WHAT’S CAUSING THE LOT SHORTAGE CRISIS?

INSIDE THIS ISSUE

HOMEBUILDING’S “FIVE L’S”: EXPLORING THE THREATS AND OPPORTUNITIES IN 2019

8 COMMON SUB-FLOOR INSTALLATION MISTAKES

DE-MYSTIFYING “VALUE ENGINEERING”
By now, I hope you’ve shaken off the rust that the holiday season can bring and you’re focused on a busy 2019. Looking back on slower years, we can likely agree that “busy is good.” But the challenge our industry faces is arriving at the point where we can say “I’m busy, but it’s manageable.” As we collectively strive to meet housing demands and maintain an optimal level of busyness, we are all looking for solutions. Most of us are seeking solutions through streamlined processes, technological advances, labor efficiencies and innovation.

For more than 45 years, LP has been an industry ally through its role as a leading manufacturer of engineered wood products. Up until now, LP has unofficially and informally helped its colleagues—all of you—identify solutions through its product applications. Now to formally demonstrate that commitment, the organization has become LP Building Solutions™. LP has and will continue to provide elevated products, processes and service to ultimately help industry members find solutions.

An example of this is the launch of LP® SmartSide® strand-based products in both smooth and textured finishes. You can read more about LP SmartSide Trim & Siding solutions on page 09 in “The HDTV Effect,” where designers, builders and remodelers are looking for ways to meet the expectations of homeowners inspired by home improvement television shows.

The article “Latest Innovations in Weather-Resistant Barrier” digs into high-performance building envelopes. As builders seek a building envelope that is easy and efficient to implement, LP now offers a weather-resistant barrier solution called LP® WeatherLogic™. Read more about that on page 06.

In our cover story, “What’s Causing the Land Shortage Crisis” (pages 10–15), we talk with some of the industry players that have identified some of the gaps and issues causing the land shortage. And while they may not have identified all the solutions, perhaps their assessment of small wins can be catapulted into larger-scale improvements to the current land development process.

As always, thank you for being a valued reader of Engineered Wood magazine. We welcome your feedback and story ideas, so please feel free to email me at editor@engineeredwoodonline.com.
CONTENTS

ON THE COVER

WHAT’S CAUSING THE LOT SHORTAGE CRISIS?

PG 10

PG 03
Balancing Cost and Energy Efficiency in Home Design

PG 06
Latest Innovations in Weather-Resistant Barrier

PG 09
The HGTV Effect

PG 17
8 Common Sub-Floor Installation Mistakes and How to Avoid Them

PG 20
Will Cellulose Nanomaterials Shape Tomorrow’s Engineered Wood?

IN EVERY ISSUE

PG 02
TRENDS & TECHNOLOGY

PG 07
BUILDER NEWS & TRENDS

PG 16
MARKETING TIPS

PG 08
Talk More to Save More

PG 21
Hard-Hatted Women

De-Mystifying “Value Engineering”

Homebuilding’s “Five L’s”
LP® Elements™: Extend the Beauty to the Property Line

Homeowners are already looking to create a private backyard space that complements the aesthetic of their homes. LP Building Solutions has developed a new fence material that offers homeowners the best of both worlds: natural beauty, durability and low maintenance. LP Elements stands up to harsh environments and doesn’t need to be repeatedly stained or painted like conventional wood. The initial fence portfolio includes seven natural fence colors to help you offer your fence installer’s customer the perfect complement to their home.

+ LPCorp.com/fence

Datacolor ColorReader

Datacolor’s new portable, lightweight ColorReader can detect the paint color of a surface on fabrics, tiles and paint to identify the closest paint match across major brands. Then the Bluetooth-enabled ColorReader tool provides color values of each reading through a mobile app on your smartphone device.

+ Datacolor.com

Hitachi NR Cordless Framing Nailer

The Hitachi NR Cordless Nail Gun works in a fast, consistent motion with a powerful drive, making it a top choice for cordless nail guns. It comes with the world’s largest rafter hook that will hold the gun on a 3.5-inch wall or beam. According to Hitachi, the nail gun’s fast charging battery only takes 30 minutes to rejuvenate.

+ HitachiPowerTools.com

Bosch GSA18V Saw

The Bosch GSA18V Reciprocating Saw is a cordless tool with a longitudinal pistol grip design. Its lightweight design and efficient motor cause an easier cut than a regular reciprocating saw, per the manufacturer. The saw’s convenience, power and fast tool-less blade-change system make it a top contending reciprocating saw for 2019.

+ BoschTools.com

* This information and the websites identified above are provided solely as a convenience to the reader. They are not intended to state or imply that the editors of Engineered Wood or LP Building Solutions sponsor, recommend, endorse or are affiliated or associated with the companies or products listed.
Balancing Cost and Energy Efficiency in Home Design
Shaddock Homes Includes LP® TechShield® Radiant Barrier Sheathing in Energy Efficiency Package

LOCATION
Dallas, TX

PROJECT SUMMARY
Shaddock Homes provides uniquely designed homes for their customers. With an emphasis on energy-efficient and cost-effective homes, they have used LP® TechShield® Radiant Barrier Sheathing for the past six years.

