

C A N T H I S

Home Be Greened?

Real People + Real Problems + Real Solutions

Carol Venolia



Photos by Carol Venolia



The LA Eco-Village, an intentional community in the heart of Los Angeles, encompasses a two-block area of older apartment buildings (see “Design for Life,” January/February 2003). Recently, Eco-Villager Lois Arkin asked for *Natural Home’s* input on the eco-rehab of a building that Eco-Village recently purchased. Bimini Terrace is a two-story, eighty-year-old, eight-unit Mediterranean Revival building. It has a wood-frame structure, flat parapet roof, and stucco exterior finish. The building faces east, with a lawn in front and detached garages in back. The south side faces a wide, sunny alley, and the north side is close to an adjacent apartment building.

The Bimini Dream Team

A crew of experts joined Lois and me at Bimini Terrace: Michael Cordell of Solar Electrical Systems; architect Ian McIlvaine; builder Larry Byrnes of Environmental Home Improvement; environmental consultant Mary Cordaro of H3Environmental; Bill Roley, director of the Permaculture Institute of Southern California; Audrey Hoodkiss of Ecology by Design; and Julia Russell of Eco-Home Network.

The big front lawn got our attention because grass requires a lot of water. Bill and I suggested keeping part of the lawn for children to play on (watered with reclaimed water) and using other portions for edible landscaping, xeriscaping, and

wildlife habitat plants. The north end, which already has a vegetable garden near a fig tree, can become an outdoor living area. A patio there, shaded by a vine-covered trellis, would bring people out of their apartments.

Many Eco-Villagers are getting rid of their cars, so the parking area along the south side of the building can be replaced with a permeable surface that allows rainwater to recharge the aquifer. On the south wall of the building, I suggested installing trellis “eyebrows” above the windows to support shading vines. Lois and Ian imagined a promenade along the alley—fruit trees, tables and benches, a newsstand, fountains running reclaimed water, and a small stage for community performances.

Most of the roof downspouts drain to the building’s west side, making it easy to collect rainwater. With an average annual rainfall of fifteen inches and a 5,400-square-foot roof, this building can divert more than 50,000 gallons a year from the storm sewer. For rainwater storage, Ian proposed tearing up the rear driveway and installing an underground cistern. The broken-up concrete, rather than becoming a waste problem, can be used to create pathways, patios, and raised garden beds. Above the cistern would be pervious paving, gardens, and outdoor living space.

Lois hopes to create a community laundry in the garage area. Centralizing the laundry would foster social interac-

tion, conserve energy and water (most people wash smaller, more frequent loads at home), and improve apartment air quality by relocating gas dryers. The laundry graywater can be piped straight to the new west gardens.

Bill suggested that we also divert graywater from apartment sinks and bathtubs to a below-ground distribution system. The simplest approach is to identify drains near outside walls and run a pipe from each one directly into gravel pits in the gardens. The rest of the graywater can be run through a surge tank and distributed in below-ground perforated pipes to garden areas. (Both systems should be professionally designed.)

Michael descended from the roof to report that there was plenty of unshaded area for photovoltaic (PV) panels to supply electricity. He suggested converting existing individual meters to a master meter to simplify the system; individual usage could then be submetered. Because cooking and water heating are more efficiently done with gas, he recommended not powering them with PV electricity. He also suggested creating a “solar arbor”—a structure that supports PV panels, under which electric cars can park for recharging—on the south side of the building.

Some other suggestions:

- Insulate the building’s roof and exterior walls with dry-blown cellulose.
- Grow a vine on the west side to provide cooling shade.
- Use reclaimed/salvaged materials to

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Can This Home Be Greened?

build garden structures, trellises, or patio coverings.

- Insulate existing water heaters. As they wear out, consider replacing them with tankless ("on demand") water heaters.
- Add a reflective film to west windows to lessen heat gain.
- Improve natural ventilation by repairing the window sash cords and unsticking painted-shut windows.
- Hire a least-toxic pest control company to dispatch fungi and pests.
- Hire a lead-abatement company to remove or encapsulate lead-based paint.
- Avoid mold growth by inspecting for plumbing leaks, sloping the ground away from the building, and keeping irrigation at least two feet from exterior walls.

Julio's apartment

Eco-Villager Julio Santizo volunteered to be our guinea pig for an apartment evaluation. Julio's second-floor apartment has east, north, and west exposures. It's spacious and airy, with high ceilings and hardwood floors. The walls were recently painted with Envirocote. The "cottage cheese" ceiling may contain asbestos, but it looks intact at this time.

Outdoor air quality is an overarching concern in this central LA location. Because Bimini Terrace has no duct system, Mary recommended installing air filtration equipment with high-quality HEPA and carbon filters in each apartment. She also advised installing exhaust fans in the kitchen and bathroom to remove combustion products and discourage mold growth. Audrey suggested an electromagnetic field (EMF) audit of

the building, followed by mitigation of high EMFs to reduce the cumulative stress on residents.

Larry noted that the existing kitchen flooring probably contains asbestos, the removal of which poses a health hazard. When Julio is ready for a new floor, Larry advised that it be laid on top of the existing vinyl, eliminating the disposal problem.

Finally, Julio can do a few easy things to improve his resource use and indoor air quality:

- Replace his incandescent light bulbs with compact fluorescents.
- Retrofit bathroom and kitchen faucets with flow restrictors.
- Have his gas space heater, water heater, and stove checked for leaks and clean combustion.
- Reduce EMFs by eliminating dimmer switches, keeping appliances unplugged when not in use, keeping the clock radio away from the bed, and not using a microwave.
- Shift to least-toxic cleaning products.

A good plan is everything

With their wish list in hand, the Eco-Villagers will now get assessments and bids from EMF, pest-control, graywater, lead-abatement, and rainwater-catchment experts. They can then prioritize projects according to urgency, budget, and coordination needs (e.g., the driveway comes out before underground cisterns are installed). They can then engage the first-order projects (gardens are easy) with the greater vision in mind: all the parts coming together in a life-embracing model of city living. ☐

CAROL VENOLIA is an architect, author of *Healing Environments: Your Guide to Indoor Well-Being (Celestial Arts, 1988)*, and former publisher of *Building with Nature Newsletter*.