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Turn a good room into a great room.
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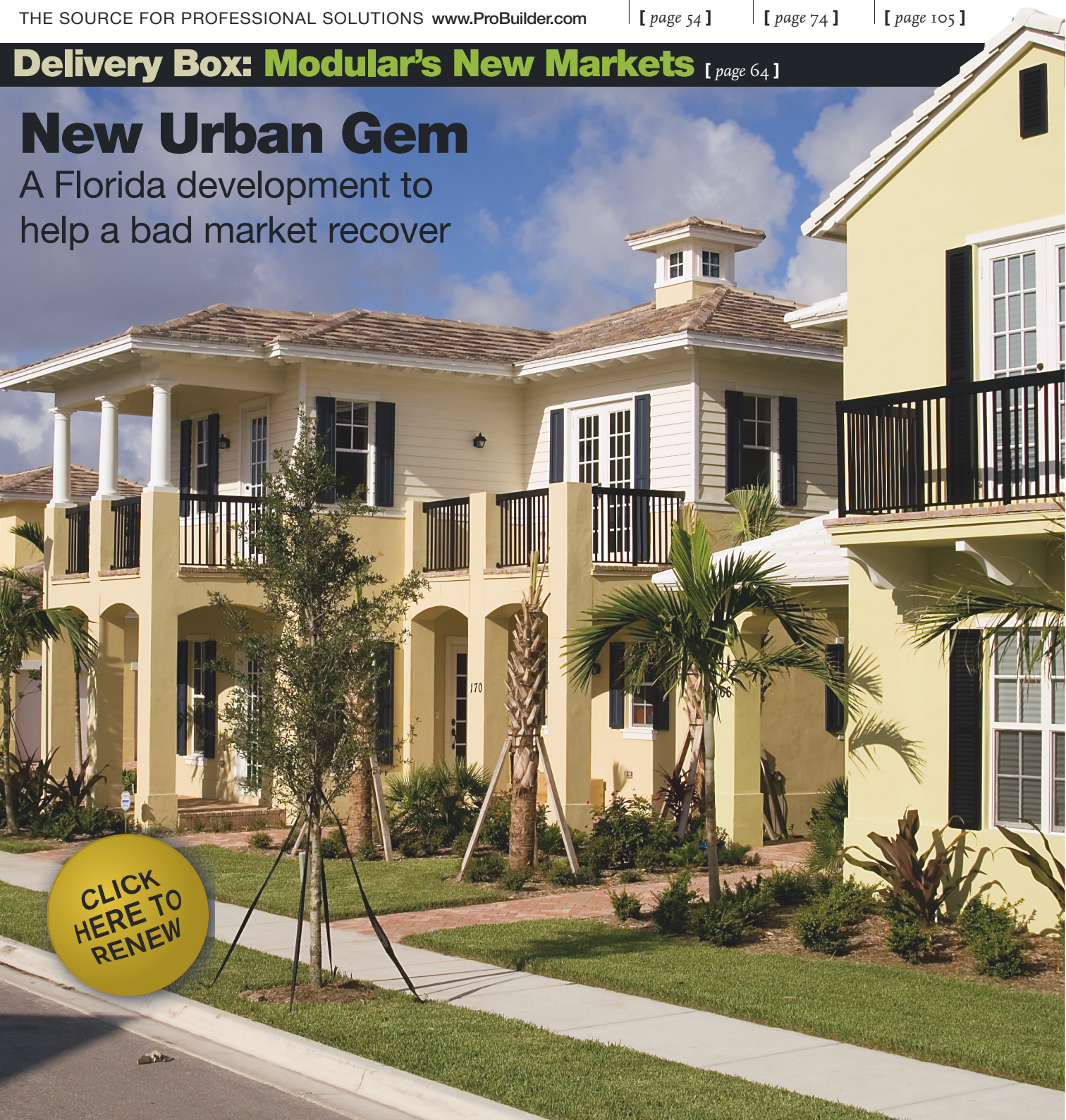
New Urban Gem

A Florida development to help a bad market recover



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October 2006

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Fast Twitch, Knee Jerk

Last February, I posed this question to the CEO of one of the country's largest home builders: what would happen on Wall Street at the end of the first quarter when home builders report their earnings and revise projections? My thinking followed this line: we had already begun to see deep discounting among home builders in many markets (see my January 2006 editorial), which led me to believe they would be forced to feed the machine at the cost of their margins. Wall Street also has a history of kicking the crap out of home building when things get loose.

The CEO said he thought earnings would continue to be strong. We were both right. First quarter earnings weren't as bad as I thought, although they probably couldn't be characterized as strong. Soon thereafter, though, the business profile for many builders grew darker. So far in 2006, some public builders have seen their share prices drop by more than half.

It has also been a tough year for private builders, who account for almost all of the companies operating in the industry. Still the reaction of public and private builders — in fact, the whole industry — to this downturn has been almost uniform: discounting and offering aggressive incentives.

> As much as I despise discounting, it is the speculative behavior in the marketplace that causes even more problems for the industry.

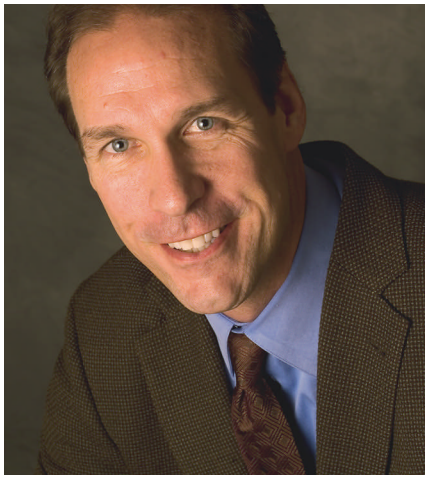
What I find amazing about this is how quickly the housing industry turns. For an industry that has been around thousands of years, it acts amazingly immature. In just a few months, we went from the excesses of speculative behavior to the nadir of deep discounts. Speculative investment and discounting are the extremes of the same spectrum. Surely there are a few notches on the ruler in between. (Please don't tell me "incentives" are a notch not quite as far along as discounting, because I remain unconvinced consumers appreciate the difference between incentives and discounts. The effect is the same.)

The closest recent model to this kind of behavior occurred in the dot-com era. During that time, companies that were little more than ideas were wildly overvalued due to speculative behavior. When the market turned, the companies tanked. All of you remember that, and many probably remember it with a deep pain. Unlike the long history of home building, that business model was a new born.

The big difference between the dot coms and home building companies is that home builders actually deliver value, earn a profit and produce more than ideas. How can an industry that delivers so much act so rashly?

As much as I despise discounting, it is the speculative behavior in the marketplace that causes even more problems for the industry. Just as in the dot-com era, some people are not interested in what's being produced; they only care about the elevator ride: buy in on lower floors, ride the rising elevator and sell off at the higher floor. Those people don't care what building the elevator is in. It could be housing, it could be dot coms, it could be oil, it could be lumber, it could be tiddlywinks. The trick is to get off the elevator before it plummets again.

The problem is the people in the building industry are left to clean up



the mess after those folks have used the emergency exits.

As an industry, it is in our best interests to avoid both the speculative behavior of investors and the rash reaction of discounting. The frontline for that effort is in sales discipline. We need to put teeth into the requirement that buyers report whether the property they are buying will be their primary residence. We allow too many people to fudge the requirement. By some estimates, 17 percent of the new home purchases in 2005 came from investors. When that 17 percent disappears, the market drops fast.

Of all the things affecting the housing industry, the thing builders control that will have the biggest effect is the focus on selling to people who truly desire our product, not people looking to make a quick killing. That decision, while painful during high times, will allow the industry to become more stable and, in the long run, more profitable. **PB**

Paul Deffenbaugh
Editorial Director
630/288.8190
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Fire and ICE

Fire Brigade

I second the opinion of David Stone in his letter in the August issue of *Professional Builder* and want to add that home fire sprinklers benefit the community as well as the homeowners. Many fire departments are staffed by volunteers who are becoming increasingly scarce with all the correct credentials. Limited personnel as well as resources for rural fire departments means that home fire protection is again in the province of the home owner. The new technology for home fire sprinklers is literally a wonderful benefit to all rural homeowners and should be required by all counties in spite of the spirit of big builders. Installing sprinklers is one of the most important things a homeowner can do for their home and their county; it will keep fire fighting costs down and their individual property saved. A no-brainer for all new homes and retrofits, we have even talked two modular companies into providing "sprinkler ready" homes in their state code products.

Kricket Smith-Gary
Lawrenceburg, Ky.

Labor Pains

Your story on the labor shortage ("Clean Sweep," August) in construction is incomplete. There should be a breakdown, including benefits paid to illegals, citizens, non-union high-to-low, and union trades people. The union contractor will employ a blend of journeymen and apprentices. This results in an average cost. [The article] should also include the productivity and quality of work performed by each group and the difficulty in attracting quality workers by each group. I think your story would not be so sympathetic to the employers of illegal aliens.

[Our company] went from a non-union to a union operation many years ago. To do so was cost beneficial and the quality of our work increased. In a recession year, our non-union labor costs would be cheaper; we would loose some quality. In our non-union operation, people worked 54 hours a week with overtime pay to equal what union workers made in 40 hours; there were no benefits. In a recession, they worked 40 hours a week.

We were not capable of providing the training the union does. We have team leaders who are held responsible for planning their work and productivity. They also hire and fire the people working under their supervision. We have had no trouble adding staff when needed.

Builders I know who employ illegals are blood suckers. The illegals are at their mercy. Wal-Mart pays better and provides benefits. Recently our local newspaper published a story about an accident. The arrested party was illegal, working in a gravel pit, making $350 a week. He had no car insurance. The lack of car insurance is common on the part of illegals. Because they are poorly paid they will also spend some time on welfare.

The illegal aliens and their employers are both breaking the law. The illegal alien problem has been caused by those holding the elected position in the executive and legislative branches of the federal government, past and present. Reagan rewarded them for breaking the law. Giving those who employ them a little jail time would solve the problem immediately. The level of incompetence or insanity on the part of those we elect must be great.

Richard G. Frett
Crystal Lake, Ill.

Have issues on your mind?
Send your letters to Editorial Director Paul Deffenbaugh. Please include your name, company name, address and phone number.
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>> **FELICIA OLIVER, SENIOR EDITOR**

Better, Faster, Cheaper

A four-home prototype project finds a way to incorporate green building with universal design — and help a rehabilitation center, too.

The idea behind the Open Prototype Initiative — what will be a showcase of four high-quality, economically constructed homes — was to improve the way all homes are built in America. And information learned through the first home and subsequent prototype homes will also be useful for improving in-home treatment of the disabled and older Americans with a desire to age in place.

The Initiative — a collaboration between The House_n Research Consortium at MIT, Bensonwood Homes and other industry professionals — will build four prototype homes — one every 18 months through 2010.

The first Open Prototype house, Open_1, was completed in August. The three-story, 28-foot by 46-foot home was built at Crotched Mountain, a Greenfield, N.H., non-profit organization that provides support services to disabled individuals and their families. The transitional home, which clients will use after leaving the organization's Brain Injury Center, incorporates universal and green design.

"The goal of the Open Prototype Initiative is to revolutionize the way homes are built, making today's extraordinary into tomorrow's ordinary," says Kent Larson, director of MIT's House_n.

A cornerstone of the Open Prototype Initiative is "open building," which views a building as a well-organized combination of systems carefully coordinated to ensure a better process and product for both homeowner and builder. It was developed in part by MIT in the 1970s and 80s. Bensonwood Homes founder Tedd Benson, who has been involved in open building for the past 15 years, developed the Open-Built system used in Open_1. Bensonwood is taking the lead in the design, prefabrication and on-site construction of the home aided by 3-D modeling and CAD.

IT TOOK A LITTLE LONGER THAN 20 DAYS, but the three-story Open_1 Prototype home in Greenfield, N.H., is complete.

>> **RHONDA JACKSON, STAFF WRITER**

Live Via Podcast

TAYLOR WOODROW LEARNED FIRST-HAND the impact of implementing off-the-beaten-path marketing strategies when a home sold after the company ran an in-flight airline infomercial in which a passenger walks off the plane and straight to a Taylor Woodrow community to buy.

And for the company's most recent foray into multimedia marketing, Taylor Woodrow has turned to podcasting, a way for Internet users to watch or listen to video or audio clips online and off-line. The move is just one of several alternative marketing tools Taylor Woodrow has incorporated into its marketing strategies, says Arianna Barrios, Western Regional Marketing Director for Taylor Woodrow Homes.

A New Kind of Shopper

According to a recent study by the California Association of Realtors, 70 percent of home buyers spend some part of the home-buying process shopping for homes online, with new home buyers eliminating 50 percent of their choices over the Internet. "If you have not pushed out your marketing to have all the tools you could possibly have for (home buyers) to make decisions, they are eliminating you before you even get a chance to talk to them.

"Before they drive out to a model before they go and look in the newspaper, they are making a choice on the Internet," Barrios says.

Taylor Woodrow's podcasting venture launched in June with www.itaylorwoodrow.com, which serves as a host for several virtual tour and educational podcasts for potential buyers to download. The on-demand marketing tool allows consumers to receive information when they want it and respects their ability to make the right choice, says Taylor Woodrow's Mike Forsum, Western Regional President for Taylor Woodrow Homes.

Consumers might find, for example, a podcast featuring Taylor Woodrow's Southern California communities as well as the educational podcast series "Home Front," which features presentations on exterior and interior design principles by architect Robert Hidey and interior designer Jenny Kennette. Another video walks potential home buyers through their first design center visit.

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>> BY **SCOTT SEDAM,** *TRUENORTH DEVELOPMENT*

LESSONS LEARNED

The Lean-Building Machine

The market's getting tighter. How's your business?

What began as a predicted 5 percent slowdown for 2006 has now passed 10 percent nationwide and may reach 15 percent, or more.

Some of the nationals are really hurting, with one of the Top 10 builders reporting sales down 45 percent as of August. With a new article coming out nearly every day on the housing downturn, it seems unlikely that things will turn around soon.

How did virtually the entire industry get caught this far out in left field? After seven consecutive years of economic predictions of "the last good year in home building," and seeing things just get better and better, it's no surprise we thought we'd skip one more down cycle. One of the unique aspects of this slowdown is that so few managers, including many at the most senior levels in home building today, have experienced a downturn of major proportions. Other than a few minor blips, there hasn't been a significant home building slide since the early '90s, and it's clear that this one will be worse. Maybe half of today's managers just weren't around in 1991, and 90 percent weren't in the industry in the early '80s, the last time home building totally caved in. I have heard many lament the relative inexperience of current management. If you've never been in a downturn, how do you know what to do?

One of the unique aspects of this slowdown is that so few managers, including many at the most senior levels in home building today, have experienced a downturn of major proportions.

I'm not sure this explains why, despite the negative indicators during that last half of 2005, most large builders kept their production pace through the spring, building unsold inventory to levels that now exacerbate this problem. Who was calling the shots? Readers of this column have come to expect my radical propositions, so here you go. I believe that when all is said and done, this lack of experience in management could turn out to be a good thing.

Historically, the reaction to downturns has been so consistent that you can put it into a formula: slash overheads, lay off people, cut production, stop hiring, stop buying land and hammer your suppliers and trades. Not much creativity in that.

I don't trivialize how painful those steps are, but you don't have to be a 30-year grizzled veteran to carry them out. I also do not deny the need for action in these areas to get home builders through tough times. I can predict, however,

that most will go further than they need and do a lot of damage. In the process, builders will miss the best opportunities to rethink the way they do business — opportunities that can both pay off on their own and reduce the need to carry out many of the other steps. It could be that the "young guard" might have a natural advantage over the "old guard" in pursuing some new ways to reduce costs and run the business. Let me amend that. They are actually old ways — just new to the building industry.

Sedam's Strategies

1. Product Strategy
2. Land Selection
3. Advertising
4. Startup Process
5. Trade selection
6. Plans & Specs
7. Options & Selections
8. Schedule
9. Turnover
10. Prevention Mentality

Professional Builder, July 2006

If you want to follow the whole thought process, I suggest you go back and read "Your Choice in Cost Control" in April's *Professional Builder* and "That's Where the Money Is" in July's edition. In the first column, I blasted the slash-overheads solution as a drop in the bucket compared to house costs and land development costs, imploring readers not to inhibit their ability to find the real money. In the second column, I cited 10 specific areas where a builder can find significant dollars, increasing margins while reducing the need for overzealous budget cutting that will come back to haunt you.

Our Flaws

Those 10 areas touched virtually every area of the business, but let's focus on just one, the building process. From graded lot to final, this is a clearly identifiable, readily measurable process. Sometimes, though, I'm mystified by what happens in the field.

The most obvious issue is scheduling, and, as an industry, we are just lousy. Ask any supplier. Ask any trade. Or write down your number of closings for every week over the past two years and stare at it a while. If you have any sensibilities toward an orderly process, you should find them heartily violated.

Although home building materials have changed over the past 50 years, very little has changed in the process. It's the same setup as a project superintendent drawing 40 or 50 suppliers and trades from a pool of hundreds and trying to coordinate them on-site. It gets the job done with gross inefficiencies and a horrific amount of rework. No one knows the national average for construction cycle time, but I'll peg the median at 120 days for production homes. (In this case, midpoint makes more sense than the average.)

What should it be? I know; it could easily be 60, and enough builders have done it to prove that virtually everyone can — and in the case of houses anyway, size doesn't matter. If you reduced your cycle time to 60 days on a consistent basis, you would save far more than simply cutting two months out of your carrying costs on land, which in itself is considerable. Work-in-process inventory would fall dramatically. Supervision cost per house would be cut in half. You would become so tight and so efficient that rework, errors and omissions would fall and quality would rise; most of your rework would be eliminated. Do that and you can stop knee-jerking your overheads, demoralizing your work force and destroying your supplier and trade relationships.

