

NOISE IMPACT ASSESSMENT

For

Planning Application

On Land South of Lower Road,

Longridge

14th October 2022

1.0 Introduction

This report is submitted to Ribble Valley (RVBC) planning department as part of the planning application. This report also includes the requirement to refer to two previous outline applications which were approved with no objections. One comprised land which includes the developable area north of the current application site. The second approval was to the west on neighbouring land which is zoned in the Core Strategy and EAL3 of the HED DPD dated 2019 which runs to 2028 for employment land uses. This report considers all aspects of the current proposal for Class Eg units.

It is understood that there is a requirement to consider the effect of noise. This will be assessed in relation to each of the previous sites and the current reserved matters application.

It is important to acknowledge that the outline approval was consented for equivalent B1 uses which include light industrial use which is particularly defined as suitable to be located in or close to residential areas by virtue of its low emissions which include low external noise levels.

For the purposes of this report the two sites to the north already approved will be considered as additional potential new developments and therefore a possible noise source. These are closer to the majority of noise sensitive residential receptors. It is understood that the current proposal, if required, will be mitigated by activating a suitable planning condition. It would be reasonable to assume the land, if developed, will no longer be source a possible year round source of agricultural noise. This currently includes livestock noise and high noise levels from larger agricultural machinery including mowers, forage harvesters, tractors with implements such as hedge-cutters, manure spreaders and the like. It is often assumed that agricultural land is quiet, whereas the true nature of the business is that the industry is now heavily mechanised and often reliant on larger machines throughout the year including those provided by contactors.

Information will be presented for the background noise from the busy arterial Blackburn Road (B6243) which links Longridge with Clitheroe and other towns, other sources including background noise from the existing business and distribution buildings. In addition there is a high level of existing traffic noise from both the B6245 Preston Road and B6243 Lower Road affecting some receptors in the locality. Comment and a diagram will be provided showing the range of local meteorological conditions and possible effects on the subject sources and other local sources.

A breakdown of a noise data survey is provided for each of two locations near the boundary of the application area. Comment will be made on the likely model results in relation the levels at both sources and receptors. Also commented on are the likely levels as they reduce, including at identified local receptors some significant distance away.

To bring the assessment to a conclusion, comment will be made on the possible sources, effect, losses over distance, mitigation and the relation to benchmark levels by the time reduced noise levels reach the identified receptors.

2.0 Background details

The site is 0.5km east of the original town limits of Longridge with access from Blackburn Road (B6243) also known as Lower Road. The land is situated in and at the south end of the Ribble Valley close to Longridge Fell and has particular local meteorological conditions which differ from those the on the west side of Longridge. The land currently forms additional mowing/grazing for the business which has been established on the holding over three generations. The land is located circa 160m south of the busy highway Blackburn Road.

Key to this report is the fact that the majority of identified receptors are situated on or in very close proximity to the connector highways. These highways serve as service roads to Longridge and the surrounding area. Destinations include daily traffic flows to Clitheroe and the villages of Ribchester, Dutton and Wilpshire. This extensive rural catchment area being part of the Ribble Valley also supports dozens of rural businesses and many farms. Although in this rural location the majority of identified receptors are subject to relatively high levels of background noise from passing traffic. The farm house to the west is subject to a significant level of background noise from the existing commercial developments which include traffic at unsociable hours and twenty four hour running of externally located refrigeration equipment.

In the immediate area there are three stages of commercial and development land. The existing business/distribution premises, land with outline consent for business use immediately to the north which is being progressed to a reserved matters application and zoned employment land to the west which has status extending until 2028. Hence the current reserved matters proposals to update the existing outline consent on the subject land for light commercial uses and construction of suitable buildings. The new buildings will lie immediately to the east side of the existing buildings and therefore any directional effects will be similar to the existing noise sources. The new buildings will have a diverse range of sound baffling, including insulated roof sheets, closed ridge, insulated cladding to walls and clad doors. The range of baffle techniques including layout of buildings, access routes and positioning of doors all aid the splitting of source noise to different directions and ensure there is no particular concentrated point source. Key observations include the doors being at north /south elevations and not directly the elevations facing closest receptors. The site plan submitted shows a suitable layout.

