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NOISE ASSESSMENT

Proposed HGV Weighbridge

Carr Hall, Whalley Road, Wilpshire, BB1 9LJ

Report Date: 18th June 2026
Ref: 20260618 9944 Wilpshire BS4142
RVBC Ref. 3/2025/1002
Site Visit by: M A Kenyon
Site Visit: 16th June 2026

Prepared by: M A Kenyon MSc BSc MIOA



Checked by: D A B Kenyon BSc CIEH MIOA



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1.0 INTRODUCTION

On the instructions of Donelan Trading Ltd, Martec Environmental Consultants Ltd carried out a noise assessment of a proposed HGV Weighbridge to be located at Carr Hall, Whalley Road, Wilpshire BB1 9LJ.

This report considers appropriate assessment criteria, measurements of the existing noise climate, and predictions of the proposed operations on site based on weighbridge measurements made elsewhere and draws conclusions as to the acceptability of the proposals.

Acoustic terminology is explained at Appendix 1 of this report, the author's qualifications and experience are described in Appendix 2. Appendix 3 contains the Environmental Health Departments Comments.

2.0 SITE & OPERATION DESCRIPTION

As set out in the supporting statement for the application:

"Carr Hall is located off Whalley Road, Wilpshire, within the administrative area of Ribble Valley Borough Council. The site lies within the designated Green Belt; however, it benefits from an extant planning permission granted in 2021 (ref: 3/2021/0755) for the change of use of Carr Hall to Class B2 (General Industrial), whilst retaining elements of

Class E (Commercial, Business and Service) and Class B8 (Storage and Distribution) uses.

The site is an established employment location with existing hardstanding, yard areas, and buildings associated with the approved commercial and industrial uses. Nine business currently operate from Carr Hall, with over 150 Employees...

The businesses operating from the site need to weigh vehicles either on arrival or when leaving the site to ensure that loads are within legal limits, and that incoming loads are within weight limits for mechanical (forklift) unloading.”

From discussions with Andrew Donelan of Donelan Trading Ltd, it is understood that some 20 vehicles per day might use the weighbridge.

The location of the proposed weighbridge is shown in Figures 1 and 2 below [from Bramley Pate Drawing 7125/PL.0.01C]; it can be seen that the nearest properties are located some 170m away to the North-north-west; they lie on the opposite side of Whalley Road and therefore they face towards proposed weighbridge, with their more sensitive rear gardens located further away and screened by the dwellings themselves. The nearest dwelling that ‘backs onto’ Carr Hall lies some 290m away to the north.

