DISCONS

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Noise Mitigation Strategy
Twycross School House Music Room

1. The Music Room will be constructed from well-appointed double brickwork walls, appertaining to at least 50dBL_{Aeq} attenuation.

2. Potential noise break-out from the Music Room will be significantly reduce by not featuring windows or vents upon the North Eastern elevation that faces the Residential Dwellings of Main Road.

3. The Music Room will have a concrete floor, with adjoining upper room separated with acoustic tiles and a floor, screed on precast beams and block flooring.

4. The Music Room upon the North-Eastern elevation will have a joint thermal & acoustic insulation specified, with the noise attenuation specification of the insulation being able to attain at least 25dBL_{A}.

5. Access to the Music Room will be conducted via a corridor, internal to the premises with the door fitted with a self-closing mechanism.

6. Side doors will only be used for emergency egress purposes with door furniture fitted to suit this need.

7. No air conditioning or heat pump sources will be mounted upon the North East elevation of the Music Room.

8. Music instruments played within the Music Room will not be operated or played above an audible frequency range of 93dBL_{Amax} (amplified or not), inside or outside of normal scheduled School time or, conduct musical performances that generate 45dB$L_{A(5\text{-}min)}$ or more, at a distance of 9-metres and, 1.5-metres high, taken outside on the North East elevation of the Music Room.

9. Musical Concerts or recitals held within the Music Room will be limited to 8 per Academic Year.

10. A boundary fence 2.5-metres high consisting of at least 5kg/m^2 and, overlap height wise, the existing wall by 0.5-metres, will be installed on School ground opposite No:15 Main Road's rear garden; no openings will be provided.

11. The area between the Music Room and the boundary will be designated a "No Play Area" and for Children to unnecessarily congregate on a scheduled or routine basis.

12. The School will nominate a named person to manage any formal residential noise complaint, to log and investigate the occurrence, identified possible causes of the claim and, for suitable remedial action to be taken accordingly; such provisions will be brought formally for review by the School's Board of Governors as a minuted item of their regular meetings.

Information & Data collected to justify the School's Noise Mitigation Strategy

Our investigation and assessment of the potential noise impact upon residential dwellings within the locality of the proposed School's Music Room has been based upon the following factors,

- discussions with the Mr Assinder (Head Teacher) & Mrs Price (Resident at No15 Main Road);
- review of the current ambient noise levels & identification of noise sources;
- identification of potential noise sensitive receptors;
- identification of noise reduction methods;
- estimation of worst-case scenario of the Music Room within the locality;
- reference to BS5228, BS4142 and the World Health Organisation's (WHO) Guidelines.

The following salient points aided the development of the School's Noise Mitigation Strategy, see attached references:

- The Music Room's main Noise Sensitive Receptors were located upon Main Road, due to their rear gardens neighbouring the School's boundary. In particular Residents at No:15, Main Road were deemed to be 14-metres away from the School's boundary with the Music Room about 9-metres from the boundary; *[Reference 1]*

- School noise events experienced were generated from School Parent's cars at the beginning & close of the School Day, School & Suppliers vehicles throughout the day together with, Children's chatter during Classroom changeovers and at break-times; *[Reference 2]*

- The most significant ambient noise events experienced on the School & No:15's boundary were from microlight aircraft ($89dBL_{Amax}$), tractor & trailer Main Road noise ($87dBL_{Amax}$), clanking lorry's travelling over a sunken inspection cover within Main Road ($76dBL_{Amax}$), car exhausts ($74dBL_{Amax}$); *[Reference 2 & 3]*

- Typically, the ambient noise level at the School's & No:15' Main Road's boundary was $50dBL_{Aeq\text{-}30min}$, between 07:30 & 17:00-hr; *[Reference 3]*

- Ambient noise events were potential increased by the location of several amenities within the Village community; Twycross garden Centre, Startin Tractor Depot, Church Alarms, BT Phone Exchange standby generators, Bus Stop & Phone Box usage, the Curzon Arms and from the Pre-preparation School at the Hollies; *[Reference 1]*

