station.
The building has previously been trading as an Estate / lettings Agency office.

On the day of the survey long term road works were under way on West End Lane with single lane traffic over the railway bridge controlled by traffic lights, allowing traffic movement in alternate directions.
No work was taking place during the evening survey, and vehicles were passing the location at slow speed due to the restricted narrow lane.

The road works caused congestion to both traffic and pedestrians, and the survey location was therefore chosen as the corner of West End Lane and Billy Fury Way adjacent to the nearest potentially effected residential property.

As vehicles were travelling relatively slowly past the location due to the road works, we believe that the environmental noise levels recorded from the road traffic would be slightly lower than normal for the area.

9.0 Nearest potentially effected residential property.

From our physical survey of the area, we have identified that the nearest potentially effected windows of neighbouring properties are located in the residential flats occupying the 1st - 4th floors above the commercial properties at 130 - 132 West End Lane.
These flats have windows overlooking West End Lane and also over Billy Fury Way towards the railway line, and also overlook the rear of 140 West End Lane.

10.0 Summary of recorded noise levels.

The recorded noise measurements are detailed on sheet SAH 5021 / R1, and are summarised below,
LA eq 30 minutes, 56.1 – 60.5 dB **LA 90 30 minutes, 46.8 – 50.8 dB.**

11.0 Design criteria for new equipment.

It will be necessary to demonstrate to the local authority Environmental Services Officer that the operation of the proposed new kitchen extraction system will not increase the existing environmental noise levels during the opening times of the premises.

To achieve this requirement the potential noise level from the proposed new kitchen extract system should not exceed 36 dB(A) at the façade of the nearest residential property, this being 10 dB(A) lower than the minimum LA 90 level recorded during the survey.

12.0 Noise impact assessment.

The noise impact assessment is detailed on sheet ref SAH 5021 / IMP 1 enclosed which shows the predicted sound level at the nearest effected residential window of 24 dB(A)

Recorded LA90 (30 minute) levels - 46.8 – 50.8 dB(A)
Predicted operating level 24 dB(A)

With the fan and attenuators proposed the predicted sound level at the façade of the nearest effected residential properties would be 24 dB(A) which is lower than the allowable sound level of 36 dB(A).

However, the scheme proposed will ensure a sound level of 51 dB(A) at 1.0 metre from the outlet at the rear of the premises.
Whilst the outlet would be at the rear of the premises directly above the railway lines, we recommend that the level should not exceed 51 dB(A) to avoid possible disturbance to the adjacent commercial premises.

For Sound Analysis Ltd.

Peter R Dakin.

Peter R Dakin.
Director.

Sound Analysis Ltd.

Project. **140, West End Lane, London, NW6 1SD.**

Client. **Mr N. Algul / Direct Planning Ltd.**

Environmental noise levels recorded on Tuesday 22nd June 2010.

Time.	LA eq	LA90	LA10	LA max	LA min	conditions.
7.00 pm	60.5	50.5	63.7	78.5	45.6	see notes below.
7.30 pm	57.7	50.6	60.8	74.8	44.6	
8.00 pm	57.9	50.8	60.7	71.3	44.3	
8.30 pm	56.8	49.4	59.9	71.1	42.3	
9.00 pm	56.9	47.9	60.8	69.7	41.5	
9.30 pm	56.7	47.7	59.9	69.9	44.7	
10.00 pm	56.1	50.1	58.5	70.5	46.1	
10.30 pm	57.5	47.8	61.3	77.3	39.8	
11.00pm	56.1	46.8	59.3	72.9	39.7	

Notes.

The times shown are the start time for each 30 minute measurement period.

Conditions.

Although the traffic density varied, vehicles were passing the premises continuously throughout the survey with vehicles queuing in each direction waiting for traffic lights to change. The number of pedestrians reduced later in the evening but with large numbers as trains arrived at West Hampstead station.
There were frequent train arrivals and departures during the survey.

Ref SAH 5012 / R1.

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Project. 140, West End Lane, London, NW6 1SD.

Noise impact assessment for proposed new kitchen extract system.

frequency Hz	63	125	250	500	1K	2K	4K	8K	dB(A)
Fan proposed. Elta Fans, SCPP 500/4-1									
Fan sound power level	77	81	78	73	72	72	69	62	
duct losses	-3	-2	-2	-2	-1	-1	-1	-1	
bend loss 2 No	0	0	0	-4	-6	-6	-6	-6	
Silencers 2 No 630 dia x 1 D with pod	-6	-10	-18	-36	-50	-44	-36	-26	
outlet end reflection	-9	-5	-1	0	0	0	0	0	
sound pressure level at 1m from outlet	59	64	57	31	15	21	26	30	**51**
sound pressure level at nearest residential property									
distance loss to 30m, 20 log 30/1	-29	-29	-29	-29	-29	-29	-29	-29	
Lp at nearest window	**30**	**35**	**28**	**2**	**0**	**0**	**0**	**1**	**24**

LA 90 levels recorded on 22nd June 2010 **46.8 - 50.8 dB.**

Ref SAH 5021 / IMP 1