Acoustic Design Consultants

& Group Ltd

The Diamond Trading Company
Assessment of Environmental Noise in the Area of the Proposed Development

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CONTENTS

1. BRIEF FOR CONSULTANCY

Travel to the site at Farringdon, London and set up environmental noise monitoring equipment to measure ambient noise levels in the areas of interest.

Whilst on site carry out a visual inspection of the area in order to identify any sensitive receptors.

Analyse data collected and advise on suitable environmental noise limiting criteria for new plant installations.

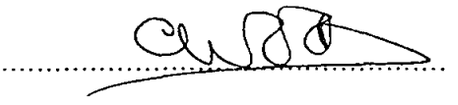
Provide findings in the form of a technical report.

1. SUMMARY

The summary identified two residential and other commercial areas which may be sensitive to noise from the proposed plant installation.

Noise measurements taken both during the day and at night indicate minimum background noise levels of 58dB $L_{A90(FF)}$ daytime and 55dB $L_{A90(FF)}$ night-time.

In order to minimise and possible adverse noise impact at nearby noise sensitive receptors it is recommended that noise emission from the proposed plant installation does not exceed 53dB $L_{Aeq(FF)}$ daytime and 50dB $L_{eq(FF)}$ night-time at the façade of those receptors.



Prepared by: Chris Wood, Senior Consultant

3. INTRODUCTION

The Diamond Trading Company of Farringdon, London, propose to extend their existing building in Saffron Hill EC1 and install new rooftop plant.

To ensure that the possibility of any adverse noise impact at nearby noise sensitive receptors is minimised Acoustic Design Consultants have been instructed to conduct an assessment of ambient environmental noise levels in the areas of interest and advise on noise limiting criteria for the new plant installation which will meet this requirement.

It is understood that the Local Planning Authority, Camden Council, require any new plant noise emission not to exceed the existing minimum background noise level dBL_{A90}.

This report identifies the existing background noise levels in the area of interest and the closest noise sensitive receptors and gives recommended environmental noise limiting criteria for plant noise emission.

4. NOISE SURVEY

A CEL-162 Environmental Noise Analyser was set up at rooftop height close to the position of the proposed new plant installation and in a position representative of nearby noise sensitive receptors, see Figure 1.

Noise levels L_{Aeq} (average) L_{A90} (background) were measured and recorded over a 24 hour period between 12.15 on 25th July 2001 and 12.00 on 26th July 2001 using 15-minute sampling periods. See Table 1 and Chart 1.

The position chosen was subjected to both traffic noise and existing plant noise and was considered representative of those buildings in the area around the proposed development.

5. NOISE SURVEY RESULTS SUMMARY (See also Table 1 & Chart 1)

Table 1

Period		dB L_{A90}		dB L_{Aeq}	
		ave	min	ave	min
Daytime	07.00-23.00	61.0	57.5	62.5	59.0
Night-time	23.00-07.00	60.0	54.0	61.0	56.2

6. DISCUSSION

The area of interest was considered typical of similar locations in the City with both residential and commercial buildings affected by noise from both traffic and existing plant installations. However, in the immediate areas of interest, specifically the residential dwellings identified as Building 'A' St Andrews House to the west of the proposed development ambient noise levels were significantly influenced by existing rooftop plant on top of the building identified as Building 'C' Figure 1. (see also Plate 1: Panoramic view of site, and Plate 2: Aerial Photograph of site).

This plant ran almost continuously throughout the day and night producing noise levels of 60 dB L_{A90} and 61dB L_{Aeq} at the noise measurement position. (see Chart 1). At two periods this plant stopped running for a short time, between 14.45-16.00 and again between 02.45 and 04.00, when background noise levels fell to 57.5dB L_{A90} and 55dB L_{A90} respectively for about one hour.

As the background noise levels (dB L_{A90}) remained fairly constant throughout these quieter periods it is considered that they represent the true background noise levels in the area and have therefore been used as the baseline for determining environmental noise limiting criteria at nearby noise sensitive receptors.

