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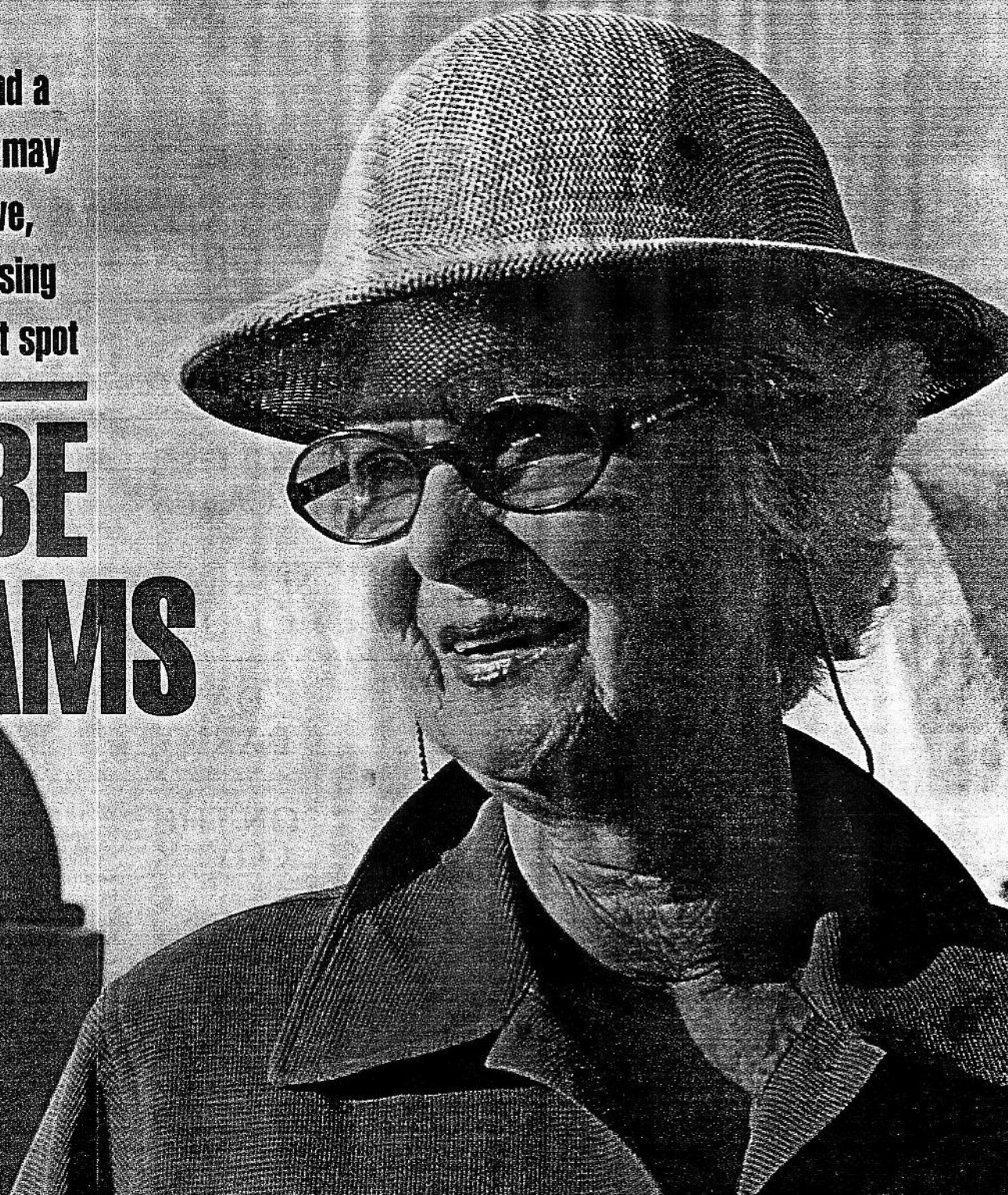
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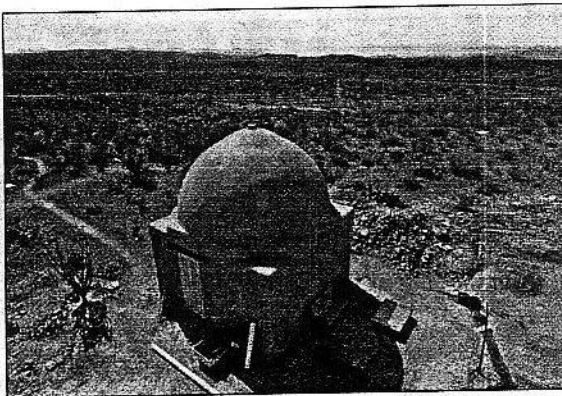
**Mud, sweat and a
woman's drive may
bring inventive,
affordable housing
to the state's hot spot**

