

"From The Drawing Board"

Materially Speaking

Recently, while serving as a guest juror on a review panel at a New England architectural school, I had the opportunity to critique the final projects of 1st- and 2ⁿ-year architecture students. The work was on par with what I was expecting to see from young students: more about formal ideas; volume and massing studies; etc. These students are in the early stages of learning how to draw, how to organize spaces, and how to build models, all in an effort to better understand and communicate architectural ideas.

Among the students' projects, however, one stood out from the rest. The drawings were beautiful: precisely scaled, fully rendered with shadows—they even depicted a child holding a balloon. The drawings were accompanied by a well-crafted paper model of the building.

It was difficult to critique this project because, unlike the other students' non-stylized buildings, this was the replica of a piece of neo-classical architecture. With its gold-leaf dome, stone pillars, and bearing masonry construction (brick and stone), it could have been the historic state capital, court house, or some other important building found in any number of states across the country.

After confirming that this project was an actual proposal (the students had been assigned to design a school), and was not an exercise in documenting an existing historic building, I asked the student what materials he envisioned using. He confidently stated that it would employ the same materials and construction methods that would have been used in the 1700- 1800's—a bold undertaking in that century, and an even bolder (and perhaps naive) suggestion in this one.

Despite their basic materials, these were truly innovative structures for their time. The architects, engineers, and builders learned that, if they made the walls thicker at the base, they would support more weight, which would allow them to construct taller buildings.

But in today's world, as in this student's replica building, there is no need for massive walls. Instead, through today's technology (and because of budget and labor constraints), a building based on this student's design would likely be constructed out of reinforced steel, concrete blocks, and brick veneer; more than likely, the stone would be "represented" with precast pieces of concrete (or even plastic) that merely *look* like stone. And the gold leaf dome would likely be of painted fiberglass, or plastic.

There are a growing number of new materials and construction techniques hitting the market every day; the Outer Banks' proximity to the ocean, hurricane-winds, flooding, labor shortages, and (often) remote building sites, make it a prime location to work with innovative products and methods.

The last several years has seen an increase in the use of prefabricated house components. One company makes precast concrete wall-panel systems which boasts a higher hurricane impact rating (along with better insulating qualities) than a conventionally wood framed house. These panels are built off site, then shipped to the building's location and assembled (forming the walls of the building - paint and/or siding is optional). Though precast concrete wall-panels may not be appropriate for every

building type and location, it is a valid approach to construction in remote areas, and in other locations where cost and durability are an issue.

Much of the potential to change the way we build (and *see* architecture) exists through technology. In the closing comments of my critique of the student's work, I suggested that he study the new materials and choose to use those that are the most practical and efficient, rather than the most attractive. Only then, after having chosen the best materials for the job, should he focus on aesthetics, solving any problems therein through thoughtful design and careful detailing. Isn't that practice the foundation of good architecture?

Jeffrey W. Jahnke, AIA practices architecture in NC and CT.

Aside from designing custom houses, he is currently working on designs for affordable, hurricane-defiant homes on the Outer Banks.