- The School accepts children between the ages of 8 & 18 with approximately 50 Staff & 300 Pupils; there are no boarding facilities and, Teachers live off premises too; *[Reference 4]*

- The School's academic year operates over a 34-Week period; *[Reference 4 & 5]*

- School time is between 09:00 & 15:30-hrs; *[Reference 4]*

- Out-of-School activates only comprises of one week Summer School and two individual concerts a year, held within the Sport's Hall; *[Reference 4]*

- School music lessons and practice are provided for piano, woodwind and keyboard only, not brass; *[Reference 4]*

- No facilities are hired out to other Schools, Adult Groups or Local Community Organisation. *[Reference 4]*

- It is only intended for the Music Room to house keyboards with earpiece feedback provisions, no significant noise is envisaged.

- Noise levels of up to 93dBLAeq have been experienced from group playing of music instruments, approaching upon health & safety controls being required and time limits of playing imposed;

- The double brick and insulted walls, concrete floor and ceiling features as specified within the build, at the worst, is arrangement would provide at least 50dB reduction over a general nominal frequency range (100 to 3150hz);

- In eliminating doors, windows and service apertures on the North East elevation no noise break-out will occur affecting residents adjoining the School boundary;

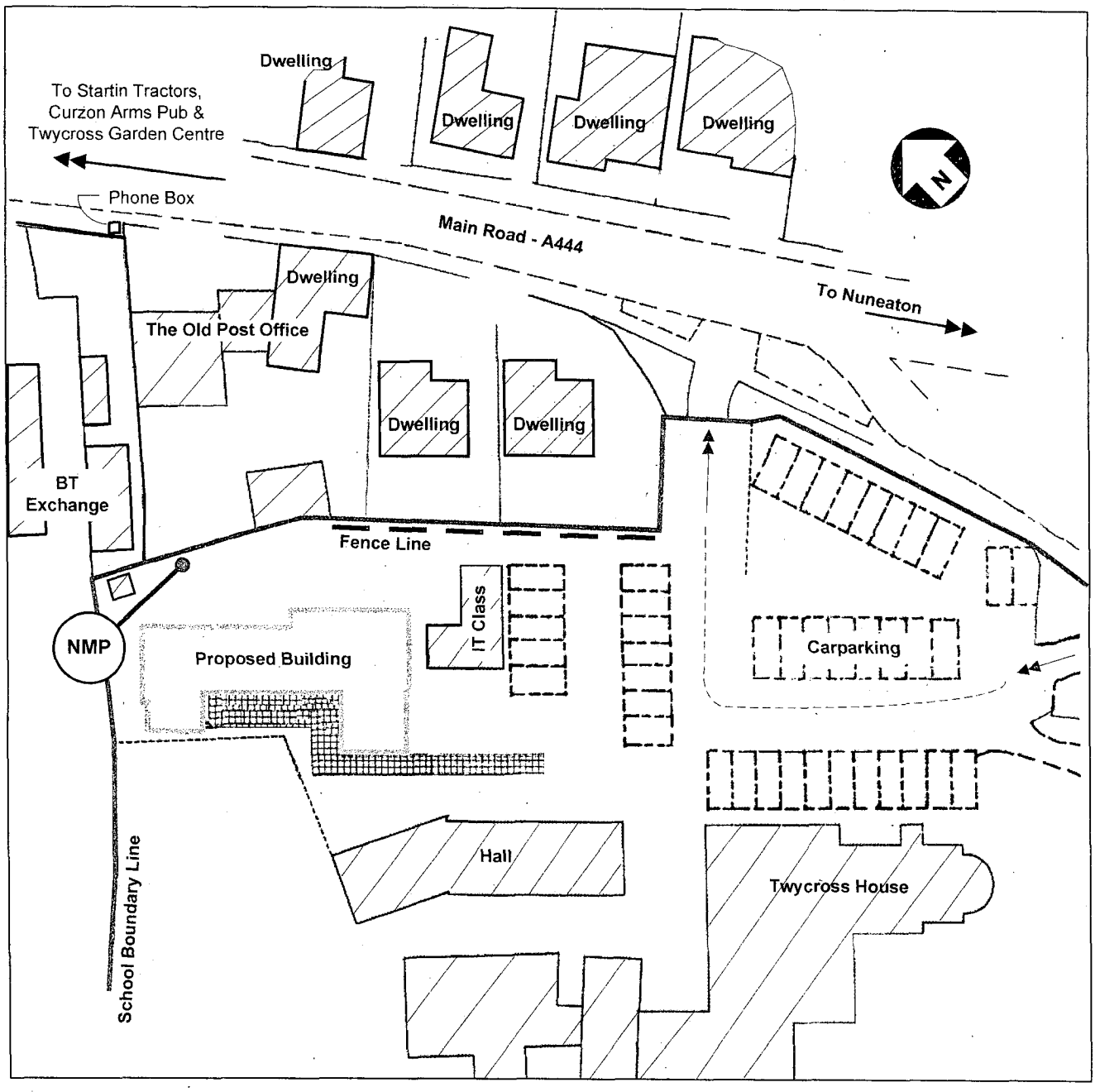
- Class change-over noise generated by children talking & shouting will be potential reduced due to the provision of an internal corridor servicing the Music Room, this being the normal access point;

