CARMEL, CALIF.

Caterpillar House

Having purchased one of 500 homesites in the Santa Lucia Preserve, the client for this custom home was adamant that the project have a strong environmental stewardship agenda but something that was unlike your typical suburban tract home. "She wanted something more contemporary," says architect Jonathan Feldman. "She essentially wanted a modern ranch house."

The architect gave her this low-slung open-plan house that nestles next to the landscape.

Santa Lucia is a 20,000-acre private development where permanent conservation deeds have been placed on 90 percent of the land. As a result, homes are restricted in size on a lot-by-lot basis, which means that Feldman could build on only a small portion of the home's 10-acre site.

The architect responded by designing a structure whose gentle curves respond to the contours of the site. The client had previously lived in a cliff-side ranch house and appreciated its casual California-cool style. The open plan of this house reflects her informal lifestyle, and the large floor-to-ceiling glass walls and doors offer a strong connection to the outdoors. Douglas fir millwork adds warmth to the space.

Feldman designed the house to respond to the seasons: Optimum site orientation and overhangs block heat gain in the summer. Window placements promote cooling but also allow heat gain in the winter.

"We used low-tech strategies first," says Feldman. "We were trying to passively design the house so the client didn't have to rely on the air conditioner. The excavated earth was used for rammed-earth walls, which serve as a thermal mass, and a 30,000-gallon water collection system satisfies irrigation needs.

Though the architect chose low-tech strategies first, technology—such as radiant-heated concrete floors, a photovoltaic system (that produces all of the home's energy), spray foam and recycled denim insulation, and low-E windows—help the home achieve its LEED Platinum certification. — NOEL F. MAYNARD