PROPOSED HOTEL CONVERSION

203 HIGH HOLBORN
LONDON WC1V 7BD

NOISE IMPACT ASSESSMENT

SEPTEMBER 2011

EDISTON OPPORTUNITY FUND

RA

Prepared by: .....
Jason Clouston
BEng (Hons) MSc MIOA
Principal Acoustic Engineer

JL

Checked by: .....
Simon Miller
BSc (Hons) MIOA
Senior Acoustic Engineer

JL

Approved by: .....
Simon Miller
BSc (Hons) MIOA
Senior Acoustic Engineer

203 High Holborn
Noise Impact Assessment

Rev No	Comments	Checked by	Approved by	Date
1	Draft Issue (Pre-Planning Submission)	JRSC	SM	08/08/2011
2	Planning Submission	JL	JL	22/08/2011
2	Minor amendments	JL	JL	25/08/2011
3	**Front cover altered**	**JL**	**JL**	**07/09/2011**

AECOM House, 63-77 Victoria Street, St Albans, Hertfordshire, AL1 3ER
Telephone: 01727 535000 Website: http://www.aecom.com

Job No 60147030/M041 Reference 60147030/Rp1v3 Date Created August 2011

Table of Contents

1 Introduction

1.1 A new Premier Inn hotel is proposed to be developed, located within the existing building at 203 High Holborn, London, WC1V 7BU. The building is currently an unoccupied office throughout.

1.2 It is understood that as part of the planning application evidence is needed to demonstrate that building services plant noise emission from the proposed development has been suitably addressed. Details of any acoustic measures required to minimise the potential for noise complaints, should be provided.

1.3 To address the above, an external noise survey has been undertaken at the site to establish the prevailing ambient and background noise levels that currently dominate the site. This survey compliments a previous noise survey conducted at the site by others, the conclusions of which are summarised within this report.

1.4 The survey results are used to set noise emission criteria for external plant and to advise acoustic measures for the proposed plant items.

1.5 Details of the proposed buildings services plant are presented with an initial assessment of their suitability in achieving the plant noise emission limits.

1.6 A glossary of acoustic terminology used in this report is presented in Appendix A and the full noise measurement results are included in Appendix B through to C. Plant noise data is presented in Appendix D.

2 External Noise Survey

2.1 Site Description

2.1.1 The proposed hotel site is located on the junction of High Holborn and Newton Street with proposed bedrooms overlooking both roads and a delivery yard to the back.

2.1.2 The building is surrounded mainly by a mixture of residential and office accommodation, all in relatively close proximity as is typical for a city centre location.

2.1.3 The major sources of noise in and around the building are mostly from road traffic vehicles (cars, bikes, busses and the occasional emergency vehicle). The site is also subject to re-radiated noise and vibration from trains associated with the nearby underground railway. As confirmed by the Council in their pre-application advice following a meeting held on 4 May 2011, the impacts of vibration and re-radiated noise on the proposed hotel are not discussed within this report.

2.2 Measurement Methodology

2.2.1 A previous survey has been conducted by Adnitt Acoustics in February of this year (report reference: 1178/ENV/R1). Measurements focussed mainly on the internal noise levels owing to external noise and vibration sources. However, some background noise data has been made available to AECOM by Adnitt Acoustics for a measurement location overlooking High Holborn. An additional noise survey has been conducted by AECOM to complement the previous results.

2.2.2 Unattended noise measurements were undertaken at two locations on the existing building. The measurements were conducted between 18:00 on Friday 5th and 11:00 on Monday 8th August 2011.

2.2.3 At measurement Location 1 the microphone was extended 1m out of a window on the first floor of the existing building overlooking High Holborn. The noise levels measured at this location are considered representative of the prevailing background noise of noise sensitive properties overlooking High Holborn and Newton Street.

2.2.4 At measurement Location 2 the microphone was extended 1m out of a window on the third floor of the existing building overlooking the delivery yard to the rear. The noise levels measured at this location are considered representative of the prevailing background noise of noise sensitive properties overlooking the courtyard accessible from Newton Street.

2.2.5 At both measurement locations the microphone was sufficiently close to the existing building facade as to be considered under facade reflected conditions. Both measurement locations are shown in Figure 2.1 below.

2.2.6 The noise equipment was set to continually monitor noise levels over 15-minute sample periods. During each measurement period a number of statistical noise indices were calculated, including the L_{Aeq} (commonly associated with ambient noise levels), L_{Amax} (the maximum noise level) and the L_{A90} (typically used to represent the background noise). Spectral noise data was also continuously gathered for the entire duration of the survey.

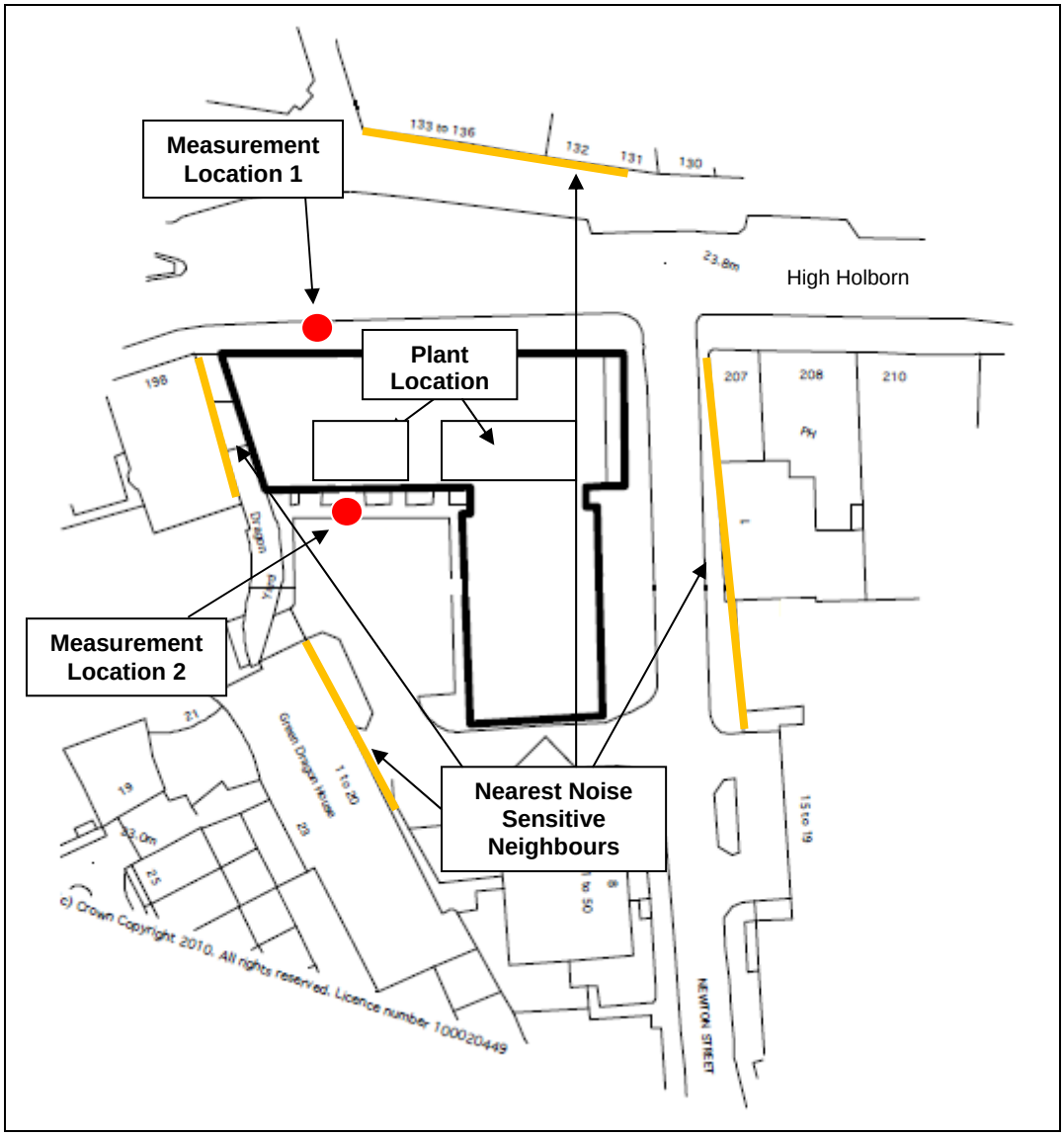


Figure 2.1: Site Plan Showing Measurement Locations

2.2.7 The following equipment was used to undertake the noise measurements:

Equipment	Type	Serial No.
Norsonic 118 (Location 1)	Integrating-averaging sound level meter	30667
Norsonic 1206 (Location 1)	Pre-amplifier	30348

Equipment	Type	Serial No.
G.R.A.S 40AF (Location 1)	Microphone	137733
Norsonic 118 (Location 2)	Integrating-averaging sound level meter and associated microphone	28136
Norsonic 1206 (Location 2)	Pre-amplifier	31031
Norsonic 1225 (Location 2)	Microphone	25167
Norsonic 1212 (Both Locations)	External weatherproof microphone enclosure	-
Norsonic 1251 (Both Locations)	Calibrator	30896

Table 2.1 Noise Measurement Equipment

2.2.8 Both sets of measurement equipment were calibrated prior to and on completion of the measurement period, in accordance with recommended practice. No significant drift in calibration occurred. The accuracy of the calibrator can be traced to National Physical Laboratory Standards.

2.2.9 The weather conditions during the survey are understood to have been generally dry with a light breeze. There was a period of about an hour of heavy rain on Sunday 7th. The ambient noise levels may have increased during and just after the heavy rain. The amount of data collected included sufficient periods of dry weather to establish the relevant prevailing noise levels.

2.3 Commentary

2.3.1 At both measurement locations the noise climate across the site was dominated by road traffic noise, mainly from High Holborn. The traffic flow on Newton Street was significantly less than that on High Holborn. The delivery yard is well shielded from both sources of road traffic noise and is generally a lot quieter.

2.3.2 The higher maximum (L_{Amax}) noise levels were noted to be mostly due to busses and vans passing along High Holborn with intermittent emergency vehicle sirens clearly audible.

2.3.3 It addition to road traffic there were fairly high levels of activity noise associated with pedestrian traffic along High Holborn.

2.3.4 Noise levels during the night remain reasonably high as would be expected of a typical busy city centre location.

2.4 Background Noise Measurement Results

2.4.1 The noise monitoring results are presented in full in Appendix B while time history graphs of the statistical noise monitoring at both measurement locations are presented in Appendix C.

2.4.2 The lowest background noise levels are summarised in Table 2.2 below. These are considered to be representative of the background noise at the nearest noise sensitive properties to the site and are appropriate for using to set noise emission limits.

Time Period	Lowest Measured Background Noise Level (dB $L_{A90, 15min}$)	
	Location 1 (Representative of properties overlooking High Holborn and Newton Street)	**Location 2** (Representative of properties overlooking the delivery yard)
Daytime (07:00 – 23:00)	52 dB	45 dB
Night-Time (23:00 – 07:00)	50 dB	42 dB

All values are sound pressure levels measured in dB re 2 x 10^{-5} Pa

Table 2.2: Lowest Measured Background Noise Levels

3 Plant Noise Emission

3.1 Introduction

3.1.1 An assessment of noise levels to the nearest neighbours has been undertaken taking into account the requirements of the planning condition, the results of the noise survey, propagation distances to noise sensitive neighbours and screening from roof parapets and the like.

3.2 Criteria

3.2.1 Local Authority's Guidelines

3.2.1.1 The Local Authority, Camden, adopted their Local Development Framework on 8th November 2010. Development Policy 28 from this framework relates to the control of plant noise emission and states:

The Council will only grant permission for plant or machinery if it can be operated without causing a loss to local amenity and does not exceed our noise thresholds.

3.2.1.2 The noise limits from plant are given in Table E of Development Policy 28 and is presented below for clarity

Noise description and location of measurement	Period	Time	Noise level
Noise at 1 metre external to a sensitive façade	Day, evening and night	0000-2400	5dB(A) <LA90
Noise that has a distinguishable discrete continuous note (whine, hiss, screech, hum) at 1 metre external to a sensitive façade.	Day, evening and night	0000-2400	10dB(A) <LA90
Noise that has distinct impulses (bangs, clicks, clatters, thumps) at 1 metre external to a sensitive façade.	Day, evening and night	0000-2400	10dB(A) <LA90
Noise at 1 metre external to sensitive façade where LA90>60dB	Day, evening and night	0000-2400	55dBL_{Aeq}

Table 3.1: Camden Plant Noise Limits (Table E from Development Policy 28).

3.2.2 BS 4142:1997

3.2.2.1 British Standard BS 4142: 1997 *'Method for Rating Industrial Noise affecting mixed residential and industrial areas'* provides a methodology for assessing whether noise from industrial and commercial activities is likely to give rise to complaints from nearby noise-sensitive premises. This method compares the noise level from the source in question (called the 'specific noise level') with the background noise level in the absence of the noise source, taking into account the character and type of noise. Unusual acoustic features, such as a whine, hiss or irregular noise where present are accounted for under BS 4142 by the addition of a single 5 dB correction to the specific noise level. The corrected specific noise level is the 'rating level'.

3.2.2.2 The Standard notes that if the rating noise level is more than 10 dB below the existing background noise level (measured as an L_{A90}), then this is a positive indication that complaints are 'unlikely'. A difference of around +5 dB is of 'marginal significance' and a difference of around +10 dB or more indicates that 'complaints are likely'.

3.2.3 Environmental Protection Act 1990

3.2.3.1 Under the provisions of the Environmental Protection Act, occupants of neighbouring properties could take direct action if they believe they have been subjected to a noise nuisance.

3.2.3.2 Achievement of a BS 4142 rating noise level of between 5 and 10 dB below the lowest background noise level at the façade of the nearest neighbouring noise sensitive development is considered a robust approach to minimising the risk of such action being upheld.

3.3 Noise Emission Limits

3.3.1 Based on the above criteria and the lowest background noise levels from Table 2.2, the following noise emission limits have been set. The limits have been determined to achieve a BS 4142 rating level of -5 dB at 1m from the facades of the nearest noise sensitive properties. The plant items are understood not to contain tonal or impulsive characteristics.

Time Period	Free-field Noise Emission Limit at 1m from the Façade of the Upper Floors of the Nearest Residential Property	
	Location 1 (Properties overlooking High Holborn and Newton Street)	**Location 2** (Properties overlooking the delivery yard)
Daytime (07:00 – 23:00)	47 dB	40 dB
Night-Time (23:00 – 07:00)	45 dB	37 dB

Values are sound pressure levels in dB re 2 x 10^{-5}Pa

Table 3.2: Noise Emission Limits

3.3.2 If the above limits are met with all plant operating simultaneously under normal duty, then it is considered that noise from plant associated with the new hotel use is not likely to cause disturbance.

3.4 Initial Plant Noise Assessment

3.4.1 Initial proposals for the building services plant are currently in place however these may be subject to change as the detailed design is progressed.

3.4.2 The preliminary rooftop plant items are listed below.

- 12no. Mitsubishi PURY-EP200
- 1no. VES Ecovent NRG Size 8 @60Hz
- 1no. VES Ecovent NRG Size 9 @50Hz
- Kitchen Extract

3.4.3 Noise data for the above plant items is presented in Appendix D. No data is available at this stage for the kitchen extract unit however a nominal sound power level of 75 dBA has been assumed for the purposes of our calculations.

3.4.4 External plant associated with the development will be located within two screened roof plant areas located on a flat roof at high level above the main bedroom block fronting High Holborn. The proposed location of the rooftop plant is shown below in Figure 3.1.

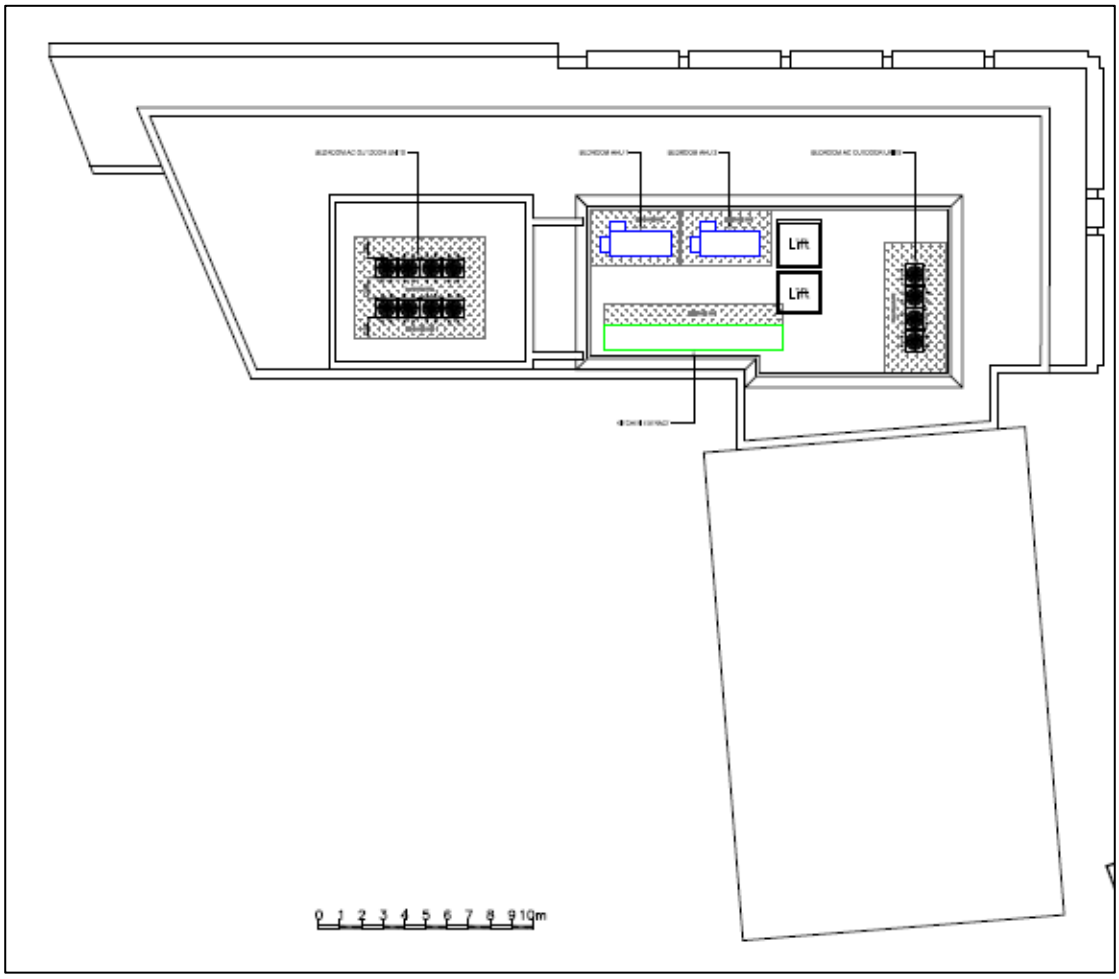


Figure 3.1: Plan showing proposed rooftop plant

3.4.5 It is currently proposed that the public area ventilation plant and public area air conditioning plant will be located within the semi-basement plant room. Plant items (including the louvre) will be specified to achieve the above plant noise emission limits.

3.4.6 It has been assumed for the purposes of this assessment that the nearest noise sensitive neighbour is that located to the west on High Holborn. Taking into account of distance and screening effects as there will not be a direct line of site to these premises an assessment has been undertaken. This has established that additional attenuation to the air handling plant is required in order to meet the proposed limits and it is intended that this will be incorporated as the detailed design is developed. Consequently plant noise levels at the nearest noise sensitive neighbours are anticipated to achieve the daytime noise emission limits. Night time noise emission levels will also be achieved assuming the condenser units will be operating at a reduced duty of 75% as has been found to be the norm for Premier Inn hotel developments.

4 Conclusions

4.1 An external noise survey was undertaken at the proposed site. Based on the measurement data daytime and night-time background noise levels have been determined.

4.2 Using recognised guidance and the Local Authority's requirements, noise emission limits have been set at the nearest noise sensitive neighbours.

4.3 Initial plant details have been presented however these will be further reviewed as the scheme develops.

An initial plant noise assessment has been carried out, and it has been established that additional attenuation will be required to the standard AHU units. This will be incorporated as the designs are finalised in order that the plant noise emission limits determined above are achieved for both the daytime and night time.

Appendix A: Acoustic Terminology

This document provides a layperson's explanation of the acoustics terms that commonly appear in reports. It is not intended to give full scientific definitions and explanations or go into detail on how and why things are as they are. Some obsolete terms and abbreviations have been included as they still appear in documents from time to time.

Many words have more specific meanings when used in acoustics than in every-day language.	
sound	is used to describe the physical phenomenon of the transmission of energy through gaseous or liquid media via rapid fluctuations in pressure.
vibration	is used to describe the transmission of energy through solid media by oscillation
level	used solely to describe values measured in decibels
loudness	is the human perception of the level of sound
noise	has no strict definition and is often used interchangeably with sound however it is usually taken to mean unwanted sound
index	a value based on the mathematical processing of raw data
indicator	a value used to indicate the likelihood of a particular response of effect eg. $L_{10,18hr}$ is an index based on statistical processing of sound pressure data that is used as an indicator for road traffic noise response.
weighted	values modified to reflect sensitivities at particular frequencies.
apparent	measured in situ
standardised	a generalised value based on an in-situ measurement with a correction based on a space with standard reverberation
normalised	a generalised value based on an in-situ measurement with a correction based on space with standard absorption area
insulation	resistance to the passage of airborne sound
isolation	resistance to the passage of vibration
insertion loss	actual reduction in noise achieved by a structure or system in situ
dynamic insertion loss	in a ducted system the actual reduction in sound achieved by an attenuator in real flow conditions
static insertion loss	in a ducted system the actual reduction in sound achieved by an attenuator in the absence of fluid flow
attenuation	amount by which sound or vibration is reduced when passing through a structure or system
directivity	the amount by which a source radiates more sound in one direction than another.
decibels dB	The decibel is not a true measurement unit nor is it exclusive to acoustics. The decibel is a logarithmic ratio of two values of a variable. Decibels are used because they can represent very wide ranges of ratios (from trillionths and billionths to billions and trillions) with a small range of decibel values. Decibels can be used to represent measured values by using a known reference value in the ratio. When using decibels to measure something it is therefore important to specify what variable is actually being measured and what reference level has been used. This is done by adding a reference value statement in the form "dB re x units", where the units indicate the variable being measured and x is the reference value. Decibels are used in acoustics because the human ear responds to sound in a logarithmic way and the quantities measured in acoustics vary over wide ranges. However, decibels are used in acoustics to measure several different things which it is important not to confuse with each other. To avoid confusion there is a notation system that identifies what a decibel value is

	for. The notations take the form of an italic capital letter and some subscript characters. The capital identifies the general type of value and the subscripts give specific details of what is being represented. L_{xxx} denotes a level (ie a value measured in dB by comparison with a reference value); D_{xxx} denotes a difference between two levels; R_{xxx} denotes a rating (or index), which is measure of the generalised acoustic performance of a material or construction based on a difference between two levels; C_{xxx} denotes a correction (or constant) Of these only those with *L* notations require a reference value statement. Those with *D* or *R* notations are effectively ratios of two measured values not one measured value and a reference value and those with *C* notations are not based on reference values at all. A reference value statement therefore has no meaning when describing *D*, *R* and *C* decibels. Because decibels are logarithmic they have to be added, subtracted, multiplied, divided and averaged using different techniques from normal numbers.
Sound Pressure Level L_p obsolete – SPL	This is the basic measure of how much sound there is at a given location. It is a measure of the size of the pressure fluctuations in the air that we perceive as sound. Sound Pressure Level is expressed in decibels with a reference level of 20 μPa (L_p in dB re 20 μPa)
Sound Power Level L_W obsolete – SWL	This is the total amount of sound produced by a source. It cannot be measured directly but it can be calculated from Sound Pressure Level measurements in known conditions. It can be used to predict the Sound Pressure Level at any point. Sound Power Level is expressed in decibels with a reference level of 1 pW (L_W in dB re 1 pW). In the US a reference of 100 fW is sometimes used
Pitch, frequency tonal sound broadband sound impulsive sound frequency analysis	The sound we perceive can have different characteristics. These can range from low-pitched hums to high-pitched squeals and impulsive sounds. In engineering acoustics the word frequency rather than pitch tends to be used when describing the characteristics of a sound. The unit of frequency is the Hertz (Hz), which is the number of pressure fluctuations per second. Any sound can be defined by its frequency content. Some sounds comprise just one discrete frequency (tonal sounds). Others are distributed over wide frequency ranges (broad band sound). Impulsive sounds are made up short pulses of high frequency components. Sources often produce all of these types of sound at the same time. There are different ways of analysing and displaying the frequency content of a sound: Octave Band Analysis — is the simplest method. The audible range of frequencies is divided into 10 bands. Third-Octave Band Analysis — more detailed with 30 bands Narrow Band Analysis — 12^{th} Octave (120 bands), 24^{th} Octave (240), Fast Fourier (FFT) Analysis — a high resolution technique that can give extremely detailed information on frequency content
   A-weighting L_A or L_{pA}, L_{WA}, obsolete – dBA, dB(A)	The human ear does not sense all frequencies of sound equally. Our sensitivity is at a maximum at around 2 kHz and steadily decreases above and below. Below 20 Hz and above about 20 kHz we can't hear at all. Within its operating limits a precision measurement microphone measures all frequencies the same so the output it produces does not reflect what we would actually hear. The A-weighting is an electronic filter that matches the response of a sound level meter to that of the human ear. When A-weighted the Sound Pressure Level L_p becomes L_{pA} (or L_A) and the Sound Power Level L_W becomes L_{WA}. It used to be common to identify that a level was A-weighted by writing dB(A) or dBA instead of dB. These terms are now obsolete and should not be used as they conflict with other, non-acoustic, uses of decibels

similar – C-weighting L_C or L_{pC}, L_{WC}	The response of the human ear varies depending on how loud the sound is. A-weighting matches the response of a sound level meter to human hearing at low levels (~ 40-90 dB). For higher levels there are other weightings the most common of which is the C-weighting.

Different types of decibels commonly used in acoustics

L_p L_{pA} (or L_A)	*The instantaneous sound pressure level* (L_p) *The A-weighted instantaneous sound pressure level* (L_{pA} or L_A) This is the root mean square size of the pressure fluctuations in the air. This level can fluctuate wildly even for seemingly steady sounds. To make sound level meters easier to read the values on the display are smoothed or damped out. This is effectively done by taking a rolling average of the previous 0.125 s (FAST time constant) or the previous 1 s (SLOW time constant). The letters F or S are added to the subscripts in the notation to indicate when the FAST or SLOW time constant has been used. These are often omitted but it is good practice to include them.
L_{AF}, L_{AS}	
L_{max} L_{Amax} L_{AFmax}	*The maximum instantaneous sound pressure level* (L_{max}), *The A-weighted maximum instantaneous sound pressure level* (L_{Amax}) *The A-weighted maximum instantaneous sound pressure level with a FAST time constant* (L_{AFmax}). This is the highest instantaneous sound pressure level reached during a measurement period. The opposite of the L_{max} is the *minimum instantaneous sound pressure level* or L_{min} etc. It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.
L_{min} , L_{Fmin}	
$L_{N,T}$ $L_{AN,T}$ $L_{AFN,T}$ N = %age value, 0-100 T = measurement time eg. L_{A90}, L_{A10}, $L_{AF90,\ 5\ min}$	*The percentage exceedence sound pressure level* ($L_{N,T}$), *The A-weighted percentage exceedence sound pressure level* ($L_{AN,T}$), *the A-weighted percentage exceedence sound pressure level with a FAST time constant* ($L_{AFN,T}$). This is the sound pressure level exceeded for *N*% of time period *T*. eg. If an A-weighted level of x dB is exceeded for a total of 6 minutes within one hour, the level will have been above x dB for 10% of the measurement period. This is written as $L_{A10,1hr}$ = x dB. L_{A0} (the level exceeded for 0 % of the time) is equivalent to the L_{Amax} and L_{A100} (the level exceeded for 100 % of the time) is equivalent to the L_{Amin}. It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.
$L_{eq,T}$ $L_{Aeq,T}$ T = measurement time eg. $L_{Aeq,5min}$	The *equivalent continuous sound pressure level over period T* ($L_{eq,T}$), *The A-weighted equivalent continuous sound pressure level over period T* ($L_{Aeq,T}$). This is effectively the average sound pressure level over a given period. As the decibel is a logarithmic quantity the L_{eq} is not a simple arithmetic mean value. The L_{eq} is calculated from the raw sound pressure data. It is not appropriate to include a reference to the FAST and SLOW time constants in the notation

Appendix B: Measurement Results

Full results of the both the statistical and spectral measurements undertaken at Location 1 and 2 are presented in Appendix B below.

All of the data are sound pressure levels in dB re 20 μPa. All measurements are of 15 minutes duration.

