

# Nature's Power at Work



Two rainwater tanks and a wind turbine sit on a hill next to the house.

Story and Photos by  
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**N**ature is powerful. It was a force of nature that swept in and destroyed the home of a Ramona couple, and it will be elements of nature — sun, wind and rain — that will be sustaining their new house, Casa Aguila, billed as San Diego's first certified passive house.

"I think this house is a testament to our environment and to our future," says Pierre "Pete" Beauregard. "We have to change how we live."

Beauregard and Amy McQuillan lived on a hillside off Weekend Villa Road in a house that, like others near them, became victim to the



**Rich Williams, left, founder and chief executive officer of Alliance Green Builders, points out work being done for the food forest, set on a terraced slope, to property owners Pierre "Pete" Beauregard and Amy McQuillan.**



devastating Witch Creek Fire in 2007. They have since rebuilt that house and installed solar and other sustainable features, but, as their builder says, “they really wanted to take it a step further.”

They purchased their neighbor’s hilltop property that offers commanding views of San Pasqual Valley, Mt. Woodson, Cuyamaca Peak and Cleveland National Forest.

“This is such a beautiful place,” says McQuillan. “It has an almost kind of spiritual feeling.”

McQuillan, her partner notes, wants to be on the cusp of new technology, especially when it embraces the environment.

The couple hired Alliance Green Builders of Encinitas

to build a passive house.

“It’s more like a case study as to what’s possible,” says Rich Williams, founder and chief executive officer of Alliance Green Builders. “It really is a mind-boggling project.”

On the eight-acre property, dual-axis solar trackers and a 17-foot wind turbine have been installed.

“We get a lot of wind late afternoon and evening so it supplements the energy when we don’t have sun,” McQuillan says of the wind turbine.

Everything has been carefully researched. Beardgard said his neighbors were concerned about impacts to wildlife and noise. The wind turbine, he says, makes no noise and has no records of causing harm to



birds or bats.

"They see it as a solid piece when it's turning," he says.

The dual axis trackers are from Germany, notes Williams.

"They're one of the most advanced systems in the world, he says. "They actually track the maximum solar energy potential."

Water will not go to waste at Casa Aguila.

Large tanks will store rainwater for indoor use while stormwater from the ground will be collected in a storage system to irrigate drought-tolerant landscaping.

The property has nine welded-steel water tanks that can store a total of 90,000 gallons and will be hidden by camouflaging and planting native trees in front, says Beauregard. One of the tanks will be for fire suppression. Rains in

late October/early November provided 2,500 gallons of water off the roof, estimated to provide about 20 days of indoor water use, states the project's website, [casa-aguila.blogspot.com](http://casa-aguila.blogspot.com).

The property also has on-site treatment for blackwater — water that comes from toilets, the kitchen sink and dishwasher, and greywater, which comes from bathroom sinks and showers. Once treated, that water will be used for drip irrigation for the food forest. Set up on a terraced slope, the food forest is a bio-diverse collection of plants with edible yields, including pomegranates, persimmons, figs, peaches, apples, plums, avocados and citrus.

According to the builders, "passive building comprises a set of design principles used to attain a quantifiable

and rigorous level of energy efficiency within a quantifiable comfort level."

Energy production and efficiency are important, says Williams, adding that the more efficient a home is, the less production needed.

A poured-concrete wall near the entrance of the house will help cool down generated heat, says Beauregard.

Williams points out that the Unilux windows imported from Germany have laminated outer panes so fire and debris are deflected.

"There's no such thing as fire-proof, but we're trying to make it less likely to burn down," says McQuillan.

Beauregard says he is adamant about putting elements around the house that are fire-resistant.

The walls of the house are 16 inches thick with a lot of insulation as compared

to an average of 7½ inches thick, notes Williams.

Other features of the approximately 3,400-square-foot house are solar water heating in the floors, hot water provided by solar thermal energy, and high efficiency appliances. In the kitchen is a recycled countertop and cabinetry of certified sustainable wood.

The house forms a U-shape with a pool and outdoor kitchen in the courtyard.

Near the entrance to the house is a screened-in porch offering outdoor protection and outstanding views.

A passive house is much more comfortable, says Williams. It's healthier too, with better air quality, adds Jesse Heilig, superintendent/project manager with Alliance.

Casa Aguila, named for the golden eagles that fly above, is striving for eventual grid-disconnection and a number of certifications including LEED Platinum and Net Positive Energy. On Oct. 14, Alliance held workshops and tours for people in the architectural and building industries.

The house is expected to be completed this month. McQuillan says they plan to reside in it at least for a year "to see how it lives." During that time the house will be monitored.

Describing himself as a peace activist, Beauregard has visions for the new home as a site for environmental classes. "It'd be a group setting where we could have a very positive impact on people," he says. 🌱



**Trees producing edible yields and drip irrigation lines are installed in the food forest.**