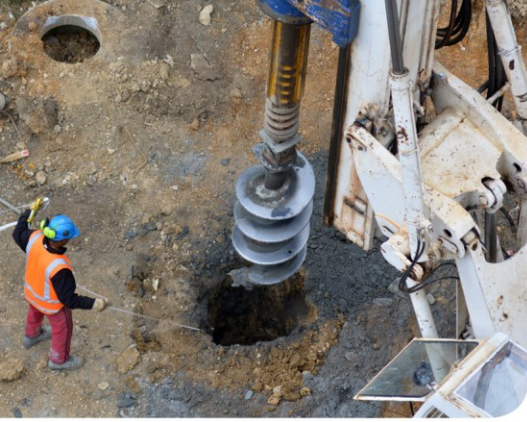


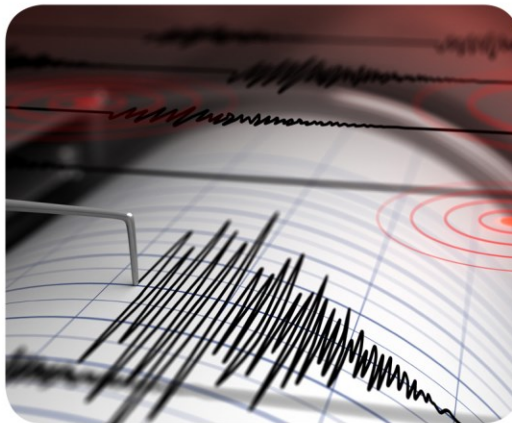


Bridge Industrial

Riverside Way, Uxbridge

Noise Statement

October 2021



Bridge Industrial

Riverside Way, Uxbridge

Noise Statement

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Noise Statement



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1 Introduction

1.1 Brief

- 1.1.1 Air & Acoustic Consultants Limited have been commissioned by Bridge Industrial to provide a noise statement in support of a planning application for a proposed industrial/commercial development at Riverside Way, Uxbridge.

1.2 Application Site

- 1.2.1 The site is an existing commercial/industrial site located among a number of other commercial/industrial sites on Riverside Way. The existing structures which will be removed as part of the planning application.
- 1.2.2 The National Grid Reference for the centre of the site is, TQ 04813 84049 (British National Grid co-ordinates E: 504813, N: 184049). The site location and surrounding area are shown in [Figure 1.1](#).

