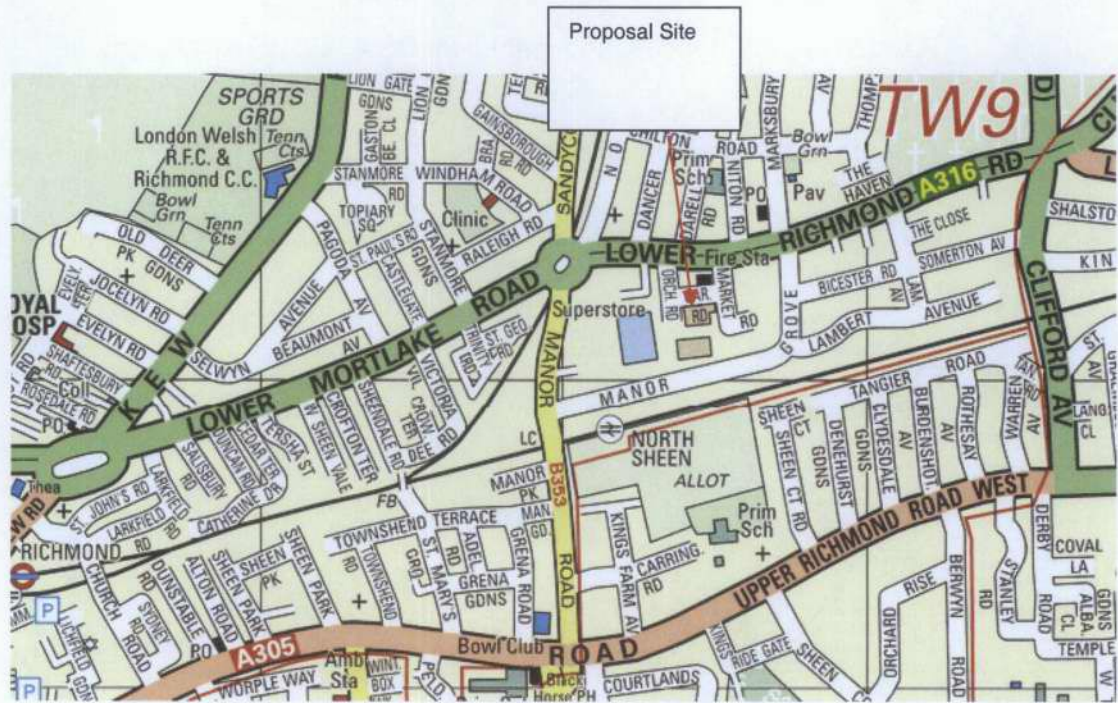


8.0 Appendix i - Location Plan



Photograph from Survey Position

Meter 1 - Rion

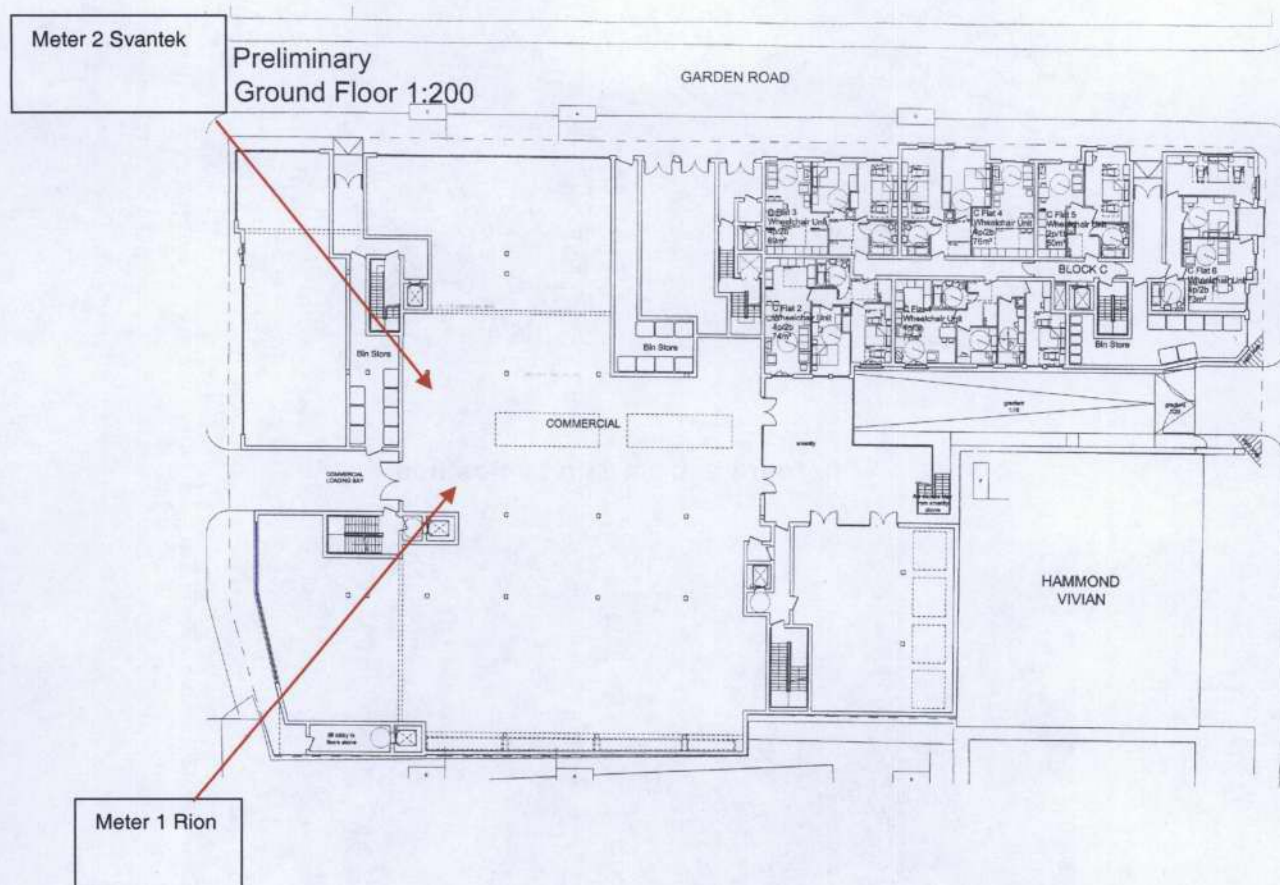


Meter 2 Svantek

9.0 Appendix ii - Design Scheme Extract

