

THE COST OF GETTING IT WRONG

New home designs can set builders apart, or they can bury them

By Tony L. Callahan

More money is wasted in product development than any other area of home building. Product that failed to sell, was too late to market, had design flaws that resulted in significant warranty costs (sometimes enough to put a builder out of business), or simply cost too much to build ... The list goes on.

TIME IS MONEY

Developing new product is expensive, and the resource hours alone can drain your profits: architectural fees, engineering fees, drafting fees; countless hours of internal resources spent redlining plans, completing material quantity take-offs, bidding, entering data into various systems, training salespeople on the new product, etc. Plan-specific structural options are also resource-intensive. Every new plan increases the number of complex options and the resources required to maintain them.

New product also requires going up the learning curve all over again. Then there are the inevitable rework costs associated with fine-tuning any new product. Last but not least are the countless hours spent maintaining yet another set of new plans and their corresponding structural options. The selling,

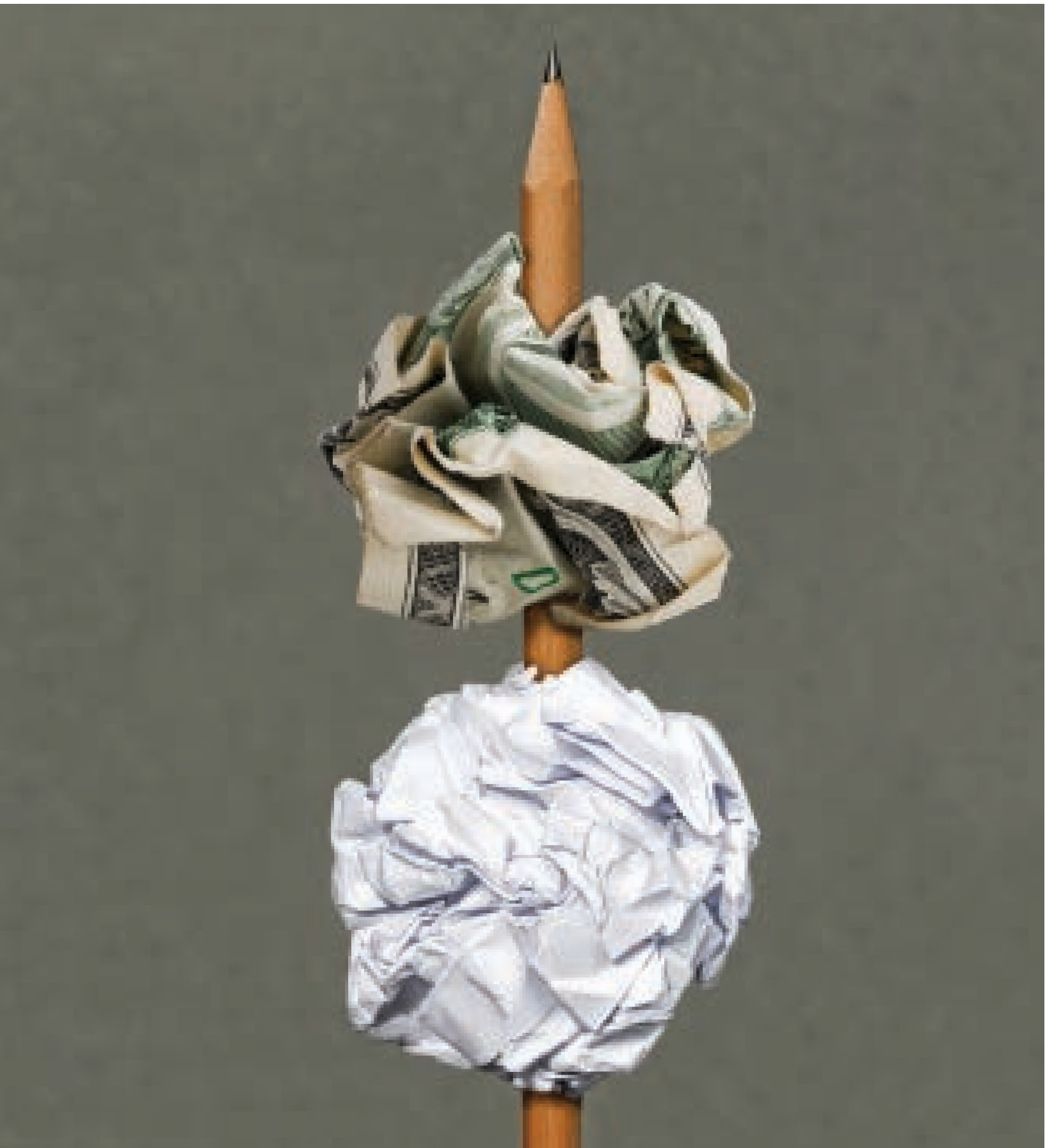
general, and administrative (SG&A) costs from all this activity can, again, crush your profits.