Figure 1.1: Site Location



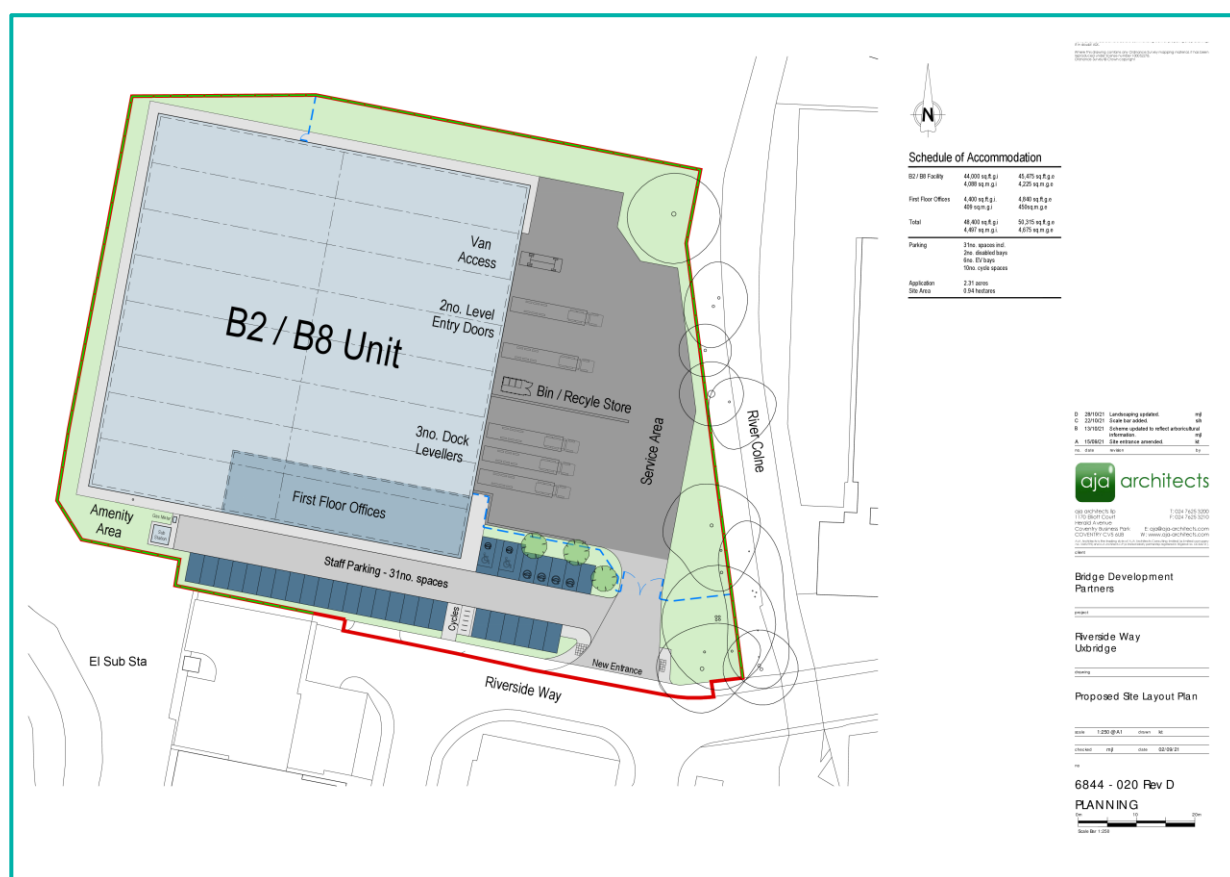
- 1.2.3 The existing noise climate around the site for both the daytime and night-time periods, is likely to be dominated by industrial/commercial noise from the nearby premises, road traffic noise from the local highway network is likely to contribute significantly to the baseline noise environment, this includes the M25.

1.3 Development Proposals

1.3.1 The development proposals comprise the demolition of existing buildings and the development of a Class E(g)ii, E(g)iii, B2 and B8 use employment unit with ancillary office accommodation, including new vehicular access, associated external yard areas, HGV and car parking, servicing, external lighting, landscaping, infrastructure and associated works.

1.3.2 There proposed layout is shown in Figure 1.2.

Figure 1.2: Proposed Site Layout



1.4 Assessment Scope

1.4.1 This Noise Statement provides the detail of the proposed development within the context of the existing noise environment to demonstrate that the development is not likely to result in any significant adverse noise impacts, upon the closest noise sensitive receptors.

1.4.2 Due to the timing of the planning application, it has not been possible to undertake a background noise survey. Therefore, this document sets out the proposed methodology for the undertaking of a future Noise Impact Assessment, which will supersede this document during the planning process. However, it is noted the proposed development has the potential to cause adverse noise effects from the following sources:

- Industrial processes and machines;
- Vehicle movements inside the proposed site;

- Loading or unloading of vehicles at the proposed units;
- Noise impacts of the increase in traffic on the local road network; and
- The associated construction works (temporary).

1.4.3 The report is structured as follows:

- **Section 2** considers the proposed scheme in relation to the relevant national and local planning policies;
- **Section 3** sets out the proposed impact assessment methodology; and
- **Section 4** summaries and concludes the assessment.

2 Legislation and Policy Context

2.1 Introduction

- 2.1.1 The prediction and assessments of the likely noise impacts of the proposed development have been completed using the relevant legislation policy and guidance concerning noise, which are discussed in turn below.

2.2 National Planning Policy Framework (NPPF), 2021

- 2.2.1 The NPPF sets out the Government's planning policy for England. At its heart is an intention to promote more sustainable development. The NPPF addresses noise as a planning issue primarily through the statements in paragraphs 174 and 185.

- 2.2.2 At paragraph 174:

'Planning policies and decisions should contribute to and enhance the natural and local environment by:'

'e) 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. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and'.

- 2.2.3 At paragraph 185:

'Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational amenity value for this reason;'.