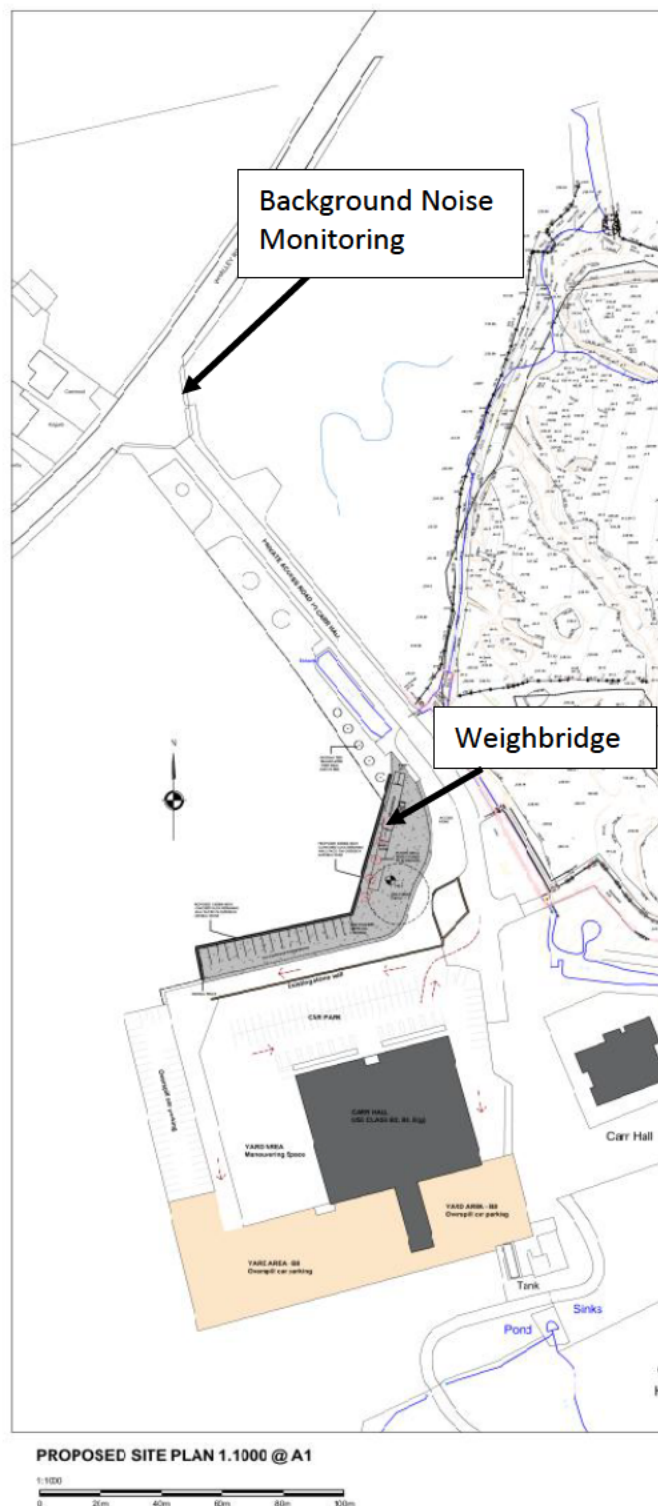


Figure 1: Site Location Plan & Background Monitoring Position

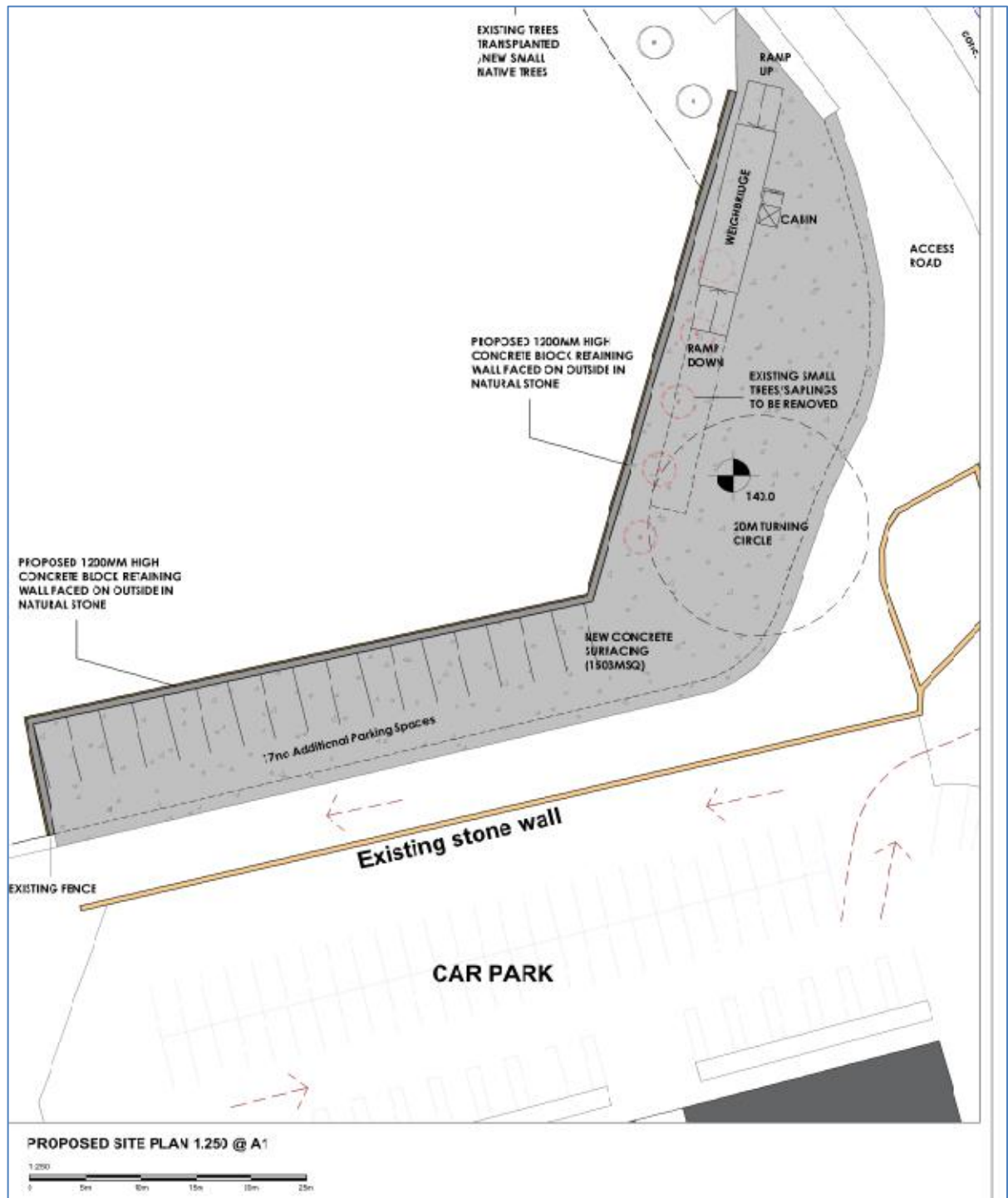


Figure 2: Proposed Weighbridge

3.0 NOISE CRITERIA

It can be seen from Appendix 3, that the local authority has requested that the noise be assessed as per BS4142.

3.1 BS4142:2014+A1:2019 - Method for Rating and Assessing Industrial and Commercial Sound

BS4142:2014 states, *“Response to sound can be subjective and is affected by many factors, both acoustic and non-acoustic. The significance of its impact, for example, can depend on such factors as the margin by which a sound exceeds the background sound level, its absolute level, time of day and change in the acoustic environment, as well as local attitudes to the source of the sound and the character of the neighbourhood...This British Standard describes methods for rating and assessing sound of an industrial and/or commercial nature”*.

The Standard requires that the ambient noise (***totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far***) including the “specific” sound from the source in question is measured in terms of the equivalent continuous sound level LAeq [see Appendix 1 for acoustic terms], which is then corrected for the residual sound (total LAeq excluding the “specific” sound).

A correction for character is made if “***a tone, impulse or other characteristic occurs***”. For tonality, a correction of between +2dB and 6dB is considered acceptable and for impulsivity between 3 and 9dB. See table below.

Character	Just Perceptible	Clearly Perceptible	Highly Perceptible
Tonality	+2dB	+4dB	+6dB
Impulsivity	+3dB	+6dB	+9dB

Where the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

Where tonal and impulsive characteristics are present in the specific sound within the same reference period then these two corrections can both be taken into account. If one feature is dominant, then it might be appropriate to apply a single correction. Where both features are likely to affect perception and response, the corrections ought normally to be added in a linear fashion.