Environmental noise limiting criteria set by Camden Council requires that any noise from plant installations must be 5dB(A) below the existing minimum background noise level in the area. Therefore, with measured existing background noise levels of 57.5dB L_{A90} daytime and 55dB L_{A90} night-time, measured in a Free-field environment, the noise limiting criteria becomes 52.5dB $L_{Aeq(FF)}$ daytime and 50dB $L_{Aeq(FF)}$ night-time at the façade of the nearest noise sensitive receptors.

These receptors would be, at night, Building A, St Andrews House to the west of the proposed extension and Buildings 'B' to the east of the proposed extension. Other noise sensitive receptors which may be consider during the day are the buildings identified as Building 'D' and Building 'E'. All other possible noise sensitive receptors appeared to be at a greater distance from the proposed new plant installation and therefore the recommended noise limiting criteria would encompass these.

7. CONCLUSIONS

A number of noise sensitive receptors were identified in the area around the proposed new plant installation. These are effected both day and night by existing plant noise and traffic noise.

Analysis of the survey results indicates true background noise levels of 58dB L_{A90} daytime and daytime and daytime and 55dB L_{A90} night-time in the area around the proposed development.

Recommended noise limiting criteria for plant noise is 53dB $L_{Aeq(FF)}$ daytime and 50 $L_{Aeq(FF)}$ night-time at the facades of the closest noise sensitive receptors.

APPENDIX

Table 1 – 24hrs Environmental Noise Data

Environmental Noise Level Survey. Date: 25-26 July 2001

Location: Diamond Trading Co, 136 Saffron Hill rooftop, overlooking courtyard

Time (hrs)	LA90	LA10	LAeq	Notes
12.15	60.5	63.5	62.6	25.7.01
12.30	61.0	63.5	62.5	
12.45	62.0	64.0	63.1	
13.00	61.5	63.5	62.5	
13.15	61.5	63.5	62.5	
13.30	61.5	64.0	63.1	
13.45	61.5	65.5	64.9	
14.00	61.5	64.0	63.0	
14.15	61.5	63.5	62.5	
14.30	61.5	63.5	62.7	
14.45	61.5	64.0	63.1	
15.00	57.5	62.5	60.9	
15.15	57.5	61.5	60.3	
15.30	57.5	60.0	58.9	
15.45	57.5	61.0	59.2	
16.00	61.0	64.0	62.8	
16.15	61.5	63.5	62.8	
16.30	62.0	64.0	63.1	
16.45	61.5	64.0	63.0	
17.00	62.0	64.0	63.0	
17.15	62.0	64.0	63.2	
17.30	61.5	63.5	62.6	
17.45	61.5	64.0	63.1	
18.00	61.5	64.0	62.8	
18.15	61.5	64.5	63.1	
18.30	62.0	65.0	63.6	
18.45	62.0	64.0	63.0	
19.00	61.5	65.5	68.5	
19.15	61.0	63.5	62.8	
19.30	61.0	63.5	62.5	
19.45	61.0	63.5	62.6	
20.00	61.0	63.5	62.5	
20.15	61.0	64.5	63.2	
20.30	60.5	63.0	62.2	
20.45	60.5	64.5	62.9	
21.00	61.0	64.5	62.9	
21.15	61.0	63.0	62.0	
21.30	60.5	63.0	62.1	
21.45	61.0	64.0	63.0	
22.00	60.5	63.5	62.3	
22.15	60.5	63.0	61.9	
22.30	60.5	62.5	61.5	
22.45	60.5	62.5	61.3	
23.00	60.0	62.0	61.0	
23.15	60.0	62.0	61.6	
23.30	60.5	62.5	62.5	
23.45	60.0	62.0	61.1	

