

What's happening?

Lessons Learned at *Blackfriars* Noise Control

Overview:

The Network Rail Thameslink Programme is bringing significant improvements to both the Thameslink and London Underground Stations at Blackfriars.

Complex construction works are being delivered in a high density urban area. Methods such as an extensive noise monitoring programme, good working relationships with external regulators and low impact construction techniques have ensured works can take place 24 hours a day, seven days a week on a high density urban area.

Lessons Learned

During noise monitoring, it has been observed more than once that the measured L_{Amax}^1 index for the same process can vary greatly. The example shown in *figure 1* is the installation of access basket scaffold. It compares noise emissions when a supervisor is continuously present for a particular set of works and when they are not. L_{Amax} is measured to be significantly lower during the supervised period. Although the relevant parties are always briefed regarding noise prior to works, in this case supervision meant L_{Amax} index for the same process was reduced by 9dB.

N.B If the noise is not continuous, sleep disturbance correlates best with L_{Amax} and effects have been observed at 45 dB indoors.

The L_{Aeq}^2 index remains almost unchanged and both measured levels comply with S61 limits.

¹ L_{Amax} maximum noise level measured at a given location over the fifteen minute interval.

² L_{Aeq} when a noise varies over time, the L_{eq} is the equivalent continuous sound which would contain the same sound energy as the time varying sound

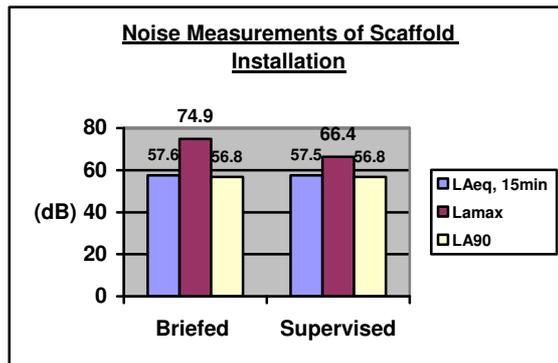


Figure 1 – noise measurements at a local receptor.

Preventative measures implemented:

- At each night-shift coordination meeting activities are identified that could most benefit from supervision of BPM noise.
- Proximity of works to residents, potential of drop heights and new activities are the considered factors.
- Supervision of sub-contractor or main contractor operations applied immediately after pre-start briefing.
- More frequent communication between on site supervisors and noise monitoring engineer at local receptors can better focus supervision.

Meeting our objectives & targets:

- Network Rail Thameslink SDSCS - *Supporting health and amenity*
- Balfour Beatty's Sustainability Roadmap - *Receive, understand and act on local stakeholder views and aspirations for the project*
- CEEQUAL – *Effects on Neighbours*
- Section 61 Consent – The above preventative measures reduce the long term noise impact of works on local residents and help ensure the commitments of the project to Southwark and City of London local authorities with regard to best practicable means as described in section 61 consents are met.