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Statistical Data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1			Location 2		
Date	**LAeq**	**LAF(max)**	**LA 90**	**LAeq**	**LAF(max)**	**LA 90**
(2011/08/05 18:15:00.00)	70.7	85.2	61.9	55.8	67.3	54.8
(2011/08/05 18:30:00.00)	70.2	80.0	62.7	56.2	69.2	55.0
(2011/08/05 18:45:00.00)	70.9	85.6	62.1	55.9	64.9	55.0
(2011/08/05 19:00:00.00)	70.3	91.8	61.7	56.2	67.0	55.1
(2011/08/05 19:15:00.00)	70.4	83.7	61.3	56.3	66.8	55.0
(2011/08/05 19:30:00.00)	70.0	82.8	61.2	55.8	60.1	54.9
(2011/08/05 19:45:00.00)	78.6	103.9	61.3	58.4	78.9	55.2
(2011/08/05 20:00:00.00)	71.0	94.0	61.1	60.9	80.4	54.9
(2011/08/05 20:15:00.00)	69.3	82.9	60.1	55.8	61.6	55.0
(2011/08/05 20:30:00.00)	69.0	83.2	59.5	55.9	65.1	54.9
(2011/08/05 20:45:00.00)	70.3	85.6	60.6	56.6	69.9	55.1
(2011/08/05 21:00:00.00)	73.6	98.1	61.5	57.5	72.4	55.1
(2011/08/05 21:15:00.00)	69.8	82.6	60.2	56.0	67.7	54.9
(2011/08/05 21:30:00.00)	69.5	83.6	60.9	56.1	65.5	54.8
(2011/08/05 21:45:00.00)	69.4	87.6	59.4	55.6	63.7	54.7
(2011/08/05 22:00:00.00)	70.0	86.5	59.9	56.1	63.7	54.8
(2011/08/05 22:15:00.00)	69.3	84.3	61.4	55.3	62.1	54.6
(2011/08/05 22:30:00.00)	69.5	83.9	60.4	55.4	61.9	54.5
(2011/08/05 22:45:00.00)	70.2	84.2	60.2	55.6	69.4	54.6
(2011/08/05 23:00:00.00)	69.0	86.1	60.9	55.2	61.7	54.5
(2011/08/05 23:15:00.00)	69.5	79.9	59.6	55.7	64.7	54.7
(2011/08/05 23:30:00.00)	69.9	89.6	58.0	54.1	64.7	50.2
(2011/08/05 23:45:00.00)	69.9	85.8	56.4	51.7	62.8	49.6
(2011/08/06 00:00:00.00)	70.0	83.1	59.2	48.8	59.7	44.8
(2011/08/06 00:15:00.00)	68.9	83.1	56.4	48.2	60.0	44.0
(2011/08/06 00:30:00.00)	69.6	84.7	57.0	48.3	57.7	44.1
(2011/08/06 00:45:00.00)	69.6	82.0	57.3	48.7	57.9	44.3
(2011/08/06 01:00:00.00)	69.3	89.9	55.1	48.3	57.7	43.8
(2011/08/06 01:15:00.00)	69.1	82.7	55.3	48.6	66.6	44.0
(2011/08/06 01:30:00.00)	69.0	89.7	55.9	47.7	55.8	43.7
(2011/08/06 01:45:00.00)	70.1	85.1	56.4	48.9	60.6	44.1
(2011/08/06 02:00:00.00)	68.9	85.0	57.3	48.3	63.9	44.5
(2011/08/06 02:15:00.00)	68.9	79.9	53.4	48.4	60.7	44.4
(2011/08/06 02:30:00.00)	69.8	88.2	55.7	49.0	70.2	43.9
(2011/08/06 02:45:00.00)	69.8	83.1	56.6	49.0	60.5	44.4
(2011/08/06 03:00:00.00)	68.4	88.0	55.4	48.6	64.9	44.3
(2011/08/06 03:15:00.00)	68.6	82.1	54.6	48.4	59.7	44.8
(2011/08/06 03:30:00.00)	68.1	79.1	55.5	48.1	58.8	44.6
(2011/08/06 03:45:00.00)	69.0	84.3	55.1	47.9	59.7	44.1
(2011/08/06 04:00:00.00)	68.8	85.8	55.1	48.5	62.8	43.7
(2011/08/06 04:15:00.00)	69.3	92.1	55.2	48.2	62.5	43.6
(2011/08/06 04:30:00.00)	67.9	85.1	52.6	52.0	72.9	43.0
(2011/08/06 04:45:00.00)	68.2	80.0	55.1	49.6	64.9	43.8
(2011/08/06 05:00:00.00)	67.1	84.6	54.1	49.0	62.7	44.1
(2011/08/06 05:15:00.00)	68.0	87.5	51.3	50.0	68.9	43.5
(2011/08/06 05:30:00.00)	68.3	84.6	54.4	47.3	57.2	43.5
(2011/08/06 05:45:00.00)	67.9	81.8	53.6	48.2	59.9	43.6
(2011/08/06 06:00:00.00)	68.8	86.1	51.8	51.5	67.9	44.8
(2011/08/06 06:15:00.00)	67.7	82.3	54.0	52.0	67.3	45.4
(2011/08/06 06:30:00.00)	75.0	85.6	64.4	52.1	63.0	47.8
(2011/08/06 06:45:00.00)	69.6	86.8	57.6	50.9	67.3	45.7

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Statistical Data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1			Location 2		
Date	**LAeq**	**LAF(max)**	**LA 90**	**LAeq**	**LAF(max)**	**LA 90**
(2011/08/06 07:00:00.00)	67.8	80.0	52.7	48.5	58.1	44.5
(2011/08/06 07:15:00.00)	70.3	88.3	54.8	54.8	68.6	46.5
(2011/08/06 07:30:00.00)	69.0	82.3	55.5	56.0	63.2	54.7
(2011/08/06 07:45:00.00)	70.5	86.0	55.5	57.1	67.3	55.5
(2011/08/06 08:00:00.00)	73.5	97.8	55.1	56.9	65.4	55.7
(2011/08/06 08:15:00.00)	69.3	85.1	54.5	58.1	72.8	55.3
(2011/08/06 08:30:00.00)	69.7	81.9	56.5	56.2	64.5	55.0
(2011/08/06 08:45:00.00)	70.6	94.8	55.0	55.8	62.8	54.7
(2011/08/06 09:00:00.00)	69.0	82.0	55.9	55.6	60.0	54.8
(2011/08/06 09:15:00.00)	76.5	102.4	55.5	57.6	76.9	55.0
(2011/08/06 09:30:00.00)	83.8	92.5	65.3	58.0	64.6	55.5
(2011/08/06 09:45:00.00)	82.7	93.8	60.9	58.0	65.6	55.3
(2011/08/06 10:00:00.00)	72.7	91.9	58.4	56.4	65.4	54.7
(2011/08/06 10:15:00.00)	69.7	83.5	58.2	55.5	61.1	54.7
(2011/08/06 10:30:00.00)	69.0	82.6	56.7	55.7	67.8	54.5
(2011/08/06 10:45:00.00)	67.9	80.6	58.1	55.5	63.7	54.6
(2011/08/06 11:00:00.00)	69.1	82.4	56.9	55.4	60.4	54.6
(2011/08/06 11:15:00.00)	69.1	81.8	57.7	55.8	69.2	54.8
(2011/08/06 11:30:00.00)	70.0	82.8	58.1	57.2	70.9	54.9
(2011/08/06 11:45:00.00)	73.8	100.2	59.3	56.6	74.1	54.5
(2011/08/06 12:00:00.00)	68.7	83.1	58.0	55.7	63.7	54.4
(2011/08/06 12:15:00.00)	69.2	85.9	59.0	56.1	72.0	54.5
(2011/08/06 12:30:00.00)	69.2	81.7	57.5	55.8	71.4	54.4
(2011/08/06 12:45:00.00)	69.5	81.4	57.9	56.7	71.1	54.6
(2011/08/06 13:00:00.00)	69.8	92.2	59.8	55.7	65.6	54.6
(2011/08/06 13:15:00.00)	72.6	99.3	58.4	57.1	74.2	54.6
(2011/08/06 13:30:00.00)	68.9	80.0	58.5	55.7	64.3	54.5
(2011/08/06 13:45:00.00)	70.0	88.1	59.2	58.0	74.9	54.7
(2011/08/06 14:00:00.00)	69.0	84.3	58.5	55.6	69.4	54.5
(2011/08/06 14:15:00.00)	69.4	83.9	59.4	57.4	73.8	54.7
(2011/08/06 14:30:00.00)	72.4	89.2	58.9	56.5	68.5	54.6
(2011/08/06 14:45:00.00)	69.0	83.0	58.6	56.1	71.1	54.6
(2011/08/06 15:00:00.00)	69.8	81.1	58.5	56.2	67.6	54.6
(2011/08/06 15:15:00.00)	69.7	83.6	58.5	55.8	72.3	54.3
(2011/08/06 15:30:00.00)	71.3	97.0	59.6	55.9	66.7	54.6
(2011/08/06 15:45:00.00)	70.7	83.6	60.3	56.5	68.2	54.7
(2011/08/06 16:00:00.00)	69.4	82.9	58.5	55.8	63.0	54.6
(2011/08/06 16:15:00.00)	70.1	87.8	59.3	55.4	63.4	54.4
(2011/08/06 16:30:00.00)	72.2	87.0	69.1	55.6	64.1	54.9
(2011/08/06 16:45:00.00)	72.3	85.5	69.0	56.2	70.3	55.2
(2011/08/06 17:00:00.00)	71.7	83.3	61.8	56.9	70.7	55.1
(2011/08/06 17:15:00.00)	69.7	86.0	59.0	56.0	63.7	54.8
(2011/08/06 17:30:00.00)	69.2	87.2	59.7	57.1	73.1	54.7
(2011/08/06 17:45:00.00)	75.6	103.8	59.4	57.5	77.9	54.9
(2011/08/06 18:00:00.00)	70.7	92.7	60.0	55.9	65.7	54.8
(2011/08/06 18:15:00.00)	68.7	80.3	56.8	55.6	62.5	54.8
(2011/08/06 18:30:00.00)	69.4	82.0	58.8	55.8	67.2	54.8
(2011/08/06 18:45:00.00)	69.2	80.6	57.4	55.6	61.8	54.6
(2011/08/06 19:00:00.00)	69.1	80.4	58.7	55.9	68.8	54.7
(2011/08/06 19:15:00.00)	69.7	81.7	57.5	55.5	63.4	54.7
(2011/08/06 19:30:00.00)	69.8	84.4	57.0	56.2	69.6	54.7

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Statistical Data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1			Location 2		
Date	**LAeq**	**LAF(max)**	**LA 90**	**LAeq**	**LAF(max)**	**LA 90**
(2011/08/06 19:45:00.00)	68.5	82.0	57.5	55.5	59.6	54.7
(2011/08/06 20:00:00.00)	69.6	81.8	57.3	55.8	63.8	54.9
(2011/08/06 20:15:00.00)	69.7	84.5	57.4	55.8	63.3	54.9
(2011/08/06 20:30:00.00)	68.7	83.2	57.6	55.9	66.9	54.7
(2011/08/06 20:45:00.00)	68.5	83.0	56.8	55.4	63.4	54.6
(2011/08/06 21:00:00.00)	67.9	78.0	57.5	55.4	59.1	54.7
(2011/08/06 21:15:00.00)	68.2	79.0	56.2	55.5	62.6	54.6
(2011/08/06 21:30:00.00)	68.4	79.9	56.3	55.6	62.7	54.7
(2011/08/06 21:45:00.00)	67.8	77.7	57.1	55.3	59.2	54.6
(2011/08/06 22:00:00.00)	69.0	82.3	57.9	55.5	63.3	54.8
(2011/08/06 22:15:00.00)	69.8	86.3	57.5	55.8	69.7	54.8
(2011/08/06 22:30:00.00)	70.8	82.6	57.7	55.7	69.4	54.6
(2011/08/06 22:45:00.00)	76.7	99.3	59.9	57.4	73.3	54.8
(2011/08/06 23:00:00.00)	68.6	84.0	58.8	55.6	72.4	54.6
(2011/08/06 23:15:00.00)	70.9	97.5	59.6	55.6	67.6	54.7
(2011/08/06 23:30:00.00)	68.0	85.6	56.3	52.1	61.9	50.2
(2011/08/06 23:45:00.00)	69.9	85.5	58.6	52.2	59.9	50.5
(2011/08/07 00:00:00.00)	69.4	85.2	57.3	49.9	63.2	46.1
(2011/08/07 00:15:00.00)	68.4	81.1	57.2	49.9	69.5	45.4
(2011/08/07 00:30:00.00)	68.3	81.6	56.1	48.2	58.8	44.9
(2011/08/07 00:45:00.00)	69.2	86.8	56.5	48.4	59.0	44.7
(2011/08/07 01:00:00.00)	69.9	86.2	56.8	49.5	60.6	45.4
(2011/08/07 01:15:00.00)	69.9	87.6	56.0	49.2	64.3	45.0
(2011/08/07 01:30:00.00)	70.0	96.2	57.0	48.6	60.0	45.1
(2011/08/07 01:45:00.00)	69.0	79.8	55.9	48.6	57.1	44.6
(2011/08/07 02:00:00.00)	69.2	80.5	54.8	48.6	57.9	44.8
(2011/08/07 02:15:00.00)	68.9	81.0	56.7	48.6	57.9	45.0
(2011/08/07 02:30:00.00)	68.8	81.3	54.1	48.4	60.0	44.6
(2011/08/07 02:45:00.00)	69.6	84.1	55.6	49.5	60.3	45.6
(2011/08/07 03:00:00.00)	67.2	80.2	53.9	48.3	57.9	44.8
(2011/08/07 03:15:00.00)	70.4	89.4	57.6	49.8	62.5	45.3
(2011/08/07 03:30:00.00)	69.1	82.9	56.2	48.8	62.3	45.0
(2011/08/07 03:45:00.00)	68.9	83.2	54.9	48.9	59.6	44.9
(2011/08/07 04:00:00.00)	68.4	81.6	54.2	47.9	59.0	44.4
(2011/08/07 04:15:00.00)	68.8	83.1	54.8	48.1	59.1	44.1
(2011/08/07 04:30:00.00)	68.1	83.4	55.1	48.9	65.3	44.3
(2011/08/07 04:45:00.00)	68.9	94.1	53.7	51.0	68.6	44.3
(2011/08/07 05:00:00.00)	68.0	81.7	53.8	50.0	65.8	44.3
(2011/08/07 05:15:00.00)	66.3	81.9	51.8	50.1	65.7	43.7
(2011/08/07 05:30:00.00)	66.5	82.4	51.5	47.5	62.5	44.0
(2011/08/07 05:45:00.00)	67.3	80.2	52.6	47.8	64.5	43.8
(2011/08/07 06:00:00.00)	67.3	80.3	51.5	49.1	64.1	45.1
(2011/08/07 06:15:00.00)	70.7	88.0	53.0	51.0	72.2	45.1
(2011/08/07 06:30:00.00)	69.0	87.8	53.8	49.6	63.1	45.7
(2011/08/07 06:45:00.00)	68.1	84.6	53.8	49.0	57.9	45.2
(2011/08/07 07:00:00.00)	67.3	83.4	53.9	49.5	59.0	46.2
(2011/08/07 07:15:00.00)	66.9	78.8	52.0	48.9	57.2	45.8
(2011/08/07 07:30:00.00)	70.8	83.0	55.8	54.6	62.1	47.6
(2011/08/07 07:45:00.00)	67.5	81.3	53.1	56.2	64.1	55.0
(2011/08/07 08:00:00.00)	67.9	81.7	53.8	55.8	61.5	54.9
(2011/08/07 08:15:00.00)	67.0	79.3	53.8	57.2	70.5	55.2

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Statistical Data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1			Location 2		
Date	**LAeq**	**LAF(max)**	**LA 90**	**LAeq**	**LAF(max)**	**LA 90**
(2011/08/07 08:30:00.00)	67.5	81.4	53.2	55.6	61.1	54.8
(2011/08/07 08:45:00.00)	68.1	84.6	52.8	55.7	62.1	54.8
(2011/08/07 09:00:00.00)	67.4	86.7	54.1	55.7	65.9	54.9
(2011/08/07 09:15:00.00)	67.3	79.4	54.1	56.0	66.2	54.8
(2011/08/07 09:30:00.00)	74.4	104.0	54.3	57.3	74.9	54.5
(2011/08/07 09:45:00.00)	68.7	80.9	55.4	55.8	68.1	54.8
(2011/08/07 10:00:00.00)	69.4	82.5	56.3	56.1	66.1	55.0
(2011/08/07 10:15:00.00)	68.4	83.0	56.3	56.3	68.1	55.0
(2011/08/07 10:30:00.00)	68.1	79.5	57.5	56.2	65.7	54.9
(2011/08/07 10:45:00.00)	68.7	84.9	56.3	55.7	66.3	54.6
(2011/08/07 11:00:00.00)	68.5	81.0	57.0	56.9	69.4	54.9
(2011/08/07 11:15:00.00)	68.7	79.7	55.9	56.1	66.1	54.8
(2011/08/07 11:30:00.00)	68.7	87.4	58.0	56.6	71.6	54.7
(2011/08/07 11:45:00.00)	68.2	79.6	56.9	56.8	71.6	54.9
(2011/08/07 12:00:00.00)	68.7	82.2	56.8	56.4	72.8	54.5
(2011/08/07 12:15:00.00)	68.9	81.5	56.3	55.5	64.9	54.6
(2011/08/07 12:30:00.00)	69.1	83.2	58.4	56.8	68.8	54.9
(2011/08/07 12:45:00.00)	68.6	80.7	58.1	56.2	65.5	54.7
(2011/08/07 13:00:00.00)	68.3	81.7	58.3	56.2	67.0	54.8
(2011/08/07 13:15:00.00)	68.6	82.0	58.1	56.8	70.7	55.0
(2011/08/07 13:30:00.00)	68.3	85.3	57.0	56.3	67.5	54.7
(2011/08/07 13:45:00.00)	73.5	85.7	58.6	57.1	72.8	54.8
(2011/08/07 14:00:00.00)	72.2	85.6	58.6	57.1	70.6	55.1
(2011/08/07 14:15:00.00)	68.9	88.1	59.3	56.1	61.6	54.9
(2011/08/07 14:30:00.00)	72.2	85.7	61.7	58.0	65.7	55.8
(2011/08/07 14:45:00.00)	72.8	81.2	60.9	59.4	71.4	55.9
(2011/08/07 15:00:00.00)	71.1	82.5	59.2	56.5	66.1	55.2
(2011/08/07 15:15:00.00)	70.1	90.9	58.6	56.8	67.5	55.1
(2011/08/07 15:30:00.00)	70.8	82.7	59.1	57.9	69.0	55.1
(2011/08/07 15:45:00.00)	73.0	85.4	60.7	60.0	76.2	57.3
(2011/08/07 16:00:00.00)	70.7	82.6	59.5	56.2	64.7	55.1
(2011/08/07 16:15:00.00)	69.9	81.5	57.4	56.4	70.3	54.9
(2011/08/07 16:30:00.00)	70.1	83.9	58.0	55.7	64.2	54.7
(2011/08/07 16:45:00.00)	68.9	81.0	57.5	56.2	66.3	54.8
(2011/08/07 17:00:00.00)	68.9	83.1	57.9	56.6	68.7	54.7
(2011/08/07 17:15:00.00)	78.9	104.2	57.9	58.4	77.8	54.9
(2011/08/07 17:30:00.00)	69.1	81.3	57.1	56.3	66.8	54.8
(2011/08/07 17:45:00.00)	68.3	80.2	57.1	57.9	75.1	55.0
(2011/08/07 18:00:00.00)	69.4	83.6	57.2	55.9	66.8	54.7
(2011/08/07 18:15:00.00)	68.6	79.9	58.0	55.5	64.3	54.7
(2011/08/07 18:30:00.00)	68.9	81.6	55.3	55.6	65.1	54.6
(2011/08/07 18:45:00.00)	68.7	79.9	55.9	55.8	70.3	54.6
(2011/08/07 19:00:00.00)	68.9	84.0	57.0	57.2	68.2	54.7
(2011/08/07 19:15:00.00)	68.4	79.8	55.7	55.7	64.3	54.6
(2011/08/07 19:30:00.00)	68.5	81.2	56.0	55.4	66.0	54.5
(2011/08/07 19:45:00.00)	68.5	82.9	55.6	55.4	61.2	54.6
(2011/08/07 20:00:00.00)	68.0	82.1	56.6	55.4	62.5	54.5
(2011/08/07 20:15:00.00)	66.7	82.2	53.7	55.0	58.5	54.3
(2011/08/07 20:30:00.00)	67.4	82.7	55.5	55.2	60.9	54.5
(2011/08/07 20:45:00.00)	75.8	103.1	54.3	56.8	76.2	54.6
(2011/08/07 21:00:00.00)	67.2	80.3	54.0	55.6	66.1	54.5

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Statistical Data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1			Location 2		
Date	**LAeq**	**LAF(max)**	**LA 90**	**LAeq**	**LAF(max)**	**LA 90**
(2011/08/07 21:15:00.00)	66.8	83.8	54.0	55.3	63.8	54.4
(2011/08/07 21:30:00.00)	67.4	80.4	54.6	55.2	59.2	54.5
(2011/08/07 21:45:00.00)	66.8	78.7	56.1	55.2	62.9	54.5
(2011/08/07 22:00:00.00)	74.5	100.2	54.1	58.5	75.6	54.5
(2011/08/07 22:15:00.00)	67.6	78.8	54.7	55.6	66.2	54.4
(2011/08/07 22:30:00.00)	67.3	81.7	55.2	55.1	59.1	54.4
(2011/08/07 22:45:00.00)	70.4	89.9	55.9	55.9	69.0	54.6
(2011/08/07 23:00:00.00)	68.4	83.0	54.5	55.3	63.1	54.5
(2011/08/07 23:15:00.00)	68.4	83.6	54.1	53.5	62.8	50.3
(2011/08/07 23:30:00.00)	67.6	80.1	54.9	49.8	62.8	44.9
(2011/08/07 23:45:00.00)	67.7	80.1	53.8	48.8	59.0	44.4
(2011/08/08 00:00:00.00)	68.1	85.9	52.1	47.5	59.8	43.6
(2011/08/08 00:15:00.00)	66.6	78.9	53.4	47.5	63.7	43.6
(2011/08/08 00:30:00.00)	68.0	88.7	52.8	46.8	61.0	43.1
(2011/08/08 00:45:00.00)	68.7	81.0	55.6	58.6	69.4	43.7
(2011/08/08 01:00:00.00)	71.4	84.6	55.0	59.5	72.0	51.4
(2011/08/08 01:15:00.00)	68.6	82.4	55.5	55.3	63.9	50.7
(2011/08/08 01:30:00.00)	70.4	83.9	57.5	57.1	64.7	54.9
(2011/08/08 01:45:00.00)	70.1	82.4	56.3	55.2	61.1	53.0
(2011/08/08 02:00:00.00)	68.4	82.6	52.0	52.3	62.4	47.9
(2011/08/08 02:15:00.00)	68.8	85.4	52.1	51.3	64.4	46.2
(2011/08/08 02:30:00.00)	67.4	80.6	52.5	50.4	60.4	43.7
(2011/08/08 02:45:00.00)	66.8	80.6	51.5	46.9	58.8	42.8
(2011/08/08 03:00:00.00)	67.9	85.0	52.8	47.9	62.1	43.1
(2011/08/08 03:15:00.00)	66.2	79.4	51.4	47.7	74.7	43.3
(2011/08/08 03:30:00.00)	65.9	79.9	50.4	46.6	61.7	42.6
(2011/08/08 03:45:00.00)	67.6	85.6	50.5	47.5	62.6	42.7
(2011/08/08 04:00:00.00)	67.2	81.8	50.1	46.4	60.6	42.2
(2011/08/08 04:15:00.00)	66.8	84.7	50.6	46.5	60.1	42.6
(2011/08/08 04:30:00.00)	67.4	82.1	51.7	47.8	59.7	43.0
(2011/08/08 04:45:00.00)	67.4	82.4	52.8	49.2	64.2	43.1
(2011/08/08 05:00:00.00)	67.7	81.1	51.7	48.7	70.5	43.3
(2011/08/08 05:15:00.00)	70.4	83.1	53.9	64.1	76.7	44.5
(2011/08/08 05:30:00.00)	69.3	88.0	53.7	50.1	76.6	44.4
(2011/08/08 05:45:00.00)	68.5	80.3	53.9	48.8	59.0	44.8
(2011/08/08 06:00:00.00)	70.7	84.8	57.9	50.7	62.6	46.0
(2011/08/08 06:15:00.00)	70.3	81.0	54.5	50.8	60.1	46.2
(2011/08/08 06:30:00.00)	70.9	82.1	55.9	51.2	63.1	46.7
(2011/08/08 06:45:00.00)	73.4	91.0	58.4	52.2	67.1	47.0
(2011/08/08 07:00:00.00)	74.0	88.4	66.9	52.9	66.4	49.4
(2011/08/08 07:15:00.00)	71.3	84.6	57.2	53.1	76.4	47.4
(2011/08/08 07:30:00.00)	71.7	89.9	60.9	51.5	60.3	47.7
(2011/08/08 07:45:00.00)	72.1	91.0	62.7	52.4	65.8	48.6
(2011/08/08 08:00:00.00)	72.4	87.3	63.2	54.9	66.8	49.9
(2011/08/08 08:15:00.00)	71.7	94.9	59.8	56.9	69.9	55.5
(2011/08/08 08:30:00.00)	71.6	87.9	61.4	57.2	76.5	55.4
(2011/08/08 08:45:00.00)	71.9	84.3	61.3	57.2	71.1	55.3
(2011/08/08 09:00:00.00)	70.9	85.5	61.0	56.2	69.7	55.3
(2011/08/08 09:15:00.00)	71.3	82.2	62.2	57.9	72.6	55.4
(2011/08/08 09:30:00.00)	71.4	81.7	63.1	56.8	63.0	55.6
(2011/08/08 09:45:00.00)	71.9	84.5	64.8	58.1	68.9	56.2

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Statistical Data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1			Location 2		
Date	**LAeq**	**LAF(max)**	**LA 90**	**LAeq**	**LAF(max)**	**LA 90**
(2011/08/08 10:00:00.00)	71.5	83.3	64.1	57.7	70.2	55.6
(2011/08/08 10:15:00.00)	71.8	87.1	62.9	57.5	66.8	55.4
(2011/08/08 10:30:00.00)	75.2	101.5	63.1	58.6	76.8	55.8
(2011/08/08 10:45:00.00)	71.5	87.0	62.9	57.3	76.4	56.0
(2011/08/08 11:00:00.00)	71.1	83.7	63.5	57.0	74.2	55.7
(2011/08/08 11:15:00.00)	71.1	86.0	62.6	57.2	68.3	55.6
(2011/08/08 11:30:00.00)	71.1	83.2	62.5	56.3	61.0	55.3

