



New Tradition Homes
Skycroft

RESIDENTIAL DESIGN JOURNAL

Green Building on a Budget

Volume 3 Issue 1 Fall 08

As a new member of the Home Builders Association of Charlotte, Kevin Holdridge attended the 21st Century Building Expo in Charlotte in September. He attended three days of classes and earned a designation as a **Certified Green Professional**. The two days of classes that pertained to green building practices covered a plethora of information. The classes were very informative and covered many aspects of green building. The classes were sold out to capacity which is a testament to the building community seeing the importance of green building practices.

As we begin to institute more green building practices into our homes, one of the most crucial aspects of green building is either overlooked or difficult to institute because of lot constrictions. Site orientation is one of the most important aspects to consider during the design phase. Our goal is to get the home oriented to a North-South exposure. If we can do this we are already cutting the operating costs of the home. The more we can utilize a passive solar design the more we can take advantage of natural lighting and heating cycles. We see many homes designed that require window shades to block natural sunlight to cut radiant heating effects which in turn creates the need to more artificial lighting. The biggest benefit to green building is to lower our operating costs of the home. This is what we are striving for because no matter what materials we use to build with or the amount of recycling we do during construction, these will pale in comparison to the energy consumption of the home over it's lifetime.

We need to design the home with the proper overhangs to provide natural shading for the windows in the summer while taking advantage of natural light to require less usage of artificial lighting during the daylight hours. A north-south exposure will allow us to take advantage of lighting without a lot of radiant heat transfer. Another culprit of radiant heat gain is in the attic. We can help prevent this by using light colored roofing materials and stretching our thermal envelop to seal this area off with insulation.

In a remodel situation for example an easy way to lower the radiant heat gain in the attic is by installing a foil radiant barriers affixed the rafters. The foil will heat up but science proves that it only absorbs the heat and does not become a significant source of heat transfer. Once we reduce the radiant heat gain we also reduce the amount of air that needs to be cooled in the warmer months. Our local hot-humid/mixed climate we will have more cooling days than heating days. This will greatly reduce the load on the HVAC system and lower our energy consumption and operating costs.

Communication is key any time we try to do things a little different. Even if you don't chose to institute any of these new systems into your homes, we hope you will consider our firm any of your design needs. We would like to thank Doug McSpadden, Tom Stevenson, Corban Homes, and all of our custom clients that we have completed homes for this quarter. We look forward to working with you again on upcoming projects.

If you have any questions or would like to schedule a meeting about an upcoming project please see our contact information below.

We will send out a quarterly newsletter to update you on new projects, the latest engineering updates, the latest design and material trends, the newest sub-divisions, ect. If you would like your company or home highlighted in a story please send an e-mail with your contact information to kdhdesigns@hotmail.com

Kevin Holdridge Owner-Designer
KDH Residential Designs, LLC.—704-909-2755
301 McCullough Drive—Fourth Floor
Charlotte, NC 28262
www.kdhresidentialdesigns.com - kdhdesigns@gmail.com

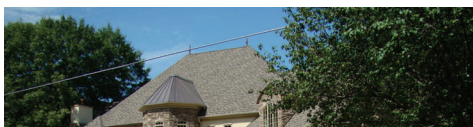


A New HBA of Charlotte Member

Kevin Holdridge has been accepted into the Home Builders Association of Charlotte. He attended his new member orientation in September and has since attended meetings for the Green Building Council and is plans to become a member of the Remodelers Council. Being involved in the community is very important to our firm and we look forward to meeting other members of these councils and associations.

NEW OFFICE LOCATION

KDH Residential Designs has finally moved to our new University Area location. Most of our work is built in the Lake Wylie area or Lake Norman area. We have selected an office location that is no more than 30 minutes in either direction and 15 minutes from uptown Charlotte. We have great access to I-85 and I-77. We are located on the **Fourth Floor of 301 McCullough Drive** right off of North Tryon Street near W.T. Harris Boulevard. Our new phone number is **704-909-2755**.





**New Traditions Homes
Skycroft
2008 Parade of Homes**



**Manley Custom Homes
IDS Showhouse Jetton Road**

Engineer's Corner

Besides being good for the environment, Green building is good for your health, and your pocketbook. Consider the following:

1. Several studies conducted in the late 90's showed a closed crawlspace, properly constructed is far superior at controlling moisture related problems than a ventilated one, thus improving the indoor air quality in the home. The Building Codes have since been updated to provide specifications for constructing closed crawlspaces. See Section R409 of the NC Residential Code (2006 Edition).
2. Besides being, stiffer, straighter and stronger, I-joists use substantially less lumber than dimensional lumber. A deeper floor system that I joists offer will usually allow for the use of more laminated wood beams in lieu of steel. Wood is a renewable resource with a much smaller carbon footprint than steel. The price of I-joists have come down to justify their use as an alternative to dimensional lumber in almost all new home construction.

The best way to go "green" is to use less and waste less. Consider using 2x6 studs spaced 24" apart in lieu of 2x4's @ 16". Consider single ply headers over small doors and windows. Try double stud corners instead of triple. Use 8" concrete basement walls instead of 12". Work with your designer to use space efficiently such as reducing hallways and getting rid of foyers. Remove formal dining rooms, and formal living rooms or any other room not used on a regular basis. These are spaces rarely ever used that cost money to build, heat and cool. The money saved in the removal of one or two rooms, in some cases, can be used to supply the entire house's electrical supply with solar power, creating a "net zero" house.

Intelligent Design Engineering, P.C. is a structural engineering firm specializing in residential structural engineering and inspections of large custom homes. They are also experienced with Green building design and construction. If you have any questions please contact, Mike Gervais, P.E. at 704.999.3869.



To remove your name from our mailing list, please [click here](#).
Questions or comments? E-mail us at kdhdesigns@hotmail.com