- 2.2.4 The NPPF refers to the Noise Policy Statement for England (NPSE) for advice on the achievement of these policy aims, and particularly in connection with the explanation of 'adverse impacts'

2.3 Noise Policy Statement for England (NPSE), 2010

- 2.3.1 The NPSE is the overarching government policy on noise. It seeks to clarify the underlying principles and aims in past and existing policy documents, legislation, and guidance in relation to all forms of noise including environmental noise, neighbour noise, and neighbourhood noise (but not noise in the workplace).

- 2.3.2 It uses the established concepts of No Observed Effect Level, (NOEL) and Lowest Observed Adverse Effect Level, (LOAEL). The NPSE extends these by introducing Significant Observed Adverse Effect Level, (SOAEL). This is the level above which significant adverse effects on health and quality of life

occur. However, the explanatory note to the NPSE states that it is not possible to identify a single objective value to define SOAEL for noise that is applicable to all sources of noise in all situations. It is likely to be different for different noise sources, for different receptors and at different times.

2.3.3 The NPSE's vision is to:

'Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.'

This long-term vision is supported by the following aims:

- *Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life, through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.'*

2.3.4 The second aim of the NPSE refers to noise impacts that lie somewhere between LOAEL and SOAEL. The NPSE asserts that, while this means that all reasonable steps should be taken to mitigate and minimise adverse effects, this does not mean that such adverse effects cannot occur.

2.4 Planning Practice Guidance (Noise), 2019

2.4.1 The Government has published Planning Practice Guidance on a range of subjects including noise. The guidance forms part of the NPPF and provides advice on how to deliver its policies. The PPG (Noise) reiterates general guidance on noise policy and assessment methods provided in the NPPF, NPSE and British Standards and contains examples of acoustic environments commensurate with various effect levels.

2.4.2 Paragraph 006 of (Reference ID: 30-006-20190722) of the NPPG (Noise) explains that:

'The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.'

2.4.3 The guidance contained within the PPG (Noise) provides advice on how to deliver the policies of the NPPF. The PPG (Noise) reiterates general guidance on noise policy and assessment methods provided in the NPPF, NPSE and British Standards and contains examples of acoustic environments commensurate with various effect levels. Paragraph: 004 Reference ID: 30-004-20190722 of the PPG (Noise) describes the different effect levels which are defined and briefly outlined below:

- No Observable Effect Level (NOEL);
- Lowest Observable Adverse Effect Level (LOAEL); and
- Significant Observed Adverse Effect Level (SOAEL).

2.4.4 The PPG (Noise) describes noise that is not noticeable to be at levels below the NOEL. Noise exposures in this range are below the LOAEL and no mitigation is required. The PPG (Noise) suggests that noise exposures above the LOAEL cause small changes in behaviour. Examples of noise exposures above the LOAEL provided in the PPG (Noise) are having to turn up the volume on the television; needing to speak more loudly to be heard; or, where there is no alternative ventilation, closing windows for some of

the time because of the noise. In line with the NPPF and NPSE, the PPG (Noise) states that consideration needs to be given to mitigating and minimising effects above the LOAEL, but also to take account of the economic and social benefits being derived from the activity causing the noise. The PPG (Noise) suggests that noise exposures above the SOAEL cause material changes in behaviour. Examples of noise exposures above the SOAEL provided in the PPG (Noise) are, where there is no alternative ventilation, keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. In line with the NPPF and NPSE, the PPG (Noise) states that effects above the SOAEL should be avoided and that whilst the economic and social benefits derived from the activity causing the noise must be taken into account, such exposures are undesirable.

- 2.4.5 The non-numeric guidance contained within the PPG (Noise), based upon the starting point in the NPSE, is summarised in [Table 2.1](#) below.

Table 2.1: Summary of Guidance from NPSE and PPG (Noise)

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

- 2.4.6 In line with the NPPF and the NPSE, the guidance confirms that significant adverse effects should be avoided. At the next level down in the hierarchy, where there is an observed adverse effect, the PPG (Noise) confirms that effects should be mitigated and reduced to a minimum (as far as reasonably practicable). No mitigation measures are required for effects that are considered to be below the lowest observed adverse effect level (LOAEL).
- 2.4.7 However, along with the NPSE it does not provide any numerical definition of the NOEL, LOAEL and SOAEL.
- 2.4.8 The NPSE refers to the World Health Organisation (WHO) when discussing noise impacts. The WHO Guidelines for Community Noise, (1999) suggest guideline values for internal noise exposure which take into consideration the identified health effects and are set based on the lowest effect levels for the general population. Guideline values for amenity which relate to external noise exposure are set at 50 or 55 dB(A), representing daytime levels below which most of the adult population will be protected from becoming moderately or seriously annoyed respectively.

