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Environmental Assessments

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NOISE IMPACT ASSESSMENT FOR PROPOSED DEVELOPMENT:

Fartown Village Hall, Ball Royd Road, Fartown, Huddersfield, West Yorkshire HD2 99N

Prepared for:

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Test Report Number: AS25-71.V3

1.0 INTRODUCTION

1.1

Acoustic Solutions has been commissioned to undertake a noise impact assessment for the proposed development: change of use of a village hall to place of worship at Fartown Village Hall, Ball Royd Road, Fartown, Huddersfield.

1.2

The objectives for the noise impact assessment were as follows:

- Establish the daytime, evening and nighttime ambient and background sound levels at the application site and its surrounding environs;
- Predict the noise impact at the nearest noise sensitive dwelling associated with worshippers arriving and departing in vehicles and on foot.

1.3

This report details the methodology and results of the assessment. It has been prepared to accompany an application for planning permission that is to be submitted to Kirklees Council for the proposed development of the application site.

1.4

This report has been prepared for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties referring to the report should consult the client and Acoustic Solutions as to the extent to which the findings may be appropriate for their use.

1.5

A glossary of acoustic terms used in the main body of the text is contained in Appendix 1.

2.0 NOISE IMPACT ASSESSMENT CRITERIA

2.1

In terms of noise impact assessment criteria, Paragraph 170e of the National Planning Policy Framework (NPPF) 2018 states that planning policies and decisions should contribute to and enhance the natural local environment by '*preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.'*

2.2

Planning Practice Guidance specifically dealing with noise was uploaded to the Government's Planning Portal in March 2014 as an accompaniment to the National Planning Policy Framework. This guidance is summarised herein.

2.3

The guidance states that noise needs to be considered when new developments may create additional noise. Whilst noise can override other planning concerns, neither the Noise Policy Statement for England and Wales nor the National Planning Policy Framework (which reflects the Noise Policy Statement for England and Wales) expects noise to be considered in isolation, separately from the economic, social and other environmental dimensions of proposed development.

2.4

In order to determine noise impact, local planning authorities' plan-making and decision taking should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur, and;
- Whether or not a good standard of amenity can be achieved.

2.5

In line with the Explanatory Note of the Noise Policy Statement for England and Wales, this would include identifying whether the overall effect of the noise exposure is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

2.6

In terms of Observed Effect Levels:

- No Observed Adverse Effect Level (NOAEL) – This is the level of noise exposure below which no effect at all on health or quality of life can be detected;

- Lowest Observed Adverse Effect Level (LOAEL) – This is the level of noise exposure above which adverse effects on health and quality of life can be detected, and;

- Significant Observed Adverse Effect Level (SOAEL) – This is the level of noise exposure above which significant adverse effects on health and quality of life occur.

2.7

At the lowest extreme, when noise is not noticeable, there is by definition no effect. As the noise exposure increases, it will cross the 'no observed' effect level as it becomes noticeable. However, the noise has no adverse effect so long as the exposure is such that it does not cause any change in behaviour or attitude. The noise can slightly affect the acoustic character of an area but not to the extent there is a perceived change in quality of life. If the noise exposure is at this level no specific measures are required to manage the acoustic environment.

2.8

As the exposure increases further, it crosses the lowest observed adverse effect level boundary above which the noise starts to cause small changes in behaviour and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard. The noise therefore starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).

2.9

Increasing noise exposure will at some point cause the significant observed adverse effect level boundary to be crossed. Above this level the noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is above this level the planning process should be used to avoid this effect occurring, by use of appropriate mitigation such as
by altering the design and layout. Such decisions must be made taking account of the economic and social benefit of the activity causing the noise, but it is undesirable for such exposure to be caused.

2.10

At the highest extreme, noise exposure would cause extensive and sustained changes in behaviour without an ability to mitigate the effect of noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be prevented from occurring.

2.11

Table 2.1 summarises noise exposure hierarchy, based on likely average response.