The subject site is at 111m above sea level with level grassland. There is circa 200m distance to the perceived most sensitive identified receptor, Hillside School which is understood to be non-residential. The published opening hours are 9.10am to 3.10pm. The peak hours traffic forecast for both the local roads and the site access (8-9am and 5-6pm) fall outside of these times as expected. Other receptors being residential are approximately 230m, 200m and 51m from various different buildings on the site.

There are existing commercial premises nearer to Higher College Farm house than the proposed site. Higher College Farm house had an approved outline consent to convert to commercial office space. In addition the same consent included B1, B2 and B8 uses. Some of the existing noise sources including road lie in wind directions which may affect a number of the nearby receptors. Therefore these will provide some substantial background effect noise levels at the subject identified receptors. It is unlikely that any new levels from the proposal will be separately identifiable at such a distance. The existing levels will condition the hearing range of the occupants at the identified receptors.

There is one local residence previously identified as a receptor. This dwelling being the former farmhouse known as Higher College Farm. This address has existing significant noise sources very close to its boundary. This location benefits from the substantial natural screening between the residence and the subject proposal site.

3.0 Methodology

3.1 Assessment of existing background noise sources

There are a few identified receptors which are all located immediately adjacent to the classified roads. Blackburn Road has already been discussed as a major source of background noise particularly during the day and as intermittent noise at night. Peak daytime traffic flows average one vehicle every 5 to 7 seconds. Typical traffic noise is at levels of 64.3 LAeq to 67.9 LAeq (typical maximum 100.9 LAmax). Details of the background noise from the road are included in Appendix I.

The existing dwelling at Higher College Farm is subject to existing noise levels typically equipment/traffic noise is at levels of 48.1 LAeq to 53.1 LAeq (typical maximum 76.8 LAmax). Details of the background noise from the existing premises/access road are included in Appendix I.

The localised wind effects are varied throughout the year with typical values being 0 to 15% of any particular direction. The school benefits from the fact that wind directions affecting the site are not predominant and only 2.5 to 7% of all data. To a limited extent this carries the background noise of other activities in the area. During the summer months receptor occupiers are more likely to be out in their gardens. This will have already conditioned the hearing of the occupiers at receptor locations to the high levels of local traffic noise, existing businesses and agricultural operations. The meteorological wind is dominant but this is added to by the regular sea breeze effect and later in the day by the valley wind effect on air in the Ribble Valley. Meteorological data is set out in Appendix II

The east (6%) direction is unlikely to remain established for more than the morning period due to the wind effects described above. The existing background levels at source are from the west side of the access to the subject land and are set out in Appendix I.

The background noise levels of the roads to the north and east during the day essentially dominate the hearing range. The distance from the subject land sources reduce the average low activity level noise from source to below audible levels during the night. There are unlikely to be impulsive, intermittent or other additional noise levels from the subject source at night. However the existing background noise levels continue to some degree through the night.

The operation of machinery within the buildings will be operated in a manner and at noise levels well below the thresholds for Noise at Work Regulations and comply with health and safety at work. Typically vehicles manoeuvring within the site will be doing so at very low speeds and therefore low rpm.

The total background noise levels from sources including the existing buildings have attenuated to acceptable (noticeable but not intrusive) on reaching the receptors. Such levels are well below the DEFRA published figures for acceptable levels.

It should be noted that this type land use is not uncommon in the locality so would not be easily identifiable, as would a single enterprise in a more remote area for example. The background levels will be referred to again in the conclusion where the overall effect will be appraised.

3.2 Assessment of existing noise sources

Consideration of the data for background sources also meteorological data is important to consider. The chances are low for a directional match to affect the receptors which are each in a different narrow wind sector. It is clear that a five year average of 2.5% amounts to a number of part days or nine days per annum. The high levels of background noise from the two way traffic on Blackburn Road and Preston Road, particularly during the proposed opening hours, significantly affect the small number of residential properties in the immediate area.