2.5 Regional Planning Policy

New London Plan 2021

- 2.5.1 The London Plan is the third London Plan and was published in March 2021. It is a new plan, and brings together the geographical and locational aspects of the Mayor's other strategies, which includes the environment. The plan provides an appropriate spatial strategy that plans for London's growth in a sustainable way.
- 2.5.2 The new London Plan includes one policy that is specifically related to noise.
- 2.5.3 Policy D14 Noise says:

"A In order to reduce, manage and mitigate noise to improve health and quality of life, residential and other non-aviation development proposals should manage noise by:

- 1) avoiding significant adverse noise impacts on health and quality of life*
- 2) reflecting the Agent of Change principle as set out in Policy D13 Agent of Change*
- 3) mitigating and minimising the existing and potential adverse impacts of noise on, from, within, as a result of, or in the vicinity of new development without placing unreasonable restrictions on existing noise-generating uses*
- 4) improving and enhancing the acoustic environment and promoting appropriate soundscapes (including Quiet Areas and spaces of relative tranquillity*
- 5) separating new noise-sensitive development from major noise sources (such as road, rail, air transport and some types of industrial use) through the use of distance, screening, layout, orientation, uses and materials – in preference to sole reliance on sound insulation*
- 6) where it is not possible to achieve separation of noise-sensitive development and noise sources without undue impact on other sustainable development objectives, then any potential adverse effects should be controlled and mitigated through applying good acoustic design principles*
- 7) promoting new technologies and improved practices to reduce noise at source, and on the transmission path from source to receiver. B Boroughs, and others with relevant*

responsibilities, should identify and nominate new Quiet Areas and protect existing Quiet Areas in line with the procedure in Defra's Noise Action Plan for Agglomerations.

B Boroughs, and others with relevant responsibilities, should identify and nominate new Quiet Areas and protect existing Quiet Areas in line with the procedure in Defra's Noise Action Plan for Agglomerations. "

London Environment Strategy 2018

- 2.5.4 The Mayor's Transport Strategy (Greater London Authority) sets out the Mayor's policies and proposals to reshape transport in London over the next two decades. The Strategy focuses on reducing car dependency and increasing active sustainable travel, with the aim of reducing noise and creating healthier streets.

2.6 Local Planning Policy

London Borough of Hillingdon Local Plan Part 1

- 2.6.1 The Hillingdon Local Plan Part 1 was adopted in 2012 and is the key strategic planning document for Hillingdon, it sets out the long-term objectives for the Borough. It contains the following policy concerning noise from developments of this type.

- 2.6.2 Policy EM8 Land, Water, Air and Noise states:

"Noise

The Council will investigate Hillingdon's target areas identified in the Defra Noise Action Plans, promote the maximum possible reduction in noise levels and will minimise the number of people potentially affected.

The Council will seek to identify and protect Quiet Areas in accordance with Government Policy on sustainable development and other Local Plan policies.

The Council will seek to ensure that noise sensitive development and noise generating development are only permitted if noise impacts can be adequately controlled and mitigated."

London Borough of Hillingdon Local Plan Part 2

- 2.6.3 The Hillingdon Local Plan Part 2 was adopted in 2020 and provides detailed policies that will form the basis of the Council's decisions on individual planning applications. It contains the following policies concerning noise from developments of this type.

- 2.6.4 Policy DMT 1: Managing Transport Impacts states:

"A) Development proposals will be required to meet the transport needs of the development and address its transport impacts in a sustainable manner. In order for developments to be acceptable they are required to:

[...]

v) have no significant adverse transport or associated air quality and noise impacts on the local and wider environment, particularly on the strategic road network.

[...]"

- 2.6.5 Policy DMT 2: Highways Impacts states:

“Development proposals must ensure that:

[...]

ii) they do not contribute to the deterioration of air quality, noise or local amenity or safety of all road users and residents;”

[...]”

London Borough of Hillingdon Noise Supplementary Planning Document

2.6.6 The supplementary planning document was published in 2006 has ‘key points’ which relate to certain types of noise in the environment.