Table 2.1 Guidelines – Noise Exposure Hierarchy

Noise Source	Assessment Location	LOAEL	SOAEL	Time
	Outdoor living space	55 dB $L_{Aeq, 1\ hour}$ (A)	56-60 dB $L_{Aeq, 1\ hour}$ (A)	Day (07:00-23:00)
	Façade	50 dB $L_{Aeq, 1\ hour}$ (A)	72 dB $L_{Aeq, 16\ hour}$ (A)	Day (07:00-23:00)
General environmental noise: Road/Rail	Façade	45 dB $L_{Aeq, 8\ hour}$ (B)	67 dB $L_{Aeq, 8\ hour}$ (A)	Night (23:00-07:00)
	Habitable Room	30 dB $L_{Aeq, 8\ hour}$ (B)	40 dB $L_{Aeq, 8\ hour}$ (A)	Night (23:00-07:00)
	Habitable Room	35 dB $L_{Aeq, 16\ hour}$ (A)	45 dB $L_{Aeq, 16\ hour}$ (A)	Day (07:00-23:00)
(A: World Health Organisation, 'Guidance for Community Noise: 1999';				
B: World Health Organisation, 'Night Time Noise Guidance for Europe: 2009';				
C: BS4142+A1: 2019)				

2.12

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. These factors include:

- The source and absolute level of the noise together with the time of day it occurs;

- For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise;

- The spectral content of the noise (i.e. whether or not the noise contains particular high or low frequency content) and the general character of the noise (i.e. whether or not the noise contains particular tonal characteristics or other particular features);

- The local acoustic character of the area.

2.13

In addition, further useful contextual guidance is provided in:

- British Standard BS4142+A1: 2019:2014 'Methods for Rating and Assessing Industrial and Commercial Sound' (BS BS4142+A1: 2019);

- British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings' (BS 8233);

- World Health Organisation (WHO) Guidelines for Community Noise (1999)

2.14

BS BS4142+A1: 2019 states:

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'. Typically, the greater this difference, the greater the magnitude of the impact. For example:

- *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;*

- *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context;*

- *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*

- *Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact. Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including 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.*

2.15

British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings' sets indoor ambient noise levels from residential dwellings (see table below).

Table 2.2 – Indoor Ambient Noise Levels in Dwellings (BS 8233): 2014

Activity	Location	Good Indoor Ambient Noise Levels	
Resting	Living Room	35 dB $L_{Aeq\ (0700–2300)}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ (0700–2300)}$	30 dB $L_{Aeq\ (2300–0700)}$

2.16

With regard to sound attenuation through the building envelope, the 'weak points' in the building façade are generally considered to be the windows. The worked example (G.1) at Annex G of BS 8233 suggests that a partially opened window would provide sound attenuation of approximately 15 dB R_w. The Standard also suggests that *"..standard insulating glass units have an insulation value of approximately 30 dB Rw"* when closed.

2.17

With respect to noise affecting external areas, i.e. gardens, BS 8233 states that *".. it is desirable that the steady noise level does not exceed 50 dB L_{Aeq}, and 55 dB L_{Aeq} should be regarded as the upper limit".*

2.18

The World Health Organisation's Guidelines for Community Noise (1999) sets indoor ambient noise levels from residential dwellings (see table below).

Table 2.3 – Indoor Ambient Noise Levels in Dwellings (WHO 1999)

Activity	Location	Good Indoor Ambient Noise Levels	
Resting	Living Room	35 dB $L_{Aeq\ (0700–2300)}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ (0700–2300)}$	30 dB $L_{Aeq\ (2300–0700)}$

