

# Sprint Communications Site Santa Cruz, CA

## Environmental noise modeling & mitigation

**Client**  
SiteMaster

**Completion**  
2006

**Work Scopes**  
Environmental Noise Testing  
Environmental Noise Control

**Total Site Area**  
232 sq. ft.

Many environmental noise problems arise from conflicting land uses in dense settings. Since transportation and communications infrastructure is by definition more intensive in populated settings, noise generated by such infrastructure presents unique challenges.

A new Sprint installation in Santa Cruz, CA by SiteMaster (who construct and maintain wireless sites), began triggering noise complaints from residential neighbors. The only noise mitigation provided was a masonry fence surrounding the equipment.

Our measurements indicated a modest exceedance over the limits presented by the City noise ordinance. It was found that cooling fans were responsible for the exceedance. Although the exceedance was about 3dB, the owner of the equipment wished to go beyond the letter of the law and address the neighborhood impact.

We constructed a noise model of the site and used the output of the model to design a mitigation strategy. Some scenarios were rejected due to permitting constraints; for example, putting a roof on the enclosure would require a re-thinking of compliance with fire codes. We found a solution in slightly increasing the height to the northern wall of the enclosure, while adding significant absorption to the interior walls. The model indicated about 8dB of reduction at the worst-case 2<sup>nd</sup> floor apartment window.



2F Window