PROJECT OBJECTIVES
The Shaddock Homes team focuses on the home being the foundation of a family’s lifestyle. Each luxury home gets personal care and attention to ensure it meets the company’s commitment to quality. They strive to create homes that meet a balance of cost and energy efficiency, while still having an extraordinary home design.

SOLUTION
As part of its commitment to creating more sustainable houses, Shaddock Homes has relied on LP TechShield sheathing, the number one and original brand of radiant barrier sheathing, as an energy-efficient building solution on all of their homes since 2012.

Shaddock Homes’ Director of Purchasing Bill Pierce oversees material sourcing, contracting and budgeting, among other areas of operation. According to Pierce, LP TechShield sheathing helps contribute to a home’s value, livability and affordability.

“At the end of the day, when homeowners get their utility bill, it will be lower due in part to LP TechShield,” said Pierce.

As long-time loyalists to the LP TechShield brand, Shaddock Homes continues to choose LP TechShield sheathing over other radiant barrier sheathings on the market.

OUTCOME
According to their website, “The Shaddock Homes’ commitment to building energy-efficient and more cost-effective homes for clientele has never been more relevant than it is today.” As a part of its energy efficiency package, Shaddock Homes has included LP TechShield sheathing on all the homes it has built in the past six years.

The energy efficiency package is offered to all homeowners and includes other features such as tankless water heaters, 16 SEER HVAC units and R-38 insulation in the attic. Shaddock Homes educates homeowners on the importance of a home’s HERS (Home Energy Rating System) score and explains how certain home building materials—like LP TechShield sheathing—can contribute to a lowered score and the potential for lowered energy costs.

Pierce continues to rely on LP TechShield sheathing for their roofing needs. “I would recommend the product to anybody in the homebuilding industry.”

To learn more about LP TechShield Radiant Barrier Sheathing, visit LPCorp.com/TechShield. To learn more about Shaddock Homes and their commitment to cost-effective energy efficiency, visit ShaddockHomes.com.
De-Mystifying “Value Engineering”
Why Value Engineering Is Here to Stay

Over the past few decades, the term “value engineering” has made its way into the homebuilding industry as a way to describe a building practice that reduces overall costs while maintaining quality or functionality of a home. Value engineering can occur at nearly every phase of the build, from the architectural drawing and design to the material choices for the kitchen finishes. Want to improve your jobsite through value engineering? Don’t allow yourself to fall into the “been there, done that” mindset. Instead, take the mindset to always challenge yourself to find errors, omissions and improvements that can save you time, money and potential callbacks in the future.

Value Engineering: More Than Just Cutting Costs

In recent years, value engineering has skewed to a mindset of “let’s just cut costs” regardless of quality repercussions. It’s important to remember that value engineering is not about just trying to cut costs. When done correctly, value engineering is about finding both the most functional and most cost-effective way to build a structure that buyers want.

As home affordability keeps some potential buyers on the sidelines, value engineering could be one way to help you sell through more homes. Even small changes—think subbing a shower-bath combo for individual units or opting for straight-run stairs instead of flights with landings—can help builders keep homes in targeted price ranges without major sacrifices to design and quality.

What’s Driving Value Engineering

With the labor shortage affecting every aspect of the industry, builders are seeking ways to construct a home with less manpower. Another factor is the current lack of available land and the increase in urban infill. Packing smartly designed livable space onto smaller lots could push a builder to reconsider the design and materials used.

One often overlooked factor is the influence and expectations of the modern homeowner. Buyers are expecting homes to be built with more windows, elaborate floor plans and overall more intricate design elements—all while staying within their budget. The fact is that homeowners are changing and their housing preferences are evolving. Builders will need to evolve their designs to meet homeowner demand.

What Keeps Builders from Jumping on the Value Engineering Train

Even when value engineering practices can help save money, speed up timelines or improve energy efficiency, many homebuilders are still hesitant to change their ways. Production builders, in particular, are very systematic with a mechanized workflow. Once a builder decides to change one element of the build process, it can cause a disruptive ripple effect that many builders try to avoid. Maybe their local dealer doesn’t have the supplies needed or their local tradespeople are not trained on the latest installation practices. Bottom line: The home building industry is a complicated business with a complicated distribution and labor network. The fragmentation can make it difficult for builders to implement new methods and practices.

**BUILDER BENEFITS OF VALUE-ENGINEERED HOMES**

**ENERGY MANAGEMENT.** Offer your customers a more energy-efficient home (air tight, lower thermal bridging, etc.) that can help them curb long-term costs and their environmental impact.

**RESOURCE MANAGEMENT.** Leverage value engineering by requiring fewer materials and by offering a faster way to construct the home, both of which will save you time and money.