ADOBE DREAMS

Simone Swan



Near the border at Presidio,
where heat rules the land
and decent housing eludes the
poor, Simone Swan envisions
simple but graceful adobe
homes rising from
the desert floor



Homes from the Earth

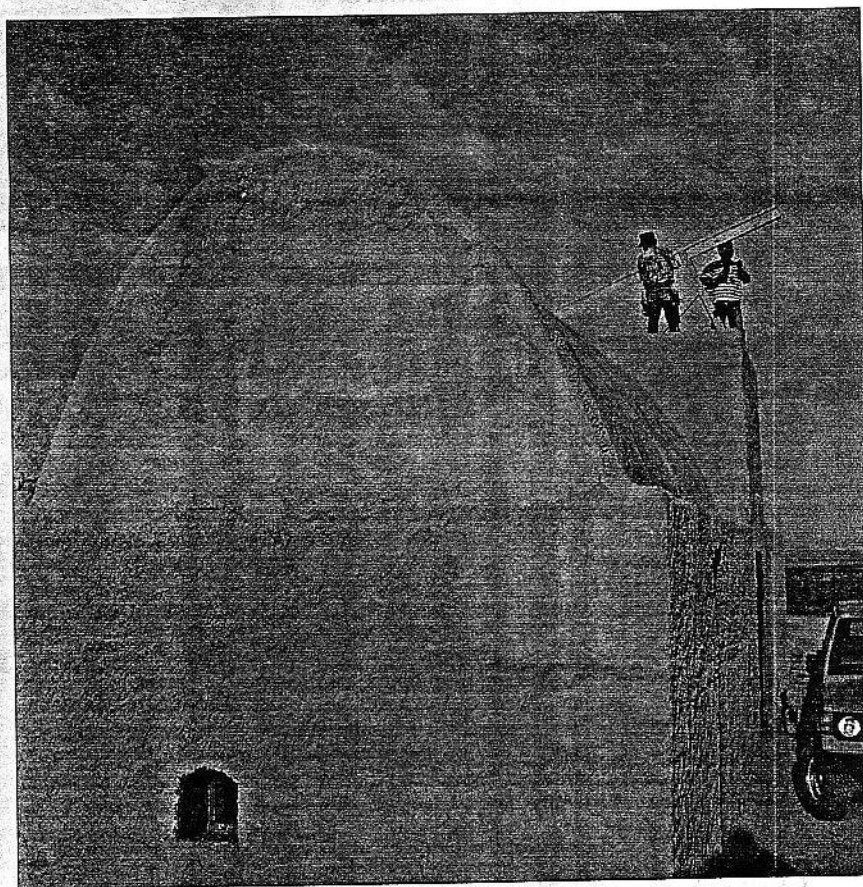
Story by Lauraine Miller • Photography by Ben DeSoto

It's 62 degrees at 8 a.m. on an early May day in the border town of Presidio. By late morning, the sun will climb and burn in triple-digit heat, and this city of 5,200 will live up to its reputation as "America's Hot Spot."

