



Technical Addendum

Site Address: Aquavitrum LTD, Riverside Industrial Park, Coneger Road, SO50 6JQ

Client Name: Aquavitrum Ltd

Project Reference: NP-013262-2



Authorisation and Version Control

Revision	Reported By	Checked By
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Amendment History

Revision	Date	Summary of Amendments
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Delivering sustainable development by promoting good health and well-being through effective management of noise.

1. Introduction

NOVA Acoustics Ltd has prepared a technical addendum to support the noise impact assessment report prepared in May 2026 (NP-013262), for an operational glass recycling plant as part of the Aquavitrum LTD site at Riverside Industrial Park, Conegar Road, Eastleigh, SO50 6JQ ('the Site').

Proposals have been made to change the existing operational hours for the site, with the facility seeking to operate continuously for an extended periods of 06:00 – 23:00, seven days a week, but with no working on Public / Bank Holidays.

The latest noise impact assessment report provided by NOVA Acoustics in May 2026 shows that in comparison to the proposed LPA criterion, some exceedances may occur at the closest NSR. However, when considering assessment towards the typical $L_{A90,15min}$, low impact is expected at the two closest NSRS in accordance with BS4142.

This document has been prepared to support the above assessment and provide further clarity regarding the comparison between the predicted noise impact and the criterion proposed by the LPA and should be read alongside report 'NP-013262 – Noise Impact Assessment (SO50 6JQ) - Rev 06'.

2. Local Planning Authority Correspondence (2022 - 2023 & 2025)

2022 – 2023 Correspondence and Criterion

It is understood that prior to the appointment of NOVA Acoustics, correspondence between Wardell Armstrong and the LPA stated the following:

"... Mitigation measures shall ensure that a site Rating Level of at least 5 decibels below the Background Sound Level is achieved at the nearest residential property (in free field conditions, as defined in BS 4142:2014 (as amended))".

In addition to the above, an email from John Pyke (an EHO from Eastleigh Borough Council) detailed that a background sound level of 44 dB(A) should be utilised as the baseline at the two closest NSRs regarding any noise emissions affiliated with Aquavitrum.

On this basis, and to minimise the potential for disturbance at the two closest NSRs, NOVA Acoustics proposed an approach that combines the two requirements set out by the LPA. This comprised adopting a criterion 5dB below 44dB(A), combined with a concrete block wall mitigation scheme put forward by Wardell Armstrong (*ref: N310131/Final*). The proposed mitigation was shown to achieve compliance with the adopted criterion of 39 dB(A) during the original operating hours of 08:00 – 18:00.

2025 Correspondence and Criterion

As part of the revised proposals to increase the operating hours to 06:00–23:00, NOVA Acoustics undertook an additional long-term noise survey to establish a suitable baseline representative of the proposed operating period.

The assessment found that, when applying a criterion of 5dB below the newly measured background sound levels, the cumulative BS4142 rating sound level from the site would result in exceedances. However, the predicted noise levels at NSRs 1 and 2 remained 4dB and 3dB below the existing background sound levels, respectively; this indicated a low impact in accordance with the guidance provided in BS4142.

Following submission of the 2025 report, the LPA set out additional requirements, stating that a criterion should now be derived based on 5dB below the background sound levels during the most sensitive evening and early morning periods, which resulted in a significant reduction in the adopted criterion. The revised criterion now being 13dB below the baseline criterion previously proposed by the EHO in 2022, and 8dB below the criterion proposed by NOVA Acoustics within report NP-010039 at NSR2.

As a result, rating level exceedances in accordance with the latest LPA requirement are 2dB and 6dB across NSRs 1 – 2, respectively. However, rating level exceedances over the background sound levels were -3dB and +1dB at NSRs 1 & 2, respectively; this is an indication of 'low impact' and a low likelihood of 'adverse impact', respectively prior to any consideration for context.

3. Discussion

BS4142:2014+A1:2019

When assessing industrial or commercial noise, acoustic design criteria are commonly set based on the guidance presented within BS4142:2014+A1:2019.

