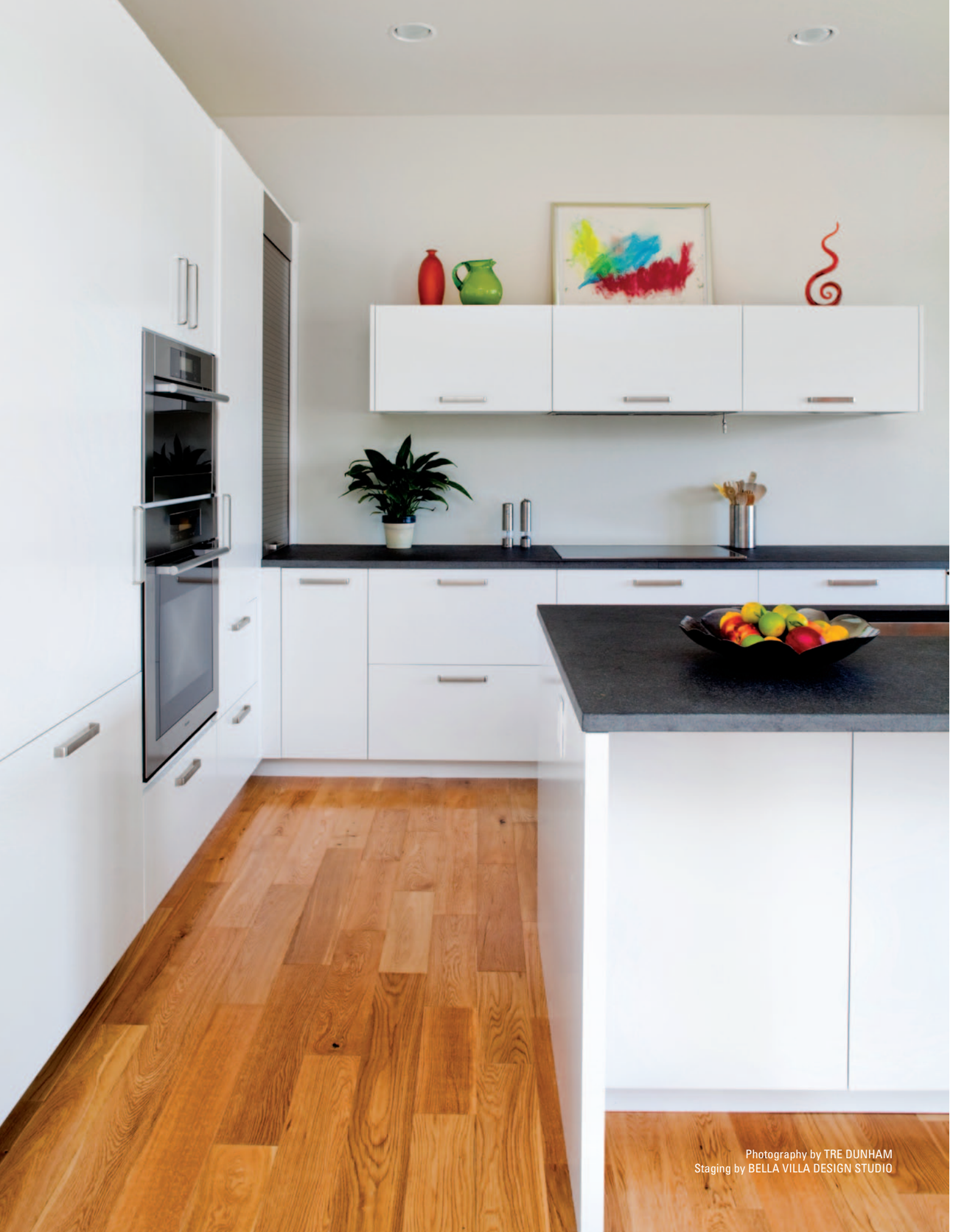


Photography by TRE DUNHAM
Staging by BELLA VILLA DESIGN STUDIO

PLANNING
A NEW GREEN HOME

By DANA W. TODD

"Our goal was to become more independent and maintain a low impact with our resource usage."

- Richard Kunz

The contemporary home in West Austin perched over a nature preserve sits in juxtaposition to the more traditionally designed houses surrounding it. It's not only the clean, modern facade that differentiates it from neighboring homes, but the technologically advanced sustainable features on the inside and outside of the home that contribute to its Five Star Energy Rating. Homeowner Richard Kunz and his family worked with Foursquare Builders of Austin to complete the home early last year, which incorporates green features at every level.

Flowers provided by
CARLY BLAIR of MARGOT BLAIR FLORAL.