The epithet gives Presidio some cachet. So does its location at the northeastern tip of the Chihuahuan Desert, about 50 miles west of Big Bend National Park. Indeed, this isolated little community along scenic FM 170 tries to sell itself as something more than the most sun-scorched little town in the United States. Sure, it's hot here, residents say, but the persistent sunshine also has its advantages — including spectacular sunsets. And you can always cross the Rio Grande to visit Ojinaga, Presidio's sister city of 30,000 in Mexico, to eat fresh seafood — an oddity in the desert — and to fill prescriptions at cut-rate prices.

Agriculture has been the backbone of the economy for centuries in this fertile valley, where the Rio Conchos meets the Rio Grande. The Spanish explorer Cabeza de Vaca found Indians raising vegetables when he arrived from Florida in 1535. Today, Presidio is one of the oldest onion producers in the nation. Residents of the area swear the local crop is sweeter than Georgia's better-known Vidalia variety.

The valley has the bustle and verve that attach themselves to

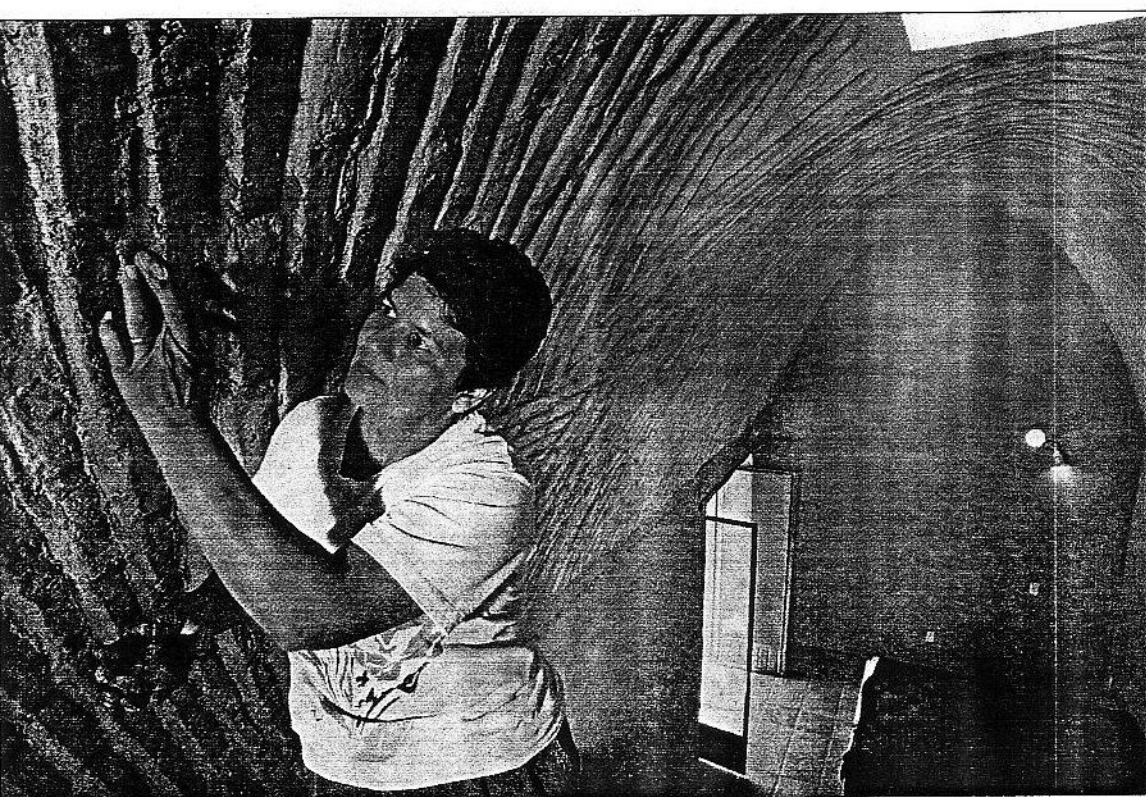


Roberto Hernandez, left, and Mauro Rodriguez work on the vaulted roof of Simone Swan's adobe house near Presidio. In the top photo, the domed, separate portion of Swan's house fits in with the colors of the northeastern tip of the Chihuahuan Desert.