3.0 BASELINE NOISE SURVEY

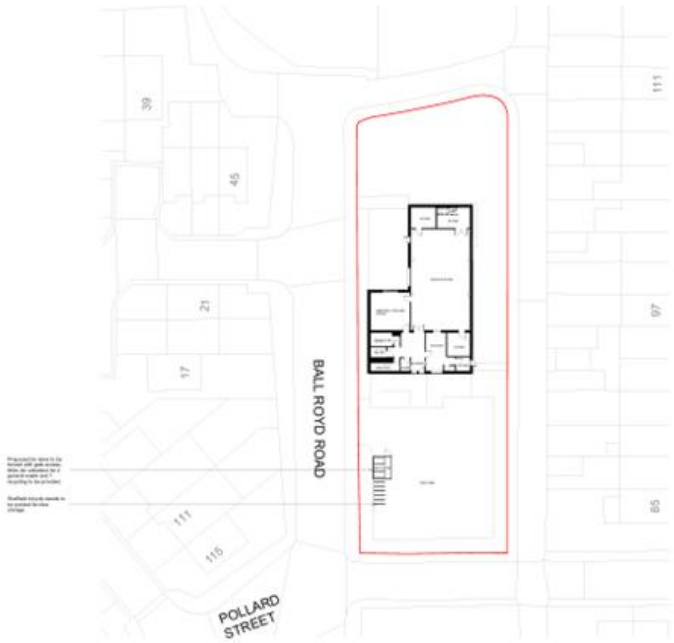
3.1

The application site is Fartown Village Hall, Ball Royd Road, Fartown, Huddersfield. Fartown is located to the north of Huddersfield. The area in the vicinity of the development site is largely domestic in character, with dwellings to the north (Blackhouse Road) and south (Ball Royd Road) of the development site. A small park stands to the west of the hall. A small car park with capacity for approximately fifteen vehicles is located next to the site's eastern façade.

A change of use is proposed, so that the development site be converted from a village hall to a place of worship (Mosque) (planning application 2025/62/91019/W). It is estimated that the premises can cater to a maximum of two-hundred and fifty worshippers. It is understood that, practically, this figure will only be reached on notable daytime occasions such as Eid or when weddings are conducted. Since such events are the exception rather than the rule, their noise impact will not be considered by this report (Plans 3.1 to 3.3).

Plan 3.1 Floor Plan

Plan 3.2 Location Plan



Plan 3.3 Wider Location Plan

It is anticipated that Friday prayers, which take place at around 13:00 hours, will cater to one-hundred worshippers. Mid-morning prayers generally caters to 30x worshippers, while nighttime prayers attracts between 10 and 20 worshippers.

Although the planning application has been submitted, there are, as yet, no noise related comments from Kirklees Council. A number of comments have been submitted by local residents; these are largely supportive. Example:

I believe this will be a positive step for the local community allowing for a much needed space for religious educational and community driven interaction. Bringing the building back into use where it will still serve the community is vital in times where community initiatives are needed most especially at youth level. This space will give many local residents the chance to walk rather than drive over to the current facilities on offer in Birkby thus meaning less emissions and traffic on Huddersfield already busy routes.

In the absence of any LPA comments, the report will consider one or more of the following guidance and standards:

- National Planning Policy Framework (NPPF);
- Noise Policy Statement for England (NPSE);
- BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings;
- BS 4142+A1:2019 Commercial and Industrial Noise;
- ProPG: Planning and Noise;
- Approved Document O: Overheating;
- World Health Organization (WHO) Community Noise Guidelines, 1999;
- University of Salford Procedure for the Assessment of Low Frequency Noise Complaints, NANR, 2005;
- Approved Document E: Transmission of Noise Between Building elements.
- Noise from Pubs and Clubs, 2005;

- HS2 Phase 1 (Environmental Statement), 2017

3.2

In order to establish the day time, evening and nighttime background noise levels at the application site and its surrounding environs, a 24-hour baseline noise survey was undertaken on Wednesday 27 August and Thursday 28 August 2025.

3.3

For the purpose of the assessment, two noise monitoring positions, MP1 and MP2 were adopted in free field environments at over 1.5 metres above ground and over 3 metres from any vertical reflective surface (see Appendix 2):

- MP1. Outside northern perimeter of 17 Ball Royd Road. The monitoring position was selected to assess typical daytime, evening and nighttime 'baseline' noise levels at the neatest noise sensitive dwelling to the development site's entrance door; the dwelling being 14 metres south of the development site.

- MP2. Outside the southern perimeter of 99 Blackhouse Road. Number 99 is located 10 metres north of the development site. The southern façade is located 20 metres from the site. The monitoring position was selected to assess typical daytime, evening and nighttime 'baseline' noise levels at 99 Blackhouse Road, the nearest noise sensitive dwelling north of the development site.

