

House open daily for tours

Geodesic dome-homes save energy

By GARY LEY
Of the Emerald

It isn't the Louisiana Superdome, but the house at 3087 Whitbeck Rd. in Eugene is a dome. And from the viewpoints of cost and energy efficiency, it is super.

The 3,800 square foot geodesic dome house has just been finished by Oregon Domes/Roger Boothe Construction Inc. It is the fifth such home in the state, but the first in Eugene.

Boothe says the dome construction saves the home owner 30 to 50 percent in energy costs a year.

"The heating bill for this very big house in the coldest month would be about \$40," says Boothe. The home's spherical interior, he explains, keeps air circulating and there are no angular pockets for warm air to sit in.

Dome houses are cheaper and faster to build than conventional houses, according to Boothe. The Whitbeck house, for example, was built in five months. A regular house of the same size would take six or seven months to construct, Boothe says.

Boothe's dome houses cost about \$35 a square foot to build. Conventional houses cost from \$35 to \$40 a square foot.

However, because of their simple design, dome homes can be assembled by the owner at even greater savings. A large three-bedroom dome can be built for \$25,000—excluding land—if the owner is willing to exert himself.

The geodesic dome was invented by Buckminster Fuller 30 years ago. It is defined as "an antinodal structure of circular line between two points of any given surface."

In other words, triangular frames are used to form a dome-shaped structure.

Cathedralite Domes of Aptos, Calif. makes the pre-fabricated frames used in the Whitbeck house. The "kit" supplied by

Cathedralite includes 60 triangular frames weighing about 75 pounds each. The frames are then simply bolted together. The kit can be transformed into the shell for a house in eight hours by four workers.

Boothe says the Whitbeck home went from foundation to a water-sealed shell in three days.

In these days of energy conservation and inflation, domes are

becoming popular among homebuilders. There are 20,000 geodesic dome houses in the country and 6,000 in California. Cathedralite is selling approximately 60 kits each month at an average cost of \$6,500.

Domes are also a stronger design than the conventional house. The house just completed by Boothe can support a snow load of 120 pounds per square foot.

Domes are so strong no interior load-bearing walls are required.

Boothe has had the house monitored by Pacific Gas and Electric (PGE) of California for energy efficiency. Their report says they have never monitored "a more energy efficient" building.

The Oregon Energy Commission (OEC) told Boothe that if the figures obtained by PG&E hold up under the commission's own monitoring, the Whitbeck house would be the most energy efficient building in the state.

Oregon Energy Commission, the Eugene Water and Electric Board and the Springfield Utilities Board all have meters installed in the house so they can judge for themselves if the geodesic dome does save energy.

Boothe estimates the cost of materials can be reduced by one-third with domes because of the smaller surface area required to cover the same area a conventional design would.

When Buckminster Fuller was in Eugene recently, Boothe and his partners were in the audience. "We remember hearing him at Reno when he turned us on to the whole dome idea," says Boothe, "We just had to go hear him again."

The Whitbeck dome house opened Wednesday for public viewing and will be open for the next three months, every day from noon to 4 p.m.



Photo by Dennis Hickok

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