twain cities along the border, and the romance of Pancho Villa's presence as part of its history. But there's no getting around the fact that it's the heat that defines the area's character. The bright light emphasizes the surrounding mountains' rugged, raw beauty. Its intensity, coupled with the soaring springtime temperatures, heightens the senses, which capture sights, sounds and smells in slow motion.

In early May, the sun competes with a stubborn haze that hangs in the air with insouciance, refusing to go away. It's the first fallout to hit Texas from the agricultural fires burning in Mexico and Central America. The haze diffuses the sun. But it doesn't obscure the valley's sensuality — which you can smell in the fragrance of the onion crop shortly before the harvest. Which you can see in the alfalfa fields that add a jolt of bright green to the desert and in the eerie ocotillo plants, their tall, spindly "arms" reaching toward the sun. Which you can hear as water gushes from the jets filling the swimming pool at the Three Palms Motel, next to the Oasis Cafe on Old Highway 67.

From her 430-acre property that sprawls across a mesa 10 miles east of town, Simone Swan can see the 8,000-foot-tall Chinati Peak, the volcanic caps of Big Bend National Park, and the Sierra Rica in Mexico. Her next-door neighbor is Big Bend Ranch State Natural Area. She



Using adobe mud plaster, Maria Jesus "Jesusita" Jimenez touches up a vaulted ceiling over a bedroom of Swan's house.



Protected from the sun's harsh heat, Swan confers with Rodriguez about details on roof edging.

also has a good view of Presidio's potential, its 30 percent unemployment rate and the valley's need for one of the most basic elements of human survival — housing, decent housing.

When Swan first visited the area in 1991, she was struck by its similarity to another ancient river valley, the Nile Valley, half a world away. There, she had apprenticed with Hassan Fathy, the late Egyptian archi-

tect, engineer and humanitarian, who advocated decent, affordable housing for all people, especially the poor. That philosophy dovetailed with her work at the time — executive vice president of the philan-

thropic Menil Foundation of Houston.

Fathy was interested in local traditional building methods using available materials. He observed how the peasants in the Aswan area of Nubia constructed — with sun-dried mud bricks — sturdy, well-insulated dwellings with courtyards and soaring roofs in the shapes of barrel vaults and domes. How they created decorative lattice-work to enhance their designs by setting the bricks in a zigzag pattern.

In Presidio, Swan immediately found a number of adobe structures, including residences and the American Legion post. But the *pièce de résistance* as far as she was concerned was Fort Leaton, a 19th-century fortress, residence and trading post that's owned by the state of Texas.

The massive adobe structure was undergoing restoration, and on impulse Swan decided she wanted to be a part of that effort. She worked for five weeks as a volunteer restorer. More important, she realized that the Presidio Valley afforded her the place and the opportunity to carry on Fathy's principles.

Sadly, the Egyptian had not seen his ideals come to fruition before his death in 1989. His experiment 40 years earlier to establish the Egyptian village of New Gourni was never completed because of bureaucratic and other snafus.

Fathy had won international awards for his work, and a cult following of admirers. But his dream remained up for grabs. "He was a shining torch, a great influence, but a failure in moving government to back his vision," Swan says. "A lot of people have lectured on him (including Swan, who has done so in the United States, Mexico and Europe), and there have been films and articles; and the Aga Khan Foundation gave him an architectural award. But no one was carrying on.

"I decided to do it," Swan says.

Swan reasoned that the Presidio Valley had the work force, the talented masons familiar with mud-brick construction and a dry climate suitable for earthen structures, with low average annual rainfall of about 10 inches.

