



Idea **GARDEN**

Sustainable seeds take root and flourish in this 100-year-old renovated Victorian farmhouse. By David Arkin, AIA, LEED AP



ALL IMAGES © WWW.EDWARDCAIDWELLPHOTO.COM.

The owners, a gynecologist and a successful businessman internationally honored for his social awareness, had already dubbed their project as fertile ground for bringing together people and ideas when Arkin Tilt Architects stepped in. The nearly 100-year-old Victorian farmhouse clearly had good bones, but unfortunate face-lifts and additions throughout the years had

left it somewhat listless as well as thermally challenged in both summer and winter. The design team approached the project with the inclination that the original Victorian charm should remain essentially unchanged, but that the renovated kitchen and dining room addition should have an open Zen sensibility, connecting it to the surrounding garden. Improving the home's livability and energy efficiency were givens,

and Arkin Tilt sought to model appropriate technologies and innovative solutions. To improve the efficiency of the existing portion, a wrap of 2" rigid insulation was applied to the exterior, and new windows were installed throughout. Increased attic insulation was coupled with an "Ice-House" ventilated roof, featuring an air space that allows large volumes of air to flow through, keeping the spaces below cool and comfortable.



Idea GARDEN

IDEA GARDEN

Project Location: Healdsburg, Calif.

Size: 2,063 square feet (existing: 1,658/new: 405)

Project Completion Date: December 2010

Owners: Will Rosenzweig and Carla Fraccia

Architects: Arkin Tilt Architects

Project Manager: Dan Johnson

Principal-in-Charge: David Arkin, AIA, LEED AP

Builder: Earthtone Construction,
Sebastopol, Calif.

Photographer: Edward Caldwell,
Edward Caldwell Photography,
San Francisco, Calif.

Materials

Flooring: Heritage Salvage (reclaimed wide plank Douglas fir); Triangle Coatings (sealed concrete)
Ceiling: Heritage Salvage (salvaged Douglas fir high school bleachers); salvaged Douglas fir spaced boards; existing rafters and ceiling framing (revealed, preserved, wire brushed and reinstalled); original plaster in Victorian portions of home

Wood: Berry's Sawmill (exterior Redwood siding); FSC-certified framing lumber; TREX (recycled composite decking); Madrone post from local forest thinning

Roofing: Custom-Bilt Metals (ventilated "Ice-House" roof)

HVAC System and Appliances: ThermalBoard (radiant subfloor under wood); radiant heating in concrete; baseboard hydronic heaters reused in existing home; Phoenix "Evolution" (combined solar space heating and domestic hot water system); high-efficiency modulating condensing boiler; Airscape (whole-house fan); Bosch (washer, dryer and dishwasher); KitchenAid (refrigerator)

Insulation or ICFs: Dense-pack blown cellulose in walls and roofs; rigid exterior insulation wrap: 1" polyisocyanurate at existing walls and roof; 4" EPS underslab insulation

Interior Finishes and Furnishings: Craigslist (dining room table: salvaged bowling alley); custom bathroom door from salvaged wood slabs; integrated compost and recycling bins

Paints and Wallcoverings: American Clay (confetti-clay wall finish at entry, finish in dining room); Benjamin Moore (paint); original wallpaper preserved in existing portions of the home

Energy Efficiency: Heliodyne (solar hot water collectors); passive solar design with deep overhangs, awnings and porches for summer shading; Cardinal (low-E glazing)

Building Envelope: Loewen (windows and doors); HardiePlank (rainscreen cladding and wood siding); 4" EPS beneath radiant slabs

Plumbing Fixtures: Toto (dual flush toilet); Waterworks (low-flow showerhead); Stone Forest (sink)

Landscaping: edible, native and low-water landscape; entry gate and garden sculptures of salvaged and found materials by Jordy Morgan