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Spectral Lfeq data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1								Location 2							
	Lfeq								Lfeq							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/05 18:15:00.00)	75.6	71.5	67.6	67.2	66.8	63.0	56.7	51.0	63.8	58.6	57.1	53.2	50.2	46.9	43.5	35.8
(2011/08/05 18:30:00.00)	75.4	69.9	66.7	66.3	66.1	62.8	57.6	52.7	63.8	58.8	57.8	53.6	50.6	47.1	43.8	36.4
(2011/08/05 18:45:00.00)	76.6	70.0	67.8	66.8	66.9	63.4	58.3	54.4	64.3	59.0	57.0	53.1	50.3	47.1	44.0	36.6
(2011/08/05 19:00:00.00)	76.0	71.7	67.7	66.2	66.1	62.7	57.8	54.7	64.2	58.9	57.4	53.7	50.5	47.3	44.0	36.6
(2011/08/05 19:15:00.00)	76.1	70.7	66.6	66.4	66.5	63.1	57.1	52.2	65.5	58.5	56.9	54.1	50.5	47.4	44.2	37.0
(2011/08/05 19:30:00.00)	73.9	68.8	67.0	65.7	66.1	62.5	57.5	51.8	63.3	58.2	57.4	52.8	50.1	47.1	44.0	37.0
(2011/08/05 19:45:00.00)	75.9	71.8	69.0	69.7	77.7	66.1	58.8	51.4	64.5	59.5	58.2	54.2	55.1	48.3	44.2	36.9
(2011/08/05 20:00:00.00)	74.9	69.2	66.4	67.1	67.4	63.3	56.8	51.3	67.2	62.1	62.2	59.0	55.5	51.3	45.9	37.1
(2011/08/05 20:15:00.00)	76.1	69.8	66.2	65.5	65.2	61.7	56.2	52.2	64.2	58.8	57.2	53.0	50.0	47.0	44.0	36.8
(2011/08/05 20:30:00.00)	74.9	68.0	65.0	64.8	65.2	61.5	56.1	51.3	63.5	58.5	56.9	52.9	50.2	47.6	44.4	36.8
(2011/08/05 20:45:00.00)	76.1	69.7	66.3	65.9	66.7	62.7	57.1	52.5	63.7	58.9	57.1	54.1	50.9	48.0	44.6	36.5
(2011/08/05 21:00:00.00)	74.5	68.5	65.1	67.1	71.2	66.6	56.7	51.0	63.8	58.1	56.7	53.8	53.4	49.1	44.3	36.8
(2011/08/05 21:15:00.00)	74.7	69.4	66.6	65.6	66.0	62.3	56.5	51.1	63.4	58.6	57.4	53.0	50.5	47.5	44.2	36.7
(2011/08/05 21:30:00.00)	74.6	67.8	65.1	65.1	65.5	62.3	57.3	52.1	63.6	58.3	57.1	53.8	50.3	47.1	44.1	36.8
(2011/08/05 21:45:00.00)	73.9	67.7	64.3	66.1	65.5	61.9	56.3	50.4	63.0	57.6	56.4	53.0	50.0	47.0	44.1	37.0
(2011/08/05 22:00:00.00)	74.6	68.1	66.0	65.8	66.6	62.4	56.0	50.2	63.2	57.7	56.6	53.2	50.7	47.9	44.6	37.2
(2011/08/05 22:15:00.00)	76.1	67.5	65.1	65.3	65.4	61.9	56.3	54.3	64.0	57.8	56.3	52.3	49.7	46.9	43.8	36.5
(2011/08/05 22:30:00.00)	73.5	67.1	65.1	65.0	65.9	62.5	55.4	51.3	63.1	57.7	56.5	52.2	49.8	47.2	44.0	36.8
(2011/08/05 22:45:00.00)	74.7	67.3	65.4	65.6	66.7	63.1	56.9	52.7	63.3	57.5	56.6	52.5	50.1	47.2	44.0	36.7
(2011/08/05 23:00:00.00)	73.4	66.5	64.3	64.8	65.6	61.5	54.9	48.3	62.4	57.2	56.5	52.2	49.6	46.6	43.8	36.5
(2011/08/05 23:15:00.00)	74.2	70.5	65.2	65.4	65.8	61.9	55.1	50.6	63.2	58.3	56.9	52.7	50.1	47.1	43.9	36.7
(2011/08/05 23:30:00.00)	75.0	67.2	64.8	65.6	66.3	62.6	56.1	49.7	62.5	56.9	55.6	50.6	48.8	45.5	41.7	33.7
(2011/08/05 23:45:00.00)	73.5	67.0	65.2	65.4	66.1	62.9	57.1	52.8	61.9	55.8	54.8	47.7	46.7	42.7	35.3	24.7
(2011/08/06 00:00:00.00)	75.0	67.3	65.0	65.3	66.4	62.8	57.1	50.8	59.7	51.4	48.0	45.6	44.6	40.2	32.3	21.2
(2011/08/06 00:15:00.00)	74.2	67.0	65.1	64.3	65.3	61.6	55.3	50.0	59.6	51.2	47.9	44.9	44.0	39.6	31.6	23.1
(2011/08/06 00:30:00.00)	74.5	66.8	65.2	64.9	66.0	62.2	58.1	50.7	59.4	51.1	47.9	45.0	44.2	39.7	32.6	20.6
(2011/08/06 00:45:00.00)	75.4	68.9	65.5	65.0	65.9	62.4	56.5	52.9	60.5	51.8	48.1	45.4	44.5	40.2	32.1	21.3
(2011/08/06 01:00:00.00)	73.3	66.4	65.1	64.7	65.9	62.2	55.4	50.1	58.9	51.5	48.3	45.3	44.1	39.3	30.8	20.2
(2011/08/06 01:15:00.00)	74.3	70.8	65.9	65.1	65.6	61.2	54.4	48.5	59.7	52.0	48.2	45.6	44.1	39.9	33.1	21.4
(2011/08/06 01:30:00.00)	74.0	66.5	64.2	64.1	65.8	61.8	54.3	48.5	58.7	51.0	47.6	44.4	43.8	38.8	29.7	19.4
(2011/08/06 01:45:00.00)	75.4	67.6	66.1	65.5	66.5	62.7	57.3	51.9	60.0	51.3	48.5	45.6	44.8	40.3	32.6	21.9
(2011/08/06 02:00:00.00)	75.5	67.6	64.6	63.8	65.4	61.6	56.4	50.5	59.7	51.4	48.3	44.7	44.3	39.4	32.0	21.9
(2011/08/06 02:15:00.00)	73.7	64.6	63.1	63.5	66.0	61.8	54.1	47.5	59.8	51.1	47.8	44.7	44.6	40.0	31.2	21.0
(2011/08/06 02:30:00.00)	73.6	67.0	64.0	64.1	66.7	62.8	56.4	49.9	58.8	51.3	47.6	45.0	45.6	40.5	32.1	20.6
(2011/08/06 02:45:00.00)	73.9	65.8	65.4	65.5	66.4	62.3	55.2	49.2	59.1	51.0	48.1	45.7	45.1	40.7	31.4	20.4
(2011/08/06 03:00:00.00)	72.5	64.4	63.4	63.6	65.0	61.3	54.6	49.2	58.0	50.6	48.0	45.6	44.8	39.6	30.8	20.4
(2011/08/06 03:15:00.00)	72.5	64.3	63.5	63.6	65.3	61.4	54.5	48.7	58.2	50.8	48.0	45.1	44.5	39.8	31.0	20.4
(2011/08/06 03:30:00.00)	73.2	64.2	63.6	63.6	64.9	60.6	53.3	47.9	58.6	50.7	47.9	44.9	44.0	39.3	30.9	20.6
(2011/08/06 03:45:00.00)	73.1	66.2	64.5	64.7	65.6	61.3	54.9	50.1	58.9	50.9	47.7	44.5	44.0	38.8	30.5	21.6
(2011/08/06 04:00:00.00)	74.2	66.4	65.4	64.9	65.0	61.4	55.2	50.5	59.3	51.1	47.9	45.2	44.2	40.4	32.4	22.8
(2011/08/06 04:15:00.00)	74.4	66.5	63.4	64.0	66.0	62.6	55.0	49.8	59.5	50.7	47.4	44.9	44.3	39.5	30.7	20.0
(2011/08/06 04:30:00.00)	72.8	65.8	65.7	63.9	64.1	60.1	54.2	47.9	57.9	50.1	47.3	44.2	47.2	46.5	42.3	26.0
(2011/08/06 04:45:00.00)	72.7	64.4	63.7	63.6	65.0	60.8	53.8	47.5	59.7	53.4	50.9	46.2	44.7	40.8	35.0	23.3
(2011/08/06 05:00:00.00)	72.3	64.2	63.0	62.6	63.4	59.8	54.0	47.1	58.8	52.8	50.5	46.0	44.2	39.9	33.5	20.2
(2011/08/06 05:15:00.00)	71.8	63.7	63.0	63.2	64.2	61.3	55.8	48.8	58.6	52.5	50.2	47.4	45.3	41.4	34.1	20.6
(2011/08/06 05:30:00.00)	74.6	65.2	64.0	63.4	64.7	61.2	55.3	50.0	60.6	50.8	47.4	43.8	43.1	38.6	30.5	20.2
(2011/08/06 05:45:00.00)	73.2	64.7	64.2	63.7	64.3	60.4	54.1	48.5	59.2	51.7	49.1	45.2	43.6	39.3	31.6	19.4
(2011/08/06 06:00:00.00)	73.6	70.0	67.5	65.5	64.7	60.9	54.2	48.2	60.9	55.4	53.9	50.2	45.7	39.9	30.8	20.3
(2011/08/06 06:15:00.00)	70.7	64.9	63.7	63.4	64.4	60.1	53.5	47.4	59.2	54.5	53.7	51.2	46.3	41.0	34.0	22.3
(2011/08/06 06:30:00.00)	74.1	69.0	71.7	72.0	70.1	67.6	63.5	62.0	59.6	54.1	52.5	49.5	47.4	43.2	36.3	24.9
(2011/08/06 06:45:00.00)	75.1	65.9	65.5	65.9	65.8	62.2	55.7	51.1	61.1	54.0	52.5	49.2	45.5	41.1	32.9	21.6
(2011/08/06 07:00:00.00)	72.0	66.8	64.1	63.4	64.4	60.2	53.1	48.2	58.6	52.6	49.9	46.1	43.7	38.9	30.2	20.8
(2011/08/06 07:15:00.00)	76.5	68.4	66.4	65.8	66.3	62.7	59.2	57.2	63.1	57.3	56.7	51.1	50.0	45.7	40.9	32.6
(2011/08/06 07:30:00.00)	72.1	65.3	64.1	64.1	65.5	61.8	56.8	52.0	62.5	58.7	58.5	53.2	50.1	46.4	42.7	34.5
(2011/08/06 07:45:00.00)	75.6	68.8	65.7	65.9	66.8	63.3	56.9	52.3	63.4	58.8	58.3	52.8	53.2	47.3	43.0	34.8
(2011/08/06 08:00:00.00)	74.0	68.6	65.7	65.6	66.2	67.3	66.8	65.1	63.1	58.8	58.4	52.8	52.8	47.2	43.2	35.1
(2011/08/06 08:15:00.00)	75.1	67.6	65.2	64.9	65.6	61.9	56.1	52.6	64.9	60.3	59.1	55.4	53.0	49.4	44.7	37.1
(2011/08/06 08:30:00.00)	75.2	67.0	65.3	65.5	66.0	62.5	56.6	51.9	63.9	59.2	57.3	53.5	50.6	47.5	44.4	36.8
(2011/08/06 08:45:00.00)	75.2	67.6	65.1	68.7	66.3	62.5	56.3	50.4	63.6	59.2	57.0	53.0	50.0	47.0	43.9	36.4
(2011/08/06 09:00:00.00)	74.8	67.8	65.1	64.5	65.3	61.8	55.5	50.1	63.3	58.7	56.9	52.8	50.0	46.9	43.7	36.2
(2011/08/06 09:15:00.00)	73.8	68.9	66.9	69.0	74.7	67.9	59.7	53.5	63.6	59.7	57.4	53.7	53.8	48.8	44.2	36.5
(2011/08/06 09:30:00.00)	75.5	72.8	76.0	75.3	75.7	76.7	78.4	75.6	64.1	59.9	58.0	54.4	52.0	50.7	47.9	38.8
(2011/08/06 09:45:00.00)	78.5	74.6	78.0	76.0	78.1	76.0	73.9	69.5	64.5	59.5	58.3	54.6	53.0	50.1	46.4	37.5
(2011/08/06 10:00:00.00)	76.7	69.3	68.0	67.5	68.9	65.8	61.0	56.3	64.4	59.1	57.4	53.3	51.0	47.8	44.1	36.3
(2011/08/06 10:15:00.00)	74.2	68.9	66.3	65.3	65.9	62.5	56.8	51.3	63.4	58.6	56.8	52.7	49.8	46.9	43.8	36.1
(2011/08/06 10:30:00.00)	74.9	68.1	65.2	64.3	65.4	61.6	55.7	50.9	63.3	58.6	56.5	53.6	49.7	46.6	43.6	36.0
(2011/08/06 10:45:00.00)	73.8	66.5	63.8	63.7	64.3	60.4	54.5	48.9	63.2	58.9	56.8	52.7	49.7	46.7	43.7	36.1
(2011/08/06 11:00:00.00)	73.8	68.4	65.4	65.1	65.3	61.5	55.5	51.9	63.1	58.5	56.5	52.6	49.6	46.6	43.8	36.2
(2011/08/06 11:15:00.00)	75.1	68.3	65.4	64.9	65.4	61.7	56.1	51.0	64.2	58.0	56.5	52.7	50.2	47.5	44.7	37.7
(2011/08/06 11:30:00.00)	74.6	68.5	66.7	65.6	66.0	62.6	57.3	53.7	64.5	59.9	59.0	54.8	51.2	47.9	45.2	38.4
(2011/08/06 11:45:00.00)	73.6	68.5	65.6	65.6	70.7	67.8	56.2	50.9	63.3	59.0	57.6	53.7	51.2	48.4	43.1	35.2
(2011/08/06 12:00:00.00)	74.2	67.4	65.4	64.5	64.7	61.3	56.5	52.8	63.5	59.2	57.4	52.7	50.0	46.8	43.0	34.3
(2011/08/06 12:15:00.00)	75.6	71.7	67.2	65.1	65.0	61.4	56.2	50.5	63.6	59.9	57.9	53.0	50.2	47.3	43.5	34.2
(2011/08/06 12:30:00.00)	74.9	71.4	67.3	65.3	65.3	61.4	55.1	49.3	63.6	59.2	57.6	53.3	50.0	46.5	43.2	35.3
(2011/08/06 12:45:00.00)	75.9	68.8	65.9	65.4	65.6	62.2	56.8	51.2	64.7	60.1	59.2	54.3	50.6	47.2	43.5	35.7
(2011/08/06 13:00:00.00)	76.1	72.1	68.5	66.2	65.4	61.7	56.4	51.9	63.7	58.7	57.7	52.9	49.8	46.6	43.6	35.6
(2011/08/06 13:15:00.00)	74.4	68.8	66.1	65.5	68.5	66.7	62.6	55.8	64.2	59.1	58.6	54.9	51.4	48.1	44.3	36.2
(2011/08/06 13:30:00.00)	75.0	68.2	64.5	64.3	65.1	61.7	56.3	52.0	64.5	58.5	57.6	52.8	50.0	46.8	43.8	36.2
(2011/08/06 13:45:00.00)	74.0	67.9	65.4	65.4	66.7	62.3	56.6	51.3	64.4	59.9	59.6	56.1	52.6	47.9	43.8	36.2
(2011/08/06 14:00:00.00)	74.8	69.2	65.7	64.9	65.2	61.5	56.3	51.2	63.7	58.0	56.8	52.8	49.6	47.0	44.6	36.7
(2011/08/06 14:15:00.00)	74.9	68.8	66.2	65.5	65.5	61.8	56.0	50.2	64.5	59.0	58.3	54.8	52.3	48.4	44.3	36.3
(2011/08/06 14:30:00.00)	75.3	69.7	68.9	70.0	67.5	64.8	60.2	57.7	64.1	58.9	58.1	54.4	50.7	47.2	43.7	35.9
(2011/08/06 14:45:00.00)	74.8	69.5	66.3	64.6	65.0	61.4	56.3	51.2	63.9	59.2	58.4	53.7	49.9	46.6	43.5	35.6
(2011/08/06 15:00:00.00)	75.1	67.8	66.6	66.1	66.0	62.2	56.3	50.5	64.3	58.8	57.5	53.3	50.3	47.6	45.3	36.7
(2011/08/06 15:15:00.00)	75.3	67.8	65.0	65.1	65.9	62.9	56.0	49.2	63.6	58.2	57.6	53.1	50.2	46.9	43.5	35.5
(2011/08/06 15:30:00.00)	75.1	70.5	68.0	67.2	68.2	62.8	56.4	52.4	63.7	58.4	57.0	53.0	50.3	47.1	44.2	36.4
(2011/08/06 15:45:00.00)	75.9	71.7	69.2	67.1	66.5	62.7	57.1	52.7	64.7	59.5	58.8	54.0	50.6	47.1	43.8	36.0
(2011/08/06 16:00:00.00)	75.5	67.9	65.4	65.0	65.4	62.3	56.9	51.6	65.3	58.7	57.3	52.9	50.1	47.0	43.6	35.9
(2011/08/06 16:15:00.00)	74.8	73.2	69.4	66.3	65.7	62.2	56.5	51.1	63.4	59.1	56.8	52.6	49.8	46.6	43.4	35.5
(2011/08/06 16:30:00.00)	75.2	75.7	72.4	68.2	67.8	64.1	58.8	53.0	63.4	58.6	57.1	52.7	50.1	46.8	43.5	35.7
(2011/08/06 16:45:00.00)	75.7	74.5	72.4	68.5	67.9	64.2	58.4	52.3	63.5	58.4	57.3	53.2	50.6	48.2	44.4	36.9
(2011/08/06 17:00:00.00)	74.9	72.8	70.7	67.4	67.5	64.6	58.3	52.4	63.5	59.0	58.1	53.7	51.5	48.8	44.3	36.8
(2011/08/06 17:15:00.00)	76.0	73.4	67.6	65.3	65.6	62.1	56.4	51.1	64.0	59.3	57.1	53.6	50.1	47.2	43.8	36.1
(2011/08/06 17:30:00.00)	75.5	68.6	65.1	65.2	65.4	62.0	55.8	49.2	64.3	59.4	58.2	53.8	51.7	49.3	44.8	35.9
(2011/08/06 17:45:00.00)	74.9	69.8	65.4	67.3	74.0	66.3	59.3	54.8	64.3	59.0	57.8	53.8	53.5	48.5	44.1	36.3
(2011/08/06 18:00:00.00)	74.1	68.7	66.7	68.0	66.5	63.0	57.3	53.8	63.6	58.2	57.2	52.9	50.3	47.4	44.2	36.5
(2011/08/06 18:15:00.00)	73.6	66.9	64.9	64.5	65.2	61.2	54.9	49.6	63.1	58.1	56.9	52.6	50.1	47.0	43.9	36.2
(2011/08/06 18:30:00.00)	74.3	69.2	65.9	65.7	65.5	61.6	55.9	52.2	63.3	58.6	56.9	53.0	50.2	47.2	44.1	36.3
(2011/08/06 18:45:00.00)	74.4	67.6	65.4	64.9	65.6	61.7	55.4	50.1	63.3	57.8	57.0	52.5	50.0	46.9	43.8	36.1
(2011/08/06 19:00:00.00)	75.3	68.8	65.6	65.0	65.4	61.6	55.5	51.7	64.0	58.7	57.0	52.8	50.2	47.5	44.3	36.3

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Spectral Lfeq data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1								Location 2							
	Lfeq								Lfeq							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/06 19:15:00.00)	75.3	71.3	66.6	65.3	66.1	61.9	56.0	53.0	63.4	58.4	56.7	52.5	50.0	46.9	43.8	36.1
(2011/08/06 19:30:00.00)	73.9	67.5	68.7	65.4	66.0	62.2	55.9	49.3	62.8	58.6	59.0	53.0	50.3	47.5	44.1	36.4
(2011/08/06 19:45:00.00)	74.1	67.6	64.1	64.3	65.1	60.7	54.2	48.1	63.0	57.6	56.6	52.4	49.9	46.9	43.9	36.5
(2011/08/06 20:00:00.00)	73.4	66.7	64.9	64.6	66.2	62.4	56.1	50.4	63.4	57.8	57.0	52.5	50.3	47.4	44.2	36.8
(2011/08/06 20:15:00.00)	74.1	67.1	64.7	65.4	66.1	62.2	56.0	53.1	63.7	58.0	57.1	52.6	50.1	47.3	44.3	37.0
(2011/08/06 20:30:00.00)	73.3	69.9	65.0	64.2	65.1	60.9	54.9	53.1	62.8	57.9	56.7	53.1	50.2	47.4	44.4	36.7
(2011/08/06 20:45:00.00)	72.1	65.0	63.8	64.0	65.1	61.1	54.8	52.9	62.7	57.7	56.8	52.3	49.7	46.8	44.0	36.6
(2011/08/06 21:00:00.00)	74.2	66.5	63.4	63.4	64.4	60.5	54.1	48.3	63.2	57.6	56.8	52.4	49.6	46.7	44.0	36.8
(2011/08/06 21:15:00.00)	73.9	66.5	64.7	64.0	64.6	60.8	54.3	48.7	63.4	57.5	56.7	52.5	49.8	47.1	44.2	36.9
(2011/08/06 21:30:00.00)	73.7	66.0	64.0	64.1	64.9	61.0	55.1	50.6	62.7	57.9	57.0	53.0	49.8	46.8	44.1	36.9
(2011/08/06 21:45:00.00)	73.6	65.7	63.2	63.5	64.4	60.4	53.9	47.8	62.7	57.3	56.6	52.3	49.5	46.6	44.2	37.1
(2011/08/06 22:00:00.00)	74.7	66.9	64.6	64.5	65.5	61.7	55.5	49.6	63.0	57.7	57.1	52.4	49.8	46.9	44.2	37.0
(2011/08/06 22:15:00.00)	74.3	68.7	65.6	65.2	66.7	62.0	56.2	50.2	63.0	58.0	57.2	52.7	50.4	47.1	44.6	37.6
(2011/08/06 22:30:00.00)	75.1	67.7	65.4	65.2	66.9	64.4	59.2	54.3	62.9	57.8	57.7	52.6	50.0	46.9	44.0	36.7
(2011/08/06 22:45:00.00)	73.8	67.8	64.7	65.4	72.9	72.4	58.9	50.7	62.9	57.8	57.3	52.5	52.5	51.1	44.1	36.6
(2011/08/06 23:00:00.00)	74.8	69.9	64.4	64.2	64.8	61.2	54.8	52.7	63.2	58.5	57.2	52.9	49.7	46.7	44.0	36.6
(2011/08/06 23:15:00.00)	77.0	72.4	70.2	68.8	66.0	62.2	56.2	50.0	64.4	58.4	57.0	52.7	49.8	46.8	44.0	36.7
(2011/08/06 23:30:00.00)	74.5	66.9	63.6	62.6	64.5	60.8	54.9	49.4	62.0	56.5	54.7	48.0	47.4	43.2	36.6	26.9
(2011/08/06 23:45:00.00)	75.7	70.0	66.7	65.1	66.6	62.3	55.6	49.0	62.6	56.6	54.7	48.1	47.7	43.1	35.3	25.3
(2011/08/07 00:00:00.00)	75.3	67.9	65.1	65.3	65.9	62.0	55.3	50.1	60.8	52.8	49.9	46.4	45.9	41.2	32.6	23.6
(2011/08/07 00:15:00.00)	75.1	67.2	64.5	63.8	64.9	61.0	55.0	49.2	60.0	53.3	51.8	47.1	45.3	40.2	31.7	21.5
(2011/08/07 00:30:00.00)	73.5	66.1	63.6	63.4	65.1	60.8	54.6	49.7	58.6	51.7	47.8	44.9	44.3	39.3	31.2	23.2
(2011/08/07 00:45:00.00)	74.1	67.1	64.6	64.1	66.0	61.7	53.8	55.3	59.0	51.7	47.7	44.9	44.5	39.6	30.7	21.7
(2011/08/07 01:00:00.00)	76.1	67.1	65.5	66.2	66.4	62.3	55.7	52.2	60.8	52.0	49.8	46.0	45.5	40.7	32.3	26.1
(2011/08/07 01:15:00.00)	74.1	67.1	66.7	65.7	66.0	62.3	56.7	55.2	59.3	51.3	48.6	46.1	45.0	40.8	31.9	25.6
(2011/08/07 01:30:00.00)	72.4	65.0	63.6	63.9	65.1	60.9	55.2	65.7	58.9	51.2	48.2	45.2	44.7	40.0	31.9	23.7
(2011/08/07 01:45:00.00)	73.0	65.5	64.1	64.2	65.9	61.7	54.1	47.1	58.9	51.0	48.0	45.1	44.8	40.2	31.2	20.8
(2011/08/07 02:00:00.00)	74.9	66.8	64.8	64.3	66.0	61.9	55.0	49.4	59.7	51.2	48.2	45.0	44.7	39.8	31.3	22.5
(2011/08/07 02:15:00.00)	72.9	65.1	63.6	63.8	65.9	61.5	53.9	47.3	58.6	50.7	47.9	44.9	44.9	40.0	31.3	22.8
(2011/08/07 02:30:00.00)	71.7	65.4	63.8	63.9	65.7	61.4	53.4	46.2	58.4	50.6	47.5	45.0	44.7	39.8	31.0	22.7
(2011/08/07 02:45:00.00)	75.3	66.0	64.7	64.6	66.5	62.1	55.5	50.4	61.1	51.2	48.4	45.8	45.7	41.1	33.2	25.1
(2011/08/07 03:00:00.00)	71.2	62.8	61.3	61.9	64.4	59.9	52.0	45.1	59.4	50.8	47.4	44.7	44.3	39.8	32.1	25.3
(2011/08/07 03:15:00.00)	73.5	65.9	64.8	65.1	66.9	64.0	56.1	48.9	58.7	50.5	47.9	45.5	46.1	42.5	32.8	21.3
(2011/08/07 03:30:00.00)	72.6	64.5	63.9	64.6	66.1	61.6	54.2	47.6	58.7	50.5	47.8	45.5	44.9	40.0	31.8	23.1
(2011/08/07 03:45:00.00)	71.9	64.4	64.1	63.9	65.9	61.7	53.6	47.1	58.9	50.7	48.0	45.3	45.1	40.4	31.9	25.0
(2011/08/07 04:00:00.00)	72.5	63.4	62.8	63.8	65.3	60.9	53.1	48.0	58.7	50.5	47.6	44.5	44.0	39.0	30.6	23.0
(2011/08/07 04:15:00.00)	72.9	65.9	64.7	63.9	65.4	61.8	54.9	49.1	58.5	50.2	47.5	44.6	44.2	39.6	31.1	22.5
(2011/08/07 04:30:00.00)	72.4	66.2	65.1	63.7	64.8	60.5	53.1	46.7	58.1	51.0	48.7	45.0	44.7	40.8	33.8	22.3
(2011/08/07 04:45:00.00)	74.5	66.8	64.0	63.1	64.2	60.3	59.6	60.0	59.4	52.2	49.3	45.2	47.1	43.8	39.4	25.1
(2011/08/07 05:00:00.00)	73.1	65.2	62.9	62.8	64.7	60.9	54.3	48.4	59.1	51.8	48.9	45.7	45.8	42.8	36.1	22.8
(2011/08/07 05:15:00.00)	72.9	63.0	60.9	61.5	63.0	59.1	52.7	47.5	58.4	50.5	47.7	44.0	45.8	43.0	40.0	23.5
(2011/08/07 05:30:00.00)	72.3	63.5	62.7	61.4	63.1	59.2	53.4	47.9	58.1	50.7	48.1	44.4	43.0	38.6	31.1	22.4
(2011/08/07 05:45:00.00)	72.1	65.8	63.6	62.9	63.9	59.7	53.7	47.9	57.8	50.7	48.1	44.5	43.3	39.6	32.6	22.4
(2011/08/07 06:00:00.00)	72.4	63.7	62.4	62.4	64.1	60.2	52.9	47.5	59.1	52.7	50.3	46.2	44.1	40.3	32.5	23.0
(2011/08/07 06:15:00.00)	72.4	67.4	67.4	67.8	65.6	63.3	59.0	57.7	59.0	52.9	51.0	48.7	46.6	41.8	34.7	26.4
(2011/08/07 06:30:00.00)	70.9	65.2	65.6	65.8	65.1	61.2	54.6	48.2	59.2	53.2	51.4	47.4	44.4	39.9	32.8	25.1
(2011/08/07 06:45:00.00)	72.5	64.0	63.5	63.6	64.8	60.8	53.4	48.3	59.0	52.9	50.4	46.2	44.3	39.6	31.9	24.5
(2011/08/07 07:00:00.00)	75.6	65.4	62.5	62.6	63.9	60.1	54.1	47.7	61.5	53.7	51.1	47.1	44.3	39.5	32.5	25.2
(2011/08/07 07:15:00.00)	72.1	62.6	61.2	61.9	64.0	59.5	52.0	46.4	59.1	52.7	49.8	46.2	44.4	39.3	30.5	22.9
(2011/08/07 07:30:00.00)	73.2	67.0	67.5	67.8	66.7	63.3	57.5	53.6	61.9	56.5	56.2	51.5	49.8	45.3	40.4	32.5
(2011/08/07 07:45:00.00)	72.2	64.0	62.4	62.3	64.3	60.3	53.4	47.4	62.8	58.7	58.8	53.4	50.4	46.6	42.7	34.4
(2011/08/07 08:00:00.00)	71.3	64.9	62.9	63.1	64.6	60.6	53.8	48.5	62.6	57.8	57.6	52.7	50.5	46.5	43.2	35.4
(2011/08/07 08:15:00.00)	72.0	64.4	62.6	62.7	63.7	59.3	52.7	47.6	63.8	58.5	57.5	55.9	51.2	47.6	44.5	37.3
(2011/08/07 08:30:00.00)	73.2	65.1	62.7	62.6	64.2	60.2	53.3	47.1	63.7	58.1	56.8	53.0	49.8	46.8	43.8	36.5
(2011/08/07 08:45:00.00)	72.8	66.1	64.7	63.7	64.8	60.4	53.6	48.1	63.5	58.5	57.1	53.0	49.9	46.8	43.8	36.5
(2011/08/07 09:00:00.00)	72.3	68.1	62.7	62.4	64.0	59.9	53.9	49.7	62.8	57.9	56.8	53.2	49.9	47.0	44.5	37.3
(2011/08/07 09:15:00.00)	73.0	65.4	62.7	62.8	63.8	59.9	53.3	48.5	64.4	58.4	57.0	53.0	50.3	47.6	44.5	36.8
(2011/08/07 09:30:00.00)	74.0	65.3	63.4	63.7	70.2	70.3	55.6	48.2	62.9	57.9	57.0	55.3	52.3	48.5	43.7	36.2
(2011/08/07 09:45:00.00)	75.1	65.9	63.7	63.7	65.4	61.7	53.1	47.2	64.5	58.6	56.7	52.6	50.2	47.5	43.8	36.3
(2011/08/07 10:00:00.00)	74.8	65.9	64.1	64.1	66.0	62.5	55.4	50.0	64.5	59.3	57.1	53.2	50.6	47.4	43.9	36.4
(2011/08/07 10:15:00.00)	72.3	65.8	64.0	63.5	65.2	60.9	54.8	48.8	63.7	58.6	57.5	53.6	50.7	47.3	44.1	36.9
(2011/08/07 10:30:00.00)	74.3	66.0	64.0	63.7	64.7	60.6	54.4	49.0	64.7	59.2	57.8	53.6	50.4	47.0	43.8	36.4
(2011/08/07 10:45:00.00)	72.6	68.2	66.5	64.0	65.3	61.1	54.6	49.1	63.2	58.5	57.1	52.8	50.1	47.1	44.1	37.0
(2011/08/07 11:00:00.00)	74.2	66.2	63.8	64.1	65.1	61.0	54.8	49.1	66.1	59.5	58.2	54.0	51.1	48.2	45.6	37.7
(2011/08/07 11:15:00.00)	72.9	69.5	64.3	63.8	65.6	61.2	53.3	47.6	64.4	58.7	57.8	53.2	50.6	47.3	43.8	36.2
(2011/08/07 11:30:00.00)	74.1	67.7	64.2	63.8	65.0	61.0	56.7	53.9	64.3	59.1	58.1	54.0	51.2	47.2	44.0	36.1
(2011/08/07 11:45:00.00)	73.1	66.4	65.2	63.7	64.7	60.5	54.1	49.0	64.2	59.8	58.4	54.6	50.9	47.4	44.6	37.6
(2011/08/07 12:00:00.00)	74.2	69.2	66.0	64.2	65.2	61.1	54.9	49.1	64.0	58.8	57.9	54.3	50.4	47.1	44.1	37.0
(2011/08/07 12:15:00.00)	74.5	68.0	65.8	64.4	65.3	61.6	55.3	49.2	63.5	57.7	56.9	52.5	49.9	46.8	43.5	35.8
(2011/08/07 12:30:00.00)	74.7	68.4	64.9	64.6	65.6	61.6	55.0	49.4	64.0	59.4	58.4	54.7	51.2	47.3	43.6	36.1
(2011/08/07 12:45:00.00)	75.7	69.2	65.1	64.2	65.1	60.8	54.6	49.1	64.4	59.7	57.9	53.5	50.5	47.1	43.6	36.1
(2011/08/07 13:00:00.00)	74.4	66.5	64.2	63.7	64.9	60.6	54.1	49.5	64.2	59.2	58.0	54.1	50.2	46.8	43.5	36.0
(2011/08/07 13:15:00.00)	74.2	67.1	66.5	64.4	65.0	60.6	54.3	49.8	66.0	60.0	58.5	54.2	51.3	47.6	44.0	36.7
(2011/08/07 13:30:00.00)	73.7	69.4	66.9	64.0	64.7	60.5	53.8	48.0	63.2	58.9	57.3	53.4	51.0	47.9	44.0	36.2
(2011/08/07 13:45:00.00)	75.4	68.3	69.4	70.9	68.5	65.6	62.3	61.4	63.9	58.9	58.7	55.1	51.5	47.8	44.2	37.0
(2011/08/07 14:00:00.00)	73.5	66.9	68.7	69.3	67.8	64.4	60.3	57.4	64.1	59.5	58.5	54.6	51.4	48.1	44.9	37.1
(2011/08/07 14:15:00.00)	73.7	67.0	64.9	64.0	65.0	61.5	55.8	57.8	63.0	58.3	57.8	53.5	50.3	47.0	43.9	36.2
(2011/08/07 14:30:00.00)	75.7	67.1	65.6	65.4	66.7	66.4	63.8	58.9	63.6	58.2	57.2	53.5	52.3	51.3	48.0	41.1
(2011/08/07 14:45:00.00)	73.5	68.1	64.2	64.3	66.9	67.5	65.1	60.3	65.1	58.7	57.1	54.2	53.8	53.0	49.9	43.8
(2011/08/07 15:00:00.00)	74.6	67.6	65.0	64.6	66.1	65.1	62.2	56.6	64.5	58.4	56.8	53.1	50.8	48.7	46.1	39.0
(2011/08/07 15:15:00.00)	73.4	67.6	65.2	64.6	65.7	63.4	60.5	54.2	63.2	58.5	57.8	54.3	50.9	48.1	45.0	37.5
(2011/08/07 15:30:00.00)	75.0	67.0	63.8	63.8	65.6	64.9	62.1	57.2	63.4	57.6	56.8	53.1	52.0	51.1	48.8	43.5
(2011/08/07 15:45:00.00)	73.5	65.7	63.7	64.4	67.0	67.7	65.3	60.1	63.7	59.0	58.9	56.1	53.4	52.3	52.0	47.3
(2011/08/07 16:00:00.00)	74.7	66.3	63.5	63.8	65.8	64.8	61.8	56.0	63.4	58.4	57.2	52.4	50.0	48.2	46.7	40.5
(2011/08/07 16:15:00.00)	73.9	69.0	64.1	64.2	65.6	63.2	59.9	54.2	63.7	58.5	57.5	53.5	50.6	48.0	45.4	37.4
(2011/08/07 16:30:00.00)	75.4	68.1	64.6	64.5	66.1	63.5	58.9	55.7	63.4	57.9	56.8	52.2	50.0	47.6	44.6	36.6
(2011/08/07 16:45:00.00)	74.2	66.2	63.6	63.7	65.0	62.2	57.2	51.9	63.7	58.1	57.3	53.7	50.5	47.4	44.3	36.7
(2011/08/07 17:00:00.00)	73.2	65.4	65.2	64.5	65.2	61.6	56.5	51.0	63.9	58.5	58.3	54.1	51.1	47.4	44.0	36.5
(2011/08/07 17:15:00.00)	73.5	67.3	64.3	64.7	75.3	74.8	59.5	51.7	63.2	58.2	57.2	53.1	53.8	52.5	44.7	37.1
(2011/08/07 17:30:00.00)	74.8	68.6	64.6	64.4	65.6	61.8	55.4	52.8	63.7	58.6	57.1	53.2	50.8	48.0	44.5	36.7
(2011/08/07 17:45:00.00)	72.3	65.8	64.5	63.8	64.7	60.9	54.6	48.7	63.5	58.5	57.8	54.3	52.8	50.5	45.3	36.9
(2011/08/07 18:00:00.00)	72.7	66.0	64.8	65.0	66.1	62.0	55.3	48.8	62.5	57.4	56.4	52.8	50.6	47.8	44.5	37.0
(2011/08/07 18:15:00.00)	74.1	66.7	63.6	63.9	65.1	61.6	55.3	49.6	62.9	57.7	56.3	52.6	49.9	47.0	44.3	36.8
(2011/08/07 18:30:00.00)	73.3	66.2	64.1	64.4	65.6	61.5	54.7	48.7	62.5	57.2	56.1	52.5	50.2	47.5	44.4	36.8
(2011/08/07 18:45:00.00)	72.1	68.6	64.5	64.0	65.5	61.1	53.7	46.9	62.8	58.5	56.9	53.2	50.2	46.9	44.4	36.8
(2011/08/07 19:00:00.00)	74.0	66.5	65.8	64.4	65.4	61.4	54.8	49.5	65.7	58.6	57.9	54.6	51.6	48.6	45.0	37.7
(2011/08/07 19:15:00.00)	73.5	67.0	63.3	63.7	65.2	61.0	54.1	48.0	62.8	61.0	57.1	52.6	50.1	46.9	43.1	34.9
(2011/08/07 19:30:00.00)	73.0	65.7	64.4	64.4	65.3	60.9	53.4	46.7	62.5	58.2	57.2	52.2	49.8	46.9	43.0	34.5
(2011/08/07 19:45:00.00)	73.6	64.7	63.1	63.6	65.3	61.3	55.0	48.9	62.7	58.3	57.5	52.5	49.7	46.3	42.6	34.4
(2011/08/07 20:00:00.00)	73.1	67.3	65.7	64.4	64.3	60.1	53.6	48.1	62.5	58.3	57.1	52.4	49.7	46.5	42.8	34.5

