

## HOW MUCH MORE IS THIS GOING TO COST?

Consider the above noted suggestions. The cost for the initial site evaluation, of course, is highly dependent of the nature of the site and the number of sites at one location. If a full blown geotechnical exploration is necessary for a single unit, the cost for that service, alone, can approximate  $\frac{1}{2}$  to 1% of the total construction cost. More typically for a development project house, this cost can be distributed across several units. Again, the circumstances shall always dictate.

Often, the builder is familiar by past experience with the site conditions. He should prove to himself, without a doubt, that his past experience is applicable. He should also be certain that his past experience is accurate if he hasn't done so already. This may require the consultation of a qualified geotechnical engineer.

Once the site has been characterized by whatever method, the foundation/structural system design must be completed. If it's an engineered design, again depending on the complexity of detail, the cost of the design may fall in the range of about 1% to 2% of the total job, and this should include periodic inspection of the work by the engineer or architect. Again, the builder may be able to apply a specific design philosophy to a number of projects. This would not be considered an "engineered" design, because neither an engineer nor an architect should ever provide "cookie cutter" plans. Never the less, such a situation may be appropriate. It must be kept in mind that an "engineered foundation" does not constitute a full structural design. This is the function of an architect and his associated structural engineer. Usually, a foundation/structural engineer can work together with the architect to ensure a consistent structural design.

Finally, the work requires a degree of testing and inspection. Much of the inspection can be performed by the builder's representative, which should not add to cost. His documentation efforts should remain part of his function.

Now look at what's been said. Proper awareness and appropriate attention to the necessary details that are appropriate should cost no more than a little time. Much of the above can be accomplished by such actions.

Preparation of the site by higher standards as noted above may add some cost, but most any earthwork contractor worth his salt won't add much to the price if he knows what he's doing. He'll be more attentive if the builder shows an interest in the work, that's for certain.

Prior geotechnical testing, architect's involvement, and subsequent engineering design does add to the cost. If the builder can convince the prospective homebuyer of the advantage of such efforts, the cost can be passed on to the buyer. The builder should use high quality in the foundation system as a selling issue. In fact, such efforts are crucial for complex site and design issues. A general rule is that such costs can add 2% to 3% to the cost of the home. Architect fees would be in addition. The additional design features (thicker footings and additional foundation details) can be expected to add about 10% to the cost of a minimum standard "City Code" footing.

The testing, if secured from a testing agency, adds a relatively small cost, but must be paid in any case to meet City Code during the site preparation.