

CURVED BY DESIGN



An inside look at the flowing forms of Urban Design Associates

WHILE MOST ARCHITECTURE IS RECTILINEAR—characterized by straight lines and squared angles—the homes created by Lee Hutchison and his team at Scottsdale-based Urban Design Associates derive their inspiration from the undulating contours and sinuous circulations found in nature. The *Phoenix Home & Garden* Masters of the Southwest award winning architect's signature style, known as Organic Pueblo, pairs fluid curves with thick plaster and adobe walls, resulting in free-flowing structures that meld into the surrounding landscape—and seem to defy engineering.

Hidden behind each crescent-shaped kitchen, bowed balcony and sloping surface is a complex system of functional geometry, expert framing and creative ingenuity that challenges contractors but, when done right, results in a look that feels welcoming, comfortable and, above all, effortless.

"It takes a lot to get to get that point," remarks Jessica Hutchison-Rough, principal architect for UDA. She and builder Jim Manship share a behind-the-scenes glance at the making of one curvilinear Desert Mountain masterpiece.

For more information, see Sources.

◀ The rear staircase, which leads to a pair of guest rooms above the garage, did not receive any natural light. To remedy this, Hutchison incorporated a skylight into the setting. “We used a standard solar tube, but what’s really special is that it features a custom stained-glass grill inside of it,” Hutchison-Rough says. The ceiling plane is canted upward toward the solar tube, creating a dome effect that culminates at the decorative glass.

Manship adds, “You have to train all the framework to get to that one point. But once the drywall is added, you don’t see the structure behind it.” In addition to perfectly framing the arched cavity, he also needed to consider the placement of electrical conduit and ductwork that pass through and around the feature.

The skylight illuminates a gently swooping staircase flanked by thick, rounded walls. “When you’re building a curved wall, the two-by-fours go straight up and down, just as if the wall was straight,” Hutchison-Rough explains. “The only thing that changes is that instead of building on a straight two-by-six sill plate (the horizontal base on which all vertical wall elements are attached), we use plywood that can be cut at a curve.”



◀ “If you look at the outside of the house, you’ll notice that everything is sloped, including the roofline and the large window wall in the great room,” Manship says. The slanted silhouette softens the home’s visual impact when viewed from the adjacent golf course, and it complements the architecture’s abundance of circular forms.

According to Hutchison-Rough, the only straight wall in the entire property is the back wall of the garage. “When we’re laying out the floor plan, it’s done in such a way that all the radiuses are tangent to each other. That’s what gives the house such a natural feeling. Each curve is very deliberate in size and angle compared with the one next to it.

“The design is usually done first with just a pencil on a piece of paper,” she adds. “When you’re drawing by hand, it’s pretty easy to know what feels instinctual and is going to work. Then our drafters make it all work mathematically.”

When building such a unique residence, “you have to start with the outside perimeter,” Manship says. “You can’t just snap a straight line across the lot. You have to set radius points and, in this house, there were multiple points that we pulled from for framing interior and exterior walls.” A taupe stucco finish and stacked stone cladding create harmony between the home and the desert terrain.



ARCHITECTURE

► In the curvilinear great room, a serpentine stepped ceiling creates a wave-like sensation that draws the eye throughout the space. “Lee and UDA did a great job of bringing the outside ceiling into the house. There’s just a lot of detail everywhere you look,” Manship says.

An intricate framework creates an optical illusion of arched beams. “You can see the structural trusses at the top of the ceiling,” Hutchison-Rough points out. “The framing is basically just two-by-fours and plywood that is cut onsite. The team lays it out on the floor first and then puts it together and transfers it onto the ceiling. It really is an artistry on its own, because we, the architects, don’t detail where every one of those two-by-fours go. We work within parameters of how tight the curve can get and still be realistic. We give the final radius and angle that is needed, and the builder takes it from there.”



◀ The great room opens up to a large covered circular patio that overlooks the golf course. It features an eyelash-shaped pool and massive saucer-esque roofs that rest on stone-clad columns.

“These particular roof masses did take longer to build than one for a typical house does,” Hutchison-Rough says. “Each column bears a glulam, or glue-laminated timber, structural beam, which is what holds up the roof.” Sections of two-by-fours hang from the glulam and attach to plywood “ribs” that have been cut to form the convex underside of the patio cover. More two-by-fours fill in the open spaces between the ribs.

The framework is then cloaked with half-inch plywood, and the entire structure is coated in stucco. “The framers use thinner plywood because it bends easier,” Hutchison-Rough explains. “Sometimes they have to wet it a little bit to get it to bend in the right direction.” For an added decorative touch, Hutchison adorned the fascia with a fine gauge sheet metal. “Lee calls it a modern egg and dart design,” Hutchison-Rough notes. “The pattern gives a little bit more dimension to the curve.”