You call this an impossible dream? Then answer this question: why has virtually every other industry that manufactures a product — from agriculture to transportation — seen order-of-magnitude increases in productivity and efficiency over the past 50 years and not home building?

We were just having too much fun doing what we were doing to attend. Over the past 15 years, we have made so much money doing things the way we've always done them that there was no reason to pay attention to what was going on in the world around us.

Lean Production Can Work

There has been a revolution, and we missed it. The revolution is called lean production and it was perfected by Toyota. Lean production — when you eliminate waste and do more with less — has now completely supplanted Henry Ford's mass production model as the basis for operations in the leading companies and industries around the world.

So this is our opportunity. The pain is here, and I know you feel it. That should provide the motivation to change the way we do things. The key to lean production — lean building — is understanding waste and where it resides in all areas of the business.

Next month we'll take a look at the seven key areas of process waste to get you agitated enough to find and eliminate waste in your own company. How much is there? Twice as much as you have saved in all your overhead slashing, guaranteed, and without all the collateral damage. That's just for starters. If you want to get a head start, go dust off Jim Womack, Dan Jones and Daniel Roos' "The Machine that Changed the World." That's the book your neighbor Chuck the engineer told you to read 15 years ago and you didn't. It was mostly about the automobile industry, for heaven's sake, and what did Chuck know about home building, anyway? We'll see about that, next month. **PB**

Scott Sedam is president of TrueNorth Development, a nationwide consulting and training firm focused on quality, process improvement and organizational development.

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>> BY **BOB PIPER,** *THE TALON GROUP*

H.R. DEPT.

Remember the Basics

How are you operating today? Learn from your peers and better yourself at the same time.

My partners and I are in a fascinating line of work. Every day we get to talk to interesting people from across the country about what's going on in our industry.

Here're some things we've run across lately that may help you on the HR side:

No Surprises

Hiring people should be a fairly fluid process. Learn and understand the following about each candidate early in the interview process:

- Why are they interested in pursuing an opportunity with your company? Is it growth? Money? Environment? If a candidate's motivation is lack of promotion with their current company, it's critical you understand what his or her expectations look like going forward.
- What are they making now (base, bonus, bonus criteria, when paid, etc.)? What do they expect to make? Will it cost them money via forfeited bonuses to make a change? This is especially true of anyone leaving a company late in their current bonus cycle.
- Now that they've had the opportunity to get to know you and your company, what's their temperature? How interested are they? Ask them how they feel about being a member of the team.
- If a candidate's requirements and expectations are out of alignment with yours, there is no need to move forward. Don't get surprised and find yourself in a negotiation at the last furlong. Selection takes time, and the last thing you need is a lot of time invested and no results.

No Need for Mystery

Too many people in our industry think that if they don't hear any feedback from their supervisor, they must be doing a good job. When associates know where they stand formally and informally they naturally become more focused; they have no need to guess or fill in the blanks.

What's In a Name?

We recently completed a COO search for a regional builder. During the search we interviewed talented and successful candidates. All had great technical prowess with histories of delivering high volume, revenue and profits. The candidate who got the nod had one attribute we don't see often enough: he made it his business to know and acknowledge every member of his organization.

GETTY IMAGES

The candidate who got the nod had one attribute we don't see often enough: he made it his business to know and acknowledge every member of his organization.

I know what you're thinking: how hard can that be? In a normal company of 100 associates, it's tough, but certainly not impossible. The astonishing thing about this individual is he had more than 350 associates on his team.

Everyone's favorite word is their name. When they hear it, they feel celebrated, special and important. It costs nothing and the dividends this type of care and interest yield are huge. **PB**

Bob Piper is the founding partner of The Talon Group, a leading retained executive search firm specializing in the real-estate development and home-building industries.

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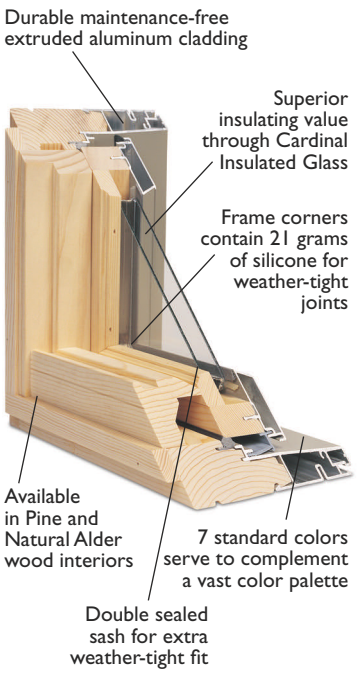

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>> BY **PAUL CARDIS,** *NRS CORP.*

CUSTOMER SATISFACTION

Boost Your Resources

With existing home sales down and a surplus of new housing in many parts of the country, home builders are heading back to the days of normal growth and profits. As many of you already know, the industry now has to work harder just to keep sales close to last year's levels.

ILLUSTRATION: JUPITER IMAGES

While economists predict that the home building market is going to stay strong for the next 20 years, some home builders have responded to the '06 correction with massive budget cuts and layoffs. However, rather than gut your company and pine for lower interest rates and increased housing demand, home builders should view this slowdown as an opportunity to fix what is wrong in their organizations and maximize their corporation's resources — the people and processes.

I realize the need to cut back in hard times; it's a fact of business. A drop in sales requires cost-cutting measures. However, before you go slashing expenses, it is important to look at every expenditure and its effect on customer satisfaction. It is important not to jeopardize tomorrow's sales by hastily making cuts that could negatively impact the customer experience and choke your referral sales and reputation in the market.

Even cuts that seem to be outside of the customer experience — such as certain layoffs — could affect customer satisfaction.

It is a gamble to make certain cuts so they won't impact the bottom line or customer satisfaction. It's like a mining company betting that a decrease in particular expenditures won't affect employee safety. You have to ask, "Is it really worth the risk?" As miners dig deeper into a shaft, they must shore up the tunnel to make sure it doesn't collapse.

Before you begin heavy cost-cutting, you should implement a quality improvement program to rebuild your processes and become more proficient. That way, you can make the right cuts without gutting your key resources and jeopardizing your future.

Every successful company has natural resources that help set it apart from the competition — the assets you need to protect to remain competitive and ensure that customer service doesn't slip. The ultimate resource is customer satisfaction. Others include your employees, your company culture, process and your brand.

Customer Satisfaction

We all know the power of customer satisfaction when it comes to generating referral business. As the housing market becomes tighter, customer satisfaction will become increasingly important for attracting new business. In an NRS research study, 72 percent of buyers said customer satisfaction awards and recognition were important in their buying decision. Therefore, now is the time to implement programs that bolster customer satisfaction, not cuts that chip away at it.

One day the market will bounce back. Let's hope you haven't burned your vital resource so you will be poised to seize the day that is destined to arrive again.

Employees

Your internal customers are another key asset you must preserve and occasionally surgically trim. If the decline in new housing sales convinces you to implement a series of layoffs, consider the impact on

employee satisfaction and how that could affect customer service. Also, consider the cost of replacing highly qualified and trained employees who jump to the competition because they are no longer part of your organization. Who is going to serve the customer after you pull in the reins? Is it you? Is it your executive team? It's not going to happen, and the end result will be much lower customer referrals. Don't be left without the resources to deliver.

If you lay off, make sure you make up for it with superior management skills. This means:

1) Evaluate employees very carefully with a thorough review.

2) Weed out those who don't belong.

3) Support those who remain by having an action plan to handle the increased workload.

4) Provide praise to those who remain and discuss the increased psychological impact these changes have on them.

Remember that your good employees are with you not because of money, but rather because of the companionship, camaraderie and pride they have in their work. Don't gut that too — it comes at no charge to your company.

Company Culture

You treat employees as equals, you value everyone's ideas, you care about their work/life balance, and you even offer free gym memberships to encourage employees to stay healthy. Everything you do says that you care about people, both those who work for you and those who buy from you. It's a way of doing business that has people wanting to do business with you.

But all of this can change if you make the wrong cuts. A culture doesn't emerge overnight, and restoring a culture that's been decimated is an arduous path that takes years of work. So how can you screw this up? Try firing good people in your company who are viewed as valuable. That's a guaranteed way to create turmoil and turn your company culture on its head. Or try stopping your customer loyalty programs and focus completely on the bottom line. Once you've achieved this, everyone else in the company will see this as a signal to stop caring for the customer as well. How about one more horrible recommendation? Lets renegotiate with all our trades and suppliers and mandate they cut their contracts by 15 percent. While you will get many takers, the one who will pay is the customer in the form of reduced quality, understaffed crews and poor quality materials. Not what you asked for.

Process

Now that I have tempered your willingness to fire valuable people in your company, we have less work and lots of good people. What next? Process improvement! This is your company's golden opportunity to ready itself for the next big rush in home building. It is also a time to earn the trust of your employees, trades and suppliers. Make this slowdown the time when you have preserved many resources so you can invest in the future.

Let's demonstrate how your company will preserve many of the people to fix the processes that have been strained for the last five years during the biggest home building rush in history. Much of what we have left today after being trampled by customers is broken systems that need work. This is the time when you can revamp departments, map out your processes, redefine responsibilities, implement measurement systems and ultimately make your company stronger.

Brand

Once you've destroyed your brand, it is very difficult to turn it around. We can all think of companies who have been around for decades, only to damage their brands and have to either change their names or sell. For example, Sundance Homes in the Chicago market let its quality get so low during the mid '90s a community protest was mounted against the builder, and in a matter of years, the company was sold and dismantled. Likewise, there are many other stories of builders who forgot about their customer in lieu of the bottom line and have either changed their names or cease to exist.

How about Dell's recent accidental exploding computer. The damage to the brand has been significant, and the next few months and years will determine the actual cost to their company from this failure in quality control. Imagine, for example, a builder who has branded his company as a green builder. In a short-sighted attempt to save money, he does something that is against green building standards to cut costs. As soon as word gets out, the builder's brand would be destroyed. The quickest way to damage your brand is to make cuts that directly impact the work you are known for.

At the end of the day, you have to be making money to survive and flourish. Sound financial planning dictates that expenses be evaluated regularly to ensure the best return on your investments. The same goes for your relationships with employees, suppliers and trades. If cuts are necessary, the challenge is to make them in a way that protects your natural resources and maintains your key company asset: the customer. One day the market will bounce back. Let's hope you haven't burned your vital resource so you will be poised to seize the day that is destined to arrive once again. **PB**

Paul Cardis is CEO of NRS Corp., a research and consulting firm specializing in customer satisfaction for the home building industry. He can be reached at pacardis@nrs.com.

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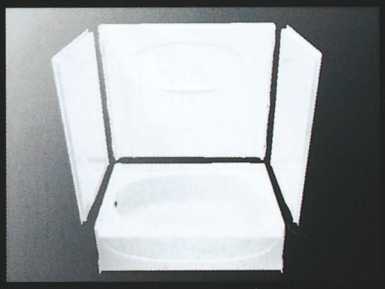

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>> BY **JOHN RYMER,** *NEW HOME KNOWLEDGE*

NEW HOME KNOWLEDGE

Protecting Your Backlog

With rising interest rates and a softening market, many builders face high cancellation rates as customers reconsider and or walk away from their original purchase decision. Although no builder is immune from cancellations, builders and sales agents can use several strategies to minimize cancelled customers.

GETTY IMAGES

Smart builders escalate relationships with their backlog customers by keeping in touch. No news is good news for customers who believe they may have made a bad decision when agreeing to buy a home. If customers don't hear from the builder, they might think there's no progress on the construction of the home — and wonder if there's a good way out of the deal.

At the same time, a sales agent does not look forward to calling customers who they think may be considering canceling their home. Again, they assume no news is good news. Many sales agents assume that by not calling the customer they have eliminated or postponed the chance of a cancellation.

It is very important to communicate regularly with every customer in backlog a minimum of once every two weeks. Ask yourself, from a customer's perspective, who would you rather disappoint: a company and a sales person who you barely know and haven't heard from, or a trusted friend and company representative who calls and keeps you abreast of the status of your home?

So how do you stay in touch and provide purposeful information for customers in backlog? Begin with the following premise to every phone call:

- I personally walked your homes this week and this is what I observed.
- I spoke to the builder (or superintendent) who is building your home this week, and this is what he/she said about your home.

Note there are no commitments for closing dates or even necessarily that any progress has been made on the home — just personal interest taken by the sales agent in providing an update to the customer. If little progress is occurring on the home, think about progress outside of construction, such as new schools that are opening; road work that is being completed; or new area restaurants or shopping.

If your market is seeing significant discounts since homes in backlog were sold, sales agents need to be armed with guidelines on how to deal with customers seeking a price reduction prior to closing.

Setting guidelines with sales agents doesn't mean giving them the keys to discount a home in backlog. If a customer says, "I see that the price of my home on the Internet has decreased, so what are you going to do for me if I go ahead and close?" The sales agent might say, "I understand that you expect to pay a fair price for your home in today's market. Let me discuss it with my division president/sales manager, and we will get back to you within 48 hours." By doing this, the sales agent is still the point person and the relationship is still in tact. **PB**

Smart builders escalate relationships with their backlog customers by keeping in touch.

John Rymer is the founder of New Home Knowledge, which offers sales training for new home builders and real-estate professionals. He can be reached at john@newhomeknowlege.com.

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HOW I LEARNED TO ... HIRE THE BEST PEOPLE

The Great Talent Search

Hiring the right people takes thought, patience and skill. Are you holding the right auditions?

Do you have great people working for you — people with great skills, a good work ethic, and great working relationships with their fellow employees? If so, kudos — it probably didn't happen by accident. If not, take an inventory of your hiring strategies. In a slowing and competitive market, having a quality staff gives you a definite advantage.

"Most builders look at this business as a land business," says Martin Freedland, president of Organizational Development Associates, a human resources consultancy with several home builder clients, based in Atlanta. "But next door, there's another builder on a comparable piece of land. And if you build a really cool product, within 90 days somebody's going to copy it.

"The thing that will really differentiate one builder from another will be the quality of their people. It gives a builder a strategic advantage to have the best people who are the best trained and who are the happiest. They will just do a better job."

Conversely, a mediocre crop of employees will cost you time and money. Think about it: you place ads, interview and pick someone. You spend time training and getting that person acclimated to the job. Then the problems start: not being dependable, not getting along with other team members, or just doing a bad job. Other employees complain about having to make up for the bad hire's slack. Some quit. Worst of all, your product and service is affected, which affects customer satisfaction and, in the end, your bottom line.

When builders are in a pinch, they can be short-sighted about these consequences.

"You've got a job coming up and you

PHOTOGRAPH: GETTY IMAGES

need somebody. You need somebody you don't have to train. You say you'll work out the problems next week if they don't show up," says Ira S. Wolfe, founder of Success Performance Solutions, a Lancaster, Pa.- based company that provides pre-employment evaluations and consulting services. Wolfe taught the class "Construction Management Jump Start and Hiring Competence" at the 2003 International Builders' Show.

"The problem is that the cost of hiring somebody is indirect. Research shows at least half an employee's annual salary and up to 100 percent is spent on a new hire. Even for fast food restaurants that pay seven bucks an hour, the cost to bring somebody on board and provide a minimum of training is $3,000."

It's worth it to spend time and energy on the front end of the hiring process to avoid the consequences of a bad hiring decision later.

Get the Word Out

Good hires start with smart recruitment.

"With the market we've had in housing for the last number of years, almost everyone you would want is working," Freedland says, "so they don't respond to ads. If you have a job and you're being paid decently and you haven't been abused, you're probably not going to start searching other builders' Web sites or Monster.com for jobs."

> It's **imperative** that the manager, CEO or whoever is doing the hiring actually be out there **networking** on a regular basis to know where the good people are.
> **— Martin Freedland**

The lesson: don't wait for good candidates to find you. Scout them out.

"It's imperative that the manager, CEO or whoever is doing the hiring actually be out there networking on a regular basis to know where the good people are," Freedland says. "You need a recruiting system that continually has the very best players in your geographical area on your radar screen.

"If you were to lose somebody," Freedland adds, "at best you get two weeks notice, and you can't replace that person with a first-round draft choice in two weeks. If you start scouting around after you get the notice, in most instances you're probably going to end up with a less-than-qualified person for that job."

Internal referrals are another good source. "Take your best people, set up a referral program and hope they refer their friends," Wolfe says.

"We really focus on referrals from existing employees," says Chuck Vassallo, CFO of Atlantic Builders in Fredericksburg, Va. "They know what Atlantic Builders is about, and they are better able to relate to the type of individual we're looking for."

Recruiting good people from other industries can be effective. Jeff Rutt, president of Keystone Custom Homes in Willow Street, Pa., used his experience buying his wife a piece of jewelry to seek out a prospective employee. "This gal was doing a phenomenal job. I kept her card and called her a couple of times over the past six months. Finally she said, 'Yeah, I'm ready to come in and talk.' We really want to keep our eyes open and always be aware of other people that could be interested in working for our company."

Building good relationships with colleges and trade schools can be another pipeline for good talent. Tom Schoedel, president of Atlantic Builders, says the company has looked to Virginia Tech because of its reputable construction management program. Interns were hired through a campus career fair — solid candidates for future careers in the construction industry.

Larger builders and industry associations are making colleges more aware of the opportunities in the home-building industry. If a college in your market has a construction, engineering or related program, keep a presence on campus and use resources to educate faculty about opportunities in the industry and your company (for more on this subject, see sidebar "Recruiting the class of 2007).

