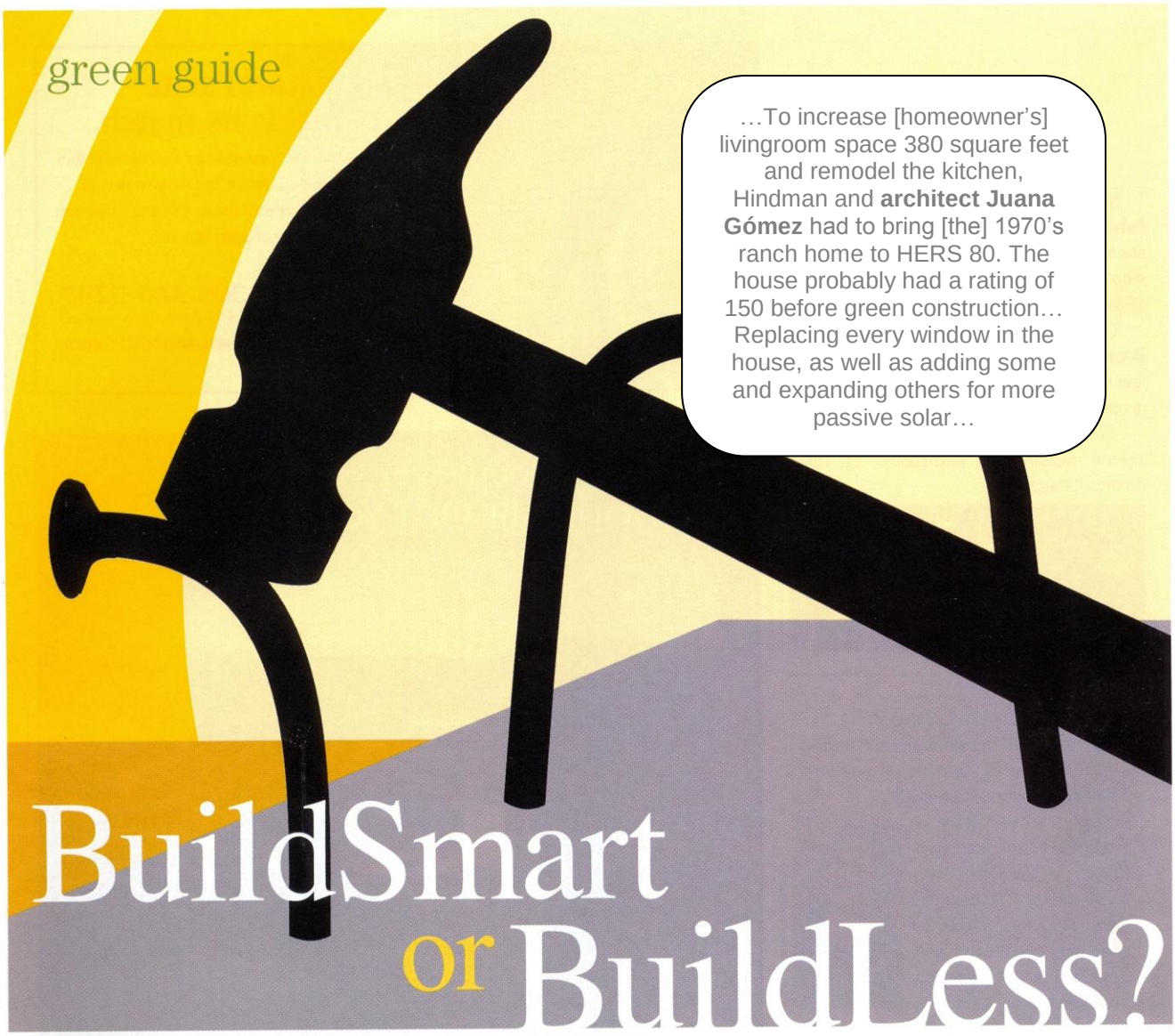
Excerpts from Boulder County Home and Garden, Winter 2010



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BuildSmart or BuildLess?

ILLUSTRATION BY DILEEP

The county's BuildSmart program mandates rigorous green-building requirements that up the price of remodeling and new construction. Green is good, but the program is tough on homeowners and professionals in this economic climate.

By Debra Melani

A little luck was on Jeff Hindman's side when he told a potential client last spring that the addition she wanted on her Gunbarrel home had gone up $30,000 because of a new Boulder County green-building code. Belinda Rosenfeld did not tell Hindman, owner of Cottonwood Custom Builders in Boulder, what he could do with his hammer.

If only everyone were so lucky.

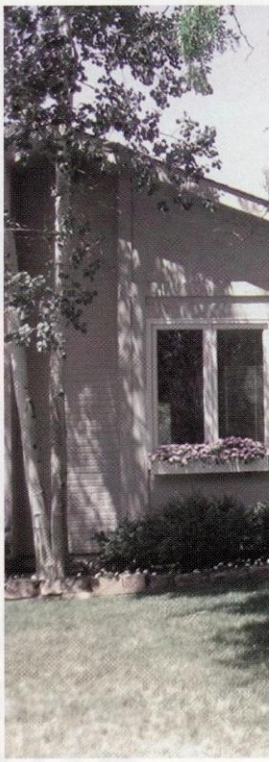
Although Hindman's crew netted the Rosenfeld job, a number of more cash-strapped residents have abandoned projects after learning about the tough requirements set forth in the BuildSmart program, which targets residential building in unincorporated Boulder County. There's been so much public outcry since the program's launch in May 2008, in fact, that county staffers have gone back to the drafting table more than once, and they were there again at press time.