The subject noise sources from proposed light use commercial buildings include light industrial which by definition is suited to being located in a residential area. It is noted that the proposed site is outside of both town/village limits and the area is not defined as residential in the local planning documents.

Assumptions include :

No reflections of sound – not applicable (these could be 3dB)

Distance Correction - sound levels halve by distance doubled

Atmospheric Attenuation – meteorological effects have been taken into account

Ground Attenuation – applied as predominantly level land with some significant natural barriers

Shielding Correction 1 – new subject sources will have no shielding from other significant barriers

Shielding Correction 2 - subject background building sources will potentially have some shielding

Shielding Correction 3 - each building will provide some shielding to one or more of the others

4.0 Discussion of Results

The site has the benefit of an earlier outline consent for the same proposed uses. Later in the next year a larger site on land immediately to the north was also granted outline consent for the same and more impacting proposed uses. For land to the north west despite the proximity of an approval for housing nearby no report was requested or submitted and a different planning condition was applied to the approval.

There are a few identified receptors which are all located immediately adjacent to the classified roads. Blackburn Road has already been discussed as a major source of background noise particularly during the day and as intermittent noise at night. Peak traffic flows are one vehicle every 5 to 7 seconds.

The data from north west of the site includes typical traffic noise is at levels of 64.3 LAeq to 67.9 LAeq (typical maximum 100.9 LAm_{ax}).

The existing dwelling at Higher College Farm is subject to existing noise levels typically equipment/traffic noise. The data from west of the site is at levels of 48.1 LAeq to 53.1 LAeq (typical maximum 76.8 LAm_{ax}).

BS4142 states that the Specific Level will have a low impact. On this basis it is concluded that the noise impact of proposed buildings discussed in this report will be low to acceptable. During the night (outside proposed opening hours) it is reasonable to assume that there will be very little noise at all and the occupiers of the nearest dwellings will be within their houses. A room with an open window will provide 10 – 15dB sound reduction. During opening hours for a room facing the proposed development in the dwelling exposed to any maximum above background noise would result in negligible noise ingress which would be inaudible. Importantly the daytime light industrial use proposed will not exceed the background noise level (LA90) at the external façade of the nearest noise-sensitive premises.

5.0 Conclusions

Noise levels from the existing background and proposals have been assessed and quantified based upon attenuation that takes into account the likely source levels and sound insulation effect of the buildings. The sound levels at the identified receptors have been assessed against the background noise levels in the immediate area.

The data from background levels has been assessed and taken into consideration with other local effects, including local meteorological conditions.

To conclude that at all of the residential, business and educational receptors considered, the predicted noise level exposures from the proposed sources would be minimal/ acceptable. Importantly the daytime light industrial use proposed will not exceed the background noise level (LA90) at the external façade of the nearest noise-sensitive premises. These results indicate a negligible impact which is “not noticeable” so no mitigation beyond standard insulated building materials and retention of existing landscaping is recommended nor would be required in this case.

The proposed use of insulated wall and roof cladding should be sufficient if conditioned together with the retention of existing natural boundaries to the north and east. It is understood that the further proposed enhancement of these boundaries could further increase the perceived benefits of noise screening although at the distances to existing receptors this is not necessarily required.

Additional notes :

For any recent residential approvals or residential improvements the residential receptor development may have been exposed to the existing background noise. Both existing commercial and educational premises would be subject existing background noise and have to comply with HSE guidance, Building regulations and local controls for the protection of workers, staff, pupils and visitors. The relevant planning applications and building regulations applications (including for FENSA replacement windows) should have included proposals to achieve the following noise levels in habitable rooms and outdoor areas. These levels are based on “good” internal noise levels for bedrooms and “reasonable” internal noise levels for living rooms, as set out in the relevant British Standard at that time, and for more recent changes as set out in BS8233 2014

Time Area Maximum noise level Daytime noise 07:00 – 23:00 Living rooms 40 dBLAeq (16hr)
Outdoor amenity 55 dBLAeq (1hr) Night time noise 23:00 – 07:00 Bedrooms 30 dBLAeq (8hr) 45 dBLAmax.