**REPUTATION MANAGEMENT.** Construct a home built to higher quality standards, which can lead to homeowner satisfaction, fewer callbacks and improved brand reputation.
Finding the Value in Value Engineering

When value engineering a home, a builder should look at the project holistically. Too often builders will only assess the cost of materials at the point of purchase without thinking about it through the entire build. The other factors can include additional time or money spent on callbacks, installation complexity, additional equipment or materials for installation, or even additional specialized tradespeople on site.

Gord Cooke is a building science engineer and partner at Construction Instruction, a consulting firm that serves as a resource for builders seeking information on cutting-edge construction methods. According to Cooke, a homebuilder cannot implement new building methods in a silo. “It takes collaboration with the architects, designers, framers and tradespeople. For this reason, it’s helpful to onboard the entire team to a new practice together,” said Cooke.

Cooke is a realist, explaining that the adoption of modern value engineering methods may not occur overnight for most builders. He encourages his clients to make a list of changes they’d like to implement over the next one to seven years to create a process for continual improvement.

“I advise that they make a list of things they want to try right away and then a list of things they want to wait on,” said Cooke. “As an example, I have one customer who took three years to fully implement optimal value engineering in his wall framing process.”

Using Premium Products Wisely

When you consider the overall return on investment, premium building products have the potential to actually stretch your overall project budget while also adding quality to the home—the ultimate end goal of value engineering. The key is to place higher value-added products where they would have the most perceived benefit. An example would be to swap commodity lumber for LSL (laminated strand lumber) in kitchens and baths where you have cabinets and tiling. LSL can also be used in advanced framing practices. Cooke explained that builders can actually use fewer studs in the walls to increase the R-Value and still meet code, minimizing the amount of heat transferred through the wall.

We have a much better sense now than we did 30 years ago when it comes to what makes buildings work and what makes them fail. The value of premium building products is apparent when you take into account the time saved by not having to go back and fix any issues that may pop up with lower grade materials. It comes down to the idea of “install it once and be done with it.”

READY TO ADD VALUE? HERE ARE SOME WAYS:

- **LP® FlameBlock® Fire-Rated Sheathing** is evaluated for code compliance by ICC-ES to meet code and provides additional value—strength, savings and greater design flexibility. It helps you build fire-rated wall assemblies and roof decks faster—at a lower cost—than most common alternatives.

- **LP® TechShield® Radiant Barrier Sheathing** installs like conventional roof sheathing and requires no additional labor, while blocking up to 97% of the radiant heat in the roof panel from emitting into a home’s attic, reducing an attic’s temperature by up to 30° F.

- **LP Legacy® Premium Sub-Flooring** has superior moisture resistance backed by a no-sand warranty until it’s covered by finished flooring materials. It’s one of the strongest, stiffest sub-floorings on the market and provides exceptional fastener holding.

- **LP® SmartSide® Trim & Siding** cuts out the time you spend dealing with warped and split pieces when properly stored and applied. Compared to fiber cement, it works and cuts like traditional wood, is lighter weight and less prone to breakage, and its longer lengths may equate to fewer seams and less waste.
Latest Innovations in Weather-Resistant Barrier

Homes Get Dual Protection with Products like New LP® WeatherLogic™ Air & Water Barrier

Today, builders and architects strive for a high-performance building envelope, but that wasn’t always the case. As energy codes continue to evolve and homeowners themselves demand more energy-efficient homes, the industry is turning to building science to help promote better designs for snug homes. Through approved performance methods, builders have the ability to value engineer the home’s building envelope and influence where they invest or shift resources to build a barrier against thermal, moisture and air penetration.

Most builders use a weather-resistant barrier (WRB) to prevent water intrusion while also providing vapor permeability or breathability to let water vapor escape and prevent rot or mold. The weather barrier should also resist tearing and UV damage.

**LP Enters the WRB Market**

This year, LP is introducing the LP® WeatherLogic™ Air & Water Barrier system. The barrier consists of 4x8 ft. engineered wood structural wall panels that have a permanently integrated, weather-resistant overlay. The panels install easily, just like regular sheathing. After the panels get fastened, the seams are securely taped using an advanced acrylic tape that features one of today’s highest quality adhesives (AAMA 711-13 approved).

**Benefits of Next-Gen WRBs**

LP WeatherLogic barrier is easy to install even if you don’t have a lot of experience. Builders then have the assurance that the home has a continuous air and water barrier for a tight building envelope. Moreover, LP WeatherLogic barrier protects against tearing because it has a permanent protective overlay applied during the manufacturing process.

With LP WeatherLogic barrier, builders and homeowners know that the home will be protected from the elements during construction—and that the tight building envelope will lead to improved indoor comfort and energy efficiency for years to come.

Thanks to LP engineering, builders and homeowners can enjoy all the benefits of dual weather protection. To learn more about LP WeatherLogic Air & Water Barrier, visit LPCorp.com/WeatherLogic.
The International Code Council (ICC) has expanded its Military Families Career Path Program, which helps transitioning veterans and their families by providing them information on building safety career options.

As the building industry is seeing a major increase in the loss of most of its skilled workers, the ICC is hoping that expanding the Military Families Career Path Program will mend the gaps with skilled, hard-working individuals. The building safety industry offers a variety of career paths that are a perfect fit for military family members and veterans because of their discipline, teamwork and commitment skills.

