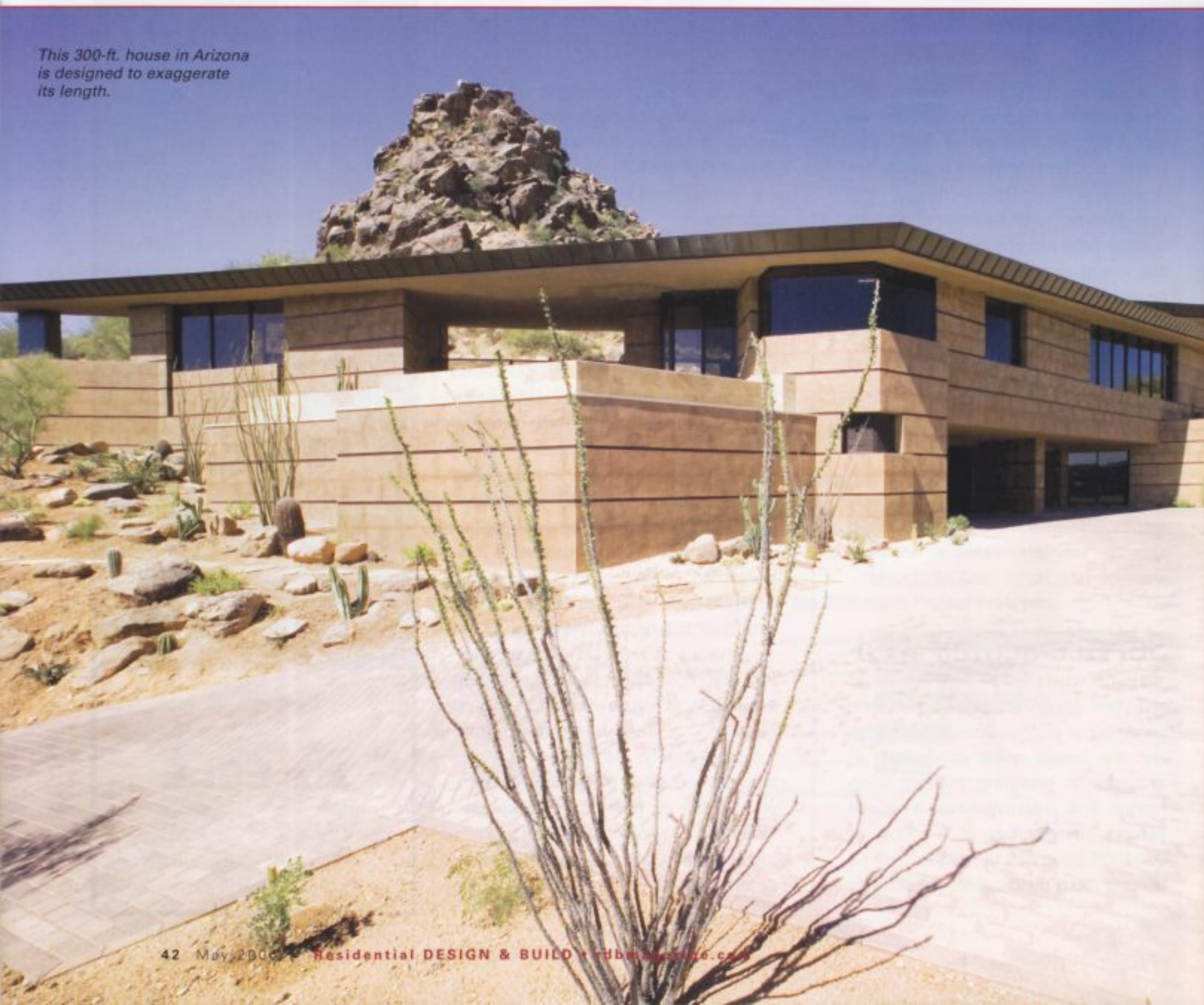
Harmonic geometry

An architect is challenged by designing a project with a focus on long lines

By Maureen Alley, assistant editor

Contemporary design tests an architect's ability to implement geometric architecture as well as guarantee its functionality. After designing a project with radial geometry, Mark Sever, architect and principal of design/build firm Sever Design Group Architects in



This 300-ft. house in Arizona is designed to exaggerate its length.

Photos: Rick Brazil

Two triangle-shaped sections form the public and private areas of this house in Carefree, Ariz.

Scottsdale, Ariz., welcomed the opportunity to design a contemporary house with a major focus on straight lines.

This home in Carefree, Ariz., is 300 ft. long and is designed to exaggerate its length. "It felt right and aesthetically pleasing to exaggerate," Sever says. "I quickly found out that long, straight lines are difficult to achieve. The house includes a wood-framed roof clad with metal. When working in a string line of over 140 ft. in the same plane, it's difficult to get to different locations. However, the result is stunning."

