

2011 INNOVATOR SHOWCASE

Focus: ENERGY EFFICIENT HOUSING PRODUCTION

GREENHORN APPLICATION
APPLICATION WRITTEN BY: BRONZIE HARRIS

PRESENTED BY: CINDY ROSS

2011 FAHE Annual Gathering,
Roanoke, VA

September 28-29, 2011



About the Homeowner

- Our homeowner is AWESOME! She has worked with the same employer for 20 years. She has used her vacation time to take care of family members, trips to therapy, chemo, etc
- Members of the homeowners church initially contacted us. They said she would never ask for help. She had taken care of so many others in her life, “How could they help provide something nice for her?” After the home was constructed her church held a housewarming shower and over 100 people came
- Originally, she said, people wanted the assistance for her, she didn't really think she needed it. “There are others that could use it worse than I can.” First meetings she brought someone with her, eventually she came to trust us and decided yes, this is something she wanted and needed to do for her future



About the *Before* House-

Located on a beautiful piece of family property on Lake City Highway in Clinton, TN

Dilapidated trailer with a one room addition built directly on the ground

It was CLEAN, but nothing in the home functioned as it should. The floors were all failing, the roof leaked, the windows leaked. Everything was just old, it had worn out. We debated rehabbing. The bones just weren't there

True to form, our homeowner donated everything from the home that could be used by others





Some of the basics

Above & Beyond requirements of Energy Star Version 2 :

- Raised Heel Energy Trusses- allowing more insulation over the top plate
- Attic insulation – R-50- we wanted to make sure we got R-38.
- Resnet Grade One insulation installation
- Heat pump Hybrid Water Heater – 2.0 EF
- Electric Heat Pump split system 1.5 ton 15 seer 8.5 HSPF – by doing the split system we brought the air conditioning coil inside the envelope
- 80% CFL Lighting
- ERV-Energy Recovery Ventilator for fresh air ventilation
- 2 part closed cell spray foam on the rim joist
- Radiant barrier sheathing in the attic
- R-8 on the duct work insulation
- All Energy Star appliances
- Conditioned crawl space
- Crawlspace entrance in the closet
- Sump Pump in the crawlspace with interior and exterior perimeter drain and bithuthane waterproofing system on the block. (Energy Star 3 is concerned with water management We have already incorporated this into our specs)
- Visitable
- Duct Tightness 16cfm25 to the outside
- Blower Door test 970cfm 50



An ENERGY STAR® Version 2 Qualified Home

This home built at

2303 Lake City Hwy, Clinton, TN 37716

by Jones Brothers Construction

has been verified by ADFAC, an independent professional or organization,
to meet or exceed strict energy efficiency guidelines
set by the U.S. Environmental Protection Agency.

HERS Index: 72

10-31-10

www.energystar.gov

A handwritten signature in black ink that reads "Sam Rashkin".

Sam Rashkin
National Director
ENERGY STAR for Homes

REMRate - Residential Energy Analysis and Rating Software v12.93

**IT MIGHT NOT BE
WHAT YOUR PARENTS
WANT TO SEE
AS A TEST SCORE -
BUT WE LIKE IT !!**

The *After* House



Cost



Construction Price

- \$82,000.00 including the yard, driveways and sidewalks
- Used the existing septic tank and field lines
- Some upgrades, such as hardwood flooring, lighting and stainless steel appliances were donated

Purchase Price

- Sold the House for the appraised \$103,000.00
- Granted the homeowner the value of the property
- 0% interest loan thru ADFAC's revolving loan fund
- Payment \$262.00 per month includes taxes and insurance. (which is less than the utility costs used to be)

Partnerships

- Our local fire department burned down the trailer
- Homeowners local church partnered with us to provide her with upgrades on the flooring, lights and appliances
- Energy Bar grant offset additional costs in energy conservation upgrades
- Last but not least, the Contractor



Lessons

Fresh Air

- We have been trying to determine the best methods to introduce fresh air into out houses
 - ERV vs dehumidification
 - ERV initially cost more, we think it is more efficient



Conditioned Crawl Spaces

- We use a 15 mil stego brand polyethylene to line the crawlspace and a 2" blue board to insulate it
- Most visible change is the neatness of the installation
- Definitely learned lessons and would be willing to share those stories



Lessons



We are ready to comply with Energy Star Version 3, All items that were required for compliance have been incorporated in a specific way so as to meet compliance and minimize cost

We feel strongly any non-profit can use these techniques and build a quality house. Its imperative to inform and educate the contractors. Help them incorporate air sealing and other green techniques into their tried and true process, they will make techniques their own and see their costs have no need to rise



CELEBRATING
25 YEARS

ADFAC

1987 - 2012