Intermittency

When the specific sound has identifiable on/off conditions, the specific sound level ought to be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time. This can necessitate measuring the specific sound over a number of shorter sampling periods that are in combination less than the

reference time interval in total, and then calculating the specific sound level for the reference time interval allowing for time when the specific sound is not present. If the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.”

The final figure, including any character correction is known as the Rating level. This Rating Level is then compared with the measured background [LA90] level. The greater this difference the greater the likelihood of “adverse impact” (See Notes 1 & 2 from BS4142:2014 below).

"NOTE 1

- 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.*

NOTE 2

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."

4.0 MEASUREMENT PROCEDURE

The instruments below calibrated correctly before and after the measurements and had been laboratory calibrated on a two-year schedule except for the calibrator which is on a one-year schedule.

Model	Instrument	Serial No.	Lab Cal Certificate	Re-Calibration Due
A - Svan 957	Sound Level Meter	12308	TCRT26/1957	06/01/2028
Svan SV12L	Preamp	13471	TCRT26/1957	06/01/2028
GRAS 40AE Mic	Microphone	75146	TCRT26/1957	06/01/2028
C Svan 957	Sound Level Meter	23201	TCRT25/1260	24/03/2027
Svan SV12L	Preamp	24265	TCRT25/1260	24/03/2027
PCB 377B02	Microphone	LW136090	TCRT25/1260	24/03/2027
RION NC74	Calibrator	34262041	TCRT26/2271	16/4/2027

Table 1: Instrumentation Used on Site

For the measurements of background noise, meter A above, was mounted in a RION WS02 "all weather" windmuff and a pole at a height of some 3.5m [to avoid wall reflection effects] in free-field conditions and located at the position shown in Figure 1.

