ENVIRONMENTAL ACOUSTIC ASSESSMENT
THE GARDEN HOUSE
VALE OF HEALTH, LONDON
CONSTRUCTION PLANNING ASSOCIATES
EAA-20257-16-390
SEPTEMBER 2016

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Current Document Details

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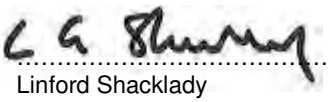
Approved by



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Linford Shacklady

Issued by

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Document Revisions

Rev	Date	Author	Approved	Issued	Remarks
0	28/09/16	TPC	LGS	TPC	First Issue

Report issued from

DERBYSHIRE East Mill, Bridgefoot, Belper, Derbyshire. DE56 2UA Tel: 01773 829988

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SECTION 1 INTRODUCTION

1.1 Idom Merebrook Limited (Merebrook) has been commissioned by Construction Planning Associates to undertake an environmental acoustic assessment at a site known as The Garden House, Camden.

1.2 The objective of the investigation was to undertake a site walkover and baseline acoustic survey to determine the ambient daytime acoustic climate at the site and its surroundings.

1.3 This report relates solely to the ingress of externally generated environmental noise.

1.4 This report has been prepared for Construction Planning Associates for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties making reference to the report should consult Construction Planning Associates and Merebrook as to the extent to which the findings may be appropriate for their use.

SECTION 2 SITE SETTING

2.1 THE SITE

2.1.1 The site is located off the Vale of Health road in the north of Hampstead, London at approximate national grid reference 526533, 186433.

2.1.2 The site is situated to the east of Vale of Health road with a terrace of residential properties directly bounding the site to the west. The site can be accessed from a metal pedestrian gate within the terrace of residential properties. The site is bounded by the following:

i. To the north by rear private gardens of the properties directly fronting Vale of Health;

ii. To the east by Vale of Health Pond and Hampstead Heath;

iii. To the south by rear private gardens of the properties directly fronting Vale of Health; and

iv. To the west by a terrace of residential properties fronting Vale of Health road.

2.1.3 The site is shown on the Site Location Plan 20257-001-001 presented in Appendix 1 of this report.

2.2 CAMDEN BOROUGH COUNCIL LOCAL PLAN

2.2.1 Camden Borough Council Draft Local Plan (2016) has been consulted to determine if the site or its surrounding area is included within the Local Development Framework. The Local Plan also outlines any recommendations or stipulations the local authority requires for noise with regard to the proposed development works.

2.2.2 The proposed development is not included within the Local Development Plan as a site set aside for proposed development

2.2.3 Camden Planning Guidance 6: Amenity Supplementary Planning Document recommends acoustic thresholds for developments in sensitive locations and the related impact significance of observed acoustic levels upon proposed and existing sensitive receptors.

2.3 SCOPE OF WORKS APPROVAL

2.3.1 Prior to any site works being conducted the local Environmental Health Officer (EHO) for Camden Council (Maya Rhodes) was asked to comment on the proposed scope of works for the acoustic survey however no comment or feedback was received.

2.4 SENSITIVE RECEPTORS

2.4.1 A number of residential sensitive receptors have been identified within close proximity to the proposed development scheme. The nearest sensitive receptors are those bounding the site to the west.

SECTION 3 ENVIRONMENTAL ACOUSTIC MONITORING METHODOLOGY

3.1 The acoustic assessment was undertaken by means of a manned roving survey (monitoring locations NM1 and NM2) to gain a representative sample of the daytime, construction working hours ambient acoustic levels. The survey was undertaken between 08:00 on 21 September 2016 and 17:11 on 21 September 2016. The monitoring locations were as follows:

i. NM1: Located 3.5 m from The Garden House building façade in the south west corner of the site; and

ii. NM2: Located adjacent to the visible garden path close to the eastern site boundary with Vale of Health Pond.

3.2 Merebrook drawing 20257-309-001 showing sound monitoring positions and a photographic record are presented in Appendix 1.

3.3 Acoustic measurements were undertaken using a Class 1 sound level meter with details as follows:

i. A Casella CEL-633C Sound Level Meter (serial number: 3148022) fitted with a Casella CEL-251 microphone (serial number: 379) and a Casella CEL-495 preamplifier (serial number: 002245). Laboratory calibration was last conducted on 08/09/2016.