The ICC Military Families Career Path Program is part of Safety 2.0, which welcomes a new generation of members and leaders into the building safety industry. Learn more about the program at iccsafe.org/military.

Rural Studio, a student-centered design/build program in Auburn University’s College of Architecture, Design and Construction, recently announced Fannie Mae would be backing its 20K Initiative. Fannie Mae is committed to helping find solutions for underserved markets in the United States. The 20K Initiative supports titled homeownership in underserved rural communities by designing and constructing residences for $20,000.

The 20K Initiative is a part of the school’s mission to develop houses for financially vulnerable homeowners and seeks to support both housing and local economies in rural markets. “By integrating teaching, research and service, the 20K Initiative improves lives in Alabama and around the country; brings quality, sustainable homeownership to citizens; and builds stronger communities,” said Steven Leath, president of Auburn University.

Read more at ruralstudio.org and watch a PBS NewsHour feature on the initiative.

Introducing LP® SmartSide® Smooth Trim & Siding, delivering strand technology siding with advanced durability in a smooth finish.

LP SmartSide Trim & Siding offers the warmth and beauty of traditional wood with the durability of treated engineered wood. It’s a complete line of high-performance trim and siding products to complement almost any building style, with strand-based products now available in both a smooth and textured finish.

Designed to offer game-changing durability, beauty and workability, LP SmartSide Trim & Siding products redefine traditional building materials. Now, you have a choice of durable strand engineered wood siding products designed to fit your project aesthetics, whether you are going for something more sleek and modern or classic and traditional—or anywhere in between. For more information, visit LPCorp.com/SmartSide.
Talk More to Save More

Leveraging Builder-Manufacturer Collaboration to Offset Material Costs

Building material prices were 9.6% higher in June 2018 than they were a year before according to an Associated Builders and Contractors analysis of U.S. Bureau of Labor Statistics data. With increased demand, decreased supply and increased costs for supply, companies are seeking new ways to stay competitive and increase efficiency to offset spending more on materials. One way to increase efficiency is to focus efforts on improving communication and building relationships. According to LP Building Solutions Market Development Manager Kate Wyeth, “The building industry is starting to experience a more collaborative market where communication between manufacturer and builder is improving.”

“QUICK, DIRECT COMMUNICATION AND PERSONAL ONSITE EXPERIENCES WITH MANUFACTURING COMPANY TRAINERS BUILDS TRUE CONFIDENCE IN THE PRODUCT AND SIGNIFICANTLY LESSENS DOWNTIME ON JOBS.”

- BRENT TAYLOR

Brent Taylor, owner of Taylor Smart Exterior Solutions, agrees. “Emphasis on communication is playing a significant role in this industry becoming more collaborative,” Taylor said. “While personal interaction is key, technology also plays a big role in fostering communication through digital product training and support that allows more dissemination of product knowledge from manufacturer to builder.”

While the growth of technology in the building industry is expected to carry into 2019 and beyond, sole reliance on technology to communicate and collaborate is not enough. Though Taylor recognizes that technology can help with communication, he also said it can’t completely take the place of in-person, real-time interaction. In fact, he added, “Quick, direct communication and personal onsite experiences with manufacturing company trainers builds true confidence in the product and significantly lessens downtime on jobs.” As we know, downtime can equate to lost revenue; therefore, better communication can increase efficiency and serve to offset rising material costs.

So, where there are challenges in meeting demand, there is opportunity in collaboration. As an industry professional, put greater emphasis on proactive communication and a focus on collaboration, whether it is through the help of technology or in person. As LP’s Wyeth said, “With the increased demand, we’re all needing to work together to be more efficient and finish projects faster.” Keeping this reality top of mind will help to meet demand and ultimately exceed expectations.

* Resources:
B+D Construction: https://www.bdcnetwork.com/construction-material-prices-increase-steadily-june
eSub Construction: https://esub.com/10-construction-industry-trends/
Architects and remodelers call it “The HGTV Effect.” You know, those inflated expectations that some homeowners have after getting inspired by an episode of a home improvement TV show. Luckily, there are ways to manage client expectations while still using some of the ideas and wish list items they’ve seen their favorite TV remodelers do on air.

Thomas Wall, owner of Mitchell Wall Architecture and Design in St. Louis, has learned that some clients may have skewed expectations around costs. “They call and say that they want a total kitchen remodel with a mudroom and a bump-out for a breakfast area and they want to spend $50,000. That amount will probably pay for the new cabinets.” This is a critical point in the burgeoning relationship where the professional can either walk away or use it as a teaching moment by gently setting realistic expectations.

Wall added, “A lot of people don’t understand that you can’t live in your house while someone is gutting a big portion of it. On the TV shows, there’s a small army of people doing the behind-the-scenes stuff, including things like permitting. And in many cases, they only repair the parts of the house that are going to be photographed, leaving exposed pipes and things like that.”