Painting provided by MARIA MARTIN/FINE ART

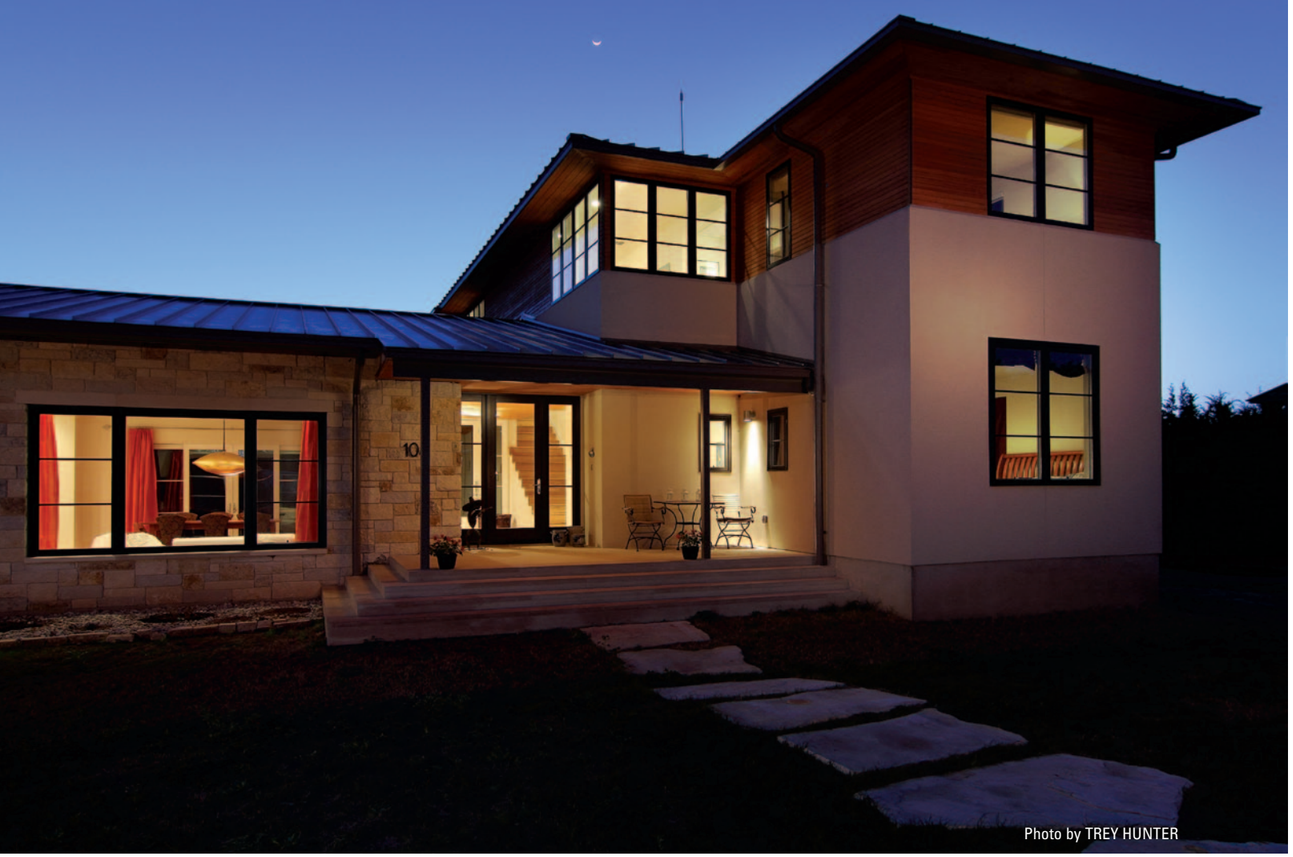


Photo by TREY HUNTER

When Kunz's plane was landing on his first visit to Austin from his homeland of Switzerland, he expected to see a sea of solar panels in the sunny city. He was surprised to not catch sight of any that day. "In Europe, we are used to using alternative energy sources, and I assumed with so many sunny days in Austin many people would take advantage of them," Kunz says. Kunz remembers the drought conditions of 2008 and 2009 and recognizes the preciousness of water. He made a conscious decision to build a "green" home when he permanently moved to the U.S., including solar panels and a rainwater collection system. "Our goal was to become more independent and maintain a low impact with our resource usage," Kunz continues.

Practicality in design is one of the home's celebrated features, seen in the balance between sustainability and livability. "There are several strategies we used to accomplish the client's sustainability goals," says architect Eric Brown, AIA, LEED AP, of Foursquare Builders. "First, we oriented the house to take advantage of the sun. We knew we would incorporate passive solar design and solar energy production and southern solar orientation solves for both of these." The house is designed with an east-west orientation, facing the street on the east and achieving proper neighborhood perspective. On the western side of the site with the majority of usable land, a deep protective porch ensures the Kunzs have sweeping sunset views.