The following summarises the primary steps in the BS4142:2014+A1:2019 assessment methodology:

- A representative background sound level ($L_{A90,Tr}$) is determined based on the noise survey results;
- The cumulative specific sound level ($L_{Aeq,Tr}$) from the proposed development is predicted outside the windows of the NSRs and residential gardens;
- The rating sound level ($L_{Ar,Tr}$) is determined by applying 'acoustic feature corrections' which correct for the acoustic characteristics of the sound which may be perceptible and potentially cause annoyance at each NSR;
- The predicted rating sound level is compared with the background sound level and the level of impact is initially estimated in accordance with BS4142:
 - o Typically, the greater this difference, the greater the magnitude of the impact.
 - o A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.
 - o A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.
 - o 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 negligible impact, depending on the context.
- Further context can then be provided where necessary.
- If necessary, mitigation measures are recommended to reduce the predicted noise impact.
- An assessment of the night-time specific sound levels against the adopted absolute criteria has also been conducted. This assessment is heavily dependent on the wider context of the assessment and the site.

NPPF (2024 – Amended 2025)

Government policy on noise is set out in the National Planning Policy Framework (NPPF), updated in 2025. This replaced all earlier guidance on noise and places an emphasis on sustainability.

In section 15, Conserving and enhancing the natural and local environment, in paragraph 187e it is stated that:

“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;”

It is stated in Paragraph 198 that:

“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 impact 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 and amenity value for this reason; and*
- c) Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”*

NPSE (2010)

This document sets out a policy vision 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”*.

The policy identifies the following three aims:

1. Avoid significant adverse impacts on health and quality of life (SOAEL).
2. Mitigate and minimise adverse impacts on health and quality of life (LOAEL).
3. Where possible, contribute to the improvement of health and quality of life.

It is acknowledged within the NPSE that it is not possible to have a single objective noise-based measure that is mandatory and applicable to all sources of noise in all situations and provides no guidance as to how the criteria should be interpreted.

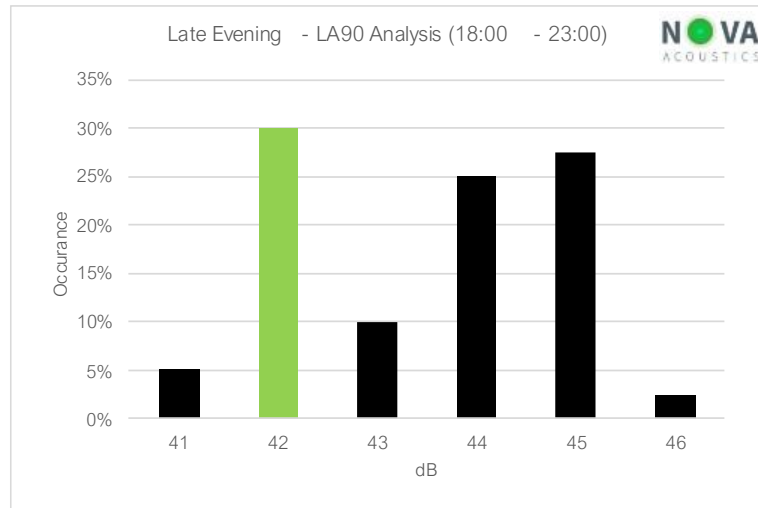
It is clear, however, that there is no requirement to achieve noise levels where there are no observable adverse impacts but that reasonable and practicable steps to reduce adverse noise impacts should be taken in the context of sustainable development, and ensure a balance between noise sensitive and the need for noise generating developments, particularly where they are economic or social benefits.

