

# Notebook

## The 50% Solution

### Building America Program Aims to Slash Energy Use

Can you cut building energy use in half while holding construction costs steady? Well, that's the goal of participants in the Building America Initiative, a nationwide demonstration program sponsored by the Department of Energy (DOE) and the National Renewable Energy Laboratory (NREL).

Building America projects aim to produce homes that use half the energy of a typical home for heat, cooling, hot water, and lighting, but at a square-foot cost in line with ordinary houses. Along the way, DOE and its private-sector partners hope to step up the pace at which new building ideas develop and spread.

Projects in the program are now off the drawing board and into the field. In fact, Building Science Consortium (BSC) of Westford, Mass., one of four firms directing projects around the country, has gone a step further, taking concepts proven in a Building America project in Illinois and applying them outside the program in a large custom home near Boston, Mass.

**Capitalizing on tradeoffs.** BSC is run by well-known energy consultant Joe Lstiburek and his architect-wife Betsy Pettit. In the Building America homes, the pair's basic strategy is to use "advanced framing" techniques, enhanced insulation, and careful air-

barrier detailing to reduce energy losses through the building envelope while also cutting the shell's construction costs. The improved thermal resistance of the walls and roof cuts the house's heating and cooling load enough to justify smaller hvac systems (only sealed-combustion or power-vented heating appliances are used). The combined savings go to pay for a ventilation system, tied into the heating and cooling system, that provides continuous, tempered fresh air to building occupants.

**Frugal framing.** Pettit and Lstiburek conserve lumber in 2x6 exterior walls by spacing studs at 2 feet on-center and by eliminating some headers in nonbearing walls. Stack-framing allows the use of a single top plate, and rated header hangers replace cripple jacks at small window openings.

ASHRAE heating-load formulas

assume that 20% of a stick-framed wall is wood, Pettit notes, but she says, "We have seen walls where the wood surface area is as high as 30%." BSC framing details cut the ratio to 10%, Pettit notes: "That alone reduces the heat loss by 5%."

**Outside foam.** The insulating sheathing — foil-faced foam taped at the seams and glued to the framing — acts as air barrier and drainage plane, explains Pettit. No housewrap is used. Metal strapping replaces the bracing function of plywood. At today's prices, Pettit estimates that the foam sheathing and metal bracing cost less than plywood sheathing.

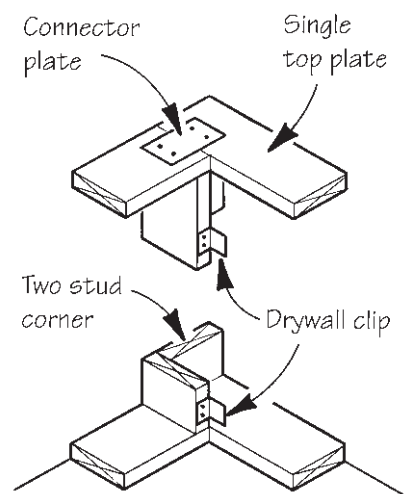
**Air sealing details.** Stud wall and roof cavities get fiberglass batt insulation. To protect batts from air movement, the home's interior skin, like its

*continued*

KATHLEEN NEWMAN



Foam sheathing taped at the seams helps cut energy use and construction costs, according to designers Joe Lstiburek and Betsy Pettit. Efficient framing details (right) save lumber and reduce thermal bridging.



## OFFCUTS

### Many home buyers could live without living rooms,

according to results of an NAHB survey. *Nation's Building News* reported on October 21 that 40% of home buyers said they would buy a house with no living room if the square footage saved were used for another purpose such as a media room, exercise room, or office. A comprehensive survey report, "What Today's Home Buyers Want," is available for \$125 from NAHB's bookstore (call 800/223-2665).

### The apprentice carpenters' program in Northern California must set a 20% female hiring goal

under an order from federal Judge Betty Fletcher. The ruling comes in a 20-year-old lawsuit filed by a woman whose apprentice application was rejected in 1975. The carpentry apprentice program is currently only 3% female, according to a September 10 *Los Angeles Times* report. The federal court order will not be affected by California's recent ballot referendum ending state affirmative-action programs.