3.4 Copies of laboratory calibration certificates can be provided on request.

3.5 The sound level meter was calibrated with Casella CEL-120/1 field calibrator (serial number: 0254946) with a reference level of 94 dB at 1000 Hz immediately before and after each measurement with minimal drift in calibration level noted. The calibrator was last calibrated under laboratory conditions on 8 September 2016.

3.6 Measurements at each of the monitoring positions was made at 1.3 meters above ground level in a free field environment.

3.7 A windshield was fitted for all measurements at each of the monitoring locations.

3.8 Weather conditions throughout the acoustic survey were within limits considered acceptable for noise monitoring, being dry with light winds gusting below 5 $m.s^{-1}$.

3.9 Full details of the monitoring and notes on the noise sources identified are presented on field monitoring records in Appendix 2.

SECTION 4 ENVIRONMENTAL ACOUSTIC MONITORING RESULTS

4.1 QUALITATIVE DESCRIPTION OF NOISE CLIMATE

4.1.1 The acoustic climate at the site was influenced primarily by birdsong and passing overhead aircraft.

4.1.2 The field monitoring records which include qualitative descriptions of the acoustic climate are presented in Appendix 2.

4.2 ACOUSTIC MEASUREMENT.

4.2.1 Data quality assessment has been undertaken to ensure any noisy events not considered part of the ambient acoustic climate are removed to provide representative baseline sound levels.

4.2.2 The results of the acoustic monitoring are summarised in Table 1 below and the sound level meter data is presented in Appendix 3.

Table 1: Summary of daytime Monitoring Data

Monitoring Location	Monitoring Period	Duration (hours)	$L_{Aeq,\ 15\ min}$ Range (dB)	$L_{Aeq,\ 15\ min}$ Average (dB)	$L_{Af90,\ 15\ min}$ Range (dB)	$L_{Af90,\ 15\ min}$ Average (dB)	$L_{Afmax,\ 15\ min}$ Range (dB)
NM1	21/09/2016	4	44 - 55	50	35 - 41	38	59 - 77
NM2	21/09/2016	3.5	42 - 54	49	35 - 40	38	59 - 71

4.2.3 Analysis of the data reveals the average $L_{Aeq,\ 15\ min}$ recorded at the Garden House site is 49 – 50 dB with a maximum 15 minute average of 55 dB.

4.2.4 The $L_{Afmax,\ 15\ min}$ recorded at the Garden House monitoring positions ranged between 59 and 77 dB.

4.2.5 Measured data representing recorded L_{AFmax}, L_{Aeq} and L_{AF90} in graphs is included in Appendix 3 of this report.

