

**Blasting Study: How Small to Medium Diameter Charges Effect Structures**  
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**Abstract**

This study is based on a six month study performed for Lee County, Florida. The study was based on blasting for land development and how this type of blasting affects structures. The study is investigates peak particle velocities and the relationship to other environmental and manmade forces that affect structures. The study also explores the effect of geology on blast vibration. After completion in Lee County, the study was then continued in the quarry environment in Vermont and extremely tight blasting environment of New York City. Charge diameters were 127mm (5 inches) or less.

The recommendations made to Lee County for regulation change and the interaction working with the community blasting committee is outlined with the history of what lead to an almost total moratorium on blasting in unincorporated Lee County.

Discussions include the use of the latest technology in micro-wireless accelerometers and weather stations for monitoring and the development of these systems.

The paper also explores blast design for vibration control in the near field, mid-field, and far fields of blast vibration influences.

The use of sound blast design utilizing experience, explosives energy level, explosives energy distribution, and explosives energy confinement is discussed.