3.4

A series of hourly 15-minute noise measurements were undertaken using a Type 1 integrating sound level meter (Appendix 3). The measurement system calibration was verified immediately before the commencement of the measurement sessions and again at the end. Weather conditions throughout the survey were dry and clear with a maximum southerly wind speed of 3 metres

per second: appropriate for monitoring. Measurements consisted of A–weighted parameters: L_{Aeq} and L_{A90}.

3.5 MP1

Daytime, evening and nighttime sound levels can be described as quiet. The dominant noise sources were intermittent road traffic (local traffic) and children playing in the park. L_{AMax} values are dominated by football impacts.

Table 3.1 summarises measured daytime and evening and nighttime noise Residual and Background Noise Levels at MP1 (L_{Aeq} and L_{A90} and their averages) and the Maximum Sound Levels (L_{Amax} and its maximum measured value).

Table 3.1 – MP1: Ball Royd Road, Baseline Noise Measurement Data, Daytime, Evening & Nighttime Sound Levels

Measurement Time	Residual Noise Level, dB, $L_{Aeq, 15\ min}$	Background Noise Level, dB $L_{A90, 15\ min}$	Measured Noise Level, dB $L_{AMax, 15\ min}$
07:00	48.7	46.1	69.1
08:00	48.7	47.1	67.9
09:00	52.1	48.7	70.8
10:00	52.3	48.3	72.4
11:00	52.2	48.8	69.2
12:00	51.8	48.5	70.1
13:00	51.9	48.2	69.2
14:00	52.6	48.2	70.2
15:00	52.5	48.2	73.5
16:00	52.6	48.6	70.8
17:00	51.9	48.7	71.5
18:00	51.7	48.1	73.3
Daytime Average/Max	**52**	**48**	**73**
19:00	50.5	47.1	67.8
20:00	49.4	46.7	66.2
21:00	49.7	47.3	67.9
22:00	49.9	46.8	69.2
Daytime/Evening Average/Max	**51**	**48**	**73**
Evening Average/Max	**50**	**47**	**69**
23:00	48.5	45.4	65.8
00:00	48.2	45.1	67.9
01:00	48.4	43.3	66.9
02:00	48.8	43.8	66.4
03:00	48.6	43.0	68.9
04:00	48.6	43.7	68.1
05:00	48.8	43.8	66.1
06:00	48.3	43.3	65.4
Nighttime Average/Max	**49**	**44**	**69**

3.6 MP2

Daytime, evening and nighttime sound levels can be described as quiet. The principle existing daytime and evening noise source in the vicinity of MP2 was children playing in rear gardens and on Blackhouse Road. L_{AMax} values are dominated by children shouting.

Table 3.2 summarises measured daytime, evening and nighttime noise Residual and Background Noise Levels at MP2 (L_{Aeq} and L_{A90} and their averages) and the Maximum Sound Levels (L_{Amax} and its minimum measured value).

Table 3.2 – MP2: 99 Blackhouse Road, Baseline Noise Measurement Data, Daytime, Evening & Nighttime Sound Levels

Measurement Time	Residual Noise Level, dB, $L_{Aeq, 15\ min}$	Background Noise Level, dB $L_{A90, 15\ min}$	Measured Noise Level, dB $L_{AMax, 15\ min}$
07:00	47.0	41.2	73.0
08:00	49.8	42.7	73.4
09:00	49.8	43.0	73.9
10:00	49.6	43.6	73.5
11:00	49.2	43.8	72.9
12:00	49.2	43.7	73.1
13:00	49.1	43.1	73.3
14:00	49.8	43.9	73.1
15:00	49.6	43.9	73.8
16:00	49.2	43.9	73.8
17:00	49.6	43.4	73.2
18:00	49.6	43.4	73.1
Daytime Average/Max	**49**	**43**	**74**
19:00	50.28572167	42.49449941	75.36758655
20:00	46.58407876	42.36976177	71.61372422
21:00	46.00799163	42.80872611	63.21342165
22:00	46.76216556	42.56001456	65.93719962
Daytime/Eventing Average/Max	**47**	**43**	**75**
Evening Average/Max	**47**	**43**	**75**
23:00	45.06381962	40.14435996	62.50482796
00:00	45.03250825	40.64701168	64.22323932
01:00	43.28855668	40.34479659	63.46254049
02:00	43.17286385	39.86395648	65.00380649
03:00	43.54788128	39.66007419	64.01157054
04:00	43.31966984	39.4801654	66.20504403
05:00	43.30176479	39.7604309	62.82663065
06:00	45.76552202	39.49794917	68.62796771
Average/Max	**44**	**40**	**69**