Proposed BS4142 Criterion – Discussion

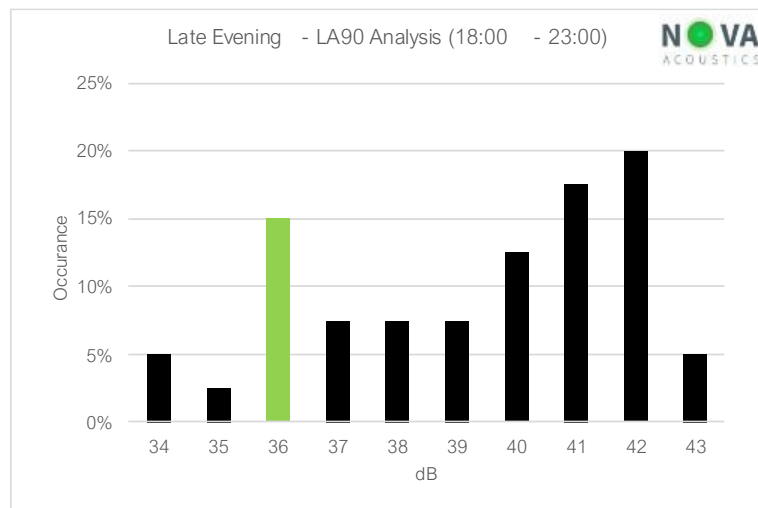
For further clarity, the lowest typical criteria across both the early morning / late evening periods were used across each monitoring location to set exclusive criteria between 05:30 – 07:00 & 18:00 – 23:00. Alongside this, entire daily operations criteria were also stated.

The assessment used the lowest of either the weekday or weekend measurement period. In this instance, the weekday represented the more stringent quieter assessment period. During the weekend, the background sound levels were circa 44dB and 38-41dB $L_{A90,15min}$ across MP1 and MP2, respectively.

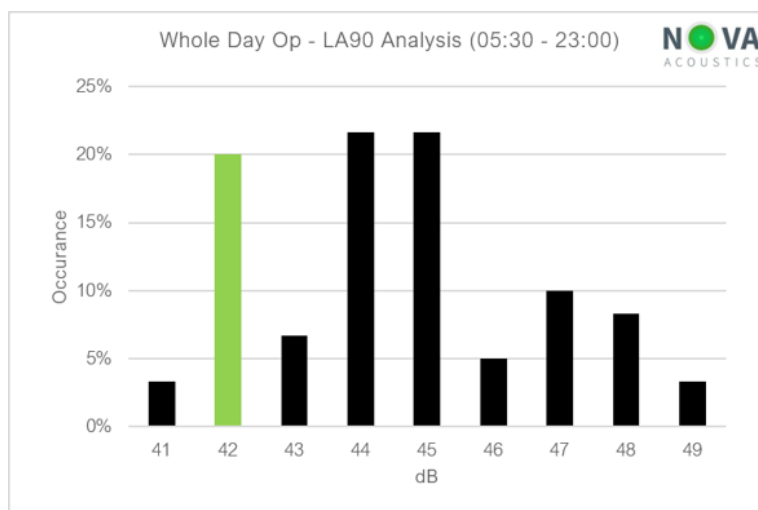
The following figures each outline the typical background noise levels across each period.



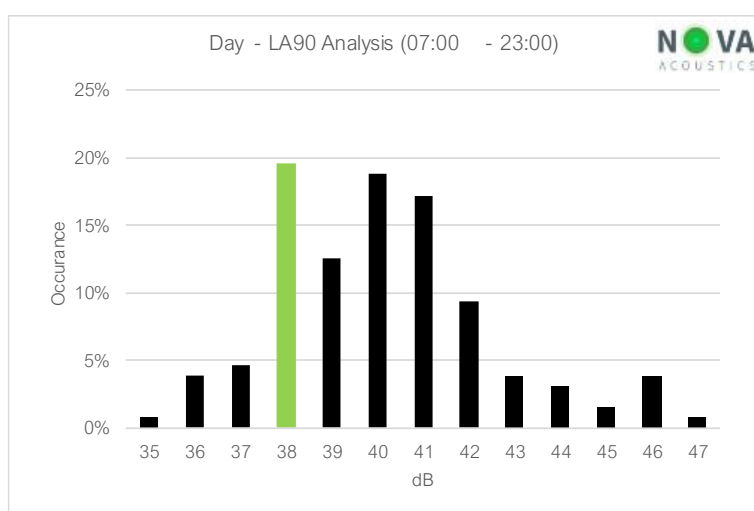
Early Morning / Late Evening Criteria MP1



Early Morning / Late Evening Criteria MP2



All Day Criteria MP1



All Day Criteria MP2

In accordance with BS4142, the rating sound level does not exceed the representative background noise level during any assessment period, apart from the late-evening period at NSR2 (MP2). This generally indicates a low likelihood of 'adverse impact, dependant on context' in accordance with BS4142.

