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## Mitigation and Enhancement

### *Construction Noise*

Several safeguards exist to minimise the effects of construction noise and these will operate during the works. These safeguards include the measures specified in the various EC Directives and UK Statutory Instruments that limit noise emissions from a variety of construction plant:

- Council Directive 79/113/EEC on the approximation of the laws the Member States relating to the determination of the noise emission of construction plant and equipment.
- Council Directive 86/662/EEC amending Directive 8/538/EEC on the limitation of noise emitted by hydraulic excavators, rope operated excavators, dozers, loaders and excavator loaders.
- Council Directive 86/662/EEC on limitation of noise emitted by hydraulic excavators, rope operated excavators, dozers, loaders and excavator loaders.
- Council Directive 95/27/EC amending Directive 86/662/EEC on the limitation of noise emitted by hydraulic excavators, rope operated excavators, dozers, loaders and excavator loaders.
- Construction Plant and Equipment (Harmonisation of Noise Emission Standards) Regulations, 1988 SI 361. London: The Stationary Office. ISBN 0 11 086361 5

Additional Directives that may be applicable are in Annex A of BS5228 Part 1.

The Control of Pollution Act 1974 (CoPA) is a statutory instrument that requires and empowers local authorities to control noise and vibration emissions from construction sites. Under *Section 60* of the Act, local authorities may serve a notice imposing requirements or restrictions on construction works that are deemed to be carried out inappropriately. The local authorities should state in a Section 60 notice how the work may be continued in such a way as they think appropriate. A notice may specify, inter alia:

- Plant or machinery which is or is not to be used;
- Times of operation; and
- Levels of noise for emissions from the works and/or during specified hours.

Under *Section 61* of the Act, a contractor and the local authority may agree a prior consent for construction works, authorising certain activities to be carried out in a specified manner. Obtaining a Section 61 prior consent reduces the likelihood of the local authority serving a Section 60 notice, and it is recommended for larger construction works.

In addition to CoPA, the Council of the European Communities Directive of 12 May 1986 (86/188/EEC) on the protection of workers from the risks related to exposure to noise at work is implemented by the Noise at Work Regulations, 1989 SI 1790 [12].

The Health and Safety at Work Act 1974 requires all employers to ensure, so as far as reasonably practicable, the health safety and welfare at work of all their employees.

Under the Noise at Work Regulations 1989, Regulation 11, all employees should be informed about the need to minimise noise and about the health hazards of exposure to excessive noise. This includes proper use of equipment, positioning of equipment to reduce noise emission, avoidance of unnecessary noise when operating equipment and protection of persons against noise.

British Standard 5228 *Noise and vibration control on construction and open sites* considers the need for the protection against noise and vibration of persons living and working in the vicinity of, and those working on, such sites. It recommends procedures for noise and vibration control in respect of construction operations, including the following:

- Noise Control at Source – acoustic enclosures and sheds, the use of quieter equipment, alternative work methods
- Acoustic Enclosures – possible solution for stationary plant such as generators and compressors.
- Acoustic Shed Design –Effective screening depends on the extent to which the noise source can be enclosed without the operation of the equipment being adversely affected or the operation being adversely affected or the operator being exposed to additional occupational health and safety hazards.
- Acoustic Screens – The effectiveness of a barrier will depend upon the design, siting and construction. On level sites, the barrier should be brought as close as possible to the noise source or the receiving position. There should be no gaps or openings at joints in the barrier material. The length of the barrier should be at least five times greater than the height and the minimum

height of barriers should be such that no part of the noise source will be visible from the receiving point.

Generic measures below are given to illustrate the range of techniques available.

- The adoption of Best Practicable Means, as defined in the Control of Pollution Act 1974, is usually the most effective means of controlling noise from construction sites.

In addition, the following measures will continue to be undertaken:

- All plant items will be properly maintained and operated according to manufacturers recommendations in such a manner as to avoid causing excessive noise;
- All plant should will be sited so that the noise impact at nearby noise sensitive properties is minimised;
- Problems concerning noise from construction works can sometimes be avoided by taking a considerate and neighbourly approach to relations with the local residents. Works will only take place during given times periods, e.g. 7am – 7pm.

Screening or local hoarding may be put up on the site to shield particularly noisy activities. Experience from other sites has shown that by implementing these measures, typical noise levels from construction works can be reduced by approximately 5 to 10dB(A).