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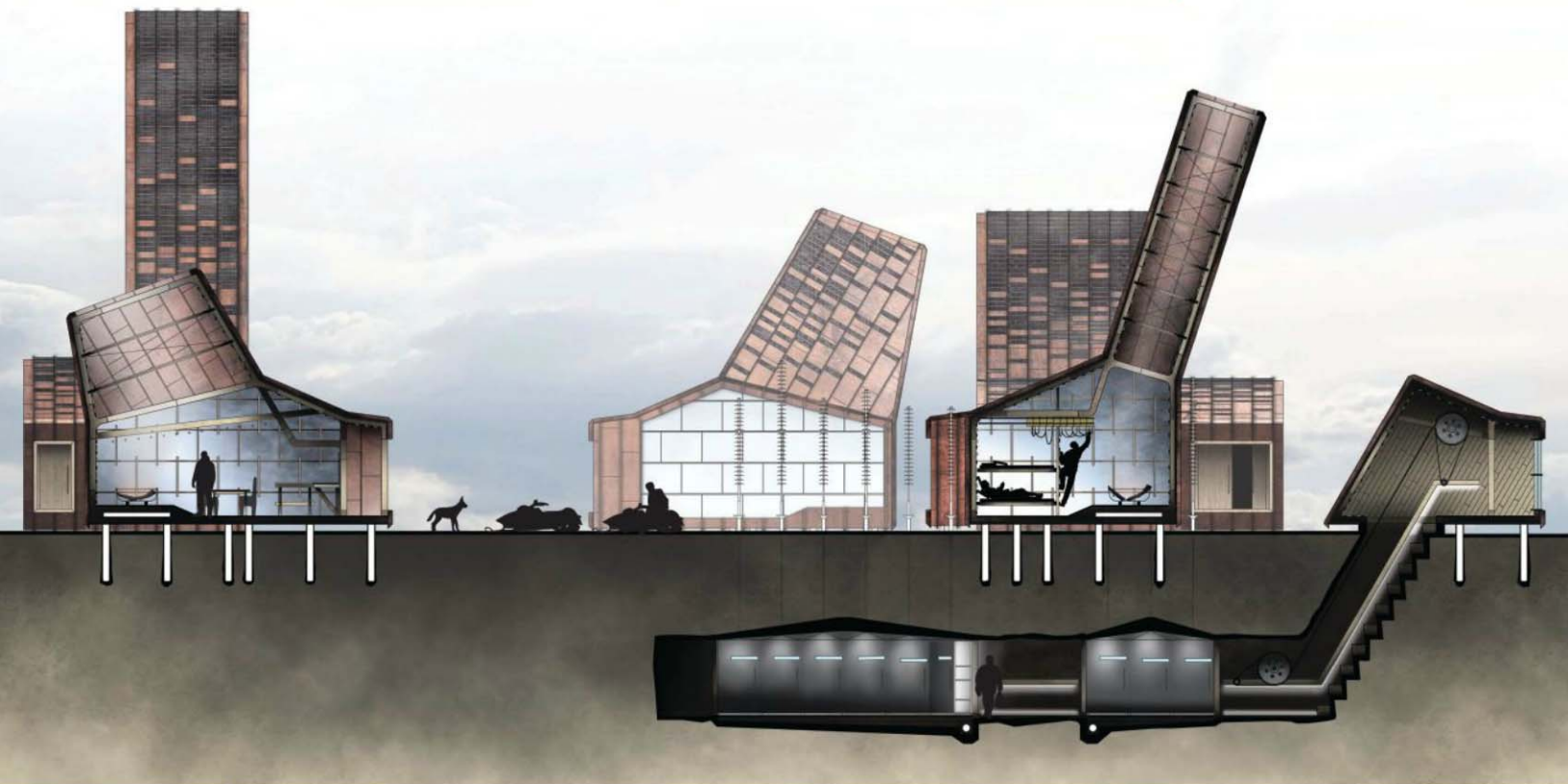




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AIA VOICES

BUILDING BLOX | DEFINING A DIFFERENT PRACTICE

Howard Steinberg, AIA, a principal with the Philadelphia development/design/build firm Onion Flats, is transforming the way architects think about high-performance buildings and modular construction. He and his partners are also changing the way architects consider practice management through a vertically integrated set of companies that allow Onion Flats to operate PLUMBOB, their architectural firm; JIG, a general contracting company; GRASS, which designs green roofs; and, most recently, BLOX Sustainable Building Systems, a modular manufacturing company.

FOR US, DESIGN/BUILD HAS ALWAYS BEEN PARAMOUNT IN controlling the integrity of our projects. Through this integrated approach, we've also been able to demonstrate that sustainable building practices need not cost any more than unsustainable, poorly designed buildings. Following the completion of Philadelphia's first LEED Gold-certified homes in 2006 and, subsequently, Thin Flats, the first LEED Platinum-certified duplexes in the country, we quickly recognized that, although the LEED program made us better architects and builders, it falls short in the area of energy conservation.

As our projects grew in scale, we wanted to figure out how to ensure quality control, since we could no longer strap on our own tool belts and build the larger projects ourselves. We became fascinated with the potential and inherent efficiencies and controls of factory-built construction, and began designing each of our projects to be

built modularly. Rather than manufacturing finished objects, we conceptualize the modules as cells, or "blox" of space that can be assembled and reconfigured to meet most building typologies and architectural designs. During the past five years, we have focused all of our attention on R&D, professional training, and designing a sustainable, modular building system. Through the use of Passive House principles, we recently completed our first modularly built Belfield Homes, which were developed for very-low-income families in north Philadelphia and are the first net-zero-energy homes in Pennsylvania. They were built within the standard funding allocated by HUD for affordable urban housing in Philadelphia and were completed in three months—including all site work.

The modular factory became our new lab to test and develop our details for airtight, thermal-envelope design. Although we were never interested in owning and operating a manufacturing company long-term, it was an important and integral venture in getting to control the process. We are currently in the planning stages of developing Ridge Flats, a 123-unit apartment and retail project which, when completed, will be the country's largest Passive House-certified/net-zero-energy community. Modular currently represents one percent of all construction in the U.S., but we are at a tipping point as younger architects starting out are open to this newly imagined paradigm.—As told to William Richards **AIA**