For the late-evening period at MP2, the assessment criterion has been based on a value within the lowest quartile of the measured background sound levels. For approximately 75% of the period between 18:00 and 23:00, noise from Aquavitrum is expected to remain at or below the prevailing background sound level at NSR2. During the remaining lower-noise periods, the predicted exceedance is marginal considering the assessment assumed that all plant and equipment are operating simultaneously. In accordance with the Department of Health's *Health Technical Memorandum 08-01: Acoustics*, a 1dB difference is considered negligible in acoustic terms, as it is not perceptible to human hearing.

BS4142 also requires the context in which the source exists to be considered when interpreting the assessment findings. In this instance, the site is situated within an established industrial area containing several existing noise-generating sources, some of which are understood to operate outside the site's own hours of operation and on a 24-hour basis.

The latest report also notes that the on-site engineer spoke with occupants of the nearest dwelling on Chicken Hall Lane, who indicated that they were unaware of Aquavitrums's presence due to the prominence of other, unaffiliated industrial premises being much closer in comparison. This further supports the conclusion that the site operates within an already established industrial noise environment and provides important context when considering the low level of affiliated impact.

Further Discussion & Context to LPA Criterion

In addition to the guidance set out in BS4142, the further 5dB reduction required by the LPA results in adopted criteria that are below the minimum L_{A90} measured during the corresponding assessment periods at both MP1 and MP2; as such, it would be unlikely for the site-specific noise emissions to be audible.

The MP2 long-term monitoring location was acoustically screened from the existing development and other nearby commercial units. As such, the adopted criteria are expected to be lower than the existing background sound levels currently experienced at those receptors.

The report also discussed the likely internal specific sound levels at nearby receptors during the early morning / late evening periods. Allowing for the 13dB attenuation provided by a partially open window and adopting the 'worst-case' external noise level of 39dBA at the window of NSR1 during the early morning or evening hours, the resulting internal noise level is predicted to be approximately 26dB. This is at least 4dB below the recommended internal sleeping criterion (23:00 – 07:00) and 8dB below the recommended resting criterion (07:00 – 23:00) set out in BS8233.

In addition, it was noted by the on-site engineer during the initial visit that at NSR1, site operations were considered inaudible, and the measured ambient and residual sound levels support this observation, along with the comments raised by the residents on Chicken Hall Lane.

Existing Mitigation Scheme – Discussion

In accordance with the recommendations made by Wardell Armstrong within the original assessment, 4.8m high concrete walls were installed along the north-eastern side of the hopper bay. This represents a clear and proactive effort by the client to reduce noise emissions from the site as far as reasonably practicable.

Based on the noise measurements undertaken by NOVA Acoustics of on-site activities, the overall dB(A) noise levels associated with each activity were found to be broadly similar. As such, it is not simply a case of reducing a single activity to achieve compliance at each NSR, as the overall site noise contribution is influenced by a combination of plant.

On this basis, the installation of high-level concrete barriers around the hopper bay represents a targeted and proportionate mitigation measure. The barriers addressed one of the principal operational areas and demonstrated that the client has taken reasonable steps to minimise noise emissions from the site.

Although individual barriers could theoretically be positioned adjacent to each noise source, this is unlikely to be as effective in practice, given the space constraints required to access and maintain the plant equipment.

NPSE and NPPF Noise Impacts

Given the wider context of the site and the assessment criteria, it is thought that a 'Significant Observed Adverse Effect Level' ('SOAEL') has been avoided and that all reasonable steps have been taken to reduce any 'adverse effects' in accordance with the NPSE and NPPF.

As there is no national requirement for the site to be inaudible it is thought that the more stringent LPA criteria is unnecessary given the robustness of the chosen background sound levels.

The associated noise impacts are thought to align with the threshold for a 'No Observed Adverse Effect Level' ('NOAEL') in accordance with the NPSE and NPPF.

It is stated that at NOAEL *"noise can be heard, but does not cause any change in behaviour, attitude or other physiological response"*. In addition, noise at this level *"can slightly affect the acoustic character of the area but not such that there is a change in the quality of life"*.

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