- In simple approximation terms, the maximum worst-case scenario that musical noise levels could reach during a performance (93dB) attenuated by the building structure (50dB) would provide a possible 45dB break-out level; this will not add to the typical ambient noise level (50dB) within the closest of Resident's garden at No:15 Main Road. This, with the added boundary fence structure (a surface density of 5kg/m^2) provides an attenuation of passing pupils and so, the possibility of noise complaints due to the use of the Music Room diminishes significantly; hence the requirement of no doors or windows and specification of acoustic & thermal effective insulation;

- It is considered that a raise within the ambient condition of the Music Room by 5dB would marginally raise the possibility of a residential compliant; the Strategy is not to do this;

- Subjecting the School's Management Team to reviewing residential noise complaints and reporting occurrence to the Board provides an indication of the level the School takes these matters;

- The application of the School's Noise Mitigation Strategy provides scope for both current and future musical usages of the premises without the necessity of concern over creating a statutory nuisance.

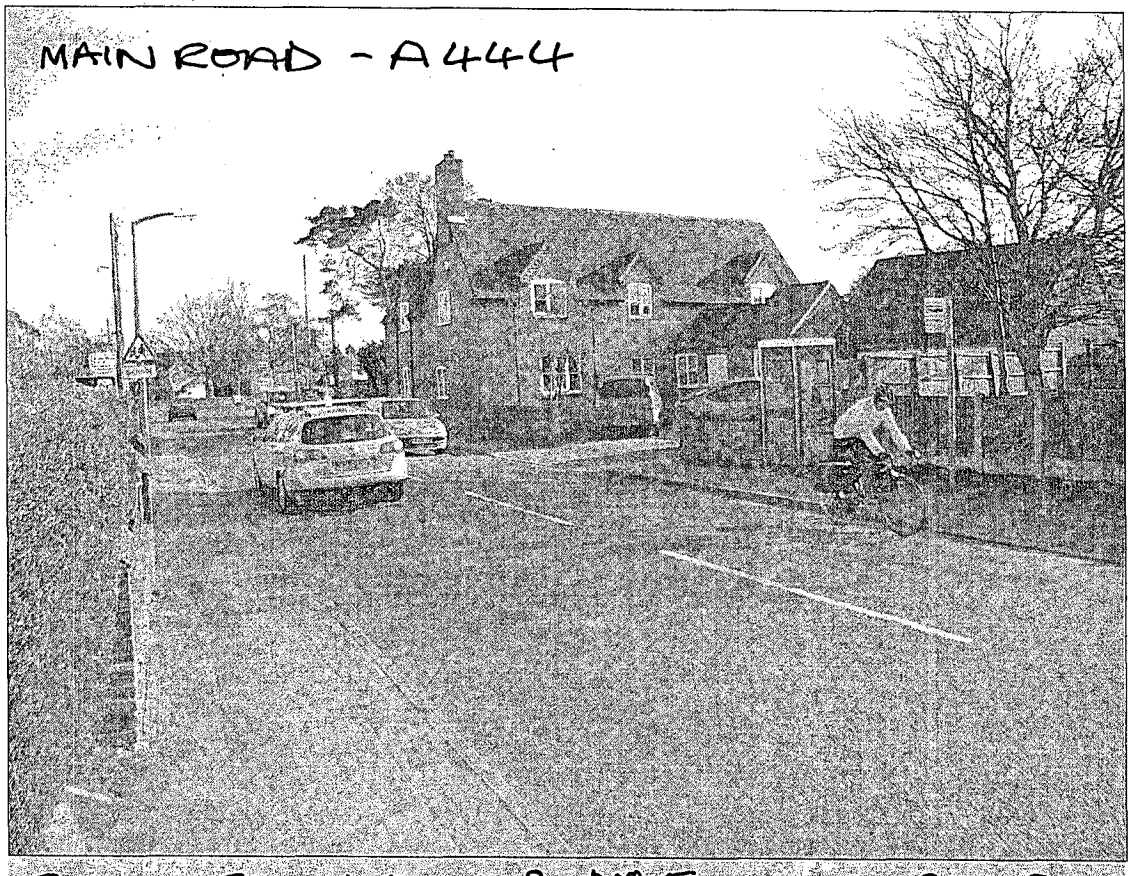


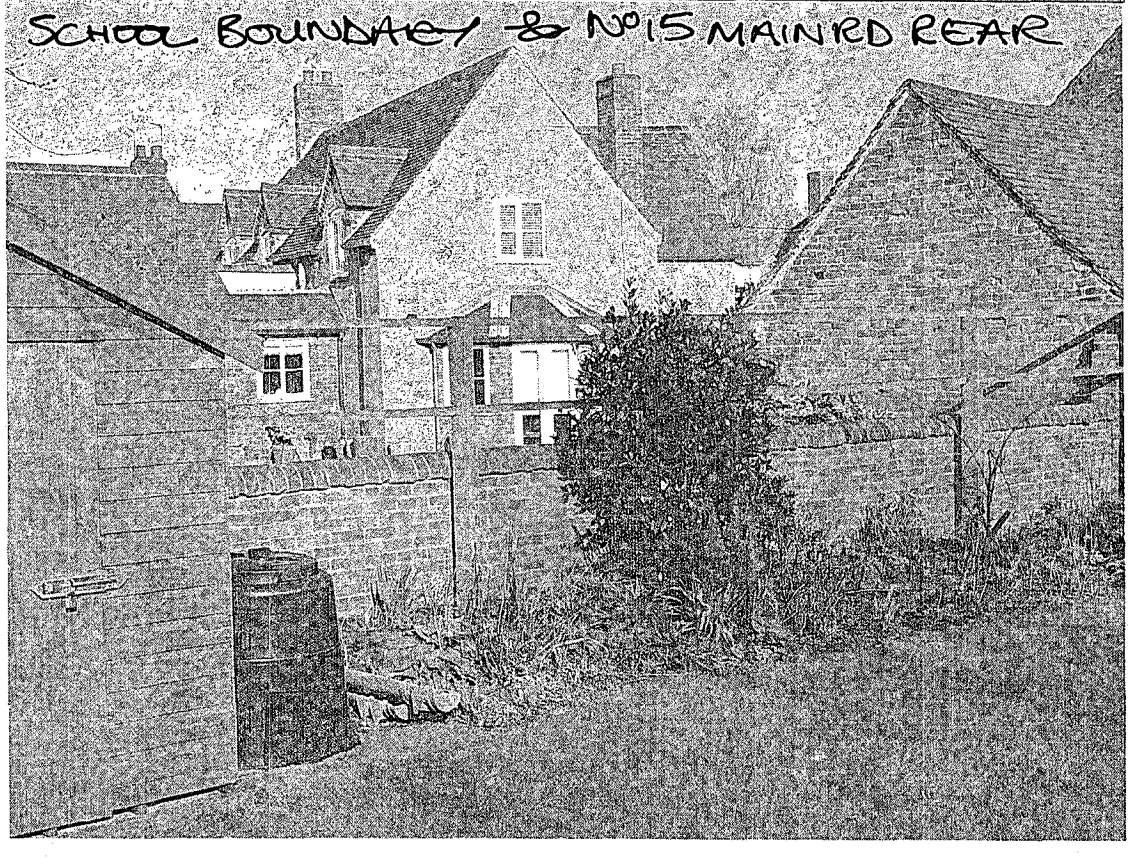
NOTES:

