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Changing Skyline: High-quality homes for low-income Philadelphians

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Far too often, housing designed for Philadelphia's poor wears the architectural equivalent of a scarlet letter. Puny windows, unwelcoming front doors, and clunky details virtually scream that the occupants are there on sufferance. Such markers are surely one reason many communities react badly to the prospect of subsidized housing in their midst.

A trio of new rowhouses in Logan - yes, that land of sinking homes - could make them change their minds. With their Mondrian-inspired grids of glazed black brick and peppermint-green metal, the facades resemble something you might admire in one of Philadelphia's up-and-coming hipster neighborhoods. You ascend graciously up a few steps to the entrance, past rustic planters tumbling with vines and a generous porch. Once inside, the houses explode with natural light.

This is low-income housing superior to anything Philadelphia has done in half a century. Not only are the rowhouses stylish and modern both inside and out, they are among the most energy-efficient ever built in the United States. Produced by Onion Flats, the quirky firm that designs, builds, develops, and sometimes markets its own residential projects, the homes are the first in Pennsylvania to be certified by the demanding International Passive House Institute, based in Germany. Nationally, there are about 30 projects that qualify as "passive" because their energy consumption is near zero, and several more without certification.

Stuffed with insulation and topped with rooftop solar panels, the Logan houses are designed to produce almost as much energy as the owners use. That's important because they will be occupied by the poorest of the poor, families who are trying to escape the nomadic life of homeless shelters and temporary quarters, and put down roots. With annual incomes of less than $25,000, the last thing residents need is high energy bills.

Perhaps the most remarkable thing about the five-bedroom houses is that they cost the same to build as a conventional brick box, about $250,000 apiece, or $129 a square foot. Even so, it's a good bet that few houses at this cost level - affordable or market-rate - come with high-end Bosch appliances and fine European windows. An energy-efficient heat exchanger brings in fresh air, maintaining the house at an even, comfortable temperature.

What's sad, though, is that this extraordinary result was all a matter of chance. Onion Flats wasn't asked to deliver quality design when the firm was hired by a local nonprofit development group, Raise of Hope, architect Tim McDonald recounted. The organization, he said, had spent a decade spinning its wheels with different builders and saw the funding clock running out on its federal grant.

In desperation, they called the Kensington-based Onion Flats, known for its can-do, cowboy spirit. How fast and cheap could they build the houses, Raise of Hope wanted to know. Would they be daunted by Logan's notorious shifting soil, which requires builders to sink expensive, stabilizing piers?

Onion Flats thrives on such mission-impossible assignments. Not only did they accept Raise of Hope's terms, they upped the ante: McDonald promised to make the design as sophisticated and energy-efficient as the homes his company is now selling for $700,000-plus on North American Street in Northern Liberties.

He has been true to his word. The big difference between the two is size. The Northern Liberties houses, called Stable Flats, are 2,400 square feet; the Logan houses clock in at 1,920. While Stable Flats houses come with higher-end appliances and finishes, the layouts, aesthetics, and energy-saving heating and cooling systems are remarkably similar. The Logan houses even include a handicapped-accessible bedroom on the ground floor.

Onion Flats was able to pull off the feat because of the work it has done to develop low-cost, modular construction techniques. A few years ago, Onion Flats founded a spin-off company called Blox to build rowhouses in sections inside a Pottstown factory. The Logan Houses, on Belfield Avenue just south of Ogontz, were the first big test.

Building a house this way, as the company name suggests, is like stacking blocks. Each level of the house is an independent module that comes finished with floors, walls, wiring, and plumbing. The completed 16-foot-wide modules, which weigh 30,000 pounds, were trucked to the site and assembled. While the modules were being assembled in the factory, Onion Flats was able to prepare the site and drill the 25-foot-deep piers needed to support the foundations, saving time and money.

When the modules arrived, they were stacked and carefully sealed, so they would be airtight. Today, barely six months after Onion Flats received the Logan commission, the three rowhouses stand in the dappled shade of mature trees, ready for families to move in. In Northern Liberties, it was breathtaking to see the site go from bare earth Tuesday to three completely enclosed houses Friday.

The work in Logan would have progressed even faster if Onion Flats didn't have to deal with the mushy, unstable ground, the result of poor landfill practices in the 1920s. In the late '80s, the city spent millions to move 950 families from the infamous Logan triangle. While houses on Belfield Avenue don't have the same issues, the area, not far from La Salle University, hasn't seen new construction in decades.

McDonald sees the project as proof that low-income housing can be just as good as the market-rate version. "These are zero energy with zero premium, so there should be zero debate. Why would you build it any other way?"

It's a nice surprise to amble down Belfield Avenue, past houses with peaked roofs, and then stumble upon Onion Flats' gleaming creations. Even though they are assertively contemporary, the scale and use of brick help them look at home.

The owner of an adjacent house has welcomed the newcomers with the biggest compliment of all: He has started renovating his house.

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