Concrete and Building in Haiti

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Introduction

It has been a while since I last sent out a report, but I have not been completely idle. One thing I have learned is that I need to say, "NO!" more often when people need my services. Either that, or I need a herd of teenagers to take care of everything I do not get around to doing.

While I had planned to go to Haiti with a group in April, life got in the way. I'm involved with a start-up stucco company called HerbCrete. That is not the name I wanted. They outvoted me. The problem developed when Nathan Giffin scheduled a workshop in Lorene, Oregon, to use a stucco we have started making to carve beautiful sculptures. Nathan is the top decorative concrete trainer in the country. I had a choice: learning from a master whether my carving formula needed any improvement, or to go to Haiti. I went to Oregon and found that he loved my formula.

There were no opportunities to go in May or June, but there is an opportunity to go to Haiti on July 8, and I am going even though it is the hottest time of year in Haiti. Besides inspecting equipment, there will be three days of classes related to concrete technology and earthquake-resistant housing. Arrangements have been made so we can hold the classes in an air-conditioned building.

On August 22, I will be headed back to Haiti with a group from Shepherd of the Hills Lutheran Church. There will probably be still another trip in November.

Progress

During the past 6 months we have located a source of volumetric mixer trucks and discussed bringing an operator to the US for training.

With Clay Coleman, VP of South Texas Aggregates, we have started the search for a sand and gravel plant to export to Gonaives, Haiti. Ideally, we would like a 25-ton-per-hour plant, but those all were replaced decades ago, and we have not been able to find a repairable one. So we started looking for a 50-ton-per-hour plant, and we are having the same problem.

Pastor Benoit has located an abandoned concrete batching plant, and I will inspect it when in Haiti to determine whether it will fit with our plans and to estimate the cost of upgrading it.

Blondet Manual

What I will refer to as the Blondet Manual is titled *Construction and Maintenance of Masonry Houses for masons and craftsmen, Marcial Blondet, editor*. It was written for the reconstruction of Peru, using confined masonry, following the 2007 earthquake. Rather than being like most construction manuals, it uses cartoon-type pictures to illustrate various concepts. Probably the first time a person who is illiterate uses it, it would be helpful if a person went through the document with him and read the text. After that the pictures are adequate to remind the builder what needs to be done during each step of the process.

We have permission to use the Blondet Manual, in whole or in part, if we give credit to the people who developed it.

There is a reference on the internet that the Blondet Manual has been translated into Creole; however, the link that is listed does not function, and the website where that reference was found had not been updated since 2010, and currently is not in service.

Confined masonry is the predominate method of construction in Haiti for residences and commercial buildings which are three stories and under. The learning curve for contractors building with confined masonry would be shorter than for them building with any other technology. Whether the translated version is found or not, this is a major step in developing a plan for building with confined masonry in Haiti.

The Blondet Manual provides plans for building a lightweight concrete roof using hollow clay units. Such a roof would be better than the heavyweight concrete roofs currently used. Building roofs with Structural Concrete Insulated Panels would provide a lighter-weight, highly-insulative, and more durable roof.

We have printed 15 copies of the Blondet Manual for use in our classes on the July trip to Haiti.

Other Building Systems

While we are spending time on confined masonry at this time, we are not abandoning other building systems.

Domes have a definite place for earthquake-resistant homes.

SCIP has a great deal of potential. Having SCIP available would improve roof structures considerably on confined masonry homes. We need to continue our search for a source of two-pound-per-cubic-foot EPS in Haiti.

I have a link to a gentleman who is using compressed earth block for confined masonry construction. Compressed earth block would probably be very competitive with concrete masonry units.

There are several emerging technologies which look very interesting, but we need to spend our time implementing what others have invented and perfected,

rather than spend it inventing or perfecting a new technology. There are those whom I have worked with for years who will not believe that I made that statement without coercion.

Building Code

MTPTC enacted a building code, which was developed in conjunction with the ICC, in January, 2013. Most of the people I have talked to in Haiti have not heard of the code, and there are news reports of inspectors with police backup being forced off of jobsites by “unruly” mobs of citizens. While building codes are important, if the materials required to build with them are not available and people are not trained in using those materials, serious problems will develop. My current copy of the code is in French.

Power Point Presentation

I drafted a power point presentation to run as a loop (5 seconds per slide, 7 minutes viewing time, 60 MB) for one of our church activities. If anyone would like a copy, I can “Dropbox” it to you.

Notes

Scheduled trips

July 8 to July 15, 2014,

August 22 to August 29, 2014

Internet access - Most evenings when I am in Haiti, I will have internet access.

Phone service - I will not have cell phone access.

If you would like any of the documents mentioned in this report, I will send you the link so you can download them.