If she could teach local masons the tricky technique of building vaulted and domed roofs, and if she could obtain public or private funding, she would be well on her way toward establishing low-cost housing in the desert, brick by adobe brick. And she could contribute something of beauty to the built environment: homes, and even neighborhoods, more spacious, less expensive, more enduring and more attractive than the stark, unpainted concrete-block residences springing up in the *barrios* and *colonias* on both sides of the Rio Grande. Perhaps, too, she would establish a center for the study and construction of adobe architecture with earthen roofs in the Chihuahuan Desert.

After traveling the world for most of her life, Simone Withers Swan discovered, in a sense, that she had come home.

It's easy to understand Swan's affinity for the area, given her frequent trips to Egypt. Archaeologists who have combed the Presidio Valley and the mesas for artifacts say human habitation here dates back 10,000 years. Franciscan monks brought in Christianity more than 300 years ago, establishing seven missions in 1683 to convert the Indians. The fortress, or *presidio*, from

Camacho wears a straw cowboy hat, a crisp, long-sleeved white shirt and cut-off blue jeans. The mud splatters against his calves with a wet smack as he works the mixture to the consistency of clay. He knows by feel when it will reach the texture needed to form unfired bricks that won't crumble when they dry. Then he and his workers will shovel the mud into rectangular, wooden molds and let the adobes bake in the sun. He sells the 18-inch bricks for 18 cents apiece.

It's an ancient technique, and one that has traveled around the world from the Middle East to Northern Africa and across the Strait of Gibraltar to Spain. From there, the Andalusians brought it to the deserts of Mexico and across the Rio Grande to what is now the Southwestern United States. In transit, the Arabic word for sun-fired brick, *attub* or *attoba*, became the lyrical *adobe*, pronounced ah-DOH-beh in Spanish. (Another tradition that has traveled the same route is found in the blue window and door frames, painted that color to ward off evil.)

Camacho employs two neighbors and a third man in his manufacturing business. They stack the inventory in piles that echo the jagged shape of the mountains beyond the city. The stack stands between Camacho's home and the concrete-block residence of employee Manuel Navarrette, which houses seven people. Camacho's son had lived with him, but the divorced former truck farmer and highway laborer now lives alone. His two-bedroom home looks palatial, compared with his neighbors' dwellings.

The result of Camacho's hands-on labor is a graceful structure with rising dome and vaults built entirely of adobe — bricks, plaster and mortar — except for the wooden doors, the recycled railroad ties used as lintels above the doors and windows, and the cement, gravel and stone foundation.

The neutral color of the adobe changes with the light. The sculptural smoothness is rough in one spot, in need of replastering, Camacho says. To build the house, he used 13,679 adobe bricks, including 6,656 smaller ones for the roofs and 7,023 heavier ones for the walls.

Camacho cleans up, and he invites two guests to pass under the entryway arch and through the courtyard to the interior of his L-shaped home.

When he and Swan planned the design, he said he wanted the kitchen and bathroom separate from the living area to keep odors away. They are connected to the living area by short walkways paved with rounded stones. Camacho told Swan he doesn't mind having to go outside to get to his bathroom during the night, because he likes to look at the stars.

Camacho is a vegetarian cook who favors a macrobiotic diet. He grows sassafras, squash and other vegetables and herbs in his neatly tended garden. His blue and white dishes are displayed in the dining room's open shelves. He made the kitchen counters and the dining-room table from white onyx with beige veins. On the table, there is a guest book with the names and addresses of visitors from the United States, Europe and elsewhere in Mexico. Camacho is a fossil hunter. He displays his finds on the courtyard wall and on the built-in coffee table in his living room, where he also displays the house plans under glass. An avid reader, he stores his books about nature and agriculture on living-room shelves. He reads them by the