Position shown of measuring meters for BS 4142:1997 Assessment

Note: Do not scale from this drawing



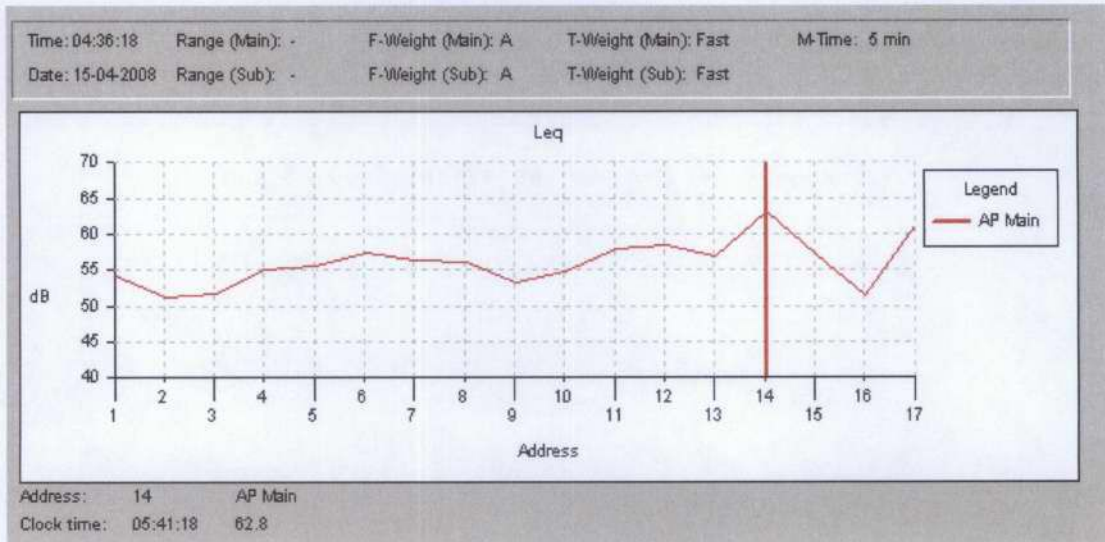
10.0 Appendix iii - Activity Log 15th April 2008