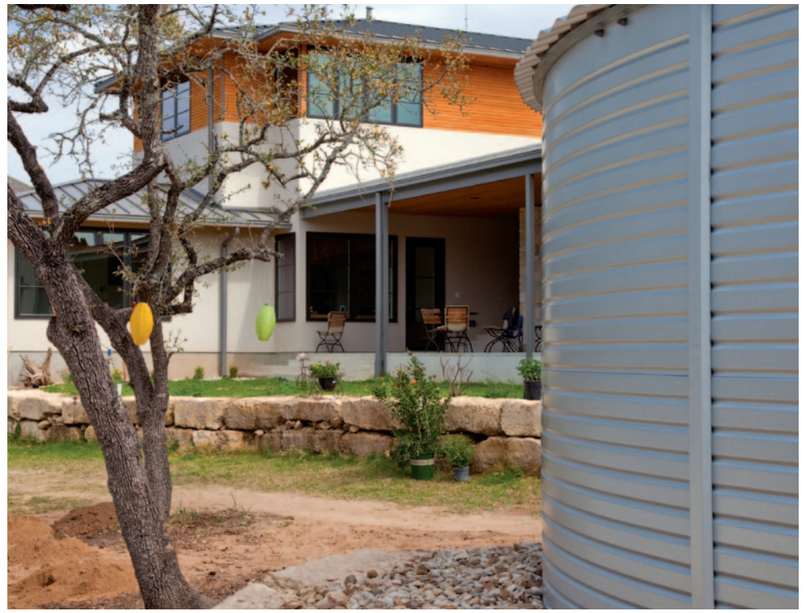
A passive solar design captures the prevailing Southern breezes as they pass through the house. Originating on the garage side of the house, the wind flows through the structure and is drawn to the bedrooms on the second story of the northern side. "Opening windows on each side of the home increases cross-ventilation to lessen air conditioning use," says Brown. "The addition of large windows provides much natural daylight, so no artificial light is needed during the daytime."

"The design did not cost extra," says Wesley Wigginton, GMB, LEED AP, of Foursquare Builders. "We simply used tried and true methods of increasing air flow to decrease energy consumption."

Photovoltaic arrays, more commonly known as solar panels, cover the home's garage roof, capturing energy to run mechanical systems. As well as capturing available sunlight for future use, the home is designed with large roof overhangs to minimize invasive sun exposure in the hot summer months. When the sun is lower in the sky during winter months, the overhangs do not impede the sun's rays from heating interior spaces. Two main areas of the home – the northern facing bedrooms and the western facing porch – benefit from deep roof overhangs.

"Adding solid foam insulation in the roof and installing a high-performance HVAC system is environmentally friendly because it eliminates the need to pump cold air through a hot attic," Brown says. The Kunz's home is able to use a much smaller air conditioning unit because all parts of the system are protected from heat and degradation. Solid insulation also protects the inside of the house against colder winter temperatures. In fact, Kunz reports his family only turned on the heating unit three days over the winter months this year.

Durability is another component of a green home. The home's rugged exterior materials comprise the majority of the structure.



"The family is able to collect 3,600 gallons of water for every inch of rain. With a daily consumption of 120 gallons per day, they are not dependent on outside sources for any of their interior water needs."

- Wesley Wigginton, Foursquare Builders

Stone, stucco, and steel are long lasting, and stained wood trim is placed under protection of overhangs to minimize weathering. Indoor use of granite on kitchen countertops and stone and tile flooring ups the durability factor, with a bonus of cleaning ease because of the numerous hard surfaces. Foursquare Builders ensured indoor air quality by painting and staining cabinetry off-site to mitigate volatile organic compound (VOC) emissions indoors. Without the need for constant maintenance and replacement, a home such as this one has an inadvertent green effect by reducing landfill use.

Even the framing system was constructed with sustainability in mind. "It is much less expensive to mulch waste materials on site than to rent a dumpster," says Wigginton. All waste materials were recycled on site via mulching or salvaged for alternative uses off-site. "These techniques are considered standard procedure for Foursquare Builders," Wigginton continues.

A rainwater collection system is one of the highlights of the Kuntz's environmentally responsible home. Foursquare integrated the system into the original design of the home, therefore ensuring it seamlessly works with other mechanical systems and is visually unobtrusive. "When looking at the home from street level, you do not know the features are there," Wigginton says. "All mechanical parts are placed in a service closet inside the garage. The family is able to collect 3,600 gallons of water for every inch of rain. With a daily consumption of 120 gallons per day, they are not dependent on outside sources for any of their interior water needs." A bonus is the excellent water quality available through the system.

The house is more than a nod to green living, created deliberately through thoughtful design that pulls the outdoors inside. The environmentally aware footprint is seen readily in the home's foyer, where visitors can step from the porch with its stone walls and wooden ceilings into the foyer with echoing stone walls and wooden stairway. The continuous use of parallel materials inside and out equips the house with a pervasive outdoorsy feel even when one is tucked safely inside the four walls. The home is green inside and out, the advanced sustainability features a testament to the planning of a responsible family and a competent, professional team.

"We are very happy with the finished home," says Kunz, who moved into the house with his family about one year ago. ❖

Foursquare Builders, LLC, of Austin brings over two decades of experience as a general contractor, construction manager and design builder to each project. Specialties include construction of new buildings, and interior and exterior renovations, all while staying committed to creating sustainable and innovative green building solutions. Visit their website at www.foursquarebuilders.com, or call their office at 512.944.4520 for more information.

The Bella Villa Design Studio team offers experience in residential, hospitality and corporate design, transforming homes, offices and hotels into welcoming spaces that reflect the owner's unique taste and personality. To view their extensive portfolio, visit www.bellavillads.com, or call 512.443.3200 to schedule a consultation.