2.6.7 Key Point 6 relates to industrial noise, it refers to BS 4142:1997 which has since been superseded. It states:

“the development should be controlled such that the rating level of the noise from the proposed development determined according to BS4142 is at least 5 dB below the background noise level $L_{A90,T}$ ”

3 Assessment Approach

3.1 Construction Impacts

- 3.1.1 Prior to the appointment of a contractor, detailed information regarding the proposed construction methods and programme are unknown. Therefore, it is only possible to produce indicative predictions of the likely effects of the construction activities at this stage.
- 3.1.2 During the construction phase, activities may lead to the generation of noise from construction activities including vehicles and stationary plant. These emissions could give rise to complaints regarding potential adverse impacts.
- 3.1.3 Based on work carried out on similar projects, estimates of possible construction activities, associated plant and its usage have been made to provide indicative predictions and subsequent assessment for planning.
- 3.1.4 The activities considered are summarised as follows:
- Earthworks;
 - Concreting; and
 - Main build.
- 3.1.5 The British Standard BS 5228-1:2009+A1:2014 represents the generally accepted industry best practice for controlling noise and vibration from works of construction and demolition. BS 5228-1 Annex F – ‘Estimating Noise from Sites’ contains a methodology for estimating noise levels that can arise from various construction techniques. The standard also sets out recognised methods for mitigating noise levels. The standard also contains guidance on criteria that might be used for managing demolition and construction noise and presents example methodologies to determine the significance of noise from construction activities.
- 3.1.6 The predictions assume that the construction activity is taking place around the middle of the site. Given the size of the site and where most activity is likely to be concentrated, this is considered to provide a reasonable indication of the typical construction noise levels that would be expected at the receptors. In practice, there will be some variation in construction noise at the receptors depending on where the activity is taking place, i.e. it may be closer to or further from the receptor than has been predicted, with a resulting increase or decrease in construction noise.
- 3.1.7 While it is possible that some activities may overlap to some degree, this cannot be confirmed at this stage, and therefore the potential effects of noise have been considered separately for each activity.
- 3.1.8 BS 5228-1:2009+A1:2014 provides several methodologies to determine the significance of noise from construction activities. The noise values detailed in Annex E of the standard have been adopted for this assessment, which advocate that between 07:00 and 19:00 hours, the noise level from construction works outside the window of the occupied room closest to the site boundary should not exceed (at set out in [Table 3.1](#)).

Table 3.1: Thresholds of Potential Effects of Construction Noise at Residential Buildings

Effect	Threshold Level ($L_{Aeq T}$)*
LOAEL	65
SOAEL	75
*Adverse or significant adverse effects are expected to occur at these thresholds if the programme of works indicates that the relevant values are likely to be exceeded over a period of at least one month. The values apply to a location one metre from a residential building façade containing a window, without the effect of an acoustic reflection from that façade.	

- 3.1.9 Regarding construction vibration, typically, for works associated with developments of this type, only piling would be anticipated to result in potentially significant levels of vibration at nearby receptors. At this stage it is not clear whether piling will be required. On this basis, construction vibration has not been considered any further in the assessment.

3.2 Operational Impacts

Design Manual for Roads & Bridges LA111 Noise and Vibration

- 3.2.1 The Design Manual for Road and Bridges LA111 Noise and Vibration, sets out the requirements for assessing the effects of highways noise and vibration from construction, operation and maintenance projects. This standard may also be applied to existing roads, in certain circumstances.
- 3.2.2 Traffic noise is a general term used to define the noise from traffic using the highway network. A traffic stream is made up of a variety of vehicle types which have their own individual noise sources. Close to a road, individual vehicles can be distinguished in the traffic stream, but further from the road the influence of individual vehicles is less noticeable as the noise from traffic becomes a continuous sound.
- 3.2.3 Noise from road traffic is assessed in terms of the absolute noise levels at noise sensitive receptor locations and in terms of the change in noise levels at the receptors.
- 3.2.4 For absolute noise levels the LOAELs and SOAELs are set at the levels provided in [Table 3.2](#).

