WIELAND ACOUSTICS
noise & vibration consultants

Are Noise Standards Sufficient?

As a developer, planner, architect, or engineer, you're probably familiar with the fact that most municipalities require new developments to comply with certain interior or exterior noise standards. The purpose of these standards is to provide an acceptable living environment for the occupants of the project or its neighbors (in those cases where the project itself generates noise.) But are these municipal standards sufficient? Consider the following cases:

A new office building or residential tract located near a flight track or rail line. The standards require mitigation of the average noise level, but what of those maximum noise levels that are experienced every time a plane takes off or a train rumbles by? Will the occupants of your office building have to stop work until the noise subsides? Will the residents be woken from their sleep?

A new office or professional building. The local noise standards address noise propagation from the exterior of the building to the interior, but what of noise generated within the building? Will there be any privacy between office spaces? Will the noise from the HVAC system be intrusive? Will noise and vibration from mechanical equipment be excessive? Will there be sufficient sound absorption to ensure that people won't be working in echo chambers? For open office plans, will there be sufficient privacy between cubicles to ensure that people will be able to work effectively?

A new commercial/industrial project. The local noise ordinance standards limit the amount of noise that can propagate to the adjacent properties, but they don't always address the character of the noise. Will the project generate noise that is annoying to the neighbors (e.g., a screech, hum, beat, or rumble) even though it complies with the standards?

Also, the noise ordinance standards don't always properly address the ambient noise level. For example, assume that the nighttime ambient noise level at nearby homes was 35 dB(A) before your project was completed, and 45 dB(A) afterwards. Assume also that the noise level of 45 dB(A) generated by your project fully complies with the City's standard. Your project has doubled the loudness that the homeowners experience at night. Will you receive complaints? Guaranteed. Will you be required to reduce your noise level? Most likely, because the noise ordinance standard did not adequately address the potential for annoyance to the adjacent property owners.

A new apartment building, multifamily development, hotel or motel. The local noise standards limit the amount of noise that can be experienced inside or outside the building. But what of plumbing noise? Or noise from HVAC condensers that are mounted on the roof or outside a neighbor's window? Or noise and vibration from opening or closing cabinet doors, or using garbage disposals? These are not addressed in any standard but are a frequent source of complaints.

The State of California Title 24 standards for party walls and floor/ceiling separations should also be examined. Do they provide sufficient isolation to meet the expectations of the residents and to minimize annoyance?

Look beyond the standards. Noise standards are good guidelines and can serve as a warning that a potential problem exists. But for a project to be viable and successful, it often pays to look beyond what's required to what's really needed.

This is where a qualified acoustical consultant can be a real asset to the development team – to identify and remedy potential problems before they occur, thus saving time, money and aggravation.