Know Who and What You Want

Knowing what kind of person your company needs is key. Not only do they have

to be able to do the job and fulfill what's outlined in a job description, but they should also fit the company's culture – and that includes working compatibility with the manager.

"A lot of people can do things," Freedland says, "but maybe they don't fit on the team. The greatest rebounder in basketball is Dennis Rodman, but he doesn't have a job. He has trouble playing on teams. But when he played for the Chicago Bulls with [Michael] Jordan, he won a bunch of championship rings. Change the team, change the coach, change the chemistry, and all of a sudden he's ineffective."

Also, certain personality types are a better fit for certain jobs.

"We're looking to match the personality with the position," says Schoedel of Atlantic Builders. "I come from a financial background, but you wouldn't want the accountant personality — that detail-oriented, very task-oriented personality — in the sales role where ego, drive and that desire to make a deal is more important. And you wouldn't want the sales personality in the accountant role. They'd go crazy."

Disposition and attitude are incredibly important.

"Employers should look at team/culture fit, even before the job skills," Wolfe says.

"You find that if people are motivated to learn, they fit well on the team and seem to be motivated by the culture; you can train them to do almost anything.

"People tend to hire on skills and fire on attitude," Wolfe adds. "You almost have to flip it around. All the failures that we hear about are people who have years of experience and training but didn't make it."

"Absolutely attitude comes first," says Schoedel. "A great example is Mr. Vassallo, our CFO. He didn't come from the construction industry. He came from telecommunications. His enthusiasm, his desire, his intensity and his strategic planning brought him to us."

BUILDERS HAVE TACTICS, TOO! 'YOU'RE HIRED!'

In Loganville, Ga., a builder's "Hire Night" strategy has enough elements of "The Apprentice" to gather the right employees for Jeremy York, founder and president of Presidio Homes. He created "Hire Night" as a way to get employees' help in saying, "You're hired!"

"I had some really great people working for me," says York, and "I wanted to figure out how could I bring the employees and the candidates together where we can all make a decision on who we're going to hire."

Though all employees are invited, the candidates' future coworkers get the most say.

It's a question and answer process that isn't just fun and games. Says York: "Questions include anything from 'Why do you want to come work for Presidio Homes?' to 'What has been your biggest career failure?'"

All employees ask a predetermined question; all candidates will have to answer each question.

At one point, the candidates and employees work together on a task that's timed. "I want to get them as stressed out as they can be within a 22-minute time period. But I don't want them to get so stressed out that they're not having fun. At the end of the day, the whole reason for putting them in a group setting is I want to see what they're made of."

Once the group task has been completed, employees are asked to vote for their first-choice candidate anonymously.

"You will have your mind made up by the end of the Q and A," says York. "But you will almost always change your mind by the end of the task. People are going to answer questions as well as they can and be relaxed. But when you put them in a work atmosphere, they change."

"We came out with 'Hire Night' about a year before 'The Apprentice' premiered," York says. "I'm looking for leaders, and so is Trump. But I'm not looking for corporate America leaders. I'm looking for people who will lead people, not just take the lead for a particular job."

Beware of Actors

The biggest mistake managers who hire make is to select an employee solely on gut feeling. This is not to say instinct shouldn't play a role in the decision. Wolfe says the problem comes in identifying whether a person is putting a good face on or talking a better game than they can actually play.

"Managers don't generally spend a lot of time learning to interview better, but candidates do," Wolfe says.

In an era of downsizing and at a time when people often change careers, many job seekers have been coached on interview and presentation skills. And candidates will generally do whatever it takes to avoid rejection.

"Even if they don't want to work for the company, they at least want to get the job offer," Freedland says. "Whether it's your high school prom or a job, people will avoid rejection."

Behavioral interviews and tests are a way to get a more objective assessment of what a candidate is really like.

Interviewers turn to several psychometric tests such as the DISC Profile Personality Test, Myers-Briggs personality type indicator, BERKE and Caliper, to name a few. Wolfe has trademarked

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an employee selection and performance management system called CriteriaOne.

Good testing instruments can be helpful in predicting behavior on the job and whether an individual will work well with the team.

"When we started looking at CFOs," says Schoedel, "we took my Caliper profile and we asked them, 'What would be a matching caliper to augment my deficiencies and short comings?' That's why we have a very personable and outgoing CFO."

Just don't make a hire based solely on test scores.

"It's an interview tool," says Freedland. "It will help you learn a lot more about them. But would you go to eHarmony and because they recommended you to somebody, meet them at the altar? There has to be face to face interaction, reference checking — a highly disciplined system is needed to make the right decision."

Have Multiple Rounds

The objective of a good interview is to get the candidates to be as honest as possible about who they are, so the hiring manager can answer the questions of competency, attitude and cultural fit.

"One theory is that the candidates should talk to a lot of people," Freedland says. "We don't subscribe to that. If you're going to work for someone, you really want to spend time with that person. The intimacy is so much higher."

Freedland also suggests conducting three- to five-hour interviews.

"This is after screening, reference checking and some sort of written third-party evaluation," Freedland says. "A whole lot of groundwork has been done before you invest this amount of time."

Why such a long meeting? Freedland says it takes about three hours to "get people's energy level down enough that they'll quit spinning things and tell you the truth."

"It's very friendly, very welcoming," Freedland says. "You're not beating them up with rubber hoses. It's just, 'Tell me more about yourself. I'd like to learn more of what happened here. Explain that to me.' The manager learns a lot.

"And at some point you'll get a candidate that will say, 'Well, I probably shouldn't tell you this, but ...' Now some of the warts start to come out. And they are important to know because there aren't any perfect candidates."

Get a Testimony

Before making a final decision, you have to find reliable references.

"You've got to be able to get past these people who say, 'I'm sorry, we're not allowed to say anything,'" Freedland says.

"The last thing you want to do is talk to an HR department a thousand miles away at some corporate headquarters," he adds. "They have no idea how good or not so good this person is. The person you really want to talk to is the manager right over that person."

Freedland recommends talking with a coworker and even tapping a third party to do the reference check. "For some reason," he says, "people seem to think if they tell it to a third party, it must be okay."

"I ask them to provide personal references," says Vassallo. "Sometimes I'll ask them Caliper questions about the person. You can get a very good feel for or an additional validation of what you think about that person."

And if the candidate has worked in the industry, there's an informal network of references.

"If it's a superintendent, you can talk to trades," Freedland says. "If it's a sales person, talk to the realtors and loan originators. There's such a network of people that will be able to help you get to know this person. But you're going to have to spend some time and energy doing it." **PB**

Class of 2007 Recruitment

There's no shortage of jobs in the home building industry. Steve Nellis, vice president of recruiting at Centex Homes, spoke to the importance of college recruitment at the Pacific Coast Builders Show in June.

"We need to build awareness on campuses of our industry, that we have great career opportunities," he said. "We have huge needs at all levels and talents — from trades to senior executives."

Nellis said one way to capitalize on the new crop of graduates is to provide scholarships, start name recognition early and be open minded to graduates' backgrounds.

"Faculty love scholarships. Students need them. So we are providing a $2,500 scholarship. Promoting the scholarship that's what's getting attention for us.

"I analogize it with the NBA and NFL. Do they wait until senior year to determine the top talent? They look at freshmen, sophomores and juniors. That's why we need to provide scholarships. We need those students to start thinking about us early, before they decide on another career. Who are the Lebron Jameses and the Dwayne Wades? It's time to identify the high potential recruits.

"And we need to be open to all students, no matter what degree. Look for the leaders in the organizations. Most construction management degree programs have an NAHB student chapter, and Sigma Lambda Chi is the honorary fraternity for construction majors. We're looking for those leaders — presidents and treasurers, as well as students involved in other professional organizations.

"Find the athletes. I love it when I find a student who is interested in working for me that is part of an NCAA team on campus. They are driven. They're hard workers. They understand team concept, and the hours don't scare them either."

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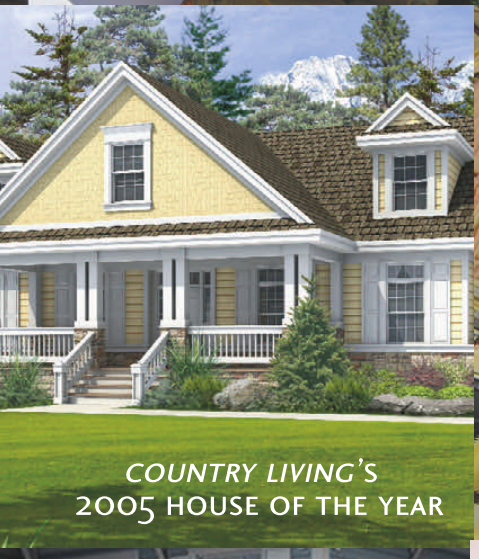

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>> **BY MARK JARASEK, SENIOR EDITOR**

Well-Oiled Efficient Machines

Study finds operating efficiently makes your business work

Builders participating in the most recent Harvard Distribution Study significantly downplayed the contribution that improved operating efficiencies have had on their bottom line growth. Yet it's precisely those efficiencies that might end up helping pull them through the current market doldrums.

Respondents to a Joint Center for Housing Studies survey were among the country's top 150 builders who reported closings of 500 or more single-family homes in 2004. Although the study's authors had noted analysts' predictions of an ensuing downturn, the actual study was conducted and released before the market started to deteriorate.

When asked to identify what contributed most to financial performance success, more than half of the respondents pointed to strong housing market fundamentals and nearly a third cited land assembly strategies. Another 13 percent considered improved customer satisfaction as key to profitability. In contrast, few respondents attributed their success to shorter construction cycles, savings on product purchases and on-site construction costs, and other operational efficiencies.

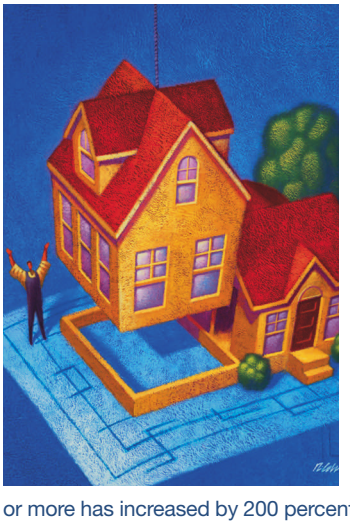
However, authors of the study noted that the adoption of innovative practices related to product distribution and assembly were improving the operational performance of large builders along such dimensions as construction cycle time and customer satisfaction.

The four innovative operating practices identified as contributing most to increased efficiencies included coordination with subcontractors, component preassembly, supplier installation and supply chain management, which covers a broad range of practices.

A link to the entire Harvard Joint Center for Housing Studies report "The Evolving Home Building Industry & Implications for Consumers" is available from this article online at www.ProBuilder.com.

>> **BY RHONDA JACKSON, STAFF WRITER**

Supersize It



Americans don't just want their food super-sized — their homes are getting bigger as well. The sizes of newly constructed homes have grown significantly over the last 30 years. According to the U.S. Census Bureau, the number of new homes with 2,400-2,999 square feet has grown 75 percent. Homes measuring more than 3,000 square feet doubled in amount from 1978 to 2005, from 143,000 homes to 286,000 homes.

Although the number of new homes with 2½ bathrooms or more has increased by 200 percent, the number of new homes with 1½ bathrooms has decreased by 81 percent.

The tables here chart the super sized house movement over the last three decades. The data tracks the number of bathrooms and bedrooms and square footage for new homes sold in 1978 and 2005.

SQUARE FOOTAGE	1978	2005	% of Market		Percent Increase/ Change
			1979	2005	
Under 1200	42,000	32,000	5	2	-23.8%
1200-1599	177,000	204,000	20	16	21%
1600-1999	204,000	272,000	23	21	33.33%
2000-2399	167,000	234,000	19	18	40.1%
2400-2999	146,000	255,000	17	20	74.7%
3000+	143,000	286,000	16	22	100%

BATHROOMS	1978	2005	% of Market		Percent Increase/ Change
			1979	2005	
1½ bathrooms or less	181,000	34,000	23	3	-81%
2 bathrooms	419,000	458,000	51	36	9.3%
2½ bathrooms	153,000	464,000	19	36	203%

BEDROOMS	1978	2005	% of Market		Percent Increase
			1979	2005	
2 bedrooms or less	74,000	130,000	9	10	75.6%
3 bedrooms	523,000	612,000	64	48	17%
4 bedrooms or more	219,000	514,000	27	42	134.7%

Proactive Solutions

>> BY BILL LURZ, SENIOR EDITOR

Market Downturn Deepens

Investors played a big role in the housing industry's slump in the early '90s. Their effect on today's down market is even greater.

The continuing collapse of housing markets across the country is not uniform; Texas and the Carolinas are bucking the downward trend. In many ways, this slowdown is similar to what happened between 1990 and 1992, although that one had a national economic recession to deepen it. We've avoided that this time — so far.

Fannie Mae chief economist David Berson points out that years of frenzied housing investor activity from 1987 to 1989 preceded the 1992 housing slump. Markets in the worst shape now had investors drive housing price increases to unsustainable rates. And today, "the investors have not only stopped buying, they are selling," says Berson. "That's why inventories and cancellation rates are up dramatically. The markets in most trouble are those that had the most investors, without other factors to offset it such as good job growth, in-migration and strong household formations. Those markets have the potential for significant declines in housing activity and prices."

Another set of housing markets have a different problem: weak economies. You won't see as big a drop in housing activity there as in the investor-driven markets. "There weren't many investors in southern Michigan," Berson says, "but there's the potential for a long housing downturn there."

Berson predicts a drop in home sales this year of 10 to 15 percent, followed by a further decline of 5 to 7 percent in 2007.

"In the early 1990s, we had five years where price gains averaged only about 2 percent a year, well below the rate of inflation," Berson says. "The good news today is other parts of the economy are growing well. That should offset the damper of a housing slump. But growth will be below-trend because housing is slowing the national economy."

MANAGEMENT CONSULTANT JOHN BURNS recently produced a housing cycle barometer by calculating the ratio between home prices and income levels, then comparing those ratios today against the 25-year history of markets across the country. What Burns found raises an alarm: only 13 markets fall below their median affordability level. Three are on median and 84 are above it.

The four inexpensive markets — Pittsburgh, Cleveland, Cincinnati and Indianapolis — have stagnant local economies. Nine markets — New York; Washington, D.C.; Los Angeles; Seattle; Portland, Ore.; Baltimore; Edison, N.J.; Nassau, N.Y.; and Naples, Fla. — have worse affordability today than in the early 1980s, when mortgage rates were above 18 percent.

The map shows the most overpriced markets are along the coasts, where supply constraints aggravate the situation. The barometer ranges from 0 to 10; Burns categorizes markets between 7.5 and 10 as potential housing bubbles, those from 5.0 to 7.5 as overpriced in comparison to history, and 0.0 to 5.0 as no housing bubble.

However, Burns cautions, with sales slumping, prices are probably past their peak everywhere except North Carolina and Texas, where houses still sell fast. "[They] have strong economies and didn't see the investors that drove up prices elsewhere," Burns says. "But now there are signs investors are flocking there because those are the only places it's possible to flip houses" he says. "A lot of money was raised for real-estate investments, and there are still people trying to place it."

HOUSING CYCLE BAROMETER

- No Housing Bubble, 0.0 to 5.0
- Overpriced in Comparison to History, 5.0 to 7.5
- Potential Housing Bubble, 7.5 to 10.0

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>> BY **BILL LURZ,** *SENIOR EDITOR*

GOVERNOR'S HOUSE IS THE LARGEST MODEL — 2,430 square feet and $255,300 — at suburban Chicago builder Bigelow Homes' Hometown Aurora development in Aurora, Ill. It's not modular, and builder Perry Bigelow believes it's a better buy because it's site-built.

Mod Moves Up

Modular manufacturers are courting home builders with products — and quality — light years beyond the double-wide.

Keep an eye on the Gulf of Mexico — not because another hurricane is headed our way, but because the future of American home building may be emerging there. The Gulf Coast housing crisis created by Hurricane Katrina is churning up innovation on a broad scale, and the solutions taking shape in Louisiana and Mississippi may eventually land at your door, wherever you do business.

A consensus is emerging in the Gulf that plant-manufactured modular housing will be a major player in the region's recovery because there isn't much labor supply to support traditional on-site home-building operations.

DAVID BAUER OF GURNEE ENTERPRISES built Magnolia Square modular development in Fort Pierce, Fla. The homes came out of Nationwide Homes' plant in Arabi, Ga.

> "WE CAN ALWAYS GET THE HOUSE UP FASTER, AND THE FARTHER OUT OF A METRO AREA THE SITE IS, THE BETTER WE COMPARE."
> Mike Draper, Palm Harbor Homes.

Already, modular manufacturers like Champion, Palm Harbor Homes, Patriot Homes and others are stepping up to meet the challenge by treating it as an opportunity to prove their ability to act as suppliers of modules to traditional home builders, moving a big chunk of what normally takes place at the site into a controlled environment in a factory.

The labor shortages in Gulf Coast construction trades are extreme. "On the Mississippi coast, if you want your home rebuilt, you can expect to pay $300 a square foot," says Thayer Long, executive director of the National Modular Housing Council. "This is in an area where the average home sold for $100,000 before Katrina. Obviously, they'll have to find other ways to build workforce housing, which is what they need most to rebuild the local economy. Modular housing is the answer," he says.

Let's take a closer look at what modular manufacturers can — and can't — do for you and your home buyers today.

Pros & Cons

Looking at the speed of modular production, you might be tempted to immediately pull out a pen and shout, "Sign me up!" But it's not as simple as that, especially if you're a production builder.