Table 3.2: Operational Noise LOAELs and SOAELs for All Receptors

Time Period	LOAEL	SOAEL
Day (06:00-24:00)	55 dB $L_{A10,18hr}$ façade	68 dB $L_{A10,18hr}$ façade
Night (23:00-07:00)	40 dB L_{night} , outside (free-field)	55 dB L_{night} , outside (free-field)

- 3.2.5 LOAELs and SOAELs should be modified where it is proportionate and merited by local circumstances which can include, but are not limited to:
- Noise sensitive receptors that have reduced sensitivity to noise e.g. where the receptors have good noise insulation; and / or
 - Noise sensitive receptors that have an increased sensitivity to noise or vibration e.g. if a building is regularly used by people with hearing impairments.
- 3.2.6 The effect on people from road traffic noise can also be reported in terms of nuisance. The assessment of nuisance is based upon a short-term change in road traffic noise of 1 dB, being the smallest that is considered to be perceptible to the human ear. The long-term change, (typically 15 years after the project is opened) of 3 dB is considered to be perceptible. The magnitude of impact should therefore be considered to be different in the short term and long term.

3.2.7 DMRB indicates the classification of the magnitude of the change in road traffic noise, in the short term as shown in [Table 3.3](#) and long term in [Table 3.4](#).

Table 3.3: DMRB Short Term Magnitude of Change

Short Term Noise Change (dB $L_{A10,18h}$ or L_{night})	Short Term Magnitude
0	No Change
Less than 1.0	Negligible
1.0 – 2.9	Minor
3.0 – 4.9	Moderate
Greater than or equal to 5.0	Major

Table 3.4: DMRB Long Term Magnitude of Change

Long Term Noise Change (dB $L_{A10,18h}$ or L_{night})	Long Term Magnitude
0	No Change
Less than 3.0	Negligible
3.0 – 4.9	Minor
5.0 – 9.9	Moderate
Greater than or equal to 10	Major

3.2.8 Where the magnitude of a change in noise level at sensitive receptors is negligible in the short-term, the change is considered not significant. To determine the significance of impacts of projects an initial assessment is made using [Table 3.5](#).

Table 3.5: Initial Assessment of Operational Noise Significance

Significance	Short Term Magnitude of Change
Significant	Major
Significant	Moderate
Not Significant	Minor
Not Significant	Negligible

3.2.9 Where the magnitude of change at a noise sensitive receptor in the short-term is minor, moderate or major, [Table 3.6](#) along with the output of [Table 3.5](#) shall be used to determine final significance.

Table 3.6: Determining Final Operational Significance on Noise Sensitive Receptors

Local Circumstance	Influence on Significance Judgement
Noise level change (is the magnitude of change close to the minor/moderate boundary?)	1) Noise level changes within 1 dB of the top of the 'minor' range can indicate that it is more appropriate to determine a likely significant effect. Noise level changes within 1 dB of the bottom of a 'moderate' range can indicate that it is more appropriate to consider a change is not a likely significant effect.

Local Circumstance	Influence on Significance Judgement
Differing magnitude of impact in the long term to magnitude of impact in the short term	1) Where the long-term impact is predicted to be greater than the short-term impact, it can be appropriate to conclude that a minor change in the short term is a likely significant effect. Where the long-term impact is predicted to be less than the short term it can be appropriate to conclude that a moderate or major change in the short term is not significant. 2) A similar change in the long term and non-project noise change can indicate that the change is not due to the project and not an indication of a likely significant effect.
Absolute noise level with reference to LOAEL and SOAEL (by design this includes sensitivity of receptor)	1) A noise change where all do-something absolute noise levels are below SOAEL requires no modification of the initial assessment. 2) Where any do-something absolute noise levels are above the SOAEL, a noise change in the short term of 1.0dB or over results in a likely significant effect.
Location of noise sensitive parts of a receptor	1) If the sensitive parts of a receptor are protected from the noise source, it can be appropriate to conclude a moderate or major magnitude change in the short term and/or long term is not a likely significant effect. 2) Conversely, if the sensitive parts of the receptor are exposed to the noise source, it can be more appropriate to conclude a minor change in the short term and/or long term is a likely significant effect. 3) It is only necessary to look in detail at individual receptors in terms of this circumstance where the decision on whether the noise change gives rise to a significant environmental effect is marginal.
Acoustic context	1) If a project changes the acoustic character of an area, it can be appropriate to conclude a minor magnitude of change in the short term and/or long term is a likely significant effect.
Likely perception of change by residents	1) If the project results in obvious changes to the landscape or setting of a receptor, it is likely that noise level changes will be more acutely perceived by the noise sensitive receptors. In these cases it can be appropriate to conclude that a minor change in the short term and/or long term is a likely significant effect. 2) Conversely, if the project results in no obvious changes for the landscape, particularly if the road is not visible from the receptor, it can be appropriate to conclude that a moderate change in the short term and/or long term is not a likely significant effect.