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Spectral Lfeq data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1								Location 2							
	Lfeq								Lfeq							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/07 20:15:00.00)	71.4	63.3	62.1	62.1	63.5	59.2	52.2	47.1	62.1	58.4	57.1	51.8	49.2	46.0	42.5	34.2
(2011/08/07 20:30:00.00)	73.0	64.3	63.7	63.3	63.8	59.7	54.1	48.6	62.6	58.1	57.4	52.1	49.4	46.2	42.6	34.2
(2011/08/07 20:45:00.00)	73.4	64.6	63.8	64.9	72.4	71.2	55.7	49.8	62.4	58.6	57.0	52.4	52.1	49.5	43.3	35.2
(2011/08/07 21:00:00.00)	72.5	64.1	61.9	62.1	63.8	60.4	52.4	45.8	62.5	57.6	56.5	52.3	50.0	47.5	44.1	35.8
(2011/08/07 21:15:00.00)	72.2	66.7	62.7	62.4	63.4	59.2	53.1	48.2	62.6	58.5	57.0	52.3	49.5	46.4	43.3	35.3
(2011/08/07 21:30:00.00)	73.1	64.9	62.5	62.8	64.1	59.9	53.3	47.1	62.3	58.2	57.2	52.2	49.4	46.1	42.7	34.4
(2011/08/07 21:45:00.00)	73.2	64.3	62.3	62.3	63.4	59.4	53.3	47.5	62.4	57.9	56.8	52.2	49.5	46.3	43.1	35.1
(2011/08/07 22:00:00.00)	69.9	66.1	62.8	70.0	71.6	67.4	54.2	46.8	63.4	60.4	59.3	56.3	53.6	49.2	43.3	35.1
(2011/08/07 22:15:00.00)	71.8	66.0	63.1	63.1	64.2	60.2	53.5	48.1	62.2	58.2	57.1	53.4	49.7	46.3	42.8	34.8
(2011/08/07 22:30:00.00)	72.1	64.6	62.8	62.7	63.7	60.2	53.8	48.4	62.2	57.7	56.7	51.9	49.4	46.3	43.1	35.2
(2011/08/07 22:45:00.00)	73.2	66.1	64.7	64.8	66.2	63.7	59.9	54.7	62.6	57.6	56.6	53.4	50.4	47.1	43.9	36.2
(2011/08/07 23:00:00.00)	73.9	67.6	64.0	63.7	65.0	61.0	54.5	48.5	62.8	58.0	57.3	52.0	49.7	46.5	43.1	35.2
(2011/08/07 23:15:00.00)	73.1	64.7	63.5	63.8	65.2	61.1	54.1	48.6	62.0	56.4	56.5	49.9	48.0	44.6	40.5	32.5
(2011/08/07 23:30:00.00)	72.3	65.1	63.0	63.0	64.2	60.2	54.0	48.2	59.4	53.0	52.4	46.1	45.3	40.3	32.0	21.6
(2011/08/07 23:45:00.00)	73.9	65.5	62.6	63.0	64.2	60.7	54.0	49.0	58.9	51.0	47.6	45.5	45.2	40.2	31.0	20.2
(2011/08/08 00:00:00.00)	73.1	65.5	64.2	63.3	64.6	60.8	54.3	49.6	58.0	50.7	47.9	44.3	43.2	38.4	29.6	19.5
(2011/08/08 00:15:00.00)	71.7	63.7	61.7	62.2	63.3	59.0	52.5	48.8	57.8	50.3	47.0	43.7	43.5	38.8	32.2	21.0
(2011/08/08 00:30:00.00)	71.5	63.4	62.2	62.3	64.5	60.8	56.0	54.6	57.6	50.1	46.8	43.5	42.8	37.9	29.8	19.7
(2011/08/08 00:45:00.00)	72.2	68.8	66.5	62.8	63.9	62.2	58.9	54.6	57.3	51.4	50.0	50.6	53.4	53.4	49.5	44.3
(2011/08/08 01:00:00.00)	71.0	64.2	63.1	63.0	65.3	66.0	63.8	59.0	57.5	50.8	49.5	50.5	53.3	53.8	52.3	48.4
(2011/08/08 01:15:00.00)	70.2	62.2	61.6	61.3	63.3	62.9	60.3	54.9	57.4	49.7	47.1	46.2	48.2	49.4	49.0	44.1
(2011/08/08 01:30:00.00)	72.0	62.0	61.1	61.8	64.4	65.1	62.8	57.6	57.4	49.5	47.2	47.1	49.5	51.0	51.5	47.3
(2011/08/08 01:45:00.00)	70.3	62.8	61.1	61.8	64.3	64.6	62.5	57.1	56.7	49.4	46.7	45.2	46.8	48.7	50.1	45.6
(2011/08/08 02:00:00.00)	70.3	61.1	59.3	59.8	63.4	62.9	60.1	54.6	56.2	49.3	46.2	43.1	44.3	45.7	46.8	41.8
(2011/08/08 02:15:00.00)	71.3	62.6	61.6	61.9	63.8	62.9	60.1	54.4	59.5	53.5	54.0	45.4	45.0	43.8	42.0	35.6
(2011/08/08 02:30:00.00)	71.1	63.0	61.9	61.3	62.5	61.2	58.4	52.8	59.1	53.2	53.5	45.1	44.3	42.5	39.6	32.8
(2011/08/08 02:45:00.00)	72.6	64.5	62.1	61.4	62.4	60.0	56.7	51.2	56.5	49.9	46.7	42.9	42.1	39.0	34.7	27.6
(2011/08/08 03:00:00.00)	71.4	64.1	63.0	61.6	63.6	61.7	57.6	52.2	58.6	50.4	47.3	43.7	43.2	40.6	35.2	26.3
(2011/08/08 03:15:00.00)	70.6	61.9	59.7	60.4	62.1	59.7	55.7	50.3	57.6	50.0	47.1	43.3	42.0	41.0	37.0	24.6
(2011/08/08 03:30:00.00)	69.7	61.7	59.7	60.3	62.0	59.3	54.7	49.2	56.4	49.6	46.7	43.0	41.9	38.7	32.0	22.3
(2011/08/08 03:45:00.00)	71.4	63.2	61.2	61.5	63.1	60.2	56.1	59.9	57.0	49.9	46.5	43.1	42.9	40.4	33.5	28.7
(2011/08/08 04:00:00.00)	71.0	62.4	61.5	61.6	63.6	60.5	55.2	49.8	56.4	49.5	46.2	42.9	42.2	38.2	30.5	20.4
(2011/08/08 04:15:00.00)	71.8	62.7	61.4	61.9	63.0	60.0	55.4	49.8	57.1	49.7	46.6	43.1	42.1	38.2	31.2	20.3
(2011/08/08 04:30:00.00)	70.0	63.3	62.4	62.1	63.8	60.6	54.8	49.7	56.8	51.1	48.4	44.5	43.2	39.7	32.6	20.2
(2011/08/08 04:45:00.00)	69.9	63.1	61.8	61.8	63.9	60.6	54.7	48.9	57.4	51.8	48.8	45.3	44.7	41.5	35.8	21.1
(2011/08/08 05:00:00.00)	71.5	63.6	62.8	62.9	64.4	60.4	54.1	48.1	57.8	51.7	48.7	45.1	44.6	40.2	33.7	20.7
(2011/08/08 05:15:00.00)	73.6	66.4	66.1	66.9	67.1	62.5	54.9	48.7	70.1	59.5	62.6	62.4	60.0	55.3	44.5	25.6
(2011/08/08 05:30:00.00)	72.3	67.1	65.7	64.7	65.6	62.2	55.9	50.4	58.6	51.9	49.4	45.9	44.5	43.2	40.0	22.1
(2011/08/08 05:45:00.00)	73.4	66.0	62.7	63.5	65.2	61.5	55.0	49.5	59.0	51.3	48.3	45.5	44.8	40.4	31.9	20.5
(2011/08/08 06:00:00.00)	76.4	67.6	65.7	65.9	67.1	63.8	57.7	52.6	60.2	53.6	51.3	48.1	46.1	41.7	34.2	25.7
(2011/08/08 06:15:00.00)	74.5	67.1	65.3	65.0	67.1	63.3	56.5	51.5	60.5	54.2	51.8	47.7	46.3	41.9	33.3	21.3
(2011/08/08 06:30:00.00)	74.1	68.0	66.3	65.7	67.5	64.0	57.5	52.0	60.7	53.9	51.7	48.2	46.7	42.6	35.6	22.8
(2011/08/08 06:45:00.00)	75.1	69.9	68.8	69.5	68.9	66.3	61.8	60.3	61.1	53.9	51.5	49.5	47.8	44.2	36.0	26.0
(2011/08/08 07:00:00.00)	77.0	72.1	68.9	68.7	69.3	67.4	64.0	59.8	62.1	54.9	52.3	49.9	48.1	45.2	38.5	25.5
(2011/08/08 07:15:00.00)	76.6	69.0	66.8	66.4	67.5	64.3	59.0	53.3	64.1	54.5	52.3	49.9	48.6	45.3	37.4	28.4
(2011/08/08 07:30:00.00)	75.4	71.9	68.3	66.9	67.7	64.4	58.9	59.6	62.3	55.0	51.5	48.6	46.9	43.1	35.2	24.6
(2011/08/08 07:45:00.00)	76.1	70.5	68.8	68.8	67.7	64.7	59.8	56.5	63.0	54.8	52.6	50.4	47.6	43.3	35.6	24.6
(2011/08/08 08:00:00.00)	77.7	72.7	68.6	67.5	68.0	65.3	62.6	56.1	64.5	57.1	54.5	51.8	50.0	47.0	41.3	31.4
(2011/08/08 08:15:00.00)	76.4	72.0	68.6	69.2	67.2	63.7	58.1	54.4	65.2	59.1	58.5	54.2	51.3	48.0	43.8	35.1
(2011/08/08 08:30:00.00)	77.3	71.7	69.4	67.7	67.0	64.2	59.4	57.5	65.4	58.4	57.8	54.0	52.3	48.5	45.2	37.0
(2011/08/08 08:45:00.00)	77.4	73.0	68.3	67.2	67.4	65.2	60.2	57.1	65.2	58.9	57.6	53.5	51.8	49.7	46.0	37.1
(2011/08/08 09:00:00.00)	77.1	71.8	67.4	66.3	66.4	63.9	59.4	54.6	64.7	58.4	57.2	53.2	50.5	48.0	44.6	36.5
(2011/08/08 09:15:00.00)	76.2	71.2	67.7	66.8	67.1	64.5	59.2	55.1	65.9	59.1	57.9	54.7	52.7	50.2	45.6	37.4
(2011/08/08 09:30:00.00)	77.9	72.9	68.5	66.9	66.7	64.4	59.8	55.5	66.2	59.7	57.6	53.7	51.3	48.6	44.6	36.2
(2011/08/08 09:45:00.00)	79.3	72.0	68.5	67.0	67.5	65.1	60.3	56.1	68.3	60.0	58.0	54.4	52.9	50.6	45.7	36.5
(2011/08/08 10:00:00.00)	78.1	70.9	67.4	66.6	67.3	64.6	59.5	54.8	66.7	59.2	58.3	54.4	52.7	49.9	45.0	36.4
(2011/08/08 10:15:00.00)	77.0	71.2	68.4	67.2	67.3	64.8	60.6	56.7	65.7	59.1	58.3	54.1	52.2	49.5	45.4	36.6
(2011/08/08 10:30:00.00)	78.0	72.2	68.9	67.4	69.2	69.1	68.2	61.2	67.5	59.9	58.5	55.1	53.5	51.2	46.2	37.6
(2011/08/08 10:45:00.00)	76.5	70.9	67.4	66.7	67.2	64.5	61.1	56.4	65.4	58.6	56.9	53.8	52.0	49.6	46.8	39.0
(2011/08/08 11:00:00.00)	77.7	71.2	67.1	66.4	66.8	64.4	59.2	55.0	65.7	58.1	56.5	53.8	51.5	49.4	46.2	38.9
(2011/08/08 11:15:00.00)	77.6	71.8	67.6	66.8	67.0	64.0	59.0	53.5	65.7	59.5	58.0	54.1	51.6	49.1	46.0	38.4
(2011/08/08 11:30:00.00)	76.1	69.9	67.5	66.5	67.2	64.0	58.4	55.4	64.2	58.2	57.8	53.3	50.8	47.7	44.0	36.4