"Modular housing has great benefits for custom builders and small firms that build on scattered lots," says Palm Harbor Florida division president Mike Draper. "We can always get the house up faster, and the farther out of a metro area the site is, the better we compare. Where the trade crews have to drive great distances to get to a building site, it's better to ship modules."

This is especially true in the Northeast, where houses are built on basement foundations or crawl spaces and traditional architectural forms make it easy to adapt floor plans to modular production. After all, it's easy to fit a big, two-story Williamsburg colonial into four or six modules. "We can match elevations with any site builder," says Mike Wnek, Palm Harbor vice president of marketing. "We're able to achieve the steep roof pitches many of them want because we can now ship the roof hinged and folded flat, then tilt it up to the desired pitch on-site."

But the value equation gets a bit more complex for a production builder, especially if the firm is doing business somewhere across the Sun Belt, where most houses are built on slab-on-grade foundations and gabled roofs are less common. "The big production builders, especially the public companies, can match our costs," says Draper. "After all, when they go up and down a street, there's not all that much difference between that and what we do in a plant. When you figure out what it

HOW FAST ARE THEY BUILT?

SPEED IS MODULAR HOUSING'S STRONG SUIT. Work is performed quickly and precisely in the plant in uniform operations that benefit from a controlled environment, unlike job sites where weather often affects the pace.

To get a feel for how a modular plant operation compares to that of a top-flight production builder, we asked Chicago builder Perry Bigelow, chairman of 2005 *Professional Builder* Builder of the Year Bigelow Homes, to share his construction schedule for a typical house in the Hometown Aurora development in Aurora, Ill. We matched it against the production schedule for a similar home moving through the modular plant of former National Housing Quality award winner Palm Harbor Homes in Plant City, Fla.

Because site preparation would be the same whether a house is built on-site or in a plant, we try to put them on equal footing by starting the clock when Bigelow begins the firm's 11-day framing stage and Palm Harbor begins flooring and framing work in the plant. Here's what we found:

Bigelow	Palm Harbor
Day 1 Framing	Day 1 Floor and Framing (factory)
Day 16 Mechanicals	Day 17 Crane Set/House Set
Day 32 Drywall	Day 22 Interior Final Trim Out
Day 35 Exterior	Day 41 Carpet and Hardwood Floor
Day 47 Trim	Day 55 Closing
Day 82 Closing	

Bigelow's schedule, which hits closing in 82 calendar days after framing began, allows more time than necessary for a number of tasks. "We've got some 'air' in it to allow for rain days," he says. That's the reality of on-site operations, especially in an area with varied weather like northern Illinois.

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THE VALUE EQUATION GETS A BIT MORE COMPLEX FOR A PRODUCTION BUILDER, ESPECIALLY IF THE FIRM IS DOING BUSINESS SOMEWHERE ACROSS THE SUN BELT.

costs us to deliver the modules and set up the house, they can get down there with us on cost per square foot. And a lot of the public builders are getting into plant production themselves. They are building panel plants and using trussed roofs and floors."

For a production builder in the Northeast or Midwest, going modular is a tough call. In Texas, Florida or Arizona, it's even tougher because it requires conversion to perimeter foundations and crawl spaces. Modules can't be built with only three sides to fit on a slab-on-grade foundation. "All of our structures must have a wood floor," explains Palm Harbor's Steve Reyanga, "or a floor of some kind. I've got our engineers looking for ways to build floors out of steel and integrate them into our chassis assembly for shipping. That way, we'd only have an axle assembly that would have to be returned to the plant. But right now, it has to be 2 by 10 floor joists or a trussed floor."

Reyanga points out that Palm Harbor is headquartered in Dallas and continues to grow fast in Texas, so it's not impossible to sell crawl spaces and wood floors even in a market that is perceived to be solidly slab-on-grade. "We're seeing a trend among custom builders in Dallas and Fort Worth to go to wood floors," Reyanga says. "It's a better floor — softer, easier on the feet. And Texas is spending billions of dollars on foundation repairs every year because of expansive soils. The best custom builders here are sinking pilings down to 30 feet, even under concrete slabs."

Palm Harbor's value equation is further complicated by having 30 percent more wood in its houses than those of an average production builder in North Texas. "We sheath our entire building with ¾-inch OSB sheathing. Our walls are 2 by 6 in most cases, and our studs are 16 inches on center," Reyanga says. "In Florida, we don't even offer 2 by 4 walls because we need six-inch walls to meet the 140 mph wind resistance required in coastal counties, and 90 percent of our business in Florida is within 15 miles of the ocean.

"You have to remember that we have to transport these modules down the highway and then lift them with a crane. You know what happens to drywall if that module is not stiff? It cracks. So we sheath the entire structure, including meeting walls."

Chicago builder Perry Bigelow, who builds about 250 houses a year, says it would be tough for a production builder to justify putting all that wood in a house, especially if the company operates at an entry-level price point. "Those 2 by 6 walls and all that sheathing are costs we don't have. The crawl space foundation is a wash against slab-on-grade, but the wood floor that sits on top of the foundation is extra. These are the kinds of things that chew up the advantage they have by operating in a plant. At a higher price point, you can justify it because all these

GLOSSARY OF TERMS

MANUFACTURED HOME: Any home produced in a factory is, in fact, a manufactured home. But what most people in the industry refer to when they use this term is a home built and inspected entirely in a factory under the federal building code administered by the U.S. Department of Housing and Urban Development (HUD). It may be single- or multi-section and is transported to the home site and installed. It is not subject to local building codes, only to the zoning that often restricts where the HUD-code manufactured homes are allowed.

PANELIZED HOME: This is a home made of panels or wall sections built in a plant, shipped flat, then assembled on a foundation on-site. An "open" panel arrives unfinished, inside and out. A "closed" panel is complete when it leaves the plant, including windows, doors, wiring, inside surface and outside siding. Panels can be designed to serve as wall, floor and roof surfaces. Such homes must meet the state and local building codes where they are sited. Many production builders use panelization to varying degrees to reduce the on-site labor component in a home.

PRE-CUT HOME: This is the term for homes in which building materials are factory-cut to design specifications, shipped in a kit of parts, then assembled on-site. Such kits are sold directly to consumers. Popular versions include log homes, A-frames and geodesic dome homes. They must meet state and local building codes where they are erected. This form requires the most on-site assembly.

MODULAR HOME: This is a home created by assembling two or more factory-built modules — boxes really— that may contain several rooms. The units are built in a factory almost to completion, trucked to the site and assembled using a crane to lift each module into place. Modular homes can be virtually any size. Townhouses and multi-family buildings can also be assembled. Modular homes fall under the auspices of whatever model building code is enforced in the jurisdiction where the home is sited, such as the BOCA National Building Code, ICBO Uniform Building Code, Southern Standard Building Code, or the IRC One- and Two-Family Dwelling Code.

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"IF WE WANTED TO MODULARIZE, WE'D HAVE TO REDESIGN TO TRY TO MAXIMIZE THE COST SAVINGS AVAILABLE IN MODULAR. THAT WOULD ADD ANOTHER DESIGN CONSTRAINT." **Perry Bigelow, Bigelow Homes**

PHOTOGRAPH COURTESY OF NATIONWIDE HOMES

THE 129-LOT MAGNOLIA SQUARE features one- and two-story homes from 1,182 to 2,271 square feet priced from $207,990. All the homes have covered front porches, hardwood flooring and window treatments.

things add quality to the product, but entry-level buyers can't afford 2 by 6 walls."

Bigelow points out another subtle advantage that site builders have: the freedom to design without the constraints of fitting rooms into module dimensions. "Our houses in Home Town Aurora are designed to maximize useable space. We have very few halls, and a lot of rooms that 'borrow' space from adjacent rooms. We never had to worry about fitting a house in a module. If we wanted to modularize, we'd have to redesign to try to maximize the cost savings available in modular. That would add another design constraint."

On the Upswing?

Even with these issues, modular housing is likely to look better to many builders, even small production companies, in the near future as site labor becomes scarcer and more expensive. Add to that the possibility that immigration reform legislation might close the border with Mexico to illegal immigrants, which would certainly have an effect on labor costs. Nationwide Homes director of marketing Reed Dillon believes that bodes well for his firm, which markets modular along the east coast.

"With our systems, it's almost always about labor when we sign up a new builder. Trades seem to always be in short supply. We usually figure a plant will have an effective marketing

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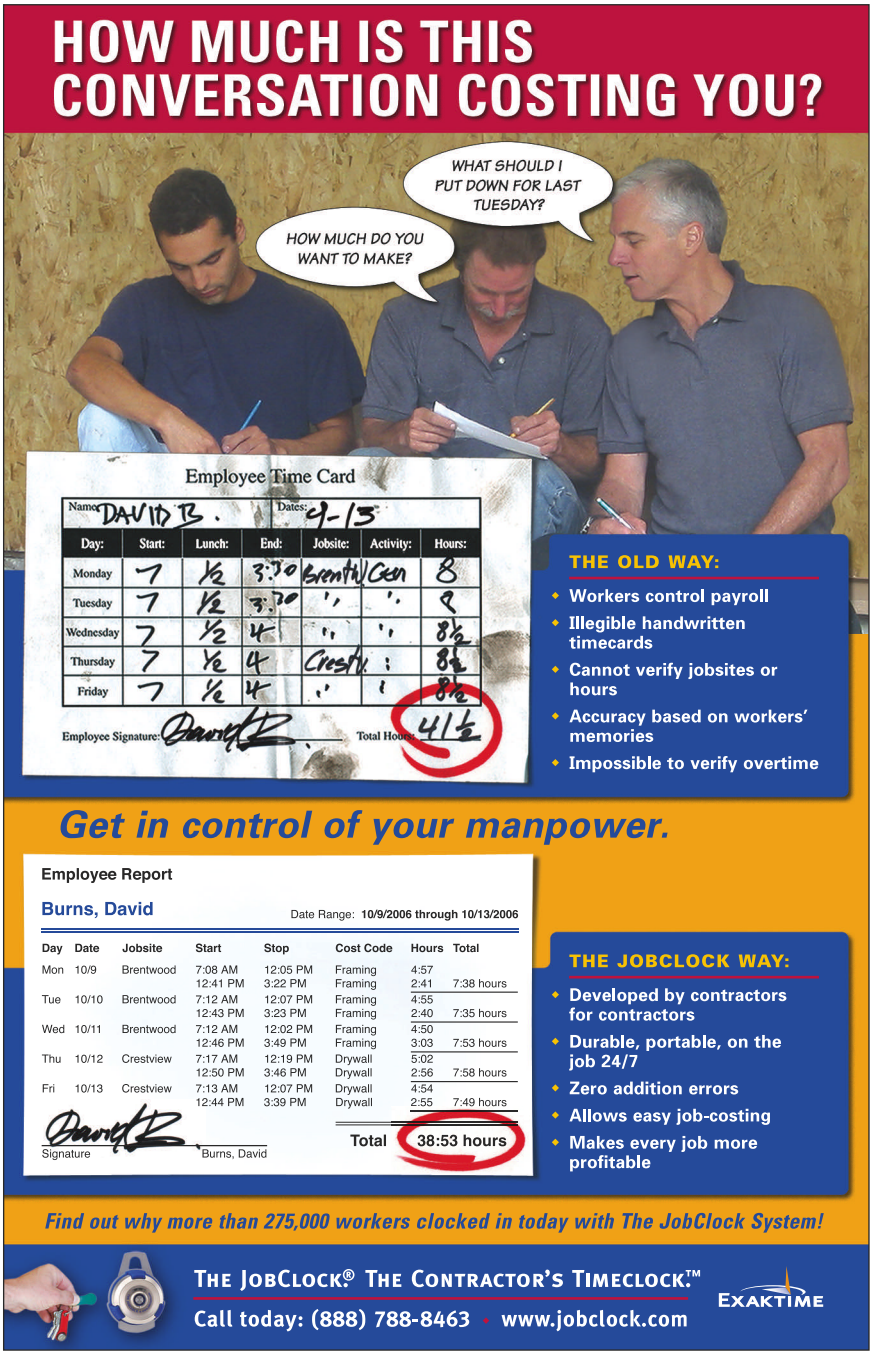
MODULAR ALLOWS US TO DO ATTACHED HOUSING, MULTIFAMILY, EVEN MIXED-USE, SO WE CAN HELP SMALL PRODUCTION BUILDERS TO BUILD A LARGE NUMBER OF UNITS FAST. **Mike Wnek, Palm Harbor Homes**

radius of 300 miles before you start to see cost issues," he says. But we are shipping modules from our Arabi, Ga., plant 800 miles to builders in Key West.

"There are no available trades in the Keys," he says, adding that coastal markets with hurricane exposure are where Nationwide compares best to site building. "Our ability to build on pilings is strong, and our product is most efficient and attractive at the high price points you see in coastal markets. We customize more than anybody," Dillon says. "CAD revolutionized the modular industry."

Wnek says modular will eventually be a secret weapon for small production builders trying to compete with the big publics, even at affordable price points. "Modular allows us to do attached housing, multifamily, even mixed-use," he says. "So we can help small production builders to build a large number of units fast, turn the inventory in high-density developments, and our builders can still offer a lot of customization. That's what CAD and a computerized systems building operation can do for you, and the big public companies can't match it."

It will certainly be interesting to watch how this plays out over the next several years, especially in the Gulf Coast, where modular builders have been handed a perfect opportunity to prove their viability at every price point. **PB**



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Stop by *Professional Builder's* Show Village at the International Builders' Show February 7-10 in Orlando to check out modular homes first hand. The three-home showcase will highlight Nationwide's and Palm Harbor's work in the modular home market.

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INSIDE & OUT

Open Invitation

A well-planned great room can handle everyday living or guests.

Some builders still call it the family room, while others have adopted the contemporary term great room. Labels aside, industry experts agree this multipurpose space is here to stay. In modestly priced production homes or high-end custom residences, today's buyers are expecting more from it in function and style.

"It really doesn't matter what you call it," says builder Jay Fechtel, president of The Fechtel Company in Tampa. "This is the place where the family is hanging out. In terms of usage, this is definitely one of the most important rooms in the house for our buyers."

The typical great room is an open, informal living space at the back of the home that has both a physical and visual connection to the kitchen and informal dining area. Today's most successful great rooms allow the homeowner to relax, watch television, entertain, supervise children's homework, visit with the cook in the kitchen, or simply contemplate their outdoor environment.

"The great room is the social center of the house," says Orlando-based interior designer Kay Green, a recognized industry leader in merchandising model homes for builders in all price ranges throughout the eastern, central and southern U.S.

"The great room has really emerged in our market in a big way over the past five years," says architect Robert Hidey, whose residential architectural firm Robert Hidey Architects in Irvine, Calif., designs multi-family, single-family and custom homes for some of the country's leading builders. "We include one in just about every set of plans that we do. People just naturally gravitate to the kitchen and the space adjoining it — the great room. No matter what you do you just can't get them out of there."

Go With the Flow

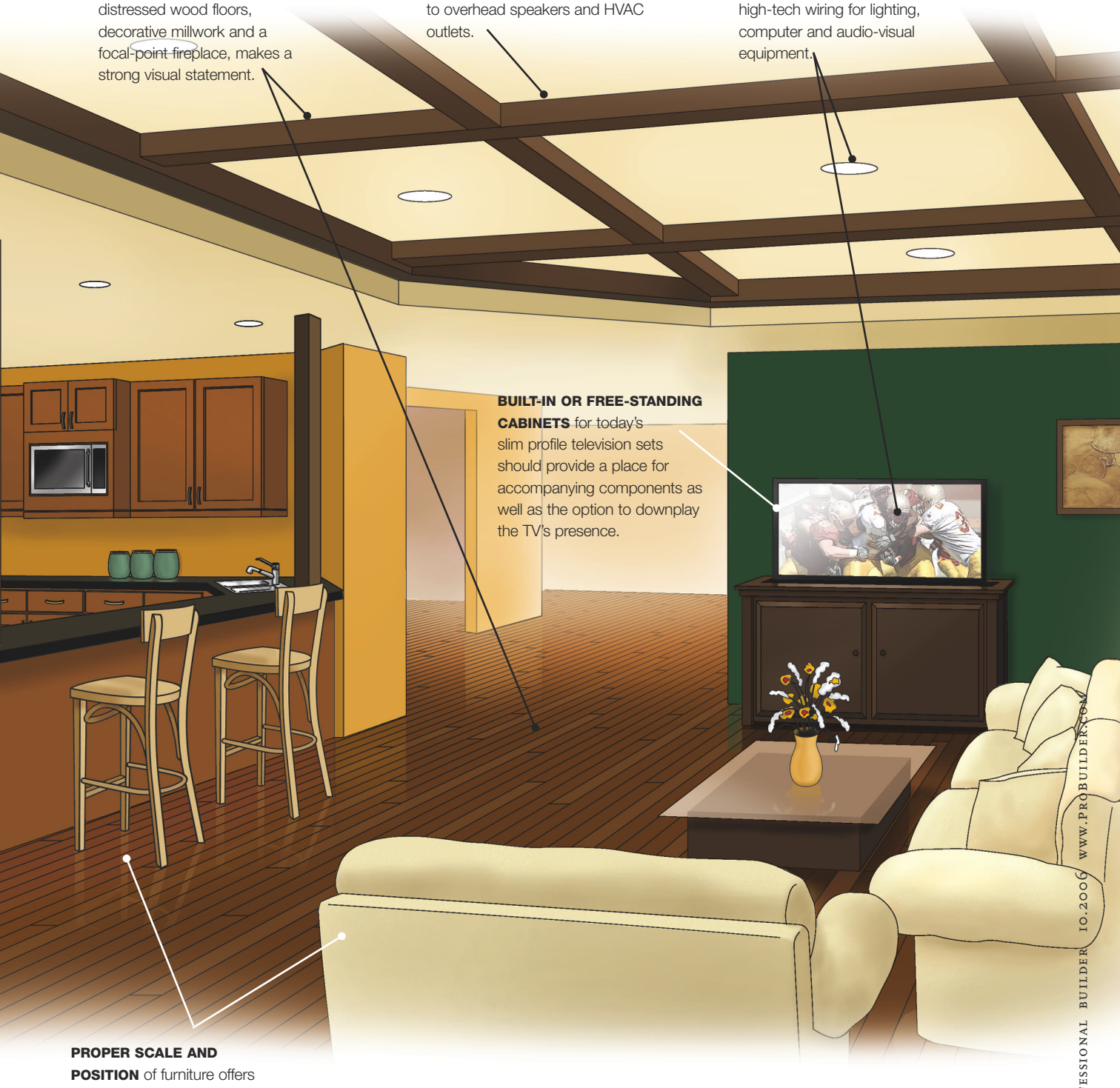
"Even though it's located at the rear of the home, the great room's function as a connection space is very important," says Green. "Traffic is constantly flowing through it to some other part of the house."

