Thinking green

by Chaya Chang

Today's movement toward green, sustainable design practices, suggest that remodelers consider not only the obvious qualities of the materials, but also the long-term impact on the environment over the building's life-cycle.

Although, this movement has taken off in recent years, some are slow to take advantage of green opportunities.

"We find that it's difficult to get builders to participate when the work is good," says Traci D'Alessio, state coordinator for Built Green Colorado. "When the work is bad, they have more time to look around for something that makes them unique to the industry and that's where they find the benefits of green building."

The house as a system

"Depending on the climate, location and personal desires, remodelers and homeowners may choose to place emphasis on one or more of these areas in making their green house," says Carl Seville, co-owner of SawHorse Inc., Atlanta.

In some cases, due to extreme heating or cooling, the focus may be more on energy effciency. On the other hand, a different homeowner may be particularly sensitive to allergens and choose to focus on air quality and moisture control.

"Focusing on a particular element of the home really depends on the homeowners' preferences and what will benefit them," adds Seville.

The key to making a building green is to view the entire structure as a system. Every aspect of the home can positively or negatively affect the other areas of the home. For example, the insulation and air sealing affect the HVAC; the materials chosen affect the indoor air quality and the durability; and the choice of building materials and methods will determine the impact on the environment.

“A remodeler can’t just include certain ‘green products’ and consider the house green. In many cases, using the wrong combination of products and methods will not only make a house green, it may actually make a house worse in terms of poor indoor air quality or reduced efficiency,” adds Seville.

According to Seville, when a house is viewed as a system and well planned by the remodeler, he can obtain high performance results, often with only a modest amount of extra effort and additional cost. While there is still a perception that green costs more, by designing properly, much of the extra costs can be offset by savings.

Green benefits

Beyond the tangible, upfront savings, future savings should also be considered when planning how to build green. By using durable materials and methods that will increase the life of the products used in a building, homeowners will delay replacement or repair by many years, saving real dollars during their time in the house.

According to the U.S. Department of Energy Center for Sustainable Development, buildings consume 40 percent of the world’s total energy, 25 percent of its wood harvest and 16 percent of its water.

Sustainable building practices go beyond energy and water conservation to incorporate environmentally sensitive site planning, resource-efficient building materials and superior indoor air quality.

The benefits of building green not only affect the environment, but also the health of the homeowners.

“Health concerns are a big trend,” says Howard Katzman, spokesperson for the Earthcraft Renovation Program.

“As mold and other pollutants become more in the forefront of the media and homeowners’ minds, they are looking for ways to improve their houses to control these problems,” says Seville.

“Homeowners are learning now to to reduce the amount of moisture in a home without compromising the necessary airflow by using the right

appliances,” says Katzman. “Aprilaire’s Ventilation Control is one of many products that helps reduce moisture within a home.”

“The new Ventilation Control System from Aprilaire provides builders with solutions to two common ventilating problems,” said Robin Pharo, channel manager for Aprilaire. “First, it eliminates the problems of uncontrolled ventilation, which contributes to higher loads on the air-conditioning and heating systems as well as increased humidity in the home. Secondly, it ensures the proper amount of ventilation based on the needs of the home.”

Green building programs

To provide the support and resource for the green movement, programs are being developed specifically aimed at green remodeling.

According to Jim Hackler, program director for Earthcraft, programs such as the Earthcraft House Renovation program, are available to builders and remodelers as a support system and resource for green building. The Earthcraft House Renovation Program is a voluntary green building and remodeling program that serves as a blueprint for healthy, comfortable homes that reduce utility bills and protect the environment.

The original guildelines for the program were developed in 1999 for new construction. In 2002, the guidelines were modified for use in renovations of existing homes, according to Hackler.

The program takes on a whole house approach, instead of only focusing on what is new in the home. “An Earthcraft renovation needs to look at what is needed in the entire house in order to improve the energy efficiency and indoor air quality,” adds Katzman.

According to Hackler, the issues that a remodeler should consider are: energy efficiency, resource efficiency, water consumption, indoor air quality and durability.

“Based on a point system, the remodeler follows the Renovation Worksheet, which shows many of the environmental issues and assigns a point value to each measure,” says Hackler. “To be

considered an Earthcraft House renovation, the entire house must score enough points on this worksheet."

Before the project begins, the house must get a Home Energy Rating (HERS). The HERS is a nationally recognized standard for gauging the energy efficiency of both new and existing homes established by the National Association of State Energy Offices.

Just as the Greater Atlanta Earthcraft Program supported the green movement, Built Green Colorado adopted it as a statewide approach.

"Built Green Colorado is a voluntary program that uses buyer demand, market education and builder training to enourage builders to build 'green' homes," says D'Alessio. "We started the program in 1995 and now have 110 builders – from custom builders to remodelers and 18,000 homes to date."