Time	Activity Observation	Comments
03:50	Sainsbury - articulated lorry	Unloading under way – noise from pallet trucks just audible at survey point. Low level hum from compressor in Sainsbury's
04:05	Sainsbury artic leaves	Departure just audible at survey point.
04:13	Car arrives at Dairy	
04:35	Electric Milk float leaved dairy	Movement barely audible at survey point
04:37	Personnel present in dairy yard	Car arrives at dairy - conversation from dairy audible at survey point some pallet truck noise audible from Sainsbury's (2min)
04:41	"Transit" style milk float leaves	
04:45	"Transit" style milk float leaves	Conversation from dairy loading bay audible at survey point
04:47	Van engine audible	Engine on tick over (1 minute) - not possible to locate with certainty.
04:50	Aircraft - Heathrow arrival	Not directly overhead on North Runway – clearly audible
05:00	"Transit" style milk float returns	
05:01	Aircraft + electric milk float leaves	Conversation also audible at survey point
05:02	"Transit" style milk float returns	
05:05	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:10	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:14	HGV leaves Sainsbury	"Kingsmill" HGV Departure – barely audible at survey point
05:18	HGV movement Sainsbury	Barely Audible from survey position
05:20	Milk Float (electric) leaves Dairy	Barely Audible
05:25	Milk Float (electric) enters Dairy	Barely Audible
05:26	Transit style milk float leaves	
05:27	Electric milk float leaves dairy	Barely Audible
05:28	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:30	Car leaves	Conversation from dairy audible at survey point
05:37	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible

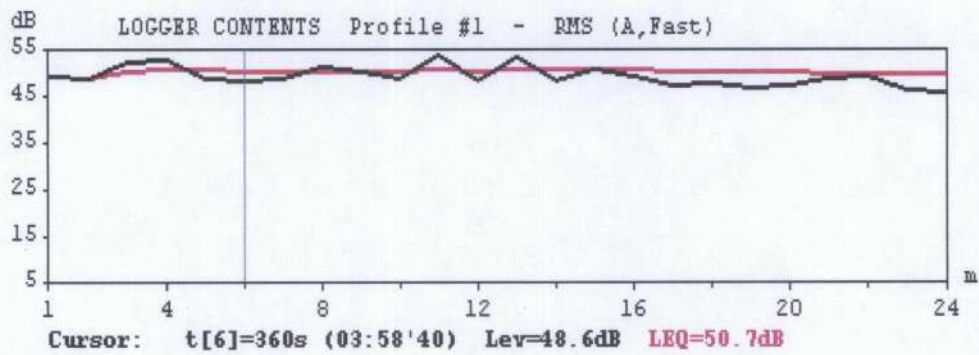
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Time	Activity Observation	Comments
05:39	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:40	LGV arrival in dairy	"Chill Chain" rigid axle refrigerated lorry arrives in dairy unloads
05:41	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:43	LGV departure from dairy	"Chill Chain" rigid axle refrigerated lorry departures from dairy
05:45	Aircraft - Heathrow arrival	BA 747 Heathrow arrival overhead on southern runway - start of arrivals on both runways - "team"
05:47	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:50	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:51	Car leaves dairy	No activity in dairy
05:55	No activity in dairy	
05:56	Daisy Fresh articulated vehicle arrives Sainsbury's	Barely audible at survey point
05:57	Electric milk float arrives dairy	Barely Audible
05:58	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible
05:59	Aircraft - Heathrow arrival	BA 747 directly overhead on southern runway – subjectively very loud.
06:01	Aircraft - Heathrow arrival	Not directly overhead on North Runway – still clearly audible