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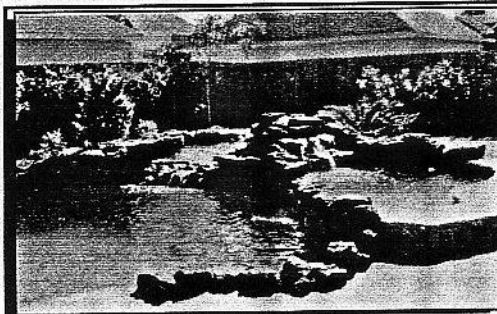
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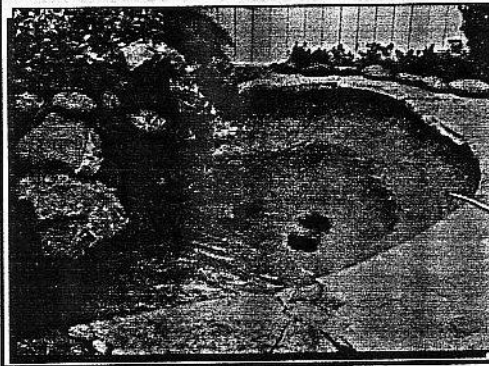
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light of kerosene lamps, for he has no electricity. He uses kerosene to cook, too, and city-supplied water.

Like the coffee table, the three armless couches in the living room are built-ins — banquettes, actually, with fabric-covered foam cushions. Camacho's bed also is an adobe built-in. He covers it with a flowered comforter, but he does not use a mattress.

Camacho says in Spanish that he is happy in his well-kept house. "It is totally natural," he said. "It looks like it belongs here. It's economical, it's cool, and it's beautiful. The other families want something like it."

The durability of adobe can depend upon climate and weather. Swan says a brutal, horizontal rain can pockmark the entire side of a building. Then again, she says, "Don't forget that, in Egypt, where rainfall is 2 inches a year, adobe vaults have withstood magnificently the passage of 3,400 years."

It may take some convincing about adobe's strength before Swan can get the funding she seeks from public agencies to build for low-income workers and people living on fixed incomes and to organize owner-built cooperatives working with Fathy's methods.

In the early spring, a group from the U.S. Department of Agriculture's rural development division visited Swan's home under construction. Swan says she likely will apply for a grant from the program to fund a project. First she must prove the soundness of her own structure to meet Federal Housing Administration and Housing and Urban Development Department guidelines before she can use it as a model for building others.

Daila Macanally, a community development specialist with the USDA office in Fort Stockton, was among the visitors. She says adobe has not yet been approved as a structural

material for the program, because its thermal or "R" value has not been determined. Macanally says she cannot comment about the merits of Swan's project. But, she says, "With Simone's help and the information we can get, we can try to see if it could become a possibility (to build with adobe). I keep trying to talk about it, because we have many people who would like these houses."

Swan works with a structural engineer, Duke Crestfield of San Francisco, who is an expert on reinforced brick masonry. He says he added concrete bond beams — beams running horizontally near the

tops of the walls — to the design to eliminate thrust on the walls and possible cracks in the vaults. Crestfield says that in New Mexico, the state has attempted to standardize the quality of adobe bricks by testing in a laboratory, say, five bricks out of 1,000 on an ongoing basis. He says tests also can be performed on insulation. Crestfield adds that, in his research, he discovered a report on mud brick prepared in 1957 by the federal agency that was the precursor to HUD. "It was a little report that took a look at what Hassan Fathy was doing," Crestfield says. "It was

