

VOL.
27

NO.
3

This Old House

PRO ADVICE
FOR YOUR
NEXT RENO

FALL
2022

WEST ROXBURY REVEAL / DIY NIGHTSTAND / PORCH REMODEL / SMART LIGHTING TIPS

Saving a House with History

Kevin, Tom, and the team hit the road to help a family preserve the legacy of South Atlanta's first postmaster



NEW SEASON,
NEW PROJECT!

For details, turn
to page 43.

PLUS

**SAVE ENERGY
—AND MONEY**
How to get
started with
solar power,
page 56

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BLUE-GREEN ALGAE AND HOW YOU CAN HELP PROTECT YOUR CUSTOMERS FROM IT

The dark stains you see on roofs all over the U.S. and Canada are often caused by tiny cyanobacteria called *Gloeocapsa magma* — commonly known as blue-green algae.

It's a bacteria that travels on the wind and thrives in moist environments — so if one house in a neighborhood has it, others have probably been exposed as well. The darkening effect can impact the appearance and resale value of a home, as well as the effectiveness of highly reflective cool roofs.

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Proprietary GAF Time-Release Algae-Fighting Technology

At certain concentrations, metals like copper and zinc are toxic to blue-green algae, and can help prevent it from growing. In fact, on much older homes you may still see pitted copper and zinc strips tucked up under the ridge caps.

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² Based on 2021 survey commissioned by GAF of 500 homeowners in areas with moderate to high amounts of blue-green algae.

³ 15-year WindProven™ limited wind warranty on Timberline HDZ® Shingles requires the use of GAF starter strips, roof deck protection, ridge cap shingles, and leak barrier or attic ventilation. See *GAF Roofing System Limited Warranty* for complete coverage and restrictions. Visit gaf.com/LRS for qualifying GAF products. For installations not eligible for the WindProven™ limited wind warranty, see *GAF Shingle & Accessory Limited Warranty* for complete coverage and restrictions.



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FROM THE TOH JOB SITE: SAFEGUARDING A LEGACY

The TOH team
heads south to
lend a hand in the
renovation of an
1890s Folk
Victorian that
has a significant
place in South
Atlanta's history



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COVER Photograph by Steve Dietl

IDEA/FILE



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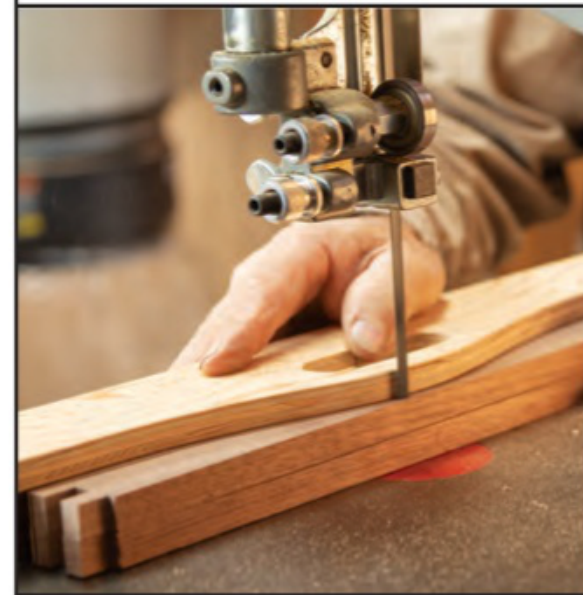
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The trick is in the team—and the proof is in the pictures

One of the pleasures of tackling a large-scale renovation is working with professionals who know a whole lot more than you do. You may be the expert on your home's dysfunctions—poor circulation, inadequate systems, too little light, or not enough storage (to name a few). You may even have ideas about how to fix them. But when a team of skilled pros is in place, the best renovation stories end with homeowners telling us: “They gave us everything we wanted and what we didn’t even know we needed.” Or, as Derek Rubinoff, both a homeowner and the architect on the West Roxbury project house, puts it: “I imagine these things for a living, and, wow, this is even better than I imagined it.” The very modern elements that he and his wife, Robyn Marder, mixed into their 1894 house feel seamless somehow and manage to play up the home’s Victorian character—thanks in part to some creative problem-solving by builder Deliandro Dias and the *This Old House* team (page 34).

All the remodels in this issue showcase the kind of expert intervention that makes a project really sing. For the Kent family, a major design move suggested by their architect, Jeff Troyer—relocating the kitchen and dining room to the lower level and bedrooms to the main floor—led to a reimagining of their 1938 home that comfortably and stylishly makes use of every square inch (page 11). The Cusack family, in search of a kitchen that would honor their circa 1895 American Foursquare while improving its function, found their hero in designer Tiffany Skilling, who annexed a pantry and had an original oak hutch rebuilt a third smaller—two ideas that made all the difference (page 24). More standout examples of imaginative problem-solving in action: architectural designers Anthony Wilder and Maria Fanjul’s character-rich front-porch redesign (page 21) and interior designer Max Humphrey’s classic-meets-modern primary-bath overhaul (page 28). All of these projects bring to mind some more homeowner wisdom recently shared in these pages: “Hire good people—and listen to them.” You’ll be glad you did.

KATHRYN KELLER,
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kathryn@thisoldhouse.com



Join us in a toast to Norm

The House That Norm Built, a new hour-long TV special celebrating master carpenter Norm Abram’s 43-year career at *This Old House*, airs October 3. Watch parties encouraged! (Plaid optional.)

P.S. Speaking of teams, kudos to *TOH*’s in-house experts, recently honored with a **Lifetime Achievement Daytime Emmy Award** for the show that invented the home-improvement genre (page 6). Hats off to **Norm, Tom, Richard, Kevin, Jenn, Charlie, Mark, Mauro, Heath, Nathan, and Ross**—those of us lucky enough to work with you are grateful every day for your knowledge, experience, and generosity.



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Around The House

What's happening in the world of **This Old House**

MAKING TELEVISION HISTORY

Honor of a lifetime

TAKE A BOW, TEAM *TOH*! Renovating old houses has many rewards: the satisfying hands-on work; the thrill of the transformation; the smiles of grateful homeowners that confirm a job well done. But *This Old House* recently added one more: a Lifetime Achievement Award presented at the 49th annual Daytime Emmy Awards—only the third television show to receive the honor in the National Academy of Television Arts & Sciences' 67-year history. For *TOH*'s pros, the honor prompted reflections on the success and longevity of the show (43 seasons and counting), which first aired back in 1979 when creator Russ Morash had the then-unheard-of notion of finding a house that needed work and fixing it up on television. "This was a crazy idea to have contractors talk and give away their secrets....Now people come up and say, 'Thank you for all you've taught me,'" said Richard Trethewey. "That's a career well lived for all of us." The National Academy's president and CEO, Adam Sharp, summed up the show's ethos this way: "The *This Old House* team celebrates community and the hardworking trades. They are champions of craft. They are, quite simply, icons of excellence." To which we say: Here's to another 43 years!

Hoisting their new hardware high, from left: Nathan Gilbert, Mauro Henrique, Charlie Silva, Norm Abram, Tom Silva, Jenn Nawada, Kevin O'Connor, Richard Trethewey, Ross Trethewey, Mark McCullough, and Heath Eastman



ISABELLA VOSMIKOVA

“ The *This Old House* team has inspired millions of viewers to see not just the potential behind their homes’ aging walls, scary basements, and overgrown gardens—but in their own two hands.” —ADAM SHARP, *National Academy of Television Arts & Sciences*



You did it!

Reader projects, tips,
and triumphs



Rustic reuse

TOH Reader: Matt Miermans,
Vancouver, WA

With help from your videos, I built this dining table out of pine beams salvaged from an 1890s barn. The top is completely smooth and flat with breadboard ends, but I preserved the reclaimed look on the legs and crosspieces, which are joined with mortises and tenons. It feels rock-solid, and my wife and I enjoy eating at it every day. We're big fans of *TOH*. We love the TV seasons and the range of online advice.

Shelf help

TOH Insider: Tony Lubrano (and daughter Alyssa Lubrano, shown), Plainview, NY



My daughter recently got her first apartment and came up with the idea of us building a ladder bookshelf together. So I went to the *TOH* website and found an easy-to-follow illustrated plan. It was a great father-daughter project, and my daughter picked up some good basic hand- and power-tool skills. (She loves the nail gun!) The shelves came out great, and we're both very much looking forward to our next do-it-together project. Thank you, *TOH*!

Picture show

TOH Reader: Elena McNally, Natick, MA

I easily adapted thisoldhouse.com's plan for a sunburst mirror to make this picture holder out of shims. The trick was to drill holes in the center of the shim ends to keep them from splitting when adding the photo clips. I'm so grateful for your beautiful, achievable home projects.



READER TIP



I stumbled on a better way to stain wood trim, using roller covers that arrived damaged: Cut one in half, load an end with stain, and rub it on. The finish goes on faster and more evenly, and it keeps hands cleaner than a brush.

TOH Reader:
Steve Hylton, Axton, VA



Stave save

TOH Insider: Henry Veldman, Woodway, WA

I made these chairs and table out of two oak wine barrels, having seen something similar at a Seattle garden show. Guided by a photo, I disassembled the barrels, sanded each stave, and applied a wood stain (appropriately named Cabernet), then seven coats of clear finish. Everything's made from the barrels except the chair legs and seat platforms. One is a rocker; the other's wider. Both are very comfortable!



Change of hearth

TOH Insider: Mark Fletcher, Ottawa, Ontario

I installed this fireplace stonework and built the mantel and surrounding wainscoting to create an inviting family hangout for our cold Canadian winters. To warm it up, I replaced a modern mirror treatment with colonial-inspired elements. It was my first wainscoting and largest-scale masonry project. It all came together, and—mission accomplished!—the kids often ask me to start a fire. We all love hanging out here together.



Warm-up bench

TOH Reader: Patricia Blaskovic, Kirtland, OH

I saw the step-by-step instructions for a simple firewood bench in your Winter 2021 issue [Easy DIY] and decided it would be a wonderful project. I used wood reclaimed from a fence on our property and, with my new table saw, reduced the face boards' width by about an inch. It felt great to build something useful from scratch. I did all the work outdoors with my dog, Millie, as my shop supervisor. My tools and I got a good workout, and building the bench refreshed my skills and interest in woodworking. Thanks for the great project.

READER TIP



To remove paint from old brick or wood without harming the surface, try soda blasting—it uses sodium bicarbonate crystals in place of sand. Just be sure to test for lead paint first and wear proper safety gear, since the process produces a lot of dust. It can be slow, but the results are pretty amazing.

TOH Reader: Basia Sokal, Kingston, Nova Scotia

Want to share? Write to us at youdidit@thisoldhouse.com



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INSPIRING SPACES, DESIGN DETAILS, AND FINISHING TOUCHES



The renovation put gathering spaces on the basement level and quiet spaces on the main floor. Dinner is served steps from the kitchen; a multi-panel door opens onto the poolside patio.

House Tour

Upstairs downstairs

A 1938 house's deft redo turns the layout upside down. Now lower-level cooking and dining spots open onto outdoor spaces that are magnets for family and friends



BY DEBORAH BALDWIN | PHOTOGRAPHY BY TIM HIRSCHMANN

Renovating an old house is hard enough. But reworking one that's glommed on to a hillside? It's not for the faint of heart. Builders in places like San Francisco and Los Angeles do it all the time, though. There, a vintage house with a view often descends from street level, held in place, in the case of this 1938 gem, "by a concrete retaining wall on the uphill side and traditional wood framing on the downhill side," says architect Jeff Troyer, who transformed this home's interior and exterior spaces.

From the street, the house appears to be an unassuming single story with Normandy-style hipped roofs and a front-facing attached garage. But at the rear, it emerges as an ample two-story house with rooftop solar panels and a balcony looking south (those views!) over a well-furnished patio and a mid-century pool.

"You can see right through the house to downtown LA," says Brad Kent, recalling the first time he and his wife, Mandy, opened its front door. "We said, 'We think we're going to take it!' Then we saw the layout.... But then we opened a door and—wait, there's a downstairs the same size as upstairs?"

The couple, with two young kids, had been



ABOVE: The dining area hosts a wet bar with open bottle shelves so guests can feel like they are out on the town. Clear cabinet panels put barware on display.





STYLING: SUNDAY HENDRICKSON

The once ho-hum walk-out basement now holds a chef's kitchen, lined with prep space and pierced with windows and doors. Exposed joists and walnut cabinets with blue fronts warm up the room.



renting in Pasadena, CA, and hunting for an old house nearby. But inventory was low and prices high. This house was right across the Pasadena line in Eagle Rock, an in-demand neighborhood in northeast LA.

The family was ready to nest. They settled in, spending a year or so getting to know what they did and didn't love about the place. Besides the views, the house, renovated at one time, held four bedrooms, three and a half baths, and two fireplaces. But two things grated. The bedrooms were oddly divided between two floors. And the galley kitchen was so narrow, there was no room to really cook.

And Brad is a chef.

"This is my first house, and I'm 52," Brad says, leading up to a description of what turned into a rather ambitious redo. Within three years of moving in, the 2,663-square-foot house had acquired a 275-square-foot kitchen with a 60-inch range and more refrigeration than a bodega. As the culinary brains behind a chain of build-your-own-pizza restaurants, he wanted enough firepower, tools, and elbow room to grill, roast, braise, bake,

ABOVE: The kitchen is anchored by a soapstone-topped island large enough for family breakfasts—and multiple cooks. Its prep sink frees up the main sink for dishes.

RIGHT: A paneled, circa 1910 door with a peek-in pane adds old-fashioned charm to the walk-in pantry. A laminated ceiling beam, finished to match the exposed joists, helps beef up the open plan's support system.





ABOVE: Stone veneer and a faux chimney add presence to the front facade. The house sits atop a slope, appearing as one story in front while revealing two floors in back.



RIGHT: A multi-panel folding door and a pass-through opened the kitchen and dining area to the pool and surrounding patio.

and broil whatever came to mind. “I’ve catered in multibillionaires’ houses, but none of their kitchens was fully usable,” says Brad, who made sure every square inch of the family’s new kitchen could serve his many purposes. “I’d also worked on a yacht, so I knew the luxury of being self-contained without having to wish for anything.”

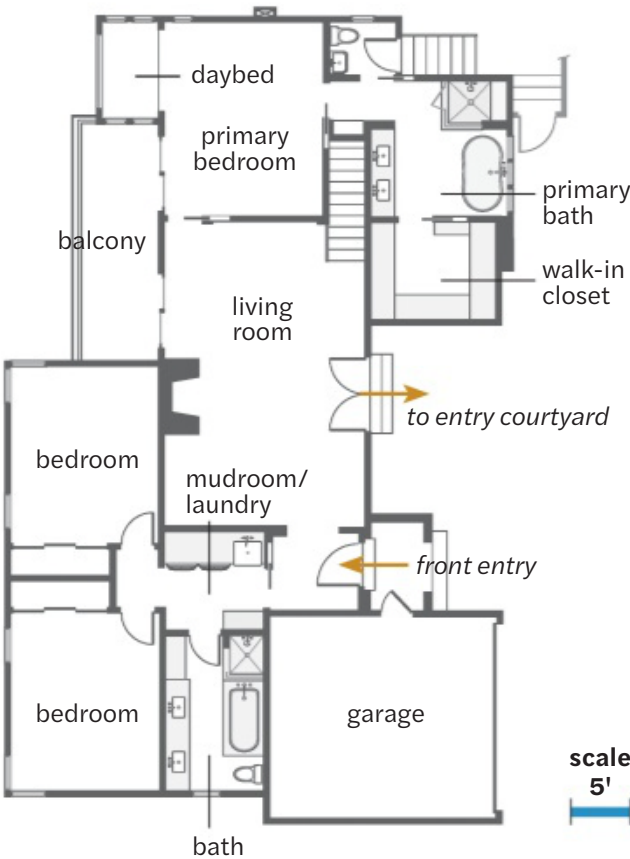
Working with Troyer, who specializes in bringing new life to old houses, Brad and Mandy drew up a wish list. “They wanted a bigger kitchen, but they weren’t sure where,” Troyer recalls. “They also wanted a primary suite closer to the kids’ rooms. So putting all that together, it made sense to swap,” he says of moving the kitchen downstairs and the primary suite and laundry area up.