11.0 Appendix iv - Printout of Survey Data

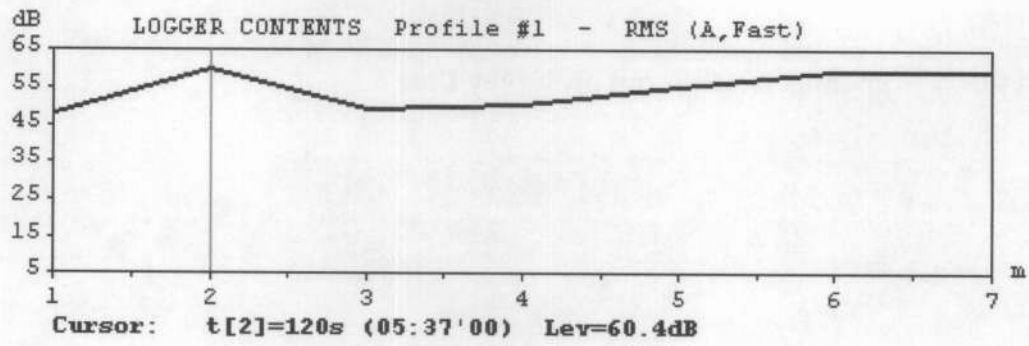


Rion Leq – period 04:36 – 06:01 hrs



Svantek Leq – period 03:53 – 04:16 hrs

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Svantek Leq - period 05:36 - 05:43 hrs

12.0 Appendix v - Glossary of Acoustic Terms

- 12.1 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).
- 12.2 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.
- 12.3 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.
- 12.4 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.
- 12.5 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.
- 12.6 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.
- $L_A \text{ max}$** is the highest noise level recorded by the measuring meter during a single event e.g. overflying aircraft. In this assessment the meter was set to "slow" response.
- L_{A10}** is the sound level in dB(A) exceeded for 10% of the time. This level gives an indication of the sound level during the noisier periods of time of any given sample. It has been used in the UK traditionally to measure and assess road traffic noise.

13.0 Appendix vi - Traffic Survey Summary

DAIRY, ORCHARD ROAD, RICHMOND

DATE: TUESDAY 18/03/08
00:00-10:00

TAPE: 4

EVENT	AWAY FROM CAMERA		TOWARDS CAMERA		VEHICLE TYPE	NOTES
	IN:	ARRIVE TIME	OUT:	DEPART TIME		
1	-		00:03:47		Milk Float	
2	-		00:25:35		Milk Float	
3	-		00:45:12		Milk Float	
4	-		00:50:26		Milk Float	
5	01:24:48		-		LGV	Box Van
6	01:28:51		-		Milk Float	
7	-		01:31:35		Milk Float	
8	-		01:32:04		Milk Float	
9	-		01:40:42		Milk Float	
10	-		01:55:41		Milk Float	
11	01:58:23		-		Car	
12	-		02:00:12		LGV	Box Van
13	-		02:21:51		Milk Float	
14	02:26:52		04:04:08		Sainsbury HGV	Delivery to Sainsbury
15	-		02:36:18		Milk Float	
16	-		03:07:45		Milk Float	
17	03:21:10		-		Car	
18	-		03:21:30		Milk Float	
19	03:47:09		-		Car	
20	-		05:59:48		Milk Float	
21	04:00:15		-		Car	
22	04:04:35		05:24:10		Sainsbury HGV	Delivery to Sainsbury
23	-		04:05:50		Milk Float	
24	-		04:13:09		Milk Float	