### Wisconsin communities are quietly continuing to assess impact fees

on builders despite new state laws limiting the practice, says a September 28 report in the *Milwaukee Business Journal*. Under the law, fees must be justified by documented infrastructure costs. The newspaper says fees are increasing as towns learn to "work the system."

## No Coverage for EIFS Homes, Says Insurer

Maryland Casualty Co., the nation's largest liability carrier for home builders, has announced it will no longer cover U.S. builders for homes sided with exterior insulation finish systems (EIFS). According to company spokesperson Sarah Adams, Maryland Casualty's own investigations have convinced the firm that reported problems with EIFS systems are potentially widespread and are not limited to one geographical area.

"The EIFS manufacturers have taken the position that problems are due to

poor workmanship," Adams told *JLC*, "but we disagree with that." She said Maryland Casualty is still honoring its coverage of EIFS homes that are already built or currently under construction, handling EIFS-related claims against builders on a case-by-case basis. If the insurer believes that the material rather than the workmanship caused damage to a given home, it will "subrogate" the claim — paying damages as promised, but attempting to recover the money from the manufacturer of the EIFS system involved.

"We know of 12 class-action suits against EIFS manufacturers," said Adams. "By putting on this coverage exclusion, we hope to get builders and home buyers to carefully weigh the consequences of using these cladding systems in the current claims environment." □

**"Carefully weigh the consequences" of using EIFS, warns insurer Maryland Casualty.**

GLENN DAVIS/LINDA LEAKE



## OSB Price Dive Signals Long-Term Drop

Against a backdrop of generally high lumber prices in late 1996, oriented strand board (OSB) stood out as an exception. OSB dealer prices topped out in early September at around \$228

per thousand square feet for 7/16-inch panels, but by mid-October, the price had dropped more than 30%, to \$155. That translates to around \$6 a sheet in lumberyards.

An October report in lumber market newsletter *Random Lengths* says low-priced OSB may be the wave of the future. With eight big new OSB mills now on line, and seven more slated to start up next year, traders say the U.S. market will soon have way more OSB than it knows how to use. Plywood mills are making way for the coming OSB glut by producing less sheathing and more sanded plywood grades, but some observers expect a number of plywood plants to close completely. □

**Analysts say low OSB prices may stick around.**

COURTESY SBA



# After Stroke, Code Official Confronts Access Barriers

Former St. Louis Building Commissioner Martin Walsh used to enforce accessibility requirements. Now, however, he can see firsthand why codes requiring accessibility matter — and why they sometimes aren't enough.

In 1995, Martin suffered a disabling stroke that left him, like thousands of Americans, paralyzed on one side. In his new life as a wheelchair pilot, he now has to navigate around obstacles most people don't even notice.

In a September article in *BOCA* magazine, Walsh, a former member of BOCA's board of directors, details a range of seemingly minor defects in walkways, ramps, and doors that he now discovers limit his mobility. Photos for this article were taken by Walsh's wife, Colette.

Most of the items Walsh describes are not addressed in codes, he notes, which suggests that builders designing



**A wheelchair operator can be catapulted from his seat when the chair's front wheels strike this small lip.**

for disabled clients could learn more by talking to people with relevant handicaps than by consulting the rule book. For the online crowd, Walsh is a certified Internet enthusiast: His email address is [mpwengr@primary.net](mailto:mpwengr@primary.net). □



**A ramp railing on the opposite side from his usable arm doesn't help Walsh steer. Both sides need railings, he points out. Walking with his quad cane, Walsh risks an accident whenever he approaches an inward-swinging door.**



## OFFCUTS

### **Want to learn about state-of-the-art framing techniques?**

This year's Builder's Show in Houston, Texas (January 24-27), will feature two demonstration houses spotlighting advanced methods. One building will stress component assemblies like trusses and panelized walls, while another will show the potential of manufactured lumber such as laminated-veneer timbers and engineered wood I-joists. Organizers say a similar program at last year's show was a big hit.



### **Mobile home installers in Florida must now be licensed**

by the state Bureau of Mobile Home Construction, according to an August 1996 report in *SBCCI Newsbriefs*. The move came in response to homeowner complaints alleging faulty installation. Each mobile home unit installed must also now bear a decal from the state bureau. For information, call 904/488-8600.