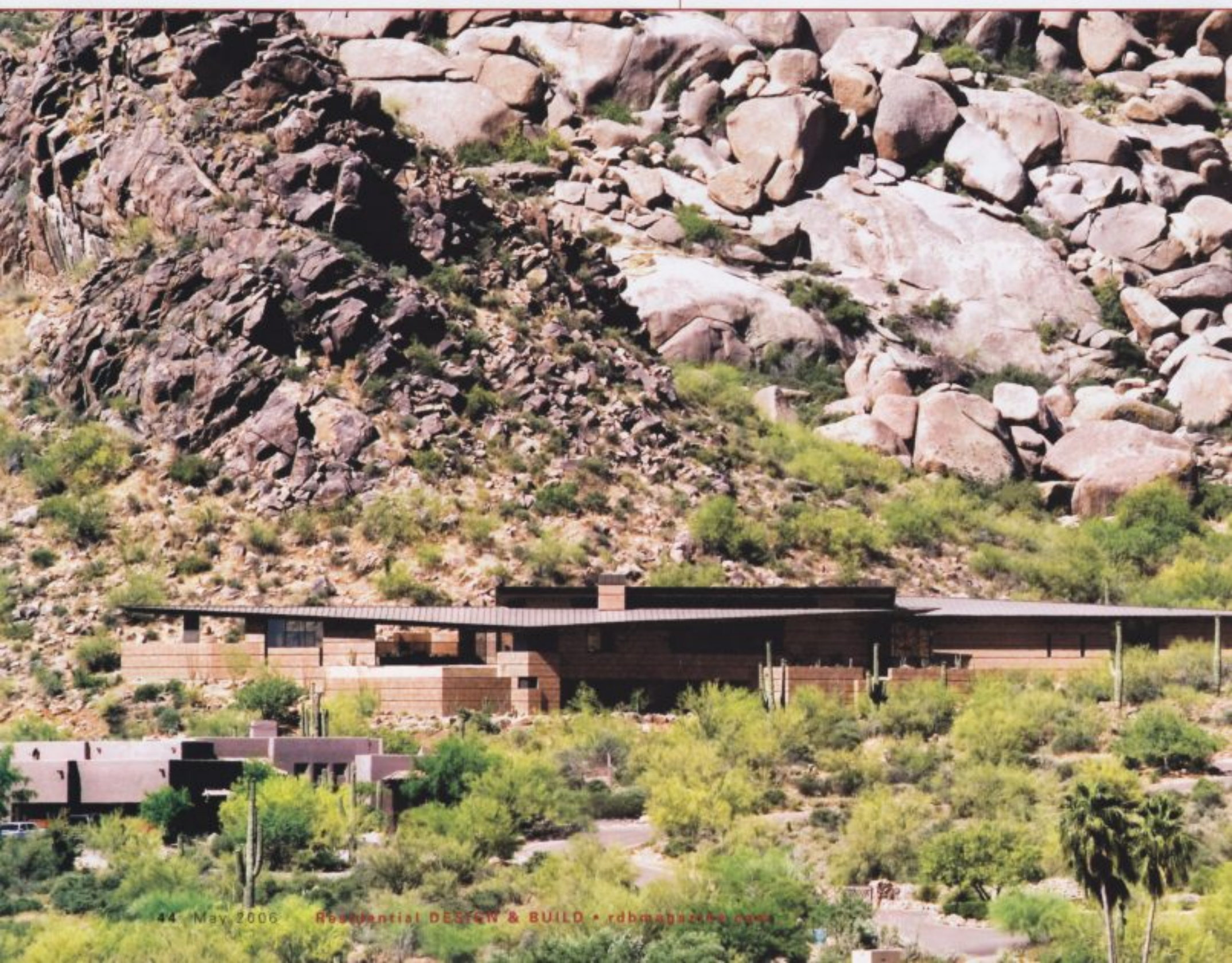
The appearance of the house is achieved with two triangle sections next to each other. One triangle is the public area and the other is the private area. All the materials in the home reflect this type of triangle geometry. "The door casing and countertop edge detailing reflect this design. The door jambs actually come to a point."

Built on the northeast slope of Black Mountain, Sever took into account the effect the movement of the sun would have on the house. "The whole geometry of the house is designed to track the sun, to let it in when it's wanted, and to block it out when it's not wanted," Sever says. "There are two south-facing patios to attract the sun."

Blending in

Sitting on flat land at the foot of a mountain, the house can be seen from far away. This fueled Sever's desire to design the house so it fits in with its surroundings. "A strong connection to the site was paramount," Sever adds. "The roof and window frame colors match the surrounding areas, for example."