Table 1 – 24hrs Environmental Noise Data, continued

Time (hrs)	LA90	LA10	LAeq	Notes
0.00	60.0	62.5	61.2	26.7.01
0.15	60.5	62.5	61.3	
0.30	60.0	62.0	61.0	
0.45	60.0	62.0	61.0	
1.00	60.0	62.0	61.0	
1.15	60.0	62.0	61.0	
1.30	60.0	62.5	62.3	
1.45	60.0	61.5	60.6	
2.00	60.0	62.0	61.0	
2.15	60.0	62.5	61.3	
2.30	60.0	62.5	61.3	
2.45	59.5	62.0	61.0	
3.00	54.0	60.0	57.2	
3.15	54.5	57.5	56.5	
3.30	55.0	58.0	57.0	
3.45	54.0	57.5	56.3	
4.00	55.5	62.5	60.3	
4.15	60.0	62.5	61.2	
4.30	60.0	62.5	61.3	
4.45	60.0	62.5	61.8	
5.00	60.0	62.5	61.1	
5.15	60.0	62.5	61.8	
5.30	60.0	62.5	61.3	
5.45	60.5	63.0	61.7	
6.00	60.5	63.0	61.9	
6.15	60.5	63.5	62.0	
6.30	61.0	63.5	62.6	
6.45	61.0	63.5	62.5	
7.00	60.5	63.5	62.4	
7.15	61.0	65.0	63.6	
7.30	63.0	65.0	64.0	
7.45	63.5	70.5	68.1	
8.00	62.0	64.5	63.9	
8.15	61.5	64.0	63.0	
8.30	61.0	64.0	62.8	
8.45	61.0	64.0	62.7	
9.00	61.5	64.0	63.0	
9.15	61.5	63.5	62.6	
9.30	61.5	63.5	62.8	
9.45	61.5	63.5	62.7	
10.00	61.5	63.5	62.5	
10.15	61.5	64.0	65.1	
10.30	61.5	64.0	63.0	
10.45	61.5	64.0	63.4	
11.00	61.0	64.0	64.8	
11.15	61.5	64.5	63.3	
11.30	61.5	64.5	63.4	
11.45	62.0	65.0	63.7	
12.00	61.5	67.0	64.7	