A basement kitchen sounds like a throwback to another era, but in this case it would provide needed square footage. “Brad and Mandy have people down there all the time,” Troyer says—should anyone raise questions—drawn by a 49-square-foot island, a dining area warmed by a fireplace, an open bar, and easy access to the patio and pool. All of this dovetailed not only with Brad’s love of cooking but also with the family’s enjoyment of kitchen-centric gatherings, which the old galley kitchen could not accommodate.

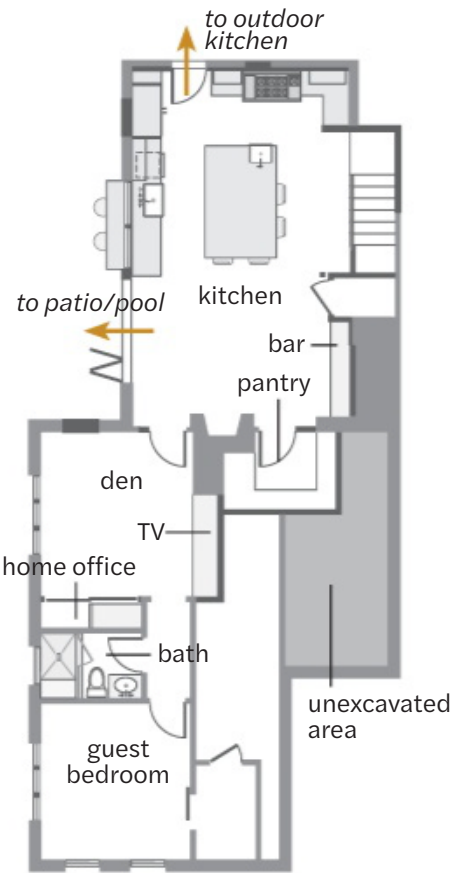
FLOOR PLANS

The 2,663-square-foot, four-bedroom, three-and-a-half-bath house gained just 28 square feet and a reworked layout. Walls were rearranged on the main floor to excise the kitchen and dining room and create a primary suite. The staircase moved from the mudroom (which gained the laundry) to lead down from the living room. The basement level, which includes crawl space, now holds the kitchen, dining area, and pantry, plus a guest room, a renovated bath, and a den. The dining area opens to an existing patio, which leads to a new outdoor kitchen and a pavilion with a fireplace (not shown).

MAIN FLOOR



BASEMENT



scale 5'

FLOOR PLANS: IAN WORPOLE



One rule of thumb among cost-conscious renovators: Don't move pipes and drain lines. But it's hard to move a kitchen without rearranging the infrastructure. Enter general contractor Doug Rens, who would oversee the flipping of the floor plan, demolishing walls, pouring new footings, and remaking the basement as living space.

To further that last goal, the crew would remove the drywall ceiling, exposing the joists and increasing the headroom. They also installed engineered beams to support newly open spaces. These days, building a hillside house involves much thicker retaining walls with deeper foundations, Troyer says. A major renovation of an older house like this one, he adds, requires some shear walls to meet seismic code. The prefabricated shear panels used here allowed for large door and window openings with no loss of structural integrity.

The crew also stripped out dropped ceilings in

ABOVE: New French doors in the living room open onto the remodeled balcony. The existing fireplace is now topped with a salvaged-wood mantel; the white oak flooring and staircase are also new.

some areas, gaining 6 to 12 inches, for a total of 8 feet from the floor to the bottom of the exposed joists. The empty bays add a sense of spaciousness. "The original wood had such a beautiful patina," Troyer adds, explaining why the homeowners kept them unpainted, balancing the warm wood overhead with pale French limestone and white oak underfoot.

The scope of the work left little untouched. Insulate here and there, replace the HVAC, remodel the basement bath, and put down new flooring. Cut openings for a kitchen pass-through to the patio and for an expanse of light-channeling French doors; add new casement windows as needed. Tap crawl space—dirt floored, with varying heights but not enough headroom to even sit—for a pantry and an alcove in the den off the kitchen. Thank goodness the upstairs hall bath was fine, the chimneys worked, and the roof was relatively new.



With Brad eyeing every square inch of open space as an opportunity to add a bell or a whistle, the crew would have to run wiring, plumbing, and gas lines. And with the joists so beautifully exposed, “we didn’t want to put plumbing, electrical, and ducts in the ceiling,” Troyer says.

Where small expansions involved colonizing crawl space, “you demo what’s in the way and dig,” Rens explains. “You make nice big footings and put in a block wall to hold the dirt back, then waterproof it.” The crew cut trenches in the slab foundation for pipes and wiring, tagging the filled channels with risers to help guide the locations of appliances and sinks. Lines also had to be laid outside, where the plan called for an outdoor kitchen and a heated pavilion with a fireplace at patio level—connected by stairs to a converted shed, off the first-floor level, with its own test kitchen and bread oven.

ABOVE: French doors off the entry courtyard open onto the living room and its wood-burning fireplace. The dormered attic above is reserved for storage.



Renovation recap

THE HOMEOWNERS Mandy and Brad Kent, with their daughters, Hannah, 10, and Iris, 12 (above). Mandy’s a mammography technologist; Brad is a chef and entrepreneur who helped launch a pizza empire—and compares home remodeling with menu planning.

THE HOUSE The 1938 French Eclectic fits against a hillside. The existing house had views of downtown Los Angeles, charm, and history—it was once owned by Lucille Ball’s dressmaker—but felt cut off from the outdoors and wasn’t making great use of its roomy walk-out basement. It looked like a keeper—as long as they could gain cooking space, a primary suite on the same floor as the kids’ bedrooms...and a few amenities.

WHAT THEY DID Moved the kitchen, dining area, and den downstairs, and the primary suite and laundry upstairs, relocating the staircase along the way. The kitchen and adjoining dining area open to a poolside patio with a new outdoor kitchen at one end and a pavilion with a fireplace at the other.

THEIR INSPIRATION The couple enjoy period design and tracked down an architect who could update the house while enhancing its character. They also wanted a big, pro-style kitchen and easier traffic flow to and from the outdoor spaces.

LESSONS LEARNED If you plan carefully, you can stay in the house during a major renovation. Being there reduced costs and allowed them to address problems and opportunities on the spot. Brad realized midrenovation, for example, that dead space behind an exterior basement wall could be annexed for a TV alcove in the den and for his dream walk-in pantry off the dining area.



A detail guy, Brad likes to take care of the small stuff and appreciates others who do the same. He wanted a pot filler over the range, not too low, not too high, and calculated tilt-head room for his stand mixer, then had the upper cabinets raised accordingly. It was Brad's idea, one day while he watched the crew work on the den, to push out one wall into the hillside, adding a few more square feet for relaxation. As if he ever sits down.

Having meal options means having inventory as well as a place to keep it. That mission turned into a walk-in pantry lined with shelves off the dining area. To create storage this deep, the crew had to cut into low-clearance crawl space and install a retaining wall. While they were at it, they also wired the pantry for temperature control—should Brad get serious about curing meats and fermenting pickles.

One thing that gave the crew pause was in-

ABOVE LEFT: The ceiling over the new primary bedroom was vaulted to add height and character.

ABOVE RIGHT: The primary bath has a custom double vanity with a stone top and plenty of open and closed storage. The faucets are unlacquered brass.

stalling Brad's custom range—a very heavy, very delicate French confection of enamel, brass, and iron that ultimately required the services of the appliance equivalent of a piano mover. "Everyone was holding their breath," Troyer says. "They have special dollies that you and I don't see every day."

Troyer gamely took charge of commissioning a vent hood that would match the range, and getting its high-powered blower ducted and camouflaged outside. He also drummed up custom grilles for the new forced-air HVAC and designed a new staircase, reversing the old one's direction and freeing it from enclosure with an airy iron balustrade. Brad and Mandy shopped for salvaged accents, including a door for the pantry and wood mantels for the fireplaces. They tracked down tiles for the stair risers and decided on tumbled limestone flooring, partly because it is slip resistant.

Honed soapstone countertops and walnut



cabinets with painted fronts warm up open space that might otherwise feel cavernous. “I wanted it to be a surprise when you walk downstairs, but comfortable,” Brad says.

After all this, the rejiggering of the upstairs seemed fairly straightforward. The crew tore out walls and an existing bath, and built a primary bedroom with exposed rafters overhead, a windowed alcove for a daybed, and a walk-in closet; the suite’s bath has a freestanding tub, a shower enclosure, and a separate WC. The team removed an awkward support post on the balcony to make it feel more spacious. The outdoor kitchen went in at one end of the patio, and the fireplace pavilion at the other. The home office moved downstairs, to the den, and the washer/dryer moved upstairs, to the mudroom, which made sense now that everyone was sleeping on one floor.

Because the renovation was done in stages, the

ABOVE: A new pavilion faces one end of the pool, expanding living space outdoors. Along with a wood-burning fireplace, it has heaters hidden in the ceiling, an overhead fan, and a pair of sofas for lounging.

family was mostly able to remain in the house. Brad simply ad-hoc’d a kitchen in the laundry.

Of course it was nothing like the one he gets to play around in today. Picture swapping an old fridge parked next to the Prius for an entire refrigeration complex, with separate freezer, ice-maker, and wine keeper.

It’s hard to say which part of the house is the family’s favorite. Now that it’s so open to the outdoors, it’s more a matter of everyone loving the whole. “The house is only 2,700 square feet,” Brad says, “but it feels like so much more because we make use of every part.”

“When you open that front door, you want a house that’s going to hug you,” Brad continues. “People who see our house for the first time say it’s so comfortable and warm. We didn’t do this with pillows and blankets; Jeff did it with the right design and layout.” 🏡

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Before & After: Porch

Perking up a plain facade

A rebuilt front porch, new siding, and a roof extension with brackets give a nondescript house a big curb-appeal boost

BY KATHRYN O'SHEA-EVANS

The 'before' was very plain; there was nothing memorable about it," says Beth Anne Wilhelm, who owns this 1923 home in Cabin John, MD, with Matt Canter. In fact, the builder-grade exterior finishes were so forgettable, she says, "when all the demo was done, neighbors walked by and asked what it looked like prior—no one could remember!" Enter architectural designers Anthony Wilder and Maria Fanjul, who reworked the porch with a gabled roof, paired columns on plinths, and open trusswork to usher in more light. They also moved the stairs to line up with the front door, gave the house new siding and trim, and extended the main roof in front and added brackets. There's even a new false window. "The main roofline has not changed, but adding the bright-white overhang with a window underneath appears to raise the ridge—it's a play of forms and shapes," Wilder says.

The result? Life-changing. "Especially with the higher ceiling, the front porch is so much more welcoming and inviting," Matt says. "We sit out there more than we ever did previously."



BEFORE The couple first came to Wilder about a rear addition. When the pandemic made WFH a reality, they agreed to stick to exterior renovations. "The house looked so unhappy and uninviting," Wilder recalls. "Adding onto the back would have been like putting a caboose when it needed a front engine."

↑
Replacing the porch's shed roof with a gable and extending the main roofline set the stage for a host of architectural details that give the house personality and a brighter, more appealing look overall.

BEFORE: ANTHONY WILDER



The new siding is prefinished fiber cement in a marine blue paired with white trim. “It’s a pure white because we wanted a very crisp contrast,” Wilder says. Craftsman-inspired lighting echoes the architectural style of the porch’s column supports and updated open trusswork, which features subtle curves.



Beth Anne Wilhelm and Matt Canter (far left) enjoy the porch’s lighter look and feel. Wilder says the paired porch columns “create a little bit of a dance—they look less static than a single column and appear to lighten the load that they’re holding.”



The new porch floor is cellular PVC. “When you don’t have a 4-foot overhang, rain is going to come in sideways and spread around a wood floor, discoloring the boards,” Wilder says. “This synthetic is impenetrable.” More tightly spaced balusters give the new railings a more substantial look. 🏠



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Before & After: Kitchen

Period style, updated ease

Annexing a pantry gives a cook space needed breathing room, while an original hutch inspires a vintage-look makeover that improves function and flow

BY NINA MALKIN

Few folks buy a turn-of-the-century house without some appreciation for its original details. No surprise, then, that Indianapolis homeowners Kaela and Cason Cusack hoped to honor the built-in oak hutch in their circa 1895 American Foursquare's kitchen. Last renovated in the 1990s, the room also held an awkward angled island that hemmed in the cook, a fridge that blocked traffic, and scant storage and prep space. "We wanted to preserve the beautiful woodwork but make the room flow better so that cooking would be fun," Kaela says.

Using the hutch as the cornerstone of her vision, designer Tiffany Skilling had the piece disassembled, then scrapped the butler's pantry behind it to extend the run of base cabinets by about 6 feet. Two-thirds of the three-door hutch was rebuilt and installed along the new wall, with the fridge nestled neatly beside it. The range, formerly in the island, swapped places with the sink and a vent hood was added, while a new white oak island was crafted to echo the original doors and trim. The ideal counterpoint to all that wood? Clean, bright-white cabinets and touches of pale green. "Salvaging the built-in was 100 percent the right decision, and the openness of the new layout is great," Kaela says. "We have friends over, host family holidays, and eat breakfast at the island every morning. The kitchen is now a true gathering place."



before



Sacrificing a walk-in pantry allowed for additional base cabinets and helped open up the kitchen. New oak flooring and an ample island, which holds the sink and dishwasher, match existing woodwork. The perimeter countertop is honed granite with the look of soapstone; the island is topped with white quartz, for contrast.

BEFORE The existing kitchen was an obstacle course: The fridge impeded passage to the dining room, a walk-in pantry hid behind the hutch, and the island took a hip-busting turn. Cabinets were worn; vinyl flooring and laminate countertops were outdated.



Two-thirds of the rebuilt hutch was devoted to the kitchen; the remaining third was repurposed upstairs as a linen closet in the main bath. The interior was updated with storage bins and rollout shelves; it also houses the microwave.



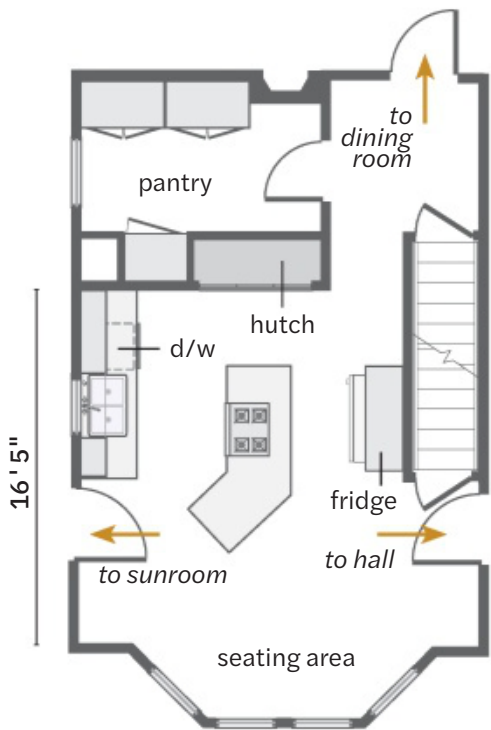
Rather than lose the character of an original wood-cased window for more cabinetry, floating shelves now traverse it. The interior window channels light from the sunroom, “and I can peek in on my kids playing while I cook,” Kaela says.

