

Single Family Residential Home 2005 Excellence in Design Award Winner

Posted: September 16, 2005

Eastern Sierra Residence for Suzanne Johnson



- Douglas County, Nev.
- Submitted By: Arkin Tilt Architects, Berkeley, Calif. www.arkintilt.com
- Size: 3,450 Square Feet
- Completed In 2004
- © Edward Caldwell Photography

The Eastern Sierra House, also the winner of an AIA COTE award, is situated on the eastern slope of the Sierra Nevada Mountains overlooking the Carson River Valley. Use of alternative construction techniques, solar technologies, salvaged materials and daylight provide texture as well as function. Shading, high insulation and thermal mass make the house virtually energy independent. Photovoltaic panels on the main roof and trellis generate electricity and solar thermal panels provide hot water and heating.

Natural, efficient and durable materials, such as straw bale, metal roofing and slatted cement-board siding, were used in the construction of the home. Found glass is incorporated into a recycled glass countertop, while beams salvaged from an airport hangar and decking from vinegar barrels are featured in the ceiling of the basement. The architects write: "The project demonstrates that ecological design and good architecture are not mutually exclusive, but are in fact one and the same."

Notable sustainable materials, products and systems include:

- Appliances include a Rasi 86 wood stove, Caldera electric cooking range, Dacor

Millenia wall oven, HydroMaid water-pressure-powered garbage disposal, ConServ high-efficiency refrigerator, Kenmore dishwasher, Asko clothes washer and dryer

- ARXX ICF system, R-Control SIPs supplied by Better Building Systems; plus sprayed cellulose insulation at wood-framed walls and Bonded Logic's UltraTouch cotton insulation at interior wall
- Ceilings feature salvaged beams from an airport hanger and salvaged fir decking milled from Heinz vinegar barrels from Recycled Lumberworks, and gypsum board installed over SIPs
- Finished slab (25 percent fly-ash) floor sealed with CrystalSeal and TrafficCoat by White Mountain/Triangle Coatings, and salvaged maple from an old school house sealed with OS Hard Wax Oil
- FSC-certified wood framing
- Loewen wood windows with aluminum cladding, Bonelli aluminum windows in greenhouse
- Mechanical systems include Heliodyne Gobi hot water panels, Carrier back-up electrical forced-air heating and cool night air circulation, Honeywell remote temperature controller, Van EE heat recovery ventilator, LifeBreath turbulent flow precipitator air filter and BellFire high-efficiency open fireplace
- Permaculture landscape, recirculating stream and pond
- Plumbing systems include Chicago Faucet's ADA guest room faucets; TOTO toilets; salvaged sinks; a Kohler tub; Grohe, Kohler and Chicago Faucet faucets and shower fittings; and Metlund Hot Water D'MAND system
- Recycled glass countertops by CounterProductions, recycled glass backsplash tiles from Bedrock Industries
- Solar shading fins of salvaged airplanes flaps from Faithe Air Salvage, steel railroad track trellis beams from K&N Railroad Salvage, ore cart track supports from Lund's Mining Salvage, steel posts from Gilman Salvage, salvaged doors and interior windows from Urban Ore, Ohmega and This & That Salvage
- Straw-bale infill with a 'PISE' soil-cement finish
- American Hydrotech Intensive Garden Roof system and standing-seam metal roofing from IMSA.
- Uni-Solar PV roof laminates, Sunnyboy grid-intertie inverter, AstroPower PV panels, Xantrex Inverter with 16 Concord sealed batteries for back-up

- Water-based stains by Cabot and Livos; Pristine latex paint by Benjamin Moore.

Congratulations to the following parties involved in this project: Arkin Tilt Architects (David Arkin, AIA; Anni Tilt, Joseph Lambert, Mike Tadros, Sydney Mainster, Christopher Polk), Edward Caldwell Photography, Rick Walters/Sage Design Build (contractor), Peak Consulting Engineers (structural), Larkin and Associates (mechanical), Artha Renewable Energy (solar thermal), DC Power Systems (solar electric), and Permaculture Design (landscape).

2. Hatfield Residence



Gearhart, Ore.

Submitted By Dick Baty, Inc. (Portland, Ore.)

3,000 Square Feet, Completed In October 2004.

3. Solar Umbrella



Venice, Calif.

Submitted By Pugh And Scarpa Architects And Engineers (Santa Monica, Calif.)

1,900 Square Feet, Completed In January 2005.

4. Courtyard Residence



Austin, Texas

Submitted By Antenora Architects (Austin, Texas)

2,500 Square Feet, Completed In March 2004.

Photo: Paul Bardagjy

5. Xanterra Parks and Resorts



Gardiner, Mont.

Submitted By Xanterra Parks and Resorts, Yellowstone National Park
2,000 Square Feet, Completed In October 2004.

Honorable Mentions

- Casita Nuaanarpoq by Edge Architects
 - Farmiga Residence by Gershon Palevski, R.A.
 - Guide House by Michelle Kaufman Designs
 - House in Sag Harbor by Ronald Evitts Architect
 - Lake Washington Residence by Olson Sundberg Kundig Allen Architects
 - M- Residence by South River Construction
 - Missouri Heights Residence by Graybeal Architects LLC
 - Parlette Residence by W/A Design Inc.
 - Villa Zacatitos by The Design Collective
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