Jeremy Rickels, owner of All Phase Construction and Remodeling in Monticello, Iowa, has become a master of bringing people back down to earth after they’ve watched too many remodeling shows. “We have customers who bring us some good ideas from the home improvement shows, but they often don’t know how difficult those jobs are,” he said.

“Their is the sticker shock of what it will cost. That’s when you compromise and start over,” continued Rickels. “When I talk [about] siding projects with a customer, I tell them that LP® SmartSide® siding is a great alternative to stone or brick and it costs less. Plus, most people don’t realize that LP SmartSide products have easy maintenance—not like cedar, which is scaring people away from traditional wood siding.”

LP SmartSide Trim & Siding is a smart choice. Now available in both a smooth and textured finish, it gives remodeling customers options to achieve their TV-worthy dream homes.

While this homeowner infatuation with glossy, 30-minute home makeovers continues, the challenge will remain to balance client expectations with reality. Just remember to stay grounded in your role to provide quality, safe homes. Because some design trends may go out of style, but you’ll rest easy knowing the home will continue standing for years to come.
WHAT’S CAUSING THE LOT SHORTAGE CRISIS?
The land development approval process is broken. Here's how to fix it.

Although the construction industry’s shortage of skilled labor has been making headlines for months, there’s another shortage that’s driving home prices steadily higher: the under-supply of available lots.

The land development process has undergone wrenching changes since the Great Recession. For one, it takes far more upfront capital than in the pre-recession days, which is placing serious burdens on small and mid-sized builders. Many states and municipalities were forced to lay off permitting professionals during the downturn, so an approval process that once took about six months now can easily stretch to two years or even longer.

For these reasons and more, competition for available lots has grown fierce. Many developers and builders are now putting more homes on less land. According to NAHB’s latest numbers, the median lot size of a new single-family detached home is now about 8,560 square feet. That’s a decline from about 10,000 square feet in the early 1990s.

Meanwhile, government regulations at all levels continue to slow down the land approval process and make homes more expensive. A recent NAHB study found that government regulations (federal, state and local) account for an astounding 24.3 percent of the final price of every new single-family home. Roughly 60 percent of that cost is due to regulations imposed during lot development.
A Brief History of U.S. Land Development

“When the Great Depression intensified in the 1930s, banks were stuck with a lot of land that they had to foreclose on,” said Manuel Lazerov, president of Infrastructure Financial, Inc. “The banks hated land loans like poison. Even after World War II, they would loan money to builders to construct houses, but wouldn’t give them financing for the land. So developers and builders started doing informal deals where the builder would initially take some of the developer’s lots and option the rest.”

Lazerov continued, “But the Great Recession changed all that. Builders were dropping contracts left and right, and it caused a lot of developers to go bankrupt. My company had a builder drop out of a deal when we had three-quarters of the roads, water and sewers on the property—and we really had to scramble to find another builder. We survived, but we were one of the lucky ones.”

Since 2008, land development has become dominated by large institutional investors who can afford to weather the downturns, and it’s more difficult for builders to pull out of deals. “The developer now takes care of everything right up to the day a building permit gets issued,” said Lazerov.

Lot supply is still struggling to catch up from the depths of the Great Recession. “It was a perfect storm because confidence, capital and demand all took such a big hit,” said Dennis McGill, director of research at Zelman & Associates. “We’re still at sub-optimal levels on the single-family side. The housing recovery has been a lot slower than what we’ve seen in the past.”

“The housing recovery has been a lot slower than what we’ve seen in the past.”

Dennis McGill
Director of Research at Zelman & Associates
Why Does Lot Development Take So Long?

Although the demand for new homes has greatly increased in recent years, the lot development process remains slow and frustrating. The NAHB’s study “Development Process Efficiency: Cutting Through the Red Tape” notes that most permitting and approval regulations are added piecemeal until the entire process grows too cumbersome to manage efficiently. “There are still a lot of unnecessary, burdensome regulations to deal with—and most municipalities are woefully understaffed,” said Greg Vogel, CEO of Land Advisors Organization.

Infrastructure Financial’s Lazerov points to three reasons why the approval process moves at a snail’s pace.

“First, you have to remember that a lot of communities don’t really want affordable single-family subdivisions,” he said. “They’d really prefer to have empty-nesters in mansions or maybe an industrial park. Those generate the most amount of revenue. Communities often oppose affordably priced subdivisions that would be ideal for people with children because it means that school budgets would dramatically increase.

“Another factor is that many people who sit on approval boards don’t really understand the world of development and construction. They’re often not sophisticated business people who know how to delve into an impact study.