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Spectral Lfmax data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1								Location 2							
	LfF(max)								LfF(max)							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/05 18:15:00.00)	89.4	90.9	86.6	85.1	82.0	79.2	71.2	73.7	78.7	68.7	71.7	66.8	58.9	53.7	48.0	45.0
(2011/08/05 18:30:00.00)	92.6	89.6	84.4	78.8	78.7	73.4	73.9	71.1	76.2	69.4	73.4	67.0	63.8	56.1	52.1	42.3
(2011/08/05 18:45:00.00)	94.9	90.1	85.5	83.9	82.1	79.5	79.6	77.0	81.0	70.0	65.5	63.7	61.4	55.1	49.6	42.2
(2011/08/05 19:00:00.00)	99.5	93.9	89.2	86.5	90.8	80.2	74.6	83.0	78.2	73.3	69.5	67.1	61.8	55.7	53.1	41.9
(2011/08/05 19:15:00.00)	91.9	92.5	85.0	82.2	78.7	75.9	69.4	72.0	80.5	65.7	65.9	69.1	59.2	59.7	61.3	54.9
(2011/08/05 19:30:00.00)	88.3	84.6	84.6	79.4	77.1	78.2	75.6	70.5	72.3	64.1	63.6	57.9	58.3	55.1	51.9	54.1
(2011/08/05 19:45:00.00)	92.2	94.2	89.2	95.2	103.4	90.3	79.9	71.1	77.3	73.1	68.7	66.1	78.5	66.8	53.3	45.7
(2011/08/05 20:00:00.00)	92.8	84.1	80.8	93.5	89.6	85.8	74.8	71.2	84.0	80.7	82.7	77.8	75.9	71.5	65.2	49.7
(2011/08/05 20:15:00.00)	95.2	91.1	85.6	84.9	75.8	73.4	74.1	80.3	80.9	70.3	66.5	61.2	55.1	54.5	55.2	50.5
(2011/08/05 20:30:00.00)	92.8	84.9	77.9	76.3	80.5	77.2	77.1	76.6	79.8	72.0	64.5	59.7	60.6	62.2	55.2	42.0
(2011/08/05 20:45:00.00)	96.3	91.3	89.1	81.5	81.0	77.1	79.3	75.1	81.7	73.6	65.3	72.5	61.4	60.8	60.8	42.8
(2011/08/05 21:00:00.00)	92.5	86.3	78.2	92.9	98.3	93.6	74.0	72.1	81.3	66.0	62.5	66.5	71.9	70.0	54.1	45.4
(2011/08/05 21:15:00.00)	96.3	88.3	81.9	80.8	80.3	76.5	72.7	74.9	74.9	71.0	69.1	65.8	62.7	59.9	53.2	41.2
(2011/08/05 21:30:00.00)	88.4	85.5	80.1	77.8	80.2	78.2	74.7	74.6	78.7	65.5	63.4	67.4	58.7	54.5	50.2	41.9
(2011/08/05 21:45:00.00)	88.3	82.5	76.1	90.0	86.3	77.5	75.7	71.7	74.1	66.3	62.0	64.6	58.4	52.6	49.2	41.5
(2011/08/05 22:00:00.00)	90.8	86.6	81.9	79.1	86.7	76.5	71.4	70.9	73.9	66.9	63.9	64.9	59.7	58.1	54.0	47.5
(2011/08/05 22:15:00.00)	92.8	81.6	83.1	81.3	78.1	75.6	79.2	80.3	82.2	65.8	61.0	57.1	58.9	56.5	48.9	44.8
(2011/08/05 22:30:00.00)	89.1	82.3	81.7	82.6	79.1	78.7	71.1	78.8	78.4	62.3	63.3	56.8	59.1	59.3	49.9	39.6
(2011/08/05 22:45:00.00)	89.9	81.5	79.8	78.1	79.9	78.3	78.7	78.4	77.7	65.5	61.6	60.5	63.6	64.4	61.0	57.6
(2011/08/05 23:00:00.00)	88.9	82.1	78.2	81.4	82.8	79.1	74.5	66.0	77.1	62.8	62.2	59.2	58.1	53.4	47.9	42.1
(2011/08/05 23:15:00.00)	91.5	92.1	81.6	79.0	76.6	75.8	69.7	76.6	78.0	76.3	66.0	65.9	63.2	57.6	47.5	53.9
(2011/08/05 23:30:00.00)	93.5	86.4	79.1	84.6	87.3	81.0	73.5	69.5	73.4	67.0	65.6	62.9	59.3	57.1	62.8	43.5
(2011/08/05 23:45:00.00)	90.1	83.5	80.3	78.1	82.5	82.5	75.9	75.0	76.1	64.1	62.7	59.8	56.5	59.8	51.0	46.9
(2011/08/06 00:00:00.00)	93.5	84.4	77.5	78.3	81.7	78.1	74.5	70.0	73.9	59.4	59.1	56.1	57.7	55.3	50.5	35.7
(2011/08/06 00:15:00.00)	90.1	84.8	85.2	80.5	78.9	75.5	71.0	73.8	75.7	63.4	61.9	57.9	56.1	52.1	49.8	51.3
(2011/08/06 00:30:00.00)	91.1	81.0	80.5	78.3	78.5	77.0	83.2	75.5	76.1	61.3	58.4	56.4	55.6	53.0	56.4	37.4
(2011/08/06 00:45:00.00)	90.4	90.1	79.4	77.5	76.7	77.6	72.6	75.0	78.4	70.0	60.5	55.9	55.2	54.1	46.8	38.0
(2011/08/06 01:00:00.00)	89.9	80.4	81.8	79.0	83.6	87.1	72.7	71.2	78.9	60.8	58.9	55.9	55.7	51.4	43.6	35.5
(2011/08/06 01:15:00.00)	95.3	95.8	84.3	84.2	76.2	73.1	67.2	71.9	76.3	71.7	62.0	63.5	59.7	62.7	57.0	41.3
(2011/08/06 01:30:00.00)	85.5	84.7	79.5	75.2	82.4	86.9	79.1	76.3	71.6	58.6	54.7	52.6	53.6	49.2	43.2	32.5
(2011/08/06 01:45:00.00)	90.7	80.0	84.5	82.7	80.9	78.0	74.7	70.2	78.9	61.0	61.6	58.0	56.8	54.8	51.6	39.3
(2011/08/06 02:00:00.00)	92.2	83.3	81.8	75.4	76.0	77.2	82.7	74.0	76.4	61.9	57.5	53.4	64.0	47.8	56.8	42.9
(2011/08/06 02:15:00.00)	93.2	78.7	75.1	75.8	77.6	75.4	68.4	72.3	81.6	63.4	57.5	54.0	57.2	55.2	43.8	37.1
(2011/08/06 02:30:00.00)	88.3	87.0	77.6	79.9	86.9	82.1	78.0	70.2	74.1	64.6	60.3	63.3	69.6	57.4	51.6	38.6
(2011/08/06 02:45:00.00)	91.2	78.6	80.7	82.1	80.4	79.9	72.6	72.2	75.0	64.7	56.7	60.2	58.3	57.3	48.7	36.3
(2011/08/06 03:00:00.00)	90.5	80.8	79.3	83.8	86.2	84.9	78.0	72.6	72.5	58.0	56.4	62.5	63.9	53.1	44.7	37.1
(2011/08/06 03:15:00.00)	90.9	79.2	80.4	78.5	80.1	75.2	74.4	72.9	74.5	58.4	58.5	58.8	57.8	51.9	49.7	34.8
(2011/08/06 03:30:00.00)	91.3	78.3	80.3	76.6	77.5	72.0	66.6	69.2	72.7	61.1	59.6	56.9	54.4	52.5	50.8	34.5
(2011/08/06 03:45:00.00)	86.8	81.5	82.6	84.7	81.1	76.2	71.5	66.8	74.3	62.2	60.7	56.1	57.8	52.9	45.7	43.0
(2011/08/06 04:00:00.00)	90.8	85.0	84.5	84.7	81.0	78.1	75.1	70.3	80.4	64.2	60.8	59.6	58.6	57.2	52.1	49.5
(2011/08/06 04:15:00.00)	91.0	85.3	77.8	84.9	89.2	88.4	79.0	72.5	81.5	62.7	58.6	62.3	58.2	55.8	47.0	38.8
(2011/08/06 04:30:00.00)	90.5	87.6	86.2	83.2	80.4	76.5	75.5	69.7	72.1	59.7	61.8	57.7	70.8	68.9	66.2	49.9
(2011/08/06 04:45:00.00)	88.6	78.9	78.9	77.9	78.1	73.3	70.4	69.4	76.6	64.8	65.4	58.7	60.4	60.7	60.0	48.0
(2011/08/06 05:00:00.00)	92.7	80.3	81.8	82.2	79.6	78.3	78.6	68.3	77.2	63.9	68.3	66.3	57.3	58.3	53.0	36.5
(2011/08/06 05:15:00.00)	89.3	80.0	83.0	82.2	83.2	82.0	78.8	72.7	78.4	67.3	68.9	66.6	65.5	61.2	55.4	42.2
(2011/08/06 05:30:00.00)	91.5	84.9	84.8	79.1	79.7	80.0	75.5	73.3	79.9	62.4	57.5	54.8	54.3	50.2	45.5	36.0
(2011/08/06 05:45:00.00)	93.2	77.8	82.9	79.6	79.5	74.1	68.8	66.4	80.9	62.1	63.6	58.8	56.2	54.3	51.8	34.5
(2011/08/06 06:00:00.00)	91.6	94.5	89.2	86.3	80.2	76.5	71.1	65.8	82.2	69.9	69.0	69.5	60.5	51.5	45.1	38.2
(2011/08/06 06:15:00.00)	87.0	82.1	79.0	81.0	78.2	74.2	69.7	64.8	77.6	66.1	69.3	69.3	60.1	57.6	55.2	46.3
(2011/08/06 06:30:00.00)	92.8	85.6	86.9	84.8	80.9	79.8	74.7	83.4	78.1	68.0	61.5	57.7	60.4	57.0	51.9	43.8
(2011/08/06 06:45:00.00)	95.0	84.2	79.3	85.2	82.8	77.2	73.4	77.8	83.6	66.0	65.6	64.3	64.2	61.3	51.8	44.0
(2011/08/06 07:00:00.00)	88.7	89.1	83.5	78.9	76.6	73.3	69.8	69.5	72.8	68.0	61.4	56.6	55.3	50.3	48.3	44.1
(2011/08/06 07:15:00.00)	94.3	89.4	85.1	81.9	80.8	81.0	86.4	82.2	85.4	67.4	66.0	59.1	58.8	66.6	57.3	46.0
(2011/08/06 07:30:00.00)	88.4	80.8	79.0	79.0	79.1	76.8	81.3	78.2	71.0	66.5	67.0	64.6	57.3	53.2	48.1	47.4
(2011/08/06 07:45:00.00)	95.7	85.6	83.2	84.3	81.4	78.0	74.7	74.7	81.1	71.4	66.1	64.8	61.7	61.2	55.2	43.7
(2011/08/06 08:00:00.00)	91.3	88.0	84.4	86.6	85.2	93.0	93.0	91.7	79.4	67.4	63.6	60.0	58.6	61.2	57.7	50.3
(2011/08/06 08:15:00.00)	93.0	84.1	85.1	79.9	77.9	73.1	76.7	84.8	79.4	76.2	75.2	69.8	69.7	64.5	58.9	55.1
(2011/08/06 08:30:00.00)	93.3	80.8	80.2	79.2	78.7	77.1	73.3	72.3	80.1	66.5	66.7	63.9	60.6	55.5	49.0	42.2
(2011/08/06 08:45:00.00)	94.0	83.8	80.4	98.2	82.4	78.8	70.8	65.4	78.4	72.8	63.3	65.2	59.1	55.5	49.7	41.6
(2011/08/06 09:00:00.00)	91.0	84.6	79.7	78.4	78.5	76.0	73.5	71.6	75.8	66.4	65.7	58.9	55.2	53.9	49.8	41.1
(2011/08/06 09:15:00.00)	89.2	89.9	88.3	92.3	101.6	93.0	84.7	78.4	73.2	73.7	69.9	68.7	76.2	65.6	57.0	45.9
(2011/08/06 09:30:00.00)	91.3	89.4	88.1	86.8	85.0	87.2	87.1	84.2	81.9	73.2	66.2	63.5	59.7	59.8	56.2	48.6
(2011/08/06 09:45:00.00)	90.7	88.8	92.7	88.2	92.6	87.9	83.9	82.2	79.6	67.9	67.3	64.2	63.0	59.0	60.3	47.9
(2011/08/06 10:00:00.00)	91.9	86.0	88.4	84.7	90.3	82.5	77.6	76.4	79.5	67.9	65.7	64.0	63.5	59.7	51.5	42.1
(2011/08/06 10:15:00.00)	88.2	88.1	81.7	80.3	79.5	77.4	74.8	73.0	72.9	67.5	62.5	61.7	56.9	54.6	48.1	41.2
(2011/08/06 10:30:00.00)	91.2	86.2	80.7	79.0	79.6	76.0	75.0	76.2	75.5	69.5	70.7	68.4	62.5	54.3	55.6	49.2
(2011/08/06 10:45:00.00)	91.1	80.8	77.5	74.0	75.1	75.7	72.1	66.9	73.2	67.1	68.3	61.5	62.6	56.4	53.3	41.7
(2011/08/06 11:00:00.00)	88.7	86.7	83.2	85.6	80.6	77.8	71.2	77.7	76.0	70.9	63.0	59.8	55.9	53.1	48.8	39.8
(2011/08/06 11:15:00.00)	94.1	82.4	79.0	77.7	79.7	74.4	74.5	69.7	83.2	65.5	65.8	64.5	66.8	65.4	57.8	44.8
(2011/08/06 11:30:00.00)	91.8	85.6	82.0	79.8	78.5	77.0	75.3	81.0	78.4	75.6	75.6	70.3	68.0	60.6	60.5	45.0
(2011/08/06 11:45:00.00)	91.8	86.8	78.6	85.3	99.1	94.9	75.6	73.1	73.2	70.5	70.6	68.9	71.8	69.7	60.4	51.3
(2011/08/06 12:00:00.00)	91.2	85.3	81.6	79.6	77.6	75.1	77.7	83.1	79.3	74.0	66.7	61.9	60.9	55.7	59.2	43.7
(2011/08/06 12:15:00.00)	96.7	97.1	91.4	83.7	77.2	76.0	75.3	72.3	77.1	73.3	70.8	66.3	63.9	68.3	64.2	43.9
(2011/08/06 12:30:00.00)	90.6	93.7	83.8	80.7	76.6	73.2	68.7	65.6	77.2	70.6	71.4	71.4	67.9	53.5	47.8	39.8
(2011/08/06 12:45:00.00)	93.9	84.8	80.9	78.1	77.4	75.0	71.9	67.8	80.4	76.8	76.2	71.7	63.1	61.2	53.0	48.3
(2011/08/06 13:00:00.00)	97.0	96.2	90.3	89.5	89.8	80.4	75.7	77.6	78.1	73.7	70.5	63.1	58.6	55.8	63.8	51.2
(2011/08/06 13:15:00.00)	92.0	86.3	84.6	80.2	95.5	94.3	92.2	84.2	78.2	71.4	75.2	74.2	69.1	69.7	66.8	59.9
(2011/08/06 13:30:00.00)	92.4	82.4	77.0	76.9	76.4	74.1	72.6	79.5	79.3	68.4	69.0	62.0	61.3	58.6	55.6	50.1
(2011/08/06 13:45:00.00)	91.7	81.6	80.9	82.2	86.4	79.8	74.3	71.8	81.3	76.7	77.3	75.0	72.1	65.5	52.6	43.4
(2011/08/06 14:00:00.00)	90.8	88.6	81.8	78.1	79.9	77.1	81.8	74.8	79.8	69.5	63.8	65.4	61.0	63.4	66.1	55.0
(2011/08/06 14:15:00.00)	92.9	84.9	83.6	83.8	79.1	77.5	71.6	73.0	80.9	72.2	72.1	71.1	70.5	66.8	56.5	47.1
(2011/08/06 14:30:00.00)	93.4	85.6	82.6	91.3	82.0	80.1	76.4	75.3	76.8	68.4	70.7	69.4	64.0	55.6	50.9	43.4
(2011/08/06 14:45:00.00)	92.6	89.8	86.6	75.9	76.7	76.7	77.9	77.0	79.7	77.5	76.0	70.6	61.4	56.7	55.2	43.1
(2011/08/06 15:00:00.00)	94.6	85.8	82.6	80.5	78.6	74.0	74.6	68.1	80.5	69.2	72.6	70.9	62.6	59.1	61.3	53.7
(2011/08/06 15:15:00.00)	96.7	85.8	80.3	78.6	79.1	80.7	71.9	69.9	82.2	70.4	72.9	73.0	66.6	60.3	48.2	39.0
(2011/08/06 15:30:00.00)	97.1	89.5	94.7	91.2	95.6	83.9	76.5	78.6	81.9	69.2	70.4	66.3	64.8	57.6	53.8	44.5
(2011/08/06 15:45:00.00)	92.5	91.6	86.7	83.0	79.7	75.8	73.0	74.1	80.2	73.1	73.0	70.6	63.3	58.9	50.4	41.2
(2011/08/06 16:00:00.00)	93.2	87.0	83.7	80.2	78.3	77.6	73.6	70.7	80.4	70.6	66.9	63.7	59.2	53.5	55.4	46.4
(2011/08/06 16:15:00.00)	94.2	98.5	94.5	82.6	77.2	76.6	73.2	75.0	75.6	77.3	68.2	61.3	59.5	52.3	49.7	42.0
(2011/08/06 16:30:00.00)	89.3	87.3	83.6	79.8	81.9	83.9	76.1	72.2	76.0	65.0	66.6	62.0	62.9	56.5	52.6	43.6
(2011/08/06 16:45:00.00)	92.2	85.0	81.9	82.6	80.4	84.1	72.6	68.7	78.9	64.9	70.0	68.8	65.2	68.7	58.0	50.9
(2011/08/06 17:00:00.00)	91.3	84.3	83.2	79.7	79.6	79.1	76.6	72.1	73.5	69.1	71.1	65.6	65.2	69.4	59.6	52.0
(2011/08/06 17:15:00.00)	96.3	96.4	89.3	84.1	77.1	75.8	73.1	72.7	81.1	79.0	67.6	63.6	59.1	59.9	50.8	44.8
(2011/08/06 17:30:00.00)	93.2	88.5	80.3	81.3	80.1	86.0	75.1	63.6	78.0	75.2	73.4	69.7	70.1	71.8	66.1	48.2
(2011/08/06 17:45:00.00)	93.6	86.9	82.5	93.4	102.9	92.9	85.9	81.2	78.5	69.7	73.1	68.6	76.6	68.8	60.5	47.8
(2011/08/06 18:00:00.00)	89.1	84.1	80.9	95.7	82.8	76.9	75.5	77.3	77.6	66.4	62.9	62.2	61.8	59.6	59.0	52.0
(2011/08/06 18:15:00.00)	94.2	84.4	80.3	78.6	77.2	72.8	71.4	69.3	75.9	64.6	64.3	58.7	59.9	56.1	57.0	48.0
(2011/08/06 18:30:00.00)	88.8	91.3	81.4	84.7	75.2	72.5	69.9	81.7	75.4	70.7	63.7	64.3	62.2	62.4	58.6	43.0
(2011/08/06 18:45:00.00)	91.1	85.2	79.8	76.3	77.3	77.4	72.4	73.1	81.3	68.9	65.8	59.1	57.3	57.1	50.5	38.7
(2011/08/06 19:00:00.00)	91.9	85.0	80.2	78.5	77.0	74.8	72.9	80.1	78.1	76.6	65.9	68.8	64.6	65.1	60.8	50.5

AECOM

Measurement Results

Project:	PI High Holborn		
Section:	External Noise Level Measurements	Job No:	60147030/M041
	Spectral Lfmax data	Date:	As measurements
Formatted by:	SK		

	Location 1								Location 2							
	LfF(max)								LfF(max)							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/06 19:15:00.00)	93.5	95.6	85.1	77.6	78.2	74.8	77.4	78.8	76.9	71.9	64.9	58.5	61.0	57.1	53.1	41.2
(2011/08/06 19:30:00.00)	91.5	86.2	93.3	83.2	78.7	78.2	75.5	71.2	75.2	73.6	79.2	65.6	59.9	58.2	51.4	40.4
(2011/08/06 19:45:00.00)	92.7	87.1	78.1	79.5	79.8	73.5	71.2	66.8	77.9	67.1	63.3	56.7	57.4	52.4	48.0	41.9
(2011/08/06 20:00:00.00)	91.3	86.6	81.6	77.5	80.8	75.7	70.8	69.8	79.5	65.5	62.3	58.5	59.3	59.8	53.1	41.4
(2011/08/06 20:15:00.00)	88.5	84.7	81.5	83.4	80.2	73.3	74.1	82.5	83.0	77.4	64.6	58.2	56.9	58.4	54.8	45.9
(2011/08/06 20:30:00.00)	89.5	96.6	86.5	85.0	77.0	72.8	71.5	81.8	76.0	65.8	62.5	66.8	61.8	62.4	60.3	41.7
(2011/08/06 20:45:00.00)	89.2	77.9	78.5	77.6	80.8	76.1	72.6	81.9	79.4	68.1	62.1	56.4	58.4	58.8	57.4	42.0
(2011/08/06 21:00:00.00)	93.4	81.1	75.1	78.8	74.7	72.1	69.2	68.3	75.1	64.8	62.6	58.2	56.2	53.1	52.7	41.9
(2011/08/06 21:15:00.00)	90.6	85.3	82.1	78.8	77.5	72.5	72.9	68.1	75.6	66.7	64.3	58.3	60.3	57.0	55.5	49.7
(2011/08/06 21:30:00.00)	93.9	80.3	79.4	81.9	77.8	73.8	75.4	73.3	76.7	65.4	64.1	64.6	59.2	54.9	49.6	42.1
(2011/08/06 21:45:00.00)	89.3	82.6	74.5	75.8	75.6	71.8	68.5	65.7	73.0	64.1	63.7	60.8	55.4	51.7	48.7	52.4
(2011/08/06 22:00:00.00)	94.4	83.1	80.1	79.7	79.0	74.9	72.0	74.6	76.7	65.9	63.6	62.1	59.1	56.9	49.9	41.9
(2011/08/06 22:15:00.00)	96.2	91.2	82.0	80.2	86.6	77.1	76.0	68.4	74.2	73.8	75.8	68.3	64.2	54.8	50.3	41.9
(2011/08/06 22:30:00.00)	93.8	84.1	77.0	76.5	77.8	78.0	74.0	72.7	72.3	69.9	74.0	68.1	65.6	56.6	48.8	39.6
(2011/08/06 22:45:00.00)	88.9	91.3	79.5	81.6	96.6	94.8	82.5	73.9	72.7	69.1	68.9	62.1	70.5	70.1	54.8	40.7
(2011/08/06 23:00:00.00)	89.6	93.6	79.9	80.8	78.2	82.6	78.4	77.9	77.9	76.6	76.5	74.2	62.0	56.4	51.7	42.4
(2011/08/06 23:15:00.00)	93.8	95.7	100.6	97.8	89.5	84.7	77.5	73.5	81.5	70.7	68.7	68.6	60.2	55.0	49.5	39.3
(2011/08/06 23:30:00.00)	93.6	82.5	79.0	76.5	82.8	80.4	76.6	74.8	73.8	62.5	62.6	59.2	58.0	57.4	49.6	39.3
(2011/08/06 23:45:00.00)	90.5	89.0	86.8	81.6	82.4	80.5	75.5	69.2	75.2	65.2	62.1	58.1	58.6	52.9	46.9	35.5
(2011/08/07 00:00:00.00)	93.4	82.6	85.3	86.7	81.1	78.9	72.9	70.9	78.8	63.1	61.4	58.9	56.6	60.6	47.3	37.1
(2011/08/07 00:15:00.00)	93.6	82.2	80.2	77.8	79.8	75.1	77.2	73.0	73.3	71.7	75.3	68.7	64.5	51.7	45.0	33.4
(2011/08/07 00:30:00.00)	89.0	79.8	80.2	79.7	77.8	73.8	78.0	74.7	69.8	67.5	60.1	57.0	55.7	53.2	54.8	53.5
(2011/08/07 00:45:00.00)	89.8	83.0	79.9	79.9	85.3	79.5	69.1	85.5	73.2	61.1	57.0	55.5	56.1	50.7	44.5	36.0
(2011/08/07 01:00:00.00)	92.2	83.5	79.7	90.4	79.0	77.7	72.7	79.1	81.9	59.9	67.8	63.3	58.6	53.5	47.9	52.5
(2011/08/07 01:15:00.00)	90.3	81.2	89.3	84.6	83.3	79.8	75.1	79.1	74.4	62.8	66.7	62.8	58.6	54.3	47.5	51.5
(2011/08/07 01:30:00.00)	86.2	81.9	78.4	84.3	81.7	78.6	78.2	97.0	75.8	66.8	65.4	56.6	55.4	52.8	47.7	46.9
(2011/08/07 01:45:00.00)	85.9	80.1	80.6	77.8	76.7	71.9	67.6	62.9	75.9	61.3	61.7	54.4	54.4	52.1	43.5	37.9
(2011/08/07 02:00:00.00)	91.4	83.6	82.1	76.6	78.1	74.3	73.8	71.8	74.9	62.2	63.4	56.5	54.3	52.3	45.9	37.0
(2011/08/07 02:15:00.00)	91.0	86.0	82.3	77.7	77.1	73.8	75.2	66.4	73.1	59.1	56.4	54.0	55.1	52.7	53.2	33.4
(2011/08/07 02:30:00.00)	85.8	83.3	82.2	79.3	79.5	74.1	66.1	61.9	72.5	62.3	56.5	57.3	59.3	52.6	42.4	34.9
(2011/08/07 02:45:00.00)	91.9	80.3	83.1	83.7	82.3	78.8	70.1	76.6	77.0	63.5	61.7	57.2	58.7	53.8	48.9	40.1
(2011/08/07 03:00:00.00)	88.4	79.8	73.2	75.6	78.4	76.0	76.7	67.5	76.6	66.3	59.8	55.6	55.7	55.0	47.4	41.6
(2011/08/07 03:15:00.00)	90.0	82.3	81.2	83.1	82.3	87.9	76.4	65.4	72.3	61.7	60.7	56.5	57.5	60.1	52.0	38.0
(2011/08/07 03:30:00.00)	88.3	79.0	81.8	80.7	80.3	76.8	68.7	64.6	74.9	60.2	57.5	58.4	59.1	57.8	46.2	36.1
(2011/08/07 03:45:00.00)	87.9	79.4	83.2	79.4	80.9	75.5	71.4	66.8	72.5	63.5	64.3	58.4	57.9	53.8	47.7	47.9
(2011/08/07 04:00:00.00)	90.6	77.6	80.6	84.6	77.3	73.7	72.1	72.8	73.0	60.8	58.2	54.5	56.9	51.7	44.7	41.7
(2011/08/07 04:15:00.00)	91.3	82.8	81.3	78.4	79.4	78.6	72.7	71.5	75.6	63.1	61.1	55.7	54.3	54.4	46.4	43.2
(2011/08/07 04:30:00.00)	92.3	80.5	82.9	81.6	79.3	74.6	75.6	72.9	79.0	64.2	61.3	56.9	61.9	61.0	57.8	43.1
(2011/08/07 04:45:00.00)	95.0	88.2	80.6	79.2	77.7	74.6	89.5	90.8	79.6	67.2	62.8	56.6	65.2	63.9	61.1	49.2
(2011/08/07 05:00:00.00)	94.4	83.6	76.1	76.8	77.9	75.7	70.8	69.6	79.5	66.1	61.2	61.4	65.5	61.4	56.1	41.7
(2011/08/07 05:15:00.00)	98.3	79.4	77.0	75.9	77.6	75.5	76.8	75.3	75.8	63.8	60.5	55.3	63.4	60.4	59.4	44.1
(2011/08/07 05:30:00.00)	94.9	81.3	83.2	76.4	80.6	75.2	73.6	69.1	73.8	61.6	58.1	54.4	60.1	58.0	50.1	42.7
(2011/08/07 05:45:00.00)	91.6	87.5	83.8	79.7	77.0	73.0	76.4	73.2	73.0	62.6	63.8	58.2	57.4	62.5	52.7	46.1
(2011/08/07 06:00:00.00)	89.6	81.2	77.2	77.2	78.0	74.3	73.3	73.2	78.6	63.2	60.8	67.3	55.7	53.7	50.5	38.5
(2011/08/07 06:15:00.00)	86.9	89.4	86.8	85.9	81.7	81.8	78.5	77.3	74.3	67.2	68.6	68.2	71.4	63.3	54.7	45.4
(2011/08/07 06:30:00.00)	90.2	84.2	88.8	87.6	85.3	79.2	73.8	70.5	73.8	67.2	63.7	63.8	60.6	55.2	50.8	43.6
(2011/08/07 06:45:00.00)	94.2	80.7	83.6	80.8	79.0	77.7	77.6	75.5	73.4	64.6	62.2	58.9	54.8	49.5	47.4	35.7
(2011/08/07 07:00:00.00)	94.3	84.5	77.8	77.2	78.6	76.2	75.7	71.4	80.6	65.3	62.6	59.0	55.5	52.9	49.7	37.7
(2011/08/07 07:15:00.00)	92.7	77.1	75.7	74.4	77.2	71.0	67.9	69.1	76.2	64.1	61.8	55.8	55.2	51.3	46.2	35.6
(2011/08/07 07:30:00.00)	92.2	83.6	85.1	81.7	78.9	76.3	72.6	73.5	74.4	66.9	65.8	65.3	59.1	53.9	48.1	41.0
(2011/08/07 07:45:00.00)	88.2	79.4	76.4	74.4	76.8	76.5	72.2	66.7	75.6	67.5	65.8	65.5	57.5	53.6	48.8	38.1
(2011/08/07 08:00:00.00)	87.2	81.6	77.5	77.8	78.5	77.7	72.6	69.9	77.7	66.7	63.6	63.3	57.5	53.0	50.4	40.4
(2011/08/07 08:15:00.00)	89.9	81.0	79.9	78.3	77.5	73.1	68.7	71.4	81.7	74.5	67.7	72.7	64.0	56.3	46.6	40.1
(2011/08/07 08:30:00.00)	94.2	83.7	77.4	75.7	77.5	77.5	73.0	66.9	80.1	66.8	65.5	60.4	57.0	55.0	52.9	48.8
(2011/08/07 08:45:00.00)	91.1	85.0	85.8	81.9	81.9	76.7	73.2	71.5	81.3	68.7	66.4	60.6	57.7	52.2	48.5	42.1
(2011/08/07 09:00:00.00)	91.7	89.5	80.2	77.6	77.6	80.0	82.1	80.3	75.2	65.3	66.1	64.5	62.3	58.7	50.8	43.3
(2011/08/07 09:15:00.00)	96.8	82.8	79.9	76.3	75.9	73.5	70.0	67.9	81.0	68.8	64.6	62.8	62.6	63.0	58.6	47.4
(2011/08/07 09:30:00.00)	93.6	80.1	77.5	81.7	97.8	101.6	79.1	66.4	77.4	67.1	70.9	75.4	73.6	72.5	52.0	41.0
(2011/08/07 09:45:00.00)	100.5	83.8	79.7	78.9	78.8	79.8	68.4	69.9	87.2	70.7	63.4	56.8	62.8	65.7	56.3	45.1
(2011/08/07 10:00:00.00)	94.7	79.7	78.3	78.9	79.2	77.8	71.6	71.6	82.9	74.4	69.2	65.8	61.6	58.4	48.1	44.9
(2011/08/07 10:15:00.00)	91.6	86.9	81.5	78.4	78.7	76.6	74.4	69.6	78.4	70.5	71.9	65.0	63.7	64.8	59.5	48.2
(2011/08/07 10:30:00.00)	93.1	81.7	80.7	78.8	76.4	75.0	70.8	69.0	82.2	72.2	69.9	66.2	61.5	57.2	49.3	40.4
(2011/08/07 10:45:00.00)	86.9	90.8	90.7	79.6	80.1	81.1	75.2	69.6	78.4	69.4	67.9	61.7	60.6	62.9	58.9	49.1
(2011/08/07 11:00:00.00)	94.3	84.0	77.2	79.1	78.9	74.3	74.6	73.2	83.6	73.3	69.4	68.7	64.8	63.0	65.4	54.8
(2011/08/07 11:15:00.00)	91.1	91.8	77.9	73.9	76.7	74.4	69.5	67.8	82.5	72.7	69.6	65.3	62.0	59.1	54.1	48.4
(2011/08/07 11:30:00.00)	90.9	88.0	79.1	78.2	78.0	80.1	82.5	82.7	79.6	72.7	70.4	68.7	69.9	60.0	59.3	50.1
(2011/08/07 11:45:00.00)	86.5	82.3	84.8	78.3	76.4	72.2	68.9	72.8	80.2	79.0	75.0	71.2	65.4	61.2	58.7	52.9
(2011/08/07 12:00:00.00)	91.3	91.0	84.5	76.9	78.7	74.6	71.6	70.1	80.1	75.3	76.2	75.3	65.3	59.8	53.8	44.6
(2011/08/07 12:15:00.00)	92.9	88.0	83.4	80.1	77.9	78.1	73.1	68.1	78.4	65.0	63.0	60.8	58.3	59.1	58.7	51.4
(2011/08/07 12:30:00.00)	92.4	87.4	79.1	79.4	81.4	76.9	69.6	69.0	74.8	73.1	71.6	68.3	65.9	57.1	48.7	39.8
(2011/08/07 12:45:00.00)	93.4	90.5	82.1	79.9	76.3	73.2	70.3	66.4	79.5	72.7	71.7	64.2	60.0	56.2	53.4	46.0
(2011/08/07 13:00:00.00)	90.2	79.9	80.0	75.6	78.9	75.6	69.0	73.1	79.2	69.2	73.4	66.5	60.3	58.7	57.2	47.0
(2011/08/07 13:15:00.00)	93.6	82.3	90.5	77.9	77.6	75.6	71.7	73.2	89.0	81.9	72.5	70.1	64.5	62.8	56.7	51.4
(2011/08/07 13:30:00.00)	89.4	91.3	92.7	82.0	75.4	75.5	72.4	67.4	72.9	70.9	71.3	67.7	63.2	65.5	60.3	44.4
(2011/08/07 13:45:00.00)	89.6	83.4	82.1	84.6	80.4	77.8	75.9	76.0	76.4	71.6	73.2	72.9	68.5	57.4	51.8	50.7
(2011/08/07 14:00:00.00)	88.8	78.6	84.8	84.3	80.8	77.4	75.5	76.2	81.7	68.9	72.0	70.3	66.5	63.9	63.5	59.1
(2011/08/07 14:15:00.00)	89.6	84.5	81.4	83.2	78.5	72.8	74.1	89.6	72.0	65.0	66.9	61.2	58.3	55.2	50.7	42.2
(2011/08/07 14:30:00.00)	94.2	87.6	88.0	84.1	80.8	78.1	73.0	76.0	80.4	68.8	66.8	65.9	60.7	61.3	54.4	49.1
(2011/08/07 14:45:00.00)	90.3	88.4	76.6	75.9	79.6	76.2	75.0	74.5	77.8	67.5	65.8	65.3	65.6	65.2	63.1	63.7
(2011/08/07 15:00:00.00)	90.4	86.1	80.0	79.1	77.5	77.3	75.2	73.6	79.2	66.2	63.4	63.1	63.0	62.6	56.2	54.7
(2011/08/07 15:15:00.00)	90.9	89.3	85.2	78.7	77.6	83.9	88.4	69.6	75.0	70.0	72.0	69.0	62.2	65.1	57.4	48.3
(2011/08/07 15:30:00.00)	94.4	85.7	82.3	76.5	78.7	77.4	73.6	73.2	80.9	65.2	65.9	63.8	62.3	67.5	59.7	56.3
(2011/08/07 15:45:00.00)	88.2	81.8	80.0	83.3	82.5	80.0	80.1	77.4	75.8	71.7	73.1	73.3	73.4	70.1	69.6	54.1
(2011/08/07 16:00:00.00)	93.3	83.6	77.3	77.1	80.1	76.5	73.6	70.8	78.9	72.2	68.6	64.8	57.2	57.4	54.7	52.7
(2011/08/07 16:15:00.00)	93.3	96.7	82.3	78.8	76.9	78.7	73.1	67.8	78.4	70.5	68.8	70.0	67.0	60.3	55.7	45.8
(2011/08/07 16:30:00.00)	93.2	89.7	81.0	76.0	80.1	79.6	75.5	80.6	78.8	70.3	62.3	55.8	61.6	58.4	56.2	46.0
(2011/08/07 16:45:00.00)	90.7	83.2	79.7	75.1	80.3	75.7	75.3	72.1	79.4	66.8	65.5	67.2	60.0	63.0	53.8	42.7
(2011/08/07 17:00:00.00)	89.4	81.3	84.8	81.0	79.0	73.9	78.2	72.4	73.9	68.7	70.6	68.7	67.5	57.2	53.2	49.1
(2011/08/07 17:15:00.00)	89.3	89.4	83.4	85.5	103.2	101.3	80.1	73.7	70.8	65.9	71.9	67.1	75.1	74.2	54.4	42.1
(2011/08/07 17:30:00.00)	92.9	93.6	80.5	79.1	76.4	72.7	69.9	82.6	77.0	72.4	71.9	65.9	60.9	62.2	59.5	46.7
(2011/08/07 17:45:00.00)	88.4	79.3	82.2	80.7	76.6	72.4	70.1	65.4	73.8	69.1	68.9	69.0	70.0	71.7	59.2	45.9
(2011/08/07 18:00:00.00)	89.5	84.1	80.7	82.1	81.7	76.7	72.4	66.6	73.9	63.5	62.1	62.2	65.1	61.7	55.4	42.9
(2011/08/07 18:15:00.00)	91.3	82.2	75.8	78.3	78.1	77.9	72.2	67.6	76.1	69.9	64.5	61.9	62.0	55.6	54.3	43.7
(2011/08/07 18:30:00.00)	91.2	85.0	80.4	80.1	79.3	75.5	75.9	73.0	75.2	64.7	62.4	62.3	59.7	63.4	55.1	44.3
(2011/08/07 18:45:00.00)	90.8	89.0	80.3	77.9	77.8	72.9	68.2	64.2	79.9	72.3	68.9	64.3	68.2	63.5	59.0	50.1
(2011/08/07 19:00:00.00)	91.7	85.8	89.9	80.6	78.9	75.1	69.2	69.5	84.1	70.0	70.0	68.8	65.1	59.0	54.8	49.7
(2011/08/07 19:15:00.00)	92.9	87.2	75.7	76.3	76.3	74.5	69.6	69.8	77.5	78.6	66.7	62.2	59.9	57.8	53.3	43.3
(2011/08/07 19:30:00.00)	90.5	83.6	80.4	84.3	79.3	72.8	69.3	62.1	72.8	64.7	62.6	68.3	59.8	62.2	55.2	42.8
(2011/08/07 19:45:00.00)	91.7	81.5	78.1	79.1	79.1	75.9	77.9	71.7	79.0	64.4	63.1	62.0	56.8	53.3	46.0	37.4
(2011/08/07 20:00:00.00)	91.6	89.3	85.5	83.5	75.7	72.0	68.7	69.4	75.2	66.6	63.6	58.9	60.8	55.4	54.5	41.7

