

## Geophysics – Case Study 11 – Seismic Site Class

Modern Building Codes (eg. Ontario) require that site structural engineers consider the seismic class of site in their design and consideration. Seismic Site Class is an indicator of the seismic energy site transmission from an earthquake to the site. It is based on the seismic velocity in the upper 30m (100 feet).

EAL use the passive seismic energy to derive seismic site classifications. In urban settings there is enough seismic activity (cars, buses, construction, etc.) that our detectors can measure seismic energy without applying new seismic shocks to sites. We use an Optim system with 12 sondes, spaced to allow us to estimate the properties in at least the upper 30m.

### Background to Case Study

Conventional soil mechanics gave a site classification which the owner sought to clarify to try to reduce design and construction costs. It was hoped a better site could be determined. EAL carried out the Passive Seismic Survey.

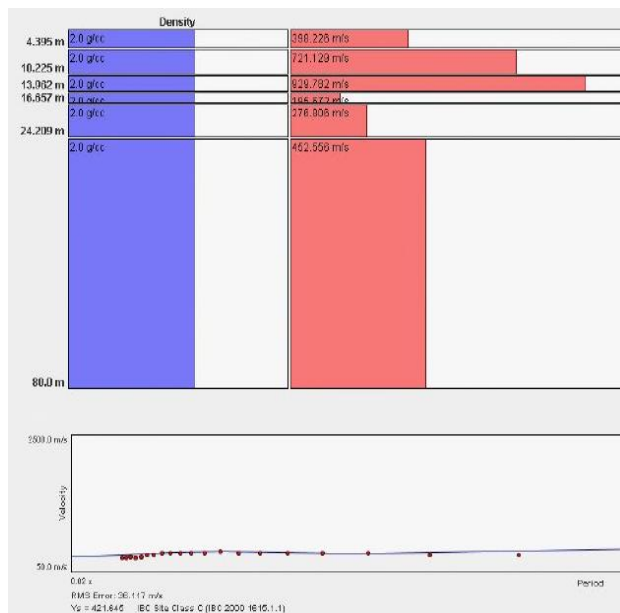
### Why Use Egmond Associates?

Clients often feel they are the last to know results or that it takes too long for field results to become known. EAL commitment is to work with you to get the data and engineering solutions you need in a timely fashion.

### Findings

The shallow survey was completed for a total of eight seismic lines and thousands of data points.

EA: identified the site shear wave velocity to be about 420 m/second.



Egmond Associates offers a wide range of services in support of their client's requirements in built infrastructures and engineering. Whether building or evaluating a physical or human business system, Egmond Associates offer you support for your business or business decisions so you can make the decisions with the tools you need. Our services include technical and engineering support for environmental systems, building construction, food safety systems, human systems. Our three phase approach gives you the control you need to move forward in even complex situations. From Phase 1 low level intrusive investigations, to Phase 2 detail characterization, to Phase 3 Improvement implementation, we work with you so that you know are doing steps to protect you and your stakeholders. you so that you know are doing steps to protect you and your stakeholders.

### Contact

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From all the work above a site plan and report were prepared indicating a Class C site.