Measurements of weighbridge noise were made using meter C above mounted on a tripod with a standard windmuff.

5.0 MEASUREMENT RESULTS

5.1 Background Levels

The site was visited on Tuesday 16th June 2026; the weather conditions were a temperature beginning around 15-20 degrees rising to around 20 degrees Centigrade, and a wind of Beaufort strength starting at 0 increasing to 1 with the direction from the west sector. There was essentially little cloud cover throughout the measurements.

Grass cutting was occurring at Carr Hall at the beginning of the monitoring causing the elevated levels; however, this appeared to end quite quickly, and the author observed the background measurements during the last hour by which time no such activity was occurring. Road traffic was the main background noise sources during the monitoring, with the results as shown in Table 2 and Figure 3 below.

N.B. Whalley Road through Langho was closed for resurfacing works and it is considered that even though the road had re-opened by the end of the monitoring, road traffic flows on Whalley Road [and hence background noise levels] were abnormally low.

Start Date & Time	Duration	LAeq	Lmin	Lmax	L1	L10	L50	L90
16/06/2026 11:18:27	00:15:00	63.9	45.4	84.0	72.5	68.5	59.2	52.0
16/06/2026 11:33:28	00:15:00	64.0	40.8	85.8	73.3	68.2	53.8	45.1
16/06/2026 11:48:29	00:15:00	63.6	40.2	76.4	72.8	69.0	54.2	43.7
16/06/2026 12:03:30	00:15:00	62.6	39.1	79.3	73.5	67.7	52.2	42.3
16/06/2026 12:18:31	00:15:00	63.3	39.5	79.0	72.3	68.8	55.2	44.0
16/06/2026 12:33:32	00:15:00	68.8	33.6	97.9	75.0	68.7	55.6	41.6
16/06/2026 12:48:33	00:15:00	64.7	35.6	77.8	73.2	69.4	58.0	42.1
16/06/2026 13:03:34	00:15:00	63.7	33.4	77.0	73.8	69.0	55.6	40.5
16/06/2026 13:18:35	00:15:00	62.9	35.2	77.1	72.7	68.4	53.5	40.4
16/06/2026 13:33:36	00:15:00	65.1	38.6	85.1	74.7	69.2	61.5	46.8
16/06/2026 13:48:37	00:15:00	63.4	32.7	76.6	72.4	69.0	54.9	45.0
16/06/2026 14:03:37	00:15:00	66.7	40.9	82.4	76.1	70.5	60.9	50.5
16/06/2026 14:18:38	00:15:00	64.2	43.2	76.4	73.3	69.3	56.4	46.3
16/06/2026 14:33:39	00:15:00	65.4	41.3	76.8	73.4	70.1	59.2	49.9
16/06/2026 14:48:40	00:15:00	64.7	38.0	78.0	72.1	69.5	59.3	49.1
16/06/2026 15:03:41	00:15:00	65.7	34.3	78.0	74.1	70.0	60.3	44.9
16/06/2026 15:18:42	00:15:00	66.0	34.8	80.5	74.0	70.6	60.7	48.3
16/06/2026 15:33:43	00:15:00	66.4	47.0	82.8	73.1	70.6	63.5	52.7

Table 2: Background noise levels [dBA free field]