FLOOR PLANS: IAN WORPOLE

before

266 square feet

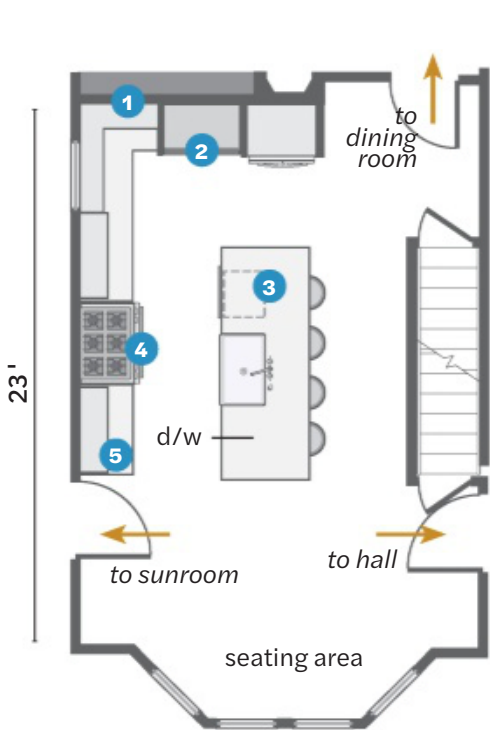
15' 4"



after

335 square feet

15' 4"

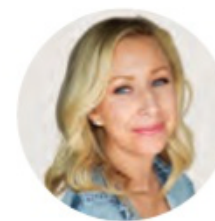


FLOOR PLANS

Annexing space from a 40-square-foot original butler's pantry and relocating appliances opened up room for more functional storage and prep space, while improving traffic flow.

- 1. Scrapped the pantry and built a wall in line with the back of the dining room fireplace to enable an L-shaped run of cabinetry, adding about 6½ feet of additional cupboards.
- 2. Relocated and rebuilt the original oak hutch along that back wall, reducing its width by a third; positioned

- the refrigerator to its right, freeing up the route to the dining room.
- 3. Built a wider, longer center island that has counter seating and holds a dishwasher alongside the sink.
- 4. Moved the range to where the sink had been, closing off an interior window to allow for a vent hood.
- 5. Replaced all the cabinets, running uppers to the ceiling to increase storage space.



EXPERT ADVICE

“An island with just an overhang feels unfinished to me. Here the island’s chunky legs ground the piece and create impact.”

TIFFANY SKILLING,
principal designer,
Tiffany Skilling Interiors



The new white oak island blends beautifully with the existing woodwork. “Our cabinetmakers brought a piece of original trim that came down during demolition to their workshop to match the grain and stain,” Kaela says. The range wall gained a vent hood, a pot filler, and a backsplash of subway tile that’s textured for handcrafted appeal.

SKILLING: SARAH SHIELDS



↑ “From what we can tell, all the quartersawn tiger-oak woodwork in the house has never been painted,” Kaela says. “We are extremely lucky!” To complement the existing casings, wainscoting, doors, and windows, the new white oak flooring was given a warm-walnut stain.



Talk about sitting pretty: A bay of tall double-hung windows frames a seating nook refreshed with painted rattan chairs and a tulip-style table. The seats’ cool-blue paint color coordinates with the kitchen’s pale-green accent shade—and both set off the warm oak millwork. While the nook gets plenty of morning sun, a pulley-style pendant light keeps it bright at all hours.

GET THE LOOK

These updated classics nail the vintage feel and offer practical advantages, too

1. Faux bridge faucet / DELTA

This chrome faucet offers the look of a bridge style but installs like a conventional three-hole model for an easier retrofit. Broderick Two-Handle Pull-Down Bridge Kitchen Faucet, \$843; deltafaucet.com

2. Pulley-style pendant / KOHLER

A modern take on a vintage-style adjustable work light, this streamlined design brings the light right where you want it. Artifacts Adjustable Pendant, \$299; us.kohler.com

3. Leather-top stool / BALLARD DESIGNS

This sturdy seat has an industrial look that’s in sync with the island’s schoolhouse lights. Cornelia Leather Counter Stool, \$449; ballarddesigns.com

4. Accent shade / BENJAMIN MOORE

“This green is soft without being pastel and feels very vintage,” says Skilling. Regal Select in Antique Jade, from \$70 per gallon; benjaminmoore.com 🏠



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Before & After: Bath

Classic takes a modern turn

A bath renovation comfortably straddles the line between traditional and contemporary

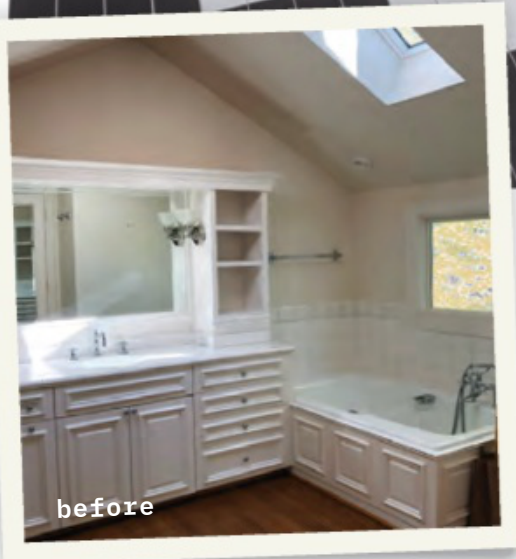
BY KATHRYN O'SHEA-EVANS

The descriptor “original” isn’t always a plus when it comes to the bath, but neither is a long-ago reno. This primary bath, stuck in the 1990s, was a notable low point in a 1937 house in Portland, OR. The awkward layout had the tub marooned in a corner and clunky sink cabinets that wrapped a corner. “It just looked dated and wasn’t the homeowners’ style,” says designer Max Humphrey, who was called in to reimagine the room.

To start, Humphrey separated the vanities—a homeowner request—along one wall with the tub jutting out between them. “It seems counterintuitive,” he says, “like it would split the space, but it was a magic trick that actually made the room look bigger.” Streamlined cabinetry, matte-black hardware, Carrara marble surfaces, and black-and-white tile give the setup a clean, fresh look. Underfoot, Humphrey created a checkerboard floor with a twist: The sections are made up of 2-by-10 rectangles. “It’s a classic design that you see in older homes, but with a modern touch,” he says.

The owners’ reaction? “They love the result,” Humphrey says. “The look is bold enough that it doesn’t feel like we were playing it too safe, but classic enough that it still respects the architecture of the house.” Balancing act mastered.

BEFORE Skylights allow in abundant natural light, but trim tile with a sculpted surface and elaborate cabinetry felt dated. Vanities that wrapped two walls and trapped the tub in a corner didn’t make the best use of the space.



Centering the tub makes a clear dividing line for double sinks. It also makes the tub accessible from three sides—with a filler freed from the wall—a perk for parents who like to bathe their young children there.

STYLING: MAX HUMPHREY



EXPERT ADVICE

“To achieve this kind of classic-meets-contemporary mix of finishes, for every time you choose something traditional, try to source something more modern to balance it out.”
MAX HUMPHREY,
*interior designer,
Portland, OR*

←
Timeless Carrara marble on the vanity tops, tub deck, and backsplash gets an update from elongated, rectangular black and white floor tiles. Angular matte-black pulls contrast with polished-nickel faucets, and a six-globe chandelier (seen opposite) perks up classic tulip-shade wall sconces on either side of the oval mirrors.

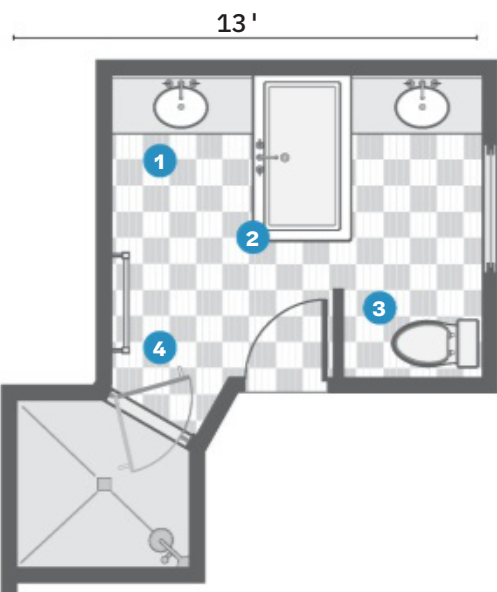
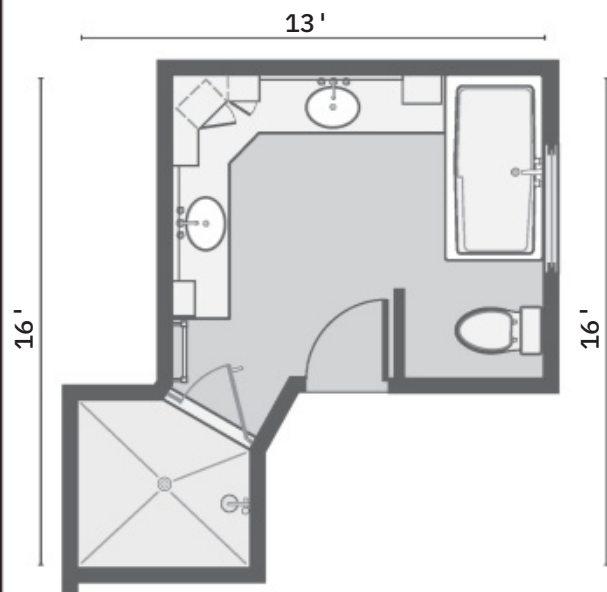
FLOOR PLANS

before

166 square feet

after

166 square feet



The footprint remained the same, but small layout changes—and all new finishes—made a dramatic difference.

1. Separated the two sinks, each with its own vanity, per the homeowners’ request. Keeping them along the back wall—and adding oval mirrors flanked by sconces above them—creates a clean, symmetrical look that’s easy on the eye.

2. Liberated the bathtub, which had been crammed in a corner, and positioned

it between the sinks. Letting it extend into the room made it accessible from three sides, and centering the filler faucet on one long side put it within easy reach. An undermount-style tub created a more comfortable perch than the existing drop-in.

3. Kept the existing location of the toilet, give or take a few inches.

4. Retained the shower in its spot but lined it with new tile and refreshed it with new fixtures; the rain shower was positioned farther away from the door.



↑ Updating the classic checkerboard floor: sections made up of 2-by-10-inch black and white tiles. Vanity pulls in matte-black mix with clean-lined inset vanity drawers and cabinet feet with a graceful curve.



New Carrara marble tile covers the existing shower—hexagons on the floor, and 3-by-6-inch subways on the walls—and ties back to the vanity and the tub. A new rain shower adds another touch of luxe.

GET THE LOOK

Timeless finishes meet updated shapes and styling to create a modern-meets-traditional bath

1. Globe light / SCHOOLHOUSE

A contemporary take on early 20th-century lighting, this six-bulb chandelier produces nice ambient light in a high-ceilinged space. Satellite 6 Chandelier in True Black, \$699; schoolhouse.com

2. Sleek widespread / SIGNATURE HARDWARE

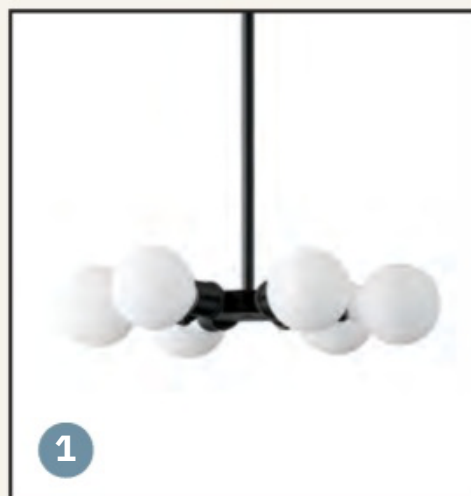
Classic polished nickel brightens a spigot and taps with an industrial modern look. Gunther Widespread Faucet, \$369; signaturehardware.com

3. Pivoting sink mirror / REJUVENATION

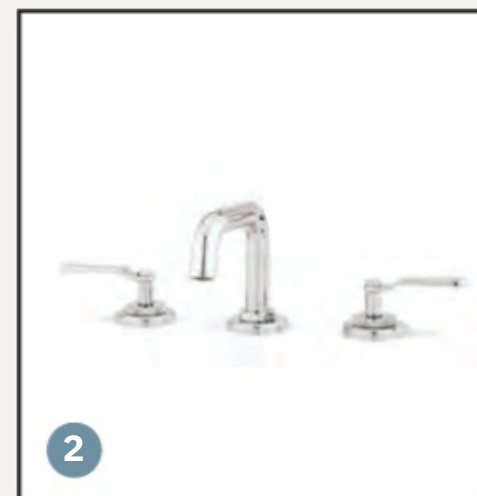
This wall-mount looking glass in polished nickel has a graceful oval shape and adjusts on hinges to accommodate users of various heights. Yaquina Oval Pivot Mirror, \$530; rejuvenation.com

4. Updated subway tile / MEROLA TILE

Glazed in glossy black or white, these elongated rectangles, which measure 1¾ by 7¾ inches, work for floors as well as walls. Metro Soho Subway Tile, \$11.34 per square foot; homedepot.com



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Designer Q&A

Hue confusion

Unsure how to choose colorful finishes for your home? Design pro and Clare founder **Nicole Gibbons** is here to help



Color is one of the most transformative tools in your design arsenal. It can completely change the feeling of a space. When it comes to paint, keep in mind that the amount of natural light a room receives, the direction it comes from, and even how it plays off your furnishings all affect how wall colors appear. South-facing rooms tend to get warm, sun-drenched light, so you may want a cooler tone to balance out the warmth. Those that face north receive indirect light that often has a cool, almost blue cast, so a warm wall color can balance that out. The light can change drastically throughout the day, too, especially in east- and west-facing rooms that align with sunrise and sunset. So make sure you love any wall color you're considering at all times of day. For more tips, read on.

Got a design question for Nicole?

E-mail her at TOHdesignerQandA@thisoldhouse.com

Q I love color! But how do I keep my home from looking like a fun house?

—WILLIE LYNCH, BOISE, ID

A For those who are adventurous with color, one stress-free approach is to try a monochromatic scheme. This involves layering various shades of the same color. For example, you could use a midtone blue on your walls, then add a deep-blue sofa and a mix of softer blue accents, like pillows and window treatments. A monochromatic scheme feels sophisticated and modern. Plus, mastering this look is pretty foolproof, helping to take the guesswork out of choosing the right colors.

Designer Max Humphrey wrapped this space in layers of blue, with yellow and brass accents for contrast. The result is colorful, but not jarring.



GIBBONS: ERIC MASTERS; WINDOW SEAT: CHRISTOPHER DIBBLE



Q Besides white, is there one paint color that will look great everywhere?

—LYNN AND MICHAEL FROMMER, QUEENS, NY

A A sophisticated paint color that's extremely versatile is a soft shade of greige. It's the perfect mix between gray and beige. This can't-fail neutral offers a hint of color and warmth to make your space feel inviting, while still serving as a blank slate for whatever you put with it. It goes with any decor style, and can coordinate with a variety of accent colors. For a fresh, modern look, add clean, breezy blue accents such as artwork, rugs, or decorative items like ceramic table lamps or vases. In kitchens and baths, give this color a modern edge by using matte-black hardware or plumbing fixtures.

← The subtle greige walls in this living room (painted with Classic from Clare) pair well with pale-gray furnishings, rich wood tones, and warm brass accents.

Q How do I stylishly mix metal finishes in a room?

—BETH STANLEY, WHITE RIVER JUNCTION, VT

A I believe mixing is so much better than matching. With metal knobs, pulls, and plumbing fixtures, my rule of thumb is to combine no more than two finishes in a room, one as the dominant finish and another as an accent. For example, if you're going with matte black as your primary finish in a kitchen, incorporate it on cabinet hardware, light fixtures, and door hardware, but try mixing in a brass faucet for a bright pop that contrasts nicely. Apply this approach with any combination of finishes. In a living space, mix metallic finishes on lighting and furniture. Or mix different variations of the same finish—for example, varying tones and sheens of gold and brass in your living room. Have fun with it! ■

In this bathroom, matte-black faucets and a shower-door grid mix with antiqued-brass knobs, pulls, mirror frames, and lighting for a modern-meets-vintage aesthetic.



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From the TOH Job Site

LONG TIME COMING

After nine years of dreaming, designing—and squirreling away savings—the owners of this 1894 Victorian finally give it the functional upgrades it needed and the updates they longed for

BY JILL CONNORS

PHOTOGRAPHY BY ERIN LITTLE





“Contemporary wide-open space is what people want today, and we achieved that while keeping the Victorian character with details like stained crown molding and window trim in the dining room.”