REUSE AND REPURPOSE

To get the most out of your new-product-development efforts, start by reusing existing plans everywhere possible. Plan reuse can improve your speed to market, lower overhead expenses, improve direct construction costs, and dramatically cut warranty expenses. These plans are proven. Resist the urge to tweak them. You have bid, built, and sold them before. Designing fewer but better homes will improve sales and increase the average number of times a home is built. The more you can use and reuse a floor plan, the more you can spend on the initial design.

Remember the picture of the yacht named “Change Order” and the dingy named “Original Contract”? Any tweak made to an existing plan reduces the cost comparability to the original plan. If you absolutely must design a new floor plan, stick closely to these tenets.

Identify an unmet niche. Look for underserved opportunities. Maybe it's a multigenerational product, main-floor owners' retreat, gourmet kitchen, home office, or car-enthusiast garage. Start with market research and identify your target



customer. Conduct a prospective-buyer focus group to get specific product insights. Ask current homebuyers what they like about their floor plan and what they don't. Customers who have lived in their home for a year or more are a great resource. Research the competition. What are they doing that you can do better?

Involve key stakeholders. The design team should include representatives from Architecture, Engineering, Sales/Marketing, Construction, Purchasing, Finance/Accounting, and Land, as well as key suppliers and trades. Make design meetings mandatory. Many of the changes that happen during a frame walk are the result of key stakeholders missing earlier design meetings. The first time they see the plan is at the frame walk, then they want to tweak it. Tweaking because of failure to provide design input earlier in the process is wasteful. Stop the rework and expect full participation at each design meeting.

Utilize technology. Don't wait until you frame, plumb, or install HVAC to detect conflicts in foundation to framing or framing to mechanicals. Use software to optimize whole-house framing and detect conflicts between framing and mechanicals. Invest in building information modeling (BIM) so that key stakeholders can provide feedback on design functionality before the product is released to production. It's so much cheaper to tweak a design before it's built. There's a plethora of technology solutions available to home builders today.

Set a schedule and stick to it. Involve stakeholders in setting milestones. The adage that those who plan the battle don't battle the plan is true when it comes to scheduling. Set the expectation up-front that everyone should attend every meeting, and hold members accountable for attendance. Begin by identifying the product development cycle time for each involved department. Build a Gantt chart with the critical path. Make sure each affected department gets the required number of days to do it right. Set firm deadlines. Only then can you determine when the product will be ready to build. Avoid squeezing the cycle time of everyone involved to back into a date: That's the formula for rework and waste. Instead, start earlier.

Starting a day earlier is easier than trying to cut a day out of the cycle. Once you develop the new-product-development time line, use it for any future land pro forma that requires new product.

Minimize plan changes. You have to know when to break the pencils and stop designing. Ever been on a frame walk when the plan was so dramatically changed that you barely recognized it in production? That's a problem. Frame-walk changes should be limited to items that are going to inhibit sales or will result in warranty expenses. The time for personal preference tweaks passed with the completion of the final construction documents. Plan modifications are disruptive and cause substantial rework and significant cost increases due to the change-order effect.

Hold the team accountable for results. Throw birthday parties for architectural plans—after all, you spent a great deal of time, money, and resources to create those plans. Pull together sales data, warranty statistics, change-order reports, and itemized costs. Solicit feedback from customers, sales, key trades, and customer service. Ask customers and your sales team about the livability of the home; ask key trades about its constructability; and ask customer service about warranty items associated with each design. Maintain a log of hits and misses. Build upon the

hits, avoid the misses in future designs, and reward the team when the product is successful. And, because your team was a major driver in the new product's success, tie a portion of their annual bonus to new-product-development success.

New-product development done right but not done often can differentiate your company in the marketplace and significantly add to your bottom line. Only develop new product when you absolutely have to. Consider plan reuse with any new land deal, and think about a plan's potential reuse when you're designing it. If you must design a new floor plan, stick to what's outlined in this article to avoid wasting your time and profits. **PB**

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FRAME-WALK CHANGES WASTE TIME, MONEY, AND RESOURCES. IT'S CHEAPER TO TWEAK A DESIGN BEFORE IT'S BUILT.

