

Noise Pollution Remedy Jubilee Line Shaft Excavation

Bennett Associates, the South Yorkshire based Mechanical and Structural Design Consulting Engineers, was commissioned by Tarmac Construction Ltd, Tunnelling Division, to carry out the structural Design of an 'Acoustic Shroud'. The structure was necessary to reduce noise pollution around the excavation of the access shaft for the passenger interchange tunnel at Green Park Station for the Jubilee Line Extension.

As work was carried out around the clock stringent noise emission parameters were placed upon the constructors by Westminster City Council (WCC). Bennett Associates was involved in direct discussions with WCC during the planning phase of the project at which the noise emission levels were set which varied according to the time of day or week.

These set maximum levels, as low as 35dB, were achieved during the demolition of a reinforced concrete six storey block of offices which stood on the site, and also while construction work was under way. This is believed to be the first time an 'Acoustic Shroud' has been used to enclose a site like this and much can be said for the success of the project as it allowed businesses and residents to continue as normal while work progressed.

The structure not only had to meet stringent noise reduction levels but also had to be designed to include the structural steel members which supported all the operational and domestic requirements related to a major construction operation such as this. It also had to allow ingress and egress of all materials and equipment.

The photographs illustrate the close confines in which all the services and construction equipment had to be located and the close proximity of the temporary building to residential and business premises in the heart of London's West End.

