



PROJECT BRIEF

Doyle Drive Replacement Vibration & Noise Monitoring

PROJECT PROFILE

CLIENT:
California Department of
Transportation (Caltrans)

LOCATION:
San Francisco, CA

VALUE:

- Monitoring of noise, vibration, and structural movement due to construction with real-time project alarms

SERVICES PROVIDED:

- Installation of noise monitors, seismographs and crack meters
- Implementation of an 18 month monitoring program

“Use of wireless technology made this system extremely flexible and straightforward to setup. This was key to the contractor as it minimized disruption to activities and allowed him to finish ahead of schedule.”



VIBRATION AND NOISE MONITORING PROGRAM

Geocomp implemented an 18 month monitoring program in a sensitive neighborhood community which included seismographs installed inside and around sensitive buildings along the construction alignment to record vibrations caused by demolition and construction activities. Installation also included crackmeters on landmarked buildings within the zone of influence of construction and soundmeters with audio recording capabilities to capture any noise exceedence in order to positively identify the source of the event. All noise metrics and audio files were uploaded to SQL database for review. All data was captured and stored on *iSiteCentral*®, a web-based data processing, presentation, reporting, and alarm system to provide project members with up-to-date performance measurements to control construction activities.



BACKGROUND

Constructed almost 60 years ago to provide direct access to San Francisco's Golden Gate Bridge, Doyle Drive's structural deterioration could not accommodate the existing traffic volume. The effects of heavy traffic and exposure to salt air significantly deteriorated the structures that support the elevated roadway. In this condition, Doyle Drive was vulnerable to earthquake damage and was determined it had reached the end of its useful life. Caltrans began the replacement of the existing Doyle Drive with a new parkway-type roadway that included new bridges, short tunnels, new access and improved views from within the Presidio neighborhood of San Francisco. Geocomp's role was to provide monitoring services and real time alerts so the project team had adequate time to develop contingency plans for unacceptable noise, vibration or structural movement levels.