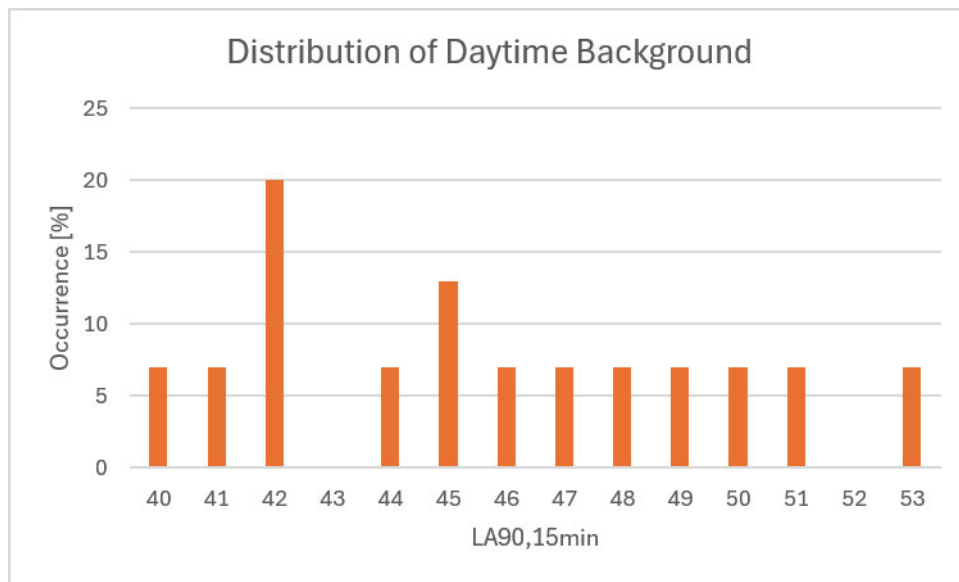


Figure 3: Background noise level distribution [dB LA90,15m free field]

5.2 Source Noise Levels

Measurements were made at vehicles using two different weighbridges as follows:

1. S B Tippers, Great Harwood – 3 Full HGV movements and 2 empty
2. The weighbridge adjacent LLC's Altham Household Waste Recycling Centre, where it was only possible to make measurements of full vehicles using the weighbridge [17 vehicles]

Measurements were made some 8m to the side of the weighbridge, central for No.1 above and opposite the on ramp for No.2.

The measurement position for No.1 was approx. 1m from a reflecting façade whereas the measurement position for No.2 was in free-field conditions.

For No.1 residual noise levels were low, whereas at No.2 residuals levels were more significant and needed to be taken into account to determine the noise levels produced by the weighbridge activity alone.

The measured levels are shown in Table 3 below:

Date & time	Duration [hh:mm:ss]	Site	Condition	No. Vehicles	Ambient LAeq [dB]	Specific LAeq free-field	SEL per vehicle
16/06/2026 11:57:25	00:00:33	1	FULL	1	70.3	67.3	82.5
16/06/2026 11:59:55	00:01:15	1	FULL	1	70.5	67.5	86.3
16/06/2026 12:02:57	00:00:33	1	EMPTY	1	69.3	66.3	81.5
16/06/2026 12:03:48	00:00:38	1	FULL	1	69	66.0	81.8
16/06/2026 12:09:13	00:00:33	1	EMPTY	1	66.9	63.9	79.1
16/06/2026 12:31:53	00:01:13	2	FULL	1	60	57.8	76.4
16/06/2026 12:46:50	00:01:50	2	FULL	1	60.7	58.9	79.3
16/06/2026 12:51:47	00:03:03	2	FULL	1	60.7	58.9	81.5
16/06/2026 12:53:53	00:01:21	2	FULL	1	62.5	59.9	79.0
16/06/2026 12:54:56	00:00:40	2	Residual	N/A	59.8		
16/06/2026 12:56:34	00:01:32	2	FULL	1	63.1	61.0	80.6
16/06/2026 13:00:13	00:03:01	2	Residual	N/A	59		
16/06/2026 13:04:07	00:02:17	2	FULL	1	63.8	62.1	83.4
16/06/2026 13:05:57	00:01:27	2	Residual	N/A	56		
16/06/2026 13:07:54	00:01:50	2	FULL	1	61.3	59.8	80.2
16/06/2026 13:12:22	00:02:00	2	FULL	1	61.1	59.5	80.3
16/06/2026 13:13:41	00:01:11	2	FULL	1	60.9	59.2	77.7
16/06/2026 13:18:00	00:00:46	2	FULL	1	62.1	60.9	77.5
16/06/2026 13:18:42	00:00:06	2	FULL	1	62	60.7	68.5
16/06/2026 13:23:33	00:02:03	2	FULL	1	62	60.7	81.6
16/06/2026 13:24:46	00:00:52	2	FULL	1	62.2	61.0	78.2
16/06/2026 13:30:04	00:01:06	2	FULL	1	63.7	62.9	81.1
16/06/2026 13:32:17	00:00:49	2	FULL	1	66.9	66.5	83.4
16/06/2026 13:35:54	00:01:26	2	FULL	1	61.6	60.2	79.5
16/06/2026 13:43:10	00:04:42	2	FULL	3	63.3	62.4	82.1

Table 3: Weighbridge Noise Measurements

The Specific free-field LAeq levels have been obtained by subtracting the Residual level [Site 2] and façade correction [Site 1] as appropriate from the Ambient levels and the SEL per vehicle is the notional Single Event Level lasting one second that contains the same sound energy as the variable length measurements which all had different durations and in one instance contained multiple vehicles.