1. Main Road is the A444 from the M42 to Nuneaton; various traffic vehicle types
2. Phone Box & Bus Stops located on the Main Road
3. BT Phone Exchange houses diesel standby generators
4. Proposed School Building houses Music Room access via internal corridor
5. Old Post Office has attached garage & hallway to the dwelling
6. There is a 1-meter wall with no fence on School & Old Post Office boundary
7. There is a brick outbuilding on the School & Old Post Office boundary
8. A Noise Measurement Position, NMP was located 1-metre from the boundary

Proposed Building Site & the Vicinity

REFERENCE 1B





Environmental Noise Conditions
Observations made on 14th March 2011

Note 1: General Noise Events:

Road & School Vehicle Traffic, Birds, Gravel Tyre Rumble

Note 2: Maximum Noise Events

08:00-hrs	House Door Shutting	75 dBL_{AMax}
09:30-hrs	Main Road Traffic	66 dBL_{AMax}
11:00-hrs	Microlight Aircraft	89 dBL_{AMax}
12:00-hrs	Tractor Trailer	87 dBL_{AMax}
13:00-hrs	Loud Car (Suburu)	72 dBL_{AMax}
14:30-hrs	Lorry clanking over manhole	76 dBL_{AMax}
15:30-hrs	Car pass-by	74 dBL_{AMax}

Note 3: School Events - Typical

School Arrivals: 08:00 - 0900-hr
(Car Engines & Tyre -Gravel with Pupils talking)

School Breaks: 10:30 to 10:45-hrs & 11:45 to 13:05-hrs
(Pupils talking & distant playing)

School Departures: 15:30 to 16:20-hrs
(Car Engines & Tyre -Gravel with Pupils talking)