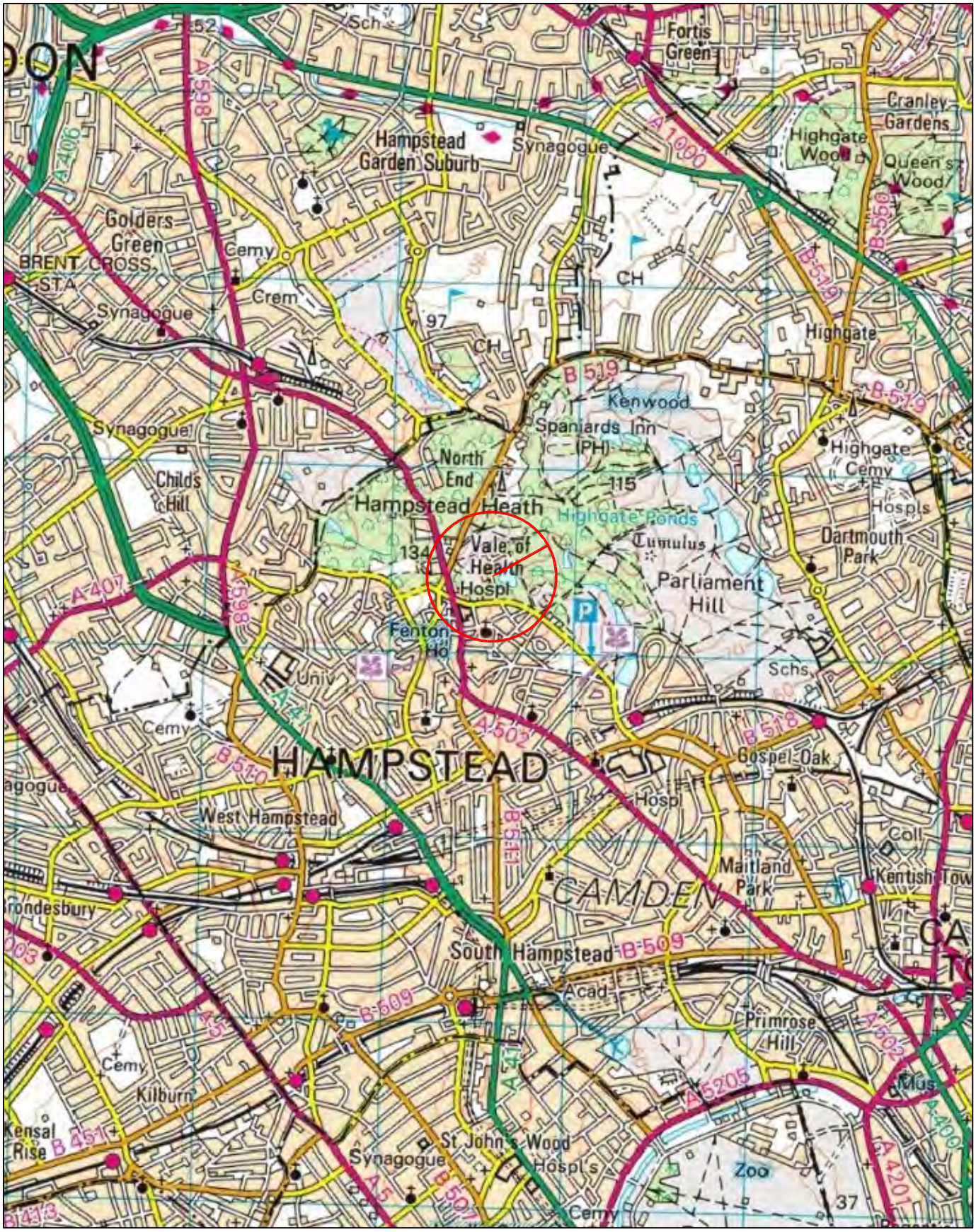
SECTION 5 CONCLUSIONS

5.1 A baseline acoustic assessment of the ambient sound levels at the site was conducted by means of a manned roving survey during 21 September 2016.

5.2 Acoustic monitoring revealed average $L_{Aeq,\ 15\ min}$ levels of between 49 and 50 dB with a peak 15 minute average of 55 dB (L_{Aeq}).

APPENDIX 1

- Drawings:
- 20257-001-001
- 20257-309-001
- Photographic Record



Issue Details	Dwn	Chd	App'd
First Issue	TPC	LS	LS
	28/09/2016		-

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Construction Planning Associates
The Garden House, Vale of Health
Site Location

Job No.	Dwg No.	Revision
20257	001-001	-
Scale	**Date**	**Frame Dimensions mm**
N.T.S	September 2016	(A4) 250x181
Drawn	**Checked**	**Approved**
TPC	LS	LS

