

## ...note

by Julie Lasky

## House of Sand and Hope

*In Cape Town, an optimistic building concept comes to fruition.*

The solution couldn't be simpler: Working in the baking heat under an azure sky, some of the women who were stuffing sand into white plastic bags plopped the empty sacks onto their heads to keep cool.

The women lived in Freedom Park, a community of cardboard shacks and tiny cinderblock houses about 25 miles from downtown Cape Town. In late February—high summer in South Africa—I watched as they helped build a new kind of dwelling, a house that would stay temperate despite fluctuations in the semi-arid climate, prevent rainwater from seeping in, require less than a week to be assembled, occupy a modest 500 square feet while containing the seeds for its own expansion, and cost only 65,000 South African Rand, or \$8,200. A house, in fact, that was made of sand.

Designed by Luyanda Mpahlwa of MMA Architects in Cape Town using the Eco beams building system, this house is a rare bird in several ways. It began as an invitation to 10 international architects to construct low-cost dwellings for the slums outside Cape Town—an initiative conceived and launched last year at South Africa's annual Design Indaba conference as the 10 X 10 Housing Project (see "Rebuild the Beloved Country," I.D., May 2007, p. 23).

The plan evolved into a partnership between the starchitects and local designers. London-based Will Alsop initially worked with Mpahlwa before dropping out over creative differences, but unlike so many concepts generated in well-intentioned invitational mind melds, this one cleared the hurdles not just of clashing designer



Briefly under construction:  
10 X 10 house designed by  
Luyanda Mpahlwa

egos but also of site acquisition, building codes, financing, and community acceptance, to actually be constructed.

Ultimately, 10 of Mpahlwa's houses will accommodate families selected by lottery (other lots have been secured for realizations of the remaining nine housing concepts). The financing came from PG Bison, a manufacturer of timber products, and the community was won over after Mpahlwa persuaded its representatives that it was fine to live in a sand house.

Not just fine, but far superior to the hot and leaky cinderblock residences nearby, which cost twice as much to construct. Built with the Eco beams system, the first 10 X 10 house is a framework of timber strips and metal latticework filled with stacked bags of sand. A thin layer of plaster applied to the sandbags gives the appearance of masonry, but it's the sand that's doing the serious structural duty as well as controlling temperature, dampening sound, and even preventing bullets from penetrating (no trivial advantage in South Africa's crime-ridden neighborhoods).

Eco beams housing is remarkably quick and easy to produce. No foundation is dug. Much of

the material is literally underfoot. According to the company's website ([www.ecobuildtechnologies.com](http://www.ecobuildtechnologies.com)), 1,500 empty bags can be fit into the trunk of a small car—the equivalent of 3,000 bricks. And the community can pitch in without special training or tools, or even electricity.

Sand is still a hard sell to a population that's been sheltering itself with flimsy cardboard. Mpahlwa wooed Freedom Park's residents away from the romance of concrete (an expensive material in South Africa) with the grand gesture of two stories, including envy-provoking verandas.

It is expected that the community will continue building along these lines. But to counteract the possibility of chaotic sprawl, Mpahlwa incorporated into his design metal posts set beyond each house to serve as structural elements for orderly extensions. (For now, these posts can support vegetation.)

When I visited the site, the ground had only recently been leveled. Today, the house is completed and the first lottery-winning family is installed. So simple—and such a grueling accomplishment. Clever, makeshift hats off to Ravi Naidoo, the Design Indaba's founder and director, for seeing it through.