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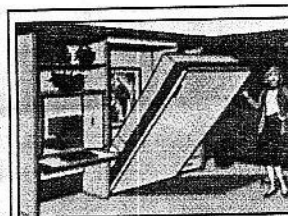
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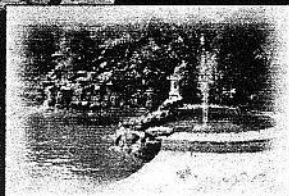
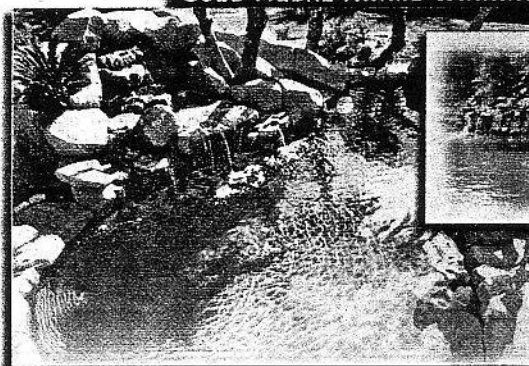
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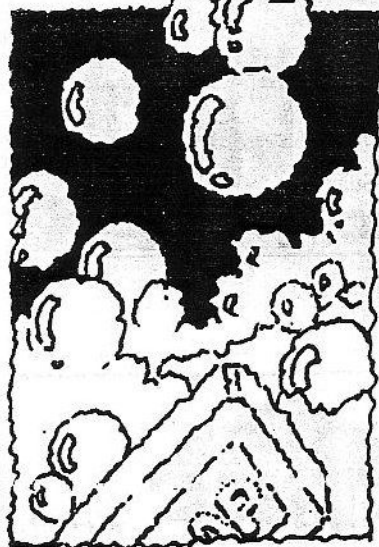
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put out there as a viable approach."

Swan also taps the expertise of architect friends as advisers. Among them is David Cagle, a Lubbock native living in New York. He calls her an "architectural patron" committed to fulfilling her dream. "She is rooted in the '60s," Cagle says. "She thinks of other people. She is at heart a social reformer, I think, but she also has a passion for architecture and beautiful design. The fact that she discovered methodology of providing elegant homes that happen to be extremely affordable was too seductive, irresistible."

Swan has gained support for her project from other quarters. Curtis Tunnell, executive director of the Texas Historical Commission, praises her mission and her methodology. "I think Simone is enough of a visionary that she eventually will accomplish her goals to get authorities to recognize her style of adobe," he says. "The only thing you need to do to maintain adobe is to periodically redo the plaster. ... If that is done, adobe can last virtually forever. It is a lasting legacy, a long-standing tradition in the Chihuahuan Desert — even prehistoric use of adobe in that area. Simone is trying to make sure that tradition endures."

Ironically, she may have to take the project elsewhere in Presidio County or the region before she can convince the powers that be in the city of Presidio that her plan is a good idea. That difficulty stems in part from the city's negative experience with an ill-fated housing project in the past. After it failed for a variety of reasons, the land was purchased by the school district, which will bulldoze the structures to build a high-school expansion, teachers cottages and a swimming pool, says Pre-

sidio City Administrator Michael Kovacs. Kovacs, who put Swan in touch with the USDA, sees Swan's methodology as consistent with the common practice in the region of new immigrants building homes in teams.

"What people do is come over (from Mexico) and save up to buy a piece of land hardly big enough to put (a home) on," Kovacs says. "They buy the bricks in Mexico, and they all pitch in to build a small block house. It will sit for five years while they save up money to put on a \$3,000-to-\$6,000 roof. ... We try to get them to realize that you won't necessarily save money doing that, because you will pay rent while you are building your house."

There may, however, be more immediate opportunities some 200 miles away. Demetrio Jimenez, an architect and the director of the Greater El Paso Housing Corp., met Swan several years ago when he was working with the Texas Department of Housing and Community Affairs' Office of Colonia Assistance. He said *colonia* residents build with whatever materials are around — whether it's adobe, car hoods or pallets. "Simone's product is a viable alternative to some homes I see in dilapidated areas," he says. "You are building with what you have, which is dirt."

Once Swan gets governmental approval, Jimenez says, he would like to team her with an El Paso resident who already is building sweat-equity homes.

"Imagine looking at the landscape and seeing a rhythm of vaulted ceilings across the barren land," he says. "It would be beautiful."

Lauraine Miller is a free-lance writer in Corpus Christi. Ben DeSoto is a Chronicle photographer.

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