



Hann Tucker Associates
 Consultants in Acoustics
 Noise & Vibration Control

Demolition and Construction Noise and Vibration Monitoring

There is an ongoing trend by Local Authorities to set limits for noise and vibration levels resulting from demolition and construction activities. These limits are often formally agreed via a Control Of Pollution Act Section 60 Noise Abatement Notice or a Section 61 Prior Consent Agreement (see below and Hann Tucker Associates Client Information Bulletin 6).

The installation of fully automated noise and vibration monitoring equipment and regular reporting provides evidence that any limits imposed are being adhered to. Additionally, noise and vibration monitoring can provide an early warning system for works which are in danger of approaching any limits imposed by the Local Authority.

Q *What kind of restrictions could the Local Authority apply?*

A Local Authority may apply demolition and/or construction noise and vibration limits which are not to be exceeded at any nearby noise/vibration sensitive locations. The purpose of the limits would usually be to avoid disturbance to occupants of, or damage to, nearby buildings.

These limits could be standard practice for the Local Authority and would usually be imposed by a planning condition, or agreed prior to start of on site works within a Section 61 Agreement.

Noise limits would typically be expressed in the form of an $L_{Aeq,T}$ A-weighted sound pressure level, between specified working hours, at defined locations.

Vibration limits would typically be expressed as mm/s peak particle velocity between specified working hours, and again at defined locations.

The Control of Pollution Act : 1974 (COPA) Sections 60 & 61

Sections 60 & 61 of this Act provide the main legislation regarding demolition and construction site noise & vibration issues.

Either Section 60 or 61 may include conditions regarding one or more of the following:

- Working Hours and Quiet Periods
 Once awarded a Section 61 Agreement cannot be superseded by a Section 60 Notice, provided the agreed conditions are maintained on-site.
- Noise Limits (at site boundaries or other noise sensitive locations)
 Section 61 Agreements may only be awarded prior to the start of the package of works.
- Working Practices (site equipment, methodology etc.)
 Section 60 Notices may be issued by the Local Authority to impose specific conditions on the Contractor throughout the site demolition or construction programme.
- Noise Mitigation Measures

Q *Could the data obtained be used as evidence of non-compliance?*

Fears that the data could be used as evidence of non-compliance with the Local Authority's Requirements invariably prove to be unfounded.

The reality is that the data is extremely useful in any defence.



Q How would monitoring be undertaken?

Typically the limits set by the Local Authority would apply at the site boundary or at the boundary of the nearest noise sensitive location.

Each noise monitoring position would have a microphone attached to a sound level meter within a small weatherproof housing, powered with either mains or batteries.

Each vibration monitoring position would have a transducer attached to a Seismograph within a weatherproof box, powered with either mains or batteries.

Alert units can be used to notify site management or operatives immediately by phone/text message, or an audible/visual alarm when specified limits are approached or exceeded.

The monitoring data would be regularly downloaded and analysed, either manually or through remote download.

Q How is the monitoring data presented?

After each download of noise and vibration, the results would be presented in regular reports.

These reports provide a demonstration to the Local Authority of compliance with their requirements, and could be used as evidence of compliance in the case of any complaints.

It enables the contractor to demonstrate that local residents are not being

subjected to excessive levels of noise, or vibration levels likely to be injurious to health or result in any form of structural damage to neighbouring properties.

The monitoring data also provides an excellent method of assessing any changes in the noise climate throughout the duration of the project.

Furthermore, the data is easily comparable with the previously prevailing noise levels which existed (and should have been measured) during the earlier phases of the works.

Q What happens if the limits are exceeded?

If the noise or vibration criteria is approached, site management or operatives can be alerted by text message/phone, or an audible/visual alarm. This allows for action to be taken before the limits have been exceeded.

If limits are continuously approached or exceeded, Hann Tucker Associates can provide advice regarding suitable mitigation measures to assist in reducing noise and vibration impact.

Q What about dust monitoring?

In addition to noise and vibration monitoring, Hann Tucker Associates can also arrange site dust emission monitoring.

This would typically involve the use of monitors, sampling particle concentrations down to a fraction of a microgram every 15 minutes continuously.

The results would be presented within regular technical reports.



Hann Tucker Associates, the leading independent acoustic consultancy in the UK, can provide the necessary professional advice and assistance in negotiating a workable and acceptable COPA Section 61 prior consent agreement, and can undertake subsequent construction and demolition noise and vibration monitoring if required.

By using the specialist knowledge and expertise Hann Tucker Associates has gained through over 35 years of practical and cost effective consulting, we are well placed to provide advice and monitoring services to aid compliance with the Requirements of the Local Authority.



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