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DAIRY, ORCHARD ROAD, RICHMOND

DATE: TUESDAY 18/03/08
00:00-10:00

25	-	04:26:07	Milk Float	
26	04:26:25	-	LGV (Transit)	
27	04:26:35	-	Milk Float	
28	-	04:27:10	Milk Float	
29	-	04:28:46	Milk Float	
30	-	04:42:04	Milk Float	
31	-	04:51:00	LGV (Transit)	
32	04:52:26	05:07:21	HGV	Milk Delivery to Sainsbury's
33	05:05:13	-	Car	
34	05:13:16	-	Milk Float	
35	-	05:19:22	Milk Float	
36	-	05:19:25	Milk Float	
37	-	05:23:00	Milk Float	
38	-	05:36:30	Milk Float	
39	-	05:36:53	Milk Float	
40	05:48:51	-	Milk Float	
41	05:49:26	-	Milk Float	
42	06:05:45	-	LGV (Box Van)	
43	06:10:17	-	Car	
44	06:16:30	-	Milk Float	
45	06:17:56	-	LGV (Transit)	
46	06:31:05	-	Car	
47	06:45:36	-	HGV	Delivery to Sainsbury's
48	06:47:19	-	Milk Float	
49	-	06:47:46	Milk Float	
50	06:48:12	-	Car	
51	04:07:17	08:34:14	Car	Parks in lane
52	06:45:36	07:17:24	HGV	Delivery to Sainsbury
53	07:09:08	-	Milk Float	
54	07:09:23	-	Car	
55	07:10:24	-	Car	

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DAIRY, ORCHARD ROAD, RICHMOND				DATE: TUESDAY 18/03/08 00:00-10:00
56	-	07:13:56	Milk Float	
57	-	07:19:57	Milk Float	
58	07:33:56	08:03:36	HGV	Delivery to Sainsbury
59	07:42:00	-	Milk Float	
60	07:42:30	-	LGV (Box Van)	
61	07:46:19	-	Milk Float	
62	07:55:01	-	Milk Float	
63	-	07:59:01	Car	
64	08:00:37	08:08:23	HGV	
65	08:03:21	-	Milk Float	
66	08:09:56	08:34:12	HGV	Delivery to Sainsbury
67	08:13:26	-	Milk Float	
68	08:14:01	10:01:03	LGV (Transit)	Delivery to Sainsbury
69	08:26:05	-	Car	
70	08:53:53	-	Car	
71	08:57:17	-	Car	
72	09:05:38	-	Milk Float	
73	09:16:09	-	LGV (Box Van)	
74	09:16:44	-	Milk Float	
75	09:18:24	-	Milk Float	
76	-	09:34:03	Car	
77	09:37:04	09:54:00	HGV	Delivery to Sainsbury
78	09:41:06	09:41:25	Car	
79	09:43:37	-	Milk Float	
80	-	09:48:58	LGV (Box Van)	
81	09:54:12	-	Milk Float	

14.0 Appendix vii – Schedule of Impacts – Windows

Flat	Room	Elevation	Measurement using PPG 24 Methodology		Result	Measurement using BS 4142:1997 Methodology		Result	Proposed Mitigation	Ventilation
			day	night		day	night			
Block C										
Flat	Room	Elevation								
1 C	Living Room	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	trickle
	Bedroom (1)	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	
	Bedroom (2)	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
	Bedroom (3)	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
2 C	Living Room	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
	Bedroom (1)	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
	Bedroom (2)	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
3 C	Living Room	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
	Bedroom (1)	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
	Bedroom (2)	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
4 C	Living Room	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
	Bedroom (1)	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
	Bedroom (2)	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
5 C	Living Room	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
	Bedroom (1)	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
6 C	Living Room	Market Rd	64	61	Pass	n/a	n/a	Pass	None Required	Trickle
	Bedroom (1)	Garden Rd	65	61	Pass	n/a	n/a	Pass	None Required	Trickle
	Bedroom (2)	Market Rd	64	61	Pass	n/a	n/a	Pass	None Required	Trickle

