

From the Ground Up: An impromptu convention at the Live Work Home house

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Interior of the Live Work Home house at 317 Marcellus St. The windows are covered with protective plywood, but the room is bright thanks to tubular skylights.

*Another in a series of occasional updates on construction of three innovative green homes on Syracuse's Near West Side. Today: Streaming visitors. **Previous entries** in the series.*

Syracuse, NY -- It's been several weeks since we've checked in on the construction of three innovative green homes on Syracuse's Near West Side.

The homes -- at 317 Marcellus St., 619 Otisco St. and 621 Otisco -- are the winning designs in an architecture competition called **From the Ground Up**. The competition sought "to provide a new model for formerly vital, urban residential neighborhoods throughout the United States through the creation of sustainable, affordable housing."

They are being built through a partnership of **Home HeadQuarters**, **Syracuse University School of Architecture** and the **Syracuse Center of Excellence**.

The homes are being built with the latest in energy and building technology. The **Live Work Home** house at 317 Marcellus, for example, has walls and a roof deck made out of structural insulated panels -- **SIPs** -- thick foam insulation sandwiched by engineered wood panels and then taped together to seal out drafts.



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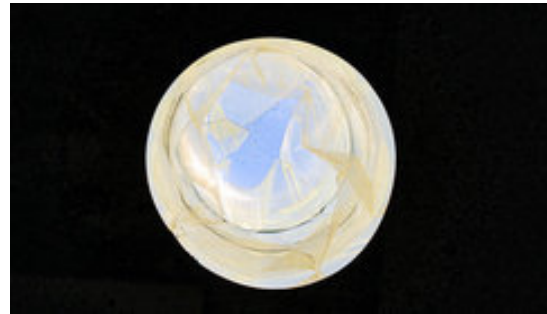
Exterior of 317 Marcellus St. The siding, installed since our last update, is a cement board product. A perforated "skin" that mimics sunlight shining through the tree canopy will be installed last.

We stopped into the Live Work Home house on an unseasonably warm St. Patrick's Day, March 17, when the construction crew from Home HeadQuarters was installing the last of 10 skylight tubes in the roof. We were soon joined by a stream of visitors, including the home's owners, John and Kathy Miranda.

Sunlight beamed into the space through the aluminum tubes poking out of the ceiling. It looked as if someone had turned the lights on in a darkened room. When the protective plywood on the windows and French doors comes off, you'll need to wear your Foster Grants on a sunny day.

That's the idea; the house was designed to be bright on even the cloudiest Syracuse day, to reduce the need for electric lighting and lighten the mood of the home's residents, as well.

Architect Pam Campbell of **Cook + Fox Architects** in New York City was making one of her periodic visits to the site. Campbell brought with her a sample of oriented strand board that will be used on some interior walls.



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Skylight at 317 Marcellus. It will be finished with a glass lens to soften the light.

OSB is a green product because it's made out of small, fast-growing trees. The trees are cut into strands. The strands are mixed with resin and wax and formed into mats. The mats are laid crosswise, for added strength, then pressed at high pressure and temperature to form boards.

Out of concern for the air quality in the house, Campbell said the OSB panels will be treated with a low-VOC white stain to tone down the contrast, then sealed with a low-VOC sealer. VOCs are volatile organic compounds -- the source of that chemical smell given off by paint, stain, glue, carpets, furniture and the like. It's not healthy to breathe them in.

The home's heat recovery ventilator also has been installed. Because the "building envelope" is meant to be airtight, there has to be a way to bring in fresh air and blow out stale air. Otherwise, the residents will have problems with mold and unhealthy air. In a heat recovery ventilator, the fresh and stale air streams don't mix. Through a heat exchanger, the heat from outgoing stale air is used to warm the fresh air coming in.

Check out **Popular Mechanics' explanation** of how a heat recovery ventilator works.

The trickle of visitors that began with me soon became a stream. There were the Mirandas, meeting with Campbell on interior finishes; Julia Czerniak, associate professor at the SU School of Architecture and director of UPSTATE, the interdisciplinary center for design, research

and real estate that coordinated the design competition; and Doug Holland, whose company is using wood reclaimed from the house that originally stood on the site to make flooring.

The house was painstakingly deconstructed.

Holland, of **Levanna Restoration Lumber** in Auburn, took out every nail in the deconstructed boards, which took about a week. He had a sawyer saw it into boards, kiln-dried it and then took it to a miller in Salamanca to have it made into engineered flooring.

Holland said the reclaimed wood flooring is made by marrying plywood to a 4-millimeter veneer of either Southern white pine, hemlock or white pine. The product is formaldehyde-free and is made with a low VOC adhesive.

The following is a more accurate description that Levanna included for comparison:

Holland, of **Levanna Restoration Lumber** in Auburn, removed every nail from the salvaged structural timbers with the aid of a metal detector – a job that took about a week - driving to Syracuse daily to complete the task. Once de-nailing was finished, Holland loaded the timbers by hand onto his trailer, and then drove an hour and a half to have them resawn into boards – supervising that procedure. He retrieved each board from the saw and loaded his truck one board at a time. When sawing was done, he drove to the kiln that was located on the property, unloaded the boards and hand-stacked them onto a set of rollers – stickering each layer - and then pushed the stack into the kiln to be dried. Drying took about 4 days. Holland then drove back to the kiln, loaded the boards onto his trailer, and traveled a round trip distance of 330 miles just to drop off the boards to be milled into engineered flooring. Of course, he had to travel the same distance to pick up the completed order.

Holland said his engineered flooring with the reclaimed wood wear layer is made by marrying a 4 millimeter veneer to 11 millimeter hardwood plywood. In this case, the predominate species of the veneer (wear layer) is Antique Long Leaf Southern Yellow Pine – commonly known as Heart Pine – but this floor also includes a small amount of Hemlock and White Pine. The product is made with low VOC, formaldehyde-free adhesives.

"The advantage (over solid wood floors) is that it can be laid over dry concrete. It can be laid over radiant heat," Holland said. "There's very little movement because of the plywood. It's an extremely stable product."

And green, too.

Home Headquarters has begun the restoration of the Italianate house across from Live Work Home, at 318 Marcellus. It is being converted from a two-family to a one-family -- the way it was built.

The two-family next door to Live Work Home, at 315 Marcellus, is due to be renovated next.

As Kathy Miranda said in a later interview, "Things are happening here."



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The R-House (left) at 619 Otisco St. and TED house at 621 Otisco St.

Meanwhile, around the corner and down the block on Otisco Street, construction continues on two more innovative green homes, R-House at 619 Otisco and TED at 621 Otisco. Morgan Mechanical, of Tully, is doing the plumbing for both houses and also working on the heating system for the R-House.

The designers of TED, from **Onion Flats**, Philadelphia, are planning to be here in late April for "a barn raising" to put siding on the house, Czerniak said. Stay tuned for details.