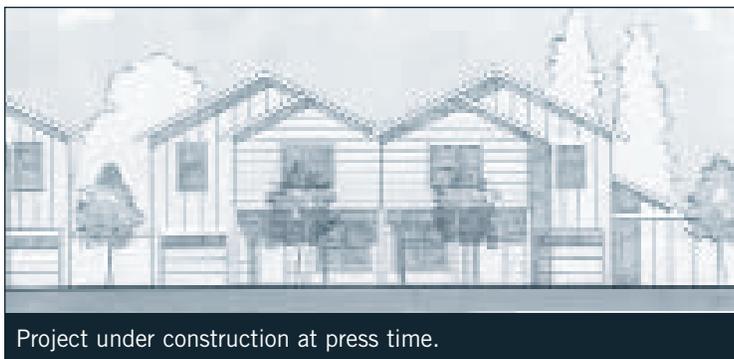


BUILDING ON SUCCESS

East Bay Habitat for Humanity takes green to a higher level with its second eco-friendly development



Project under construction at press time.

Home ownership will soon be a reality for nearly two dozen low- and moderate-income families in Livermore. In the fall of 2004, East Bay Habitat for Humanity (EBH), an independent affiliate of Habitat for Humanity International, broke ground on the first of 22 houses to be built on a two-acre site near the intersection of East and Hayes Avenues. These three- and four-bedroom homes are being built using mostly volunteer labor as well as “sweat equity” contributed by the future owners. By the day of the Green Home Tour, EBH expects the first nine homes to be approximately 90% complete.

This is EBH's second green development; the first, on Fruitvale Avenue in Oakland, is also on the 2005 Green Home Tour. During the course of the Fruitvale project, EBH's staff gained considerable expertise with green building, and they are now putting that knowledge to use in Livermore. A grant from Green Building in Alameda County is supporting EBH's efforts to build homes that are environmentally and economically sustainable. This grant made it possible for EBH to hire Siegel & Strain Architects, a local firm specializing in environmentally responsible design. As design and construction progresses, Green Building in Alameda County will continue to provide technical assistance to support EBH's green building efforts.

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STAYING COOL & SAVING MONEY

Passive solar design. Livermore sizzles in the summer, but these homes are designed to be comfortable without air conditioning, saving energy and helping keep the homes affordable for the owners. The passive solar design includes overhangs on south-facing windows to keep hot summer sun off the house. Deciduous trees will be planted on the south and west sides for additional shading. Downstairs, floors with high thermal mass (either exposed concrete or tile) moderate interior temperatures, and nine-foot ceilings help keep the living spaces comfortable. A whole house fan provides nighttime cooling at a fraction of the cost of air conditioning.

GREEN at a GLANCE

ENERGY & SYSTEMS

- 2.25-kW photovoltaic system on each home (Sharp panels; Sky Power Systems)
- Radiant-barrier roof sheathing
- South and west-facing windows have shading and overhangs
- Double-pane, low-e² windows on south and west sides; regular low-e windows on other sides
- Energy heel trusses
- Whole house fans
- Operable skylights or high windows for natural ventilation
- Hardwired compact fluorescent lighting
- Energy Star® refrigerators (Whirlpool)

MATERIALS & PRODUCTS

- At least 35% flyash in concrete
- Form boards reused
- Recycled content aggregate
- Advanced framing: 24" on-center wall framing reduces lumber use
- Engineered lumber: wood I-joists for floors and ceilings, site-built insulated headers
- Carports constructed of salvaged cypress (P.A.L.S.)
- Fiber-cement exterior siding
- Natural linoleum flooring in upstairs bathrooms (Forbo Marmoleum)
- Exposed concrete floor or tile floor downstairs

OTHER GREEN FEATURES

- 80% recycling or reuse of construction waste
- Unused materials donated or retained for next Habitat project
- Swale system with curbless gutter to control stormwater runoff
- Native, low-water vegetation
- Range hoods vented to outside
- Low- or no-VOC interior paint
- Recycled exterior paint

Energy-efficient building envelope. Windows with a low- e^2 coating keep warmth inside during the winter while reducing heat gain from the sun in the summer. The homes have fewer windows on their east and west sides to minimize overheating. And for the first time, EBH is using a radiant-barrier roof sheathing, a very cost-effective sheathing material with a foil facing that reduces heat build-up in the ceiling cavity.

Solar electricity. Each home will have a 2.25-kilowatt photovoltaic system that produces clean, renewable electricity from sunlight, further reducing the homeowner's monthly utility bills.

STORMWATER MANAGEMENT

Bioswales. As land is developed with buildings, parking lots and other impervious surfaces, more water runs off the buildings and property during rainstorms. The stormwater picks up pesticides, fertilizers, oil, gasoline and other pollutants, contaminating our waterways. At EBH's Livermore development, the entire two-acre site has been designed to channel stormwater into bioswales — shallow, vegetated depressions that slow the flow of stormwater, reducing runoff and filtering pollutants.

YEAR BUILT:

2006 (under construction)

NO. OF UNITS:

22 (9 on view for tour)

SIZE:

1,000 TO 1,400 SF

DEVELOPER:

EAST BAY HABITAT FOR HUMANITY

ARCHITECT:

SIEGEL & STRAIN ARCHITECTS

GENERAL CONTRACTOR:

EAST BAY HABITAT FOR HUMANITY

“The entire two-acre site drains to the bioswale.

It works really well.”

—Dave Sylvester, developer

