

Retrofit for energy-efficient performance

by Lois Alcosser

According to builder Stewart Lade, the majority of houses built before 1990 in Fairfield County have energy and moisture problems: mold, leaky roof, inefficient heating systems, water in the basement, inadequate insulation, rotting trim, loose siding, chimney air leakage. The older the home, the more problems. These houses are not tear-downs, they are being lived in; the need for regular repairs and replacements are unhappily accepted.

These homes may be on desirable property and have long family histories but they're too hot in the summer, cold in the winter and damp whenever it rains. They're euphemistically called "vintage homes," and most of the homeowners don't want to move, or can't afford to move, anywhere else.

Stewart Lade is currently applying his "deep energy retrofit" to a 1960s home in Weston to modernize and upgrade the home's energy systems and critical building components. For instance, he's installing the right-sized heating system and super-insulation to seal air leakages and to foam-seal critical building intersections. Moisture, vapor infiltration and mold will be eliminated, and the annual cost of energy consumption will be drastically reduced.

"The work must be plan-driven," Stewart says. "Every part of the retrofit affects another part. The whole job has to be visualized and configured before anything begins for maximum energy-efficient and economical results. If you change the roof and do nothing else, you'll be stuck with what you have for the next 30 years."

Stewart Lade knows construction from the inside out and the outside in. His compa-



Construction Photo Rigid foam insulation has been applied to the side walls with ZipWall sheathing, more than doubling the wall insulation R-value. All connections have been taped and foamed to minimize air infiltration. Windows have been reset, sealed, flashed and trimmed with low-maintenance PVC. Work is underway on the roof, with the application of rigid foam insulation complete. Final side wall will be pre-finished white cedar shingles.



Before Photo In the 25-year-old addition, the double-paned windows will be retained, while the rest of the structure will be modified to improve building energy efficiency, moisture-barrier performance and architectural appeal.

ny, Timberdale Homes, designs and builds award-winning new custom country homes. His affiliate company, Green Energy Systems, retrofits homes to become highly energy efficient and provide a more healthful living environment. "Many people don't realize it, but outdated ventilation, poor moisture and

drainage control can make a home's air quality unhealthy."

"There are two types of renovation," Stewart explains. "Outside-in and inside-out. The interior of the Weston house we're working on is pretty good. The problems all come from the outside. We are replacing worn-out insulation with the kind that wasn't even dreamed about

when this home was built. We define 'green building' with construction that utilizes the most up-to-date building sciences, methods and materials."

What's amazing is that while the retrofit work is being done, the family is still living at home. David Weber, the homeowner, is in real estate with Coldwell Banker, and so his choice of a major retrofit was carefully considered. "Frankly," he says, "we may be over-improving the house, but we love it here and we want to stay. Since the house needed new siding and new windows, we figured, why not improve the carbon footprint and make the house an authentic example of the best in green building?"

Mr. Weber knew Stewart Lade's reputation through real estate, and he says, "I've known a lot of builders. I'm impressed not just by the man's excellent work but by his integrity. My wife and I feel blessed to have him."

The retrofit will probably take about four months because Stewart is concerned with planning the work to make it as convenient as possible for the owners to continue living at home while the job's being done.

"The whole process of building and renovation is complex and expensive," Stewart says. "Any homeowner is vulnerable to making expensive mistakes. That's why I work so closely with my clients to help them make the wisest, most reliable choices."

That approach is why Stewart Lade has numerous awards, including a Home Building Industry Grand Award in 2008 for Project of the Year in Connecticut.

For more information, contact Stewart Lade at 203-912-3616. ■