### **Employees who serve in the National Guard have re-employment rights**

guaranteed by the Uniformed Services Employment and Re-employment Rights Act of 1994 (USERRA). The act says you can't deny a service member re-employment, seniority, or equal pension benefits just because he or she was absent for military training or deployment. For information and assistance, call the National Committee for Employer Support of The Guard and Reserve (800/336-4590).

## OFFCUTS

### A steel housing center has been established

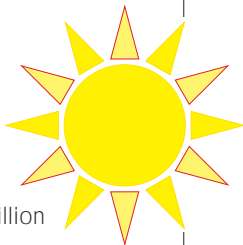
at Purdue North Central University in Westville, Ind. Located in a large steel-producing region, the Purdue Center for Application of Steel Housing (PCASH) will serve as a clearinghouse for design information, a training center, and an applied research facility. The campus already hosts an award-winning two-year residential construction program. For information, call Professor Richard Taylor at 219/785-5216 or check out Purdue's Web site ([www.purduenc.edu](http://www.purduenc.edu)).

### Installing some heavy cabinets? Consider hiring a mover,

advises the November 1996 *Woodshop News*. Two movers and a truck can be cheaper by the hour than yourself and a helper, the magazine notes. The technique makes the most sense for the one-man cabinetry contractor — the movers take the heavy work off your hands, freeing you up to practice the fine points of your craft.

### Sustainable energy programs got a funding boost

in last year's budget battles, according to the Sustainable Energy Coalition, an advocacy group headquartered in Takoma Park, Md. Department of Energy (DOE) energy efficiency and renewable energy programs will get an \$11.4 million increase in fiscal 1997, while DOE nuclear development programs will be cut by some \$20 million. ■



## 50% Solution

*continued*

foam exterior, is built as an air barrier, with drywall glued to studs and sealed at joints. But no poly vapor barrier is installed — with wall cavities kept warm by the foam sheathing, and indoor humidity controlled through continuous ventilation, Lstiburek and Pettit discount the risk of condensation within walls. They count on walls to dry seasonally to the inside, not the outside.

**Training and details.** BSC's house-as-a-system approach only makes

sense if each detail is correctly executed. But from frame to finish, turning the innovative grand plan into a real house requires a builder to change a lot of old habits at once. To make sure details are done right, carpenters and subs get a morning of training when they first show up at the site. BSC has also created seven sheets of drawings depicting important framing, air-sealing, electrical, and insulating details, which are posted at the job site as a handy reference for tradespeople.

For further information, call BSC at 508/589-5100. □

## TAX TALK

### Stay Ahead of Payroll Tax Payments

by Len Pytlak

If there's one item that causes the most headaches for business owners, it's payroll taxes. In fact, a recent government study showed that more than 32% of all federal payroll filers have incurred some kind of penalty. Here's how to avoid the most common problems:

**Late paying of taxes** can be avoided by making a tax deposit the same day you do payroll, even though it's not required. If your required tax payment is small enough (under \$50,000 on an annual basis), you are allowed to deposit your payroll taxes as late as the 15th of the month *following* the month in which the wages were paid. However, it is usually better to pay sooner. When cash gets tight, the area that seems to be neglected first is payment of payroll taxes: Businesses use the employees' taxes to pay other bills. Experience has shown that when this happens, many businesses never catch up — and the substantial penalties for not paying the taxes can aggravate the cash flow problem.

**Improper withholding** can be prevented by computer, using one

of the many programs available that calculate correct withholding (QuickBooks, for instance, has a payroll program built in, although Microsoft Money does not). Some software will also calculate the amount of the required tax deposit, which helps eliminate penalties for making the wrong deposits.

**Late or incorrect reporting** can also be solved with a computer. Payroll programs will print worksheets you can use to prepare the various federal and state payroll reports that are due quarterly or annually, cutting preparation time and reducing errors.

There are also many service companies set up to provide payroll check writing and payroll report preparation. If you've been paying payroll penalties, the cost of getting this service from an outside company may be less than your penalties — not to mention the value of your own time saved. Remember, however, that even if you pay someone else to handle your taxes, you (the employer) are ultimately responsible. □

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