



# VACC Recent Key Projects: SiteMaster / Sprint Cell Tower Installation Environmental Noise Modeling & Design Sprint Cell Tower at Carousel Motel Santa Cruz, California

**Client**  
SiteMaster

**Completion**  
2006

**VACC Work Scopes**  
Environmental Noise Testing  
Environmental Noise Design

**Project Criteria**  
“Good Neighbor” Policy  
(beyond City Noise Ordinance)

**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.

SiteMaster is contracted by communications providers to construct and maintain wireless sites. After completing an installation for Sprint in Santa Cruz, the company began receiving noise complaints from nearby residents.

Our measurements indicated a modest exceedance over the limits presented by the City noise ordinance. Equipment cooling fans were responsible for the exceedance. Although the exceedance was small, the owner wished to go beyond the letter of the law and address the neighborhood impact.

We constructed a 3-D 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 re-evaluation with regard to fire codes. We found a solution in 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.