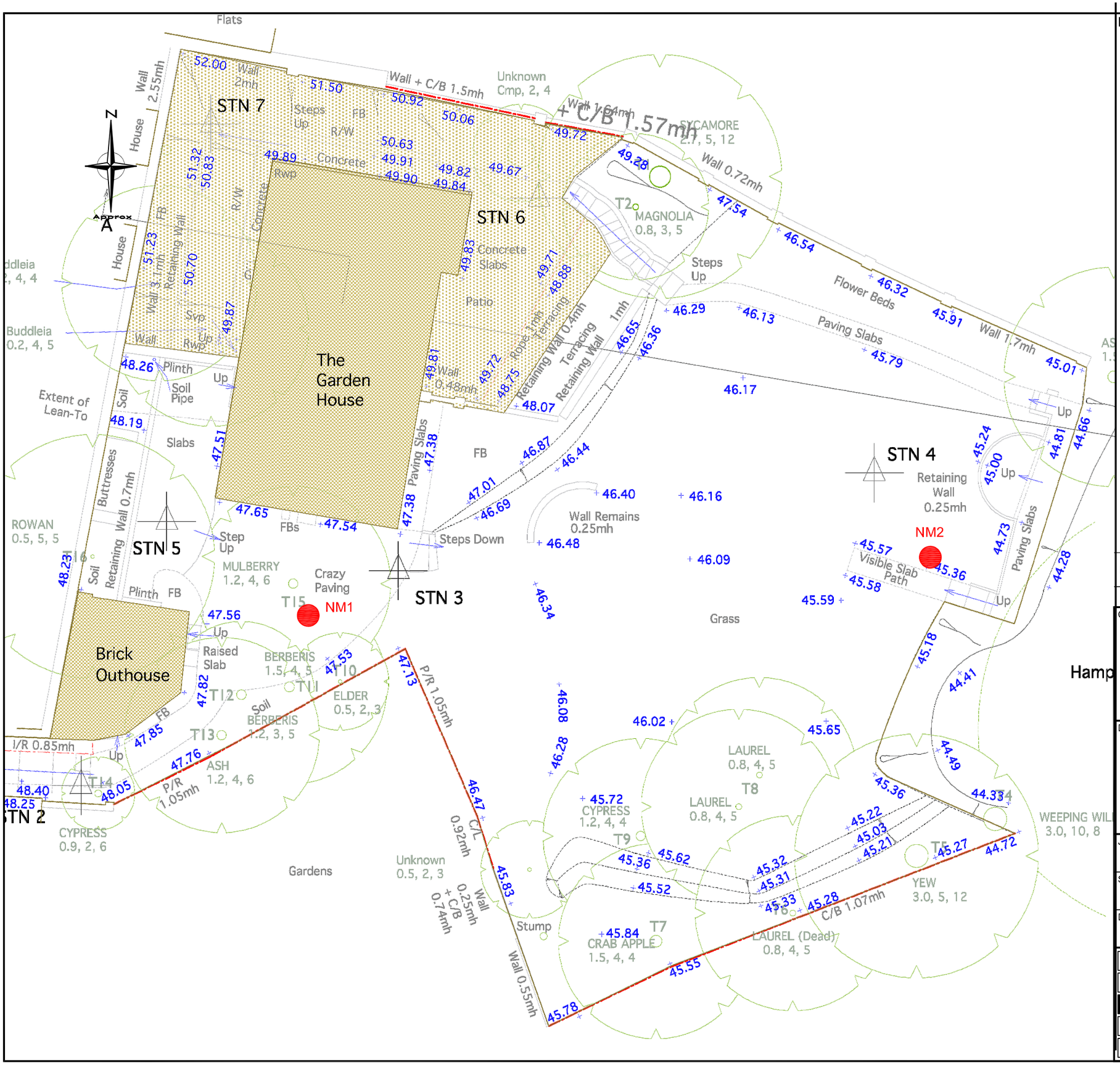
Flats
STN 7
STN 6
The Garden House
Brick Outhouse
STN 5
STN 4
STN 3
STN 2
NM1
NM2
+C/B 1.57mh
Wall + C/B 1.5mh
Unknown Cmp, 2, 4
SYCAMORE 2.7, 5, 12
MAGNOLIA 0.8, 3, 5
Wall 0.72mh
Steps Up
Flower Beds
Paving Slabs
Wall 1.7mh
Concrete Slabs
Patio
Retaining Wall 1mh
Terracing
Retaining Wall 0.4mh
Wall 0.48mh
Plinth
Soil Pipe
Extent of Lean-To
Slabs
Buttresses
Wall 0.7mh
Retaining Wall 3.1mh
Steps Down
Wall Remains 0.25mh
Retaining Wall 0.25mh
Visible Slab Path
Grass
Gardens
Raised Slab
Crazy Paving
MULBERRY 1.2, 4, 6
ROWAN 0.5, 5, 5
BERBERIS 1.5, 4, 5
BERBERIS 1.2, 3, 5
ELDER 0.5, 2, 3
ASH 1.2, 4, 6
CYPRESS 0.9, 2, 6
CYPRESS 1.2, 4, 4
LAUREL 0.8, 4, 5
LAUREL 0.8, 4, 5
LAUREL (Dead) 0.8, 4, 5
CRAB APPLE 1.5, 4, 4
YEW 3.0, 5, 12
WEEPING WIL 3.0, 10, 8
Unknown 0.5, 2, 3
Stump
Buddleia 0.2, 4, 5
Hamp
P/R 1.05mh
C/L 0.92mh
Wall 0.25mh + C/B 0.74mh
Wall 0.55mh
C/B 1.07mh
I/R 0.85mh
Step Up
Soil Pipe
Rope 1mh
Terracing
Soil
Retaining Wall
Concrete
Rwp
R/W
FB
FBs
Svp
Wall 2.55mh
Wall 2mh
House
Steps Up
Up
Wall
Plinth
Soil
Retaining Wall
Concrete
Rwp
R/W
FB
Retaining Wall
Concrete
Rwp
Soil
Retaining Wall
Concrete
Rwp
Soil
Retaining Wall
Concrete
Rwp
Soil