Fechtel agrees. "From a horizontal perspective, the most important element of the great room is its link to other spaces, particularly to the outdoor living area."

BOTH A VISUAL AND PHYSICAL CONNECTION to other key areas, including the kitchen and outdoor living space, is essential.

PAY ATTENTION TO TRAFFIC FLOW to maintain good circulation throughout the space.

>> BY **ANN MATESI,** *CONTRIBUTING EDITOR*



The great room is also the primary gathering spot for the family. "Great rooms can be difficult to design for because of all of the things that you have going on in there," says Green. Fixed elements such as fireplaces and windows pose a significant challenge for furnishing the space without impacting traffic flow through it.

"I'm also seeing an increase in secondary great rooms in homes these days," she says. "The primary great room continues to be that open space adjoining the kitchen, but there may be much less emphasis on TV viewing in here. This is more often being handled by a smaller dedicated space at the back of the home or on the second floor, but not necessarily a home theater."

The popular acceptance of the combined great room/kitchen as the principal entertainment venue in the home has led to another interesting trend, says Hidey. Small-scale, secondary cooking facilities — in either a corner of the kitchen that is blocked from view from the great room or in a separate but adjoining nook or hallway — are becoming more common and hide meal preperation clutter.

PHOTO BY GEORGE COTT

FURNITURE ARRANGEMENT in the great room, right, should create one or more conversation areas with a definite focal point, such as the fireplace in this project by builder Jay Fechtel. (Below) Having an indoor/outdoor connection is an important element of any successful great room, says architect Robert Hidey.

PHOTO BY JEFF SMITH AND STEVE WALKER

Below: Ventral Park by Bennett Homes
Below right: Magnolia Park by
Steve Burnstead Construction

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- Interesting architecture

Due to extreme moisture caused by the high rainfall in the Pacific Northwest, successful developers in the state of Washington are embracing innovative building materials. Among those leading the way is Andrew Miller, director of The Dwelling Company.

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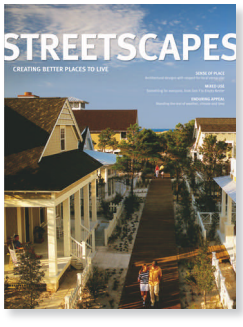

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Turn Down the Volume

Builders have found that one of the drawbacks to a wide-open great room is poor sound quality. A high ceiling and few walls permit ambient noise from adjoining rooms to compete with conversation or TV in the great room.

"It's a good idea for builders to address the problem of excessive sound transmission in open spaces such as great rooms," says Mike Comito, vice president of design and construction for Marshall Building Enterprises, a Denver-area residential construction firm. "You can really make a big difference by paying attention to the insulation package that you offer."

Comito recommends insulating not only exterior walls, but also ceilings, interior walls and floors. "Most people do not realize how much noise actually originates from the flooring." Ceiling details such as coffers and beams also help by dampening sound from above.

Details to Complete the Look

Natural wood for ceiling beams, millwork and floors is popular in all markets, say the experts. Wide-plank, distressed wood flooring has replaced tile as the No. 1 choice for the great room for his buyers, says Fechtel. He also recom-

Technology for the Multipurpose Room

"The better builders have come to understand that residential technology is an important facet of what an owner wants to get out of their house. The great room is a good example of where that all comes together," says Thad Glavin, managing partner with LouisClark.

The Chicago-area technology company works closely with builders, architects and interior designers and even hosts periodic roundtable discussions to keep them up-to-speed on the latest trends and equipment for the residential market. "We educate them so that they can pass the possibilities on to their clients who they then refer to us."

Recently, LouisClark opened a new high-tech headquarters, training and staging facility in Evanston, Ill., appropriately called the Experience Center, which provides the end client with a peek at just what's going on behind the walls of their home. Visitors can actually step between walls that have been constructed with a 36-inch gap between them in room mock ups, permitting them to visualize — wires and all — exactly what's involved in the process of integrating technology into a home.

"Anyone can go to the store and buy a bunch of equipment and plug it in. Creating a seamless installation that is easy for the homeowner to operate is the challenge," says Glavin.

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PHOTO BY GEORGE COTT

INTERIOR ARCHITECTURE, including columns, archways and beamed ceilings, provides definition to the great room space without restricting views.

mends using different finishes in the great room than in other areas of the house.

"Interior architecture is a very big element in great rooms today," says Hidey. "One reason is that the quality of the materials that are available has really been dialed up in recent years.

"Not only does the Internet provide more resources for products than ever before, but manufacturing processes for everything from doors and millwork to cast-stone fireplace mantles are so much better that you can get things made today that you couldn't five years ago. You can take houses at all price ranges to a more authentic level architecturally and remain competitive in cost."

Fine Tune Your Focus

In most cases, great rooms feature several focal points that change depending on how the space is being used at the time.

"The great room may not necessarily contain the largest TV in the house," says Fechtel, "but in most cases it needs to have one somewhere."

The television's location and its relationship to seating is something that should be considered while the great room is still in its design stage, recommends Thad Glavin, managing partner with LouisClark, an Evanston, Ill.-based company that provides custom technology and entertainment systems for residences.

Don't overlook the need for some type of closet or storage space to hold the supporting audio/visual equipment, he recommends. Consulting with a technology specialist during the design stage may avert costly changes down the road. **PB**

LOG ON To read more about this and other tips for building better rooms, visit us online at **www.ProBuilder.com/plansandprojects**

Great-Room Basics

Kay Green of Kay Green Design, a national interior merchandising firm based in Orlando, offers these tips for great-room success:

- Include media features; comfortable seating in one or more defined conversation areas; a fireplace; a connection to the kitchen/breakfast area; and outdoor views and access.
- Drywall built-ins are out; opt instead for cabinetry-style entertainment centers or consoles to display the flat-screen TV in the great room.
- Painted accent walls are a good way to add character to an open space that does not have clearly defined boundaries.
- Natural finishes and rich stains for wood floors, ceiling beams and millwork add warmth to a room.
- Shades of brown, blue, red and green have been popular. The Florida and the Southeastern markets prefer brighter colors and higher ceilings, while Midwestern buyers tend to be more conservative in color choice and drama.
- Textured rugs and upholstery will help mitigate noise in open spaces with volume ceilings.

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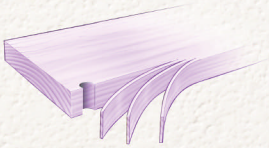

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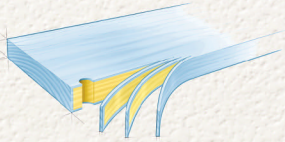

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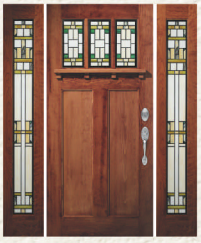

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A recent survey[1] shows increased structural strength, improved comfort and increased energy efficiency are top-of-mind with new home buyers – and they're willing to pay more to get more.

Government organizations and policy makers are starting to bridge the gap between what home buyers want and what homebuilders build by paying closer attention to the benefits of controlling air movement through the building envelope.

The United States Department of Energy's ENERGY STAR® program recommends making homes more airtight to improve energy efficiency, comfort and indoor air quality while preventing mold infestations, wet attics and ice damming.

American Lung Association® Health House® guidelines require homes to be constructed more airtight to improve energy efficiency and prevent unplanned moisture movement and state:

> "...Although many stories in the media attribute indoor air quality problems to houses being built too tightly, the reality is that homes need to be as tight as practical. Air leaking into and out of homes has created many of the problems. Moist air leaking out in cold weather can condense on wall and attic surfaces, creating mold growth and in some cases structural decay. This is a direct result of the home not being tight enough. Moist air leaking into a home in hot humid weather can have the same effect on finished surfaces of walls. Air leaking into a home from an attached garage has been shown to be a significant source of carbon monoxide in homes..."

Interest in the United States Green Building Council's Leadership in Energy and Environmental Design (LEED®) programs is growing daily. LEED standards provide a framework for assessing building performance and meeting sustainability goals. Based on well-founded scientific standards, the LEED program emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

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continued on page 4

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Warm attics also melt the bottom layer of snow on the roof and the water runs down to the gutter where it refreezes. Shingles get lifted. Icicles break and eaves fall off, posing a risk to occupants and guests. Energy is wasted.

COMFORT FOAM® insulation in the attic or on the ceiling stops uncontrolled air leakage to eliminate ice damming and keep energy costs under control.

Self-adhering COMFORT FOAM® closed-cell polyurethane conforms to any shape, will not shrink or sag over time, and creates a seamless, air- and water-impermeable barrier that effectively separates conditioned living space from unconditioned attic.

In cathedral ceiling applications, polyurethane foam does not promote deterioration of the existing roof sheathing because it does not allow condensation at the foam/deck interface. Some traditional insulation systems have high water absorption and hold moisture against the underside of the sheathing.

COMFORT FOAM insulation can be applied without roof ventilation because it is fully adhered and air impermeable. Moisture does not condense between the insulation and the sheathing.

In warmer climates, flip the wet attics issue on its head. Warm, moist air enters the house at the foundations and condenses on the basement ceiling or first floor, often causing mold, mildew and premature deterioration of building materials. According to the United States Department of Energy, 20 percent of energy loss in residential structures can be attributed to uninsulated foundations.

COMFORT FOAM® insulation for foundations has been tested by the National Research Council of Canada[1] and found to be effective in reducing moisture and thermal related problems associated with uninsulated foundations. These issues include cracking, shrinkage, wetting and drying (mold) problems most associated with uninsulated foundations.

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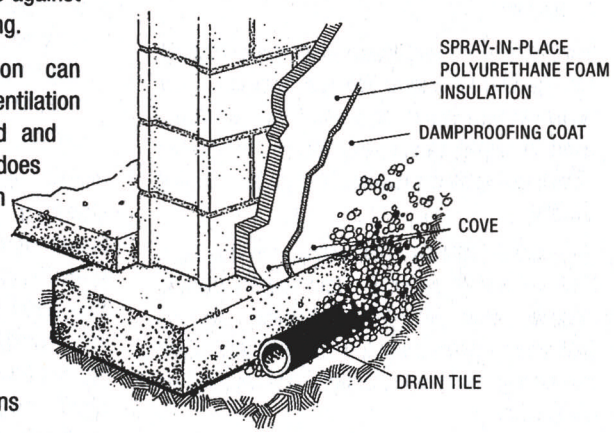

1 NRC-CNRC In-situ Performance Evaluation of Exterior Insulation Basement System (EIBE) - Spray Polyurethane Foam Summary Report

Controlled Air Movement Reduces Mold Risk

Even the names are just a little frightening: Strachybotrys (Black Mold), Aspergillus, Chaetomium, Pennicillium. These strains of mold can cause health problems for occupants and insurance headaches for builders. In 1999, the Mayo Clinic reported 37 million cases of sinus infections in children caused by mold exposure.

In order to survive and thrive, mold requires an ambient temperature between 40 and 100 degrees Fahrenheit, 60 percent or higher relative humidity, oxygen, a food source and, of course, spores.

The work we do on buildings affects temperature (condensing surfaces and insulation) and air movement (infiltration/exfiltration and air sealing).

Air migration has the ability to transport a lot more moisture into and through the building envelope system than occurs through vapor diffusion alone. Air barrier systems have been proven to substantially reduce the amount of moisture that passes through the building envelope systems.

COMFORT FOAM® insulation and air barrier has no nutritional value and is not considered a food source. Closed-cell polyurethane eliminates condensing surfaces, reduces moisture and eliminates air movement within the wall cavity.

Closed-Cell Spray-Applied Polyurethane Foam (SPF) Excels in Whole-Wall Thermal Performance Testing

TEST RESULTS SUMMARY – ARCHITECTURAL TESTING INC. (09-01-06 valid through 08-06-10)

	Exterior Temperature (Deg F)	Interior Temperature (Deg F)	Pressure (In WC)	Overall Thermal Resistance	Air Flow	Heat Flow (BTU/hour)
No wind	25.03	70.00	0.026	15.695	0.00	188.210
15 mph wind	25.01	70.01	0.114	13.643	0.36	216.623
15 mph wind	-14.99	70.00	0.125	12.384	0.53	450.753
15 mph wind	70.01	115.01	0.096	11.521	0.62	256.522

Whole-wall thermal performance testing conducted on behalf of the Spray Polyurethane Foam Alliance (SPFA) by Architectural Testing, Inc. shows that wall assemblies that include closed-cell spray-applied polyurethane foam (SPF) insulation deliver superior insulation performance.

For the tests, performed in accordance with *ASTM C 1363-05 Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus*, a series of wall assemblies was constructed using various combinations of insulating materials and weather barriers. Each specimen was tested in a guarded hot box for thermal resistance performance, including the effects of air leakage. A pressure differential was maintained throughout all the tests to induce air leakage through the system and simulate real-world conditions.

The test specimens were built with 2 x 4 framing members 16-inches on-center, with no exterior weather barrier. The exterior sheathing was half-inch polyisocyanurate board and the interior sheathing was half-inch gypsum board. 1.5 inches of closed-cell SPF comprised the cavity insulation.

The concept of whole-wall thermal performance testing was developed by Oak Ridge National Laboratory (ORNL) in 1994, with the goal of a nationally-accepted procedure for estimating the whole opaque wall R-value (whole-wall R-value), independent of system type and construction materials. Whole-wall R-value includes the thermal performance of not only the clear-wall area, with insulation and structural elements, but also typical envelope interface details, including wall/wall (corners), wall/roof, wall/floor, wall/door, and wall/window connections. Results from these detailed computer simulations are combined into a single whole-wall R-value estimation and compared with simplified center-of-cavity and "clear wall" R-values.

HOW DOES CLOSED-CELL SPF'S PERFORMANCE COMPARE WITH TRADITIONAL SYSTEMS?

ORNL's website features whole-wall interactive calculators as part of its material database for whole-wall building energy calculations. The results for closed-cell polyurethane foam from the Architectural Testing Inc. study are consistent with those listed in the ORNL database.

By setting the ORNL interactive calculator to specific framing and structural parameters, then simply switching the cavity insulation material, visitors can compare different systems and assemblies. Results returned below*.

For a direct link to the ORNL interactive whole-wall calculator, or to download a copy of the Architectural Testing Inc. report, visit www.basf.com/res

	Whole-Wall R-Value	Exterior Corners	Wall/ Slab on Grade	Wall/ Partition Wall	Wall/ Roof	Window Header	Window Sides	Window Sill	Door Header	Door Sides
Closed-Cell Polyurethane Foam	15.1	12.61	11.1	17.1	14.23	8.78	8.08	8.21	7.79	8.05
Glass Fiber (R-11 batts)	11.59	9.44	9.02	12.61	11.89	7.93	7.48	7.44	6.96	7.31
Cellulose	12.32	10.09	9.44	13.44	12.4	8.12	7.48	7.61	7.21	7.48

*Values for Wood Frame, 2 x 4 16 o.c., 0.5" Foam Sheathing, Wood Siding

Closed-Cell Foam Approved for Flood-Prone Regions

The Federal Emergency Management Agency (FEMA) approves the use of closed-cell polyurethane foam (SPF) insulation in flood-prone regions. Classified as a flood-resistant construction material, closed-cell foam can withstand direct contact with flood waters for at least 72 hours without being "significantly" damaged, which is defined by FEMA as any damage that requires more than low-cost, cosmetic repair (such as painting).

Spray-applied polyurethane foam is a two-component product that is manufactured on-site, but engineered on the molecular level to optimize performance for a specific application. By varying key components, the finished product can be modified to meet specific performance requirements for roofing applications, insulating air barrier systems, adhesive applications or wall insulation.

Medium density foams are formulated to have a closed-cell content of greater than 90 percent, combined with an effective R-value of 6 per-inch. Low density, open-cell foams have approximately 60 percent open-cell content and offer an R-value between 3.0 and 3.6 per-inch.

One of the significant differences between them is their absorbency. Closed-cell foam absorbs moisture at a rate of less than 4 percent volume for volume (v/v), while open-cell foam can absorb at a rate as high as 40 percent v/v.

In a flood, closed-cell foam resists water, protecting the wall system and building interior from damage that can include structural deterioration, rotting of building materials and, eventually, mold infestations.

Demand for Sustainability Prompts Growing Trend Towards Air Barrier Systems

continued from page 1

along with ZERODRAFT® insulating air sealants, helps improve energy efficiency while preventing mold growth and the movement of dust, allergens, smoke and other pollutants. BASF Polyurethane Foam Enterprises engineered systems do not emit volatile organic compounds (VOCs) and use ZONE3® zero-ozone-depleting blowing-agent technology.

