

CASE HISTORY

Passive Shear Wave Velocity Analysis for Seismic Site Classification Using Geophysics

Challenge:

As a part of the development process for various construction projects, the shear wave velocity profile is sometimes studied, to determine the seismic site classification. Recently, MUNDELL performed a non-destructive and cost effective geophysical investigation to determine the shear wave velocity profile beneath a proposed university dormitory site.

Action:

MUNDELL used the Refraction Microtremor (ReMi) method to characterize the shear wave velocities in the upper 100 feet of subsurface. This passive seismic method is a fast and inexpensive alternative to the time and cost intensive crosshole method for measuring shear wave velocities.

Results:

Based on the shear wave profile obtained and the site boring logs, top of bedrock map was interpreted for the site. Also, based on the Vs100 feet calculations, the site was characterized as a Site Class D, per the 2006 International Building Code.