Chart 1 – 24-hour Environmental Noise Levels

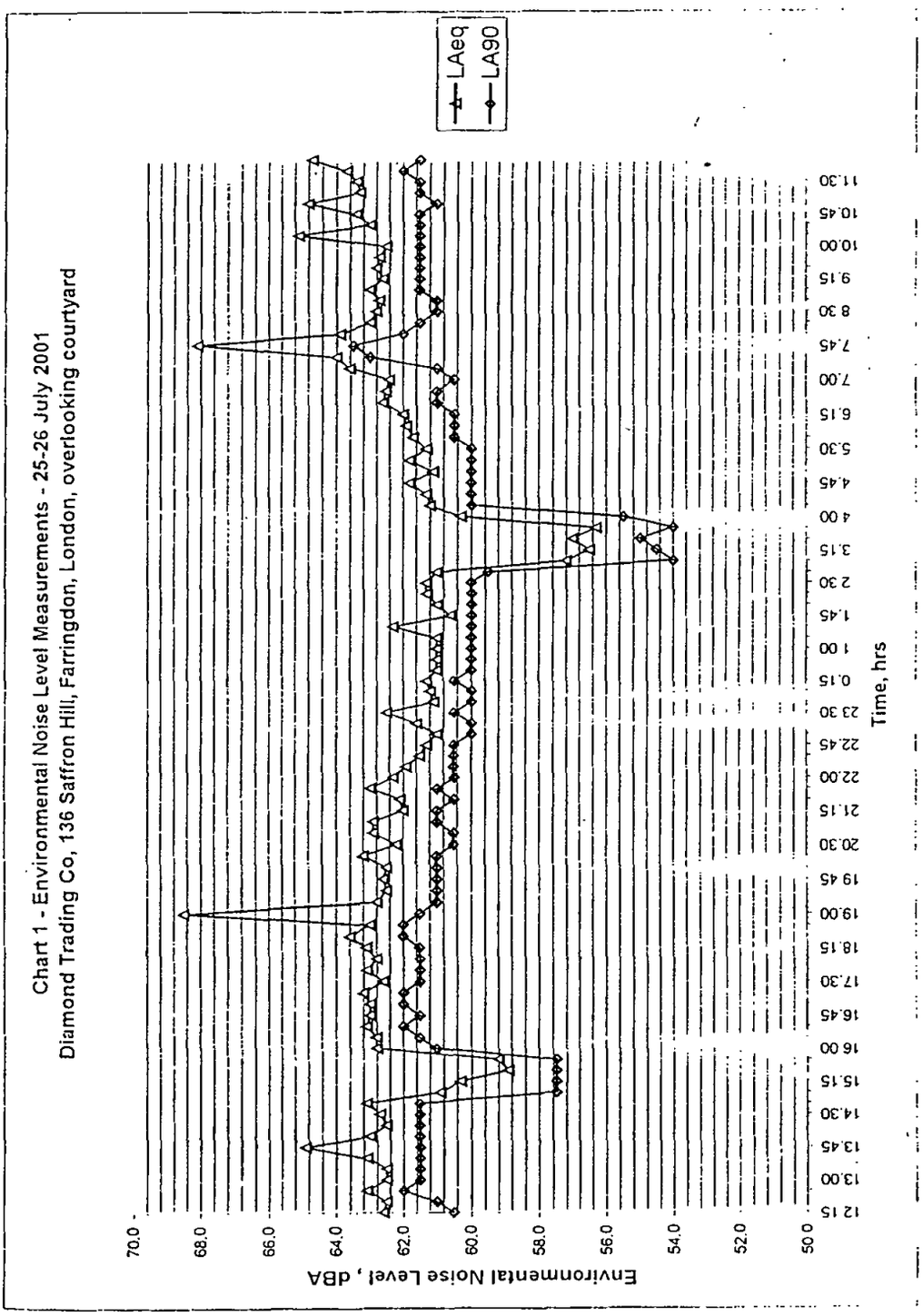


Figure 1 – Plan of Site

