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One Stop

Assessment of External Plant Noise for
Proposed Store at Hinckley, LE10 0NG

Prepared for :-

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1.0 **SUMMARY**

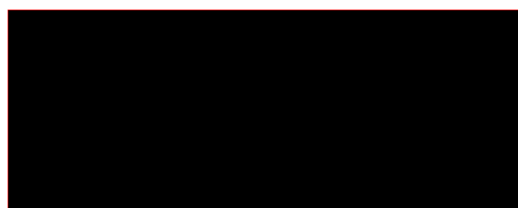
During the evening period the noise was mainly local and distant road traffic from Coventry Road and light traffic on Beaumont Ave. there was also occasional train noise audible. During the night, more distance sources such as the A5 and M69 made up the steady underlying noise climate.

Based on an assumption of all equipment running on full load throughout the night, the predicted noise from the external mechanical plant in the proposed position is likely to require some mitigation in the form of simple fencing and a small area of absorbent facing.

With these recommendations in place the impact should be very low.



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P J Durell

2.0 INTRODUCTION

ADC was asked to carry out an independent assessment of the plant area of the proposed new One Stop store and predict the overall impact at the nearest noise-sensitive positions.

This report begins by discussing the various assessment criteria applicable to this situation. We follow by describing in simple terms our basic approach to calculations and modelling.

After a brief statement of survey details we discuss basic results and the resulting assessment. The impact is discussed along with any recommendations for mitigation.

3.0 ASSESSMENT STANDARDS

3.1 NPPF, NPSE and NPPG

The National Planning Policy Framework (NPPF), the Noise Policy Statement for England (NPSE) and the National Planning Practice Guidance (NPPG) provide nothing in the way of quantitative criteria but instead provide general policy aims and statements and some guidance on how certain situations can be interpreted.

The NPPF's main statement on noise is to be found in paragraph 185:-

185. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:
- a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life⁶⁵;
 - b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
 - c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

Paragraph 187 is also relevant:-

187. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

The NPPF refers to the NPSE which sets out the following aims:-

1. *avoid significant adverse impacts on health and quality of life;*
2. *mitigate and minimise adverse impacts on health and quality of life;*
- and*
3. *where possible, contribute to the improvement of health and quality of life.*

It also introduces the concepts of:

- *NOEL – No Observed Effect Level. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.*
- *LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected.*
- *SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur.*

SOAEL is clearly something the policy seeks to avoid in aim 1. Aim 2 represents situations between SOAEL and LOAEL, and seeks to minimise and mitigate the effects.

The NPPG section on noise adds some further detail, much of it reproducing the NPPF and NPSE, but some useful qualitative guidance is provided Noise Exposure Hierarchy, as follows:-

Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

It also makes the point that the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation, including the level of the noise in absolute terms and how it might compare with the underlying background noise, the impulsiveness or intermittence pattern of the noise, its spectral content, and the time of day. It discusses in very general terms the issues to consider when introducing noise sources to existing noise sensitive area, new residential development in areas affected by existing noise sources (most of which have their own specific guidance, such as BS 4142, BS 8233, etc.) and the potential impact on wildlife.

3.2 BS 8233

BS 8233 was updated in March 2014. Quantitatively, however, the design criteria are little changed – just expressed differently to reduce ambiguity in certain situations. Its guidance is primarily intended for new buildings, but the criteria are routinely referred to for putting general noise climates into context.

The criteria in Table 4 of BS 8233 are based on WHO guidance and give the desirable criteria for indoor ambient noise levels for dwellings as follows:-

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB $L_{Aeq,16hour}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,8hour}$	30 dB $L_{Aeq,8hour}$

Note that the standard accepts the widely used rule of thumb that, for a partly open window, the levels just outside will be 15dB higher than those just inside. This brings us to an external equivalent of the above table, as follows:-

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	50 dB $L_{Aeq,16hour}$	-
Dining	Dining room/area	55 dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	50 dB $L_{Aeq,8hour}$	45 dB $L_{Aeq,8hour}$

It goes on to state that, where necessary, the criteria can be relaxed by up to 5 dB and still achieve reasonable conditions. Note that the new version does not explicitly state criteria for bedroom noise in terms of dB L_{Amax} .

Garden area criteria are unchanged with 50 dB L_{Aeq} and 55 dB L_{Aeq} being considered desirable and reasonable respectively.

Note that the new version of BS 8233 more explicitly specifies the assessment periods as 16 hour and 8 hour for daytime and night time respectively.

3.3 BS 4142

BS 4142 was updated in November 2014. The standard is very complicated but, basically, it describes methods for rating and assessing sound of an industrial and/or commercial nature, which includes:

- sound from industrial and manufacturing processes
- sound from fixed installations which comprise mechanical and electrical plant and equipment
- sound from the loading and unloading of goods and materials at industrial and/or commercial premises

- d) sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

The methods described in this British Standard use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

Characteristics and Context

Certain acoustic features can increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level. Where such features are present at the assessment location, we need to add a character correction to the specific sound level to obtain the rating level.

These features can include tonality, impulsivity and intermittency with corrections typically ranging potentially from 0dB to 9 dB. Corrections at the higher end would represent characteristics which are highly perceptible in the context of the ambient noise as a whole. Corrections at the lower end would represent characteristics which are just perceptible in the presence of the ambient noise as a whole,

The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

Assessment

We obtain an *initial estimate* of the impact of the specific sound by subtracting the measured background sound level from the rating level and considering the following.

- a) Typically, the greater this difference, the greater the magnitude of the impact.
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an

indication of the specific sound source having a low impact, depending on the context.

Where the initial estimate of the impact needs to be modified due to the context, pertinent factors need to be taken into consideration, including the following.

1) The absolute level of sound.

For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low.

Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.

Where residual sound levels are very high, the residual sound might itself result in adverse impacts or significant adverse impacts, and the margin by which the rating level exceeds the background might simply be an indication of the extent to which the specific sound source is likely to make those impacts worse.

2) The character and level of the residual sound compared to the character and level of the specific sound.

