

SPOTLIGHT

WaterFurnace International, Inc.

Case Study 24

Award-winning home takes the spotlight

Key Features

Square Footage: 2,780

Type of System: Closed Vertical Loop

Number of Units: 1

Total Capacity (HVAC Tons): 4



And the award goes to...

Thanks, in part, to a WaterFurnace geothermal, also known as GeoExchange, heating and cooling system, Melvin & Sons Contractors of Lynn Haven, Florida, was awarded both the 1996 Energy Value Housing Award from the National Association of Home Builders (NAHB) and the 1995 Grand Aurora Energy Award from the Southeastern Builders Conference (SBC).

The 2,780 square-foot, custom built home, owned by Terrell Magee, is located in Panama City, Florida.

For the Energy Value Housing Award, the home was evaluated on over 500 characteristics in six categories, including: energy

efficiency, building materials, construction practices, water efficiency, building design and ecological planning.

"We're ecstatic about the awards," said Billy Joe Melvin, Jr., Vice President of Melvin & Sons Contractors. "Our philosophy is to incorporate energy efficiency and environmentally friendly aspects during design and construction by choosing materials and features which have a positive net effect on the home and its surroundings. That's why a primary feature of our homes, the cornerstone of renewable re-

sources, is the closed loop, GeoExchange heat pump with hot water recovery."

Gulf Power of Panama City also deserves credit. Melvin & Sons proposed the use of GeoExchange to the homeowner, then Gulf Power took over. They sponsored a field day at the house and have been with Mr. Magee from the beginning, throughout the construction process and even after.

"This is the first home that Gulf Power in Panama City has been involved with," said Carol Thompson of Gulf Power.

Thompson wrote the submissions for both the Grand Aurora and Energy Value Housing Awards.

Designed for efficiency

The Magee home features a WaterFurnace Premier® 2 two-speed, closed loop GeoExchange comfort system with an Air Conditioning & Refrigeration Institute (ARI) 330-rated Coefficient of Performance (COP) of 3.9 for low speed heating and an Energy Efficiency Ratio (EER) of 20.4 for low speed cooling.

GeoExchange systems, unlike conventional air-to-air heat pumps, rely on the Earth's relatively constant temperature to heat and cool the home. Through a network of buried loops, this technology taps into the free, renewable and clean energy beneath the Earth's surface — thus *transferring* energy, not creating it. In this particular application, 1,600 feet of pipe was installed in five holes, each 160 feet deep.

GeoExchange systems operate up to four times more efficiently than conventional heating and cooling systems and produce no carbon dioxide emissions — a major contributor to environmental air pollution.

In the winter, these pipes, or earth loops, absorb heat from the warmer earth and carry it to the indoor unit where it is extracted, compressed to a higher temperature and distributed throughout the home. In the summer, the unit removes heat from the home and transfers it back to the circulating water in the underground loops where it is distributed into the cooler earth.

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The Magee's GeoExchange system also has a zone dampering system from WaterFurnace called the IntelliZone. This comfort zoning system has three control dampers for added temperature control.

Philosophy based on efficiency

"Energy efficiency is, by far, more than just insulation and double pane windows. It's a philosophy that begins with the builder," said Melvin. "We carefully evaluate all materials and labor that go into our homes — the foundation, framing, trim and the energy features. The end result, as evidenced by these awards, is a home which is cost effective, comfortable, environmentally friendly and efficient to operate."

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— Billy Joe Melvin, Jr.,
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In addition to the GeoExchange heating and cooling system, the Magee house features an electronic air cleaner, high performance windows with low-E glazing and a 65 gallon electric water heater.

Timber removed from the construction site was mulched for landscaping, and environmentally friendly materials and processes, such as cellulose insulation, recycled gypsum board and wood trims were used — making this a truly energy efficient and Earth friendly project.