—**TOM SILVA,**
TOH general contractor

LEFT: The new open floor plan emphasizes 9-foot ceilings, expansive sight lines, and blended styles, with modern kitchen cabinetry on view along with original trim in the dining room.

OPPOSITE: Homeowners Derek Rubinoff and Robyn Marder, with teens Zach and Aria, on the front porch, where cable rail makes an updated balustrade.

THESE PAGES

CABINETS: **The Gallery Worldwide Cabinets**

COUNTERTOPS:

Caesarstone

RECESSED LIGHTS: **Lotus LED Lights**

DINING ROOM CHANDELIER: **Neena's Design Lighting**

From the moment we stepped into this house, I was redesigning everything,” says architect Derek Rubinoff, who, along with his wife, Robyn Marder, loved their home’s Victorian character but knew the house needed an overhaul. Its history as a two-family home had left behind some significant layout dysfunctions, including a bare-bones kitchen with its sink in the pantry and unattached lower and upper cabinets sitting on the floor. On the second floor was another kitchen and a dining area where bedrooms should have been, and a glass-paneled wood door connected the couple’s bedroom with their daughter’s.

But between raising two kids, then 8 and 5, working full-time jobs—Robyn teaches high school English—and no available capital after buying the house, the couple could only dream and make do with the place as it was.

That all changed last fall, when the exterior’s peeling paint couldn’t be ignored any longer. On close inspection, rotting fascia, soffits, and siding came to light, which put new clapboards, trim, and house wrap on the agenda, which in turn highlighted the need for new windows. Derek and Robyn realized that the time to give the house what it—and they—needed had arrived.

“I can’t believe we actually did it,” Robyn says eight months later, the family now settled back into their modernized forever home. “I have an amazing kitchen and so many improvements everywhere,” she says, marveling at the renovation work done by builder Deliandro Dias and his crew. “Best of all, we did it while keeping the house’s original Victorian elements,” she adds. Lending a hand every step of the way was the team from *This Old House*, which documented the project as part of its 43rd television season.

As with many old houses, there were obstacles both known and unknown. “These old houses present many challenges because floors are uneven or you find surprises once you get into the walls,” says Dias. Addressing the water-damaged exterior meant removing rotting clapboards, renauling the sheathing, and replacing deteriorated rosin paper with modern house wrap. Fiber-cement clapboards, PVC trim, and



ABOVE: Matte-black cabinets frame an inset row of natural-wood units along the cooktop wall, where a door once led to the guest room. Black-quartz countertops and backsplashes add to the dramatic look; the island’s white-quartz waterfall-edge countertop adds contrast.



LEFT: The entry’s original features include the paneled front door, unpainted staircase and trim, and stained glass window, all now refurbished for many more decades of service.

STYLING: CAIT GURY



high-performance windows put a fresh face on the house and help make it weathertight.

Returning the house to a single-family home meant resolving layout issues on both the first and second floors, which had been separate dwellings. On the main floor, the kitchen design drove the changes. Robyn and Derek were united in wanting a modern, European-style kitchen with sleek frameless cabinets and built-in appliances. An open-plan layout was the best route to achieving the larger kitchen and better traffic flow they were after.

Removing load-bearing walls opened up the kitchen to the dining room, and installing perpendicular laminated veneer lumber (LVL) beams provided the needed support. Closing up a doorway from the kitchen to a back guest bedroom created space for an L-shaped run of floor-to-ceiling kitchen cabinets. Demolishing the old pantry allowed for adding a full bath to serve the first floor, as well as guests.

ABOVE: The opening from the dining room to the living room was widened, providing sight lines through the first floor, from the kitchen island to the living room's front windows. The ceiling and the sides of the soffits concealing ductwork were painted to give the dining room definition. The diamond-pane windows are original; all other windows were replaced.

THESE PAGES

PAINT: Sherwin-Williams
STAINED GLASS WINDOW
RESTORATION:
Blackwell's Leaded Glass
REPLACEMENT WINDOWS:
Marvin

Working with kitchen designer Marissa Perez, Derek and Robyn chose matte-black cabinets, with an inset row of shallower natural-wood units that wrap the cooktop and sink walls. "The upper black cabinets create an architectural frame around the inset cabinets," says Derek. The light-dark contrast is magnified by black-quartz countertops and backsplashes that highlight the angular, modern vent hood. Another wall of cabinets across from the sink holds a massive built-in refrigerator-freezer and double wall ovens. A 7-by-3-foot island holds more appliances and offers stool seating.

The first-floor spaces, while open to one another, are still clearly defined, each with its own personality. The dining room still showcases the soul of the original Victorian house, with its stained-wood moldings—the rest of the rooms have white-painted casings and moldings—and diamond-pane windows with aged-gumwood casings. For a cohesive look, Derek and Robyn



wanted the trim on the new dining room windows to be stained to match the existing gumwood trim. *TOH* painter Mauro Henrique assisted Alessandro Cruz and his team in creating a patinated look by wiping on a 3-to-1 solution of stain and paint thinner. Then they went over it with a chip brush; once dry, they gave the surfaces a light sanding and a coat of wax. The dining room’s new LVL carrying beams help to set off the space, as do the dark-gray walls. Dias suggested going even bolder by painting the ceiling dark as well. Adding another Victorian touch, he and *This Old House* general contractor Tom Silva installed new crown molding matching the original profile and using a combination of mitering and coping techniques to make the trim fit properly. “The corners aren’t always 90 degrees in an old house,” says Tom.

Removing a little-used, space-hogging back staircase freed up the needed area to improve the second floor. An original feature of the 1894 house, it continued to be useful when the structure was converted to a two-family home. But excising it was key to giving Robyn and Derek a true primary suite with room for a private bath, complete with

ABOVE: The living room’s original features include window casings, 9-inch baseboards, red oak flooring, and a French door to the entry foyer. The neutral color scheme includes two shades of gray.

RIGHT: A sunny breakfast nook off the kitchen went in after the back staircase came out and the new rear entry was added.

THESE PAGES
 WINDOWS: Marvin
 PAINT: Sherwin-Williams
 HOUSE WRAP: GCP
 GUTTERS: Duragutter
 FRONT WALKWAY PAVERS: Pine Hall Brick



FLOOR PLANS

The existing footprint of the 2,400-square-foot house remained virtually the same, but the renovation removed awkward remnants of a two-family conversion. The four-bedroom, three-bath home now boasts a sight line from the front foyer to the back door. This was made possible by reworking the existing pantry—now a full bath—removing a wall between the dining room and kitchen, and adding 26 square feet for a new back entry, a breakfast nook, and relocated access to the guest bedroom. Upstairs, removing back stairs allowed for a primary suite. The front bedroom gained a closet with space taken from the shared bath.



RIGHT: When the 1894 three-story house, located in Boston's West Roxbury neighborhood, was built, the area around it was mostly farmland. The renovation kept the house's simple Victorian architecture intact but updated it with modern materials, including fiber-cement siding, PVC trim, aluminum gutters with a wood-gutter profile, an ipe porch floor and ceiling, stainless steel cable rails, and dual-pane fiberglass windows.





a spacious shower, a soaking tub, and a double vanity, as well as a walk-in closet.

The renovation also improved the teenagers' upstairs bedrooms. To give son Zach a bedroom closet, Dias's crew took space from the hall bath, and to give daughter Aria's bedroom privacy, they closed up a door to Robyn and Derek's room.

The renovation also increased the homeowners' indoor comfort with HVAC upgrades that combined existing and new systems. "We kept what we could here because budget was important," says *TOH* plumbing and heating expert Richard Trethewey. While the gas furnace that serves the first and second floors was still functional and efficient, adding a heat pump coil tied to a cold-weather inverter condenser outside will provide additional heating and all the air-conditioning. A separate pump will supply heating and cooling to the previously unconditioned third-floor space, which will function as a teen hangout.

Throughout, new paint in shades of cool gray and white, with darker-gray accent walls, gives the refurbished interior a clean, fresh look. Sanded and finished with a clear coat, the original red oak floors took on a paler hue that blends with new flooring in a similar shade feathered in as needed.

ABOVE: The first-floor guest bedroom doubles as a home office; its ample windows provide a view of trees in this urban neighborhood. The homeowners chose a palette of cool, neutral grays and whites for the entire house.

THESE PAGES
HVAC SYSTEMS:
Ecoer, Zonefirst
INTERIOR HARDWARE:
Delaney Hardware

Outdoor upgrades provide finishing touches that give the family more use of their urban lot. *TOH* landscape contractor Jenn Nawada and *TOH* mason Mark McCullough laid a herringbone brick patio in back. In front, a new brick walkway and granite steps replaced crumbling masonry. With no budget for new landscaping, Jenn cleared overgrown beds and transplanted mature plants. "We really opened up the front of the house by moving the large rhododendrons to the backyard, where they add a lot of privacy," says Jenn, who kept a color accent in front by replanting a red Japanese maple from the backyard.

Dias rebuilt the water-damaged front porch, adding a new ipe floor and ceiling and replacing the old wood balustrades with a more open cable-rail system in keeping with Derek and Robyn's contemporary aesthetic. "It gives a modern look to a traditional porch," says *TOH* host Kevin O'Connor. "It's another good lesson that you can use new elements and keep the Victorian feel."

For the family, the years of waiting were worth it. "We bought the house intending to renovate and convert it back to a single-family, and after the long wait, we have our dream house," Derek says now. "I imagine these things for a living, and, wow, this is even better than I imagined it." 🏡



“If you need to make room for new ductwork, lower the ceiling in one area to create an alcove or niche and use a different paint color to define the recess. That way, you get both drama and ducts.”

—**Derek Rubinoff**,
*architect/
homeowner*



ABOVE: In the primary bedroom, a soffit concealing ductwork creates a niche effect; the accent wall behind the headboard previously had a door to another bedroom.

FAR LEFT: The primary bath was created by stealing space from the hall. The open, curbless shower gets its modern look from wave-textured wall tile and sleek black plumbing fixtures.

LEFT: Derek and Tom installed a DIY-friendly closet system in the primary suite, in space once occupied by a back stairway.



GO ONLINE See the entire reveal of this TOH project house at thisoldhouse.com/West-Roxbury



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KNOW-HOW YOU NEED TO GET HOME UPGRADES DONE RIGHT



TOH host Kevin O'Connor, homeowner Kysha Hehn (right), and project manager Tristain O'Donnell talk kitchen layout with a plywood-on-sawhorse island and cardboard-box cabinet mock-up.

From the TOH Job Site

Safeguarding a legacy

A young family rebuilds a derelict 1890s house as a warm, welcoming home of their own, while paying equal attention to preserving an important piece of South Atlanta's past



BY NEDRA RHONE | PHOTOGRAPHY BY STEVE DIETL



Seven years ago, when she first glimpsed the bright-blue Folk Victorian in South Atlanta, Kysha Hehn walked away in something of a trance. Built in the 1890s, the house had been unoccupied for decades and had fallen into disrepair, but Kysha couldn't shake the feeling that it was special. "There was something about the house," she says. "I wondered about its past."

Kysha and her husband, Jonathan, along with their two children, Alivia Sage, now 12, and Joia, 10, soon learned that the house was significant to South Atlanta, a neighborhood central to the city's elite Black community at the turn of the last century. The house had been built by Luther Judson Price, a local store owner and South Atlanta's first postmaster; he and his wife, Minnie, raised their five children there. Price was known as a community leader who actively encouraged the Black community to exercise their right to vote (see sidebar, opposite). "The story in this house is a source of joy and pride for South Atlanta because of Mr. Price's connection to the post office and to bringing people together," Jonathan says.

Now the couple, former Peace Corps volunteers who had been "world schooling" their children while living internationally, are ready to blend their own family history into this house's rich legacy. "We traveled with our children,



ABOVE: Kysha and Jonathan Hehn, with their children Alivia Sage (left) and Joia, are bringing new life to the 1890s house built by South Atlanta's first postmaster.



LEFT: Vacant for several decades, the house suffered significant water intrusion. The Folk Victorian retains original Queen Anne elements, including bay windows, decorative shingles, and a full-width front porch.

allowing them to spread their wings. Now we want to provide them with firm roots in the community we hold dear," says Kysha. The Hehns found a like-minded partner in local builder Jerry Davis, who is helping the renovation of the 3,000-square-foot house, now being documented as part of *This Old House*'s 44th television season.

As passionate as the couple are about saving the house, there is no denying the scale of the challenge. The two-story Folk Victorian retains original period features including bay windows, decorative moldings, pine floors, and fireplaces,

but as a result of sitting vacant for years, the house suffered extensive rot to its roof, eaves, and soffits. Vines had overgrown the house's front gable. Additions tacked on decades ago were structurally unsound. A rear addition, for example, had sunk about 6 inches. An exterior staircase, appended when the house was converted to a multi-unit dwelling, was dilapidated, and the interior still retained kitchens on both the first and second floors. Paint was peeling from walls and ceilings, and in some areas of the second floor, the ceiling had collapsed entirely. To top it off, they found extensive termite damage.

Despite all the issues, the Hehns remain determined. The couple envision a single-family house with four bedrooms and three baths on two stories, and new rear additions to create expanded living space around an open kitchen. The first-floor front rooms of the house, where the original owner welcomed in neighbors, will be restored much as they were, and the family hopes

BELOW: TOH general contractor Tom Silva and Jonathan discuss adding a vapor barrier to address condensation when unconditioned space, where indoor and outdoor temperatures are the same—represented by the glass in Tom's hand—becomes conditioned space (see the glass in the foreground).



South Atlanta's first postmaster—and a voting rights advocate

Luther Judson Price was born into slavery in 1856 on a Georgia plantation. After emancipation, he lived with his mother and stepfather on a nearby farm; in his teens, he moved to Atlanta, where he worked his way through Clark Atlanta University, studying business. After graduating, he bought a store, which he operated for more than 50 years.

In 1889, Price was appointed postmaster of South Atlanta, a prestigious role, and married his wife, Minnie. Price's store also housed the post office, which served both the white and Black communities in South Atlanta, and he supervised workers of both races in his position as postmaster, which he held for 25 years. A biography by Atlanta Public Schools—a local school was named for him in 1953—describes Price as “a well-liked man who was highly ethical, stern but fair and who expected and demanded a great deal of himself and others.” Price participated in church, community, and civic activities. He encouraged greater civil rights for the Black community and worked alongside his wife to increase voter registration.

In 1906, during the Atlanta Race Massacre, an angry white mob targeted Price's thriving neighborhood and accused him of providing ammunition to Black neighbors who defended themselves from attack. Price escaped the mob only when police took him to jail for his own protection. He died in 1936, at the age of 80, leaving behind a legacy of leadership that transcended the racial divisions of the times.



to continue that legacy of hosting the community.

“What we are trying to do is reinvigorate these wonderful old spaces and tailor them to this family’s dynamic lifestyle,” says project architect Christopher Bailey. As many original details as possible will remain, including built-ins, picture rails, and fluted door casings with decorative rosettes. Plans call for widening several passageways to create a more open layout, which will require altering those casings to fit. Demolition has removed dropped ceilings and revealed the full 7-foot height of the original doorways, which had been lowered several inches. The homeowners also want to restore the pine floors and as many single-pane windows as can be saved, but will install energy-efficient double-pane windows in newly built spaces.

An important restoration will be enhancing the interior staircase, a feature that originally occupied a central hall when the house was built, but was relocated and enclosed by walls to accommodate a second side entrance when the house became a multi-unit dwelling in the early 1900s. Although the homeowners discussed moving the stairway back to its original location, they ultimately decided to leave it in place but open it up; Davis will adjust the treads and add a balustrade in place of one of the walls.

The redesign of the main floor will create a more open connection between the rooms. A front parlor with bay windows will be the first floor’s more formal living room, while a family room with a dining area will be adjacent to the kitchen in the rear. A guest bedroom will go in where the dining room was, with a full bath.