4.0 IDENTIFIED NOISE SOURCES

It is understood that that no loudspeaker facilities for external call to prayer will be used. No external plant is anticipated. Typically, noise sources associated with places of worship are worshippers' vehicles arriving and departing and worshippers talking as they enter and leave the building.

This being the case, worshippers arriving and departing from the mosque shall be considered to be the principle potential noise source. Two distinct noise sources shall be considered: worshipers' vehicles arriving and departing (vehicle engines, vehicle doors closing) and worshippers talking.

Islamic prayer times are determined by the lunar calendar. It is understood that 5x prayers will be recited daily over the course of 24 hours. Prayer times will vary throughout the year; however, there will be time when prayers occur between 23:00 and 07:00 hours. This being the case, there is potential for a daytime, evening and nighttime noise impact upon the occupiers of Ball Royd Road and (to a lesser extent) Blackhouse Road.

4.1 Vehicular Noise

Table 4.1 summarises sample sound pressure levels associated with 1x vehicle's arrival/departure, as measured by Acoustic Solutions. It is anticipated that worshippers will use between 5x and 20 x vehicles (approx.). This will result in a series of engine noise and car door closing noise events, as opposed to a single, cumulative noise event. For the purposes of the prediction calculation, a +3 dB Noise Intermittency Penalty, as published in BS4142+A1: 2019, will be applied. A noise attenuation-for distance will also be applied (Equation 4.1).

Equation 4.1. Sound Attenuation by Distance

$$SPL2 = SWL-20logr$$

Where:
SWL Sound Pressure Level at 1m
R Distance between noise source and receptor

Table 4.1 Vehicle Noise Impact

MP1, Ball Royal Road				
Noise Source	**Measured Noise Level, dB**	**Intermittency Penalty, dB**	**Distance Attenuation, dB**	**Predicted Noise Level at Receptor, dB**
Car Arriving @1 metre	54.9	3	26	32
Car Door Closing @ 1 Metre	66.9	3	26	44
Car Departing @ 1 metre	54.9	3	26	32
MP2, Black House Road				
Noise Source	**Measured Noise Level, dB**	**Intermittency Penalty, dB**	**Distance from Mic to Noise-Sensitive Dwelling, m**	**Distance-Attenuated Noise Level, dB**
Car Arriving @1 metre	54.9	3	23	35
Car Door Closing @ 1 Metre	66.9	3	23	47
Car Departing @ 1 metre	54.9	3	23	35

4.2 Worshippers Talking

"The Noise Manual" (Berger 2003) cites the following sound level values:

- 1x Male 58 / 65dB, L_{Aeq} (normal/raised);
- 1x Female 55 / 63dB L_{Aeq} (normal/raised).

For the purpose of the assessment, normal conversational voices will be considered only.

Table 4.2 summarises the predicted noise level associated with worshippers talking as they approach/congregate around the Ball Royd Road entrance of the proposed mosque. The predictions will be based upon a rising scale of 2 to 10 persons talking simultaneously. Although Paragraph 3.1 cites the largest number of worshippers to two-hundred and fifty persons (13:00 hours Friday prayers), it is thought highly unlikely that one hundred person will arrive at the premises en-masse; rather it is much more likely that they will arrive and depart in the form of a steady, stretched out stream of people. In order to predict a

worse-case scenario, the calculation will be based upon (louder) male voices only.

