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DEFINING GREEN

THE HOT 50

Cutting-Edge Green Products
For Today's New Homes

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COMPLIMENTS OF

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BOOT HANGER

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FOLLOW THE ZEBRA TO NET ZERO

Alliance offers building technology information to help improve energy efficiency.

The Zero Energy Building Research Alliance, or ZEBRAAlliance, is both a research project and a residential efficiency education campaign. The members of the Alliance consist of Schaad Companies, Tennessee Valley Authority (TVA), Oak Ridge National Laboratory (ORNL), BarberMcMurry Architects, and the Department of Energy.

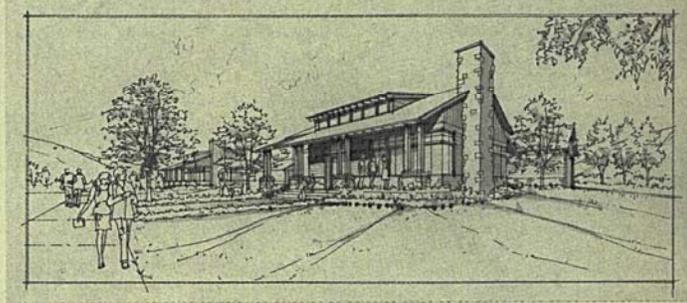
ZEBRAAlliance will integrate the components of ORNL's energy-efficient technologies into the construction of homes to be used as test markets to gauge the integral success and affordability of the components and the houses. Through the focused efforts of the Alliance members new energy-efficient components will be tested in order to provide homeowners with information on how to buy the best energy-efficient technologies for their homes.

Two pairs of homes will be field tested in a new residential development in Oak Ridge which is ideally located to ORNL, being within

a few miles of the campus. One pair will have walkout basement, the other pair will have crawlspace. The homes will be moderate to high-end dwellings having footprints of about 2,800 square feet.

The consortium will conduct field tests on four different envelope designs; each house will contain high-efficiency and/or 100% fluorescent lighting and Energy Star appliances. ClimateMaster's high efficiency water-to-air heat pumps (WAHPs) will provide space conditioning; water-to-water heat pumps (WWHPs) will provide water heating.

A unique ground-source heat exchanger will be buried near the home's foundation to take advantage of conventional trench work around the foundation and to capture waste heat from the residence. Triple pane low-E gas filled windows will be field tested in two of the homes and compared to performance for state-of-the-art windows in the other two homes. A unique wall system will be strategically placed near the kitchen, bathroom(s), laundry, and utility room for reclaiming heat from gray water and exhaust air streams.



The envelope designs for the four homes differ but each will have weather resistive barriers and/or air barriers to reduce or even eliminate infiltration and/or exfiltration. The four envelope subsystems are identified by the following key energy saving strategies and salient design features for these homes are also highlighted:

- > Structural Insulated Panel—SIP strategy
- > Advanced Framing—Advanced framing strategy
- > Dynamic Insulation—Phase change material
- > PCM Strategy—Exterior insulation finishing

Keep up with this ground-breaking project at www.zebralliance.com



FSC + Windows = Savings

Window manufacturers have an easy job selling the green attributes of high-performance windows, but many manufacturers are pushing the sustainability envelope with their manufacturing processes or in the sourcing of other materials that go into their windows. Kolbe, as an example, has achieved Forest Stewardship Council (FSC) Chain of Custody certification—one of the first of its kind in the window and door industry, this certification recognizes that Kolbe meets strict tracking requirements for ensuring the FSC-certified products it provides come from well-managed forests. The majority of the lumber used in Kolbe's wood products is sourced from certified suppliers. Kolbe offers its customers with a full range of interior wood species including alder, cherry, fir, mahogany, maple, oak, pine, and walnut. The breadth of Kolbe's wood species are treated and stained with finishes low in volatile organic compounds. The natural beauty of each species can be enhanced with a choice of water-based stains such as Golden Oak, Wheat, Light Oak 998, Red Wheat, Sunset Oak, Spiced Walnut, Chestnut, and Cherry. Custom colors also can be specified. www.kolbe-kolbe.com