Upstairs, plans call for two bedrooms in addition to the primary bedroom suite. The bay-windowed room at the front of the second floor will become a family space for gathering and

“Jonathan and Kysha are bringing this house back because they know its significance to South Atlanta. They are committed to the house’s history, to its original owner, and to the entire community.”

—KEVIN O’CONNOR, *TOH* host



TOP: Local builder Jerry Davis and Tom discuss the issues evident in a rear addition that was not original to the house, including extensive rot. Ultimately Davis decided to demolish it and rebuild.

MIDDLE: Davis’s crew pours concrete for one of two rebar-reinforced stem-wall foundations that will support new rear additions.

BOTTOM: Framed up and partially sheathed, this addition will house the new kitchen on the first floor with the primary suite above it.

POURING CONCRETE: SARA FERGUSON



learning as envisioned by Kysha, who has homeschooled Alivia Sage and Joia for the last five years. “Our kids tend to find the places that bring in the most light and warmth to homeschool,” she says.

To make the Hehns’ vision a reality, Davis faced big decisions early on, including whether to demolish parts of the house or try to rehabilitate them. “The biggest challenge here has been the rot, because the house sat empty for so long,” says *TOH* general contractor Tom Silva. “You can guess where it is and how it got there, but you don’t know the extent until you deconstruct the house.”

“Our original plan was not to tear down the side of the house with the sunken addition, but it was all sitting on dirt and we had no choice,” Davis says. It took two days for his crew to remove the addition by hand. His team then jacked up the house 4 inches and prepped for stem-wall foundations, digging trenches along the back and side

ABOVE: Robby Astrove (left), a local expert on native fruit trees, discusses adding serviceberry and other native trees to the yard with Kysha and *TOH* landscape contractor Jenn Nawada.

RIGHT: Kevin examines an original sash, with its glazing removed, as window restorer Greg Pray explains his repair process.





for forms to accept rebar-reinforced concrete that creates the foundation and slab all in one pour.

On the exterior, Davis hopes to salvage about 80 percent of the siding by hand scraping the 6-inch pine clapboards. Luckily, the 2-foot-square brick piers of the original foundation have held up well, and need only patching and repointing.

To design the house's heating and cooling, the homeowners consulted Southface Institute, a local nonprofit that promotes sustainable building and offers technical advice, and chose a two-zone—upstairs and downstairs—forced-air HVAC system using two 3-ton heat pumps. "In New England, we worry about heating for the coldest days with zero-percent humidity, but in Atlanta, the attention is on cooling for the hottest days with 100 percent

TOP: *TOH* plumbing and heating expert Richard Trethewey and Jonathan muscle a new high-efficiency heat pump condenser off Jonathan's truck.

ABOVE: Richard and Jonathan check clearances in the attic for the installation of the heat pump that will provide heating and cooling for the house's second floor.

“We’ve had to imagine not only what the house could be, but what it has been, taking into account the rich history of the Price family. But we also want to honor the way the Hehns live today.”

—CHRISTOPHER BAILEY, *architect*

humidity,” says Richard Trethewey, *TOH*'s plumbing and heating expert.

Richard advised Jonathan on the ductwork installation, which Jonathan is handling himself with the help of his friend Jeremy Draper, a home-performance and HVAC contractor, to save money. Another local HVAC contractor will do the mechanicals, refrigerant, and system activation. “It’s really important to us to have an energy-efficient house, and bringing advanced heating and cooling technology into an older house is the way to accomplish that,” Jonathan says.

The Hehns also want to incorporate something to commemorate the house's history and Luther Judson Price. One option they've considered: a mural on the first floor in an area believed to have been Price's study. In the backyard, where Kysha is planning an outdoor classroom with areas for science, environmental education, and other lessons, she wants to include a postcard-writing station built by local carpenter Char Miller-King to honor Price's legacy as postmaster.

Meeting with *TOH* landscape contractor Jenn Nawada, Kysha made plans for the backyard, including planting serviceberry trees. “Using native trees is a great solution, and the serviceberry not only blooms with beautiful white flowers, but also gives you something delicious to eat,” Jenn says.

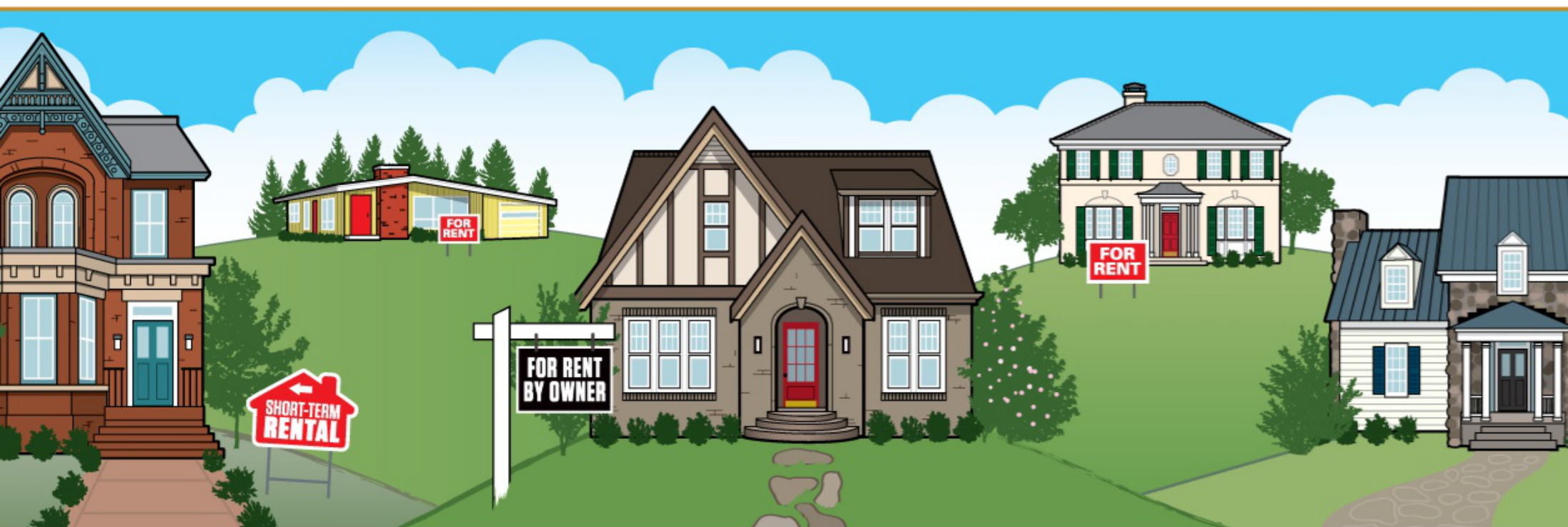
For the Hehns, the task of renovating a house that is so important to the community brings excitement—and some pressure to get it right. “There is a dual responsibility to recognize the historical events that transpired here during the time of Mr. and Mrs. Price, but also the need to elevate the joy and love and laughter of the people who made this house their home,” Kysha says. “We hope to be conscientious stewards of this meaningful space.” 🏠



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Home Finances

Turn your home into a moneymaker

Hoping to rent out some or all of your house? Here's how to sidestep common pitfalls

BY ELLEN STARK

Perhaps you've inherited an old family house and aren't quite ready to part with it. Maybe your adult child just moved out of the apartment over the garage. Or you'd like to cash in on the beach house you use just one month a year.

For lots of reasons, you may be thinking of becoming a part-time landlord, an enterprise filled with promise and peril. Financially, there's a lot you have to get right, and you could pay a high price if you get it wrong. Up ahead: some common traps new landlords fall into—and how to steer clear of them.

AVOID SPENDING MORE THAN YOU BRING IN



Sounds obvious, right? You want to collect enough in rent to cover your costs, if not more—this is what the pros call being “cash-flow positive.” Carrying costs will include property taxes, insurance, maintenance, repairs, mortgage payments, and possibly a property manager.

Breaking even will be much easier, of course, if you no longer have a loan

on the home. But even then, getting the math right can be a challenge. “What can quickly trip up new landlords is not regularly allocating money for maintenance and repairs,” says Gillian McCarthy, a certified financial planner (CFP) in Pottstown, PA. McCarthy suggests setting aside 10 percent of the rent you collect for upkeep, more if it's an old home. And cut your estimate of how much rent you'll collect by 5 percent to cover potential vacancies.

In the case of a vacation home or an apartment on your property, turning a profit may be less important to you. “Even if the rent just helps offset some of the out-of-pocket costs, it's a win as long as you're comfortable renting out your home,” says Shawn Gallagher, a CFP in Melville, NY. If you're holding on to the home for a few years before you sell, breaking even may be a sufficient goal.

DON'T PUT THE REST OF YOUR FINANCES AT RISK



Homeowners insurance protects your property against disasters and minor

mishaps, but strangers staying at your home pose even bigger risks. If a tenant has an accident, for instance, you could end up being personally on the hook for the resulting damages.

With a short-term rental, your homeowners insurance may be sufficient, though your insurer may want you to enhance your coverage. For a longer-term rental, you'll probably need a landlord or rental policy; it'll cost about 25 percent more than a standard homeowners policy, but it adds other features, such as income replacement while a damaged home sits empty. An umbrella policy gives you substantially more liability coverage in case of a catastrophic accident.

To best protect your finances, experts recommend putting a rental home into a limited liability corporation (LLC), especially if you have substantial assets. “When something happens at a home you own, tenants can come after you personally,” Gallagher says. “Putting the property in an LLC can help protect you.” Creating one online costs a few hundred dollars, including state filing fees, but better to hire a lawyer, he adds. That



could cost \$3,000 or more, depending on how complex your situation is.

MAKE SURE TO MASTER THE TRICKY TAX RULES



As soon as you rent out a home for 15 days or more, you trigger an income-tax bill (14 days of rentals each year are tax-free). You're entitled to lots of write-offs that can reduce that bill: Mortgage payments, property taxes, insurance, repairs, and professional fees are all deductible. You'll also be able to deduct depreciation—essentially the value of the house less the land, spread over 27½ years.

But you'll need to take care with some deductions; deductible repairs versus nondeductible improvements can be a gray area, for example. "It's the difference between patching your roof and replacing it," says Tom Gibson, a CPA and senior tax strategist in Vero Beach, FL.

What raises the level of difficulty is when you use the house part of the year

and rent it out at other times. If you rent out a property more than 14 days annually and also live in it during part of the year, you have to prorate deductions based on the number of days the property is rented over the combined total days it is used. While direct costs like advertising for tenants are fully deductible, maintenance and insurance must be prorated. "The key to success is to keep really good records," says Henry Grzes of the American Institute of Certified Public Accountants.

You probably won't be able to deduct rental losses against ordinary income. Rental income is considered passive and is deductible only against other passive income. Professional real estate investors can deduct losses, but you need to spend more than 750 hours a year actively managing the property to qualify, or about 15 hours a week. "Ideally, you don't want to spend fifteen hours a week on your rental," Grzes says. "Better to have great tenants and less work."

DIY or hire some help?

Would-be landlords have a big decision to make

"As a landlord, you have to ask yourself if you're ready to deal with some major headaches," says Catherine Valega, a CFP in Winchester, MA. "Are you ready for the hassle? If not, it may make sense to pay a property manager." By hiring someone to manage the property, you can off-load the work of screening tenants, drawing up a lease, collecting rent, and handling maintenance requests, among other things. But you could pay about 10 percent of your rental income for that help, maybe more.

If you go it alone, you'll need to research local rules for rentals (more towns are adding restrictions to discourage short-term rentals), run background checks on prospective tenants, draw up a lease, and deal with repairs. "If you're going to be your own property manager, choose properties close enough so you can get there in 20 minutes," says Valega. Since every state has different tenant-protection laws, you may want to use an attorney to draft a lease.

For screening, you can pay an online service about \$50 to run a report covering financial problems, criminal history, and any previous evictions. The key, McCarthy adds, is to determine your process for screening tenants and stick to it, even if the people seem really nice. "The purpose of screening is to avoid potential eviction, which is a terrible experience on both sides," she says. "Where you get into trouble is when you have a process but you ad-lib." ■



EXPERT ADVICE

"It always comes down to running the numbers. Be realistic and conservative with your estimates, and run what-if scenarios, like 'What if I can't rent for six months?' to ensure you can cover your costs."

CATHERINE VALEGA, CFP, Green Bee Advisory, Winchester, MA

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Smart Home

Savvy uses for smart lighting

Sure, you'll never have to come home to a dark house again.

But this technology is also helpful when it comes to home security, monitoring energy usage, and more

BY CHRISTOPHER NULL

At first glance, smart lighting can seem more like a gimmick (are bulbs that turn purple really necessary?) than a practical tool. But it turns out this technology makes life easier in lots of small, unexpected ways. Screw a smart bulb into a desk lamp to adjust the hue and brightness before a Zoom meeting. Plug an electric kettle into a smart plug to automate your morning tea.

Whether it's a smart plug, bulb, or in-wall switch that controls multiple fixtures, most people choose smart lighting that works with their Wi-Fi. But not all products will, so double-check the packaging to ensure an item is Wi-Fi compatible before making a purchase. A smart bulb labeled as Z-Wave, for example, requires more

equipment than a wireless router in order to work.

Also, keep in mind that if your Wi-Fi signal isn't rock-solid, there's a good chance your smart lights will fail from time to time. This is an especially common problem for homeowners who install outdoor smart lighting, since wireless signals are often weak outside. To check your signal strength, Google "speed test" to bring up a free diagnostic test. If the result shows an upload speed of less than 5 megabits per second (Mbps), your Wi-Fi might not be strong enough—consider moving the router to a more central location, adding a range extender, or upgrading to a more powerful router.

Got your setup figured out? Here are five smart ways to use smart lights.

1 Protect your home while on vacation

Almost every smart plug, switch, and lightbulb on the market can be automated with an app. But the **Ecobee Switch+** (\$80; amazon.com) goes one step further by including a vacation mode that will randomly turn lights on and off when you travel, making it appear like someone's at home. For a simpler, more temporary solution, there's the **Switchmate** (\$20; amazon.com), a magnetic smart switch that snaps on top of nearly any existing light switch. Although Switchmate doesn't include a vacation mode, it's easy to schedule it to flip lights on and off while you're away. Then just pop it off the light switch upon returning home.

2 Track your power consumption

Plug an appliance such as a TV or space heater into an energy-monitoring smart plug like the **Emporia** (\$12; emporiaenergy.com), then pull up an app on your smartphone or tablet to see in real time how much electricity it's using and get an estimate of what it's costing you. Most smart switches don't offer this functionality, but the **iDevices Wall Switch** (\$80; idevicesinc.com) does; it can monitor the energy usage of multiple light fixtures as well as ceiling fans.

3 Set up alerts around the house

The best smart bulbs, like the **Philips Hue E26** (from \$55; philips-hue.com) and the **LIFX**

Color (from \$35; lifx.com), deliver bright, high-quality light and a good range of colors—and if you connect them to other tech in your home via an online platform called **If This Then That** (ifttt.com), they can be used in unexpected ways. For example, smart bulbs can be linked to a moisture sensor like the **Notion** (\$149 for a starter kit; getnotion.com), and then programmed to turn blue if a water leak is detected in the basement. Or connect them to a video doorbell such as the **Ring** (\$65; ring.com) and set them to glow red if someone's at the door.

4 Tailor lighting to how you use the room

Smart bulbs are a boon in a multi-use room—such as an office that's

TOH PRO TIP



Ross Trethewey
Home Technology
Expert

“Use smart bulbs in light fixtures that don't have dimmers already. Smart bulbs have their own built-in dimming technology, and most of them won't work correctly if they aren't operating at full power.”

also a home gym, or a playroom that becomes a TV den in the evenings—because it's easy to change their brightness and hue. They can also be scheduled: Set them to emulate natural daylight while you work, for example, and then switch to warmer, softer light for dinnertime. The **Connected Max Smart LED bulbs** by Cree Lighting (from \$4.39; amazon.com) do this automatically; their “follow the sun” feature adjusts the intensity to match the light outdoors. For a more immersive TV-watching experience, some smart bulbs, including those by Philips Hue, can be programmed to dim, brighten, and change color temperature in sync with what's playing on-screen.