1st FLOOR Block A

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Flat	Room	Elevation	Measurement using PPG 24 Methodology		Result	Measurement using BS 4142:19997 Methodology		Result	Proposed Mitigation	Ventilation
1A	Living Room	Courtyard	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle e
	Bedroom (1)	Courtyard	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
	Bedroom (2)	Courtyard	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
2A	Living Room	DAIRY	64	61	Pass	n/a	Rating Level +9dB	Pass	Sealed thermal double glazed units at high level with outer leaf laminate	
	Living Room	Courtyard	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
	Bedroom (1)	Courtyard	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
	Bedroom (2)	Courtyard	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
3A	Living Room	Courtyard	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
	Bedroom (1)	HV	64	61	Pass	n/a	Rating Level +6dB	Pass	Sealed thermal double glazed units at high level with outer leaf laminate	
4A	Living Room	HV	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
	Bedroom (1)	HV	64	61	Pass	n/a	Rating Level +6dB	Pass	None Required	Trickle
5A	Living Room	HV	64	61	Pass	n/a	Rating Level - 1dB	Pass	None Required	Trickle
	Bedroom (1)	HV	64	61	Pass	n/a	Rating Level +6dB	Pass	None Required	Trickle
1st FLOOR Block B										
9 B	Living Room	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
	Bedroom (1)	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
8 B	Living Room	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle
	Bedroom (1)	Court Yard	64	61	Pass	n/a	Rating Level +4dB	Pass	None Required	Trickle

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Flat	Room	Elevation	Measurement using PPG 24 Methodology		Result	Measurement using BS 4142:19997 Methodology		Result	Proposed Mitigation	Ventilation
7 B	Living Room	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
	Bedroom (1)	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
6 B	Living Room	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
	Bedroom (1)	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
	Bedroom (2)	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
5 B	Living Room	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
	Bedroom (1)	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
	Bedroom (2)	Garden Rd	65	61	Pass	n/a	n/a	n/a	None Required	Trickle
4 B	Living Room	Garden Rd	65	61	Pass	n/a	Rating Level + 6dB	Pass	None Required	Trickle
	Bedroom (1)	Orchard Rd	64	61	Pass	n/a	Rating Level + 6dB	Pass	None Required	Trickle
	Bedroom (2)	Orchard Rd	64	61	Pass	n/a	Rating Level + 6dB	n/a	None Required	Trickle
3 B	Living Room	Orchard Rd	64	61	Pass	n/a	Rating Level + 6dB	Pass	None Required	Trickle
	Bedroom (1)	Orchard Rd	64	61	Pass	n/a	Rating Level + 6dB	Pass	None Required	Trickle
2 B	Living Room	Courtyard	64	61	Pass	n/a	Rating Level -1 dB	Pass	None Required	Trickle
	Bedroom (1)	Orchard Rd	64	61	Pass	n/a	Rating Level -1 dB	Pass	None Required	Trickle
	Bedroom (2)	Orchard Rd	64	61	Pass	n/a	Rating Level -1 dB	Pass	None Required	Trickle
1 B	Living Room	Courtyard	64	61	Pass	n/a	Rating Level -1 dB	Pass	None Required	Trickle
	Bedroom (1)	Courtyard	64	61	Pass	n/a	Rating Level + 6dB	Pass	None Required	Trickle
	Bedroom (2)	Courtyard	64	61	Pass	n/a	Rating Level -1 dB	Pass	None Required	Trickle
First Floor Block C										
<u>Flat</u>	<u>Room</u>	<u>Elevation</u>								
15 C	Living Room	Court Yard	64	61	Pass	n/a	Rating Level +4 dB	n/a	None Required	Trickle