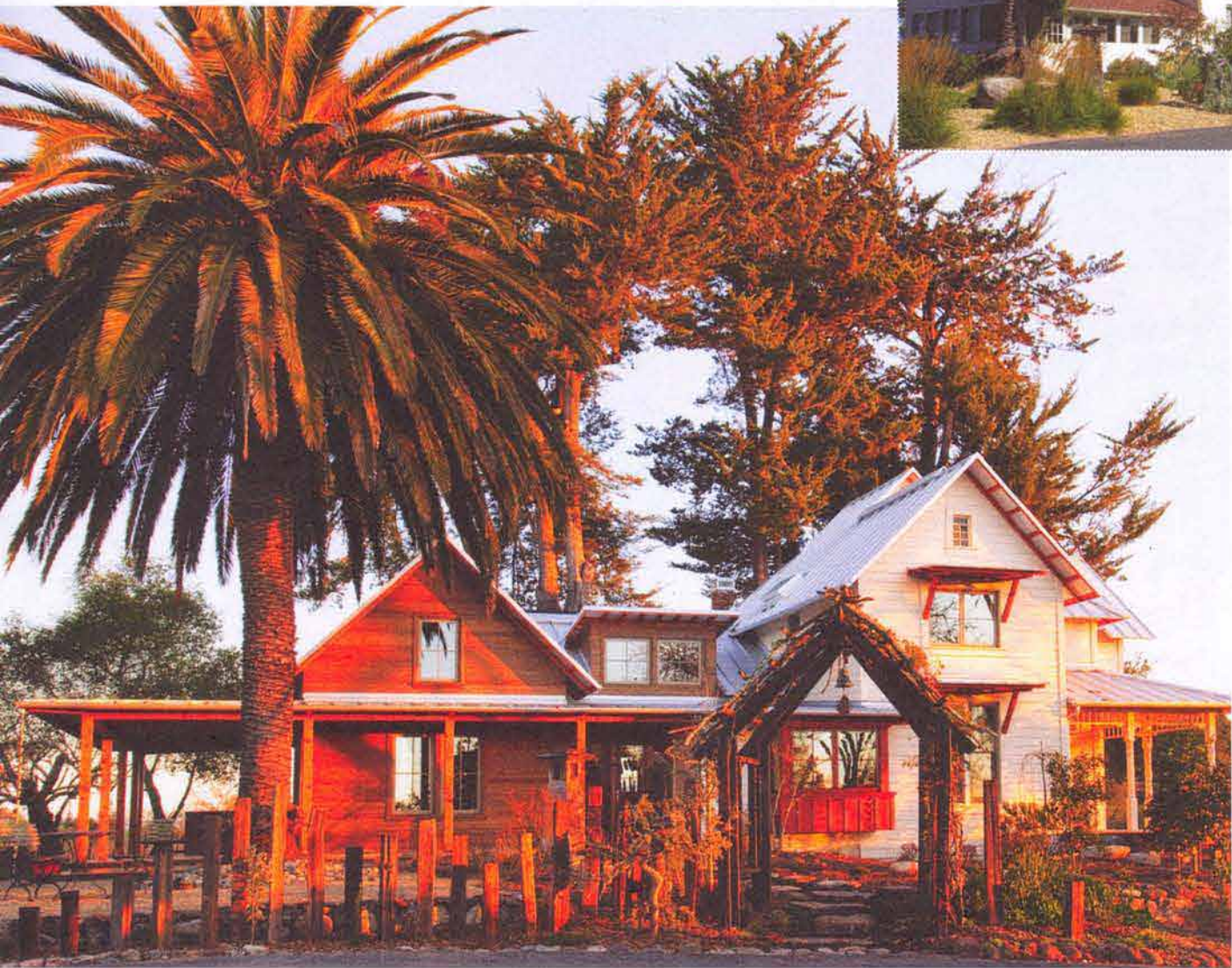
ALL IMAGES © WWW.EDWARDCALDWELLPHOTO.COM.

The added kitchen and dining room boast ample south-facing windows with carefully designed overhangs, awnings and porches that shade the high summer and afternoon sun. Like the Victorian, this new wing features high ceilings that allow the warmer air to stratify near the ceiling.

The owners report that "The house now provides an entirely different level of comfort and performance — a quantum leap forward — which has transformed the way we use our weekend home. In the past, the house got so cold that we just could not use the home much. It would take literally

24 hours to heat the interior to a comfortable level, using both the wood stove and the inefficient baseboard heating. Now the house maintains a comfortable temperature all day and night with little or no supplemental heating. So, the renovation has not only transformed the comfort, but our use

before



after



ALL IMAGES © WWW.EDWARDCALDWELLPHOTO.COM.

of the house as well. Now we are at the house every weekend during the winter without having to wear our down coats and long underwear."

While minimally used, heating is provided by a solar-assisted domestic hot water and space-heating system featuring the innovative Phoenix "Evolution" all-in-one system for radiant heat in the new addition. Exist-

ing baseboard hydronic heats the old Victorian portion. Solar collectors are hidden behind the clerestory windows that bring direct sunlight and daylight to the kitchen, located on the north side of the new wing.

The owners continue, "The biggest difference that we have been able to ascertain is dramatically reduced propane consumption, which powered

the old boiler for heating the downstairs. I would estimate that we have reduced the propane consumption by 50 percent or more. We have also eliminated burning wood or pressed wood logs entirely for heat. The house upgrade has added no additional electrical costs, even though we have additional pumps running the solar hydronic and have greatly

upgraded the (inadequate) lighting. We heat the upstairs with electric space heaters, which we use much more infrequently now that the house is insulated so well and retains a comfortable temperature, even in cold nighttime temperatures."

The Victorian portion of the home features windows installed from the exterior, so the historic interior molding

ALL IMAGES © WWW.EDWARDCALDWELLPHOTO.COM.

could be retained. The upstairs bathroom was fitted with a skylight over the shower, adding light and spaciousness to the small water closet. Locally made Heath tile lines the new shower, and a marble slab salvaged from wainscot at Brooks Brothers in San Francisco now serves as the vanity top; bamboo light fixtures add warmth.

Local craftsmen and sculptors were engaged for the "tansu" tub, uniquely carved bathroom door, dining room table of reused bowling lane, and custom pot rack over the kitchen island. Salvaged vertical grain Douglas fir "stadium select"-grade bleacher seating was re-planed to create warm, textured ceilings while simple clay paints and finishes complete the serene quality of

each of the rooms. The live-edge bench at the entry was crafted from a slab of walnut wood from a diseased tree that was removed.

Connecting the home to the garden was the highest priority, and a 14-foot-wide multi-fold door completely opens the new dining room to the outdoors while shading the interior space from the western sun. The deep, covered porch features

an outdoor countertop and sink for washing vegetables on their way from the garden to the table, another simple way of bringing a serene feeling to this balanced house. 

DAVID ARKIN, AIA, LEED AP, IS A PRINCIPAL AND CO-FOUNDER OF ARKIN TILT ARCHITECTS ALONG WITH HIS WIFE AND CO-FOUNDER ANNI TILT, BSE, M.ARCH. VISIT WWW.ARKINTILT.COM FOR MORE INFORMATION.