We need to consider whether it would be beneficial to compare the frequency spectrum and temporal variation of the specific sound with that of the ambient or residual sound, to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous sound by comparison to the acoustic environment that would occur in the absence of the specific sound. Any sound parameters, sampling periods and averaging time periods used to undertake character comparisons should reflect the way in which sound of an industrial and/or commercial nature is likely to be perceived and how people react to it.

3) The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions.

3.4 Local Authority

We are not aware of any criteria proposed by the Local Authority

4.0 **BASIC APPROACH TO MODELLING**

We have used the well-established CadnaA modelling software which calculates noise propagation based on the processes of *ISO 9613 : Acoustics – Attenuation of sound during propagation outdoors*. Obviously, modelling software is reliant on the inputs and assumptions. The keys ones are:-

1. The ground is mainly reflective (coefficient of 0.25 assumed).
2. Calculations are based on two orders of reflections.
3. The proposed site buildings and the surrounding buildings are assumed to be mainly reflective (0.5 dB loss on reflection assumed).
4. The surrounding trees and vegetation will provide a small degree of absorption but this has been neglected.
5. Where acoustic fences are used, they are also assumed to be reflective the same as the buildings, unless specified otherwise.
6. The source data is based on manufacturers' literature. This is entered into the model along with the conditions under which the data was established (eg. free field, over hard ground, etc.) and tested to ensure the manufacturers' figure are faithfully reproduced in the model. When enclosures or silencers are specified, these are built into the figures.
7. All units are assumed to run continuously on full load.

5.0 SURVEY DETAILS

5.1 Site Times and Personnel

The site surveys were carried out by Mark Pickering of ADC Acoustics from approximately 20:30 to 23:00 on 9th August 2023 through to shortly after 07:30 the following morning. The times were chosen to represent evening opening times of the store, and through the night. The measurements were periodically attended.

5.2 Instrumentation

Instrumentation used was a Rion NL-52. This is a Class I sound level meter which holds a current calibration certificate and which was field-calibrated as necessary. The meter was set up to measure continuous 5 minute samples of the noise climate.

All measurements have been gathered in terms of dB L_{eq}, dB L_{max} and dB L₉₀ in overall A-weighted terms, and in octave bands across the frequency range. See Definition of Acoustic Terms in Appendix 1.

5.3 Measurement Positions

The main measurement position was as shown by the yellow star on the following plan.



The position was chosen to represent the nearest residential location.

The microphone was 1.3 m above ground and well away from other reflecting surfaces.

5.4 Survey Conditions

Weather conditions were as follows :-

Rain	:	none, dry roads
Cloud	:	30%
Temperature	:	18 to 20 Celsius
Wind	:	negligible

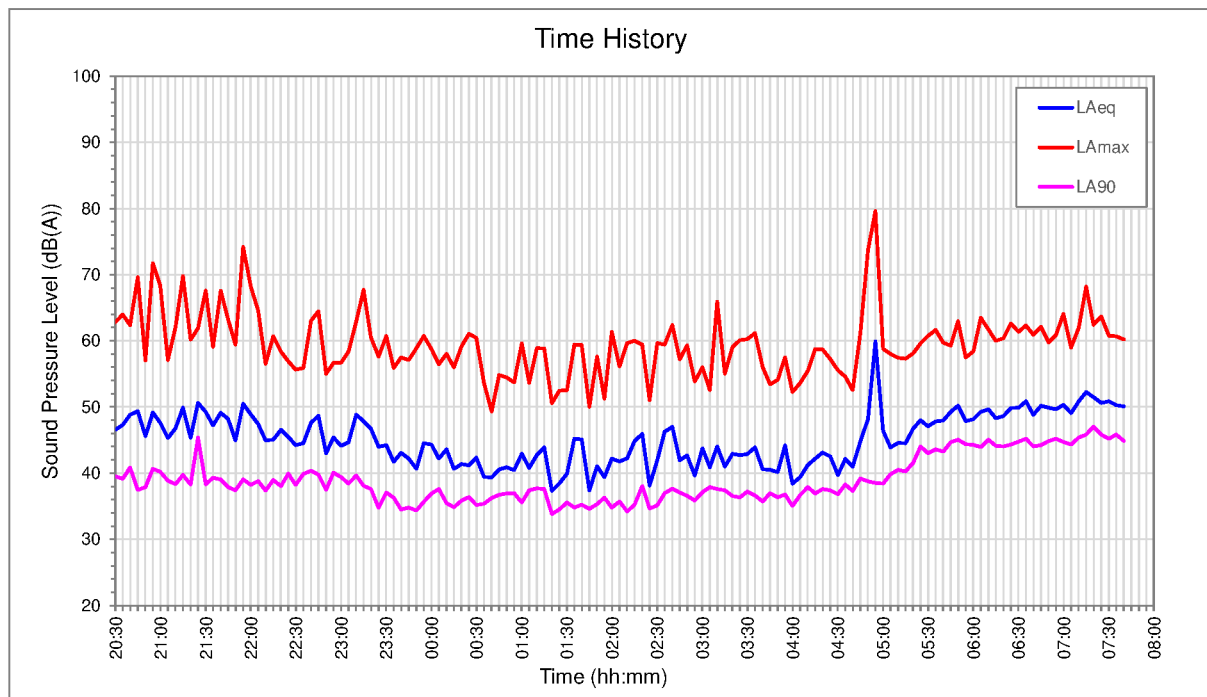
The general noise climate appeared to be normal and representative.

6.0 **RESULTS AND DISCUSSIONS**

6.1 Background Sound Levels

During the evening period the noise was mainly local and distant road traffic from Coventry Road and light traffic on Beaumont Ave. there was also occasional train noise audible. During the night, more distance sources such as the A5 and M69 made up the steady underlying noise climate.

Full results are shown in Appendix 2. They are summarised graphically below.