5 Create a DIY motion sensor

In the past, replacing the floodlights on your house with motion-sensor lights usually meant climbing a ladder to do electrical work. Fortunately, smart lighting now offers a more convenient work-around. If you have a Philips Hue system, the battery-powered **Philips Hue Outdoor Sensor** (\$50; philips-hue.com) can be placed anywhere—even indoors, despite the name—to trigger a nearby smart light when someone walks past. The sensor is tiny—about the size of a book of matches—and decidedly more attractive than old-school sensor lighting, which was designed for security, not aesthetics. **Feit Electric's IntelliBulb Motion Activated smart bulb** (\$7.97; homedepot.com) provides an even simpler option: It has a motion sensor built right in, so just screw it into a light fixture and flip a switch to engage 24/7 or nighttime-only activation.

WHICH DEVICE WHERE

Setting up your house with smart lighting can solve a lot of problems, but choosing among the different products—bulbs, light switches, and add-on plugs—can be confusing. Here's what each type can do for you.



Emporia smart plug

SMART PLUGS

Best for: Controlling individual lamps or night-lights as well as items such as coffee makers, dehumidifiers, and air purifiers. Simply insert the smart plug into an electrical outlet, then plug the appliance into it. The power to the plug can be turned on and off from anywhere using a smartphone app.



iDevices Wall Switch

SMART SWITCHES

Best for: Controlling multiple light fixtures and ceiling fans. For rooms with many “dumb” lights on a single circuit, like the kitchen, an in-wall smart switch is more cost-effective and reliable than swapping in half a dozen smart bulbs. Many smart switches work as dimmers, too. They replace standard light switches and take 30 to 45 minutes to install; to DIY, you'll need to be comfortable rewiring an electrical junction box.

SMART BULBS

Best for: Adjusting the brightness, color temperature, and hue of the lights, from warm candlelight to neon brights. Simply screw the bulbs into existing light fixtures, then control them from anywhere using your smartphone or tablet. ■



LIFX Color bulb

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If possible, move roof penetrations away from where solar panels will go to allow for an even, regular pattern.

RENO PLANNER

Bringing solar home

“Whether you’re looking to shrink your carbon footprint or just your monthly expenses, there’s never been a better time to go solar,” says TOH home technology expert Ross Trethewey. Up ahead: the lowdown on everything from current tax incentives to new tech choices

BY JOSH GARSKOF



A CENTURY AFTER electricity started brightening most U.S. homes and powering pop-up toasters, a second electrification of American life has begun—this one aimed at reducing the use of fossil fuels. Car manufacturers will introduce dozens of new electric vehicle (EV) models in the next couple of years, taking affordable EVs deep into the mainstream. Induction cooktops are seeing a drastic increase in market share, and several cities have banned new residential natural-gas hookups altogether. Meanwhile, all-climate heat-pump technology now makes heating and cooling with electricity less costly than using natural gas. —>

ELIZABETH DISALVO/TRILLIUM ARCHITECTS

Largely driven by concerns about climate change, the trend to plug-in power also presents an opportunity to slash your energy costs by generating your own electricity on your roof. A recently extended federal tax credit will give you back 26 percent of the cost for solar-panel installations in 2022, and 22 percent for those in 2023. (The credit will end after 2023, unless it's extended by Congress.) And even though prices have bounced slightly in the last couple of years due to inflation, they are still way down overall, after dropping 64 percent between 2010 and 2020.

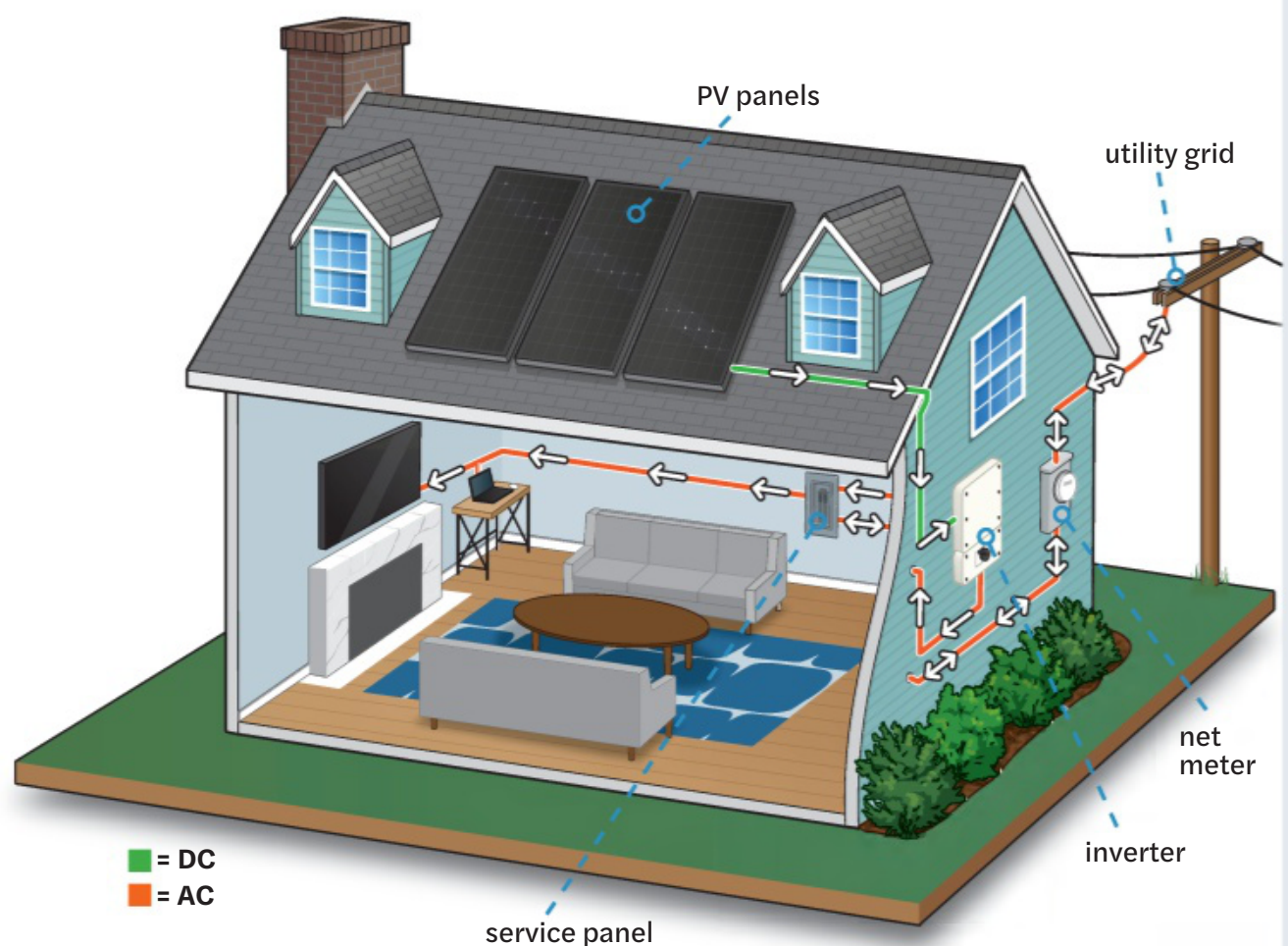
The tech has gotten better, too—a lot better. The standard panel is now all black, without the noticeable white grid lines that make it stand out on the roof, and generates as much as 450 watts, up from 340 five years ago. You can get panels that are more than 20 percent efficient—compared with just 13.5 percent in 2001—and if that doesn't sound impressive, consider that the best plant photosynthesis is around 8 percent efficient. What's more, hidden racking systems help blend the panels into the roof, and you can add EV chargers powered by your system and a battery backup that will eliminate blackouts.

Ready to consider going solar? Here's how to go about assessing your options.

HOW A PV ARRAY WORKS

Going solar doesn't mean disconnecting from the power grid.

Since solar panels generate electricity only when the sun is shining, you still need to draw power from the utility at night, on cloudy days, and in some locales on winter days when the sun is low on the horizon. Your system will generate extra power when it is getting full sun in the middle of the day and push it out to the grid for others to use, and then take what it needs from the utility when your solar is off-line. Ideally, over the course of the year, that give-and-take will even out, and you're left with no net usage and only nominal connection fees to the utility.



PV PANELS: The 60 photovoltaic (PV) cells typically found in residential panels absorb sunlight and use it to knock electrons loose and get them moving—in other words, to generate electricity.

INVERTER: This device converts the direct current (DC) electricity generated by the panels into the alternating current (AC) that your house's electricity-powered systems and plug-in devices need.

NET METER: Like all electrical meters, this measures how much electricity you draw from the utility. Unlike others, it also reverses and credits you for what you contribute back to the utility grid.

MONEY MATTERS

→ Will installing solar pay for you?

In most of the United States, it can take from 9 to 12 years for your energy savings to pay back the cost of a solar system (5 to 15 years when you include outlier states like Hawaii and North Dakota); then your solar should provide free power for as long as two decades more. The payback period depends on your latitude, the direction your roof faces, the amount of tree cover, the cost of electricity in your area, and your utility's policies. For an instant estimate of your total cost, annual dollars saved, and payback period, plug in your address and average monthly electricity cost at Project Sunroof (sunroof.withgoogle.com).

→ Financing solar

Though it depends a lot on where you live, a typical rooftop solar array (20 to 24 panels to cover an average home's electrical needs in full) runs about \$18,000 after the current 26 percent federal tax credit. You can finance the upfront cost—most people do—and the choice you make will have a drastic impact on your payback. Here are the options.

SOLAR LEASE: A solar-installation company puts in the system and owns it. You pay

a predetermined monthly fee for the next 20 or 25 years. Leases have a few downsides: The solar company gets the tax credit and other incentives, your monthly payments can increase over time, and your projected savings rely on the company's assumption of future electricity rates, which may be buried in the fine print and, if overstated, could potentially make your solar *more* expensive than utility power. Plus, if you sell your house before the lease is up, you'll have to buy out the lease (including the cost of the equipment) or transfer the lease to the buyer; it rarely pays to move the system to your new home.

SOLAR LOAN: Again, the solar company installs the system at no upfront cost to you, but in this case, you get the tax credit and any other available incentives, and you own the equipment, so it becomes part of your house, easily included as one of its features if you decide to sell. You pay back the loan monthly and generally can select the length of the loan you want—for example, to pay it back as quickly as possible while keeping the payment about equal to your current electricity bill. If you sell the house before the loan is paid back, the solar array transfers to the buyer,

and you can pay back the loan in a lump sum using proceeds from the sale. Many solar companies offer below-market interest rates, but watch out—that discount often comes with a marked-up price, so always make sure the loan and the cash price are the same.

HOME EQUITY LOAN/HELOC:

Borrowing from a local bank or credit union allows you to keep it simple with the solar company and just pay the cash price, and if you use a home equity loan (which has a fixed interest rate) or a line of credit (which has an adjustable rate), you may be able to take a tax deduction for the interest. Again, you pay for the solar install in full using the loan, own the system, and can easily sell it with the house, collect all incentives, and pay the loan back over time—or in full when you sell the house, as part of the closing.

→ Don't forget resale

"Houses with solar sell faster, and they sell for more money," says agent Theresa Raymond of TN Smoky Mtn Realty. "We're seeing a \$5,000 bump in price for each kilowatt." That's about \$30,000 for a typical 6.5-kilowatt system, significantly more than you'll pay for it.



“Solar power makes a lot of sense, and it's come down so much in price that it's now affordable for many more people. But like any tech, it needs to be designed and installed correctly to yield the best performance and return on investment.” —**ROSS TRETHEWEY**, *TOH home technology expert*



Ask for all-black monocrystalline panels without obvious white grid lines.

HOW TO HIRE AN INSTALLER

Here's what to keep in mind when choosing a company to put in your solar power system

- ➔ **Get at least three bids**—five is better for a full picture of the options and prices—from companies referred by friends, neighbors, or tradespeople you trust.
- ➔ **The bids should include the federal tax credit and any available local incentives**, but you can check what's available in your area at dsireusa.org. Many solar companies will provide a no-interest loan against your tax credit until the following tax season.
- ➔ **Check that you're getting all-black monocrystalline panels with a hidden racking system.** Don't worry about the brand or country of manufacture, says engineering professor Joshua Pearce of Western University. Just make sure the panels are under warranty for at least 25 years, if not 30 years.
- ➔ **Have your attic evaluated before the bid is finalized** to make sure the framing can handle the weight of the array (about 40 pounds per panel)—a problem only if you have undersized or damaged rafters—and see if you can include any needed reinforcement in the installed price (which may yield you a tax credit on that work, too).

COURTESY PALMETTO

ONLINE SHOPPING TOOL

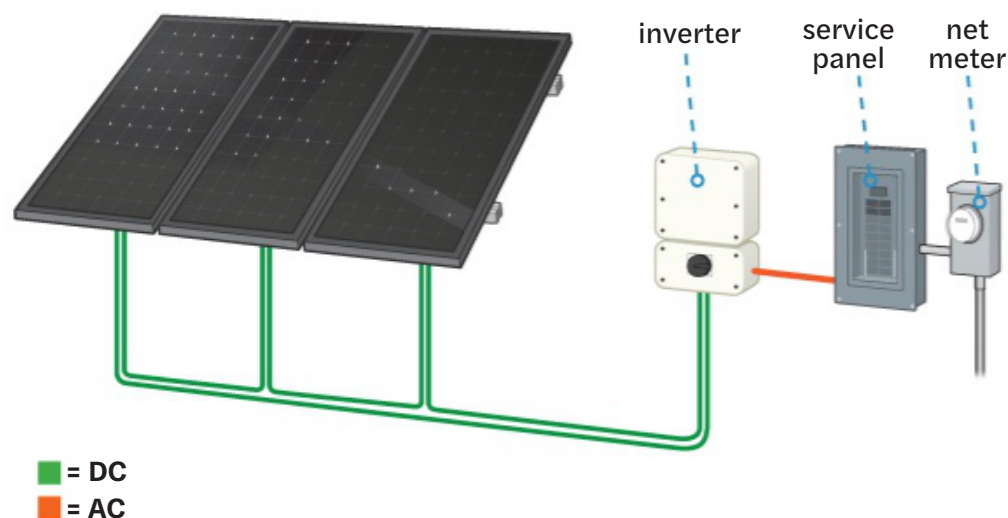
EnergySage (energysage.com) is an online solar marketplace that was developed with funding from the U.S. Department of Energy to promote **affordable, accessible solar**. Users simply enter their address on the site to get custom bids from multiple prescreened local companies, along with EnergySage's apples-to-apples comparison and ratings of each proposal's products, pricing, and net savings, as well as the contractors themselves. EnergySage customers pay an average of about **\$5,000 less** for their solar systems, after incentives. "That's because the solar company is spending significantly less on marketing and sales to find customers," says CEO and founder Vikram Aggarwal. "Installers on the site tend to offer prices that are **10 to 30 percent lower** than anywhere else." EnergySage users can also upload a quote they received elsewhere for comparison and advice. And all these services are free.

WHICH INVERTER TECH?

The biggest difference between solar proposals is often the inverter technology. Inverters take the direct current (DC) produced by the PV panels and change it to alternating current (AC) to power your house. There are several ways to do that, each with its own advantages and disadvantages.