“Finally, many communities are too small to have their own planning and engineering people on staff, so they hire outside consultants who have an incentive for the job to take as long as possible so they can keep getting paid. They keep writing change orders, many of which are ridiculous. We once had a consultant reject our plans because of the design of a bolt for the gang box, the shared mailboxes that some developments use. These nuisance change orders can really drag out the time it takes to get approvals.”
Keys to Speeding Up the Approval Process

Homebuilder organizations are beginning to work with reform-minded municipalities to make the land permitting and approval process faster and easier. Here are some of the initiatives that are proving most effective:

- Creating a one-stop permitting system (“fast tracking”)
- Implementing online permitting
- Changing or updating zoning to reduce the need for individual variances
- Combining public hearings to get faster input from the community
- Creating dedicated Development Assistance departments

“It’s very helpful when a municipality implements a fast-tracking process for permits and approvals,” said Vogel. “There are many jurisdictions in Arizona that are doing innovative things—including Phoenix and some smaller municipalities like Buckeye and Goodyear [see sidebar, page 13]. And there’s a great deal of agility in the Texas markets when it comes to faster, more efficient land approval.”

There’s also a push for change at the state level. NAHB research highlights three states that are leading the way:

- In Washington, the Governor’s Office of Regulatory Innovation and Assistance (ORIA) was established specifically to work with local governments and applicants to improve permitting processes. ORIA works closely with developers to obtain environmental permits in a timely manner.
- Utah’s Office of the Property Rights Ombudsman is staffed by attorneys who resolve disputes and help all parties better understand development laws.
- The Massachusetts Permit Regulatory Office runs the state’s expedited permitting program and provides infrastructure grants for housing developments.

Even in communities where there’s been progress in speeding lot development time, there are still many hurdles to overcome. One city planner in Leesburg, Virginia, told researchers, “We don’t consider ourselves fixed, we consider ourselves better. We need to keep an open mind and continue to be fluid in looking for ways to improve because once we become complacent, we’re right back to where we were.”
Even in communities where there’s been progress in speeding lot development time, there are still many hurdles to overcome.

**Smaller Lots Equals Closer Neighbors**

According to Metrostudy, the average home size in the nation’s top 15 markets has declined as lot sizes shrink. Many of these are zero-lot-line projects where the house comes right up to the property line. Products like LP® FlameBlock® Fire-Rated Sheathing help builders meet increasingly stringent fire codes for these homes that are often just a few feet apart.

LP FlameBlock sheathing is used in many exterior wall assemblies, including Intertek Listing LPB/WPPS-60-01. This one-hour fire wall is rated on both sides, and it is commonly used as an exterior wall along the property line, including single-family construction.
As we move at full speed into the digital age, it can seem as though many of our customer interactions take place over email, phone, text and other forms of electronic communication. Within an industry that is still so grounded in relationship building, maintaining in-person touchpoints with customers is still very valuable. As new products hit the market, dealers must serve as an educational resource, and a good strategy is hosting in-store events.

01 INCENTIVIZE ATTENDANCE

Increase your headcount at in-store events by offering some type of gift or reward for attending. This could be in the form of a product rebate or even a premium gift such as a cooler or gift card. This shows that you appreciate their time and value their business.

02 PARTNER WITH A MANUFACTURER

Leverage product manufacturers at co-branded events. This is especially useful when you’re stocking a new product and want your customers to learn more about its value. Manufacturers often have the resources to create custom events that don’t require as much time or investment on your part.

03 DON’T JUST SELL, EDUCATE

Builders are often seeking the latest information on building trends, new product applications, code changes and more. By offering an educational element within your events, builders will walk away with more trust in you as both a product supplier and a business partner.

04 ASK FOR FEEDBACK

To make sure you’re getting the most out of your events, it’s important to survey attendees to understand what they found valuable from the event and where you might improve. This can be in the form of a follow-up email, comment cards on site or a personal phone call to the attendees.

COMING TO A DEALER NEAR YOU

The LP House Party, an experiential truck and trailer from LP, tours the United States stopping at dealer locations to host product demonstrations and educational lunches for surrounding builders. The trailer features product displays for LP’s line of high-performance products like LP Legacy® Premium Sub-Flooring, LP® SmartSide® Trim & Siding, LP® TechShield® Radiant Barrier Sheathing and LP® FlameBlock® Fire-Rated Sheathing. The LP House Party experience has traveled from coast to coast, been featured in 352 events and showcased LP products to more than 22,250 customers from 8,300 companies.

Steve Cerveny with Tom Scott Lumber has hosted the LP House Party and finds it a great educational tool for both his customers and his staff. “I can talk about a product all day long, but when people see the product demonstrations it’s very impactful,” said Cerveny. “For many years the market was trending toward fiber cement, but when people see that sledgehammer comparing the durability of LP SmartSide siding to fiber cement it’s very impressive. That coupled with the warranty, our sales guys were convinced of the product and are able to sell it better.”

Interested in learning more?
Contact Jennifer Fink at: jennifer.fink@lpcorp.com
8 COMMON SUB-FLOOR INSTALLATION MISTAKES AND HOW TO AVOID THEM

From Tight Spacing to Improper Fastenings, Simple Errors Can Lead to Callbacks. Here's a Best-Practice Refresher.

**Improper Spacing Between Panels**

**BEST PRACTICE:**
Most manufacturers recommend 0.125 inches (0.0625 inches for some premium sub-floors) at panel ends and edges.