Plate 1: Site Access to The Garden House

Plate 2: View West towards The Garden House and monitoring position NM1

Plate 3: View west towards Hampstead Heath and monitoring position NM2

APPENDIX 2 ▪ Field Monitoring Records

ENVIRONMENTAL NOISE FIELD MONITORING RECORD

SITE NAME	The Garden House	**PROJECT NUMBER**	20257	**DATE**	21/09/2016	**RECORDED BY**	Tim Crowe

INSTRUMENTATION	**TYPE**	**SERIAL NUMBER**	**DOLC**
SOUND LEVEL METER	Casella CEL-633C	3148022	08/09/2016
MICROPHONE	Casella CEL-251	379	08/09/2016
PREAMPLIFIER	Casella CEL-495	2254	08/09/2016
CALIBRATOR	Casella CEL-120/1	0254946	08/09/2016

FIELD CALIBRATION			
CALIBRATION LEVEL: 94 dB			
CALIBRATION CHANGE AT START	0	CALIBRATION CHANGE AT END	0

MONITORING LOCATION (>3.5 m from reflecting surface OR apply façade correction post processing)	NM1	**MICROPHONE HEIGHT ABOVE GROUND LEVEL (m)** (1.2-1.5 m)	1.3	**BATTERY LEVEL AT START (V)**	4.75	**BATTERY LEVEL AT END (V)**	4.75

Start Time	08:00:00	**End Time**	10:00:00

WEATHER OBSERVATIONS

100% overcast, cool, dry, no measurable wind.

NOISE CLIMATE (GENERAL)

Acoustic climate dominated by birdsong, and overhead aircraft.

Aircraft directly overhead: 08:02, 08:09, 08:38, 08:52, 08:55, 08:57, 09:00, 09:04, 09:07, 09:09, 09:16, 09:20, 09:50

Dog Bark: 08:07, 09:19, 09:21

Talking with landowner: 08:10 - 08:13, 09:19 (to be removed from assessment)

Door Bang: 08:20

Baby Crying: 09:07

Siren: 09:56

NOISE CLIMATE (SITE)

ENVIRONMENTAL NOISE FIELD MONITORING RECORD

SITE NAME	The Garden House	**PROJECT NUMBER**	20257	**DATE**	21/09/2016	**RECORDED BY**	Tim Crowe

INSTRUMENTATION	**TYPE**	**SERIAL NUMBER**	**DOLC**
SOUND LEVEL METER	Casella CEL-633C	3148022	08/09/2016
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PREAMPLIFIER	Casella CEL-495	2254	08/09/2016
CALIBRATOR	Casella CEL-120/1	0254946	08/09/2016

FIELD CALIBRATION			
CALIBRATION LEVEL: 94 dB			
CALIBRATION CHANGE AT START	0	CALIBRATION CHANGE AT END	0

MONITORING LOCATION (>3.5 m from reflecting surface OR apply façade correction post processing)	NM2	**MICROPHONE HEIGHT ABOVE GROUND LEVEL (m)** (1.2-1.5 m)	1.3	**BATTERY LEVEL AT START (V)**	4.75	**BATTERY LEVEL AT END (V)**	4.75

Start Time	10:00:00	**End Time**	12:00:00

WEATHER OBSERVATIONS

50% cloud cover, warm, dry, no measurable wind.

NOISE CLIMATE (GENERAL)

Acoustic climate dominated by birdsong.

