

**CONCRETE SYSTEM MADE COST-EFFECTIVE;
CARVER HOUSE WILL BENEFIT**

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The house that will be built at 906 Norton St. in the Carver neighborhood, behind the Stuart C. Siegel Center, will not look unusual when it is done. But behind the facade, it will be far from ordinary.

The house will be built using insulated concrete forms, a material that is usually associated with high-end, high-priced homes. ICFs are expanded polystyrene forms or blocks, stacked together and then filled with concrete on site to create the exterior walls.

The technology is not new, but this product, the Engineered Wall System from Phoenix Systems & Components Inc., is breaking the mold by reducing the cost so that ICF technology can be available to a larger percentage of the housing market.

"With our block, it is not a highly priced product anymore," said Steven Lowrie, vice president of marketing and public relations for Phoenix, a 3-year old Nebraska company whose founder previously led two other ICF companies (Reward Systems and PolySteel).

Phoenix has been doing business in Richmond for a year and a half.

The product has no wood or metal, so it does not rot, rust, mold or burn. It also is impervious to bugs. Exterior faades and interior drywall are attached directly to it without any insulation or water sealing needed.

ICF products are known for being energy-efficient - mortgage companies categorize ICF homes under an "energy-efficiency mortgage" rating, allowing homeowners to qualify for more money. In some cases, homeowner's insurance costs are also reduced.

According to Richmond Redevelopment and Housing Authority, the new houses being built in the Carver area with traditional wood- frame construction range from \$95,000 to \$155,000, with square footage between 1,350 and 1,700.

The two-story, three-bedroom, two-bath house at 906 Norton will have 1,344 square feet at a price of \$147,840.

"I was looking for something more affordable, and Phoenix came along with a panel

that was competitive in terms of price with stick- built construction," said Mike Zitzow, who also is having a 4,300- square-foot home built in Lake Chesdin with the Phoenix ICF product.

Zitzow also works at the RRHA and is interested in the availability of the product for smaller, more affordable homes. "I love the idea in the city especially," he said, adding that the Department of Housing and Urban Development encourages builders to use sound-muting materials in the houses that it helps finance.

Phoenix has reduced production costs by using facilities that already produce polystyrene products, such as molded packaging. Phoenix licenses the facilities to produce the ICF product.

The company also use multiple polystyrene makers to reduce shipping costs. Lowrie said the company uses manufacturers in Oregon, Colorado, Wisconsin, Ohio and California, with others planned for Virginia, Georgia, Nebraska, Florida and Missouri.

Phoenix also found an economical way to produce the webbing or ties that hold the polystyrene forms together.

"We found this particular blend of plastic that was the byproduct of another manufacturing process and was being thrown into landfills because it was [surplus]," Lowrie said. "We arranged to acquire it at a competitive price, and it has proved to be even stronger than we thought."

The company also eliminated the need for a dealer or distributor network. Builders and contractors buy the product directly from Phoenix at the nearest production facility. For Richmond, the product is made in Beach City, Ohio.

In each state or group of states, Phoenix also establishes a joint venture that arranges for the manufacture and sale of the Phoenix Engineered Wall System and undertakes all of the sales, marketing, administration and accounting for the venture.

While builders do not have to join the cooperative, for a fee that starts at \$1,560 they can become a member and receive enhanced technical support, referrals, marketing support and a lower price per block. They also can buy stock in the joint venture.

The cooperative for the mid-Atlantic is Virginia, Maryland and the District of Columbia.

"The more I find out the more I like it, and I think that this is the way that the building industry is heading," said Mark Layman, partner with McGee Consultation and Construction, which is building the house on Norton Street.

Layman has used traditional wood construction for more than 20 years. He has built one house using another ICF product. He also is building a 6,500-square-foot house in Goochland with the Phoenix product.

Layman said that while the cost of the Phoenix product is \$10 to \$11 a block, similar ICF products can be as much as \$14 to \$15.

"We are going to build everything we do in the Carver area with Phoenix forms. We want to show how you can build smaller homes out of concrete with the same technology you use in these bigger, more expensive homes," said Layman, who became an associate member of Phoenix to get a lower price per block.

Builders must be trained before they can use the product. Phoenix offers a one-day training seminar and on-site support for the first couple of projects.

Phoenix ICF user Jeff Camden of The Design Group built first built an ICF home in 1994. Then, there were about five ICF manufacturers in the country. Now there are more than 60.

"The main reason is there is no negative to building with it, no matter which ICF product you pick," Camden said. "The only negative thing I know about is if you don't build with ICF, you are building a throw-away home."

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