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Spectral Lfmax data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1								Location 2							
	LfF(max)								LfF(max)							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/07 20:15:00.00)	91.9	77.1	76.6	76.3	78.5	75.5	76.1	75.5	73.1	66.3	61.9	55.7	55.4	51.3	46.7	36.5
(2011/08/07 20:30:00.00)	92.9	78.8	85.9	79.6	78.6	73.1	78.3	72.6	80.7	63.3	62.4	60.1	57.8	53.4	50.0	38.6
(2011/08/07 20:45:00.00)	94.3	78.5	81.0	88.0	99.2	100.5	76.9	81.0	78.9	71.8	62.2	63.3	73.5	71.3	53.1	43.1
(2011/08/07 21:00:00.00)	90.0	77.8	80.2	78.4	77.3	77.7	69.3	72.3	75.9	64.2	63.0	58.2	61.3	60.9	57.9	40.8
(2011/08/07 21:15:00.00)	88.0	88.1	79.8	76.9	76.2	77.0	79.0	77.9	73.9	71.1	64.2	58.9	62.3	56.3	49.2	37.8
(2011/08/07 21:30:00.00)	88.2	82.6	76.6	76.9	77.4	72.0	72.2	67.1	71.5	63.0	62.2	56.4	55.4	53.9	48.6	38.1
(2011/08/07 21:45:00.00)	92.5	81.8	76.4	80.3	77.3	72.2	69.8	65.6	80.6	62.5	62.5	57.0	60.0	57.3	52.6	38.5
(2011/08/07 22:00:00.00)	84.7	88.5	77.8	101.0	96.2	94.0	74.5	69.2	81.6	74.5	76.9	72.0	75.6	69.2	54.0	38.9
(2011/08/07 22:15:00.00)	88.8	84.1	75.8	78.7	75.5	71.9	67.6	65.3	73.9	64.1	63.7	68.3	58.7	54.5	46.2	39.4
(2011/08/07 22:30:00.00)	91.6	80.0	81.1	79.1	78.5	74.5	72.1	71.9	74.9	71.4	62.1	56.9	55.0	51.8	48.1	40.0
(2011/08/07 22:45:00.00)	86.8	85.1	82.9	83.4	84.4	84.1	82.7	80.0	75.2	64.3	65.2	69.8	64.4	63.1	59.9	42.9
(2011/08/07 23:00:00.00)	93.4	88.4	79.9	77.2	80.7	75.8	72.9	66.6	76.0	73.4	64.5	57.7	60.6	54.9	49.7	47.7
(2011/08/07 23:15:00.00)	92.1	82.6	78.1	78.7	81.7	78.1	74.9	73.0	77.7	62.1	63.5	57.6	60.1	57.9	55.8	41.4
(2011/08/07 23:30:00.00)	87.0	83.9	76.0	75.4	77.8	73.4	69.1	67.1	76.9	66.2	64.6	57.6	60.6	55.3	45.3	35.2
(2011/08/07 23:45:00.00)	91.3	83.5	78.3	81.6	77.7	77.2	69.9	71.5	73.3	66.6	60.1	56.0	58.1	54.5	47.2	35.8
(2011/08/08 00:00:00.00)	88.2	83.4	82.0	79.5	82.5	80.3	77.3	77.3	71.3	63.0	62.9	57.3	57.1	51.7	45.7	37.0
(2011/08/08 00:15:00.00)	86.9	79.6	74.5	79.6	74.8	71.9	69.8	77.0	74.9	60.4	55.9	56.0	61.4	57.5	58.2	43.0
(2011/08/08 00:30:00.00)	88.7	77.7	77.4	79.1	86.2	83.7	82.9	84.8	73.1	59.8	57.6	55.5	57.6	55.1	51.6	39.5
(2011/08/08 00:45:00.00)	89.1	90.8	88.5	79.7	77.6	75.3	73.2	69.2	73.5	66.9	69.9	63.4	63.5	66.5	59.9	60.1
(2011/08/08 01:00:00.00)	88.7	79.0	79.1	78.8	79.1	79.8	76.3	71.6	73.9	65.6	68.0	65.1	63.5	66.4	64.5	68.3
(2011/08/08 01:15:00.00)	87.7	80.5	83.1	78.7	77.6	76.2	73.8	69.9	78.3	65.4	58.9	60.3	58.7	59.9	57.6	56.0
(2011/08/08 01:30:00.00)	90.5	82.2	79.7	77.0	79.0	78.8	76.3	71.7	78.6	57.6	58.0	60.8	59.3	61.4	61.1	56.8
(2011/08/08 01:45:00.00)	85.6	81.7	81.0	77.4	77.6	77.6	75.4	70.7	71.1	58.2	59.6	56.3	55.8	55.1	58.7	53.3
(2011/08/08 02:00:00.00)	87.5	76.2	77.1	75.2	77.8	78.4	74.8	70.2	71.5	57.1	55.1	54.0	59.1	58.4	57.5	52.2
(2011/08/08 02:15:00.00)	90.9	77.6	79.3	80.4	80.8	79.6	75.6	72.3	74.2	60.8	62.2	57.2	59.4	59.8	55.0	55.5
(2011/08/08 02:30:00.00)	83.8	79.3	80.8	76.6	76.5	75.6	70.6	66.2	71.5	61.1	63.7	55.8	55.9	53.8	56.3	51.6
(2011/08/08 02:45:00.00)	92.6	82.5	79.3	78.2	77.1	73.5	78.1	70.4	70.9	60.1	59.7	56.5	55.6	50.8	50.5	42.3
(2011/08/08 03:00:00.00)	91.1	83.1	82.6	79.2	79.8	79.4	76.0	72.0	78.7	62.1	60.0	58.8	56.9	58.0	52.4	41.3
(2011/08/08 03:15:00.00)	87.6	75.9	74.2	76.8	76.2	72.9	70.9	67.7	75.3	58.9	61.3	59.9	60.7	71.3	69.3	42.8
(2011/08/08 03:30:00.00)	87.1	77.1	76.4	75.3	77.9	73.5	69.8	68.8	71.0	56.6	66.2	60.2	57.3	57.3	49.8	40.3
(2011/08/08 03:45:00.00)	92.3	79.8	77.3	78.2	83.1	72.3	75.9	85.5	73.7	61.7	59.5	54.3	55.8	59.3	54.8	57.8
(2011/08/08 04:00:00.00)	85.7	76.6	81.1	76.2	78.9	76.1	72.3	70.7	69.6	57.9	55.0	54.2	58.3	53.7	46.5	38.7
(2011/08/08 04:15:00.00)	94.5	78.1	79.9	83.3	81.2	77.0	81.3	68.5	76.3	60.2	59.5	56.8	56.9	53.5	54.9	35.1
(2011/08/08 04:30:00.00)	86.8	79.9	79.5	78.0	78.0	76.4	72.4	67.9	69.2	62.0	61.0	61.9	55.3	55.7	51.3	36.1
(2011/08/08 04:45:00.00)	86.2	79.1	77.9	77.8	79.8	75.4	73.2	69.0	71.4	65.9	66.4	62.3	62.1	58.8	56.5	39.3
(2011/08/08 05:00:00.00)	91.5	78.1	79.9	80.1	77.7	73.2	69.2	69.8	69.3	63.2	61.8	61.9	68.0	62.8	61.0	46.2
(2011/08/08 05:15:00.00)	88.5	81.3	86.8	82.3	81.4	75.6	68.3	64.3	84.2	73.5	76.7	75.8	73.7	68.2	59.6	43.0
(2011/08/08 05:30:00.00)	89.6	83.3	88.1	85.6	83.8	80.2	75.4	75.2	71.7	62.1	66.3	63.5	60.1	72.6	72.2	44.8
(2011/08/08 05:45:00.00)	94.0	84.3	77.7	79.3	77.4	74.3	72.0	71.6	75.3	59.5	56.6	55.2	56.9	52.6	47.7	44.5
(2011/08/08 06:00:00.00)	100.9	86.0	83.3	82.5	80.6	78.4	73.8	72.5	75.4	65.3	60.6	60.5	58.2	56.3	53.9	51.2
(2011/08/08 06:15:00.00)	92.6	81.0	79.8	78.4	78.4	74.7	71.9	75.0	73.0	65.2	65.0	58.3	57.2	57.0	46.6	37.7
(2011/08/08 06:30:00.00)	90.6	82.7	82.1	78.9	79.8	75.5	71.3	71.0	76.9	61.8	61.4	58.5	56.6	56.6	61.1	45.5
(2011/08/08 06:45:00.00)	93.0	87.0	82.9	86.6	83.0	85.8	84.3	82.6	76.7	63.9	59.9	65.3	58.8	65.0	54.2	47.2
(2011/08/08 07:00:00.00)	98.0	91.0	82.2	82.0	84.4	82.1	79.3	82.2	76.9	68.5	62.3	63.1	63.2	58.8	55.1	44.3
(2011/08/08 07:15:00.00)	94.9	83.4	80.7	78.6	77.9	78.4	78.1	71.9	86.5	69.3	69.8	68.3	70.3	73.4	65.6	59.2
(2011/08/08 07:30:00.00)	89.8	94.4	88.0	83.1	78.3	75.3	74.8	91.9	78.4	71.6	65.7	56.6	57.2	54.3	49.7	52.3
(2011/08/08 07:45:00.00)	92.5	90.3	89.6	95.0	79.8	78.3	78.1	80.0	81.1	66.1	71.9	68.2	59.6	55.3	48.6	41.3
(2011/08/08 08:00:00.00)	95.7	94.6	80.2	88.0	83.2	78.5	85.0	76.8	83.7	75.5	63.7	65.0	62.3	59.5	63.8	52.2
(2011/08/08 08:15:00.00)	92.6	92.0	86.1	97.2	86.8	76.0	72.0	74.2	81.2	72.0	68.9	71.5	65.2	57.3	50.6	43.5
(2011/08/08 08:30:00.00)	94.1	90.8	89.0	90.1	79.8	76.2	73.9	80.8	80.4	69.2	73.0	72.0	73.6	70.4	66.2	59.6
(2011/08/08 08:45:00.00)	92.8	88.4	80.6	79.4	79.5	80.0	74.8	79.1	79.9	70.1	67.5	65.7	63.2	66.7	64.4	61.6
(2011/08/08 09:00:00.00)	93.1	89.9	81.1	80.6	80.7	79.9	78.5	77.6	78.5	66.7	64.1	59.0	58.1	68.4	53.0	47.2
(2011/08/08 09:15:00.00)	88.4	90.0	81.1	81.6	77.8	77.6	73.6	73.9	81.1	70.2	67.3	70.5	68.2	65.6	59.1	59.0
(2011/08/08 09:30:00.00)	93.4	88.9	81.3	79.7	77.7	75.7	79.4	77.2	78.0	74.6	66.8	61.3	57.8	55.4	50.0	47.2
(2011/08/08 09:45:00.00)	96.0	90.6	83.0	79.2	79.3	78.8	76.3	80.1	91.5	77.4	68.8	64.3	64.8	62.9	61.7	47.2
(2011/08/08 10:00:00.00)	94.9	86.7	79.3	79.2	81.1	77.9	75.2	74.5	82.6	70.1	71.9	67.7	65.3	62.8	56.3	51.5
(2011/08/08 10:15:00.00)	92.4	90.2	83.2	82.7	78.8	79.8	84.2	80.6	82.4	68.6	71.8	66.5	63.1	62.2	56.6	49.9
(2011/08/08 10:30:00.00)	94.3	88.2	86.1	81.5	92.4	97.5	97.8	91.6	85.0	75.6	66.3	67.8	72.2	73.3	65.3	48.6
(2011/08/08 10:45:00.00)	93.5	87.3	80.6	80.4	76.9	78.0	85.8	78.5	77.5	70.7	66.8	63.4	73.6	69.4	69.3	58.1
(2011/08/08 11:00:00.00)	99.1	91.2	79.6	78.5	77.9	77.5	75.6	84.4	81.2	70.5	67.5	69.2	68.9	69.1	64.9	53.8
(2011/08/08 11:15:00.00)	98.3	88.7	81.0	82.1	84.4	81.3	77.1	71.9	83.3	72.1	69.6	63.6	64.5	62.7	63.9	58.1
(2011/08/08 11:30:00.00)	90.9	86.5	84.8	84.4	82.0	77.2	74.1	77.9	75.7	66.6	63.3	60.3	56.9	53.7	53.9	51.7

AECOM

Measurement Results

Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Spectral L90 data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1								Location 2							
	L90								L90							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/05 18:15:00.00)	65.6	62.1	58.8	59.5	57.3	53.3	46.5	39.1	60.9	56.8	55.1	51.9	48.8	45.9	42.9	35.1
(2011/08/05 18:30:00.00)	66.4	62.4	59.3	59.6	57.8	54.9	48.8	41.7	61.1	56.9	55.3	52.1	49.0	46.1	43.2	35.7
(2011/08/05 18:45:00.00)	66.6	62.8	58.9	59.1	57.5	53.8	47.5	40.2	61.3	57.1	55.2	52.1	49.0	46.2	43.3	36.0
(2011/08/05 19:00:00.00)	65.9	62.3	58.3	59.0	57.0	53.3	46.8	39.5	61.2	56.9	55.4	52.0	49.1	46.2	43.3	35.9
(2011/08/05 19:15:00.00)	66.3	62.3	58.2	58.6	56.6	53.1	46.7	38.7	61.3	56.7	55.2	52.0	48.9	46.2	43.5	36.2
(2011/08/05 19:30:00.00)	66.4	61.3	57.6	58.1	56.6	53.2	46.5	38.5	60.9	56.7	55.3	51.8	48.9	46.1	43.4	36.1
(2011/08/05 19:45:00.00)	66.1	61.9	58.1	58.0	56.6	52.9	46.5	38.6	61.1	56.8	55.3	52.0	49.2	46.3	43.5	36.2
(2011/08/05 20:00:00.00)	65.0	61.4	57.9	58.0	56.5	53.1	46.4	39.1	60.9	56.8	55.4	51.8	48.8	46.1	43.4	36.1
(2011/08/05 20:15:00.00)	64.2	61.2	57.0	57.4	55.4	51.6	45.0	36.6	61.0	56.8	55.2	51.9	49.0	46.2	43.3	36.0
(2011/08/05 20:30:00.00)	64.1	60.9	56.5	56.6	54.8	51.3	44.8	36.6	60.6	56.6	55.1	51.8	48.9	46.1	43.4	36.1
(2011/08/05 20:45:00.00)	64.7	61.4	57.0	57.3	56.2	52.7	45.8	36.5	60.4	56.9	55.2	51.9	49.1	46.2	43.2	35.6
(2011/08/05 21:00:00.00)	65.2	61.2	57.3	57.8	57.0	53.4	46.4	37.3	60.7	56.6	55.0	52.0	49.1	46.3	43.5	36.1
(2011/08/05 21:15:00.00)	64.7	61.2	56.2	57.1	55.5	52.0	45.1	36.3	60.6	56.6	55.1	51.7	48.8	46.1	43.4	36.1
(2011/08/05 21:30:00.00)	65.5	61.1	57.2	57.6	56.3	53.0	46.6	37.5	60.7	56.6	54.9	51.7	48.8	46.1	43.4	36.1
(2011/08/05 21:45:00.00)	64.0	60.3	56.3	56.8	54.6	50.9	44.2	35.6	60.2	56.1	54.6	51.7	48.6	46.0	43.5	36.2
(2011/08/05 22:00:00.00)	65.4	60.9	56.8	56.8	55.4	51.8	44.9	35.7	60.5	56.1	54.7	51.6	48.8	46.2	43.7	36.4
(2011/08/05 22:15:00.00)	66.3	61.0	57.6	58.3	56.9	53.3	46.3	37.3	60.7	56.3	54.7	51.3	48.5	45.9	43.2	35.8
(2011/08/05 22:30:00.00)	64.8	60.6	57.0	57.5	55.7	52.3	45.3	36.6	60.3	56.2	54.6	51.3	48.4	45.9	43.3	36.0
(2011/08/05 22:45:00.00)	65.5	60.4	56.4	57.0	55.7	52.2	45.4	36.4	60.2	55.9	54.7	51.4	48.5	46.0	43.3	35.9
(2011/08/05 23:00:00.00)	63.9	59.7	56.1	58.0	56.5	52.8	45.5	35.1	59.8	55.7	54.6	51.3	48.4	45.8	43.3	35.9
(2011/08/05 23:15:00.00)	63.9	59.7	55.9	56.7	55.1	51.5	44.0	34.6	60.2	55.9	54.7	51.4	48.6	46.0	43.4	36.0
(2011/08/05 23:30:00.00)	63.8	59.1	54.9	54.8	53.1	49.8	43.3	34.1	59.4	55.0	52.6	46.3	44.8	40.7	33.3	22.6
(2011/08/05 23:45:00.00)	62.7	58.7	54.0	53.4	51.7	48.1	41.7	33.1	58.6	53.9	51.2	45.6	44.3	40.1	32.8	22.2
(2011/08/06 00:00:00.00)	64.9	59.7	55.9	55.8	54.7	50.7	43.9	33.8	55.1	49.4	46.1	42.5	39.2	34.3	25.9	17.1
(2011/08/06 00:15:00.00)	63.2	58.6	53.9	52.8	51.7	48.1	41.3	32.5	54.6	49.1	45.7	41.7	38.1	33.4	25.1	16.7
(2011/08/06 00:30:00.00)	63.4	58.7	54.1	53.3	52.3	49.0	42.5	33.9	54.4	49.0	45.7	41.7	38.3	33.8	25.5	16.9
(2011/08/06 00:45:00.00)	64.4	59.3	55.2	53.3	52.5	49.5	42.3	33.0	54.7	49.1	45.8	42.0	38.5	34.0	25.5	16.8
(2011/08/06 01:00:00.00)	62.2	58.2	53.1	52.0	50.1	46.2	39.0	29.2	54.4	49.1	45.6	41.6	37.7	32.9	24.6	16.4
(2011/08/06 01:15:00.00)	62.9	58.3	53.1	52.1	50.7	47.0	40.0	31.0	54.4	49.0	45.7	41.8	38.1	33.1	25.0	16.7
(2011/08/06 01:30:00.00)	65.9	59.7	55.0	52.0	51.2	47.6	39.8	29.8	54.4	49.1	45.7	41.5	37.7	33.0	24.9	16.6
(2011/08/06 01:45:00.00)	69.8	63.0	56.1	53.0	51.1	47.3	39.6	30.0	54.7	49.3	46.1	41.8	38.1	33.5	25.2	17.0
(2011/08/06 02:00:00.00)	70.1	63.1	56.5	53.1	52.0	48.7	41.6	31.9	55.1	49.5	46.3	42.1	38.5	33.9	26.1	17.7
(2011/08/06 02:15:00.00)	61.8	56.6	51.5	49.6	48.6	44.8	37.7	27.5	54.6	49.3	45.9	41.9	38.4	33.6	25.2	16.8
(2011/08/06 02:30:00.00)	63.4	57.6	55.0	52.1	50.6	47.4	40.6	30.0	54.2	48.9	45.5	41.7	38.1	33.2	24.8	16.6
(2011/08/06 02:45:00.00)	62.6	56.9	53.7	53.1	52.1	48.4	40.8	31.7	54.3	48.9	45.6	42.1	38.8	34.0	25.5	17.0
(2011/08/06 03:00:00.00)	62.5	56.3	52.6	52.3	50.9	47.1	39.8	30.9	53.9	48.8	45.8	42.0	38.7	33.8	25.5	17.1
(2011/08/06 03:15:00.00)	61.4	56.3	52.1	51.6	50.1	46.0	38.3	29.9	54.2	49.0	46.0	42.2	39.5	34.7	25.9	17.0
(2011/08/06 03:30:00.00)	62.3	56.3	52.3	52.1	51.2	47.2	40.6	31.1	54.0	48.9	46.0	42.1	39.1	34.1	25.8	17.3
(2011/08/06 03:45:00.00)	63.3	57.1	52.8	51.4	50.7	47.1	40.1	31.1	54.5	48.9	45.6	41.6	38.4	33.6	25.7	17.3
(2011/08/06 04:00:00.00)	62.4	56.4	52.7	51.7	50.6	47.0	40.1	30.3	54.1	48.7	45.5	41.2	37.9	33.0	25.1	16.7
(2011/08/06 04:15:00.00)	63.4	56.3	52.5	51.0	50.8	47.2	39.6	28.4	54.2	48.7	45.3	41.0	37.8	33.3	24.8	16.3
(2011/08/06 04:30:00.00)	59.6	54.9	50.9	49.4	48.0	43.8	36.0	25.4	53.0	48.3	45.0	40.6	36.9	32.2	24.2	16.3
(2011/08/06 04:45:00.00)	62.2	56.3	52.4	51.6	50.4	46.8	39.8	29.8	54.4	48.9	45.6	41.3	37.9	33.1	25.1	16.7
(2011/08/06 05:00:00.00)	60.8	55.6	52.0	50.1	49.8	45.6	38.4	28.0	54.2	49.1	45.6	41.1	38.3	33.1	25.1	16.3
(2011/08/06 05:15:00.00)	59.2	54.5	49.9	47.7	47.0	42.9	34.8	24.5	53.7	48.9	45.5	40.9	37.6	32.7	24.2	16.3
(2011/08/06 05:30:00.00)	61.7	55.6	51.3	50.2	49.9	46.8	39.7	28.7	54.1	48.8	45.5	41.0	37.5	32.8	24.7	16.4
(2011/08/06 05:45:00.00)	61.6	56.1	51.8	50.0	48.9	45.6	38.0	28.0	54.2	48.7	45.3	41.0	37.7	32.9	24.7	16.2
(2011/08/06 06:00:00.00)	60.8	55.9	51.2	48.5	47.0	42.8	35.9	27.8	55.2	50.6	47.3	42.3	38.1	32.9	24.8	16.4
(2011/08/06 06:15:00.00)	61.0	56.4	53.1	51.0	49.3	45.6	38.3	27.9	54.9	50.7	47.5	42.7	38.8	34.0	25.8	16.6
(2011/08/06 06:30:00.00)	64.9	60.6	62.1	61.5	59.4	56.4	50.3	41.7	55.4	50.9	49.1	45.6	41.8	37.9	30.2	18.9
(2011/08/06 06:45:00.00)	62.0	57.2	55.6	55.1	52.6	48.8	42.0	31.4	55.4	50.5	47.5	43.4	38.9	33.9	25.4	16.3
(2011/08/06 07:00:00.00)	60.8	55.6	51.6	49.5	47.8	44.1	36.6	25.7	54.8	49.7	46.1	42.1	38.5	34.2	25.4	16.8
(2011/08/06 07:15:00.00)	63.3	58.0	54.2	51.5	50.0	46.4	39.1	28.9	56.7	51.3	48.4	44.5	40.7	35.9	26.8	18.1
(2011/08/06 07:30:00.00)	63.2	57.7	53.9	51.9	50.7	47.6	40.9	31.8	60.1	56.7	56.2	51.3	48.5	45.4	42.1	33.9
(2011/08/06 07:45:00.00)	62.8	58.0	54.0	51.9	51.0	47.5	40.8	31.1	60.1	56.6	56.1	51.2	50.3	45.7	42.2	34.1
(2011/08/06 08:00:00.00)	62.7	57.9	53.8	51.3	50.2	46.8	40.0	32.5	60.2	56.8	56.2	51.4	50.4	46.0	42.3	34.3
(2011/08/06 08:15:00.00)	62.1	57.9	53.1	50.9	49.8	46.3	39.1	30.0	60.8	57.1	55.5	52.1	49.4	46.3	43.5	36.1
(2011/08/06 08:30:00.00)	64.0	59.2	54.8	52.8	52.0	48.0	41.3	31.3	60.7	57.1	55.3	51.8	48.9	46.2	43.6	36.1
(2011/08/06 08:45:00.00)	62.9	58.5	53.8	51.5	50.1	46.5	40.3	31.8	60.6	56.8	55.2	51.7	48.6	45.9	43.2	35.8
(2011/08/06 09:00:00.00)	63.6	59.1	54.8	52.6	50.8	47.4	40.7	31.2	60.7	56.8	55.2	51.7	48.7	46.0	43.2	35.7
(2011/08/06 09:15:00.00)	63.4	59.8	54.6	52.3	50.5	46.9	40.4	33.1	60.8	57.0	55.4	51.9	48.7	46.0	43.3	35.8
(2011/08/06 09:30:00.00)	66.0	64.8	61.6	61.0	60.2	57.7	52.6	45.5	61.1	57.2	55.8	52.3	49.4	46.8	43.6	35.9
(2011/08/06 09:45:00.00)	65.1	60.8	58.0	57.3	56.2	53.2	47.7	40.4	61.1	57.1	55.7	52.3	49.2	46.5	43.6	35.9
(2011/08/06 10:00:00.00)	64.1	60.4	56.0	54.7	53.6	50.3	44.1	36.8	61.0	56.9	55.3	51.7	48.6	45.9	43.1	35.6
(2011/08/06 10:15:00.00)	64.9	60.0	55.6	54.7	53.5	49.9	43.8	36.2	60.8	56.7	55.0	51.5	48.6	45.9	43.1	35.4
(2011/08/06 10:30:00.00)	63.1	59.1	54.8	53.6	51.8	48.1	41.5	34.0	60.5	56.6	54.7	51.4	48.4	45.7	43.0	35.3
(2011/08/06 10:45:00.00)	64.1	59.7	55.9	54.9	53.0	49.5	42.9	35.7	60.6	56.7	54.8	51.5	48.4	45.8	43.1	35.5
(2011/08/06 11:00:00.00)	63.7	59.1	55.2	53.7	51.8	48.5	43.4	36.8	60.4	56.4	54.7	51.5	48.5	45.8	43.2	35.5
(2011/08/06 11:15:00.00)	63.8	59.3	55.9	54.4	52.7	49.1	42.7	35.2	60.8	56.4	54.5	51.7	48.7	46.0	43.2	35.7
(2011/08/06 11:30:00.00)	64.7	59.7	56.8	55.1	53.2	49.6	43.1	35.6	61.0	56.5	54.6	51.8	48.8	46.1	43.2	35.6
(2011/08/06 11:45:00.00)	64.5	59.7	56.6	56.1	54.6	50.9	44.1	37.2	60.5	56.5	55.2	51.5	48.5	45.5	42.1	33.6
(2011/08/06 12:00:00.00)	64.2	59.7	56.3	54.9	52.9	49.6	43.3	36.5	60.4	56.6	55.2	51.2	48.5	45.4	42.1	33.5
(2011/08/06 12:15:00.00)	64.0	60.3	56.7	55.6	54.1	50.3	43.6	35.3	60.5	57.1	55.4	51.2	48.4	45.3	41.8	33.4
(2011/08/06 12:30:00.00)	64.4	59.4	55.7	54.3	52.5	49.1	43.2	36.3	60.6	56.5	55.1	51.3	48.3	45.4	42.1	33.7
(2011/08/06 12:45:00.00)	64.4	59.8	56.3	55.0	53.1	49.5	42.8	35.5	61.2	56.8	55.4	51.5	48.5	45.6	42.8	34.9
(2011/08/06 13:00:00.00)	65.9	60.2	57.2	56.7	55.0	51.6	44.9	37.3	60.9	56.5	55.1	51.5	48.4	45.6	42.8	34.9
(2011/08/06 13:15:00.00)	64.1	59.3	56.0	55.4	53.5	50.0	43.5	36.4	60.7	56.6	55.1	51.5	48.4	45.7	42.9	35.0
(2011/08/06 13:30:00.00)	65.5	59.8	56.1	55.3	53.6	50.3	44.1	37.1	60.9	56.4	55.0	51.4	48.4	45.7	43.1	35.4
(2011/08/06 13:45:00.00)	64.1	59.2	56.5	55.9	54.2	51.2	45.2	38.5	60.6	56.3	55.2	51.6	48.5	45.8	43.1	35.4
(2011/08/06 14:00:00.00)	64.2	59.5	56.5	55.5	53.5	49.9	43.5	36.7	60.7	56.3	54.8	51.4	48.3	45.6	43.0	35.3
(2011/08/06 14:15:00.00)	64.7	60.0	57.0	56.6	54.7	50.7	44.2	37.1	61.0	56.5	55.2	51.6	48.5	45.7	43.1	35.3
(2011/08/06 14:30:00.00)	65.1	60.2	57.0	56.1	53.9	50.5	44.2	36.2	61.0	56.8	55.4	51.6	48.4	45.5	42.8	34.9
(2011/08/06 14:45:00.00)	65.2	59.7	56.8	55.7	53.6	49.9	43.6	36.1	60.7	56.6	55.2	51.5	48.4	45.6	42.7	34.8
(2011/08/06 15:00:00.00)	63.5	58.9	56.1	55.8	53.5	49.6	43.5	36.7	60.8	56.8	55.3	51.5	48.4	45.7	42.7	34.8
(2011/08/06 15:15:00.00)	62.4	58.8	55.9	55.4	53.6	50.1	44.0	36.8	60.3	56.3	54.9	51.2	48.2	45.5	42.8	34.9
(2011/08/06 15:30:00.00)	64.8	60.0	56.9	56.6	54.7	51.2	44.7	36.9	60.6	56.6	54.9	51.5	48.4	45.8	43.3	35.5
(2011/08/06 15:45:00.00)	65.9	61.6	58.3	57.2	55.2	51.7	45.0	37.7	60.9	56.8	55.2	51.6	48.5	45.8	43.1	35.3
(2011/08/06 16:00:00.00)	64.5	59.2	56.2	55.5	53.7	49.8	43.3	36.4	60.9	56.5	55.1	51.4	48.5	45.7	42.9	35.0
(2011/08/06 16:15:00.00)	64.7	59.8	57.1	56.4	54.4	50.6	43.9	36.5	60.6	56.5	54.7	51.3	48.4	45.7	42.8	35.0
(2011/08/06 16:30:00.00)	68.6	72.3	69.2	65.3	63.8	59.6	54.3	46.8	60.6	57.0	55.6	51.7	48.9	45.9	42.8	34.9
(2011/08/06 16:45:00.00)	68.2	71.9	70.6	65.6	63.9	59.7	54.2	47.0	60.6	56.8	55.9	52.1	49.2	46.2	43.5	35.9
(2011/08/06 17:00:00.00)	65.4	60.5	57.2	57.3	57.5	54.7	45.7	37.7	60.7	57.1	55.6	52.0	49.1	46.2	43.1	35.3
(2011/08/06 17:15:00.00)	64.2	60.1	56.6	55.6	53.9	50.3	44.2	36.1	60.6	56.6	55.0	51.9	48.7	45.9	43.1	35.4
(2011/08/06 17:30:00.00)	66.4	60.7	57.2	56.4	55.0	51.2	44.6	36.9	60.7	56.5	55.1	51.5	48.6	45.8	42.9	35.2
(2011/08/06 17:45:00.00)	63.9	59.5	56.8	56.2	54.5	50.5	44.0	37.4	60.9	56.8	55.2	51.8	48.8	46.0	43.1	35.4
(2011/08/06 18:00:00.00)	64.0	60.2	57.0	56.6	55.1	51.5	44.7	37.6	60.8	56.7	55.3	51.7	48.7	46.0	43.1	35.4
(2011/08/06 18:15:00.00)	63.4	58.6	55.1	53.8	52.1	48.2	42.0	34.6	60.5	56.6	55.1	51.7	48.7	46.0	43.1	35.4
(2011/08/06 18:30:00.00)	64.5	59.5	56.2	55.9	53.9	50.3	44.5	36.8	60.6	56.4	55.0	51.7	48.7	46.0	43.2	35.6
(2011/08/06 18:45:00.00)	63.6	58.9	55.2	54.2	52.7	48.7	42.0	34.2	60.5	56.0	55.0	51.5	48.6	45.8	43.1	35.4
(2011/08/06 19:00:00.00)	65.1	59.9	56.1	55.5	53.8	50.4	44.4	36.3	60.7	56.6	55.1	51.6	48.7	45.9	43.1	35.5