We have used the lowest 15 minute periods for the evening and night time measurements in the assessments. BS 4142 does not require us to use the lowest periods but it is a means mitigating against potential uncertainty of varying conditions, for instance on different days of the week. The levels for these periods are as follows:-

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>
Lowest Evening	Leq	46
	Lmax	59
	L90	38
Lowest Night Time	Leq	42
	Lmax	58
	L90	35

6.2 Manufacturer's Noise Data

The following data was provided:-

Unit A - Danfoss OP-MPAM005COP04G (Size h834mm x w1350mm x d480mm) : Noise - 56dB(A) @ 1m/44.8dB(A) @ 1m at nighttime setting
Unit B - Daikin RZASG100MV1 (Size h990mm x w940mm x d320mm) : Noise - 57dB(A) @ 1m
Unit C - Daikin RZASG100MV1 (Size h990mm x w940mm x d320mm) : Noise - 57dB(A) @ 1m
Unit D - Daikin RZASG100MV1 (Size h990mm x w940mm x d320mm) : Noise - 57dB(A) @ 1m
Unit E - Daikin RZASG100MV1 (Size h990mm x w940mm x d320mm) : Noise - 57dB(A) @ 1m
Unit F - Daikin RXM25R9 (Size h550mm x w765mm x d285mm) : Noise - 46dB(A) @ 1m

Where only the single figure (dB(A) or dB LA) are available but no octave band data (spectral shape or noise levels across the frequency range), for calculation purposes we have assumed a spectral shape based on similar units. In all cases the manufacturers' datasheets were used to enter sound power levels.

Note that the night mode for unit A makes negligible difference to the overall noise levels and so it has been ignored in this assessment.

6.3 Predicted Noise Levels

Based on all items operating on full load throughout the night¹, the predicted levels at the residential windows are as shown below:-



Note that:-

- The beige shapes are surrounding buildings and the application site building in its proposed form.
- The magenta lines are fences.
- The yellow crosses are the mechanical equipment point sources.
- Just to the left of the mechanical equipment a section of fence is coloured purple. This is an area of absorbent face and is discussed later.
- The coloured numbers are the noise levels at the residential facades. Note that the software is set up to present the noisiest floor level.
- Note that the noise contours are shown for guidance as to how the noise propagates. The contours are at a height of 4 m.

The following 3D view should help to visualise the model.



¹This is an extremely unlikely scenario, with most items rarely running beyond 70% for night time and rarely all items at the same time.

6.4 Assessments

For the assessment of proposed noise, BS 4142 requires us to assess the predicted industrial noise against the “background sound level” which is the noise climate without development described in terms of the underlying dB L_{A90} index.

The proposed equipment can potentially run 24 hour and so only the night time BS 4142 assessment is presented as follows:-

Specific Sound Level:	34 dB L _{Aeq}
Feature Corrections ²	
tonality:	0 dB
impulsivity:	0 dB
intermittency:	0 dB
other:	0 dB
Rating Level:	34 dB L _{Ar}
Background Sound Level:	35 dB L _{A90}
Rating Level Excess re. Background	-1 dB

This is just below what a BS 4142 “*Initial estimate*” rates as “*low impact depending on the context*”.

The context of course is an established commercial area with the site’s previous use as a similar convenience store.

Also important to the context is that we assume that all units run at full load at the same time, which is very unlikely ever to occur. The impact, even under the somewhat extreme assumption of all equipment running on full load at the same time is likely to be very low.

6.5 Mitigation

An acoustic fence is proposed around the plant area approximately as shown by the magenta line in the above image. Note that the boundary fence is not relied upon in the mitigation. However, it is included in the modelling because it actually acts as a reflector – see below.

The plant area fence is set at 2.0 m high and 2.0 m from the building wall. The east-west dimension is 5.5 m. We have also allowed for a 300 mm gaps at the bottom of the fence is needed for improved airflow (improved airflow will mean the units will not need to work as hard, and the bottom gap makes negligible difference to the overall performance of the fence).

² The units are extremely unlikely to be tonal or impulsive. They will be intermittent to a degree at source but, at the receiver position, the intermittency is extremely unlikely to be “*readily distinctive against the residual acoustic environment*”, as BS 4142 describes it. Also the equipment tends to ramp up and down rather than abruptly cut in and out, and of course all the units will do so at different times, each masking the effect of the others. In any case, the noise is likely to be barely audible at the receiver positions and so no character corrections apply.

Note that the fence is only relied upon to reduce the noise by 5 dB. For that reason it does not need to be at all high spec. Theoretically, a barrier which is required to provide a 10 dB reduction only needs a density of 3 kg/m² which would be equivalent to around 6 mm thick timber. Of course the fence would be far thicker than this for structural purposes. The important point is that there are no gaps, including allowance for shrinkage and warping. A simple overlapping domestic style fence such as feather edge would be a typical example of a simple acoustic fence for this application.

The open end of the fence allows reflections off the boundary fence to make a small increase to the levels modelled at the residential facades to the SE. The boundary fence is not relied upon at all for the mitigation but the reflected waves will need to be controlled by fitting an external-specification acoustic absorbent to a 3 m wide section of the fence, as shown in the model output images. There are countless products on the market but the following link is an example of a weatherproof acoustic foam.

https://www.soundservice.co.uk/whisper_foam.html

6.6 Discussion of Uncertainty

BS4142 requires us to

“Consider the level of uncertainty in the data and associated calculations. Where the level of uncertainty could affect the conclusion, take reasonably practicable steps to reduce the level of uncertainty”.

The measurements of Background/Residual Sound were taken at times regarded as representing what are likely to be the worst case (quietest) parts of the opening times and through the night. We have no reason to believe that the conditions were anything other than representative of normal conditions. BS 4142 does not state what would be a representative background noise but there is certainly no suggestion that it should be the lowest, and indeed it states, *“...the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods”*. However, in order to allow for the possibility of variation in levels, we have used the lowest 15 minute period.

Source data is assumed to be reliable. Where uncertainty may exist for this we have mitigated it by assuming that all equipment is running on full load all of the time, which would in our experience would rarely occur, if ever.

Calculations are based on the processes of *ISO 9613 : Acoustics – Attenuation of sound during propagation outdoors*. We know of no concerns within our industry as to the basic reliability of these methods and it is cited in BS 4142 as *“a validated method of calculating sound levels”*. The CadnaA software uses this standard and the input assumptions err on the side of caution and are stated in Section 4.

Varying meteorological conditions are unlikely to have a significant impact on results as the distances involved are small.

7.0 CONCLUSIONS/RECOMMENDATIONS

Based on an assumption of all equipment running on full load throughout the night, the predicted noise from the external mechanical plant in the proposed position is likely to require some mitigation in the form of simple fencing and a small area of absorbent facing.