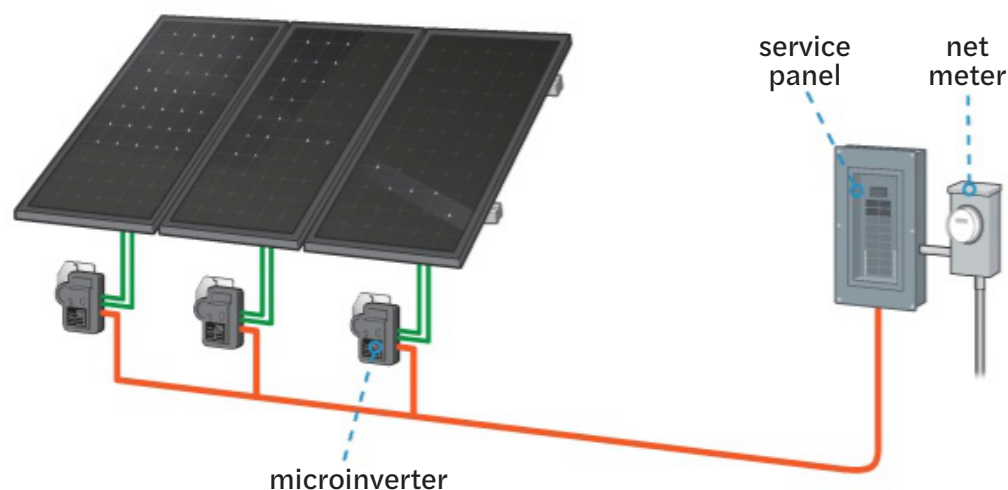
BEST FOR AFFORDABILITY: STRING INVERTERS

Your solar panels are “strung” together like Christmas-tree lights and connect to a single inverter either on the side of the house or in the basement. This technology has been used for decades and is the lowest-cost option; however, a string inverter typically lasts only 10 to 12 years, so expect to spend around \$1,000 to replace it a couple of times during the 30-year life of the solar array. Also, because the panels are all linked together, system performance is drastically compromised if they receive differing amounts of light, either because of partial shade or if a panel goes bad. And the high-power DC wiring that comes down from the roof needs to be encased in a heavy-duty aluminum conduit.



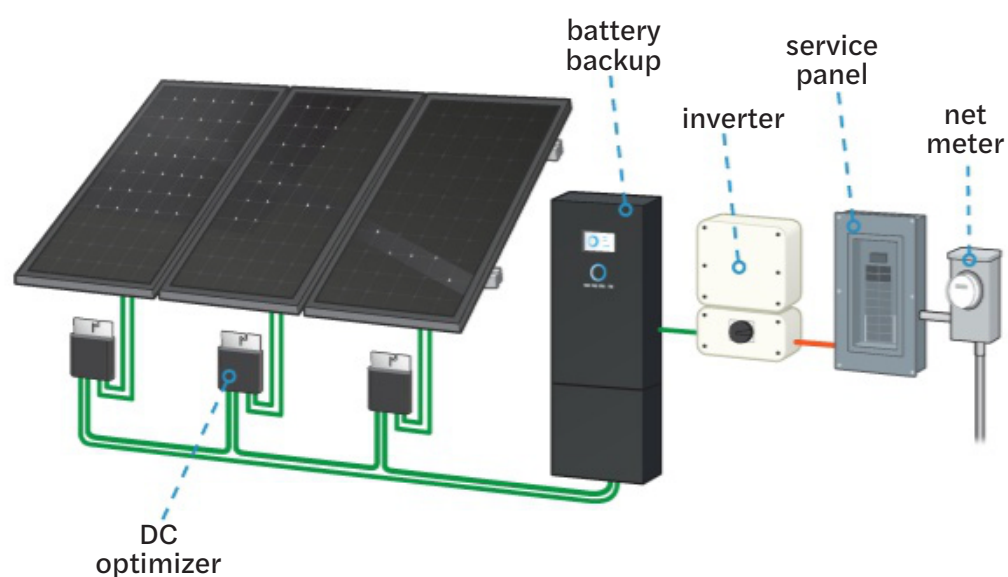
BEST FOR MULTIPLE ROOF PITCHES AND YARDS WITH TREES: MICROINVERTERS

Each solar panel gets its own microinverter wired underneath it, providing several advantages: The system can function well even when panels are experiencing different amounts of sunlight or if one goes down entirely; there is no large inverter to find a place to install; and the standard AC wiring that comes down the side of the house doesn’t require a hefty conduit. Plus, the system can monitor individual panel performance to identify problems. Microinverters, such as those from Enphase, typically add about \$1,000 to the cost of the solar system, but the warranty on microinverters should match the full 25-year term of the solar roof warranty.



BEST FOR BATTERY BACKUPS: DC OPTIMIZERS WITH STRING INVERTERS

If you’re installing a battery with your solar system, consider DC optimizers. Each solar panel gets its own optimizer, with panel-level performance benefits and diagnostic tools similar to a microinverter’s, but the network still connects to a string inverter. The big advantage of a DC-coupled system is that the DC power gets routed straight to the battery, and is converted to AC only when it’s pulled from the battery for use, simplifying the system and providing maximum efficiency. DC optimizers, such as those from SolarEdge, typically add a few hundred dollars over the cost of string inverters, and have a 25-year warranty. But you’ll still need to replace the inverter a couple of times over the course of the array’s life.



Note: Solar systems are configured in a variety of ways, depending on size and state regulations. For instance, a solar meter to measure the system’s power output may be required to access incentives, as well as additional emergency shutoffs for safety.

BIGGER IS BETTER

Is your next car going to be an EV? Are you planning to install central air this year?

The time to contemplate any big near-term additions to your electrical needs is before you install solar, because expanding an existing system later can be costly and problematic, says Los Gatos, CA, solar installer and energy podcaster Barry Cinnamon. You'll likely need to replace the inverter, and the new panels won't match the existing ones. "Panel designs change about as quickly as flat-screen TVs," says Cinnamon.

Sizing the solar array for your future needs means, in the short term, you'll be generating more power than you consume—and almost surely won't be able to turn a profit on the net extra power you're putting out onto the grid. Few utilities will actually make a cash payment to their customers, so overbuild only for expanded usage you foresee happening within two or three years. Some states and utilities won't allow oversizing a solar system at all, in which case, you should consider holding off on solar until you make those electrification upgrades—and do them soon, so you'll still be eligible for the federal solar credit.

BACKUP BATTERIES



A single backup battery can power your essential circuits during a power outage.

“Most people are surprised to learn that solar arrays won't provide power during utility blackouts,” says Pearce.

But it makes sense. They shut down when the grid does because they would otherwise send power into downed wires and could electrocute pole workers. In areas with frequent outages, there's a work-around: whole-house batteries. The excess power your panels create charges your batteries first, and then any additional electricity goes to the grid. When the sun goes down—or the grid goes down—you draw power from the batteries.

In general, a battery backup designed to power the whole house will double the cost of your solar system, Pearce says. The cost of a battery system sized for powering just essential circuits like the fridge, Wi-Fi, and key lights and outlets might net out at around \$9,500, after incentives. As long as you include the batteries during the solar installation, that work also qualifies for the federal tax credit and any other available incentives.



COURTESY TESLA



A large enough solar system paired with whole-house batteries and a backup generator can make going off-grid a reality. But most homeowners aren't going that route. Grid-tied systems include incentives, offer some peace of mind, and don't require batteries. But the calculus may change as battery prices fall.”

—ROSS TRETHEWEY, *TOH* home technology expert



Consider putting solar panels on an outbuilding if you don't want to alter the look of your home.

WHERE TO PUT PANELS

The best place for solar panels is a south-facing roof—since in the Northern Hemisphere the sun is always in the southern half of the sky—without any shade. But you can get plenty of power from east- or west-facing roofs, too. You could also consider other structures, such as a freestanding garage, barn, shed, or pergola oriented toward the sun, for at least some of your panels—or even a ground-mounted array if you have space on your property. Wherever you put them, your installer can also maximize power output by angling the panels toward the sun, typically somewhere between 30 and 45 degrees, depending on your latitude.

Solar without the install

What if your house is in deep shade, you live in an apartment or condo, or your home faces south and you are unwilling to put panels out front? In 40 states (and counting), you can participate in a community solar program that generates your electricity at a solar farm for a discounted price—typically about 10 percent less than conventional utility-supplied power. Not huge savings, to be sure, but there's no upfront cost, all it takes is a few mouse clicks, and you'll drastically reduce your carbon footprint and support the growth of solar-energy generation in your area. There's no change to your electrical service: You still get your power using your existing lines; the green energy you buy just gets added to the utility's supply.



Community solar programs gather energy from ground-mounted arrays in nearby open spaces and supply it back to participants.

WHAT ABOUT SOLAR HOT WATER?

Other than passive solar, which takes advantage of sunshine on the roof or coming through windows to warm the house, the first solar technology was solar hot water. Popularized during the 1970s energy crisis and still available today, this involves a loop of water from your water heater or boiler—or more commonly, a closed circuit of heat-transfer fluid—running through a grid of pipes in a panel on the roof, getting warmed by the sun, and then preheating the water heading into your water heater or boiler. Though this is far cheaper than PV panels, typically about \$6,300 after incentives, it's not a common choice anymore. Says Pearce: "Because both photovoltaic panels and electric heat pumps have become so efficient and affordable, it's now cheaper to heat your hot water with a heat pump using electricity you generate on the roof, than to warm that water on the roof."



Solar roof shingles, such as these from CertainTeed, are less obtrusive than PV panels.

The future of PV technology

New faux-slate roofing from Tesla, CertainTeed, GAF, SunTegra, Luma, and others has PV cells built right into the shingles. So your roofing is your solar array, and you need no panels mounted on your roof. Some companies even offer matching nonsolar shingles you can use for parts of the roof where you don't need solar. But despite the advances these products have made, Ross advises caution for now: "Since we've seen some failures, and we're talking about the weather seal for your house, I would recommend waiting for future generations of these products."

Solar shingles are just the beginning of a new generation of PV technology that will be incorporated into the building itself. Already in production: early versions of windows that have transparent dyes in the glass that absorb ultraviolet and infrared light and turn them into electricity, while allowing visible light to pass into the house. Eventually, solar may be integrated into a home's exterior cladding, patio pavers, awnings, and virtually any part of the house that gets sunshine.

PREPPING YOUR HOUSE FOR SOLAR

If the time isn't right to go solar just yet, Ross suggests taking a few simple steps that will make the job easier down the road:

→ IF YOU'RE GUT RENOVATING:

Run rigid metal conduit from the attic to the basement, near the electrical service panel. This will avoid the solar installer having to run that conduit very visibly down the outside of your house.

→ IF YOU'RE REROOFING:

Make sure your roof structure is solid. While a house built in the last 30 years likely won't be a problem, with an older home or one with 2x4 rafters, have a structural engineer verify that it offers enough support. Have rafters inspected for any damage and repaired or beefed up as needed. Relocate all penetrations—including stacks, bathroom vents, and cooktop vents—away from the area where the solar array would go, so the panels can be installed in a regular and even pattern—rather than awkwardly wending around those penetrations.

→ IF YOU'RE FINISHING THE BASEMENT:

Leave about 5 linear feet of wall space near your electrical service panel for the inverter (and solar meter, if needed). That way you won't need to stick it on the outside of your house, and you'll have space for a battery in the future. ■

The Reno Coach

Making the most of your team

The key to the best possible remodel? For Cambridge, MA, real estate agent and renovation coach **Bruce Irving**, it comes down to how you orchestrate the players



WE'RE USED TO breaking work into a series of steps. First we scrape, then we prime, then we paint. Lather, rinse, repeat. Wipe on, wipe off.

But when it comes to the complex task of home renovation, I recommend that homeowners consider a less linear approach from the start. Traditionally, an architect or designer is hired, a plan finalized and put out to bid, and a contractor chosen. Later, a lighting specialist, an interior designer, or a landscape person might come on board. Call it the choo-choo train method, one player brought in at a time, perhaps in an effort to keep the payroll under control, perhaps out of a mistaken belief that you can cross that bridge when you get there.

But there are costs to this method, mostly in lost opportunities and relative chaos, which can be largely avoided by what might be called the parallel-processing method (as opposed to the one-after-the-other method). It adheres to the tradition of starting with the design talent but brings in other experts as soon as possible.

Let's assume that the project is sufficiently complex to require an architect or architectural designer. In my experience, it doesn't take too much for a job to rise to that level. There's a result that comes from these folks spending time in graduate school: They've learned how to design things. And since things inevitably cost more than you'd expect, it's better to pay for the right thing to be built rather than the wrong one, and that takes professional design.

When it comes to architects, local is good, as you want someone familiar with the zoning and building codes in

your town and the officials in charge of enforcing them. After that, choosing one requires liking the work (see it in the flesh if possible), doing some vetting (ask for names of the last three clients—because you're only as good as your latest work—and contact those folks for a read on how those projects went), and connecting well. And ask if your

what kind of project you're going to conduct—and yes, as the homeowner, you are ultimately the conductor. The basic choice is how much professional management you want. On one end of the scale, a sole-proprietor or small-scale builder takes the architect's construction drawings and completes the project. On the other, a well-staffed general contractor works with the architect and subcontractors and assigns a project manager. That person keeps order on the job site, buying materials, scheduling the subs, and checking with the architect when questions arise.

Given the business model, the smaller outfit's price may very well end up lower than the bigger firm's. The risk is that the schedule can go awry more easily, and as a result, the budget; people end up standing around or needing to come back another time (provided they can find a new slot in their calendar). A company offering management expertise mitigates that risk. And yes, you'll pay for it. Sarah Lawson, owner of S+H

Since things inevitably cost more than you'd expect, it's better to pay for the right thing to be built rather than the wrong one, and that takes professional design.

potential design partner agrees with the approach I'm outlining here before making the hire.

Then start the design work. Paper's cheap, as they say, so look at several schemes before going too deep into the details. When you're liking where it's going, STOP. Now is the time to decide

Construction in Belmont, MA, estimates that professional management adds 10 to 20 percent to the initial pricing.

Get input on the decision from your architect—who has likely seen many ways of skinning the cat—after asking for names. Having chosen your level of management (and attendant risk), meet



with a handful of candidates to discuss the scope and get ballpark estimates, then bring your chosen builder to the table. Hopefully (because a bond will develop), your builder will remain there, contributing experience-based input to every step of the remaining design process, becoming a fully invested and respected team member, involving subcontractors at key moments, and putting specific numbers to the design as it comes together, so you'll know what costs are looking like and can make decisions accordingly.

But, you say, "What about bidding the job? That's traditional, too, and I don't want to get screwed!" Again, in my experience, there's less to this than you might think. Cambridge, MA, architect Maggie Booz, who has been putting together projects for over 30 years, explains it this way: "The financial part of

the bidding process is likely secondary to what the initial meeting and estimating phase actually yields: the getting-to-know-you between prospective builder and owner. Who showed up on time, who brought pertinent subs along, who did you just simply like? And then you

subcontractors and materials make up 60 to 70 percent of a job, the ultimate cost of your project is likely to be similar among equal-quality competitors."

And if your project calls for them, bring in those other disciplines early, too—interiors, lighting, landscaping.

The financial part of the bidding process is likely less key than what the initial meeting and estimating phase yields: the getting-to-know-you between builder and owner.

get to bring that person on and listen to more good advice!"

Lawson concurs that, among comparable contracting businesses, there's less pricing variation than you might imagine. "Contractors who do managed, high-quality projects will have similar margins," she says. "And since

Having them on board early won't cost you much extra, if anything at all, since the same amount of work will get done, though over a longer period of time, and the forethought and planning (as opposed to course-changing and backtracking) that can accrue will almost certainly pay off in the end. ■

Animal House

Putting in a dog wash

Add a canine cleaning station to make bath time more comfortable and convenient for both you and your pet

BY JENN ANDRLIK

Anyone who's had to chase a muddy dog through the house understands the appeal of a dog wash located near the entryway. "It's a great way to keep the mess contained," says New York-based architect Dan Contelmo, who points out that it also comes in handy for rinsing off dirty boots and giving houseplants a good soak. A dog-cleaning station tailored to the task is also easier on your back—no more hunching over the family bathtub. Here's how to plan one that best suits your needs.

WHERE TO LOCATE IT



MUDROOMS, GARAGES, basements, and laundry rooms are the areas that Contelmo focuses on when designing a dog wash; these buffer zones between the outdoors and indoors generally allow homeowners to tie into existing plumbing, saving money. Keep in mind that although connecting to existing supply and drain lines simplifies installation, it likely requires breaking into finished walls and floors. A DIY dog-wash project can cost \$1,000 or more just for materials; expect to pay at least twice that if you bring in a pro designer, plumber, or contractor.

