

Building houses next to noisy operations

Miller Homes redeveloped a semi-derelict commercial area for housing as part of the Grainger Town Project in Newcastle-upon-Tyne.

The proposed housing project was located in a narrow lane directly opposite the Newcastle Chronicle and Journal (NCJ) building which includes editorial and print for both the morning and evening newspapers. The print production for the morning edition peaks between 23:00 and 04:00 hours.

During the planning application Newcastle City Council Environmental Health raised concerns about night-time noise affecting future residents. The lane in Pudding Chare has numerous late night restaurants and bars and is a busy pedestrian thoroughfare.

A detailed survey was conducted to measure noise from sources within the NCJ. These included standby generators, compressors and air conditioning plant on the roof; ventilation noise from fans serving the print room in the basement; and compactor noise in the service yard.

A complex 3D computer noise model was constructed to help assess the relative contribution from all noise sources. This identified that the main sources of noise from fixed plant was noise leaking out of the old metal framed windows on the NCJ building, hydraulic ram on the paper compressors, and the noise from the basement ventilation. NCJ implemented numerous noise reduction measures at the site including silencing the compactors and the basement ventilation systems. High quality glazing units were specified to protect the amenity of residents from the residual noise from fixed plant and late night road traffic noise. The 1/3rd octave frequency characteristics were predicted at all bedroom windows to enable the performance requirements of the building fabric of the new houses to be determined.

A post construction test survey was conducted to confirm the performance of the new build and to confirm that the abatement works at NCJ had been conducted in accordance with the assessment. The flats have now been occupied for several years and no noise complaints have been received by the City Council to date.