With these recommendations in place the impact should be very low.

Our only recommendation is that you issues this report to planners and that Officers are encouraged to contact us directly with any queries.

Appendix 1

Definition of Acoustic Terms

The Decibel

The decibel is the basic unit of noise measurement and is denoted dB. Technically, it is a means of expressing the difference in noise level between the measured noise and a standard level of noise. Most often the threshold of human hearing is used as the standard reference but it really should be stated. The threshold of human hearing is a sound pressure of $20\mu\text{Pa}$ or a sound power of 1pW .

A sound pressure level or SPL should be expressed in dB(re. $20\mu\text{Pa}$). A sound power level or SWL should be expressed in dB(re. 1pW). If the reference levels are omitted, it will often (but not always) be safe to assume that they are referenced to the threshold of human hearing.

A-Weighting and dB(A)

The human hearing system responds differently to different frequencies. The A-weighting system takes account of this by emphasising mid and high frequencies more than low frequencies to give an overall level. An A-Weighted noise level, therefore, reflects the way normal, healthy hearing would perceive the overall level of the noise. The basic unit is dB(A), although other systems of expressing an A-weighted levels are discussed below.

Other weighting systems, such as C-Weighting, denoted dB(C), reflect the human hearing system's response at higher noise levels.

NR and NC Levels

NR curves and NC curves are a series of curves representing noise levels across the frequency range. A given noise climate has an NR level or NC level if it equals a point on the curve at any frequency. They are particularly, although by no means exclusively, used as a means of specifying noise limits in an indoor environment, for instance from mechanical services or traffic noise break-in from the outside. They are typically expressed as NR or NC followed by a number, e.g. NR40, NC55, etc.

Equivalent Continuous Sound Level, L_{eq}

This can be simplistically described as a way of expressing the average noise level.

The unit is dB L_{eq} . For A-weighted levels the unit is dB(A) L_{eq} or, in more modern units, dB L_{Aeq} .

Maximum Level, $L_{\max}$

This is the maximum level reached (usually for a fraction of a second) in the measurement period.

The unit is dB $L_{\max}$. For A-weighted levels the unit is dB(A) $L_{\max}$ or, in more modern units, dB $L_{A\max}$.

Statistical (Percentile) Levels, L_n

During a measurement of fluctuating noise, it is often useful to establish the levels exceeded for a percentage of the time. L_n is the index representing the level exceeded for $n\%$ of the measurement period.

The unit is dB L_n . For A-weighted levels, the unit is dB(A) L_n or, in more modern units, dB L_{An} .

Common examples are as follows :-

dB L_{A90} is the A-weighted level exceeded for 90% of the time and is often used to describe the underlying background noise.

dB L_{A50} is the A-weighted level exceeded for 50% of the time. Mathematically, it is the median, another kind of average.

dB L_{A10} is the A-weighted level exceeded for 10% of the time and has traditionally been used to describe the intermittent highs in the noise climate such as passing cars or aircraft.

Frequency Analysis

Here the audible frequency range is divided up into bands and the noise level is expressed in each frequency band from low pitches to high pitches.

Octave Band analysis is where the frequency range is divided into 8 bands from 63 Hz to 8kHz, or sometimes into 10 bands from 31.5 Hz to 16kHz.

1/3 Octave Band analysis provides more detailed subdivision into 24 bands from 50 Hz to 10kHz, or sometimes into 30 bands from 20Hz to 20kHz.

Narrow Band analysis takes this further with the possibility of many thousands of bands, possibly only 1Hz wide, or even less.

In all types of frequency analysis, the level in each band can be expressed in terms of L_{eq} , $L_{\max}$, L_n , etc. as defined above.

Sound Insulation

Sound insulation is best expressed across the frequency range in octave bands or third octave bands. Often, however, in known environments such as domestic sound insulation and speech privacy, it is simpler to express the sound insulation as a single figure. A higher value means better sound insulation.

The most common ways are $\text{dB } D_{nTw}$, $\text{dB } R_w$ and $\text{dB}_{(\text{mean } 100-3150\text{Hz})}$. The first two are ways of expressing average sound insulation, weighted to account for speech frequencies. The third is simply an un-weighted mean value.

The Building Regulations Approved Document E (ADE) routinely refer to $D_{nTw} + C_{tr}$. The C_{tr} term is a negative number which is used to modify the D_{nTw} value for the insulation properties at lower frequencies.

ADE also uses the L_{nTw} index for impact sound transmission. It is a measure of the level of noise in the room below a room in which a standard tapping machine is being used. It represents the impact sound transfer such as footfall noise, scraping chairs, washing machines, etc. A lower value means better insulation.

Reverberation Time

The most common measure of Reverberation Time is, effectively the time taken for sound from a steady source to decay by 60 dB after it has been abruptly cut off. In practice it is often difficult to measure a 60 dB decay and so decays of 30 dB, 20 dB, or even 10 dB are often used and adjusted pro rata, although the exact measure is not quite the same.

Reverberation Time is generally expressed as RT in seconds. We may, if we are being precise, add subscripts 60, 30, etc to show whether the basis of the measure is 60 dB decay, 30 dB decay, etc. E.g. the $RT_{60} = 0.52\text{s}$, the $RT_{30} = 0.49\text{s}$, etc.

RT can be expressed in octave bands or 1/3 octave bands across the frequency range, or at central frequencies such as 500 Hz or 1kHz.