3.2.10 The number of properties affected shall not be used to justify change between the initial operational significance and the final operational significance.

Calculation of Road Traffic Noise

3.2.11 The potential change in road traffic noise because of the proposed development has been considered in-line with the methodology from the Calculation of Road Traffic Noise (CRTN).

3.2.12 The CRTN method considers road traffic using the Annual Average Weekday Traffic (AAWT) flows for the hours of 06:00 to 00:00 on the selected road links together with the average speed, percentage of heavy vehicles, road surface type and gradients to output predicted road traffic noise levels in terms of the $L_{A10(18\text{hour})}$ parameter, including a façade correction. The methodology assumes that the receptor is downwind of the source (i.e. the road) in moderate winds.

3.2.13 Whether or not a significant adverse effect is expected to occur is determined by comparing the predicted noise level (with the Proposed Development) with the LOAEL and SOAEL values shown in [Table 3.7](#) and considering the increase in noise due to the proposals.

Table 3.7: Desirable Ambient Noise Levels for Dwellings

Effect	Time Period	Threshold Value ($L_{Aeq,T}$)
LOAEL	07:00 – 23:00	50
	23:00 – 07:00	40
SOAEL	07:00 – 23:00	65
External Noise	23:00 – 07:00	55

3.2.14 If the daytime LOAEL threshold is exceeded, the data in [Table 3.8](#) sets out how the magnitude of the impact is described taking account of the change in daytime noise exposure and the resulting exposure.

Table 3.8: Descriptors of Magnitude of Daytime Road Traffic Noise Change

Magnitude	Change in Noise Level	
	Between LOAEL & SOAEL	Above SOAEL
No Change	0	0
Negligible	Up to 2.9 dB(A)	Up to 0.9 dB(A)
Minor	3.0 – 4.9 dB(A)	1.0 – 2.9 dB(A)
Moderate	5.0 – 9.9 dB(A)	3.0 – 4.9 dB(A)
Major	10 dB(A) or above	5 dB(A) or above

3.2.15 If the night-time LOAEL threshold is exceeded, the data in [Table 3.9](#) sets out how the magnitude of the impact is described taking account of the change in night-time noise exposure and the resulting exposure.

Table 3.9: Descriptors of Magnitude of Night-Time Road Traffic Noise Change

Magnitude	Change in Noise Level	
	Between LOAEL & SOAEL	Above SOAEL
No Change	0	0
Negligible	Up to 0.9 dB(A)	Up to 0.9 dB(A)
Minor	1.0 – 2.9 dB(A)	1.0 – 2.9 dB(A)
Moderate	3.0 – 4.9 dB(A)	3.0 – 4.9 dB(A)
Major	5 dB(A) or above	5 dB(A) or above

3.2.16 The predictions have been based on the proposed development operating at full capacity.

[BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound](#)

3.2.17 BS 4142:2014+A1:2019 is used to rate and assess sound of an industrial and/or commercial nature including:

- Sound from industrial and manufacturing processes;
- Sound from fixed installations which comprise mechanical and electrical plant and equipment;

- Sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and;
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

3.2.18 The purpose of the BS 4142:2014+A1:2019 assessment procedure is to assess the significance of sound of an industrial and/or commercial nature.

3.2.19 BS 4142:2014+A1:2019 refers to noise from the industrial source as the 'specific noise' and this is the term used in this report to refer to noise which is predicted to occur due to activities associated with the proposed commercial/industrial uses.

3.2.20 BS 4142:2014+A1:2019 assesses the significance of impacts by comparing the specific noise level to the background noise level (L_{A90}).

