

Barriers to noise

Noise pollution is one of the high priorities in any planning application or consideration of a development. In most cases there is a method of reducing noise to sufficient levels to meet the requirements of the planners.

The key is the methodology in addressing schemes to provide the best practical solution to mitigating noise to levels which planners and environmental officers will find acceptable.

Most new major projects include the need to provide a flexible method of constructing absorbing or reflecting environmental barriers.

This means flexibility in terms of height, gradient and SRI to achieve a high dBA rating. The system is flexible enough to achieve a variation of requirements to meet noise reduction levels.

The ideal material for road, rail, industrial and housing schemes is one which is mainly timber based that has a life expectancy of over 40 years with zero maintenance and a cost per square meter which is lower than any other form of comparable product, whether steel, plastic or concrete.

Different densities and thicknesses of material are used in the reflective barrier depending on the level of noise reduction required. These have been fine tuned in recent years.

For reflective screens, the standard construction begins at 19.7 (laboratory tested) reduction dBA increasing to 31 dBA for absorbing barriers or double sided reflective achieving 30 dBA reduction.

Use of these environmental barriers include new road construction or existing road improvements. In addition, factories where noise emissions exceed the local authority requirements and on railways where housing needs to be protected from noise. For example, the

Docklands Light Railway, where the 'exported' noise from the rail needed to be divorced from residential areas. There was a similar scheme in Cardiff to 'silence' the rail freight terminal from local housing.

Reflective environmental barriers are effective in reducing noise levels where new shopping complexes or industrial developments back onto housing areas.

EB's have been installed in advance of houses being constructed and, conversely, factories have been built in rural areas where there is no perceived housing yet the requirement of the environmental officer has determined low site emissions.

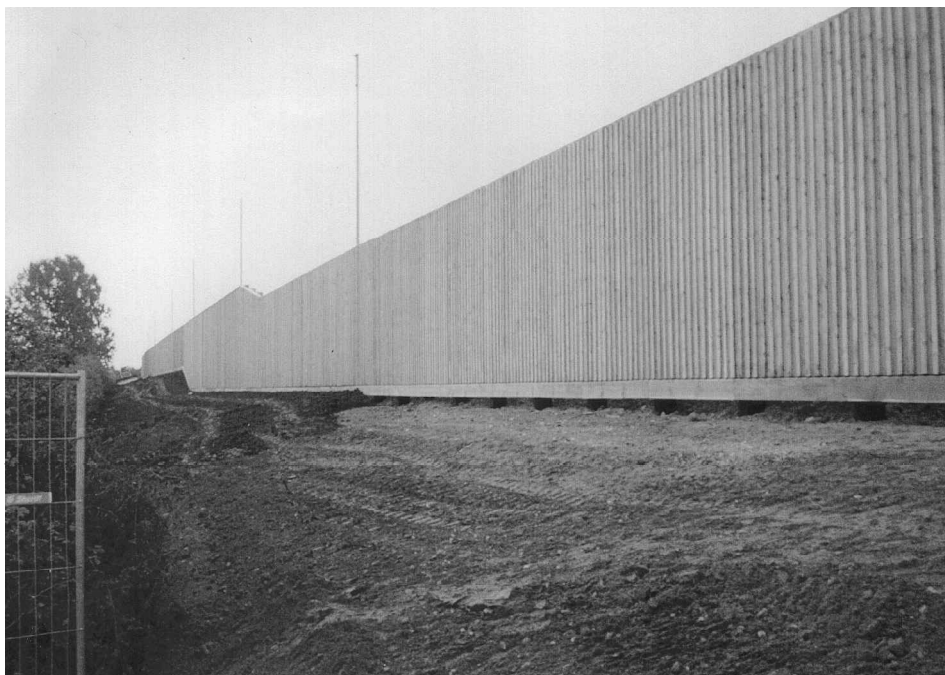
Timber screens are relatively low cost compared with other methods of fencing. From a builder's point of view, they are minimal in ground useage compared with earth bunds.

EB's are also inexpensive to maintain. The use of timber preservatives, together with stainless steel fixings, means there is no need for any form of maintenance.

Charles Ransford & Sons Ltd., of Bishop's Castle, Shropshire, specialise in the design and manufacture of absorbing and reflecting environmental noise barriers for a host of schemes from housing and factories to road and rail. This article by Peter Walters describes the company's approach.



Charles Ransford & Sons are members of the Environmental Noise Barrier Association which has dialogue with the Highways Agency, Rail Track and other national bodies. The ENBA is the mouthpiece for the industry and is made up of acoustic consultants, technical experts, manufacturers and contractors. Ransford's is the main supplier of timber related environmental barriers having designed in excess of 1,000 schemes in the UK and Ireland in the last five years. It can able to offer advice and assistance to address a large variety of problems which can be overcome by using different styles of environmental barrier.



The structures can be pre-fabricated or site built depending upon factors such as rapid build or restricted site access. They are also lightweight structures compared with concrete or block which require foundations.

The method has been used in excess of 25 years. In the early days of the M6, EB's were erected on the motorway and the material is still as

functional today as it was then - despite the motorway being the busiest in Europe. Again, there is zero maintenance. In the event of crash damage replacement is easily achieved.

With the introduction of new European standards for environmental barriers, the system is fully compliant following test results carried out by Salford University.