Appendix 2

Measurements in Full

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>	<i>63</i>	<i>125</i>	<i>250</i>	<i>500</i>	<i>1k</i>	<i>2k</i>	<i>4k</i>	<i>8k</i>
20:30	Leq	47	57	49	46	43	43	36	26	19
	Lmax	63	75	65	64	59	58	54	50	42
	L90	40	46	41	39	36	37	29	16	13
20:35	Leq	47	54	53	48	44	44	36	25	18
	Lmax	64	73	76	65	59	55	51	42	37
	L90	39	44	43	40	36	35	28	15	13
20:40	Leq	49	58	54	50	46	45	37	26	21
	Lmax	62	74	73	62	60	54	50	47	45
	L90	41	47	44	41	37	38	30	17	13
20:45	Leq	49	54	55	54	46	43	35	24	16
	Lmax	70	72	78	75	65	60	49	42	32
	L90	37	43	41	38	34	34	27	14	13
20:50	Leq	46	52	49	44	41	43	35	23	19
	Lmax	57	64	65	55	51	54	46	36	39
	L90	38	44	40	38	34	35	27	15	13
20:55	Leq	49	58	51	48	44	47	39	27	17
	Lmax	72	77	73	69	60	70	62	53	38
	L90	41	45	42	40	36	38	30	17	13

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>	63	125	250	500	1k	2k	4k	8k
21:00	Leq	48	53	49	46	44	45	38	29	20
	Lmax	68	70	64	61	64	67	57	54	45
	L90	40	44	41	40	36	37	30	16	13
21:05	Leq	45	53	46	44	41	43	35	23	16
	Lmax	57	67	60	57	50	55	44	39	34
	L90	39	42	39	37	35	36	28	15	13
21:10	Leq	47	57	50	46	44	43	36	24	15
	Lmax	62	75	65	65	58	58	49	38	29
	L90	38	44	40	38	35	35	28	15	13
21:15	Leq	50	55	59	54	43	44	36	29	24
	Lmax	70	73	80	76	58	57	51	47	43
	L90	40	44	41	38	37	37	28	15	13
21:20	Leq	45	52	47	45	41	42	35	21	14
	Lmax	60	69	66	66	52	53	46	33	22
	L90	38	42	38	37	35	36	28	14	13
21:25	Leq	51	57	50	52	48	47	39	29	22
	Lmax	62	72	67	62	58	56	51	49	52
	L90	45	51	44	47	42	42	34	22	14
21:30	Leq	49	56	58	50	47	44	37	26	18
	Lmax	68	77	82	66	60	58	48	38	31
	L90	38	42	39	36	35	36	26	13	13
21:35	Leq	47	56	49	47	43	44	37	24	16
	Lmax	59	75	63	62	53	55	47	36	38
	L90	39	42	42	39	36	36	28	14	13
21:40	Leq	49	54	54	54	44	44	36	25	16
	Lmax	68	73	74	75	60	55	49	41	31
	L90	39	43	41	39	36	36	28	14	13
21:45	Leq	48	55	55	49	44	44	36	24	15
	Lmax	63	72	75	67	56	55	47	41	24
	L90	38	43	41	38	34	35	27	13	13
21:50	Leq	45	52	46	44	41	42	35	23	15
	Lmax	59	69	60	57	58	54	52	41	30
	L90	37	42	40	37	34	35	26	13	13
21:55	Leq	50	56	50	50	46	48	39	28	18
	Lmax	74	75	63	62	65	73	63	53	38
	L90	39	44	40	38	36	36	27	14	13
22:00	Leq	49	56	59	50	44	44	36	24	16
	Lmax	68	82	81	70	61	59	51	43	38
	L90	38	43	41	38	35	35	26	14	13
22:05	Leq	47	55	51	46	44	44	36	25	16
	Lmax	65	72	71	64	63	61	50	40	31
	L90	39	44	40	38	36	36	27	14	13
22:10	Leq	45	51	47	44	41	42	34	21	14
	Lmax	57	68	63	56	53	53	44	34	22
	L90	37	42	40	37	35	34	25	13	13
22:15	Leq	45	56	47	44	42	42	34	22	14
	Lmax	61	76	64	58	62	52	46	35	26
	L90	39	43	40	38	36	36	28	14	12
22:20	Leq	47	51	49	45	43	44	36	23	14
	Lmax	58	63	66	58	55	55	46	34	22
	L90	38	42	41	38	35	35	26	14	12
22:25	Leq	45	55	50	46	41	42	34	21	14
	Lmax	57	68	66	59	51	53	44	31	23
	L90	40	44	42	40	37	37	28	15	13
22:30	Leq	44	48	46	43	40	42	33	20	13
	Lmax	56	64	62	57	50	53	45	31	22
	L90	38	41	39	38	35	35	26	14	12
22:35	Leq	44	50	46	43	42	42	33	20	14
	Lmax	56	64	66	54	52	52	45	33	22
	L90	40	41	39	38	37	37	28	14	12
22:40	Leq	48	57	51	47	45	44	36	26	16
	Lmax	63	74	65	62	60	59	52	46	30
	L90	40	42	41	40	38	37	29	15	13
22:45	Leq	49	53	50	47	46	46	38	27	15
	Lmax	64	71	66	62	65	59	52	42	28
	L90	40	43	41	40	37	37	29	15	13
22:50	Leq	43	49	43	42	40	40	32	19	13
	Lmax	55	66	56	54	52	52	44	33	26
	L90	37	39	38	37	35	34	26	15	12
22:55	Leq	45	51	49	45	42	42	35	21	13
	Lmax	57	64	65	57	51	53	46	31	20
	L90	40	44	41	40	37	37	29	16	12

