WINTERGREEN

A monthly update on Steven Winter Associates, Inc.'s work in the realm of Energy Efficient, Sustainable, and High-Performance Buildings

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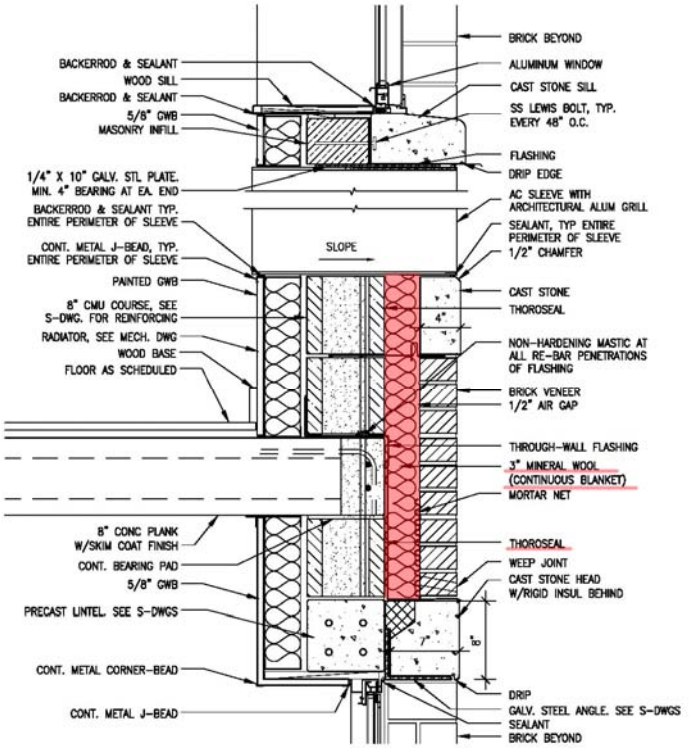
GREEN HOUSING BREAKS GROUND

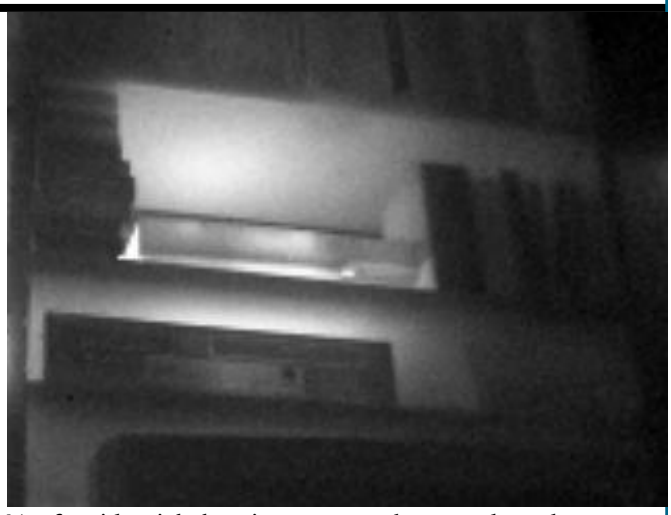
On a spring day in the borough of the Bronx, New York this month, a few overturned spadefuls of dirt marked the start of a new multifamily housing project designed by architects **Edelman Sultan Knox & Wood** to be green, with an emphasis on indoor air quality. **The Women's Housing and Economic Development Corporation** is developing two buildings, one called the "Family" project with 128 units and the other, known as the "Foyer," with 46 units. Both will incorporate a number of green strategies suggested by computer modeling studies by Steven Winter Associates, Inc. (SWA), which served as the green consultant on the project. SWA used TREAT software to test different building configurations of upgrades on materials and systems, such as wall insulation to help mitigate thermal bridging in the concrete floors (see detail).



05 DETAIL @ WINDOW HEAD, AC SLEEVE, SILL TYP.
1 1/2" = 1'-0"

The project is part of the **New York State Energy Research and Development Authority (NYSERDA)** multifamily ENERGY STAR pilot program, which requires that all upgrades have a savings to investment ratio of 1:1. This means that energy conservation upgrades must pay for themselves at least once over their lifetime. Two inches of XPS cavity wall insulation plus interior fiberglass batt insulation will have a total R-value of 22. ENERGY STAR appliances, additional roof insulation, high-efficiency ENERGY STAR lighting, low-E windows, and boilers and hot water heaters with 85% efficiency will be included. The energy features are expected to save over $600,000 per year in utility bills (compared to comparable low income construction in the city). The building will also have low-flow fixtures to cut water consumption. All of these efforts should result in an energy savings of 85% over the typical low income construction in New York, and will comply with ENERGY STAR's multifamily building standards (which require a 20% utility cost savings compared to a similar building designed to meet ASHRAE 90.1 standards). To enhance indoor air quality, ventilation systems will operate 24 hours per day and low- or no-VOC emitting materials and sustainably harvested flooring materials will be used. Plans also call for a green roof to transpire water into the air, store rainwater, and act as a small carbon sink.

SOLVING THE CASE OF THE PHANTOM LOADS



As part of SWA's energy audit inspections, along with checking the tightness of the envelope and the performance efficiency of HVAC systems, we also spook out "phantom loads." What are phantom loads? Also know as standby power plug loads, phantom loads are the electricity consumed by devices when not in active use, such as chargers and power units for laptops. According to a 2000 study conducted by the **Lawrence Berkeley National Laboratory**, a staggering 10% of residential electric usage can be traced to phantom loads. The infrared thermography image above shows the heat given off a cable box (top shelf) and VCR (lower shelf) when not in use. Heat indicates that the devices are in fact in operation, whether simply displaying a clock, or, in the case of the cable box, staying poised to record programs at set times. When tested, this device consumed 25 watts an hour, about $30 a year. In addition to cable boxes and VCR's, phone and laptop chargers, televisions, and audio systems are also typical sources of phantom loads. A simple solution is to put such devices on a power strip that can be turned off without having to unplug the device. Also, many newer devices are built more efficiently, especially those with the ENERGY STAR label. While there is not yet a national standard for standby power, California has made illegal the sale of televisions and DVD players consuming more than 3 watts in standby mode, and the state plans to add more devices to the list in the next few years.

MO MAHLE: PART OF SWA'S 'GREEN TEAM'

Maureen Mahle came to SWA's Green Team from Wisconsin, where she earned a Master's degree in civil engineering and worked as construction manager for a green renovation project. At SWA, Mo's focus has been on researching green and high-performance building technologies, and performing green consulting for developers, builders, and owners who are interested in following green building standards, including the LEED products for both commercial and residential construction. She's been spending much of her time working on the new LEED for Homes standard through its Pilot Homes program. As one of SWA's LEED Accredited Professionals, Mo says that she believes that the "need to build green is one of the most important issues facing us today, not only here, but around the world."

CONTINUING EDUCATION CREDITS

SWA is now a registered provider with the **American Institute of Architects Continuing Education Program (AIA/CES)**. With this designation, SWA's training courses in high-performance building can help design professionals meet state and AIA CE requirements. SWA's website has a listing of training now available, and new courses will be added in the future. For more information contact SWA's Cecily Channell at 212-564-5800, ext. 13, or at channell@swinter.com.

For more information visit the SWA Website: swinter.com

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