SHARPS REDMORE PARTNERSHIP

ACOUSTIC CONSULTANTS

Samantha Sainsbury,
Nathaniel Lichfield and Partners,
14 Regent's Wharf,
All Saints Street,
London.
N1 9RL.

13th August 2008

By e-mail on [redacted]

Dear Samantha,

Ref: Marks & Spencer, Worthing.
Condition 2 of planning permission WB/08/0201/FULL.
Project No: 089588.

I am writing with reference to condition 2 of planning permission WB/08/0201/FULL which states that:

"The two Air Handling Units (AHU1 and AHU2) shall not be brought into operation before details of their maximum level of noise at the site boundaries, including any sound or vibration attenuation measures to reduce the noise to acceptable maximum level, have been agreed in writing to the Local Planning Authority. Thereafter the maximum noise levels as may be agreed shall not be exceeded at any time."

The White House, London Road, Copdock, Ipswich. IP8 3JH
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Directors: D. F. Sharps CEng. FIMechE. FIOA, T. L. Redmore BEng. MSc. PhD. MIOA, P. M. Sharps
Sharps Redmore Partnership Limited. Registered in England No. 2593855

We understand that further correspondence from the Environmental Health Officer indicates that mitigation measures should be designed for the plant (or quieter plant sought) to ensure that it does not exceed 60 dB(A) at any position outside the boundary.

We have carried out an Assessment of noise from the roof plant based on the specifications provided by Allaway Acoustics Ltd, which are as follows:

- The noise specifications of the Air Handling units are:

	63	125	250	500	1K	2K	4K	8K
AHU1 Supply	94	94	94	87	84	80	75	71
AHU1 Return	102	99	95	92	88	82	74	68
AHU2 Supply	91	87	92	88	82	78	74	72
AHU2 Return	96	91	91	89	83	78	72	65

- The Insertion Loss of the Attenuators are:

	63	125	250	500	1K	2K	4K	8K
AHU1 Supply	9	15	23	30	31	27	21	14
AHU1 Return	10	17	27	36	38	32	24	16
AHU2 Supply	6	12	20	33	41	35	27	17
AHU2 Return	6	12	20	33	41	35	27	17

- Therefore the resultant Noise levels after attenuation would be:

	63	125	250	500	1K	2K	4K	8K
AHU1 Supply	85	79	71	57	53	53	54	57
AHU1 Return	92	82	68	56	50	50	50	52
AHU2 Supply	85	75	72	55	41	43	47	55
AHU2 Return	90	79	71	56	42	43	45	48

- These levels once 'A' Weighted will be as follows:

	63	125	250	500	1K	2K	4K	8K
AHU1 Supply	59	63	62	54	53	54	55	56
AHU1 Return	66	66	59	53	50	51	51	51
AHU2 Supply	59	59	63	52	41	44	48	54
AHU2 Return	64	63	62	53	42	44	46	47

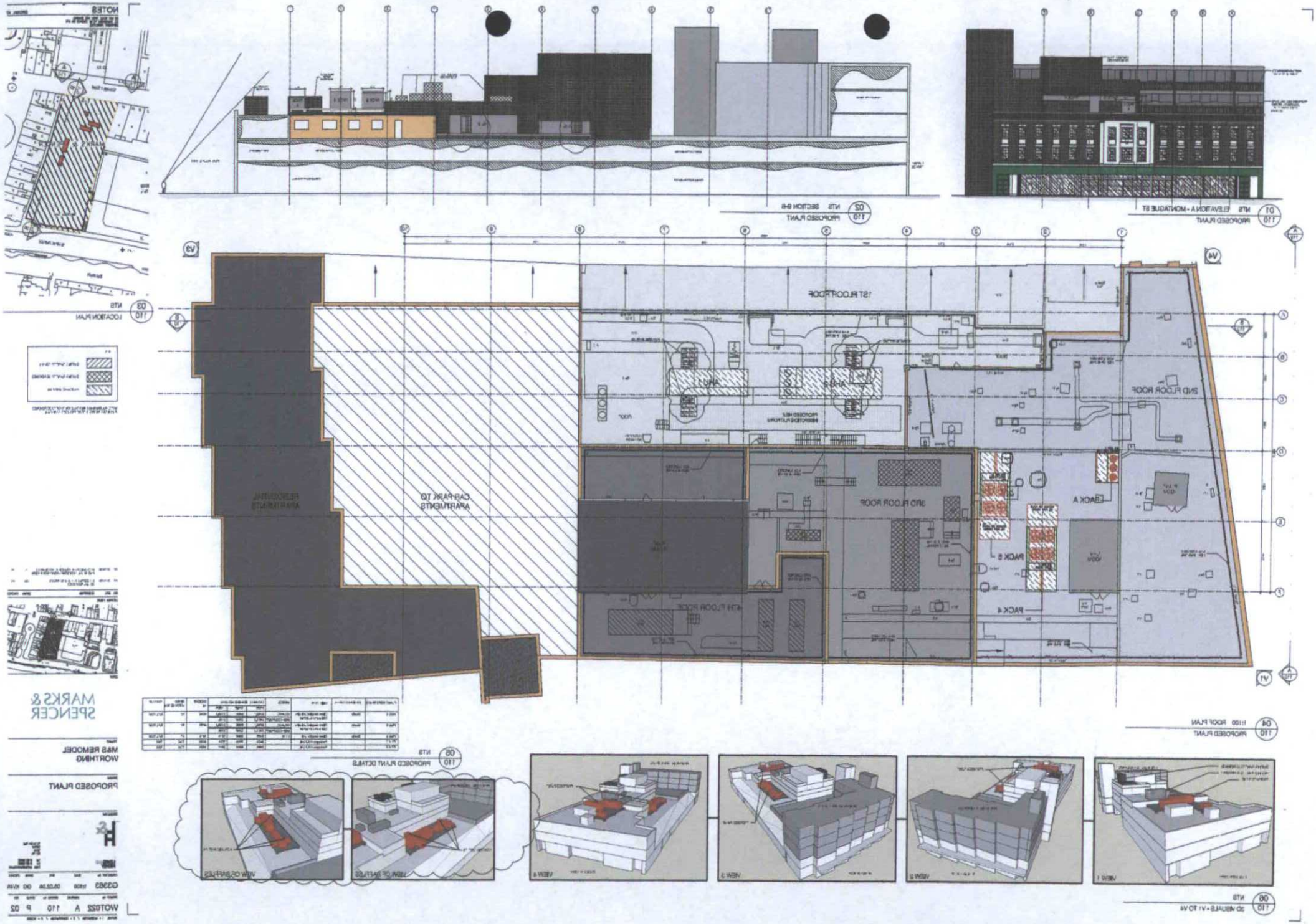
- This will result in the following overall source level from each of the components.