Table 4.2 Worshippers Talking, Ball Royd Road

Male	Number	SPL, Normal Voice, dB	Distance Attenuation, dB	Sound Level at MP1, dB
	1	56	26	30
	2	59	26	33
	3	61	26	35
	4	62	26	36
	5	63	26	37
	6	64	26	38
	7	64	26	39
	8	65	26	39
	9	66	26	40
	10	66	26	40

4.3 Internal Public Address System

For an internal space with the approximate dimensions, 15 x 9 x 4 metres, the imam speaking at a minimum internal sound level of 70 dB would be necessary in order for him to be clearly audible to all worshippers (IEC 60268-16: 2020 'Sound System Equipment – Part 16: Objective rating of speech intelligibility by the STI').

5.0 DISCUSSION

5.1 Noise Impact: Worshippers Talking

The noise impact of worshippers talking is assessed by comparing these predicted sound levels with the current daytime, evening and nighttime sound level, as measured. Table 5.1 summarises the change in the sound level resulting in 10x worshippers simultaneously talking outside 17 Ball Royd Road. It suggests that 10x persons talking simultaneously would result in a Negligible or Minor short term and a Negligible long term noise impact at Ball Royd Road.

Table 5.1. Noise Impact from Worshippers Talking. Daytime

MP1, Ball Royal Road						
Time	Existing Noise Level, dB	Noise Source, dB	Culmative SPL, dB	Change, dB	Long Term Impact	Short Term Impact
Daytime	52	40	52	0	Negligable	Negligable
Evening	50	40	50	0	Negligable	Negligable
Nighttime	49	40	49	1	Negligable	Minor

5.2 Worshippers' Vehicles

The noise impact of worshippers' vehicles is assessed by comparing these predicted sound levels with the current daytime, evening and nighttime sound level, as measured. For Nighttime predictions at Blackhouse Road, the distance attenuation calculation is based upon a 20 metre distance between the carpark and the dwellings' south-facing façade. All calculations are based upon the loudest element of worshippers' vehicles: door closing. Table 5.2 summarises the change in the sound level resulting in the arrival and departure of worshippers' vehicles at the carpark near Ball Royd Road and Blackhouse Road. It suggests that, at Ball Royd Road, noise associated with worshippers' vehicles would result in a Negligible to Minor to long and short term impacts. At Blackhouse Road, the short term impact ranges from Minor (daytime) to Moderate (Evening).

Table 5.2. Noise Impact: Ball Royd Road and Blackhouse Road from Worshippers' Vehicles

MP1, Ball Royal Road						
Time	**Existing Noise Level, dB**	**Noise Source, dB**	**Culmative SPL, dB**	**Change, dB**	**Long Term Impact**	**Short Term Impact**
Daytime	52	44	52	1	Negligable	Minor
Evening	50	44	51	1	Negligable	Minor
Nighttime	49	44	50	1	Negligable	Minor
MP2, Blackhouse Road						
Time	**Existing Noise Level, dB**	**Noise Source, dB**	**Culmative SPL, dB**	**Change, dB**	**Long Term Impact**	**Short Term Impact**
Daytime	49	47	51	2	Negligable	Minor
Evening	47	47	50	3	Moderate	Moderate
Nighttime	44	41	46	2	Negligable	Minor

5.3 Internal Public Address System

Open and Closed window scenarios are considered.

5.3.1 Closed Window Scenario

It is anticipated that windows serving the premises will remain closed. This would be necessary in order to achieve low background levels (NC 25) so that external noise would not be of a level that it would adversely interfere with worship. Assuming glazing with a noise attenuation performance of 34 dB, R_w, the noise level associated with a public address system operating at 70 dB would be 36 dB directly outside the premises.

Employing Equation 4.1, the noise level would be further attenuated distance so that at MP1 it is predicted that it would be reduced to 10 dB. At MP2 it is predicted that it would be reduced to 13 dB. At the quietest time of the day, when external noise levels were measured at 48.2 dB (MP1) and 43.1 (MP2), noise associated with the internal public address system would be inaudible.

5.3.2 Open Window Scenario

Assuming open windows with a noise attenuation performance of 15 dB, R_w, the noise level associated with a public address system operating at 70 dB would be 55 dB directly outside the premises.

Employing Equation 4.1, the noise level would be further attenuated distance so that at MP1 it is predicted that it would be reduced to 29 dB. At MP2 it is predicted that it would be reduced to 32 dB. At the quietest time of the day, when external noise levels were measured at 48.2 dB (MP1) and 43.1 (MP2), noise associated with the internal public address system would be inaudible.