AECOM

Measurement Results

Project:	PI High Holborn		
Section:	External Noise Level Measurements	Job No:	60147030/M041
	Spectral L90 data	Date:	As measurements
Formatted by:	SK		

	Location 1								Location 2							
	L90								L90							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/06 19:15:00.00)	64.0	59.0	55.3	54.4	52.6	49.0	42.5	35.6	60.4	56.4	54.9	51.6	48.7	45.9	43.2	35.5
(2011/08/06 19:30:00.00)	63.9	59.0	55.4	54.0	52.3	48.7	42.0	34.7	60.3	56.2	55.1	51.6	48.7	46.0	43.3	35.7
(2011/08/06 19:45:00.00)	63.8	58.8	55.2	54.2	52.9	49.2	42.3	33.7	60.2	56.0	54.8	51.5	48.7	45.9	43.3	35.8
(2011/08/06 20:00:00.00)	63.5	58.6	54.7	53.9	52.6	49.1	42.5	35.5	60.4	56.3	55.1	51.6	48.8	46.2	43.5	36.1
(2011/08/06 20:15:00.00)	63.4	58.4	54.4	54.5	52.6	48.8	42.3	35.0	60.4	56.3	55.2	51.8	48.8	46.2	43.6	36.3
(2011/08/06 20:30:00.00)	62.8	58.5	54.9	54.5	52.5	48.5	41.9	33.9	60.4	56.3	54.9	51.5	48.5	45.9	43.4	36.1
(2011/08/06 20:45:00.00)	63.2	57.9	54.2	53.7	51.9	48.4	42.0	33.7	60.1	56.1	54.9	51.4	48.4	45.8	43.3	36.0
(2011/08/06 21:00:00.00)	63.4	58.4	54.8	54.2	52.9	49.4	43.0	36.0	60.3	56.1	54.9	51.5	48.6	45.9	43.4	36.1
(2011/08/06 21:15:00.00)	63.2	58.2	54.1	53.2	51.4	48.0	41.4	34.2	60.2	56.0	54.8	51.5	48.5	45.9	43.5	36.1
(2011/08/06 21:30:00.00)	62.9	58.1	54.5	53.2	51.6	48.1	41.7	34.1	60.1	56.3	54.9	51.5	48.5	45.9	43.6	36.3
(2011/08/06 21:45:00.00)	63.3	57.8	54.3	54.0	52.6	49.0	41.7	33.3	60.1	56.0	54.8	51.5	48.5	45.9	43.5	36.2
(2011/08/06 22:00:00.00)	64.3	58.6	55.2	54.9	53.1	49.6	43.1	34.7	60.2	56.2	55.1	51.5	48.6	46.0	43.6	36.3
(2011/08/06 22:15:00.00)	64.3	58.7	54.7	54.2	52.9	49.7	42.8	33.7	60.2	56.0	54.7	51.5	48.7	46.1	43.8	36.6
(2011/08/06 22:30:00.00)	63.1	58.2	54.7	54.7	53.2	49.4	42.1	34.0	60.2	56.0	54.9	51.4	48.5	45.9	43.5	36.1
(2011/08/06 22:45:00.00)	64.7	58.7	55.7	56.4	55.4	52.6	45.4	36.4	60.3	56.2	55.2	51.5	48.8	46.0	43.4	35.9
(2011/08/06 23:00:00.00)	64.3	58.8	55.4	55.5	54.0	50.6	44.2	35.8	60.2	56.0	54.8	51.3	48.5	45.8	43.4	36.0
(2011/08/06 23:15:00.00)	65.5	60.0	55.8	56.2	54.8	51.7	45.1	37.0	60.4	56.1	55.0	51.4	48.7	46.0	43.4	36.0
(2011/08/06 23:30:00.00)	67.2	60.2	55.6	52.8	51.5	47.7	40.8	32.0	59.2	55.0	52.5	46.2	45.0	40.6	33.0	22.3
(2011/08/06 23:45:00.00)	69.0	62.8	56.8	54.5	53.7	49.9	43.3	34.7	59.4	55.1	52.5	46.5	45.2	40.9	33.3	22.5
(2011/08/07 00:00:00.00)	68.6	62.7	56.1	53.6	52.3	48.5	41.7	33.6	55.6	50.1	46.5	43.3	41.1	36.2	26.7	17.3
(2011/08/07 00:15:00.00)	68.2	60.9	55.7	53.6	52.3	48.4	41.2	31.5	55.4	50.0	46.3	42.9	40.1	35.5	26.1	16.8
(2011/08/07 00:30:00.00)	67.8	60.4	54.9	52.5	51.5	47.5	40.1	31.0	55.1	49.8	46.0	42.5	39.5	34.5	25.5	16.5
(2011/08/07 00:45:00.00)	68.8	60.6	55.7	52.8	51.6	47.5	40.3	30.3	54.9	49.8	45.7	42.3	39.3	34.5	25.6	16.4
(2011/08/07 01:00:00.00)	69.4	62.0	55.7	52.6	51.8	48.0	41.3	32.7	55.1	49.9	46.1	42.6	40.0	35.5	27.1	17.4
(2011/08/07 01:15:00.00)	62.8	57.7	53.3	52.7	51.4	47.7	40.7	31.3	54.6	49.0	45.8	42.3	39.6	34.8	25.6	16.7
(2011/08/07 01:30:00.00)	63.5	57.3	53.3	53.2	52.8	48.6	41.8	32.3	54.9	49.1	46.0	42.4	39.6	34.9	26.0	17.1
(2011/08/07 01:45:00.00)	63.3	57.5	53.5	52.1	51.5	47.5	40.2	30.7	54.5	49.0	45.9	42.2	39.1	34.2	25.7	16.8
(2011/08/07 02:00:00.00)	63.3	57.3	52.6	51.4	50.5	46.6	38.8	28.8	55.0	48.9	46.0	42.2	39.5	34.4	26.1	17.8
(2011/08/07 02:15:00.00)	62.2	57.0	52.6	53.0	52.5	48.5	40.6	31.0	54.5	48.8	46.1	42.4	39.5	34.7	26.6	18.2
(2011/08/07 02:30:00.00)	61.4	56.3	51.5	50.6	49.8	45.8	39.4	31.5	54.2	48.5	45.6	42.1	39.3	34.3	26.0	16.8
(2011/08/07 02:45:00.00)	62.3	56.8	52.4	52.1	51.4	48.1	40.4	32.4	54.8	48.9	46.1	43.0	40.6	35.7	27.5	18.3
(2011/08/07 03:00:00.00)	60.6	55.4	51.0	50.2	49.1	45.6	38.3	30.8	54.3	48.3	45.5	42.3	39.7	34.8	25.8	16.8
(2011/08/07 03:15:00.00)	62.4	56.7	54.2	52.8	52.9	50.1	44.1	36.3	54.4	48.3	45.7	42.5	40.2	35.6	26.9	17.0
(2011/08/07 03:30:00.00)	61.7	56.5	53.0	52.7	51.8	48.1	41.1	33.0	54.2	48.5	45.8	42.6	39.7	34.8	26.3	17.1
(2011/08/07 03:45:00.00)	61.2	56.2	51.9	51.4	50.6	46.6	39.2	30.5	54.3	48.6	45.8	42.5	39.5	34.7	26.3	17.4
(2011/08/07 04:00:00.00)	60.6	55.6	51.8	50.8	49.6	45.8	39.4	32.5	54.0	48.4	45.7	41.9	38.7	34.1	26.1	18.0
(2011/08/07 04:15:00.00)	62.0	56.6	52.5	51.0	50.3	46.8	39.7	31.3	54.0	48.1	45.3	41.5	38.7	33.9	25.4	16.5
(2011/08/07 04:30:00.00)	61.8	56.2	52.8	51.3	50.0	46.3	39.4	29.7	53.6	48.3	45.6	41.7	38.7	34.2	25.6	16.3
(2011/08/07 04:45:00.00)	61.6	56.2	51.4	49.3	49.2	45.6	38.9	30.4	54.0	48.3	45.3	41.5	38.8	34.0	25.4	16.1
(2011/08/07 05:00:00.00)	60.8	55.6	51.1	49.7	49.3	45.6	39.0	32.0	53.8	48.4	45.4	41.5	38.9	34.0	25.6	16.4
(2011/08/07 05:15:00.00)	59.3	54.4	49.7	48.0	47.6	43.3	35.8	26.3	53.4	48.2	45.1	41.1	38.0	33.5	25.0	16.2
(2011/08/07 05:30:00.00)	59.4	54.9	49.9	47.8	46.9	42.9	35.7	27.1	53.4	48.2	45.3	41.5	38.2	33.6	25.5	16.6
(2011/08/07 05:45:00.00)	60.4	55.1	50.4	49.0	48.0	44.2	37.5	28.6	53.6	48.3	45.4	41.5	37.9	33.1	25.1	16.5
(2011/08/07 06:00:00.00)	58.9	54.8	50.0	47.7	46.9	42.9	35.2	27.2	54.4	49.8	47.1	42.5	38.5	33.5	25.5	17.0
(2011/08/07 06:15:00.00)	59.8	55.2	50.9	49.4	48.6	44.8	38.1	31.2	54.4	49.6	46.9	42.9	38.6	33.7	26.6	18.3
(2011/08/07 06:30:00.00)	59.9	55.8	52.3	50.8	49.2	45.4	37.7	28.6	54.9	50.2	47.6	43.4	39.4	34.6	27.3	18.9
(2011/08/07 06:45:00.00)	60.4	55.6	51.6	50.5	49.0	45.5	37.8	29.6	54.6	49.8	47.2	42.9	39.2	34.1	25.8	17.3
(2011/08/07 07:00:00.00)	61.4	56.1	52.1	50.5	49.2	45.5	38.3	29.6	55.4	50.4	47.8	44.1	40.3	35.3	26.5	18.1
(2011/08/07 07:15:00.00)	59.4	55.1	50.6	48.6	47.5	43.7	35.8	27.2	54.7	50.1	47.3	43.5	39.7	34.7	25.5	16.4
(2011/08/07 07:30:00.00)	61.6	57.0	54.2	52.5	51.1	47.6	40.9	32.1	56.0	51.1	48.6	45.4	41.6	37.3	28.8	18.6
(2011/08/07 07:45:00.00)	61.1	56.3	52.1	50.0	48.2	44.2	36.9	27.6	60.2	56.7	56.4	51.5	48.7	45.5	42.1	33.8
(2011/08/07 08:00:00.00)	61.1	56.7	52.5	50.3	49.1	45.5	37.8	28.4	59.9	56.1	55.5	51.5	48.9	45.7	42.4	34.2
(2011/08/07 08:15:00.00)	61.2	57.1	52.7	50.4	48.9	45.3	38.7	28.0	60.6	56.6	55.4	52.1	49.2	46.5	43.7	36.1
(2011/08/07 08:30:00.00)	60.2	56.8	52.1	49.8	48.5	44.5	37.1	27.7	60.3	56.3	55.2	51.8	48.6	45.9	43.2	35.7
(2011/08/07 08:45:00.00)	60.7	56.8	52.1	49.6	47.9	44.0	37.3	29.4	60.5	56.3	55.2	51.8	48.7	45.9	43.2	35.7
(2011/08/07 09:00:00.00)	61.7	57.3	52.9	50.6	49.1	45.6	39.4	30.6	60.3	56.1	55.0	51.8	48.7	46.0	43.5	35.9
(2011/08/07 09:15:00.00)	61.2	57.3	52.7	50.7	49.1	45.5	38.7	30.2	60.5	56.4	55.2	51.7	48.8	46.1	43.2	35.6
(2011/08/07 09:30:00.00)	61.3	57.4	53.0	50.9	49.3	46.0	39.6	32.2	60.1	56.0	54.8	51.5	48.5	45.7	43.0	35.5
(2011/08/07 09:45:00.00)	62.4	57.4	53.6	51.8	50.5	47.0	41.0	32.6	60.6	56.5	55.1	51.6	48.8	46.0	42.9	35.2
(2011/08/07 10:00:00.00)	62.7	58.0	54.3	52.9	51.3	47.8	42.3	35.2	60.5	56.5	55.3	51.9	49.0	46.2	43.2	35.5
(2011/08/07 10:15:00.00)	62.7	58.2	54.4	52.7	51.3	48.1	42.5	35.5	60.5	56.4	55.2	52.0	49.1	46.2	43.3	35.7
(2011/08/07 10:30:00.00)	63.6	58.8	55.5	54.1	52.9	49.2	43.0	35.4	60.8	56.5	55.2	51.9	48.9	46.0	43.0	35.4
(2011/08/07 10:45:00.00)	62.3	58.1	54.4	53.1	51.4	47.8	42.0	35.9	60.4	56.1	54.9	51.5	48.6	45.9	43.1	35.5
(2011/08/07 11:00:00.00)	62.8	58.5	54.9	53.7	52.2	48.6	42.6	35.9	61.1	56.6	55.4	51.8	48.9	46.1	43.0	35.3
(2011/08/07 11:15:00.00)	61.8	57.9	54.1	52.6	51.1	47.3	40.7	33.9	61.2	56.5	55.3	51.7	48.9	46.0	42.9	35.1
(2011/08/07 11:30:00.00)	65.0	59.1	56.0	54.7	53.1	49.4	43.7	37.0	61.0	56.4	55.1	51.8	48.7	45.7	42.8	34.9
(2011/08/07 11:45:00.00)	63.6	58.6	55.3	53.6	52.1	48.7	42.0	34.2	60.9	56.3	54.9	51.7	48.8	46.1	43.1	35.4
(2011/08/07 12:00:00.00)	62.7	58.4	54.9	53.4	51.8	48.2	42.7	37.2	60.2	55.8	54.3	51.4	48.4	45.8	42.9	35.3
(2011/08/07 12:15:00.00)	63.3	58.6	54.3	53.0	51.7	48.1	41.6	34.9	60.5	56.0	54.9	51.5	48.6	45.7	42.7	35.0
(2011/08/07 12:30:00.00)	64.5	60.4	56.6	55.3	53.2	49.7	44.2	38.1	60.8	56.5	55.2	51.9	48.9	45.9	42.9	35.2
(2011/08/07 12:45:00.00)	63.7	59.8	56.0	54.8	53.0	49.7	44.5	38.8	60.6	56.5	54.9	51.7	48.6	45.7	42.6	35.0
(2011/08/07 13:00:00.00)	64.8	59.5	55.7	54.8	53.2	50.0	45.0	38.5	60.8	56.5	55.2	51.9	48.8	45.7	42.7	34.9
(2011/08/07 13:15:00.00)	64.1	60.0	56.0	54.8	53.1	49.3	43.3	36.7	61.1	56.7	55.3	51.8	49.0	46.0	42.9	35.0
(2011/08/07 13:30:00.00)	63.7	60.0	55.7	53.7	52.0	48.4	42.0	35.0	60.5	56.7	54.9	51.7	48.8	45.9	43.0	35.2
(2011/08/07 13:45:00.00)	64.6	59.9	56.2	55.3	53.9	49.8	43.5	37.0	60.6	56.4	55.2	51.8	48.8	45.8	42.8	35.2
(2011/08/07 14:00:00.00)	63.9	59.6	55.8	54.9	53.5	50.5	45.4	38.7	60.9	57.1	55.4	51.9	49.0	46.2	43.3	35.6
(2011/08/07 14:15:00.00)	64.5	59.4	56.7	55.7	54.6	51.1	45.7	38.0	60.4	56.5	55.5	51.9	48.7	45.9	43.2	35.4
(2011/08/07 14:30:00.00)	64.3	59.2	55.7	55.2	55.3	55.5	52.6	47.7	60.5	56.4	55.2	52.1	49.7	47.8	45.1	37.6
(2011/08/07 14:45:00.00)	64.2	59.5	55.7	54.9	55.1	54.1	51.0	46.2	61.8	56.9	55.2	52.2	49.6	47.7	45.8	38.8
(2011/08/07 15:00:00.00)	64.5	59.6	55.8	55.1	53.9	52.0	47.5	40.7	61.4	56.7	55.0	51.8	48.9	46.6	44.4	37.0
(2011/08/07 15:15:00.00)	64.3	59.1	55.8	55.0	53.6	50.7	45.5	38.2	60.6	56.5	55.0	51.9	48.9	46.5	44.1	36.6
(2011/08/07 15:30:00.00)	63.8	58.2	55.2	54.7	54.1	51.5	46.3	39.3	60.4	56.1	54.9	51.9	49.2	46.6	44.0	36.4
(2011/08/07 15:45:00.00)	65.2	58.8	55.5	54.5	54.4	54.2	51.5	46.9	60.9	56.4	55.3	52.1	49.9	49.2	49.6	45.1
(2011/08/07 16:00:00.00)	64.4	58.9	56.0	55.0	54.2	52.7	48.1	41.3	60.5	56.5	55.0	51.4	48.7	46.5	44.4	37.3
(2011/08/07 16:15:00.00)	63.2	58.3	54.8	53.9	52.2	49.6	45.2	38.3	60.7	56.4	55.1	51.5	48.6	46.2	44.0	36.3
(2011/08/07 16:30:00.00)	63.9	58.3	55.0	54.6	52.9	50.2	44.8	37.8	60.5	56.2	54.8	51.3	48.6	46.0	43.6	35.9
(2011/08/07 16:45:00.00)	63.9	58.7	55.1	54.3	52.3	49.6	44.3	37.8	60.9	56.3	55.0	51.6	48.7	46.1	43.6	36.1
(2011/08/07 17:00:00.00)	63.1	58.2	55.4	54.8	52.9	49.5	43.6	37.0	60.9	56.4	55.4	51.5	48.6	45.9	43.3	35.8
(2011/08/07 17:15:00.00)	64.4	59.0	55.5	54.4	52.8	49.5	44.7	38.8	60.6	56.4	54.9	51.8	48.7	46.1	43.8	36.4
(2011/08/07 17:30:00.00)	63.2	58.1	54.6	53.7	52.3	49.0	43.5	37.4	60.7	56.3	54.8	51.7	48.8	46.1	43.6	36.1
(2011/08/07 17:45:00.00)	63.0	58.1	54.6	54.1	52.0	48.4	42.3	35.8	60.6	56.2	55.0	51.9	49.0	46.2	43.8	36.2
(2011/08/07 18:00:00.00)	62.6	58.0	54.7	53.8	52.5	48.9	42.7	35.7	60.1	56.0	54.6	51.7	48.7	46.1	43.7	36.3
(2011/08/07 18:15:00.00)	64.1	59.2	55.5	54.4	53.2	49.7	43.9	37.8	60.3	56.0	54.6	51.6	48.6	46.0	43.7	36.2
(2011/08/07 18:30:00.00)	62.0	57.5	53.3	52.2	50.5	46.9	40.3	33.9	59.9	55.7	54.4	51.5	48.6	46.0	43.7	36.3
(2011/08/07 18:45:00.00)	62.5	58.0	53.9	52.4	51.4	47.5	40.6	33.2	60.1	56.2	54.6	51.5	48.5	45.9	43.6	36.2
(2011/08/07 19:00:00.00)	63.0	58.7	54.9	53.8	52.0	48.4	42.0	33.4	60.6	56.3	54.9	51.6	48.6	45.9	43.2	35.5
(2011/08/07 19:15:00.00)	62.6	57.7	54.0	52.7	51.0	46.9	40.1	32.2	60.0	56.3	55.2	51.4	48.6	45.6	42.4	34.2
(2011/08/07 19:30:00.00)	62.7	58.1	54.0	52.6	51.5	47.6	41.3	32.3	60.0	56.2	55.4	51.2	48.4	45.5	42.1	33.8
(2011/08/07 19:45:00.00)	62.8	58.1	54.0	52.6	50.6	47.0	40.5	32.2	60.0	56.5	55.5	51.3	48.4	45.5	42.1	33.7
(2011/08/07 20:00:00.00)	62.8	58.3	55.0	53.5	51.7	47.9	41.0	32.3	59.8	56.3	55.3	51.3	48.4	45.5	42.2	33.8

AECOM

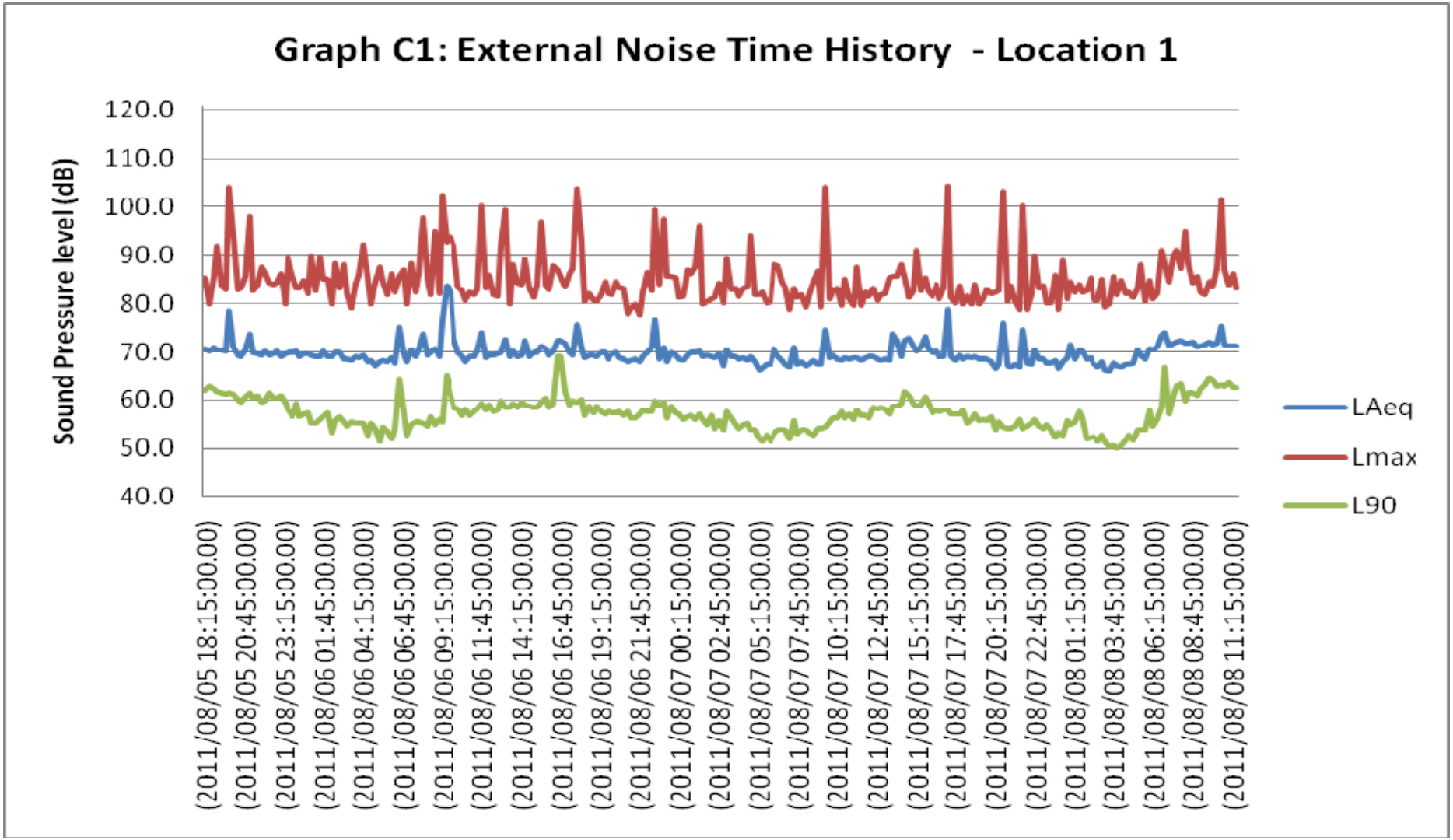
Measurement Results

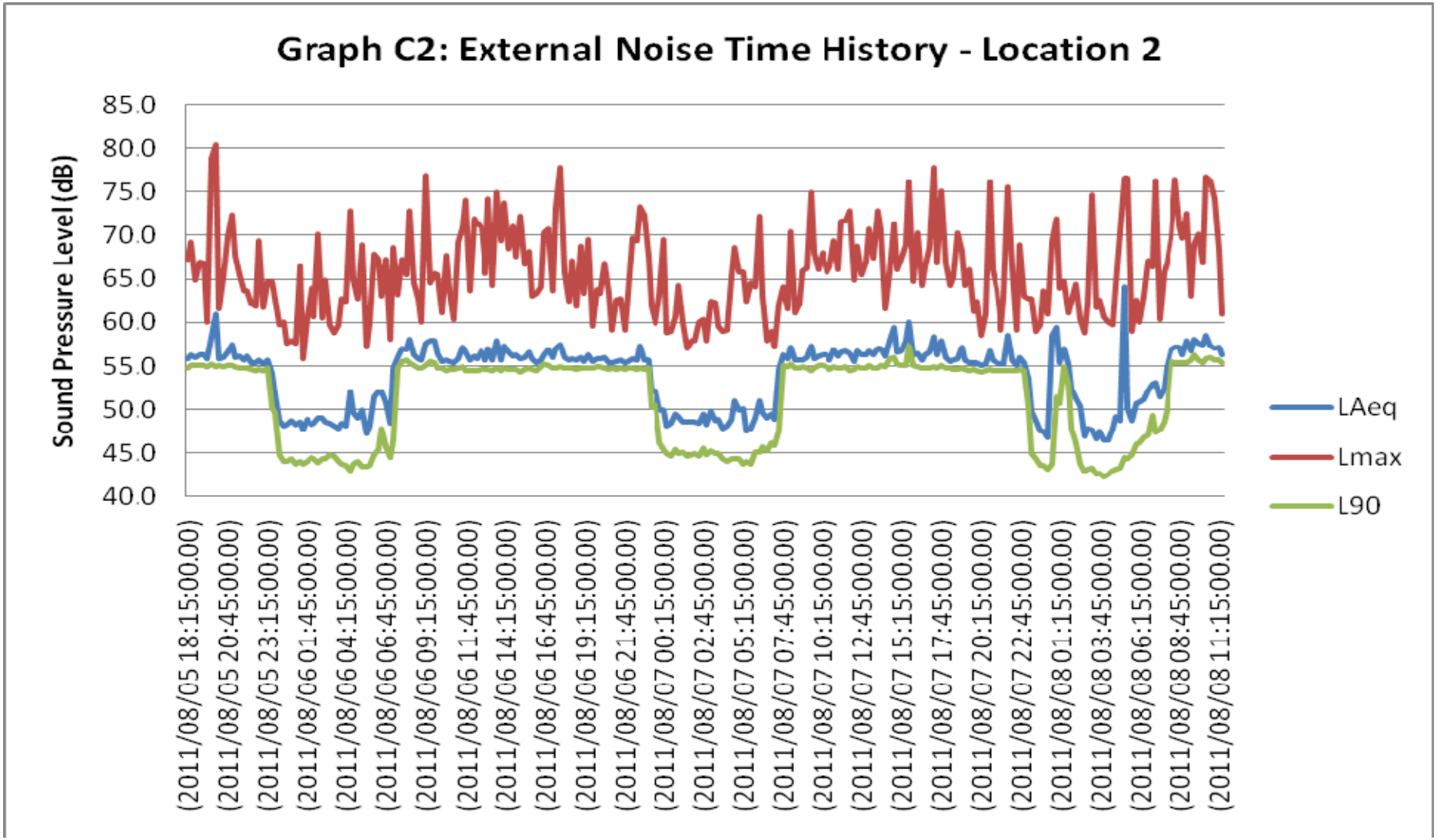
Project:	**PI High Holborn**		
Section:	**External Noise Level Measurements**	Job No:	**60147030/M041**
	Spectral L90 data	Date:	**As measurements**
Formatted by:	**SK**		