3.2.21 Certain acoustic features can increase the significance of impacts over that expected from a simple comparison between the specific noise level and the background noise level. BS 4142:2014+A1:2019 identifies that the absolute level of sound, the character, and the residual sound and the sensitivity of receptor should all be taken into consideration. BS 4142:2014+A1:2019 includes allowances for a rating penalty to be added if it is found that the specific noise source contains a tone, impulse and/or other characteristics. The specific noise level along with any applicable correction is referred to as the 'rating level'.

3.2.22 The greater the increase between the rating level over the background noise level, the greater the magnitude of the impact. The assessment criteria given by BS 4142:2014+A1:2019 are as follows:

- 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; and
- 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.

3.2.23 During the daytime, BS 4142:2014+A1:2019 requires that noise levels be assessed over 1-hour periods. However, during the night-time, noise levels are required to be assessed over 15-minute periods.

3.2.24 Where the initial estimate of the impact needs to be modified due to context, BS 4142:2014+A1:2019 states that all pertinent factors should be taken into consideration, including:

- The absolute level of sound;
- The character and level of the residual sound compared to the character and level of the specific sound; and
- The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or external acoustic conditions.

3.3 Noise Monitoring

- 3.3.1 In order to undertake a BS 4142:2014+A1:2019 assessment it is recommended that any noise monitoring of the background noise levels are reliable and suitably represent both the particular circumstances and periods. At the time of writing it has not been possible (due to time constraints) to undertake a background noise monitoring programme.
- 3.3.2 As the client is seeking 24-hour, (7 days a week) planning permission it is proposed that a week-long background noise monitoring survey is undertaken at the location illustrated in Figure 3.1, from the 2nd November to 9th November 2021.

Figure 3.1: Proposed Monitoring Location



3.4 Noise Modelling

- 3.4.1 The potential levels of sound arising from operational activities will be predicted using the environmental noise modelling software CadnaA for the relevant receptor locations.
- 3.4.2 Several different methods of prediction have been used depending on the type of source, all of which will assume downwind propagation from the source to the receptors. These will be:
- Calculation of Road Traffic Noise (CRTN) for vehicles travelling on the local highway network; and
 - ISO 9613-2:1996 for all other sources, together with appropriate source data.

3.4.3 The predictions will be based on the operation of the proposed development at full capacity and the following information will be incorporated into the prediction model:

- Ordinance Survey Map Tiles;
- Ordnance Survey topographical data;
- The layout of the site as shown in the Site Layout Plan Reference – AJA Architects – Proposed Site Layout Plan;
- Traffic data (supplied by the Project Transport Consultants); and
- The existing receptors will be included as 3D structures and a receptor height of 1.5 m to reflect ground floor exposure and 4 m for the first floor has been used.

3.5 Assessment Receptors

3.5.1 The assessment will consider the potential impacts upon the closest noise sensitive receptors. The identified receptors include the residential moorings on the nearby canal.

3.5.2 The selected noise sensitive receptor locations are illustrated in [Figure 3.2](#).

Figure 3.2: Assessment Receptor Locations



3.5.3 Noise decreases with increasing distance from the source; therefore, any receptor that is located at a greater distance from the proposed development than the identified receptors are likely to be subjected to lower operational noise levels.

3.6 Uncertainty and Limitations

- 3.6.1 Regarding the noise survey measurements, the baseline survey will be conducted over a 7-day period to obtain a representative sample of the baseline noise environment. Baseline surveys conducted over a number of days reduce the uncertainty of the resulting measured noise levels.
- 3.6.2 In terms of the assessment of the operational sound, it is difficult to consider the impact of sources which are not yet present and cannot be measured or heard in the context of the noise environment at the receptor. The assessment of the operational sound will be made to be as robust as possible based on the information provided at the time of writing the report.
- 3.6.3 In summary, it is considered that whilst there will always be a level of inherent uncertainty in any assessment, where possible, potential sources of uncertainty will be minimised to ensure a robust assessment is undertaken.

3.7 Mitigation

- 3.7.1 Should the assessment determine that there is a potential for adverse impacts then there are several mitigation options available to reduce the noise at source and or to mitigate the source receptor pathway to ensure that the noise levels at the noise sensitive receptor locations does not exceed that British Standard criteria levels.

4 Summary & Conclusions

- 4.1.1 This Noise Statement sets out the noise framework and approach that is being undertaken to assess the impacts of the proposed development.