Occasional after School events - Sports/Private tutoring

Note 4: Village Noise Events

Twycross Garden Centre 09:30 to 17:30-hrs

Startin Tractors - influx of heavy industrial traffic

Church Alarms

BT Phone Exchange standby diesel generators

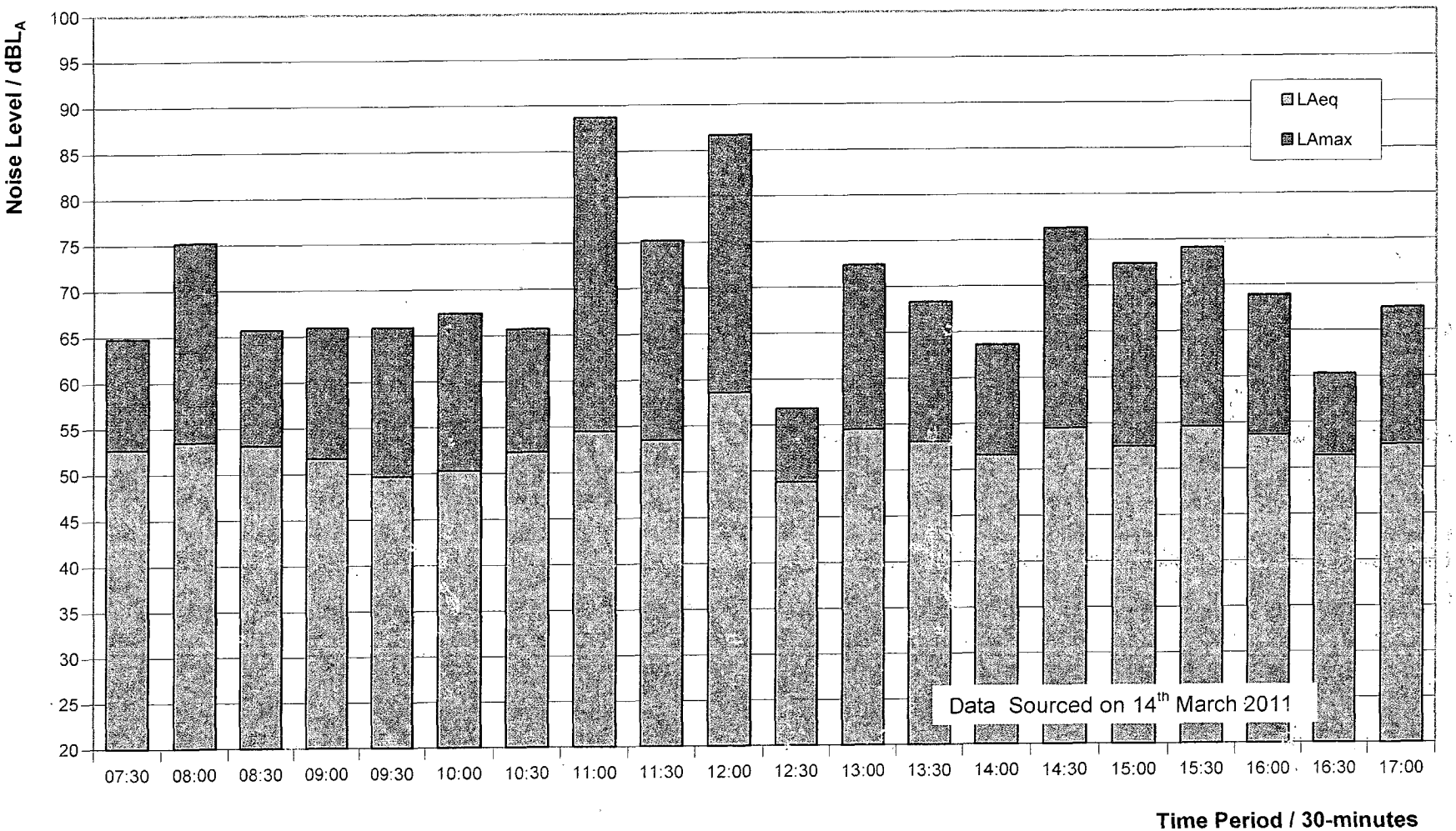
Scheduled Bus Route & Bus Stop - Ashby to Nuneaton
(09:15 to 16:56-hrs) 11-per Day

Phone Box usage - random

Curzon Arms - 12:00 to 15:00-hrs & 18:00 to 23:00-hrs

Pre-preparation School at The Hollies Weekdays

Chart: Noise Levels L_{Aeq} & L_{Amax} -v- Time Period $T_{30\text{-minutes}}$



REFERENCE 3b

Campbell Associates Ltd
5b Chelmsford Road Industrial Estate
GREAT DUNMOW, Essex, CM6 1HD
www.campbell-associates.co.uk
Phone 01371 871030 Facsimile 01371879106

Certificate of Calibration

Certificate number: U7778 **CALIBRATION** 0789

Test object :	**Sound Level Meter**
Manufacturer:	**Norsonic**
Type :	**118**
Serial no:	**31341**
Customer:	**BIS Ltd**
Address:	**Bretby Business Park, Ashby Road, Burton upon Trent, Staffordshire. DE15 0YZ.**
Contact Person:	**John Beighton**
Order No:	**JMB007**

Method
Calibration has been performed as set out in CA Technical Procedures TP01 & 02 as appropriate. The following items have been calibrated as set out in BS 7580 Part 1:1997

	Producer:	Type:	Serial No:	Certificate number
Microphone	Norsonic	1225	79653	7777
Calibrator*	Norsonic	1251	30875	U7776
Preamplifier	Norsonic	1206	30369	Included

Additional items that also have been submitted for verification

Wind shield	None
Attenuator	None
Microphone cable	None

These items have been taken into account wherever appropriate.