Component	Resultant Lw at source dB(A)
AHU1 Supply	68
AHU1 Return	70
AHU2 Supply	66
AHU2 Return	68

At its closest point, the site boundary is around 7 metres from the baffles on the Air Handling Units. This should result in a maximum noise level at the boundary in the region of 45 dB(A).

$$70 - 20 \log r - 8$$
$$= 70 - 20 \log (7) - 8$$
$$= 45 \text{ dB(A)}$$

This clearly demonstrates that with the specified attenuators in place the resultant noise levels from the Air Handling Units, will not exceed the 60 dB(A) at any position outside the site boundary, as specified by the Local Environmental Health Officer.

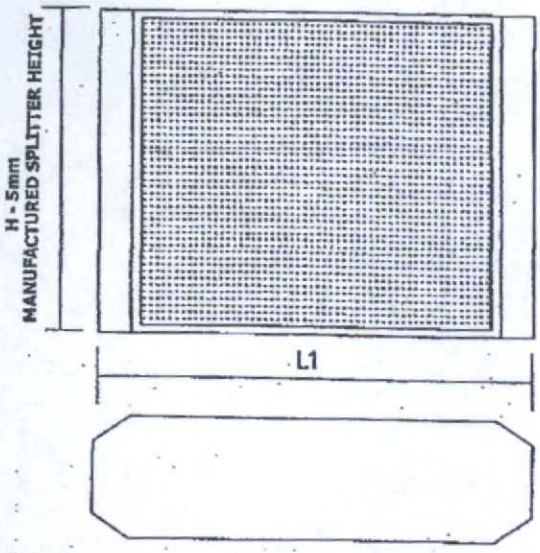


NOTES
MARKS & SPENCER
LOCATION PLAN
NTS
PROPOSED PLANT
NTS SECTION B-B
NTS ELEVATION A - MONTAGUE ST
1ST FLOOR ROOF
2ND FLOOR ROOF
3RD FLOOR ROOF
4TH FLOOR ROOF
CAR PARK TO APARTMENTS
PROPOSED HELI PLATFORM
PACK A
PACK 5
PACK 4
1:100 ROOF PLAN
PROPOSED PLANT
NTS
PROPOSED PLANT DETAILS
VIEW OF BAFFLES
VIEW 1
VIEW 2
VIEW 3
VIEW 4
NTS
3D VISUALS - V1 TO V4
MARKS & SPENCER
M&S REMODEL WORTHING
PROPOSED PLANT
G3363
WOT022 A 110 P 02

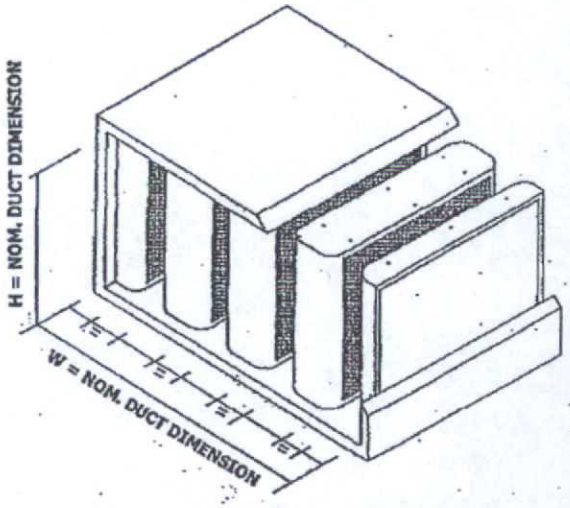
SPLITTER ELEMENT TYPE LS
CERTIFIED DRAWING