**Improper Fastener Placement**

**BEST PRACTICE:**
- **0.375 in.** FROM PANEL CORNER
- **6 in.** ON-CENTER ALONG THE PANEL EDGES
- **12 in.** ON-CENTER ALONG CENTER SUPPORTS

Be sure to place all perimeter fasteners 0.375 inches back from the nearest panel edge.

**Upside-Down Installation**

**BEST PRACTICE:**
In all cases, the detailed panel trademark stamp should be installed downward so it can be examined during inspections.

**Not Gluing Properly**

**BEST PRACTICE:**
For best results, don’t glue too far ahead. Work no more than one panel ahead. Also, applying a small bead of glue in the tongue-and-groove can significantly help reduce any movement and noise.

**Delaying Fastening**

**BEST PRACTICE:**
Fasten each panel fully as you go to ensure full adhesion and to avoid movement and noise down the road.

**Using Improper Fasteners**

**BEST PRACTICE:**
Using code-approved screws rather than nails is the best option for avoiding movement.

**Letting Water Sit**

**BEST PRACTICE:**
If the floor system is exposed to the elements and bulk water is present, sweep it off or drill drainage holes.

**Improper Storage**

**BEST PRACTICE:**
Always store panels in a clean, dry area and off the ground. If stored outside: Cover panels with plastic sheets or tarps. Keep cover open and away from the sides and bottom of the panels to allow for air circulation.

A well-installed sub-floor is one that homeowners don’t have to think about after they move in. Avoiding these common errors can help ensure your flooring system is stable, quiet and reliable for years to come.
The people who make housing industry predictions for a living are a brave bunch. There are many moving pieces to track, including interest rates, tariff negotiations and labor shortages. Even a strong economy brings mixed blessings. Higher wages mean that more people can consider home purchases, but rising interest rates make them more expensive to finance.

*Engineered Wood* spoke with three professional prognosticators to get their thoughts on the threats and opportunities facing the homebuilding sector in 2019.

“The steady gains in employment and personal income are supportive of many types of construction,” said Ken Simonson, chief economist for the Associated General Contractors of America. “Multifamily construction is also benefiting from the tight supply of single-family housing.”

“There are five major categories that have the most impact on homebuilding,” said Robert Dietz, Ph.D., chief economist and senior vice president of the NAHB. “We call them the five L’s: land/lot development, laws, lending, labor and lumber.”

Dietz examined each category:

**LAND OR LOT DEVELOPMENT** – “Many of the smaller land developers went out of business during the Great Recession, and that has contributed to the lot shortage.”

**LAWS** – “Communities continue to pass land development laws and regulations that are constraining the ability of the single-family construction sector to increase its production volume.”

**LENDING** – “Lending will tighten a little as the Fed continues to raise interest rates, but they’re doing that because the economy is strong and income growth is accelerating.”

**LUMBER** – “Framing lumber prices came down somewhat last summer, but will likely remain elevated compared to 2017 levels unless we negotiate a new agreement on imported Canadian...
softwood lumber. About 91 percent of single-family homes in the U.S. are wood-framed, and Canadian lumber accounts for about one-third of what we consume.”

**LABOR** – “Finally, we all know about the shortage of skilled labor in homebuilding, but there’s also a big shortage of truck drivers to transport building materials. As their wages rise, transportation costs will go up and manufacturers will try to shorten the supply chain between mills and builders.”

**How Engineered Wood Can Benefit**

“We foresee that builders will be looking for less fiber-intensive solutions as the price of lumber increases,” said Ed Hudson, director of the market research division at Home Innovation Research Labs. “That could be a real positive for engineered wood, which is more manufacturing intensive than material intensive. Although 2x6 framing has gotten more popular lately, you may see builders go back to 2x4 framing because of the material savings. We’ll probably also see a greater reliance on off-site manufacturing where everything’s pre-cut in the factory because there’s a lot less material waste.”

Hudson believes that 2019 will be a particularly good year for custom homebuilders. “Because there are fewer lots to choose from, there are more opportunities for infill jobs where a builder tears down an existing house and builds a new one—something that production builders can’t do.”

**“Wild Cards” That No One Controls**

Like every other industry, homebuilding gets thrown some unexpected curveballs—like the ones from Mother Nature. We can only hope that 2019 won’t see a repeat of the devastating wildfires which last year burned one million acres in British Columbia and more than 120,000 acres in Washington state. “Just think of the financial impact it has when the equivalent of billions of board feet of lumber go up in flames,” said Dietz.

If U.S. tariffs on imported steel and aluminum continue throughout 2019, it could cause building product manufacturers to think twice about opening new mills and factories. “It takes a lot of steel to build a new sawmill,” said Dietz.

Transportation costs spiked significantly last year—and those costs could even go higher in 2019. The American Trucking Association estimates an urgent need for 50,000 more drivers nationwide. As Amazon, Walmart and other retailers hire drivers who would otherwise transport building materials, labor costs will continue to soar. Many truckers are now demanding—and getting—signing bonuses and big pay raises.