Dog bark: 10:05, 10:06, 10:25, 10:28, 10:30

Aircraft Overhead: 10:11, 10:17, 10:27, 10:28, 10:30, 10:38, 10:41, 11:15, 11:20, 11:45, 11:47, 11:50, 11:56

Distant Train Horn: 10:24

Baby Crying: 11:55

NOISE CLIMATE (SITE)

ENVIRONMENTAL NOISE FIELD MONITORING RECORD

SITE NAME	The Garden House	**PROJECT NUMBER**	20257	**DATE**	21/09/2016	**RECORDED BY**	Tim Crowe

INSTRUMENTATION	**TYPE**	**SERIAL NUMBER**	**DOLC**
SOUND LEVEL METER	Casella CEL-633C	3148022	08/09/2016
MICROPHONE	Casella CEL-251	379	08/09/2016
PREAMPLIFIER	Casella CEL-495	2254	08/09/2016
CALIBRATOR	Casella CEL-120/1	0254946	08/09/2016

FIELD CALIBRATION			
CALIBRATION LEVEL: 94 dB			
CALIBRATION CHANGE AT START	0	CALIBRATION CHANGE AT END	0

MONITORING LOCATION (>3.5 m from reflecting surface OR apply façade correction post processing)	NM1	**MICROPHONE HEIGHT ABOVE GROUND LEVEL (m)** (1.2-1.5 m)	1.3	**BATTERY LEVEL AT START (V)**	4.75	**BATTERY LEVEL AT END (V)**	4.75

Start Time	13:40:00	**End Time**	15:40:00

WEATHER OBSERVATIONS

50% cloud cover, sunny, warm, dry, no measurable wind.

NOISE CLIMATE (GENERAL)

Acoustic climate dominated by birdsong.

Aircraft directly overhead: 13:40, 13:42, 13:44, 14:04, 14:12, 14:39, 14:47, 14:53, 15:00, 15:01, 15:04, 15:08, 15:11, 15:12, 15:24, 15:29, 15:32

Sirens: 14:48

Lawnmower in use in adjacent garden: 14:50 - 15:00, 15:15

Loud talking in adjacent park: 14:56

NOISE CLIMATE (SITE)

ENVIRONMENTAL NOISE FIELD MONITORING RECORD

SITE NAME	The Garden House	**PROJECT NUMBER**	20257	**DATE**	21/09/2016	**RECORDED BY**	Tim Crowe

INSTRUMENTATION	**TYPE**	**SERIAL NUMBER**	**DOLC**
SOUND LEVEL METER	Casella CEL-633C	3148022	08/09/2016
MICROPHONE	Casella CEL-251	379	08/09/2016
PREAMPLIFIER	Casella CEL-495	2254	08/09/2016
CALIBRATOR	Casella CEL-120/1	0254946	08/09/2016

FIELD CALIBRATION			
CALIBRATION LEVEL: 94 dB			
CALIBRATION CHANGE AT START	0	CALIBRATION CHANGE AT END	0

MONITORING LOCATION (>3.5 m from reflecting surface OR apply façade correction post processing)	NM2	**MICROPHONE HEIGHT ABOVE GROUND LEVEL (m)** (1.2-1.5 m)	1.3	**BATTERY LEVEL AT START (V)**	4.75	**BATTERY LEVEL AT END (V)**	4.75

Start Time	15:41:00	**End Time**	17:00:00

WEATHER OBSERVATIONS

50% cloud cover, warm, dry, sunny, no measurable wind.

NOISE CLIMATE (GENERAL)

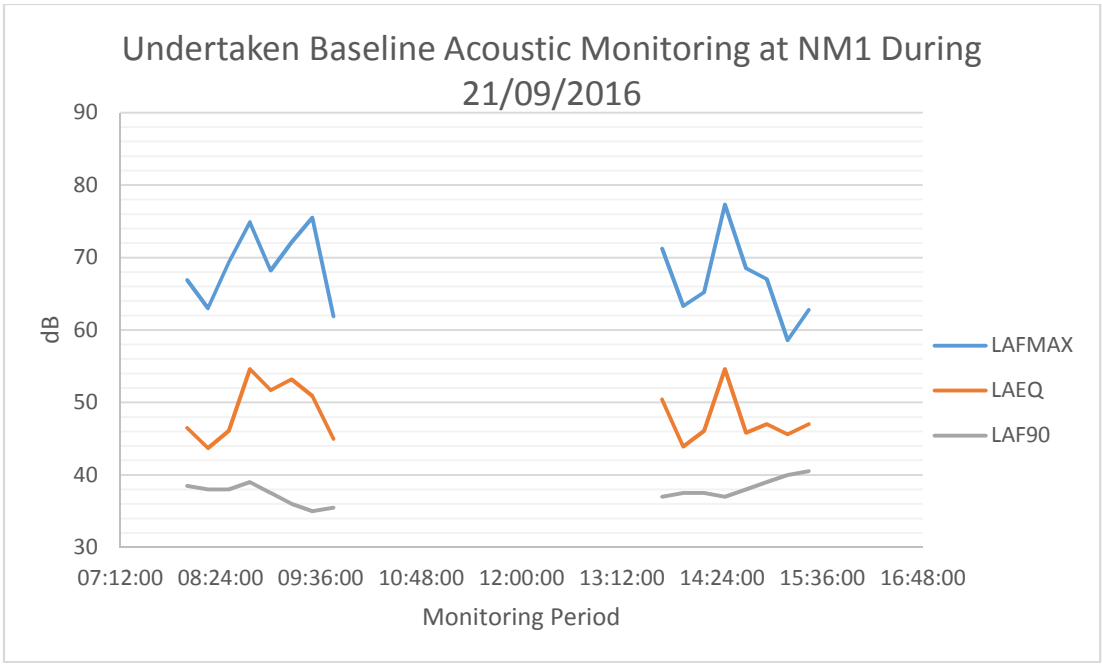
Acoustic climate is dominated by birdsong and overhead aircraft.

