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HEALTH MATTERS





HOME GREEN HOME

STUNNING ARCHITECTURE AND ECO-FRIENDLY TECHNIQUES GO HAND-IN-HAND IN THIS CUSTOM HOME SOUTH OF CAMBRIA.

Energy efficiency was at the top of Nancy and Randy Flamm's wish list when they commissioned designer Ben Korman of D2B Design (d2bdesign.com) in Cayucos to design their 4,800-square-foot, four-bedroom, three-bathroom house south of Cambria. They also wanted a low-maintenance house that still managed to be livable—even luxurious—both now and when they retire.

**BY MALLORY McCREARY
PHOTOGRAPHS BY ELLIOTT JOHNSON**



Architect Ben Korman apprenticed under Mickey Muenning, a famed architect who taught him to take cues from the natural world in building design. Korman also worked at NASA designing housing on Mars in three dimensions instead of flat designs on paper. Both influences are readily apparent in his stunning design of West Ranch. OPPOSITE: The rammed-earth walls were created on-site with stratification lines that mimic natural sandstone.

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"I don't think green techniques should hinder design, they should only make it better," Korman says. That means the most important green features of the house are also the most architecturally prominent. A soaring central chimney supports the entire house and acts as a heating and cooling system, sucking excess hot air out of the home and circulating warm air when a fire burns in the wood stove below. Solar panels create a stunning roofline while also casting interesting shadow patterns on the walls as the light changes throughout the day. It wasn't a happy accident; that's what Korman planned: "I think solar panels should be integrated into the design, not added on as an afterthought," he says.

But perhaps the most innovative architectural feature is the 16-inch rammed-earth walls, which act as a "thermal battery" to help regulate temperature. The walls store heat during the day to release at night and store the cool night air to release during the day. It keeps the house at a constant 70 to 75 degrees inside without air-conditioning; radiant-heat flooring and the wood stove provide added warmth in chillier months. Plus they look incredible.





Korman mixed local dirt and white cement on-site and dropped it into forms, where up to a foot of earth was compacted down to 4 to 6 inches of building material. Though the process may sound simple, it had to be carefully regulated to achieve the beautiful stratification lines that mimic the sandstone in the area and give a gorgeously unique finish to the exterior. "I liked the look of the rammed earth because it blended well into the site," says Korman, who had never tried to build with the material before. Since they never need to be painted, they also fulfill the Flamms' desire for minimal upkeep.

The house, dubbed West Ranch, sits on 332 acres of a working ranch. It cost around \$4 million to prepare the site and build. "We talked to a couple of other architects, but by the time we took

them up in a four-wheel drive they'd start shaking their heads and saying it couldn't be done," says Randy Flamm, who put in a road and the water and septic systems himself. When they took Korman to the site, "Ben said 'Yeah.' It was a breath of fresh air," Flamm says.

So, for all the bells and whistles and innovative design, does it actually work to reduce energy use and save money? The Flamms' first power bill was \$500. A few months later when all the solar panels were installed, the bill plummeted to a meager \$4. But none of that would matter if the house weren't a place that could be a home. "It's just magical," Flamm says. When people see the house, "they usually have to get their jaw off the floor," he adds. "Amazing' is a word that comes up quite a bit."



ABOVE, LEFT: "I designed [the house] to look kind of like a tree," says Korman, who was inspired by the oak trees on the heavily wooded property. "The center column is like the trunk, the beams like branches. The walls are made of dirt and the concrete comes down like roots." RIGHT, TOP: Dual steam showerheads and LED lighting in the glass master bath create a glowing, steaming box at night from the outside. RIGHT, MIDDLE: "To be frank we didn't get a clear idea of the house from the two-dimensional plans," Flamm says. "We were mostly concentrating on the floor plan, so we missed the point about the soaring rooflines." RIGHT, BOTTOM: Details like the round window hinges and the steel cables were custom-designed by Korman.



GOING GREEN

PRODUCTS AND MATERIALS THAT REDUCE ENERGY USE AT WEST RANCH.

- The 42 Sanyo Bifacial-Photovoltaic-Module solar panels collect sun from above, catch reflected light from the concrete below, and supply 90 to 95 percent of the property's electrical needs.
- Ultrahigh-efficiency insulated glass from Serious Windows (seriouswindows.com) on the south and west sides of the home help temper incoming heat.
- A solar-operated pump brings water up from a spring, which also quenches the roaming cattle on the ranch.
- LED lighting throughout the house uses a fraction of the energy of regular incandescent bulbs. As a result, the entire house is backed up to a generator, rather than just the major appliances.
- The concrete used has a high level of fly ash, which is leftover material from cleaning power plants. It reduces the amount of cement (the leading contributor to greenhouse gases) needed for the concrete.
- Recycled steel frames windows and doors in the house.
- The bathrooms feature dual-flush toilets and recycled glass tile.
- Dew collected on the roof drains into planter boxes below. ♦