	Location 1								**Location 2**							
	L90								**L90**							
Date	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz
(2011/08/07 20:15:00.00)	61.1	56.9	52.5	50.8	49.0	44.9	37.9	28.8	59.6	56.3	55.2	51.0	48.2	45.3	42.0	33.6
(2011/08/07 20:30:00.00)	62.5	57.2	53.5	52.6	50.8	47.0	39.8	31.8	59.7	56.3	55.5	51.2	48.3	45.3	42.0	33.6
(2011/08/07 20:45:00.00)	60.9	56.9	52.8	51.2	49.2	45.3	38.2	30.7	59.7	56.1	55.1	51.3	48.5	45.6	42.3	33.9
(2011/08/07 21:00:00.00)	61.4	56.9	52.5	50.8	49.1	45.2	38.2	29.0	59.9	56.1	54.7	51.3	48.3	45.6	43.0	35.2
(2011/08/07 21:15:00.00)	60.9	56.9	52.4	50.8	49.3	45.5	38.9	30.0	59.9	56.2	55.0	51.3	48.3	45.5	42.4	34.0
(2011/08/07 21:30:00.00)	62.0	57.3	52.9	51.6	49.9	46.1	38.7	29.3	59.9	56.3	55.3	51.3	48.4	45.4	42.1	33.8
(2011/08/07 21:45:00.00)	61.7	56.9	53.7	52.1	51.2	47.9	42.0	33.5	59.8	56.1	55.0	51.2	48.4	45.5	42.2	33.9
(2011/08/07 22:00:00.00)	60.8	57.1	52.6	50.9	49.4	45.1	37.7	27.6	59.6	56.5	54.9	51.3	48.5	45.6	42.4	34.1
(2011/08/07 22:15:00.00)	61.3	57.1	52.6	51.1	49.9	46.0	38.5	29.5	59.6	56.1	55.1	51.0	48.3	45.5	42.2	33.9
(2011/08/07 22:30:00.00)	61.5	57.4	53.2	52.0	50.2	46.4	39.2	29.9	59.6	55.8	54.9	51.0	48.3	45.5	42.1	33.7
(2011/08/07 22:45:00.00)	63.9	57.9	53.9	52.7	51.2	47.8	40.5	30.8	60.0	56.0	54.9	51.3	48.6	45.9	43.2	35.6
(2011/08/07 23:00:00.00)	61.2	57.1	53.3	51.2	49.8	46.1	38.7	30.1	59.9	56.1	55.3	51.1	48.5	45.6	42.3	34.1
(2011/08/07 23:15:00.00)	61.5	56.8	52.5	50.6	49.5	45.7	38.3	29.1	58.9	54.8	53.6	46.0	44.7	40.5	33.2	22.3
(2011/08/07 23:30:00.00)	61.7	56.5	52.3	51.1	50.6	46.9	40.0	31.3	54.4	49.1	46.1	42.4	39.6	34.3	25.6	16.9
(2011/08/07 23:45:00.00)	61.8	56.0	51.5	50.4	49.0	45.3	38.8	31.0	54.0	48.6	45.5	42.0	38.6	33.5	25.1	16.5
(2011/08/08 00:00:00.00)	60.2	55.2	51.0	48.9	47.4	43.5	36.5	28.7	53.7	48.6	45.5	41.2	37.6	32.6	24.2	15.9
(2011/08/08 00:15:00.00)	61.2	55.5	51.3	49.8	48.7	45.2	38.0	27.9	53.4	48.3	45.2	41.2	37.8	32.8	24.2	16.1
(2011/08/08 00:30:00.00)	61.3	55.4	50.7	49.1	48.2	45.1	37.3	27.9	53.2	48.4	45.0	40.7	36.8	32.2	24.2	15.9
(2011/08/08 00:45:00.00)	60.6	55.4	51.3	50.7	51.1	48.0	41.3	31.6	52.9	48.6	45.5	41.2	38.0	33.2	25.3	16.5
(2011/08/08 01:00:00.00)	58.9	54.2	49.8	48.4	49.4	48.6	45.1	39.9	52.8	48.1	45.3	41.9	41.3	43.9	46.2	41.8
(2011/08/08 01:15:00.00)	59.0	54.2	50.1	48.5	49.4	49.5	47.0	41.5	52.8	48.0	45.4	42.4	41.9	43.8	44.4	39.6
(2011/08/08 01:30:00.00)	58.3	54.1	49.7	49.3	50.8	51.7	49.5	45.4	52.4	47.7	45.3	44.1	45.7	48.1	49.4	45.3
(2011/08/08 01:45:00.00)	58.9	54.8	49.5	47.9	49.3	50.7	48.5	43.7	52.7	47.7	45.1	42.8	43.6	46.1	47.7	43.4
(2011/08/08 02:00:00.00)	58.2	53.7	48.2	46.4	46.2	45.2	41.8	36.0	52.3	47.7	44.7	40.7	38.4	39.8	41.7	36.8
(2011/08/08 02:15:00.00)	58.4	54.5	49.9	46.8	46.5	45.0	40.5	32.4	53.4	48.0	44.8	40.6	37.8	38.2	36.4	29.7
(2011/08/08 02:30:00.00)	59.4	55.2	50.9	47.6	47.2	45.1	40.7	30.5	53.1	48.1	45.0	40.3	36.8	34.2	30.7	25.5
(2011/08/08 02:45:00.00)	58.9	54.8	49.9	46.9	46.0	43.7	38.5	28.2	52.5	47.7	44.6	40.0	36.2	32.6	27.0	21.2
(2011/08/08 03:00:00.00)	58.9	55.4	50.9	48.4	47.7	44.5	38.4	27.8	52.5	48.3	45.2	40.3	36.6	32.7	25.9	19.4
(2011/08/08 03:15:00.00)	58.3	54.4	49.0	47.2	46.4	43.7	37.0	26.4	52.9	48.4	45.3	40.7	36.8	32.8	25.7	18.2
(2011/08/08 03:30:00.00)	57.6	54.2	49.0	46.5	45.4	41.8	34.5	23.5	52.4	48.1	44.8	40.1	36.2	32.0	24.6	16.8
(2011/08/08 03:45:00.00)	58.1	54.7	49.8	46.0	45.6	42.6	35.6	24.9	52.5	48.1	44.7	40.2	36.2	32.1	24.6	16.7
(2011/08/08 04:00:00.00)	58.1	54.1	48.5	45.9	45.2	42.0	35.1	24.8	52.5	47.8	44.2	39.9	35.8	31.8	24.2	16.2
(2011/08/08 04:15:00.00)	58.1	54.8	49.1	46.5	45.6	42.4	35.6	25.2	52.7	47.8	44.5	40.2	36.3	32.4	24.6	16.1
(2011/08/08 04:30:00.00)	59.6	55.5	50.3	47.9	47.0	43.6	36.6	25.7	53.1	48.0	44.5	40.3	36.6	33.7	27.2	15.9
(2011/08/08 04:45:00.00)	59.1	55.6	50.7	48.4	48.2	45.3	38.1	26.7	53.3	48.2	44.8	40.6	36.9	33.2	25.4	15.9
(2011/08/08 05:00:00.00)	58.9	55.9	50.3	47.4	47.0	43.5	36.5	26.0	53.8	48.5	45.3	40.9	37.1	32.8	24.8	16.2
(2011/08/08 05:15:00.00)	61.2	57.1	52.1	49.6	49.3	45.6	37.9	27.9	55.1	50.2	46.7	42.0	38.3	33.8	25.7	17.0
(2011/08/08 05:30:00.00)	61.1	56.7	51.7	49.6	49.1	45.8	39.2	29.0	54.5	49.3	46.2	41.9	38.2	34.0	26.0	16.6
(2011/08/08 05:45:00.00)	60.7	56.5	51.4	49.7	49.4	45.9	38.1	27.9	54.5	49.4	46.5	42.6	38.7	34.2	26.1	16.7
(2011/08/08 06:00:00.00)	64.9	59.0	55.3	53.3	53.5	50.4	43.9	34.1	56.0	50.8	47.9	43.7	39.8	35.3	27.2	16.8
(2011/08/08 06:15:00.00)	62.8	58.2	53.6	50.7	50.2	46.6	39.1	30.6	56.4	51.3	48.4	43.7	40.0	35.1	26.9	16.7
(2011/08/08 06:30:00.00)	63.8	58.6	54.0	51.9	51.2	48.0	42.0	33.9	56.5	51.2	48.5	44.4	40.2	35.3	27.0	16.8
(2011/08/08 06:45:00.00)	64.9	60.6	56.4	54.3	53.6	50.4	43.7	32.9	57.0	51.2	48.3	44.8	41.2	36.4	27.7	16.9
(2011/08/08 07:00:00.00)	68.2	63.9	61.5	61.3	61.1	60.0	55.4	45.0	57.9	52.2	49.6	46.9	43.7	40.5	32.8	19.7
(2011/08/08 07:15:00.00)	65.0	60.0	55.8	53.5	52.1	49.4	43.6	36.4	57.7	51.5	48.7	45.5	41.3	37.1	28.2	18.1
(2011/08/08 07:30:00.00)	67.0	62.1	58.5	57.3	56.1	53.2	46.7	37.8	57.8	51.8	48.8	45.7	41.8	38.0	28.9	18.2
(2011/08/08 07:45:00.00)	67.1	63.1	59.9	58.6	57.8	54.9	49.3	40.8	58.1	52.0	49.4	46.8	42.5	38.5	30.6	18.6
(2011/08/08 08:00:00.00)	68.8	64.5	63.2	60.5	57.8	54.7	49.8	42.0	59.2	52.5	50.2	48.0	44.1	40.1	32.0	20.1
(2011/08/08 08:15:00.00)	66.0	61.9	57.6	56.0	54.9	51.5	45.2	38.0	61.9	57.0	56.3	52.5	49.6	46.5	42.8	33.8
(2011/08/08 08:30:00.00)	67.8	62.5	58.8	57.9	56.5	53.8	47.7	41.3	61.7	56.5	55.7	52.3	49.5	46.4	43.6	35.4
(2011/08/08 08:45:00.00)	66.9	62.2	58.9	57.8	56.6	53.0	47.7	41.7	61.6	56.7	55.6	52.1	49.4	46.5	43.7	35.5
(2011/08/08 09:00:00.00)	67.6	62.4	58.5	57.3	56.3	53.2	47.8	41.8	61.7	56.7	55.5	52.2	49.3	46.5	43.8	35.9
(2011/08/08 09:15:00.00)	68.0	62.7	59.2	58.2	57.5	54.6	48.8	41.2	61.9	56.7	55.6	52.4	49.4	46.5	43.8	35.9
(2011/08/08 09:30:00.00)	69.2	63.6	60.2	59.1	58.3	55.4	49.3	42.4	62.7	57.0	55.7	52.5	49.8	47.1	43.6	35.4
(2011/08/08 09:45:00.00)	69.6	63.2	61.2	60.6	60.1	57.4	51.6	44.7	63.0	56.9	56.0	52.9	50.7	47.8	44.0	35.4
(2011/08/08 10:00:00.00)	69.8	63.5	60.7	59.7	59.5	56.9	51.2	44.3	62.4	56.8	55.6	52.5	50.0	47.1	43.7	35.4
(2011/08/08 10:15:00.00)	68.4	62.6	59.8	58.3	58.3	55.7	50.0	42.3	61.9	56.8	55.9	52.2	49.4	46.5	43.5	35.6
(2011/08/08 10:30:00.00)	68.8	63.0	59.8	58.7	58.2	55.9	49.7	41.7	62.9	57.1	55.8	52.6	49.7	46.8	43.5	35.4
(2011/08/08 10:45:00.00)	68.6	63.3	60.3	58.9	58.2	55.3	49.7	42.3	62.4	56.5	55.0	52.6	50.1	47.8	45.1	37.9
(2011/08/08 11:00:00.00)	68.9	62.8	60.9	59.6	58.9	55.9	49.4	41.6	62.0	56.2	54.5	52.5	49.8	47.5	45.1	37.8
(2011/08/08 11:15:00.00)	68.9	63.5	60.1	58.6	57.9	55.1	49.5	42.6	62.2	56.8	55.6	52.5	49.7	47.0	43.6	35.7
(2011/08/08 11:30:00.00)	67.8	63.1	60.1	58.7	57.9	54.7	48.3	41.2	61.6	56.6	55.6	52.3	49.3	46.5	43.2	35.4

Appendix C: Measurement Graphs

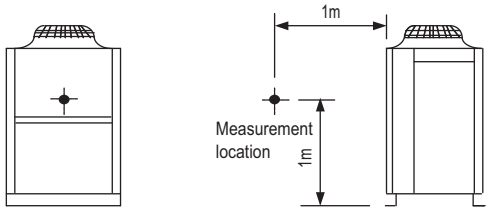
All of the data are sound pressure levels in dB re 20 μPa.


Graph C1: External Noise Time History - Location 1
Sound Pressure level (dB)
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
(2011/08/05 18:15:00.00)
(2011/08/05 20:45:00.00)
(2011/08/05 23:15:00.00)
(2011/08/06 01:45:00.00)
(2011/08/06 04:15:00.00)
(2011/08/06 06:45:00.00)
(2011/08/06 09:15:00.00)
(2011/08/06 11:45:00.00)
(2011/08/06 14:15:00.00)
(2011/08/06 16:45:00.00)
(2011/08/06 19:15:00.00)
(2011/08/06 21:45:00.00)
(2011/08/07 00:15:00.00)
(2011/08/07 02:45:00.00)
(2011/08/07 05:15:00.00)
(2011/08/07 07:45:00.00)
(2011/08/07 10:15:00.00)
(2011/08/07 12:45:00.00)
(2011/08/07 15:15:00.00)
(2011/08/07 17:45:00.00)
(2011/08/07 20:15:00.00)
(2011/08/07 22:45:00.00)
(2011/08/08 01:15:00.00)
(2011/08/08 03:45:00.00)
(2011/08/08 06:15:00.00)
(2011/08/08 08:45:00.00)
(2011/08/08 11:15:00.00)
LAeq
Lmax
L90

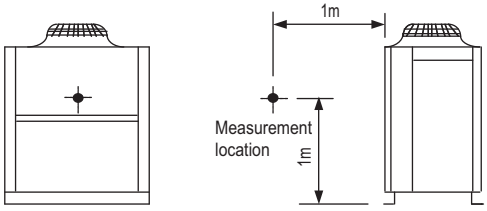

Graph C2: External Noise Time History - Location 2
Sound Pressure Level (dB)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
(2011/08/05 18:15:00.00)
(2011/08/05 20:45:00.00)
(2011/08/05 23:15:00.00)
(2011/08/06 01:45:00.00)
(2011/08/06 04:15:00.00)
(2011/08/06 06:45:00.00)
(2011/08/06 09:15:00.00)
(2011/08/06 11:45:00.00)
(2011/08/06 14:15:00.00)
(2011/08/06 16:45:00.00)
(2011/08/06 19:15:00.00)
(2011/08/06 21:45:00.00)
(2011/08/07 00:15:00.00)
(2011/08/07 02:45:00.00)
(2011/08/07 05:15:00.00)
(2011/08/07 07:45:00.00)
(2011/08/07 10:15:00.00)
(2011/08/07 12:45:00.00)
(2011/08/07 15:15:00.00)
(2011/08/07 17:45:00.00)
(2011/08/07 20:15:00.00)
(2011/08/07 22:45:00.00)
(2011/08/08 01:15:00.00)
(2011/08/08 03:45:00.00)
(2011/08/08 06:15:00.00)
(2011/08/08 08:45:00.00)
(2011/08/08 11:15:00.00)
LAeq
Lmax
L90

Appendix D: Plant Noise Details

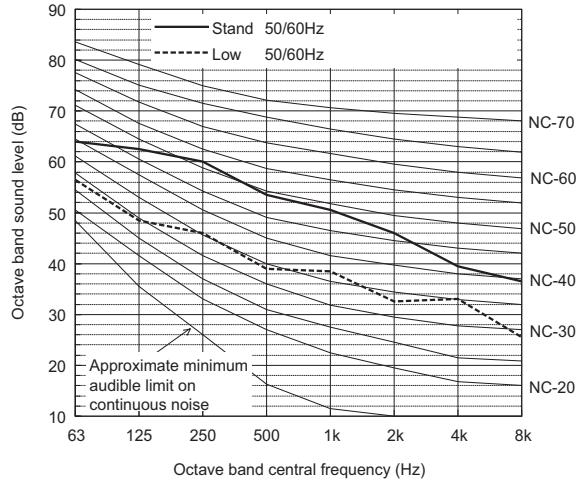
Measurement condition
PURY-EP200YJM-A(-BS)



Measurement condition
PURY-EP250,300YJM-A(-BS)



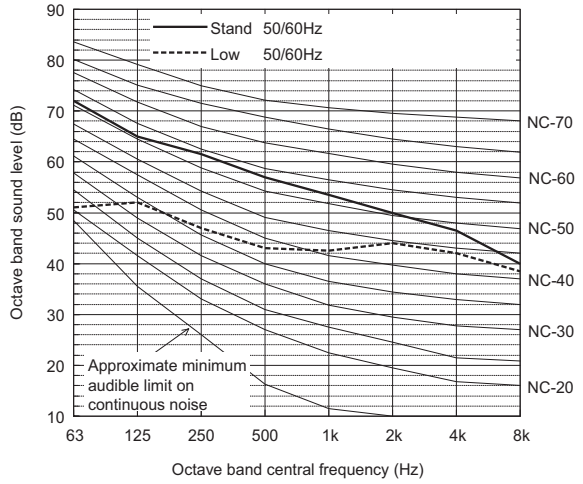
Sound level of PURY-EP200YJM-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	64.0	62.5	60.0	53.5	50.5	46.0	39.5	36.5	57.0
Low noise mode	50/60Hz	56.5	48.5	46.0	39.0	38.5	32.5	33.0	25.5	44.0

When Low noise mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

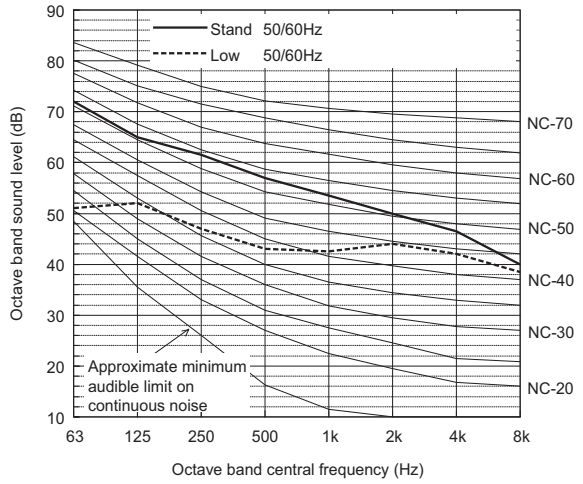
Sound level of PURY-EP250YJM-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	72.0	65.0	61.5	57.0	53.5	50.0	46.5	40.0	60.0
Low noise mode	50/60Hz	51.0	52.0	47.0	43.0	42.5	44.0	42.0	38.5	50.0

When Low noise mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Sound level of PURY-EP300YJM-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	72.0	65.0	61.5	57.0	53.5	50.0	46.5	40.0	60.0
Low noise mode	50/60Hz	51.0	52.0	47.0	43.0	42.5	44.0	42.0	38.5	50.0

When Low noise mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

R2(HIGH COP)

Sizes 7,8&9

Design Details

- 50mm double skinned case certified to EN 1886 standard.
- Direct drive centrifugal plug fans complete with prewired inverter for energy saving, and rapid site commissioning. The fan is fully vibration isolated from the case internally with A.V. mounts and flexible connection. All fan motors are for 400 volt 3 phase 50 Hz.
- High efficiency cross flow plate heat exchanger, with condensate drain pan, and fitted face and bypass damper with 230 volt actuator.
- Optional fitted controls, prewired to all internal components.
- Filter fitted to both supply and extract inlet, pleated, synthetic, grade G4.
- Built in LPHW coil or EHB in up to 9 steps of control.
- Units available plantroom or weatherproof, flat or stacked configuration. Internal units built using an aluminium tubular frame, and galvanised steel sheet panels with resin bonded mineral wool slab infill. External units supplied with sloping roof, channel base, inlet and exhaust cowls and powder coat finished in Signal Grey to RAL 7004.
- High efficiency filters, cooling and heat pump coils available.
- Quick change plug connectors fitted to all electrical components for easy maintenance.

Electrical Details

Unit size	7	8	9
Fan power, kW, per fan	2.2	3.0	3.0
Fan FLC, amps, max	4.7	6.4	6.4

To select an electric heater use the formula on page 4.
A control panel will be designed in the VES Sales Department to match the components selected for the AHU.

Sound Data

Ecovent NRG	Fan Speed RPM	Sound Spectrum dB re10^{-12}w PWL Centre Frequency Hz 63	125	250	500	1k	2k	4k	8k	Casing Noise Breakout NR @ 1m	NR @ 3m
7-35Hz	1000	62	65	69	68	64	60	55	51	35	30
7-45Hz	1280	66	70	73	73	69	64	60	56	40	35
7-55Hz	1580	70	74	78	78	74	70	65	61	45	40
7-65Hz	1825	73	77	81	82	78	74	69	65	50	45
7-75Hz	2115	76	80	85	85	82	77	73	69	50	45
7-85Hz	2480	79	84	88	88	85	81	77	73	55	50
8-30Hz	860	63	67	70	69	65	61	56	52	35	30
8-40Hz	1150	67	71	74	74	69	65	61	56	40	35
8-50Hz	1450	72	76	79	79	75	71	66	62	45	40
8-60Hz	1700	75	79	83	83	80	75	71	66	50	45
8-70Hz	2000	78	82	87	87	83	79	75	70	55	50
8-80Hz	2250	81	85	90	90	86	82	78	73	60	55
9-30Hz	852	67	70	73	72	68	63	59	54	40	35
9-35Hz	1003	70	74	77	76	72	68	63	59	45	40
9-40Hz	1140	73	77	80	79	75	71	67	62	50	45
9-45Hz	1286	75	79	83	83	78	74	70	65	50	45
9-50Hz	1419	78	81	85	85	81	77	72	68	55	50
9-55Hz	1550	79	83	87	87	83	79	74	70	55	50

Sound Power Level PWL, dB, linear, in accordance with ISO13347-1:2004
Noise levels stated are at the pressure side of the fan. At suction side the levels are 2dB lower at all points. They are at mid-duty point on the fan curves.

Noise Breakout from Ecovent NRG Cases

The sound reduction for the unit cases size 7 - 9 is as follows:

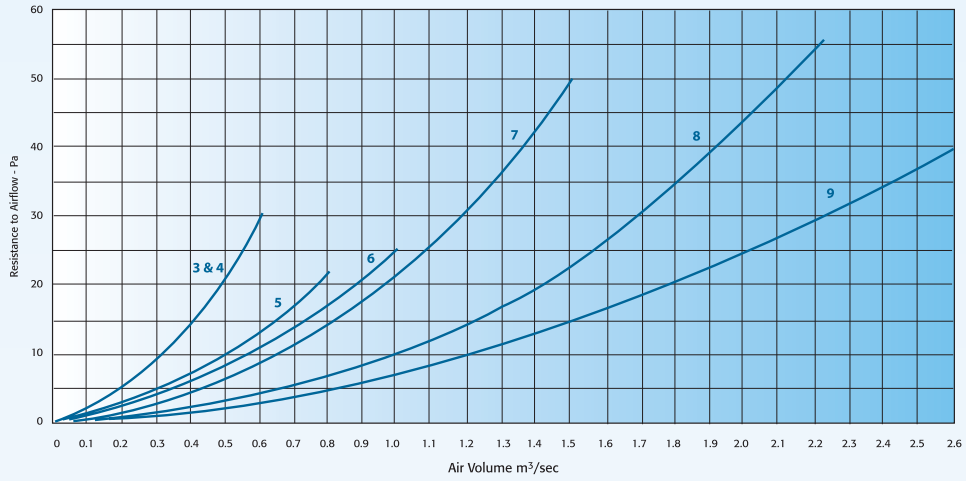
Centre Frequency Hz:	63	125	250	500	1k	2k	4k	8k
Sound Reduction, IL, dB	4	8	16	29	32	30	36	34

This case sound reduction I.L. should be deducted from the fan sound power spectrum, and further deduction made for measurement distance from case - 1 metre 8 dB, 2 metres 12 dB, 3 metres 14 dB, 6 metres 24 dB.
This distance figure should be deducted from each octave band and will result in a sound pressure level spectrum at that distance.
To further reduce noise breakout, heavy weight panel infills are available.

Control details *p4 / 5*
Specific Fan power *p12 / 13*
Unit dimensions *p18 / 19*
Silencer dimensions *p21*
LPHW heater details *p22*
Fan commissioning *p24*

Silencers

Selection Curves - ECO NRG Sizes 3-9



Silencer attenuation - Insertion Loss - dB

Eco NRG Model	Silencer Model	Centre Frequency Hz 63	125	250	500	1k	2k	4k	8k
3	NRG VA 300/1300/P	5	9	16	30	39	39	31	26
4	NRG VA 400/1300/P	5	9	16	30	39	39	31	26
5	NRG VA 500/1600/P	6	12	22	39	48	48	40	28
6	NRG VA 600/1600/P	6	11	21	37	46	46	38	27
7	NRG VA 700/1600/P	7	13	24	41	50	50	42	30
8	NRG VA 800/1600/P	7	12	22	38	47	47	34	25
9	NRG VA 900/1600/P	8	15	26	43	50	50	45	32

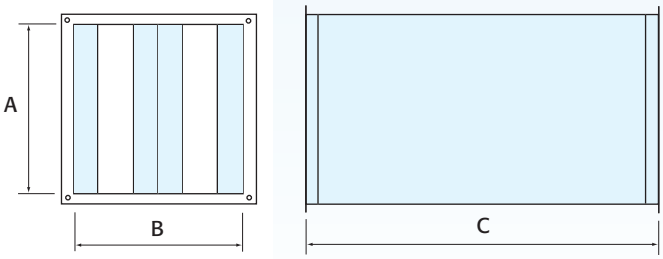
Silencers constructed using galvanised sheet steel, with Mez flanges to match Ecovent NRG unit.

Acoustic splitters - resin bonded mineral wool slab, with glass tissue facing, retained by perforated galvanised steel sheet.

Optional powder coat finish for weatherproof units.

Silencers to be fitted in plane to suit AHU spigot i.e. heights and widths are interchangeable.

Dimensions - mm



Model	A	B	C
NRG VA 300/1300/P	450	550	1300
NRG VA 400/1300/P	450	550	1300
NRG VA 500/1600/P	550	650	1600
NRG VA 600/1600/P	600	700	1600
NRG VA 700/1600/P	700	625	1600
NRG VA 800/1600/P	850	750	1600
NRG VA 900/1600/P	1000	900	1600

Note:
A & B dimensions can be reversed.