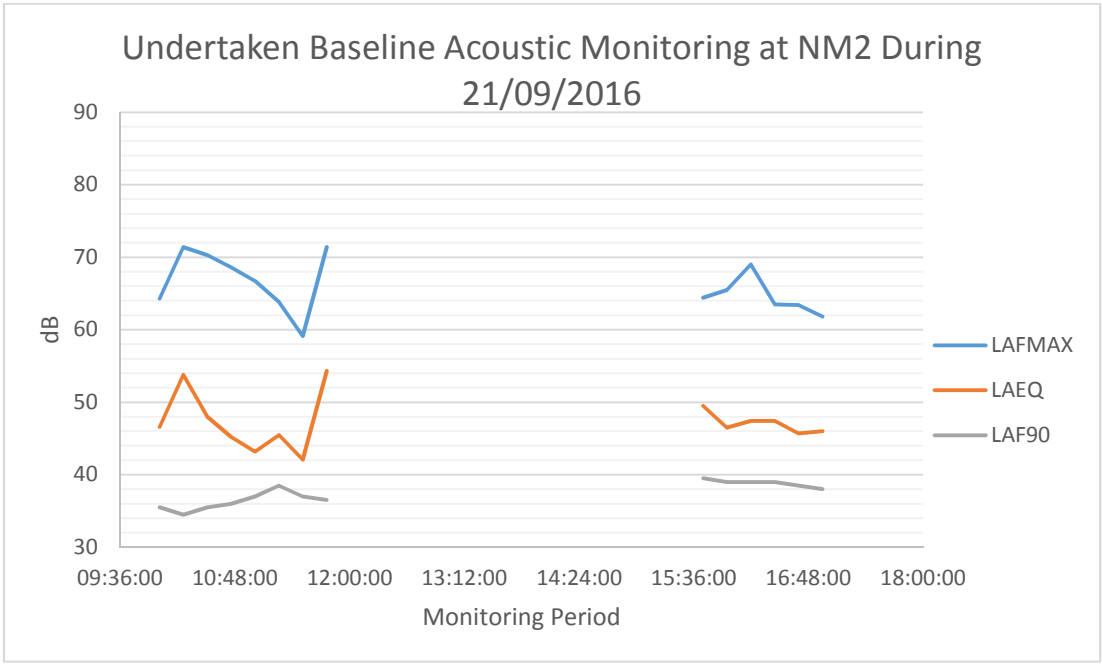
Overhead Aircraft: 15:43, 15:57, 16:15, 16:29, 16:32, 16:41, 16:45

NOISE CLIMATE (SITE)

APPENDIX 3

- Sound Level Meter Data
- Time History Graphs


Undertaken Baseline Acoustic Monitoring at NM1 During 21/09/2016
90
80
70
60
50
40
30
dB
07:12:00
08:24:00
09:36:00
10:48:00
12:00:00
13:12:00
14:24:00
15:36:00
16:48:00
Monitoring Period
LAFMAX
LAEQ
LAF90


Undertaken Baseline Acoustic Monitoring at NM2 During 21/09/2016
90
80
70
60
50
40
30
dB
09:36:00
10:48:00
12:00:00
13:12:00
14:24:00
15:36:00
16:48:00
18:00:00
Monitoring Period
LAFMAX
LAEQ
LAF90

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