A10 ISSUE D

ALLAWAY ACOUSTICS



SPLITTER ELEMENTS INSTALLED IN AHU CASING



SOUND ABSORBENT ELEMENTS ARRANGED WITHIN CASING TO FORM A SERIES OF CENTRAL SPLITTERS AND 1/2 SIDE LININGS. DIMENSIONS DEFINED BY THE CODE REFERENCE.

SPECIFICATION

Splitters are constructed from a pre-galvanised steel casing, containing an fibrous infill that is non-shedding, non-combustible, non-hygroscopic and chemically inert.

The infill is faced with an acoustically transparent glass cloth, and protected by a pre-galvanised perforated steel covering mechanically fixed to the frame.

Splitter elements have aerodynamic fairings on air entry and exit end to minimise resistance to airflow.

Splitter elements can be fixed in position with pop-rivets or self-tapping screws into the steel top and bottom frame sections.

SUFFIX

M	Sound absorbent element additionally faced with Melinex film.
SP	Special construction - see notes on Equipment Schedule.
A	Sound absorbent elements arranged within case to form a series of central and side airways.
B	Fibreless sound absorbent infill.

DIMENSIONAL TOLERANCE TO STANDARD SHEET METAL FABRICATION STANDARDS +/- 2MM.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE EQUIPMENT SCHEDULE.

SPLITTER ELEMENTS MORE THAN 1500mm LONG MAY BE MANUFACTURED IN MATING SECTIONS FOR EASE OF HANDLING.

THE PRESSURE LOSS STATED ON THE EQUIPMENT SCHEDULE IS DERIVED FROM TESTS CARRIED OUT IN ACCORDANCE WITH BS4718:1971.

Allaway Acoustics Limited Old Police Station 1 Queens Road Hertford Herts SG14 1EN Telephone: 01992 550825 Fax: 01992 554982

1 GLENEAGLES ROAD HERTFORD SG14 1EN TEL: 01992 552806 FAX: 01992 552852 EMAIL: gpdmills@gillswaysconsultics.co.uk WEB: www.gillswaysconsultics.co.uk

ORDER NO.					PAGE:	1 OF 1	SCHEDULE NO. 2408\01
CUSTOMER:	MEATHERITE MANUFACTURING LTD	QUOTATION			CHECKED:		
PROJECT:	SO1914	ISSUE:	0	DATE: 05\02\08	ISSUED:		

EFFECTIVE INSERTION LOSSES (63HZ-8KHZ):

	63	125	250	500	1K	2K	4K	8K
1.	10	18	25	28	33	33	54	52
2.	11	19	25	27	33	35	54	54
3.	7	14	24	32	34	34	54	54
4.	7	14	24	32	38	33	54	50

NOTES:

1. LABEL WITH ITEM No. & SYSTEM REF.
2. INSTALLATION TO BE CARRIED OUT BY APPROVED CONTRACTORS.
3. WRAPPED AND BANDED TO PALLETS FOR STRETCH WRAP PROTECTION.
4. MANUFACTURING TOLERANCE IS +0MM/-5MM.
5. ANY ITEM NOT CLEARLY IDENTIFIED BY CASING OR SERIAL NO. SHALL BE LIMITED TO PLAIN CASING.
6. ALL INSERTION LOSS DATA QUOTED ARE DERIVED FROM STATIC TEST CASE 2 IN ACCORDANCE WITH BS4718:1971. EFFECTIVE INSERTION LOSS IN USE MAY BE LESS DUE TO REVERBERANT SOUND FIELDS. REFERENCE SHOULD BE MADE TO FLANKING TRANSMISSION & TURN THIS UNIT INTO A COMPLETE SYSTEM.

SUPPLY AND INSTALL

ITEM	MTL	SYMBOL	QTY	DWG	L	L	W	H\DIA	AVG	Rp	KG	NO.	TOT £	£ EA
1	SOMTA TDMXE	S	1	A10D	1320	1320	1320	1320	12.0	32	188	1		
2	SOMTA YLPPU	S	1	A10D	1320	1320	1320	1320	12.0	32	188	1		
3	SOMTA SLPPU	S	1	A10D	1320	1320	1320	1320	12.0	32	188	1		
4	SOMTA TSKEW	S	1	A10D	1320	1320	1320	1320	12.0	32	188	1		

TOTAL £

ALLAWAY ACOUSTICS LIMITED

EQUIPMENT SCHEDULE

I trust this will be sufficient to satisfy the requirements of condition 2 of the planning permission. Should you require any further information please do not hesitate to contact me.

Yours sincerely,

Paul G. Riches

(this letter has been electronically generated therefore bears no signature)