The logarithmic average SEL for a vehicle using a weighbridge was 81.1 dBA at 8m from the weighbridge, which equates to a effective sound power level of 107.2 dBA.

Given that the measurements were dominated by full, very large vehicles, entering the landfill site at Site No.2 on an older “well worn” weighbridge it is considered that the measurements probably overestimate the impact of the weighbridge that would be installed at Carr Hall.

6.0 ASSESSMENT

6.1 Background Noise Levels

Based on the distribution of the results [Figure 3 above] the average LA90 level [45.8] and the LA90 of the whole measurement period [44.7] it is considered reasonable to take 42 dB LA90 as representative of the background noise level on a precautionary basis.

6.2 Predicted Noise Levels

The sound power level of 107.2 dBA derived in Section 5 above, can be used with the calculation methodology of BS5228-1:2009+A1:2014 “Code of Practice for noise and vibration control on construction and open sites”. As this sound power level is for a 1 second event if we assume that all 20 of the projected events in a day occur in a single hour then the

percentage in use time would be 0.556% [$100 * 20/36000$]. It should be noted that with such a variable noise source it would be reasonable to average out the levels over the working day; the results are as shown in Table 4 below:

BS5228 SWL Method				dBA
BS5228-1:2009 Predictions		Adjustment to a Given		107.2
Element		Height	Dist from Source	
Sound Power Level		2.0		107.2
Attenuations				Attenuation
Receiver [distance correction]		1.5	165.0	52.3
Proportion of Soft Ground & HPR	1.0	1.0		4.1
Barrier Attenuation		0.0	0.0	0.0
Traverse Length	0.0			0.0
Percentage on Time	100			0.0
Percentage in Use	0.556			-22.6
Façade Reflection	0.0			
Predicted Level at Receiver		External SPL/dB(Lin)		28.2

Table 4: Predictions as per BS5228-1:2009+A1:2014

6.3 Character Correction

It will be recalled that the **background** noise level at the nearest property is 42 dB LA90, i.e. background noise would be **very significantly** louder

than the **weighbridge noise** level [28 LAeq]; therefore, it is considered that the noise would be unlikely to be perceived as either tonal or impulsive.

However, as a precautionary measure, if we assume that the operational noise is just perceptible as impulsive and apply the appropriate corrections.

6.4 Assessment of the Noise

If we use the predicted noise level and perform an assessment, the results appear as at Table 5 below:

Condition	Level
Measured/Predicted Ambient Level	28.2
Specific Noise Level	28
Tonal Correction	0
Impulsive Character	+3
Other Character	0
Intermittancy	0
Rating Level [Specific + Character Correction]	31
Background Noise Level LA90	42
Excess over Background	-11
Indication of Low Impact, depending on the context	

Table 5: BS4142 Assessment – Nearby Dwellings

6.5 Discussion of assessment

It is a requirement of the standard that factors affecting the assessment [uncertainty] are discussed:

1. The above assessment is based on a 20 weighbridge movements per day; however, it has been assumed that all the movements occur within the same hour, i.e. the assessment is very likely to *over-estimate the impact*.
2. Similarly, the measurements of weighbridge noise elsewhere are likely to overestimate noise produced at Carr Hall.
3. It is considered likely that road traffic noise levels on the day of the monitoring, which formed the background noise, were abnormally low, due to the road closure in Langho and that generally the background noise levels would be higher, i.e. a conservative factor.
4. Overall, the assessment is considered sufficiently robust and demonstrates that appropriate noise limits can be met by the new unit; however, as with all such assessments they cannot demonstrate that the limits will be met under any and all circumstances.

7.0 CONCLUSIONS

Based on the measurements, the above assumptions and the available data, a BS4142 assessment indicates that operation of the proposed weighbridge would have a "Low impact", depending on the context.

The above indicates that consent can be granted for the development.

REFERENCES

1. Section 8.22 of "Acoustics and Noise Control - 2nd Edition" - Smith, Peters & Owen - 1996.
2. BS.8233:2014 "Guidance on Sound Insulation and noise reduction for buildings."
3. National Planning Policy Framework:
<http://www.communities.gov.uk/publications/planningandbuilding/nppf>
4. BS.4142:2014+A1:2019 "Methods for Rating and Assessing Industrial and Commercial Sound"

APPENDIX 1

EXPLANATION OF ACOUSTIC TERMS

The dB or the decibel, is the unit of noise. The number of decibels or the level, is measured using a sound level meter. It is common for the sound level meter to filter or 'weight' the incoming sound so as to mimic the frequency response of the human ear. Such measurements are designated **dB(A)**.