- **Materials and Resources Credit 2: Material-Efficient Framing (1-2 Points)**
  Results from testing conducted by the National Association of Home Builders (NAHB) and the Canadian Construction Materials Centre (CCMC) show spray-applied polyurethane foam air barriers offer long-term durability greater than or equal to the building's expected life span[2]. They also show that 16-inch centered studs incorporating closed-cell polyurethane foam may be moved out to 48 inches and still maintain racking and structural loads according to Code.

- **Materials and Resources Credit 4: Durability Plan (1-5 Points)**
  COMFORT FOAM® insulation stops the uncontrolled air leakage that can lead to premature structural deterioration and ice damming. In cathedral ceiling applications, COMFORT FOAM does not promote deterioration of the existing roof sheathing because it does not allow condensation at the foam/deck interface. COMFORT FOAM closed-cell SPF can be applied without roof ventilation because it is fully adhered and air impermeable. Moisture does not condense between the insulation and the sheathing.

- **Energy and Atmosphere Credit 1: ENERGY STAR Labeled Home (1-16 Points)**
  The U.S. Department of Energy (DOE) reports that up to 40 percent of the energy cost of heating and cooling a building is wasted by uncontrolled air leakage. With an insulation R-value of 6 per-inch and air leakage rates of <0.001 L/s/m² @ 75 Pa at 1.5-inch thickness, COMFORT FOAM technology makes a substantial contribution to energy efficiency. ZERODRAFT insulating air sealants provide complete air barrier continuity at all construction joints.

- **Energy and Atmosphere Credit 2: Insulation (1 Point)**
  The U.S. Department of Energy has shown that 15 percent of a traditional insulation material's effectiveness is lost due to convection looping. COMFORT FOAM insulation eliminates this by forming a fully adhered, closed-cell, seamless insulation and air barrier system in one product.

- **Energy and Atmosphere Credit 3: Air Infiltration (1-2 Points)**
  COMFORT FOAM closed-cell insulation has been tested and is certified to be an air barrier at an application of 1.5-inch thickness. It is fully adhered and does not allow air to flow around, behind or through the insulation system. A residential study by Advanced Certified Thermography shows that COMFORT FOAM installations can help reduce energy costs by a significant amount each year compared to traditional insulation systems.

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1 Honeywell 2005 Residential Survey.
2 Canadian Construction Materials Centre (CCMC), Evaluation Report 12932-R, National Research Council (NRC) of Canada.

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>> BY **MARK JARASEK,** *SENIOR EDITOR*

Back to the Future

Whittaker Homes refreshes New Urbanism in a Missouri development home buyers embrace.

The way he sees it, the blueprint for success was simple. "We've gone back in time to the way people used to live," says Greg Whittaker, president of Whittaker Homes. Taking an old idea and bringing it to life for today's home buyer has thrust his firm forward in a way he could never have imagined. The New Town at St. Charles, a New Urbanism or Traditional Neighborhood Development, is the most successful and challenging project that the St. Charles, Mo.,-based builder has ever undertaken.

"We've been seeing 10 times the amount of traffic at New Town than we have at any of our other subdivisions," Whittaker says.

"In the hectic atmosphere of today's world, people seem to be craving a more comfortable atmosphere reminiscent of towns in days gone by," Whittaker says. New Town, he says, is a place where people can leave their gas-guzzling cars behind and walk or ride their bikes to the corner store, restaurants, local entertainment and recreation.

Four years ago, Whittaker set out with a vision to replicate the composition and ambience of Seaside, Fla., where he had been vacationing almost yearly since 1991. Developed in 1981, Seaside is often identified as the first and one of the best examples of a New Urbanism community in the United States.

"I wanted to bring that resort feeling to the Midwest. I wanted to create a community where people could walk to shops and stores. I was just waiting for the right time and the right place," Whittaker says.

He deemed the right place to be the flat, rural territory about 25 miles south of St. Louis and 3.5 miles away from the historic town of St. Charles — very familiar turf for Whittaker Homes, which has been building homes and a reputation since 1977. It took nearly 12 months to methodically assemble the 746 acres of farmland that currently defines the boundaries of New Town at St. Charles. Negotiations involved six farms and 20 family members.

"This project has taken five times the amount of energy and time compared to anything we've ever done," Whittaker says.

After all the land was under contract, Whittaker solicited proposals from several urban planners, ultimately deciding to utilize the talents and expertise of Miami-based Duany Plater-Zyberk & Co. The award-winning urban design firm also happened to be responsible for designing Whittaker's vision archetype — Seaside, Fla.

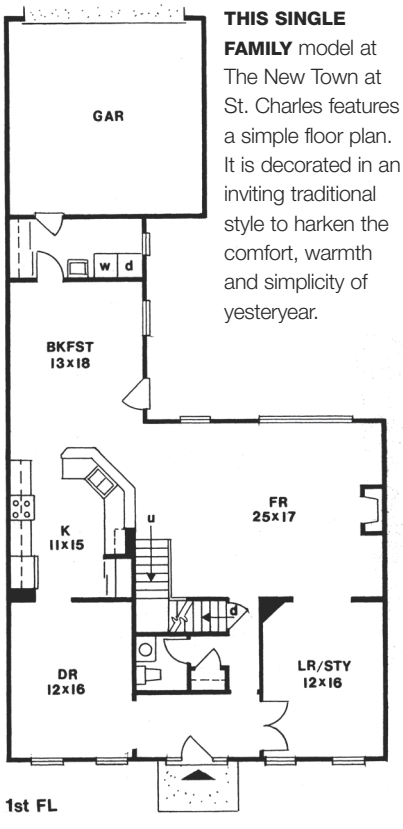
When completed in about 10 to 15 years, the $1.5 billion New Town at St. Charles project will comprise about 5,700 residential units and will also include 500,000 square feet of commercial mixed use, office and retail space. An interconnected system of lakes and canals, conceived as an innovative and picturesque solution for requirements to retain storm runoff, meander throughout the neighborhoods. The master plan calls for all homes to be within two blocks of water. Taking a cue from cities like Venice and Amsterdam, a section in the development known as the

MODEL 2882 at The New Town at St. Charles features Kolbe & Kolbe Windows and pre-finished fiber cement siding. Model names at the development reflect their square footage.

PHOTOGRAPHY: ALISE O'BRIEN

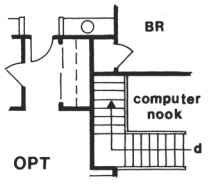
VITAL STATS
The New Town at St. Charles

Location: St. Charles, Mo.
Builder: Whittaker Builders, St. Charles, Mo.
Architect/Planners: Miami-based Duany, Plater-Zyberk & Co.
Interior Designer: C&D Interior Design
Developer: Whittaker Builders.
Models Opened: July 2005
Home type: Condo/townhomes, row houses, cottages, detached townhomes, single-family homes, custom homes, live/work units and senior courtyards
Sales to date: 600-plus
Community size: 746 acres
Square footage: Approximately 600 to 4,000 square feet
Price: Mid-$100,000's to $1 million-plus
Hard cost: $50-$70 a square foot
Buyer profile: Singles, first-time, move-up, couples without children, empty-nesters, retirees, seniors



1st FL

THIS SINGLE FAMILY model at The New Town at St. Charles features a simple floor plan. It is decorated in an inviting traditional style to harken the comfort, warmth and simplicity of yesteryear.



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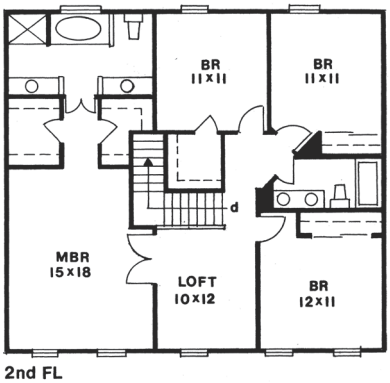


2nd FL

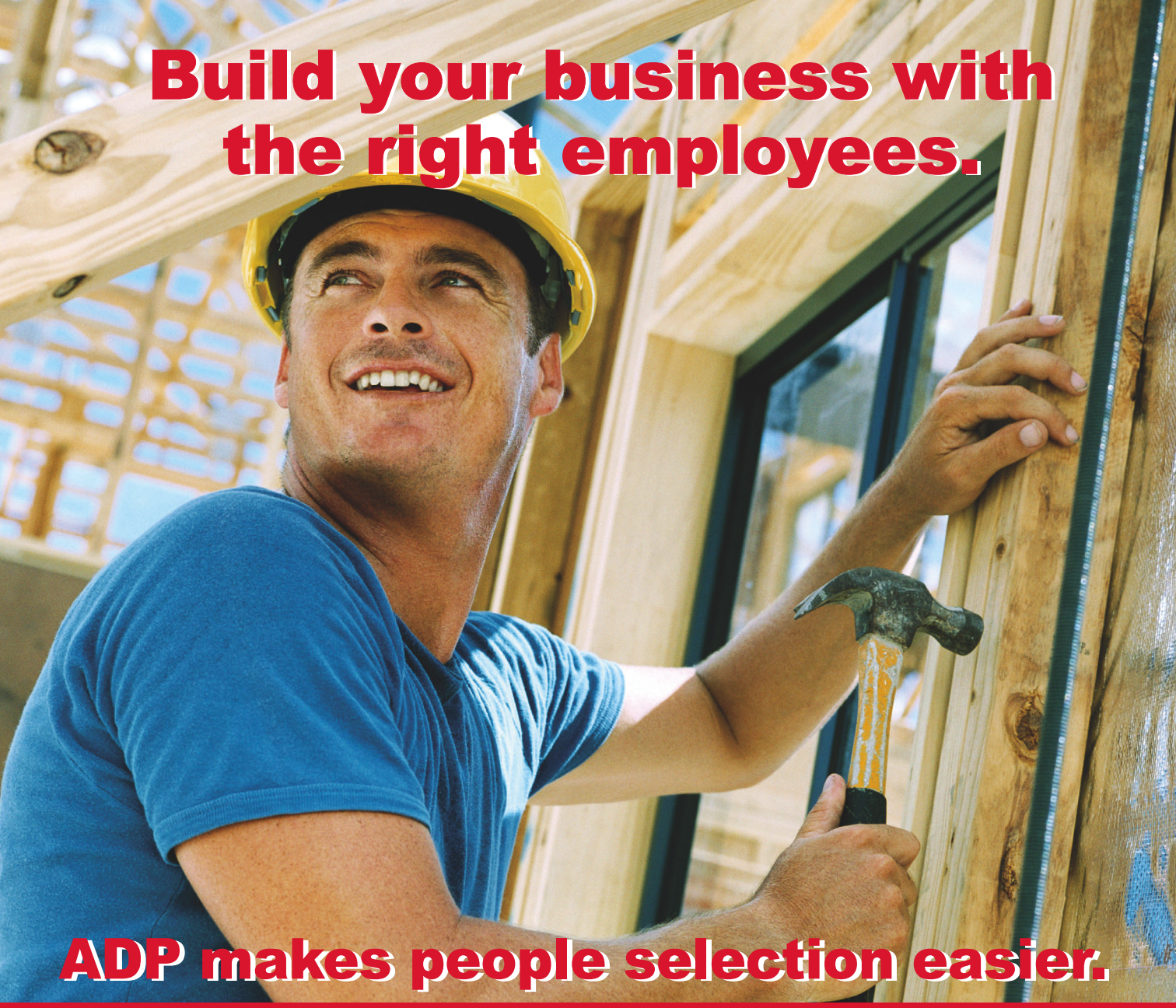
Island District will even have housing units directly on the water that reflect a European architectural style.

Building Affordable

Indeed, a vast assortment of housing types will define the ultimate composition of New Town, including single-family homes, custom homes, cottages, detached town homes, row houses, condo/townhome mansions, live/work units and senior courtyards. Prices range from $120,000 to $1 million and higher.

New Town Homes

Their single-family Model 2880 has been a popular sell at New Town. Featuring four bedrooms on the second floor, it is targeted to families with children. Like all models at the development, its name represents the square footage of the home. Its exterior reflects the symmetric



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A VIEW OF THE FAMILY ROOM from the living room, including an optional direct-vent fireplace. Most New Town homes feature 9-foot first-floor ceilings.

and refined elegance of a Georgian style, with a porch framed with Romanesque columns that stretch to the second story to create an extra balcony. Decorative shutters flank traditional grill-patterned windows that harken old-world charm.

The floor plan is also very traditional and austere with a center front entryway that opens to a foyer with a living room (or study) and dining room on either side. A hallway from the foyer leads to a spacious family room with an adjacent kitchen. At the back of the home, a small laundry room leads to a garage.

Although Whittaker said he initially thought the 2882 would be the most popular model, it has turned out that the cottage homes, which range from 1,200 to 1,800 square feet on smaller 3,000-square-foot lots, have been the best sellers, representing about 20 percent of the sales so far.

"We've attracted many more younger singles than I ever expected," Whittaker says, citing affordability as the popularity factor.

The company's ultimate goal for the community, he says, is to have a diverse profile of residents, from those freshly out of college to families with children to empty-nesters and retirees.

A Community-Built Community

From day one, DPZ and Whittaker reached out to involve the local community. In February 2003, design workshops, also known as charrettes, were held. The purpose was to introduce the New Urbanism concept and solicit community and civic feedback. The planners listened to the concerns and ideas and advice of more than 400 citizens and municipal officials of St. Charles and neighboring areas. By the time Whittaker and DPZ went to the city for official public hearings and approvals, there were no objections.

Not only did the early community involvement strategy help approvals sail through the St. Charles city council, it also turned out to be a fortuitous marketing strategy.

"We had over a thousand people on our waiting list after those initial meetings," Whittaker says. "And the word just continued to spread from there."

Before market activity decelerated across the nation, the builder was closing on 30 to 40 homes per month. Today the number is closer to 20. The slower pace has narrowed the occupancy horizon from a 24-month waiting period when sales started in January 2004 to 12 to 16 months. Oddly enough, the slower sales pace is a good thing. "People simply don't want to wait one to two years to get into their new home," Whittaker says, adding that they hope to further trim the span between contract and occupancy to around six to nine months. **PB**

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Packaged to Go: 'New Town in a Box'

A bevy of home builders, city planners, mayors and other civic leaders have flocked from all over the world to get a first-hand look at what's been going on at The New Town at St. Charles. Planning and government officials from Germany, China, India and Hong Kong have recently visited, and on a weekly basis, at least one or two developers from around the country take a tour. All this attention has inspired Whittaker Homes of St. Peters, Mo., to package the process they painstakingly went through in turning their vision into reality. Called "New Town in a Box," it contains the processes for marketing, product testing, floor plans, legal documents and other pertinent material for recreating a TND like New Town.

"The process is very different from putting together a simple subdivision," says Greg Whittaker, adding that there are a multitude of other components involved, including accommodating the commercial and retail components. The firm initially spent more than $1 million in professional fees and model plans for New Town.

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>> BY **BILL LURZ,** *SENIOR EDITOR*

Diamond in the Rough

In tough markets, look for infill gems like this one in Jupiter, Fla., to lead the recovery.

PHOTOGRAPHER: SCOTT SMITH

LOTS IN BOTANICA, an infill development in Jupiter, Fla., are 40 feet by 50 feet and cost about $120 a square foot to build.

Many markets across the country are in full retreat, especially where investors flipping houses drove annual price increases to unsustainable levels. With no one sure what a fair price looks like, potential buyers are sitting on their wallets as excess inventory stagnates — and some builders exacerbate the problem with massive discounting. It's happening even in markets where the local economy is booming.

If you're wondering what kind of product will finally entice buyers back into sales centers in such areas, here's our pick: New Urban Communities' Botanica, an infill masterpiece only blocks from the Intracoastal Waterway in Jupiter, Fla., north of West Palm Beach.

Risky Land

The space is part of a mixed-use development created on 143 acres of former MacArthur Foundation land the firm acquired in 2001 from WCI Communities. "It was zoned industrial," NUC partner Tim Hernandez recalls. "Only about 60 acres was buildable, and it had railroad tracks on one side and power lines running down the middle.

"WCI didn't want it, but they wouldn't sell it to us subject to approval. The risk of changing the land use and zoning was all on us," Hernandez says.

New Urban took that risk, then nursed the parcel through two years of entitlements, including environmental permitting through the Army Corps of Engineers and South Florida Water Management District. The zoning for the full site now allows 540 units, plus commercial space. New Urban sold off most of the land, including a cul-de-sac of large lots jutting into one of the lakes on the site, but Hernandez and partner Kevin Rickard hung onto 20 acres for the compact neighborhood of 123 rear-loaded, detached courtyard homes.

"We wanted to do something different from everybody else," says Hernandez. "Rear-loaded courtyard homes with optional guest quarters above the garage

VITAL STATS
Botanica

Location: Jupiter, Fla.
Builder: New Urban Communities, Delray Beach, Fla.
Neighborhood size: 123 homes on 20 acres
Architect: Kupi Eliopolous Architects, Delray Beach, Fla.
Interior designer: The Interiors Group, Boca Raton, Fla.
Models open: May 2005
Sales: 62
Home type: Rear-loaded, single-family detached
Gross density: 6 units per acre
Square footage: Six plans, 2,097-3,639
Prices: $369,990-$559,990 at opening, $569,990-$689,990 today
Buyer profile: Mix of families, young professionals, empty-nesters

INTERIOR DESIGNER MICHELLE PALMER-REICH of The Interiors Group in Boca Raton, Fla., uses an eclectic, luxurious mix of furnishings in Botanica models to cater to diverse buyers.