Many builders and homeowners remain hopeful that all will be right with the program eventually. But the road there, especially with home additions and remodels, and swimming pools and spas, has been rocky.

Setting the Bar High

Touted as the country's most rigorous residential green-building program, BuildSmart is the next trendsetting step in Boulder's quest to reduce the nation's carbon footprint. Following the city's residential Green Points program, BuildSmart sets mandates

To update their kitchen and increase the living room by 380 square feet, Belinda Rosenfeld and Terrence Boland had to buy energy-efficient appliances and install super-insulated walls and ceilings as required by Boulder County's BuildSmart program. They also had to add energy-efficient windows and patio doors, dimmable lighting, and compact fluorescents throughout their home.



after

after

before

The Rosenfeld/Boland kitchen went from dark and dingy (above) to bright and airy (left) after the roof was raised and dormers were installed. But the upgrades required more work and money than usual, thanks to BuildSmart, which is considered the country's most rigorous residential green-building program.

and offers suggestions for reducing waste and conserving energy, water and resources. Both programs' energy requirements far exceed national standards, setting Boulder apart as a green-building leader.

…As for Rosenfeld, despite the unexpected high price tag, she's happy to have a greener, more efficient house that is kinder to the environment and to the pocketbook. "There will be a payback financially and emotionally," she says.

Photos courtesy of Lawrence and Gómez

BuildSmart, as originally written, uses HERS, a widespread home-energy rating system for homes (often likened to gas mileage for cars) to control energy use. The lower the HERS score, the higher the home's energy efficiency.

BuildSmart bases HERS mandates on the size of conditioned (heated or cooled) space on the property, which means a heated garage would be included in the total. For a new 3,000-square-foot home, a HERS score of 60 or lower is required, which compares to the national energy standard of 100.

For new and large houses, BuildSmart criticism is meek, as few builders or homeowners would argue against the importance of halting the strain buildings place on the environment. According to the U.S. Green Building Council, buildings alone account for nearly 40 percent of all energy use in the United States (See "Energetic Facts" on page 20.)

In an effort to discourage excessively large homes, BuildSmart's new-home HERS rating goes down one point for every 100 square feet added, topping out at 8,000 square feet. Homes that size and larger are held to a net-zero standard, meaning they cannot use more energy than they produce. Therefore, homeowners must use some form of renewable energy such as solar, wind or geothermal.

ENERGETIC FACTS

U.S. buildings account for:

- **72 percent** of electricity consumption.
- **39 percent** of energy use.
- **38 percent** of all carbon dioxide emissions.
- **40 percent** of raw materials use.
- **30 percent** of waste output (136 million tons annually).
- **14 percent** of potable water consumption.

—Source: U.S. Green Building Council

Expanding Costs

To increase Rosenfeld's living-room space 380 square feet and remodel the kitchen, Hindman and architect Juana Gómez had to bring her 1970s ranch home to HERS 80. The house probably had a rating of 150 before green construction. Replacing old appliances, subpar insulation, two-by-four walls and drafty windows, and sealing leaky cracks, led to a heftier job than what was originally proposed.

"They (the windows) were put in on April 4, 1972," says Rosenfeld, who lived with her husband and dog in a small apartment while the six-month project took place. "They still had the sticker on them."

Replacing every window in the house, as well as adding some and expanding others for more passive solar, was only one small piece of the additional work Hindman's crew faced. Other tasks included placing 2-inch foam board on the roof and every outside wall, which entailed redoing the entire exterior; blowing insulating foam into every nook and cranny; extending interior walls to add more insulation; replacing old kitchen appliances with Energy Star models; adding attic insulation; replacing the furnace and air conditioner with larger, more-efficient models; and installing a heat-recovery ventilator because of BuildSmart's indoor air-quality requirements.

"She had to do a lot of extra work to upgrade her existing house that we

weren't disturbing in order to get to her HERS points, and I do have a problem with that," Hindman says. "I think it discourages people from remodeling."

Before the Rosenfeld construction began, the county tweaked the code, easing the burden on Rosenfeld's pocketbook by about $5,000, and the county is continuing to make changes in response to criticism. At press time, the commissioners were poised to approve changes that would allow builders an option of using a "prescriptive" path for most remodels, additions and new homes 6,000 square feet or smaller, rather than the HERS performance path. A prescriptive path would involve following a checklist, e.g., "X" amount of insulation, "X"-rated windows, etc.

Builders could still opt to follow the HERS performance path, the standards of which the county is poised to lower somewhat for some remodels and additions.

As for Rosenfeld, despite the unexpected high price tag, she's happy to have a greener, more-efficient house that is kinder to the environment and to the pocketbook. "There will be a payback financially and emotionally," she says, acknowledging that the monetary recoup will be slow. But she plans on staying put "for a very long time."

For information on BuildSmart requirements and workshops, and a list of qualified HERS raters, visit www.bouldercountybuildsmart.org (www is required for this site)