These levels must have been achieved with windows open. For the purposes of calculation and unless specific window attenuation calculations were provided, noise reduction through a partially open window should be assumed to be 15dBA.

Appendix I

Noise data 2019 from NW of the site access adjacent to Blackburn Road

Time	Duration	L _{Aeq} (dB)	L _{AMax} (dB)	L _{A90} (dB)
21/02/2019 18:00	01:00:00	64.7	81.1	49.4
21/02/2019 19:00	01:00:00	64.3	89.3	42.5
21/02/2019 20:00	01:00:00	61.6	80.5	37.8
21/02/2019 21:00	01:00:00	61.7	91.5	35.7
21/02/2019 22:00	01:00:00	60.0	81.9	34.4
21/02/2019 23:00	01:00:00	56.7	78.3	30.9
22/02/2019 00:00	01:00:00	54.3	77.2	30.8
22/02/2019 01:00	01:00:00	51.3	77.4	30.3
22/02/2019 02:00	01:00:00	51.5	78.9	30.9
22/02/2019 03:00	01:00:00	50.3	80.9	31.1
22/02/2019 04:00	01:00:00	54.1	78.8	32.5
22/02/2019 05:00	01:00:00	58.5	79.0	35.2
22/02/2019 06:00	01:00:00	62.9	82.0	41.2
22/02/2019 07:00	01:00:00	65.7	82.8	47.3
22/02/2019 08:00	01:00:00	67.9	100.9	48.8
22/02/2019 09:00	01:00:00	65.2	85.1	46.8
22/02/2019 10:00	01:00:00	64.9	82.6	46.4
22/02/2019 11:00	01:00:00	64.8	83.7	45.4
22/02/2019 12:00	01:00:00	64.3	82.3	44.4
22/02/2019 13:00	01:00:00	64.4	83.1	45.8
22/02/2019 14:00	01:00:00	64.7	82.1	47.4
22/02/2019 15:00	01:00:00	65.3	85.4	48.2
22/02/2019 16:00	01:00:00	65.9	86.6	48.2
22/02/2019 17:00	01:00:00	66.2	87.5	49.5

Noise data 2019 from West of the site adjacent to the existing premises

Time	Duration	L _{Aeq} (dB)	L _{AMax} (dB)	L _{A90} (dB)
21/02/2019 18:00	01:00:00	49.2	65.2	43.9
21/02/2019 19:00	01:00:00	48.2	63.9	40.8
21/02/2019 20:00	01:00:00	44.0	58.7	37.8
21/02/2019 21:00	01:00:00	43.6	68.1	36.5
21/02/2019 22:00	01:00:00	43.5	72.0	35.1
21/02/2019 23:00	01:00:00	37.0	54.7	30.6
22/02/2019 00:00	01:00:00	35.2	52.4	30.4
22/02/2019 01:00	01:00:00	36.2	53.2	30.4
22/02/2019 02:00	01:00:00	40.8	68.7	34.3
22/02/2019 03:00	01:00:00	41.1	66.0	30.7
22/02/2019 04:00	01:00:00	46.9	69.3	32.1
22/02/2019 05:00	01:00:00	47.7	72.3	36.3
22/02/2019 06:00	01:00:00	48.6	67.8	40.4
22/02/2019 07:00	01:00:00	51.6	70.6	45.4
22/02/2019 08:00	01:00:00	53.1	71.9	45.5
22/02/2019 09:00	01:00:00	50.0	69.2	43.4
22/02/2019 10:00	01:00:00	49.2	70.0	43.1
22/02/2019 11:00	01:00:00	49.1	71.4	42.4
22/02/2019 12:00	01:00:00	49.1	75.7	40.3
22/02/2019 13:00	01:00:00	48.5	71.4	39.9
22/02/2019 14:00	01:00:00	52.5	76.8	41.1
22/02/2019 15:00	01:00:00	53.1	75.9	42.7
22/02/2019 16:00	01:00:00	48.1	70.9	42.2
22/02/2019 17:00	01:00:00	50.4	74.3	43.3

Appendix II

Longridge Meteorological Wind Data

