

# EARTH ENGINEERING INCORPORATED

Site Investigation  
Scope of Work  
Less Costs Less...  
or Does It?

With the current fast pace of development throughout our area, it is easy to gloss over one of the most critical initial elements to the financial success of any project. The proper evaluation of the subsurface conditions and the economic impact on the project can be the difference between success and failure. Often this site investigation occurs either before or early in the project financing and hence the pressures to spend less are enticing. The trap however is the cost of under investigating any site and the potential financial landmines that can surface such as urban fills, weak organic soils, clays, high groundwater, rock, etc. Not to worry, a responsibly prepared scope of work for a geotechnical investigation should reveal insight into most of these conditions. The trouble occurs when the aforementioned economic pressures create a situation in which the geotechnical firm with the smallest scope and subsequent lowest price is awarded the investigation (and often the quality control inspections which is why they were motivated to undercut the scope in the beginning.)

The cost implications of under investigating a project can be tremendous. I have reviewed many reports that should have been labeled as "preliminary" but were portrayed as the complete investigation. Insufficient coverage due to a reduced scope of work has left critically important factors to be determined at a later time. I would contend that these unknowns leave the development in a state of financial uncertainty. Not defining something as simple as a rock cut can adversely affect the financial success of any project. The ability to understand and fully plan for these critical conditions hinges on a "responsible" scope of work. I have seen countless projects impacted adversely by unknown conditions that would have been recognized through even a basic scope of investigative work. Is this the fault of the developer seeking a "cheaper" investigation or the engineer for offering this less than desirable scope just to win the work? This is entirely up for debate. What is not up for debate is the impact that subsurface conditions can have on a project and the clear need to define these issues at the onset of any project.



In general, it is important to include test borings to determine the strength of the underlying soils. This is the first step. Test pits are great and they allow for a visual picture of the upper soils, but they don't give you data (other than a visual evaluation) of the soil strength. Therefore, be cautious of the quickie test pit investigation in lieu of a well planned scope of work. The real point of this discussion is that geotechnical engineers across our industry are a resource that should be consult-

ed with regarding a scope of work for any investigation that fits a development plan. Find someone that you trust to develop a scope of work for your project that protects you from being blindsided by unknown conditions. The financial savings of a cheap investigation are far outweighed by the potential losses caused by unforeseen conditions.

Earth Engineering Incorporated (EEI) has conducted thousands of investigations throughout the region and we take great pride in the client first service and comprehensive engineering we put into every project. Visit our website at [www.earthengineering.com](http://www.earthengineering.com) to discover all of the services that EEI provides as well as the latest news and project updates.



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