6.0 RECOMMENDATIONS

6.1

The applicant should display clear, prominent signage at the mosque requesting worshippers to arrive and depart quietly.

6.2

Operators should abide by the recommendations set out in the Noise Action plan (Appendix 4).

7.0 CONCLUSIONS

7.1

A daytime, evening and nighttime noise impact assessment has been carried out in the vicinity of Ball Royd Road and Blackhouse Road. These assessment locations were selected because it is thought that there is the potential for noise to impact the occupiers of nearby dwellings, 17 Ball Royd Road and 99 Blackhouse Road.

7.2

The assessment finds that daytime, evening and nighttime noise from worshippers talking and the arrival and departure of worshippers' vehicles will have a negligible to minor impact upon the occupiers of nearby dwellings.

7.3

This notwithstanding, it has been recommended that signage be displayed, requesting that worshippers be mindful of noise sensitive dwellings in the vicinity of Fartown Village Hall.

Appendix 1
Glossary of Acoustic Terms

Sound Pressure Level (L_p)

The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 µPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$L_p = 20 \log_{10}(p/p_0)$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p0 = reference sound pressure (20 µPa).

A-weighting Network

A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$

The A-weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified period of time. In other words, L_{Aeq} is the level if a continuous noise which has the same total (A-weighted) energy as the real fluctuating noise, measured over the same time period. L_{Aeq} is increasing being used as the preferred parameter for all forms of environmental noise.

$L_{A90, T}$

The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{A\ max}$

The maximum A-weighted noise level recorded during the measurement period.

Hz

The unit of frequency. The number of cycles (in the context of acoustics, the number of complete sound waves generated) per second.

Appendix 2

Location Plan and Noise Monitoring Positions

Fartown Village Hall, Ball Royd Road, Fartown, Huddersfield

MP1: 17 Ball Royd Road, Harrogate

MP2: 99 Blackhouse Road near Tower Street Public Car Park, Harrogate

Appendix 3

Equipment Used

Noise measurements were undertaken using a precision grade sound level meter:

Norsonic Nor145 Model integrating sound level meter.
Serial Number 14529307
Certificate Number U35939/U35940
Last Laboratory Calibrated 17/10/24

B & K 4230 Model calibrator
Serial Number 724157
Last Laboratory Calibrated 13/2/25

The Sound Level Meter was calibrated before and after both measurement periods, with no significant change in calibration. All calibrations took place at the measurement position.

The SLM met the requirements of BS EN 60651: 1994 and BS EN 60804: 2001 IEC 60804: 2000. It was capable of simultaneously measuring Leq and Ln values. Batteries for the SLM and calibrator were checked prior to all measurements.

Appendix 4

Noise Action Plan

Objective:

The objective of this Noise Management Plan is to minimize noise disturbances caused by the activities associated with the mosque in a reasonably quiet residential area. The plan aims to ensure that the noise generated by worshippers arriving and departing in vehicles, as well as occasional weddings, is mitigated to maintain a harmonious relationship with the surrounding community.

1.0 Traffic Management

1.1 Where possible, encourage carpooling and alternative transportation options to reduce the number of vehicles arriving and departing during peak times.

1.2 Implement a traffic management plan to regulate the flow of vehicles and reduce unnecessary honking or engine noise.

2.0 Internal Noise Reduction Measures

2.1 Encourage the use of low-noise sound systems during worship services and limit the volume level to an acceptable level. 70 dB would be acceptable given the internal dimensions.

3.0 General Noise from Worshippers Arriving and Leaving

3.1 If possible. create designated waiting areas within the mosque premises where worshippers can gather and engage in conversations without disturbing nearby residential areas.

3.2 Ensure that such waiting areas are situated away from residential properties to minimize the impact of noise.

3.3 Conduct regular educational campaigns and communication initiatives to raise awareness among worshippers about the importance of maintaining a peaceful environment.

3.4 Encourage worshippers to engage in quiet conversations and to be mindful of their noise levels, particularly during the specified hours of potential disturbance.