Time Period	Index	dB(A)	63	125	250	500	1k	2k	4k	8k
23:00	Leq	44	52	49	45	41	40	32	22	15
	Lmax	57	65	63	55	53	53	48	41	34
	L90	39	46	43	40	37	36	27	14	12
23:05	Leq	45	50	46	43	42	42	34	21	14
	Lmax	58	66	63	55	55	55	48	37	26
	L90	38	43	40	38	36	35	27	14	12
23:10	Leq	49	55	54	52	46	43	36	24	15
	Lmax	63	71	67	65	60	57	53	45	31
	L90	40	43	41	39	37	36	28	15	12
23:15	Leq	48	53	52	51	46	42	34	24	19
	Lmax	68	75	74	73	65	59	52	41	38
	L90	38	44	42	39	36	34	26	14	12
23:20	Leq	47	57	52	49	43	42	35	22	13
	Lmax	61	68	62	63	57	56	50	39	24
	L90	38	44	41	38	35	34	26	14	12
23:25	Leq	44	50	48	46	41	40	31	18	13
	Lmax	58	63	59	61	52	54	45	33	20
	L90	35	42	38	35	33	31	23	13	12
23:30	Leq	44	54	52	42	40	41	33	20	13
	Lmax	61	74	74	58	55	53	45	34	23
	L90	37	41	38	36	34	34	25	13	12
23:35	Leq	42	52	42	40	38	39	31	18	13
	Lmax	56	74	58	52	49	53	45	33	21
	L90	36	40	38	36	34	33	24	13	12
23:40	Leq	43	51	48	45	40	39	31	19	14
	Lmax	57	70	63	59	54	53	46	36	27
	L90	35	40	37	35	32	31	22	12	13
23:45	Leq	42	46	43	40	38	40	31	18	13
	Lmax	57	60	56	54	51	55	46	32	20
	L90	35	41	38	35	33	31	23	12	13
23:50	Leq	41	53	43	39	36	38	29	17	13
	Lmax	59	75	63	53	52	57	48	35	24
	L90	34	41	38	35	31	31	22	12	13
23:55	Leq	44	54	47	45	42	41	33	22	16
	Lmax	61	73	63	61	58	57	50	39	30
	L90	36	41	39	37	33	32	22	12	12
00:00	Leq	44	49	47	44	40	41	35	24	16
	Lmax	59	64	66	61	55	53	49	44	36
	L90	37	42	40	38	35	33	25	13	12
00:05	Leq	42	48	44	42	39	39	31	20	14
	Lmax	56	67	60	56	54	52	48	38	30
	L90	38	41	39	38	35	34	26	14	12
00:10	Leq	44	50	44	42	40	41	33	21	15
	Lmax	58	68	63	57	53	56	46	35	37
	L90	35	41	39	37	33	32	24	13	12
00:15	Leq	41	46	42	40	37	38	30	17	13
	Lmax	56	63	59	53	49	53	48	34	20
	L90	35	41	38	36	32	31	22	12	12
00:20	Leq	41	47	43	41	37	39	31	20	14
	Lmax	59	64	58	55	53	58	49	40	28
	L90	36	41	37	38	33	32	23	12	12
00:25	Leq	41	43	41	40	38	38	32	28	21
	Lmax	61	57	53	59	50	54	53	56	49
	L90	36	40	38	37	34	32	25	14	12
00:30	Leq	42	48	45	42	40	39	31	19	14
	Lmax	60	66	62	59	58	57	47	38	33
	L90	35	41	39	37	32	31	23	13	12
00:35	Leq	39	44	43	40	36	36	28	16	13
	Lmax	54	56	56	50	47	52	43	29	20
	L90	35	41	40	37	33	31	23	13	12
00:40	Leq	39	44	42	40	37	35	27	15	13
	Lmax	49	52	50	49	45	47	39	26	20
	L90	36	42	41	38	34	31	24	13	12
00:45	Leq	41	45	42	41	38	37	29	17	13
	Lmax	55	57	51	52	52	52	45	31	20
	L90	37	42	40	38	35	32	24	14	12
00:50	Leq	41	45	43	42	38	37	29	17	13
	Lmax	54	57	55	52	49	53	44	32	31
	L90	37	41	40	39	35	32	25	14	12
00:55	Leq	40	48	43	41	37	37	29	17	13
	Lmax	54	65	58	56	49	50	41	28	21
	L90	37	41	40	38	35	33	25	14	12

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>	63	125	250	500	1k	2k	4k	8k
01:00	Leq	43	47	44	42	38	40	34	21	14
	Lmax	60	63	60	56	53	57	52	40	28
	L90	36	41	39	38	33	31	24	13	12
01:05	Leq	41	45	41	41	37	38	30	17	13
	Lmax	54	64	55	52	48	51	44	32	20
	L90	37	40	38	38	35	34	26	14	12
01:10	Leq	43	56	51	42	39	39	31	18	13
	Lmax	59	78	71	57	51	52	44	30	22
	L90	38	40	38	37	35	35	27	14	12
01:15	Leq	44	51	48	46	43	37	29	16	13
	Lmax	59	63	57	60	61	47	40	28	23
	L90	38	40	40	38	36	33	26	14	12
01:20	Leq	37	44	40	38	36	33	26	15	13
	Lmax	51	55	52	50	49	47	38	24	20
	L90	34	38	36	35	32	29	23	13	12
01:25	Leq	38	41	40	37	36	35	28	15	13
	Lmax	52	50	49	45	47	44	49	25	20
	L90	35	38	37	35	33	30	23	13	12
01:30	Leq	40	44	41	38	37	37	29	16	13
	Lmax	53	60	52	48	47	51	42	28	24
	L90	36	38	37	36	33	32	23	13	12
01:35	Leq	45	45	45	43	42	42	35	23	13
	Lmax	59	64	58	55	57	57	49	37	27
	L90	35	39	37	35	33	31	23	13	13
01:40	Leq	45	43	44	43	42	42	36	23	13
	Lmax	59	55	56	55	57	57	50	39	25
	L90	35	38	37	36	33	31	24	14	13
01:45	Leq	37	40	39	37	36	34	25	14	13
	Lmax	50	48	46	47	51	44	37	27	18
	L90	35	37	37	35	33	31	21	12	13
01:50	Leq	41	48	44	42	38	37	29	15	13
	Lmax	58	67	58	55	55	55	47	32	21
	L90	35	38	37	35	33	32	23	13	12
01:55	Leq	39	42	39	37	37	36	27	15	13
	Lmax	51	57	50	47	47	49	40	30	19
	L90	36	38	36	35	34	33	24	13	12
02:00	Leq	42	47	44	41	40	39	30	18	14
	Lmax	61	70	65	60	60	58	48	37	37
	L90	35	37	37	35	33	31	23	13	12
02:05	Leq	42	49	47	44	40	37	29	17	13
	Lmax	56	63	61	58	52	52	46	32	22
	L90	36	39	38	36	34	32	24	14	13
02:10	Leq	42	51	43	41	40	39	31	19	15
	Lmax	60	71	59	57	59	55	48	36	32
	L90	34	37	37	35	32	30	23	14	13
02:15	Leq	45	47	49	47	43	40	30	19	14
	Lmax	60	60	63	61	58	55	48	41	28
	L90	35	36	37	36	33	31	24	14	13
02:20	Leq	46	51	51	50	45	38	30	19	16
	Lmax	59	60	62	62	60	49	42	33	38
	L90	38	43	41	38	36	34	26	15	13
02:25	Leq	38	44	39	37	36	34	27	16	13
	Lmax	51	66	52	48	46	48	42	31	25
	L90	35	37	37	35	33	30	23	14	13
02:30	Leq	42	50	45	42	40	38	30	19	14
	Lmax	60	70	61	58	58	57	46	35	27
	L90	35	37	37	36	33	31	24	14	13
02:35	Leq	46	51	52	49	46	40	29	18	14
	Lmax	59	70	65	61	59	53	43	29	30
	L90	37	39	39	38	35	33	25	14	13
02:40	Leq	47	52	52	50	45	42	33	22	16
	Lmax	62	65	66	65	59	58	50	41	33
	L90	38	45	41	38	36	34	25	14	12
02:45	Leq	42	48	42	41	39	39	30	18	14
	Lmax	57	65	58	55	51	55	45	34	33
	L90	37	40	37	37	35	34	25	13	12
02:50	Leq	43	49	45	42	40	40	32	19	14
	Lmax	59	68	61	57	57	56	48	37	27
	L90	37	40	37	36	34	34	25	13	12
02:55	Leq	40	43	40	38	37	37	29	16	13
	Lmax	54	60	52	54	48	52	44	32	22
	L90	36	39	37	36	34	32	24	13	12