All three forecasters agree that 2019 should be a good year for homebuilding. “There’s a market potential for 1.2 million new single-family homes in 2019—900,000 to keep pace with population growth and another 300,000 to replace older housing,” said Dietz. “However, we expect construction to begin on less than one million units this year. We’re not reaching the market’s full potential because of lot and labor shortages, as well as the growing housing affordability crisis as interest rates increase.”
Scientists are expecting big things from incredibly small particles called “nanomaterials.” Their unit of measure is the nanometer: one millionth of a millimeter. Not sure how small that is? It’s about 100,000 times smaller than the diameter of a human hair.

More than 40 percent of wood consists of cellulose, the world’s most abundant organic polymer. Researchers are now creating cellulose nanomaterials (CNs) that have properties distinct from both molecular cellulose and wood particles/pulp. CNs are becoming the “building blocks” for the next generation of remarkable engineered wood products.

Much of this research is being conducted at the U.S. Forest Service’s Forest Products Lab (FPL) in Madison, Wisconsin, and at leading universities like Purdue, Georgia Tech and the University of Maine.

“For engineered wood products, a few areas where nanotechnology may have an impact will be in the development of improved coatings and adhesives/binders,” said Dr. Robert Moon, a material research engineer with FPL who is stationed at Georgia Tech’s Renewable Bioproducts Institute. “This could be for things like improved durability, moisture resistance and mechanical properties.”

“In my lab, we have focused on using one particular type of CN called cellulose nanofibrils, or CNFs, as binders in composite applications,” said Mehdi Tajvidi, Ph.D., assistant professor of renewable nanomaterials at the University of Maine. “In a pilot program, we have produced 4x8 ft. particleboard using CNFs as binders. We are working on developing sheetrock replacements, molded interior wall coverings and flooring systems. I think CNFs will soon find their way into some general building products, but there’s still a long way to go before they’re in engineered wood products.”

“As for OSB products, I think we’ll eventually get to a place where we use small bits of wood—smaller than now, but not nano-sized—and CNs to improve them,” said Jeffrey Youngblood, a professor at Purdue’s School of Materials Engineering and editor-in-chief of Green Materials. “We are currently getting five times the strength of automotive steel with CNFs, but that would be overkill for most engineered wood building materials. However, if an OSB manufacturer is needing twice the current strength and stiffness, we might be able to get there with 10% CN modification.”

For the latest updates on CN research in engineered wood, visit the International Nanotechnology Division website of the Technical Association of the Pulp & Paper Industry (TAPPI) at tappinano.org.
THE ROLE OF WOMEN IN THE LABOR SHORTAGE

Hard-Hatted Women
How Industry Groups Are Advocating for Women to Address the Skilled Labor Shortage

According to July 2017 estimates by the U.S. Census Bureau, 50.8 percent of the population is female. Why, then, are women teetering at only 10 percent of our industry's workforce?

This 10 percent—according to the National Association of Women in Construction (NAWIC)—has grown slightly over the past few years, albeit less than a full percentage point. So groups like NAWIC are putting in the effort with a spectrum of age groups and skill levels in order to decrease the gender gap in the building industry.

Early Interest Leads to Early Entry

“We’re getting them younger by talking to kids as young as middle school,” explained Catherine Schoenenberger, the immediate past national president of NAWIC. “We host NAWIC camps across the country. We engage young girls between middle school and high school. In middle school, girls are at a pivotal point to explore and get excited for STEM (Science, Technology, Engineering, and Mathematics).”

Through these camps, NAWIC immerses young women in activities such as engineering and carpentry to help them foster an early interest, understand the differences, and see opportunities that exist within building and design.

Garnering Women Interested in Career Changes

But NAWIC sees the potential in attracting women at all career levels. For Schoenenberger, it’s not uncommon to see a 40- or 50-year-old woman just now entering the industry. “For any woman to be interested in a career that is thought of as untraditional, mentoring is important,” she explained. Therefore, NAWIC fosters mentoring programs for “emerging professionals” because they are witnessing more than just young professionals looking for career guidance.

Elevating the Pros, Addressing the Cons

For many women there is a perception about construction that may be intimidating, which Schoenenberger acknowledged. “Construction is a beast.” But NAWIC is committed to dispelling some of the myths about it. For one, NAWIC is showing the variety of jobs that exist in offices, as project managers or within the field.

“We women are our own worst enemy in that we talk ourselves out of proving something,” admitted Schoenenberger. “They feel like they have to dot every I and cross every T.”

But on the positive side, per Schoenenberger, “In the construction industry, the pay gap is much smaller than in other industries. Women are making 82 cents on the dollar [on average]. In construction, we are at 93 cents.”

She continued, “We are promoting in the trades especially that it is a livable wage. It is actually a career, not a job.”

The female workforce exists, says Schoenenberger, but policy changes and advocacy groups will help drive the perception change and ultimately balance out the gender disparity that exists.

“The labor shortage doesn’t have to be that way. We have women that are trained, skilled and ready to work.”

+ Nawic.org +
OUR TOUGHNESS RUNS DEEP.

Catch the unveiling of our Tested Extreme: Shark videos online and at IBS on February 19. Learn more at www.testedextreme.com.