PHOTOGRAPHY: SCOTT SMITH

at the back of each lot fills that bill." For a crowning touch, the partners decided to shun South Florida's ever-present Mediterranean architecture for what Hernandez calls 'Anglo Caribbean' — a mix of brightly colored stucco and clapboard-sided two-story houses, some with metal roofs. The second stories, like the first, have concrete block walls.

Why It's A Winner

When housing markets contract, they do it geographically as well as figuratively. Subdivisions of tract houses far out of town are in trouble in many markets today. When the buyers come back, it will be for unique value they can't get in the resale market. Location leads the list of attributes. Striking architecture and a pedestrian-friendly land plan with urban attractions within walking distance are also near the top.

As their company's name implies, Hernandez and Rickard are dedicated new urbanists. With the town of Jupiter, the firm negotiated rentable auxiliary dwelling units above 28 of the 123 garages. The rest can have what NUC now calls "executive retreats"— guest quarters. The difference is subtle. The rentable form has a range, rather than a microwave oven, and a balcony, so there's slightly less interior space. "The town requires a certain percentage of useable outdoor space in relation to indoor for rental properties," Hernandez says.

Courtyard homes have become a popular product in Florida, especially for empty-nesters who want to do lots of entertaining. An L-shaped floor plan surrounding a pool creates a dynamite party house. But most Florida courtyard homes have the garage at the front (often flanked by a detached guest house). Visitors enter through a gate, and the front door is actually inside the courtyard. Houses have little curb appeal when the street scene is a sea of garages and the blank walls of guest houses facing internal courtyards. Botanica's lots are 40- to 50-feet wide. "With 5-foot side setbacks, that leaves 30 feet of width for half of our houses. If 20 feet of the width was taken up by the garage, how bad would that be?"

Instead, with the garage at the back, the front of the home can be devoted to traditional spaces buffered from the sidewalk and street by porches and balconies. The entertainment space around the pool is totally private, shielded by the house and garage on three sides, with a privacy fence filling the gap.

Shown here is the Cayman model, the largest floor plan at 3,639 square feet and decked out in striking orange stucco and a metal roof. It has a 17- by 5-foot covered porch off the breakfast nook that would normally be a $15,000 option, but it's required by Jupiter on corner-lot houses where that side of the house faces a street.

Only the family room and breakfast nook face the pool, while the traditional living room and a guest bedroom face the street downstairs. The master suite and three more bedrooms sit upstairs, and the only way to the executive retreat above the garage is through exterior stairs off the courtyard. It has a living room, bedroom, full bath and kitchenette (without range).

Halfway Home

Botanica's pre-sales began in the spring of 2004 with eight floor plans ranging from 1,747 to 3,639 square feet and base-priced from $369,990 to $559,990. By the time two furnished models opened in May 2005, sales were booming and

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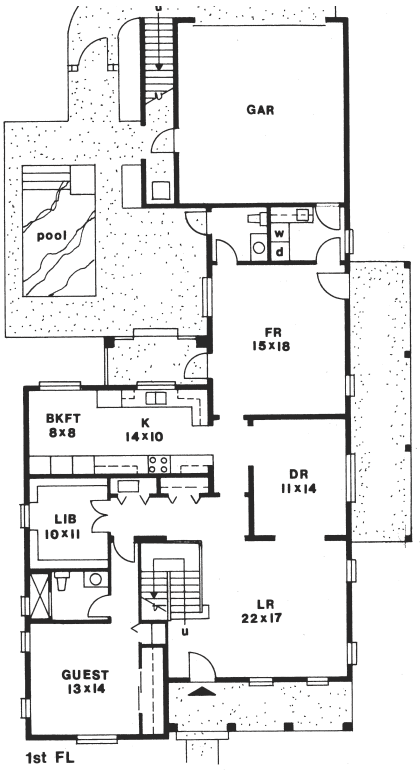

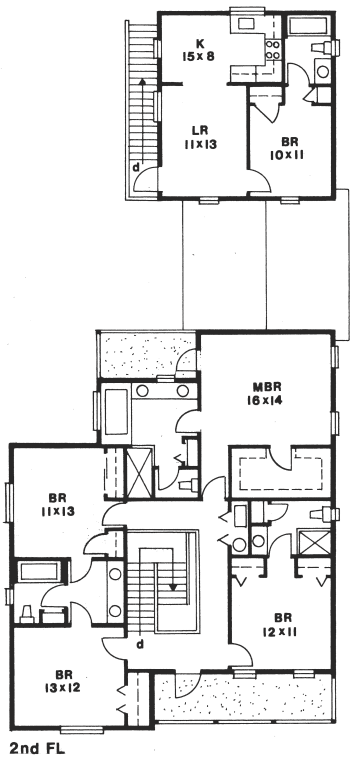

BOTANICA PACKS
123 rear-loaded homes — ranging from 2,097 to 3,639 square feet — onto 20 acres in the heart of Jupiter, Fla., blocks from the Intracoastal Waterway. The location attracts a mix of buyers.

prices ranged $569,990 to $764,990. Sales agent Linda DeFrancis says it stayed that way until late last spring, long after the rest of South Florida's housing market crashed. "We were the last to feel it, and I think we'll be the first to recover," she says, but admits she spends her days now trying to hold onto the 62 sales Botanica still has.

DeFrancis believes as much as 30 percent of those buyers were investors. "We tried to screen them out, but they lied to us," she says, admitting that she'll have to sell against that competition when the market comes back. Rickard believes that may happen as soon as this winter's selling season. "Our traffic doubled in August, from July, and that was just as we were heading into hurricane season. Don't underestimate the impact that had this year. We had three hurricanes hit this coast in the last two years; a lot of people were waiting to see if it was going to be like that every year from now on," he says.

New Urban has backed away only slightly from peak pricing. The range is now $569,990 to $689,990 for six floor plans from 2,097 to 3,639 square feet. A small one-story plan and one other were eliminated from the mix.

"Lowering prices is not the answer," Rickard maintains. "As the master developer, our land basis in these houses is very low. We sold serviced lots to our home building operation for $65,000 to $75,000 apiece. We could win a price war, if it came to that. But we don't need to fire-sale this product. The location is too strong for that. When the market comes back, we'll be the first to know it."

New Urban has two spec homes — otherwise, no standing inventory. The firm builds the Botanica homes for hard costs averaging $120 a square foot. **PB**

A DIFFERENT APPROACH TO SIDING

You might assume from looking at photos of Botanica's houses that the second stories have manufactured siding product above stucco-sided first floors. But it's not. That's troweled stucco that takes on the appearance of clapboard siding.

"Our stucco contractors do it," explains Kevin Rickard. "It's much lower cost than siding even though it has a high labor component. There are no seams, so there's no caulking required. You just paint it and that's it. It's virtually maintenance-free."

The stucco contractors make a scratch coat on the building and feather the thickest part, at the bottom, back to the top of the wall to create a clapboard look. And the cycle-time and warranty savings add to the cost efficiency. "I would never use siding in South Florida anymore," Rickard says.

There's the rub: Unless you work in a market where stucco is widely used (and relatively inexpensive), the cost break may not be there. But for builders in California, Arizona and Nevada, this technique — which Rickard says is becoming common practice in South Florida — might be something you need to learn.

LOG ON Interested in seeing plans and projects from past editions of *Professional Builder*? Visit the archives under *PB* Resources online **www.ProBuilder.com**

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Exclusive DryLock installation system

Shown on front: K-3496-HE-96 Cimarron Comfort Height 1.28 toilet with Class Five EcoSmart technology

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Circle **51 or go to http://pb.ims.ca/5214-51**

>> BY **RHONDA JACKSON,** *STAFF WRITER*

Proactive Solutions

As Seen on TV

Today's home buyers are looking for a stylish kitchen that supports their modern lifestyle — and they're following pop culture's cues.

Kitchens.com's editor Kimberly Sweet says homeowners are heavily influenced by food television; cooking shows' popularity has given consumers a peak into the workings of a professional kitchen — and homeowners want one to match. Plus shelter magazines — *House Beautiful, DWELL, Real Simple* — are serving as a mini-university for home and kitchen design for potential home buyers, too.

Ideas All Around

"As [consumers] go through the shelter magazines, they see a lot of kitchens with the look of stainless steel. It has that real professional, commercial look. That's what consumers are migrating to," says Troy Rodman, industrial design manager for Sears, Roebuck and Co. Other trends:

- Side-by-side refrigerators with three-door refrigerators, which have a two-door refrigerator on top with a bottom-mount freezer. This configuration allows the homeowner to easily access the entire refrigerator.
- Dual-fuel ranges. "[Consumers] want gas burners, ideally with an electric oven. Electric bakes better and roasts better and gas tends to have infinite control; therefore, it is better for your burners," says Connie Edwards, a Certified Kitchen Designer and director of design for Timberlake Cabinet Co.
- Induction ovens, although gas and electric cooking appliances occupy the majority of the market.
- Cabinets that resemble furniture, as kitchens blend into other areas of the home. "That is what is moving the trend from really light woods to medium and a little darker woods. It works better with furniture tones," says Edwards.

Cabinets are also taking on a sleeker look. "There is a movement toward cleaner, simpler lines that I would probably call contemporary," says Edwards.

Kitchens have evolved from functioning as just the cooking stage to the actual hang-out hub of the home. And more exposure to media that focuses on kitchens has produced a much more educated home buyer who wants a personalized, efficient and highly-styled kitchen.

THE EVOLUTION OF THE KITCHEN

Dinner is not the only thing cooking in the kitchen. Homeowners pay bills, supervise homework, watch television and host parties in these multi-function rooms. Designing kitchens with a focus on the triangular workspace and the basic cooking area doesn't cut it. The modern kitchen has emerged as a convergence of many rooms: the living room, dining room, office space and traditional kitchen.

A recent Electrolux survey of 1,024 Americans highlights several consumer trends that may influence the way kitchens are designed.

Here are the top consumer trends:

1. Nine out of 10 perform non-traditional activities in their kitchen
2. Two-thirds socialize in the kitchen rather than the living or family rooms
3. Integrated/separate zones – cooking, eating, entertaining, working
4. Combining the living room, dining room/breakfast nook and kitchen
5. Comfortable seating
6. Appliances that blend in

PHOTOGRAPHY COURTESY OF ELECTROLUX

ELECTROLUX'S PROTOTYPE LIVE-IN ROOM at the kitchen and bath show seamlessly combined the kitchen with a living room, wet bar and an area for practicing the piano.

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Circle 20 or go to http://pb.ims.ca/5214-20

>> BY **DUSTIN ROSA AND SUSAN CONBERE,** *PATH* PARTNERS

AUTOCLAVED AERATED CONCRETE'S dependability and efficiency helps it withstand many natural disasters.

PATH REPORT

Better Building Blocks for Better Homes

A look at Autoclaved Aerated Concrete

What goes up as easily as a standard concrete masonry unit (CMU) structure but is just as strong, more energy-efficient and easier to work with because of its light weight?

It's autoclaved aerated concrete (AAC), a pre-cast manufactured building block made from quartzite sand, lime and water. The elements are processed into a highly durable and efficient building material that can withstand fire and other natural disasters. By altering the mixture's proportions, manufacturers can manipulate insulation values and compressive strength. And because it is lightweight and has its own insulating properties, AAC can save construction time and energy.

A Case Study

Doug Edwards, head designer and partner of Edwards Design Group, a design/build firm in Scottsdale, Ariz., has been building with AAC since 1999. With his brother and partner, Kevin, who heads construction, the Edwards' build between five and 10 homes a year using AAC, which meets the team's requirements for sustainability. Because AAC comprises natural materials, there's little to no pollution during its production. Also, AAC's insulating properties require less heating and cooling, and its pesticide resistance minimizes the amount of potentially harmful chemicals that could be needed.

"With AAC, it's easy to construct environmentally friendly homes that are comfortable, affordably priced and aesthetically appealing," says Doug Edwards

"With AAC block, walls are very straight and smooth and consistent from an insulating perspective," Doug Edwards says. "There is less thermal bridging than with wood framing, and you don't have to deal with batt insulation on the walls."

Tests of buildings conducted by the Oak Ridge National Laboratory (ORNL) have shown that air infiltration is 63 percent less in an AAC home than a wood stud-framed structure and 48 percent less than an uninsulated 8-inch CMU wall. This increased air tightness can cut energy demand significantly — 18 percent compared to wood-frame walls, 23 percent compared to steel stud walls, and 36 percent compared to two-core CMU.

Training the Trades

Building a home with AAC can take a bit longer than building with conventional materials, Edwards says. "As our crew gets more experienced, this may not always be the case. In the meantime, we pride ourselves on delivering an AAC home for the same price as a stick-built home," says Doug Edwards. The crews have adopted well.

"At first, we had to work closely with the crew to get them used to some different processes, but it's not that hard. Masonry crews have to adjust to using a special polymer-modified thin-set mortar system, which allows less margin for error. Our masons use a special notched trowel to apply the thin-set mortar and create texture for subsequent pieces of block." To protect AAC's exterior, Doug and Kevin use an impermeable synthetic stucco system that helps avoid moisture issues.

"The electrician is the subcontractor most affected by the use of AAC block. It's a whole new way of pulling wire and installing J-boxes, switches and outlets. They have to use a skill saw to cut out 1 1/2 inch deep by 1 1/2 inch wide channels to accommodate romex and j-boxes. A circular skill saw cuts through AAC like butter, but protective eye equipment and respiratory masks are a must because of the dust," Doug Edwards said.

Working with AAC generates a lot of dust, another reason trades might not like working with it. **PB**

Dustin Rosa and Susan Conbere write about better building practices on behalf of the Partnership for Advancing Technology in Housing. PATH is administered by the U.S. Department of Housing and Urban Development.

LOG ON To read more PATH articles, visit us online at **www.ProBuilder.com/innovations**

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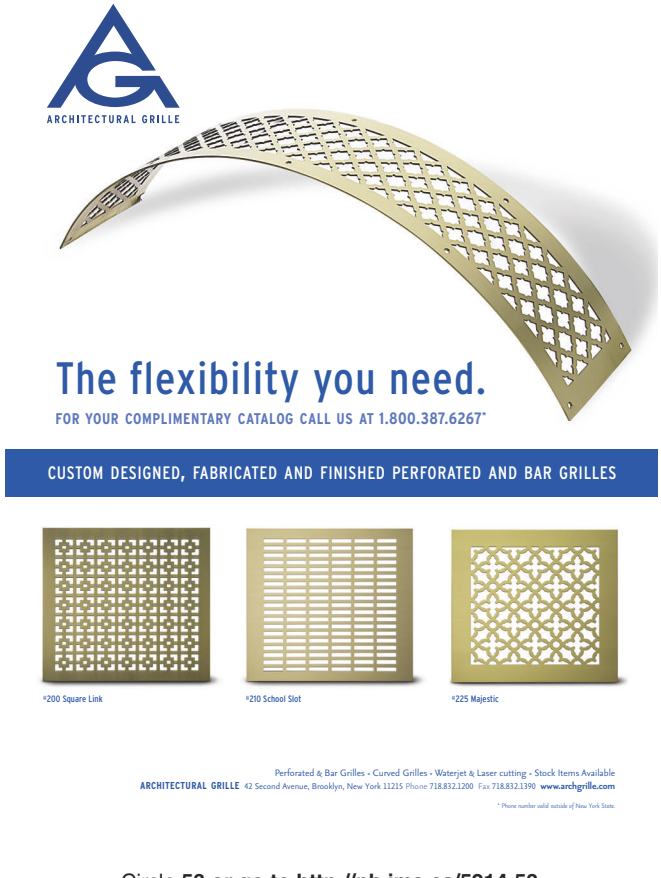

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*Results from a survey of 1500 home shoppers/home owners conducted by Gilmore Research Group in December 2005. The product colors you see are as accurate as current photography and printing techniques allow. We suggest you look at product samples before you select colors. Printed in U.S.A. October 2006. ©2006 Owens Corning. Cultured Stone® is a registered trademark of Owens Corning.

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Omega Homes

Avi Hornstein
Owner, Vice President
Allentown, Pa.

Wirsbo Aquapex from Uponor
www.uponor-usa.com

Corrosion-resistant Wirsbo Aquapex from Uponor is made of cross-linked polyethylene (PEX), whose flexibility eliminates many of the joints necessary in rigid plumbing systems. PEX tubing has a life expectancy of more than 100 years when used under normal operating conditions. ***Circle # 125 or go to http://pb.ims.ca/5214-125***

In My Own Words

"With the rising cost of copper, we have switched almost exclusively to this product. By moving all our plumbing systems over to the Uponor Wirsbo product, we have been able to keep our plumbing material costs in line and actually saved on some of the labor. With the systems' point-to-point service, we eliminate the possibility of leaking joints inside ceilings and walls. Our energy-conscious home buyers love the quick delivery of hot water to the fixture."

TerraDrain
www.webtecgeos.com

TerraDrain sheet drains offer a cost-effective alternative to conventional drainage systems. TerraDrain 101 consists of a non-woven fabric attached to a polymeric dimpled core. TerraDrain 50 is a lighter version of the 101. TerraDrain 121 has a membrane backing compatible with soft waterproofing systems. TerraDrain 203 utilizes a heavier-duty core and high-strength woven fabric for horizontal applications. ***Circle # 126 or go to http://pb.ims.ca/5214-126***

In My Own Words

"Prior to our using TerraDrain — and no matter how successful a door installation was — we inevitably got complaints within the first year. Years later, water was seeping into the basement area where the slab meets the Bilco doorsteps. This product allows a small drainage plane underneath the slab and on top of the footer, giving the water somewhere to go instead of into the homeowner's basement. It is a cheap solution to a difficult problem.