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>	63	125	250	500	1k	2k	4k	8k
03:00	Leq	44	47	49	45	42	39	30	19	13
	Lmax	56	62	61	56	52	53	45	35	23
	L90	37	39	37	36	35	34	26	14	12
03:05	Leq	41	47	44	40	38	38	29	16	13
	Lmax	53	65	56	51	47	50	41	30	20
	L90	38	40	38	37	35	35	26	13	12
03:10	Leq	44	49	46	43	42	40	32	31	24
	Lmax	66	68	65	63	62	58	56	61	54
	L90	38	39	37	37	35	35	26	13	12
03:15	Leq	41	44	41	40	38	38	30	19	14
	Lmax	55	59	55	53	48	53	46	39	32
	L90	37	40	38	37	35	34	25	13	12
03:20	Leq	43	51	45	41	40	40	33	20	14
	Lmax	59	71	63	55	58	55	48	36	24
	L90	37	40	38	36	34	33	24	12	12
03:25	Leq	43	49	44	42	40	39	31	19	13
	Lmax	60	69	63	59	59	56	47	39	25
	L90	36	40	37	37	34	33	24	12	12
03:30	Leq	43	51	47	42	40	40	31	20	13
	Lmax	60	73	69	57	58	56	47	36	24
	L90	37	40	38	37	35	34	24	12	12
03:35	Leq	44	51	46	44	41	40	32	21	14
	Lmax	61	70	66	62	60	56	49	40	27
	L90	37	41	38	37	34	33	23	12	12
03:40	Leq	41	45	41	39	37	38	29	17	13
	Lmax	56	61	61	55	51	54	45	33	23
	L90	36	39	36	36	34	32	22	12	12
03:45	Leq	40	45	41	40	38	38	28	16	13
	Lmax	53	61	55	52	48	51	43	30	21
	L90	37	41	38	37	35	34	22	12	12
03:50	Leq	40	45	41	40	38	37	27	15	13
	Lmax	54	60	58	54	49	52	43	30	20
	L90	36	41	37	38	34	32	22	12	12
03:55	Leq	44	49	46	43	42	41	33	21	13
	Lmax	57	63	59	56	54	55	46	35	21
	L90	37	41	36	37	35	34	23	12	12
04:00	Leq	38	42	38	38	36	35	26	14	13
	Lmax	52	52	52	47	46	51	42	29	18
	L90	35	40	36	35	33	31	22	12	12
04:05	Leq	39	42	40	39	37	36	27	14	13
	Lmax	54	53	54	53	48	52	41	29	17
	L90	37	39	37	37	35	33	24	12	12
04:10	Leq	41	43	41	40	39	38	29	16	13
	Lmax	55	58	57	53	51	53	44	31	20
	L90	38	40	38	37	36	35	25	13	12
04:15	Leq	42	46	42	41	39	40	31	17	13
	Lmax	59	68	58	55	53	57	49	36	24
	L90	37	39	38	36	36	34	23	12	12
04:20	Leq	43	46	43	43	42	39	31	21	15
	Lmax	59	66	61	59	57	54	47	40	34
	L90	38	40	39	38	36	34	24	12	12
04:25	Leq	43	43	41	40	39	40	32	18	13
	Lmax	57	57	53	54	54	54	49	35	24
	L90	37	39	38	37	35	35	24	12	12
04:30	Leq	40	41	40	39	37	37	27	14	13
	Lmax	56	53	55	49	51	54	44	31	19
	L90	37	39	37	36	35	34	23	12	12
04:35	Leq	42	46	42	40	39	40	30	16	13
	Lmax	55	64	55	51	49	52	45	31	27
	L90	38	39	38	38	36	35	25	13	12
04:40	Leq	41	44	40	39	39	38	28	16	13
	Lmax	53	58	52	50	48	51	41	32	22
	L90	37	40	38	37	35	34	23	12	12
04:45	Leq	45	51	45	44	42	42	33	28	29
	Lmax	61	69	62	63	58	55	48	51	50
	L90	39	41	38	38	37	37	26	13	12
04:50	Leq	48	52	48	44	44	46	37	34	32
	Lmax	74	72	70	63	63	72	65	56	53
	L90	39	40	38	37	36	36	26	14	13
04:55	Leq	60	48	43	42	53	59	48	30	21
	Lmax	80	64	60	53	73	79	69	50	40
	L90	39	40	38	37	37	36	26	14	13

