

# At Home

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Susan Nichols: She designs the homes.



Wayne Nichols: He markets the product



Homes designed and built by the Nicholases have the same basic energy task: allow the sun to enter the space directly

for daytime heat in cold weather and use thermal mass to store the daily solar energy for use on winter nights.

fans, pumps or other mechanical equipment to produce and move heat; passive methods do not. Instead, they rely on certain construction materials and architectural design. The couple use greenhouses that work as solar collectors and mass walls or rock beds for heat storage. This way heat is absorbed during the day and radiated throughout the homes at night. Clerestory windows and skylights let sunlight — and heat — in. Using extra insulation helps prevent heat buildup.

From situating the home on the land so it takes advantage of the sun's rays, to using water-thrifty plants as landscaping, they have tried to build according to the waste-not, want-not adage. Roof water is channeled so it flows into the planting beds and gardens. The Public Service Company of New Mexico, which owns the Santa Fe water system, is helping to devise a below-ground trickle irrigation system for lawn watering.

With each development, from single-family dwellings to condos, they've experimented, learning what works and what doesn't. "We're moving the technology, one step at a time," he says.

The Nicholises, who came to Santa Fe in '73, experimented on their home first before building a product they would sell to the public. The consummate businessman, more accustomed to working at a desk than on a roof, Nichols required the builder to hire him on the crew at an economical \$4 an hour. Money wasn't important; learning the business from the construction end was.

In the beginning, the couple experimented with both passive and active solar systems. They decided to concentrate on passive solar because it was cheaper to build and easier to maintain.

Their original project was eight luxury homes on five-acre plots outside of Sante Fe. Cost for those homes ranged from \$95,000 to \$175,000.

The success of First Village, as it was called, surprised even them. "When we had the first open house in 1975, we had 4,000 people," he says. "We expected a couple hundred people."

One of the homes, built on speculation, was purchased by Douglas Balcomb, a solar scientist

who initiated the Solar Research Program at the Los Alamos National Laboratory.

Eventually, Nichols says, the couple and their company, Communico Inc., were no longer alone. Involved in the company's solar efforts were the laboratory, which is funded by the Department of Energy, and the New Mexico Solar Energy Association. The three groups became an effective triumvirate. "We'd build something, Los Alamos would monitor it and the association would tell everyone about it," Nichols says.

That's not to say the company and its building projects were inevitably praised. They've been criticized for building for the luxury market instead of catering to the masses. Today, for instance, cost for a home in the La Vereda Compound, with square feet ranging from 1,969 to 2,622, sells for \$226,500 to \$300,000. But, says Nichols, experimentation is only affordable at the luxury level.

"The wealthier market can afford that," Nichols says. "Passive solar is the last thing a guy is thinking about if he's just trying to make his car payment."

Ultimately, the company wants to build more affordable housing using passive solar. Instead of fairs or festivals celebrating the sun, Nichols wants to change attitudes — and housing — through a successful business.

"You can create leadership in the marketplace," he says. "When people see you're successful, they'll follow suit."

His family history is proof of that. Nichols is the grandson of the man who built the first shopping center in Kansas City. His grandfather, he says, designed communities to accommodate an innovation in transportation: the car. A retail shopping center, with its ample parking space, solves parking problems created by automobiles. "The energy crisis is going to have the same kind of impact," he says. "We want to take the innovation (solar heating) and turn it into something we can sell today. That's a lot different from being a hippie in the hills who builds his own house and uses solar energy to heat it.

"I'm a businessman," he adds, "not a survivalist."

# Finding a place in the sun

By Liz Doup

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SANTA FE, N.M. — This high desert town with its mud-colored buildings and sage-scented landscape offers an abundance of art, adobe architecture and songs sung by a world-famous opera company.

But what should be on the list of this city's greatest resources is the powerful, golden orb whose rays warm the art galleries and pueblo-style homes: Santa Fe also has the sun.

During most of the year Santa Feans bask in the sunshine that, in the summer, raises temperatures into the 80s.

Santa Fe also has Wayne and Susan Nichols, a husband and wife team that hitched their star to the sun a decade ago when they began working with solar energy.

The sun is an accessible and economical energy source in contrast to the nation's dwindling resources, particularly in a state that receives no less than 70 percent sunshine year-round, Nichols says. Yet there was no solar movement when he, a Harvard-educated businessman, and his wife, a

Stanford-educated mathematician, left Los Angeles and came to Santa Fe to investigate solar energy's possibilities.

Nichols, recounting the early resistance to their ideas, looks out at the greenhouse that was built onto the office to capture the day's warmth. Tonight, he knows, the office will be warmed by the heat trapped by the greenhouse during the day. "When you talk about being out there alone," Nichols begins slowly, "we were out there alone."

Today they're right in the middle of it. Their office is just a few streets away from the couple's housing project, an environmentally thrifty housing development located close to the heart of Santa Fe's historical area. Near this development are aging adobe dwellings, and surrounding it all — the newest in housing and the oldest — are all the problems associated with progress.

In this town with an overtaxed water supply and scenic land that carries a premium price tag the Nicholises are trying to build homes that do the most by using the least.

Their latest project, La Vereda Compound, is a develop-

ment of 26 condominiums primarily using passive solar heating and designed to fit in with the traditional Santa Fe pueblo style of building.

Nearby is their La Vereda development, where 19 individual homes that use passive solar heating, are clustered on four acres of the 10-acre site.

These days the couple's efforts capture the attention of the national press as well as earn the cooperation of utility companies and government agencies that have helped monitor the results of their energy-saving ideas.

But it wasn't always so.

"We took a lot of flak in the early '70s," Nichols says. "People said, 'You guys are just California-type real estate people. Financing was hard to come by. But things can change. You can go out and sell a whole new reality.'"

The reality they're selling is energy-efficient housing using passive solar energy. Active solar heating systems require

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