Environmental conditions:	Pressure :	Temperature :	Relative humidity :
Reference conditions:	101.325 kPa	23.0 °C	50 %RH
Measurement conditions :	99.038 kPa	23.1 °C	49.9 %RH

Date received : 29/10/2010
Date of calibration: 29/10/2010
Date of issue: 29/10/2010

Engineer

Michael Tickner

Supervisor

David Egan - Laboratory Manager

BUSINESS IMPROVEMENT SERVICES LIMITED UNCONTROLLED DOCUMENT

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* The calibrator was complete with any required coupler for the microphone specified

REFERENCE 4

Questions Related to Twycross House School

1. Is the School run as a Charity or Commercial entity ?
2. What is the School's educational status ?
3. What is the age range of Pupils attending the School ?
4. What is the capacity of the School ? (Staff, Pupils)
5. How many Pupils Board and School Staff live on the premises ?
6. What time of Day is the School generally open / closed for Staff and, for Pupils ?
7. Are Pupil's transported to School via their own means, Parents or School coach etc?
8. Is there allocated vehicle parking for Staff, Pupils & Visitors ? (Where & how many)
9. What type of pre & post School activities are organised ? (swimming, field sports, gymnasium, concerts, fetes etc)
10. What after School classes do you provide ? (sports, computing, music, radio control modelling etc) Are these just for pupils or for the local community too ?
11. Do you have School pets/animals ? (horses, hens, cockles etc) No
12. Are the School's ground maintenance served by School Staff or Contractors ?
13. Are plant or machinery regularly maintained and serviced ?
14. What time of Day is the School open / closed for Annual events over the School Day, Weekends, School Holidays or in the Evenings ? (Parent's Evening, Concerts, Sport's Day, Presentation, Open Days)
15. Do you hire your facilities out to other Schools, Adult groups or Community Events ?
16. Does the School present music concerts entailing sale of tickets with events open to the general Community and Members of the Public ?
17. Does the School obtain grant assistance for musical events and contractually provided various facilities or events for the local community ? NO
18. What level of music is tutored and examined ?
19. What type of musical instruments are played within the School ?
20. Are instruments School and Pupil owned ? Yes Keyboards
21. What frequency are lessons, practise and examination scheduled ?
22. Where are music lessons & events currently performed ?

REFERENCE 5

TWYCROSS HOUSE SCHOOL

2010 / 2012
HOLIDAY DATES

2010

Autumn Half Term	-	**25th – 29th October**
Last day of Autumn Term	-	**Friday 17th December 2010**

2011

First day of Spring Term	-	**Monday 10th January 2011**
Spring Half Term	-	**21st – 25th February**
Last day of Spring Term	-	**Friday 8th April 2011**
First day of Summer Term	-	**Tuesday 3rd May 2011**
Summer Half Term	-	**30th May – 3rd June**
Last day of Summer Term	-	**Friday July 8th 2011**
First day of Autumn Term	-	**Monday 5th September 2011**
Autumn Half Term	-	**24th-28th October**
Last day of Autumn Term	-	**Friday 16th December 2011**

Bank Holidays for 2011

Good Friday	April 22nd
Easter Monday	April 25th
May Bank Holiday	May 2nd
Spring Bank Holiday	May 30th

2012

First day of Spring Term	-	**Monday 9th January 2012**
Spring Half Term	-	**13th – 17th February**
Last day of Spring Term	-	**Friday 30th March 2012**
First day of Summer Term	-	**Monday 23rd April 2012**
Summer half term	-	**4th – 8th June**
Last day of Summer Term	-	**Friday 6th July 2012**
First day of Autumn Term	-	**Monday 3rd September 2012**

Bank holidays for 2012

Good Friday	April 6th
Easter Monday	April 9th
Early May Bank Holiday	May 7th
Spring Bank Holiday	June 4th
Diamond Jubilee Holiday	June 5th