>>Omega Homes cont'd

Merillat Cabinets

www.merillat.com

Merillat's Classic Somerton Hill is a full overlay-styled door with a raised panel that is ideal for glazed finishes. The glaze style replicates a time-worn, old-world look. ***Circle # 128 or go to http://pb.ims.ca/5214-128***

In My Own Words

"At Omega Homes, our top priority is exceeding our customers' expectations. Merillat Cabinets gives us that ability. Our homeowners love the wide range of products we offer, and Merillat gives us the tools and designs we need to meet homeowners' wide-ranging tastes."

UStec Wiring Systems

www.ustecnet.com

UStec provides homeowners with the wiring infrastructure they need to distribute and connect video, data and voice signals for home entertainment, home networking, home security and automation. The UStec infrastructure offers maximum flexibility, which means it won't tie homeowners to prescribed hardware and software solutions. Shown here, the ceLAN tecCenter cabinet, 2 by 2 tecWire and a 2 by 2 tecPlate. ***Circle # 127 or go to http://pb.ims.ca/5214-127***

In My Own Words

"Structured wiring offers superior performance over the 1950s-style wiring still used in many homes while eliminating the clutter of expose wiring. The installation of high-quality devices from UStec, along with superior wiring, gives our customers the ultimate performance from their present electronic equipment. This wiring network also permits the expansion with the bandwidth needed for future technologies while increasing the resale value of every home."

Barricade Building Wrap

www.covalencecoated-products.com

Covalence Coated Products's Barricade Building Wrap is made of perforated cross-woven polyolefin that allows moisture vapor to move out of a home, but not in. Its tear-stop design keeps it from blowing off the wall during construction on a windy day. The company's private-label program allows builders to advertise their company names and logos in any color. ***Circle # 129 or go to http://pb.ims.ca/5214-129***

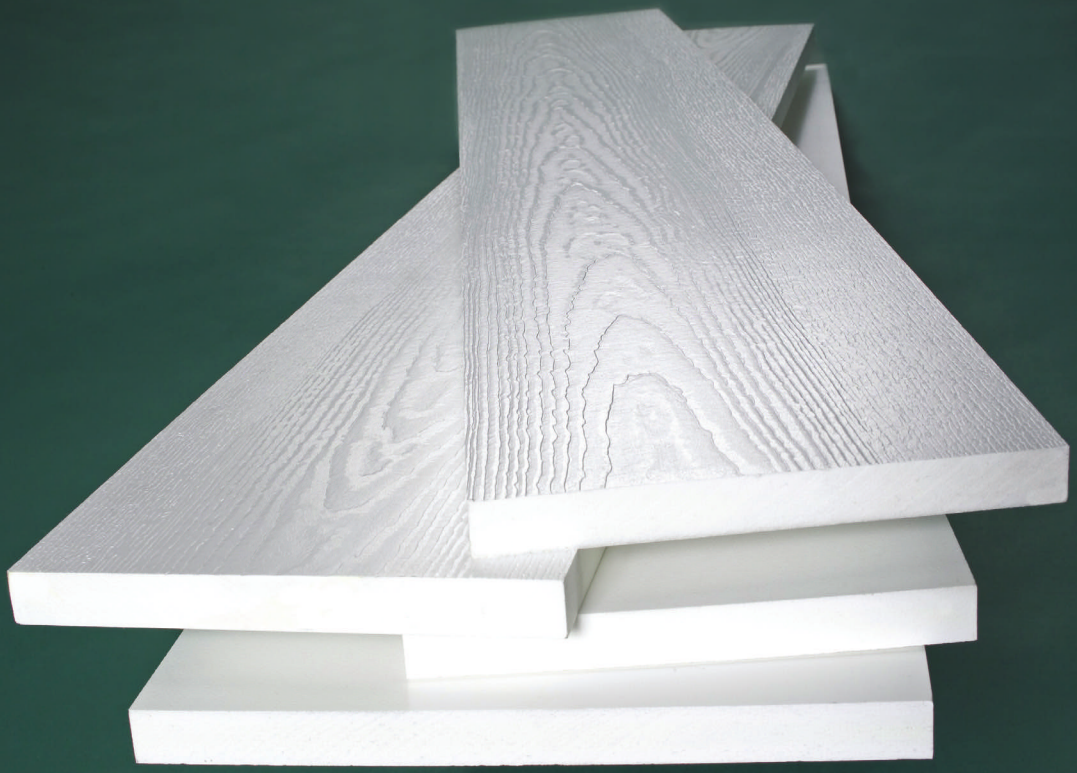
In My Own Words

"Besides the great additional drive-by marketing we get from our personalized housewrap, Barricade Building Wrap delivers great protection and long-term performance. The product offers one-year UV resistance while minimizing energy-robbing air infiltration. That helps us build a quality product free of moisture problems."

Circle **57 or go to http://pb.ims.ca/5214-57**

Problem: Wood is putty in Mother Nature's Hands.

Solution: Think beyond wood.



Learn more about Kleer Lumber at http://www.kleerlumber.com/probuilder.

In your hands, the wood trim you installed was fresh, new and beautiful – a material you could turn into something the customer loved. Then time passed and Mother Nature got her hands on it. And the result was the kind of "weathered look" you see in your worst nightmares. Making the nightmare real was the customer on the phone, demanding that you remove, replace and make new the sagging, rotting substance that started out as wood. All with you footing the bill. The answer? Stop thinking the only answer is wood. And start thinking beyond it. Thanks to the pioneers at Kleer Lumber, you can. Kleer trim is engineered to handle like wood, but has superior performance benefits. Like our customers, we believe Kleer is "best-in-class" – so much so we offer a lifetime warranty. What this means for you is whether you cut Kleer, nail it, paint it or mill it – you can do everything you'd ever do with wood, except, of course, replace it.

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Circle **58 or go to http://pb.ims.ca/5214-58**

>> BY **NICK BAJZEK,** *BUILDINGPRODUCTS@REEDBUSINESS.COM*

PRODUCT REVIEW

Green Products

BonaKemi USA

The Bona Traffic and Bona Mega waterborne finishes have VOC levels of 180 and 150 grams per liter respectively and is Greenguard-certified. It applies similarly to a solvent and has a fast curing rate with a clear and colorless finish. Finishes are available in satin and semi-gloss that are nonflammable and has few odors.

Circle 130 or go to http://pb.ims.ca/5214-130

Teragren

The Synergy line of bamboo strand flooring from Teragren is harder than both mahogany and red oak and manufactured for high-traffic installations. Held together with environmentally safe adhesives and almost formaldehyde-free, the flooring has a tongue and groove assembly both pre-finished and unfinished. The Synergy line also features coordinating stair parts and moldings.

Circle 132 or go to http://pb.ims.ca/5214-132

Columbia Forest Products

PureBond formaldehyde-free veneer panels are certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standards. The panels are coated with a soy-based proprietary resin. Veneers range from 1/28-inch to 1/42-inch in thickness and are available in birch, red oak, maple, ash, cherry and other species in whole piece, book-matched and spliced styles.

Circle 131 or go to http://pb.ims.ca/5214-131

Humidex

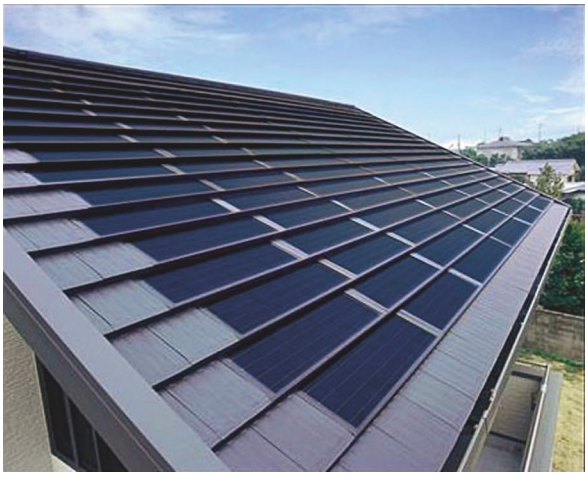
The moisture control units from Humidex expel moist air and replace it with fresh air. They are made of aluminum to resist corrosion and come with a 6-inch duct, sleeve and outside flapper. The fans run at 115V AC/60hz and have low energy consumption and noise levels. Relative humidity is kept at 50-60 percent in the summer and 40-50 percent in the winter.

Circle 133 or go to http://pb.ims.ca/5214-133

Sharp

The 62-watt solar roofing modules from Sharp are compatible with most roof tiles. One module is used about every five standard tiles and screws into existing roof battens. Each module lays flat and interlocks with surrounding tiles. They are impact- and wind-resistant and deflect water. The modules have a 25-year limited warranty on power output.

Circle 134 or go to http://pb.ims.ca/5214-134



>> BY **NICK BAJZEK,** *BUILDINGPRODUCTS@REEDBUSINESS.COM*

KlipTech

Approved by the Forest Stewardship Council and by the Rainforest Alliance, KlipTech's PaperStone countertops are made from 100 percent post-consumer recycled paper. The materials are held together by a non-petroleum, water-based phenol that has no formaldehyde. Slate black, leather brown and mocha colors are available in 30-inch and 60-inch widths and lengths of 8, 10 and 12 feet with thicknesses from ¼-inch to 2 inches.

Circle 135 or go to http://pb.ims.ca/5214-135

Ice Energy

The Ice Bear from Ice Energy uses a standard air conditioner to freeze 500 gallons of water in the unit's tank when it's dark out. The ice generated during the day is then used to pump cold air through evaporator coils into homes using only 300 watts of power, compared to an average 7,000 watts used by typical AC units.

Circle 139 or go to http://pb.ims.ca/5214-139

enLux

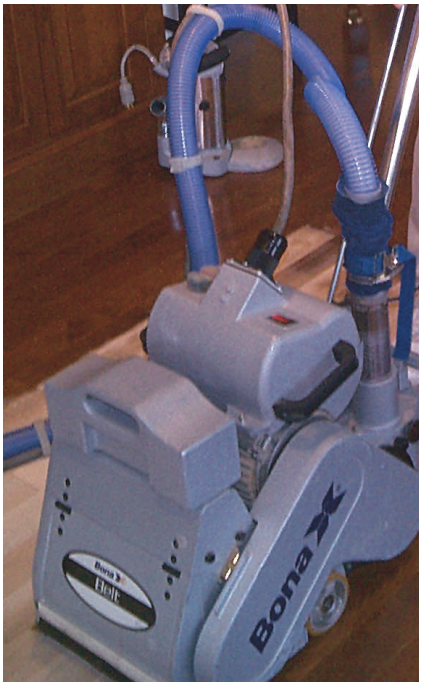
LED floodlights from enLux are now made with a GU-24 pin base being mandated by California Title 24 energy requirements and EPA Energy Star guidelines. No ballasts, separate wiring or transformers are required for installation. The LEDs come in three tones: warm, neutral and cool — or 2800, 3300 or 4100 degrees Kelvin — and have a light output similar to 45- to 65-watt incandescent floodlights. Accent floodlights in 18 colors are also available and have a lifespan of about 50,000 hours.

Circle 136 or go to http://pb.ims.ca/5214-136

DriTac

DriTac Adhesive Group's 7500 Eco-Urethane contains zero VOCs. The solvent-free urethane adhesive has a high initial tack, contains no water and provides a permanent bond on a wide range of wood floors. It is available in 2 gallon and 4 gallon containers and is freeze-thaw stable, non-slumping and has few odors.

Circle 137 or go to http://pb.ims.ca/5214-137



C&R Flooring

The Dust Eliminator from C&R Flooring is certified for indoor air quality by the Greenguard Environmental Institute. The unit is self-contained and attaches to sanders, edgers and buffers to remove dust through a 300-foot capacity hose powered by a self-contained 27-horsepower, water-cooled Kawasaki engine. A 200-foot, 2-inch diameter hose is used for sanders and a 100 foot, 1½–inch diameter hose for use with edgers and buffers.

Circle 138 or go to http://pb.ims.ca/5214-138

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Sea Gull Lighting

Featuring the company's Ambiance transitions, the indoor pendant and wall sconce kits from Sea Gull Lighting are Energy-Star-rated and measure 5 inches by 7 7/16 inches. Pendants are 5 inches in diameter and are powered by compact fluorescent bulbs or by G8 Halogen T4 50-watt bulbs. Kits include a glass shade, pendant assembly and mounting hardware.

Circle 140 or go to http://pb.ims.ca/5214-140

Rheem

The Prestige series 18 Seer air conditioners from Rheem have two-stage Copeland Scroll UltraTech compressors. The units are made with R-410A refrigerants that contain no ozone-harming compounds or gases and have comfort alert monitors to analyze system performance. The AC units have a low profile cabinet with an all-steel wrap-around for coil protection and are coated with the company's neutra green finish.

Circle 141 or go to http://pb.ims.ca/5214-141

Circle **61 or go to http://pb.ims.ca/5214-61**

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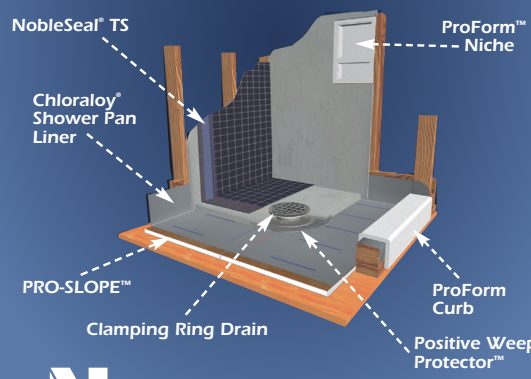

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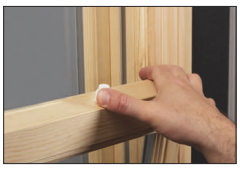

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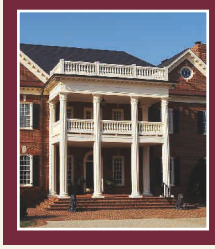
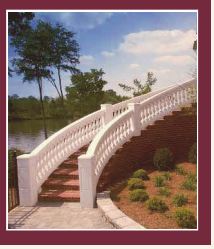

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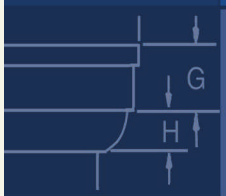

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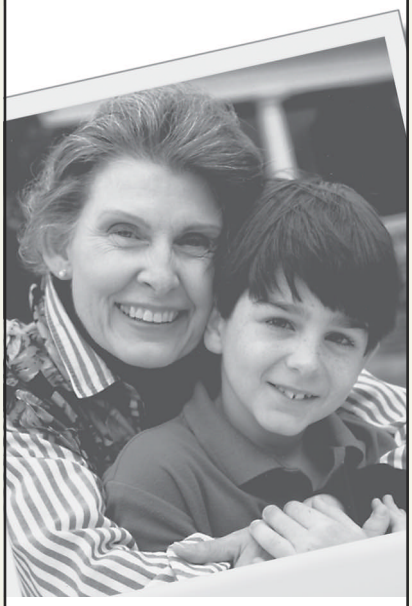

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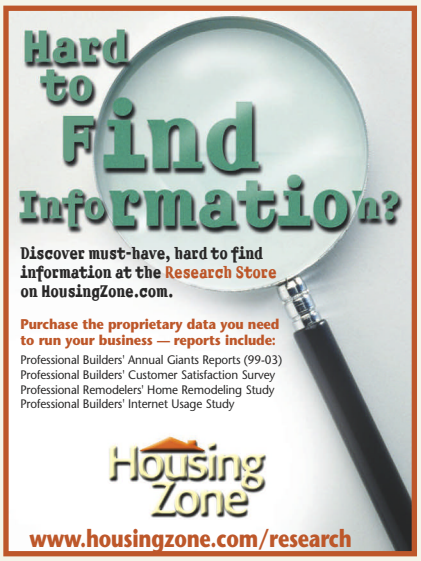

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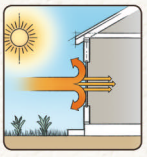
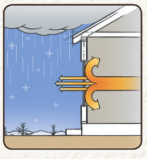
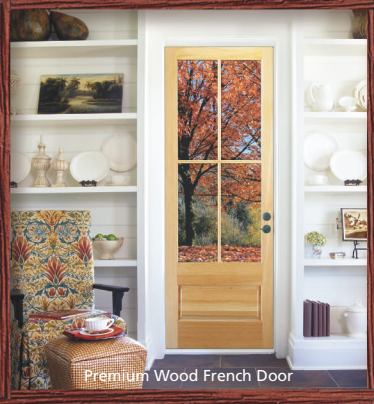


In warm weather, Low-E glass reflects the sun's energy and prevents it from entering the home.



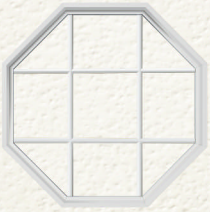
In cold weather, Low-E glass reduces the amount of heat loss by reflecting it back inside.

We were energy efficient before it was cool. Or hot.



Premium Wood French Door

Wood Casement Window



Vinyl Geometric Window

Courtyard Collection Steel Door

For years, homeowners have relied on JELD-WEN for energy efficient windows and doors. Now Low-E glass comes standard in our wood windows and patio doors, and in our Courtyard Collection steel doors. It's also an option in our vinyl or aluminum windows, and in our Premium Wood doors. Low-E is just one of a variety of energy-saving choices you can offer from a company that's been an ENERGY STAR® Partner since 1998. To learn more about any of our reliable windows and doors, call **1.800.877.9482** ext. **4314**, or go to **www.jeld-wen.com/4314.**

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