People who admire the site might think it is a hazard to leave

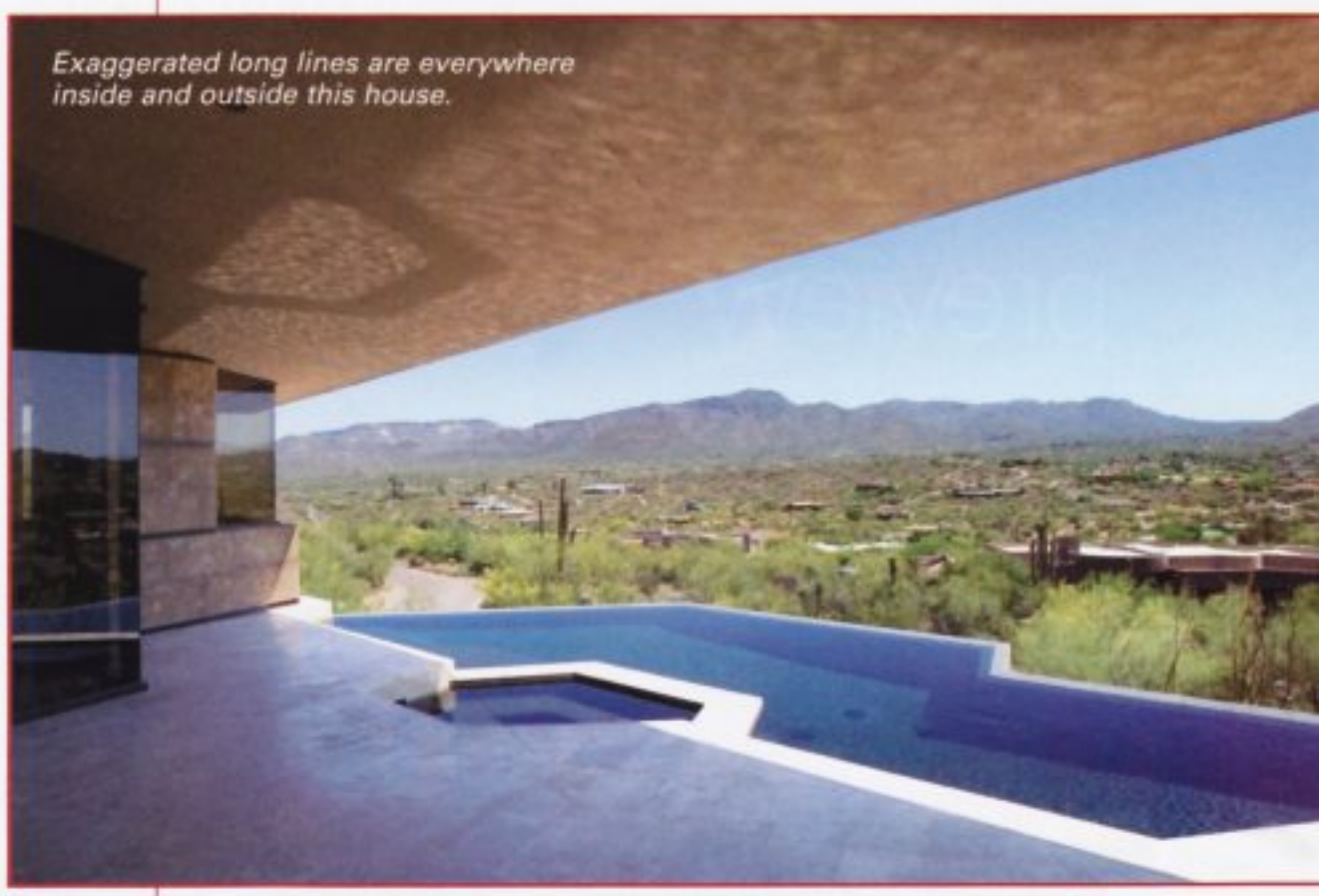


the boulders on the site, posing dangers from rolling or falling But Sever says he ran safety tests for this reason "Every person that looks at this house asks if the boulders are going to roll down the hill We had a few locations of hard dig where we had to use a hoe ram which shook the site and it didn't move the boulders These boulders are the exact reason to develop this property," Sever adds

Amenities include an eight-car garage with air conditioning and porcelain tile, chlorine-free swimming pool and a fireplace The fireplace cost more than $100,000 and took plenty of engineering to make it a reality

The fireplace is on the second floor above the garage "It is of masonry and steel construction, supported by three steel beams that are covered with a steel plate. The masonry reinforcing was welded to the steel plate," Sever says "It is constructed of three masonry columns that support the steel framing. The damper was cut apart and rebuilt to follow the geometry of the fireplace."

Sever is proud of this house, from the solar alignment, elaboration of its length to its blending in with the surrounding area "It's built for permanence," Sever says



Exaggerated long lines are everywhere inside and outside this house.

The house blends nicely into its surroundings (left). The boulders above it were tested and should not roll down the mountain.