3.5 Provide reminders through signage or announcements within the mosque premises to encourage worshippers to respect the surrounding residential areas.

3.6 Assign volunteers or mosque staff members to guide and manage the flow of worshippers during peak hours, particularly during early morning and evening prayer times.

3.7 Instruct volunteers to remind worshippers to keep their conversations at a low volume when entering and leaving the mosque, especially during the specified hours of potential disturbance.

4.0 Outreach and Communication

4.1 Conduct regular meetings and discussions with the local residents to address any concerns and create an open line of communication.

4.2 Provide contact information for the mosque management to allow residents to report any noise-related issues promptly.

4.3 Educate worshippers about the importance of maintaining a peaceful environment and being mindful of noise levels while arriving and departing from the mosque premises.

5.0 Special Events and Weddings

5.1 Establish the following guidelines and regulations for hosting weddings and special events within the mosque premises:

- **Inform the community:** Notify the local community and nearby residents about the upcoming wedding event at the mosque, informing them about the expected duration, activities, and any potential noise associated with the celebration. This can be done through flyers, community bulletin boards, or online platforms.

- **Time and duration:** Choose a suitable time for the wedding that minimizes disruption to the community and adheres to local regulations. Consider scheduling the event during daytime hours that are less likely to conflict with prayer times or other important community activities.

- **Soundproofing measures:** Where possible, take steps to soundproof the areas where the wedding activities will take place. This can include installing sound-absorbing materials on walls, ceilings, and floors, and using carpeting or rugs to minimize noise reverberation.

- **Sound system management:** Use a professional sound system and designate an experienced sound engineer to ensure appropriate sound levels are maintained throughout the event. Set volume limits and monitor sound levels regularly to avoid exceeding the acceptable noise limits.

- **Outdoor considerations:** If the wedding involves outdoor activities, such as processions or celebrations in an outdoor space adjacent to the mosque, take steps to minimize noise impact on the surrounding areas. Consider using directional speakers or adjusting speaker placements to direct sound towards the event area and away from neighbouring residential areas.

- **Acoustic barriers:** Where appropriate, use temporary acoustic barriers or screens strategically placed around the event area to help contain the noise within the immediate vicinity and reduce sound propagation to nearby areas.

- **Communication with guests**: Provide clear guidelines to wedding guests about respecting the sanctity of the mosque and the need to maintain a peaceful environment. Encourage attendees to minimize unnecessary noise, refrain from loud conversations outside designated areas, and turn off mobile phones or put them on silent mode during prayer times or quiet moments.

- **Appropriate music selection:** Choose appropriate music that is in line with the religious and cultural sensitivities of the mosque and its community. Ensure that the music played is not excessively loud or disruptive.

- **Supervision and coordination**: Appoint responsible individuals or coordinators who can oversee the wedding activities and ensure that noise levels are kept in check. They can also manage the movement of guests and help maintain a peaceful atmosphere throughout the event.

- **Continuous monitoring:** Have a designated person, such as a member of the mosque administration or an event coordinator, monitor the noise levels during the wedding. Regularly check sound equipment, speakers, and audio levels to ensure they are functioning properly and not causing excessive disturbance.

- **Respect local regulations:** Familiarize yourself with any local noise regulations and guidelines for public events. Ensure compliance with any specific requirements or restrictions imposed by local authorities.

- **Feedback and community engagement:** After the wedding, seek feedback from the local community and nearby residents to evaluate the success of noise management efforts. Engage in open communication and address any concerns or suggestions raised to improve future events.

5.2 Ensure that event organizers are aware of the noise restrictions and the importance of adhering to them.

6.0 Monitoring and Compliance

6.1 Regularly monitor noise levels in and around the mosque to ensure compliance with local regulations and the established noise mitigation measures.

6.2 Address any noise complaints from residents promptly and take appropriate actions to rectify the issues.

6.3 Conduct periodic reviews and assessments of the Noise Management Plan to identify areas for improvement and ensure its effectiveness.

By implementing this Noise Management Plan, the mosque aims to minimize noise disturbances and maintain a peaceful coexistence with the residents in the surrounding area. The plan should be reviewed periodically and adjusted as needed to ensure its continued effectiveness.