

# Aberfeldy Noise

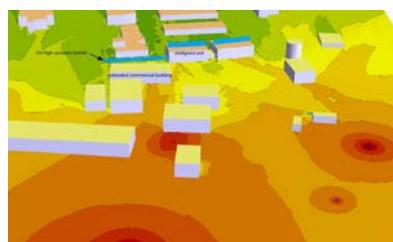
The Lomond Group made application to Perth and Kinross Council (PKC) for planning permission for a mixed use development on the site of a former laundry in Aberfeldy. The scheme proposed fifteen new-build residential units and five light industrial units. The Environmental Health Service of PKC were concerned the development would introduce housing next to industrial units. The Airshed was appointed by the project architect (Aim Design) to conduct the environmental noise impact assessment.



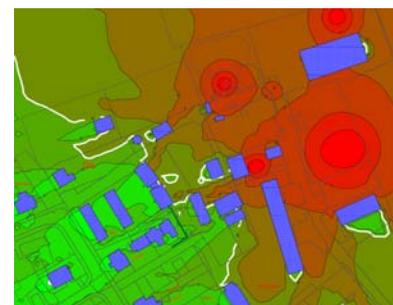
The main sources of noise affecting the proposed residential uses included a small wastewater treatment works, a garage workshop, mineral processing, a builder's yard and a road depot used for winter road gritting operations at night.



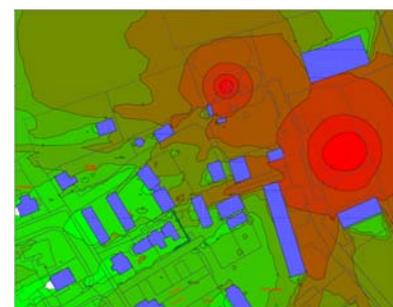
A baseline sound survey was conducted at four locations around the proposed development site to represent exposure during the daytime and at night. Although there was some potential for loss of residential amenity during the daytime from the adjacent industrial and commercial activities, most of the noisy operations were restricted to normal working hours. The main potential impact was from night-time operations at the road depot.



Noise levels were predicted using a computer-based noise prediction model (SoundPlan 8.0) in accordance with ISO 9613. Noise sources were based on measurements near the existing operations and at similar operations elsewhere. The impacts were assessed in accordance with BS 4142:2014 and World Health Organisation (WHO) sleep disturbance criteria. Following a design review, working with the project architects, the results from the noise prediction model were used to help modify the layout of the proposed scheme, to reduce exposure at the nearest dwellings.



Night-time sound levels at the nearest exposed elevations were predicted to exceed  $50 \text{ dB LA}_{\text{eq } 15 \text{ minutes}}$  when gritting operations were underway, and  $<40 \text{ dB LA}_{\text{eq } 15 \text{ minutes}}$  on the sheltered elevations. The design for the housing therefore located all bedrooms on the sheltered elevations to prevent sleep disturbance. Windows on exposed elevations were to be fitted with acoustic insulation and trickle vents to ensure that sound levels inside comply with WHO environmental noise criteria. The noisy night-time operations associated with road gritting are restricted to winter months during cold weather when residents are less likely to use open windows for ventilation.



Perth & Kinross Council Environmental Health accepted the findings of the study.

The top two images showing the housing layout are by Aim Design