A doubling of the sound is perceived, by most people, when the level has increased by 10 dB(A). The least discernible difference is 2 dB(A). Thus, most people cannot distinguish between, say 30 and 31 dB(A).

The Background level of noise is most commonly represented by the level which is exceeded for 90% of the time i.e. the LA90.

If a noise varies over time then the **equivalent continuous level, or LAeq**, is the notional constant level of noise which would contain the same amount of acoustic energy as the time varying noise.

The following table gives an approximate indication of the comparative loudness of various noises expressed in terms of the A weighted scale:

Source of noise	dB(A)	Nature of Noise
Inside Quiet bedroom at night	25-30	Very Quiet
Quiet office	40-45	
Rural background noise	35-45	
Normal conversational level	55-65	
Busy restaurant	65-75	
Inside suburban electric train	70-80	
Hand clap @ 1m	75-85	
HGV accelerating @ 5m away	85-90	Very Loud

APPENDIX 2

QUALIFICATIONS AND EXPERIENCE OF M. A. KENYON

My full name is Melville Alexander Kenyon. I am the principal of the firm of Martec Environmental Consultants Ltd, a consultancy company that specialises in environmental noise assessment and control. I graduated in 1982 with a Bachelor's degree in Engineering and subsequently a Master's degree in Environmental Acoustics. I have been a corporate member of the professional body for noise and vibration specialists, the Institute of Acoustics, since 1988, and have sat on the British Standards Committee dealing with noise in buildings [BS.8233:1999].

I have lectured at Liverpool John Moores University on the Diploma of Acoustics course and at Manchester Metropolitan University on their Environmental Health degree course. I have been an MSc Dissertation Supervisor at The University of Manchester.

The firm of Martec Environmental Engineering was formed in the 1970's and joined The Association of Noise Consultants in 1996. It is now known as Martec Environmental Consultants Ltd.

Since its formation, Martec has advised many groups of both residents and developers about the problems of noise and vibration in the environment.

APPENDIX 3

LOCAL AUTHORITY COMMENTS ON NOISE

From: Lucy Walker [REDACTED]
Sent: 06 May 2026 16:04
To: Bramley and Pate [REDACTED]
Subject: RE: Planning application 3/2025/1002 at Carr Hall, Whalley Road, Wilpshire, BB1 9LJ.

Good Afternoon Richard,

I have now received comments from the Environmental Health Officer. They have requested the submission of a noise report from a suitably qualified acoustician assessing the potential impact of the proposed weighbridge and associated operations on the amenities of nearby residents. They have noted that the rating level of the noise emitted from the proposal should not exceed the existing or representative background level at 3m from the façade of any premises used for residential purposes surrounding the site when assessed in accordance with BS 4142:2014+A1 (2019).

Given the above, I am unable to proceed towards a positive determination until the requested report has been received as the impact upon nearby residential receptors cannot be fully assessed.

I am happy to agree a further extension of time in order for this to be submitted – if you could let me know a likely timescale then I can suggest an extended determination date accordingly.

Kind regards,

Lucy Walker | Senior Planning Officer

Ribble Valley Borough Council, Council Offices, Church Walk, Clitheroe, BB7 2RA

T: [REDACTED] | E: [REDACTED] | W: www.ribblevalley.gov.uk

From: Lucy Walker [REDACTED] >

To: Bramley and Pate [REDACTED]

Cc:

Bcc:

Date: Wed, 13 May 2026 15:05:11 +0000

Subject: RE: Planning application 3/2025/1002 at Carr Hall, Whalley Road, Wilpshire, BB1 9LJ.

Hi Richard,

With regards to your email dated 6th May, the Environmental Health Officer has advised that the background noise level should be measured 3m from the façade of nearby residential dwellings.

It is also my understanding that the noise assessment will have to calculate the noise likely to arise from vehicles using the weighbridge.

Kind regards,

Lucy Walker | Senior Planning Officer

Ribble Valley Borough Council, Council Offices, Church Walk, Clitheroe, BB7 2RA

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