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>	63	125	250	500	1k	2k	4k	8k
05:00	Leq	46	49	46	45	43	44	36	25	16
	Lmax	59	65	62	56	56	56	48	37	33
	L90	38	41	38	37	35	36	27	14	13
05:05	Leq	44	50	46	43	40	41	32	27	29
	Lmax	58	60	63	53	50	54	48	50	50
	L90	40	41	39	38	37	37	27	14	13
05:10	Leq	45	49	44	43	42	42	33	25	25
	Lmax	57	67	60	55	54	54	46	47	43
	L90	40	41	39	39	38	38	27	14	13
05:15	Leq	44	47	43	42	41	42	34	21	18
	Lmax	57	60	59	55	54	54	47	36	32
	L90	40	41	39	38	38	38	28	15	13
05:20	Leq	47	52	46	44	44	44	36	22	15
	Lmax	58	71	61	56	53	56	47	34	24
	L90	42	42	40	40	39	39	29	15	13
05:25	Leq	48	55	53	47	46	45	36	26	23
	Lmax	60	68	72	56	52	53	50	42	41
	L90	44	43	42	41	42	42	32	15	13
05:30	Leq	47	51	47	46	45	44	35	28	25
	Lmax	61	68	63	65	58	54	48	40	40
	L90	43	43	42	41	41	40	31	16	13
05:35	Leq	48	50	49	47	45	45	36	30	28
	Lmax	62	67	67	63	58	58	50	46	43
	L90	44	44	42	42	41	41	31	16	13
05:40	Leq	48	55	48	45	45	45	37	34	33
	Lmax	60	73	62	59	54	54	46	52	51
	L90	43	45	43	41	41	41	31	16	13
05:45	Leq	49	55	48	46	45	47	38	32	29
	Lmax	59	75	65	57	53	56	48	47	45
	L90	45	45	43	42	42	42	33	18	13
05:50	Leq	50	56	54	48	47	47	39	29	28
	Lmax	63	71	75	61	57	58	48	44	51
	L90	45	46	44	43	43	42	32	17	13
05:55	Leq	48	53	48	45	45	45	36	24	17
	Lmax	57	75	58	54	55	54	45	37	40
	L90	44	45	43	42	42	42	31	15	13
06:00	Leq	48	53	47	46	45	46	37	24	17
	Lmax	58	68	61	54	53	57	48	35	33
	L90	44	44	42	42	42	42	31	15	13
06:05	Leq	49	53	51	49	47	46	38	27	21
	Lmax	64	72	67	62	61	60	53	45	38
	L90	44	44	43	42	41	41	32	16	13
06:10	Leq	50	56	53	51	47	46	37	25	17
	Lmax	62	71	67	64	60	56	48	39	34
	L90	45	48	45	44	42	42	33	17	13
06:15	Leq	48	51	50	47	45	46	37	26	17
	Lmax	60	66	70	57	57	54	49	47	37
	L90	44	45	44	42	42	42	31	16	13
06:20	Leq	49	52	48	47	46	46	38	27	18
	Lmax	60	68	63	59	58	56	50	47	39
	L90	44	45	42	43	41	42	32	16	13
06:25	Leq	50	55	55	52	47	46	37	24	17
	Lmax	63	69	67	64	62	57	48	43	37
	L90	44	47	45	43	42	42	32	17	13
06:30	Leq	50	54	52	49	47	47	39	27	18
	Lmax	61	71	71	59	56	58	47	39	34
	L90	45	46	44	43	42	42	33	18	13
06:35	Leq	51	59	54	52	48	47	39	25	18
	Lmax	62	79	71	64	59	55	48	38	37
	L90	45	47	44	43	42	43	33	18	13
06:40	Leq	49	58	49	47	45	46	38	25	16
	Lmax	61	79	62	61	58	57	47	40	32
	L90	44	46	44	42	41	42	32	17	13
06:45	Leq	50	55	51	51	47	47	39	27	17
	Lmax	62	68	64	64	60	56	54	43	31
	L90	44	48	44	43	41	42	32	18	13
06:50	Leq	50	56	53	51	47	46	38	26	20
	Lmax	60	69	64	61	57	55	48	38	44
	L90	45	50	47	45	42	42	32	18	13
06:55	Leq	50	56	52	50	46	46	39	30	18
	Lmax	61	72	65	63	56	56	52	48	31
	L90	45	48	46	45	43	42	32	18	13

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>	63	125	250	500	1k	2k	4k	8k
07:00	Leq	50	59	54	52	48	46	38	26	18
	Lmax	64	78	68	65	63	58	53	41	32
	L90	45	48	47	45	42	41	31	17	13
07:05	Leq	49	57	51	48	45	46	38	30	21
	Lmax	59	74	65	59	53	54	48	50	40
	L90	44	48	45	44	42	41	32	20	14
07:10	Leq	51	57	54	52	48	47	38	33	26
	Lmax	62	70	73	61	57	56	48	52	47
	L90	45	50	48	46	43	42	33	22	14
07:15	Leq	52	60	61	52	48	48	42	34	25
	Lmax	68	79	80	66	60	56	63	47	41
	L90	46	53	49	47	43	42	34	24	15
07:20	Leq	51	60	55	52	48	48	41	33	24
	Lmax	62	75	68	66	58	56	52	44	41
	L90	47	52	48	47	44	44	35	25	15
07:25	Leq	51	56	53	50	48	47	40	32	25
	Lmax	64	70	70	65	61	58	54	49	49
	L90	46	49	46	45	43	43	34	23	15
07:30	Leq	51	56	53	52	48	47	40	30	23
	Lmax	61	67	67	62	58	55	51	46	43
	L90	45	50	47	45	42	42	32	19	14
07:35	Leq	50	59	52	50	47	47	39	28	22
	Lmax	61	75	68	62	58	55	48	41	43
	L90	46	52	47	46	43	43	34	22	15
07:40	Leq	50	56	51	50	47	47	39	28	20
	Lmax	60	67	63	64	57	55	47	41	33
	L90	45	50	47	44	42	42	32	20	14

<i>Time Period</i>	<i>Index</i>	<i>dB(A)</i>	63	125	250	500	1k	2k	4k	8k
Lowest Evening	Leq	46	53	48	44	42	43	35	22	14
	Lmax	59	72	65	58	58	54	45	34	24
	L90	38	43	40	38	35	35	26	14	12
Lowest Night Time	Leq	42	51	45	42	38	39	31	18	13
	Lmax	58	71	62	56	52	55	47	35	24
	L90	35	40	38	35	32	31	22	12	13