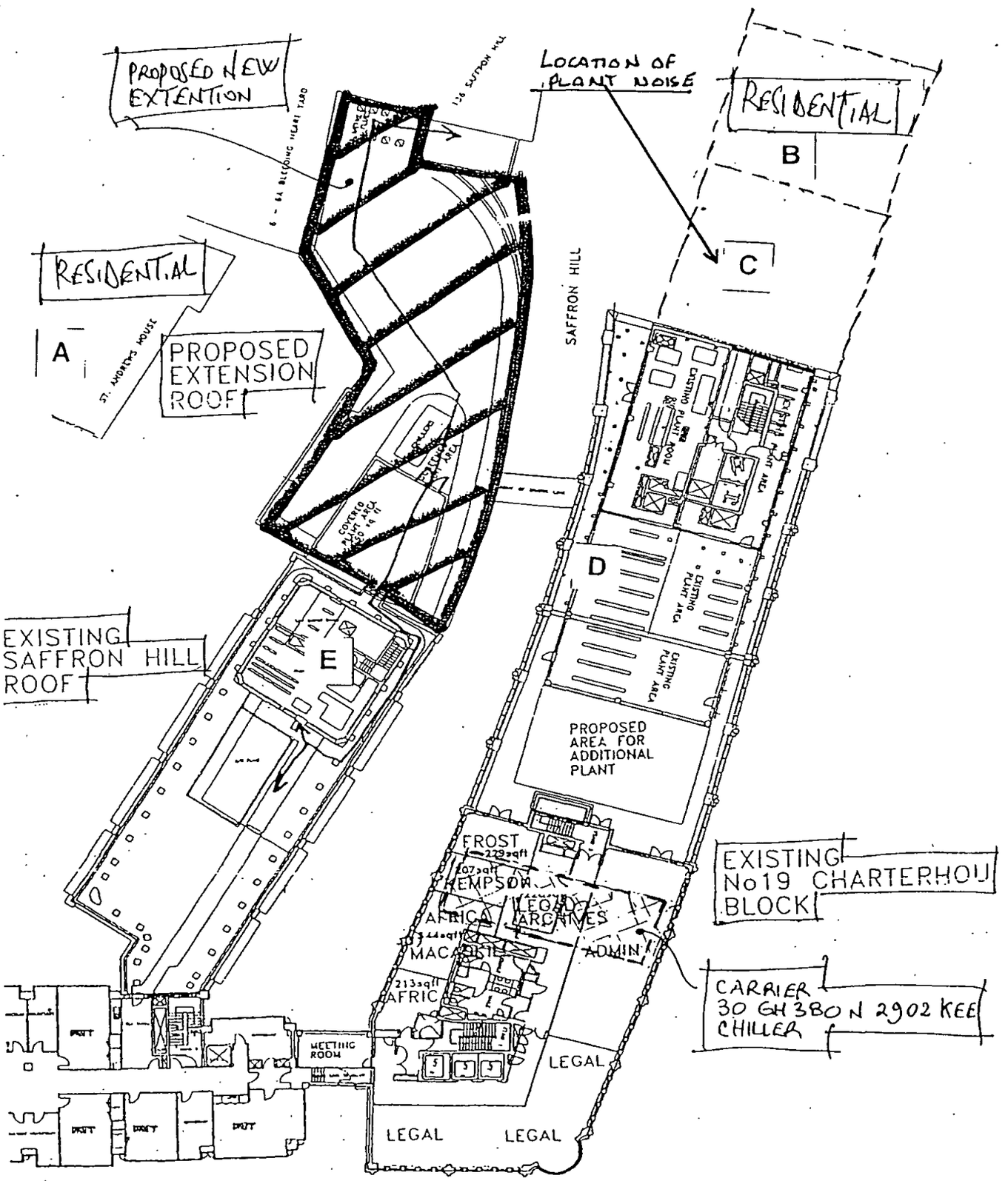


Plate 1 – Panoramic View of Site

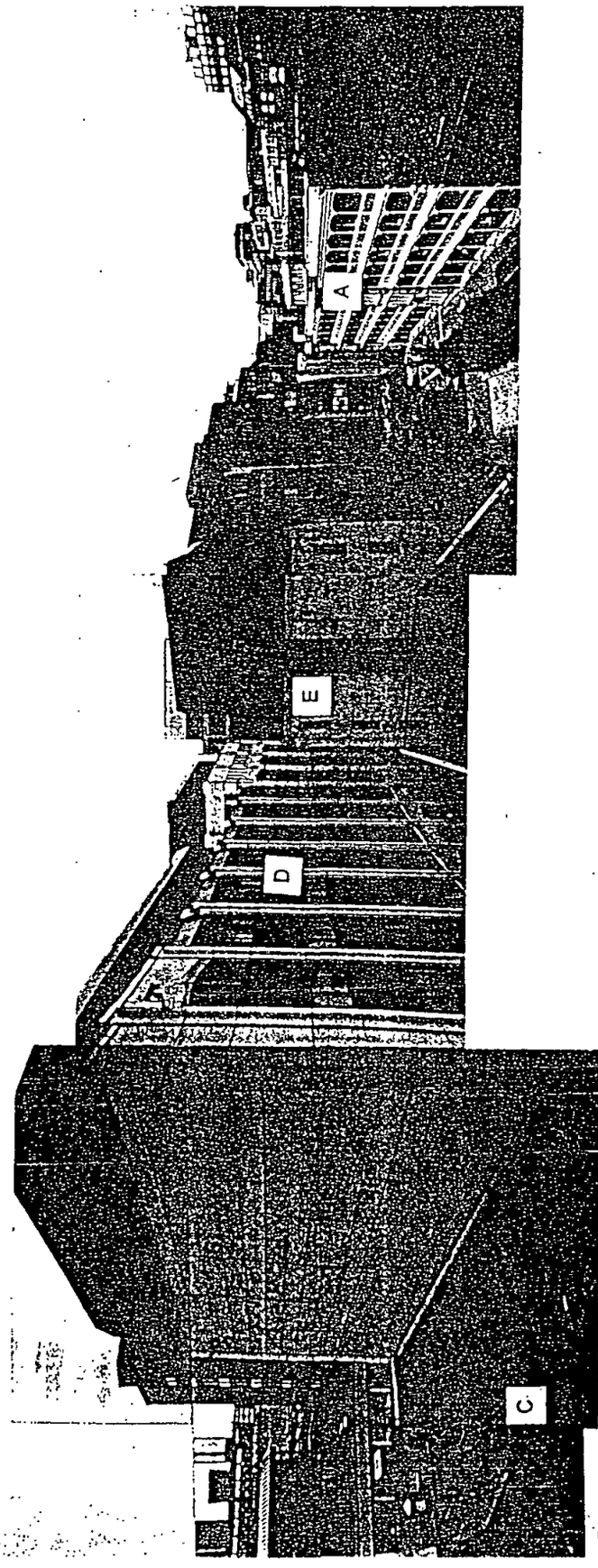


Plate 2 – Aerial Photograph of Site