CONSIDER THE HEIGHT



A UTILITY SINK, mop basin, or shower pan with pronounced sides installed at



A busy family with pets and young kids will find plenty of uses for a dedicated shower in a mudroom.

waist level eliminates the need to kneel or bend over to wash a dog. This setup is best for small and medium breeds that can be lifted in and out easily or are agile enough to access the tub via a ramp or stairs with nonslip treads. Prefab dog tubs designed for pro groomers come ready to connect to plumbing but have a utilitarian look.

A dog shower is a practical choice for large breeds; size it at least 6 inches taller and wider than the dog. To build one on a budget, use a prefab shower pan that's sloped toward the drain. A shower stall with no door requires a curb to contain splashes. If you add a gate-style door, go with tempered glass in a height that's easy to reach over.

MAKE YOUR DOG COMFORTABLE



SLIPPERY SURFACES can be stressful for dogs, so make sure the floor is nonskid. For tile, the smaller it is, the more grout lines, which provide traction, Contelmo says. Using a prefab shower pan? Add a rubber mat. Handshowers or pull-out sprayers should be easy to reach; ones that can be operated with one hand let you keep the other hand on your pet. For an elevated tub, choose a sprayer with an 18-to-24-inch hose that will reach all around the dog. In a stall-style shower, a handshower with a 3-to-5-foot hose will be most maneuverable. An antiscald valve is advisable and in some cases is required by code; lukewarm water is best for dogs.

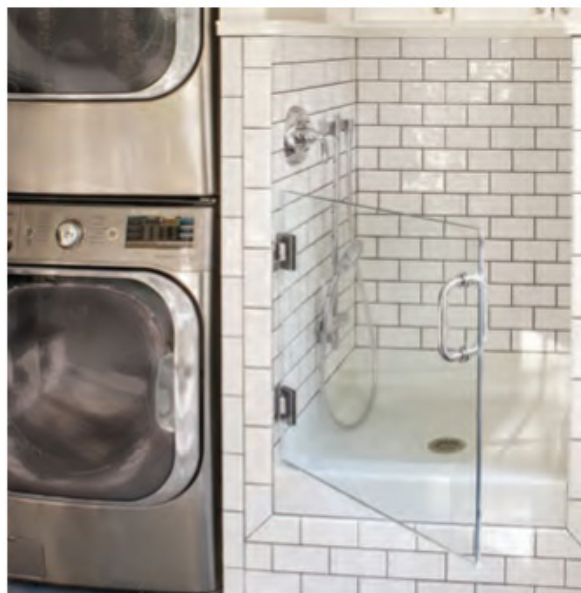
For inspiration, check out these smart dog-wash-station builds for pets of all sizes.

SARAH MILNE/THE CREATED HOME



Off-the-shelf solution

A 36-INCH-WIDE acrylic mop basin, 2 feet front to back and 10 inches deep, is set on a back-friendly bench-height cabinet. Home-center subway tile gets a style boost laid in a stacked pattern. The pot-washer faucet was salvaged from a restaurant. Cubby baskets hold essentials, including dog-grooming supplies. The floor (not shown) is durable slate.



Compact shower stall

TUCKED NEXT to stacked laundry machines for easy plumbing access, a 30-by-30-inch acrylic shower pan, raised a foot off the floor, is sized just right for an 80-pound poodle. Standard white subway tile and a simple handshower are budget-friendly additions; the 30-inch-high tempered glass shower door (\$399) was a splurge—it's kept closed during showers to control splashing.

TOH PRO TIP



"Choose slip-resistant tiles with a matte, textured, or sandy surface for a shower floor. You can also check their DCOF rating: Look for tiles rated 0.42 or higher." **TOM SILVA**, *General Contractor*



Spacious and stylish

ONCE A carpeted guest bedroom, this area now houses a bathing enclosure that fits three dogs at once; it was created by tapping into a water line in an adjacent half bath. Large-format porcelain tiles adorn one wall, while 1-inch hex tiles on the shower floor (and elsewhere) minimize slipping. A fold-down teak bench offers the homeowner a place to perch. The tempered glass door autolocks when closed to keep soapy dogs from escaping; it opens with the press of a button. A tub filler for mop buckets and a rod for drip-drying laundry give the shower multiple uses.

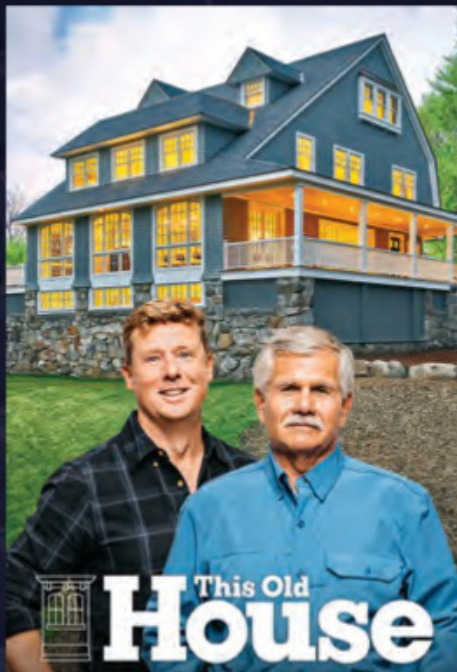
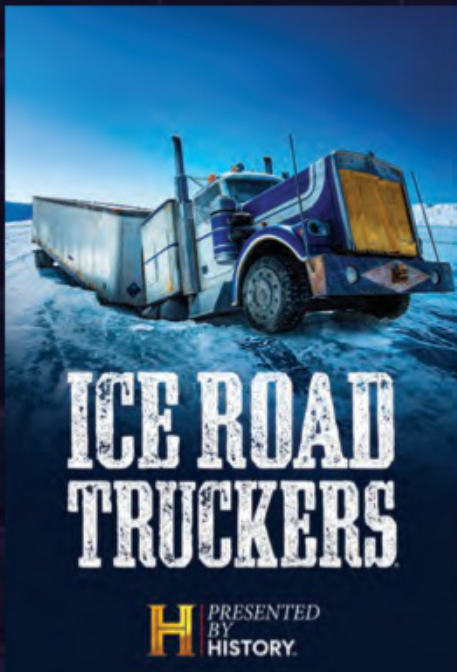
Stow-away stairs

THIS STANDING-HEIGHT dog-wash alcove, located in a mudroom, has three laminate-covered walls and a 60-by-34-inch prefab shower base; a handshower is mounted at one end. Pull-out steps with nonslip treads and a false cabinet front slide on heavy-duty glides to help the family's large dogs—both calm and nimble enough to safely use them—get up and down. To the right (not shown) is a feeding station equipped with a low sink and faucet for fresh water refills. 🐾



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PRECISION JOINERY

Tom and Kevin cut the interlocking joints for this tray with a shop-built table-saw sled and jig. They used a template to guide the shaping of the gently curved handle sides.

[Build It]

Solid-walnut serving tray

Inspired by an antique milk crate, **TOH** general contractor **Tom Silva** and **TOH** host **Kevin O'Connor** use box joints to assemble this simple but smart-looking project



BY ROB WOTZAK | PHOTOGRAPHY BY ANTHONY TIEULI

When looking for ideas for new woodworking projects, Tom is often inspired by construction details he spots on everyday objects from the past. In this case, he drew up a plan for a serving tray that relies on the same sturdy joinery found on wood boxes from a century or more ago. Tom likes the box joint because it triples the surface area—and holding power—of a plain butt joint, but it's much simpler than its fancier sibling, the dovetail. "It's kind of cool because it doesn't hide anything—it shows off the entire joint," Kevin says, checking out the old milk crate that was Tom's inspiration.

Tom made this serving tray from ½-inch-thick walnut, but you could use any wood you like. Before building the tray, you'll need to make a table-saw sled and a custom jig to help space out the identical cuts that make the box joints fit snugly together. You'll also need a template for the handled sides.

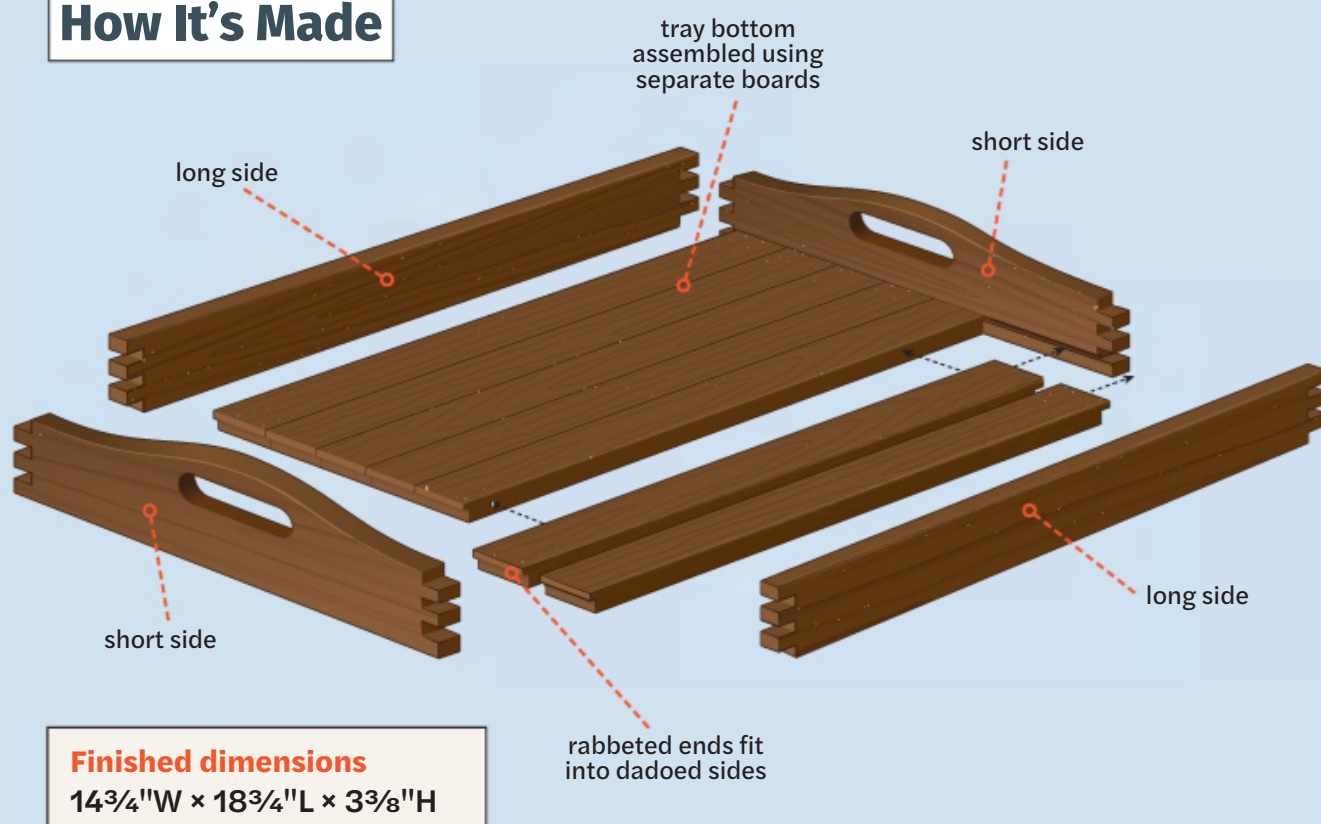
Once the tray is complete, you'll want to sand the joints flush and ease the edges along the sides. After that, there are lots of finish options to protect the wood; Tom used mineral oil, but any food-safe wax or oil will work. Many food-safe oil finishes include beeswax, which gives the oil more body, extends the time between applications, and adds a nice floral aroma to the finish. For a more durable, long-lasting finish, you could use a drying oil, such as tung oil, as long as it doesn't contain any harmful additives and is labeled nontoxic.



MATERIALS

- ❑ 1×8 pine, 72 inches long
- ❑ ½×8 walnut, 72 inches long
- ❑ ¾×4 plywood, 14 inches long
- ❑ 2×4 scrap, 4 inches long
- ❑ CA glue (a.k.a. superglue)
- ❑ wood glue
- ❑ four 2-inch No. 8 wood screws
- ❑ mineral oil or another food-safe oil

How It's Made



TOOLS

- ❑ tape measure
- ❑ table saw with standard blade
- ❑ miter saw
- ❑ brad nailer
- ❑ four 2-foot bar clamps
- ❑ dado blade set
- ❑ jigsaw or band saw
- ❑ double-stick tape
- ❑ handheld drill and Forstner or spade bit
- ❑ router and top-bearing flush trim bit
- ❑ 120- and 220-grit sandpaper and sanding blocks

ILLUSTRATION: PETER SUCHESKI



WATCH See Tom and Kevin build this project at thisoldhouse.com/walnut-serving-tray

Getting Started

The first task is to make a table-saw sled, a sliding crosscutting jig that's guided by the miter slots, and a box-joint jig attached to the sled that allows you to make precise joinery on the saw.



A] Build the sled. Place the guide rails in the table saw's miter slots, and apply a few drops of superglue to their tops. While holding the sled base tightly against the table-saw fence, lower the base into the glue and apply pressure until the glue sets. Drive a few short pin nails into each rail from below to reinforce the glue joint. Clamp and screw the sled fence to the sled base so the fence is 5 inches from and parallel to the sled's front edge.



B] Prepare the dado blade. Glue a sacrificial 2x4 block to the center of the back of the fence to act as a blade guard. Adjust the dado-set width to $\frac{3}{8}$ inch and install it in the table saw. Raise the blades to $1\frac{1}{4}$ inches, lock the table-saw fence 10 inches from the blade, and make a pass through the sled. Lay a scrap of the $\frac{1}{2}$ -inch tray material flat on the sled, and raise the dado set about $\frac{1}{16}$ inch higher than the scrap.



C] Build the box-joint jig. Clamp the jig fence against the sled fence, and make another pass to make a notch in the center of the jig fence. Unclamp the fence, then take one of the square pins and superglue it into that notch so it protrudes out toward the front of the sled. Use the other square pin as a spacer between the pin in the jig and the dado blades, then reclamp the jig fence to the sled. This glued pin will be the guide to evenly space the box-joint notches.

STEP-BY-STEP

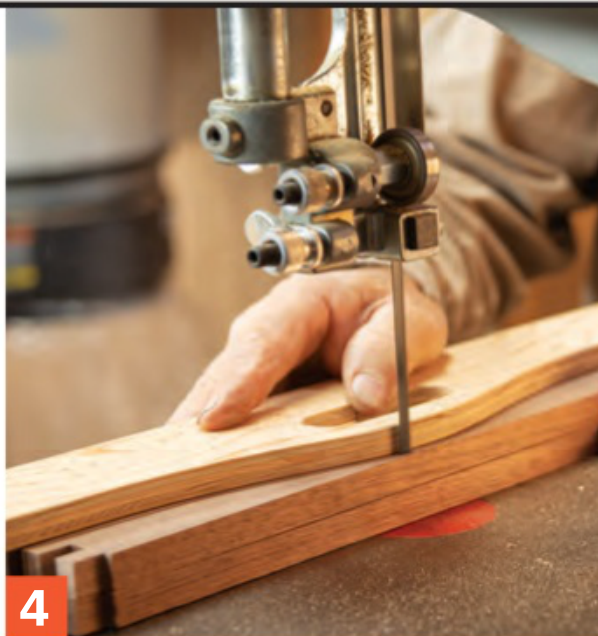
1] Cut the box joints on the short sides. Mark one long edge of each side to indicate the tray bottom. Hold the marked edge of one short side against the pin on the jig, and cut the first notch. Place the new notch over the peg, cut another notch, and continue the process until you have four notches at either end of both short sides.

2] Cut the corresponding box joints. Place one short side's first notch over the jig pin so the piece's marked edge is to the right of the dado blade. Now bring the marked edge of a long side against the shorter piece so that the blade will cut a notch into the bottom edge. Remove the short side, and repeat the process until you have cut three notches in the long side. Repeat the process for both ends of the two long sides.





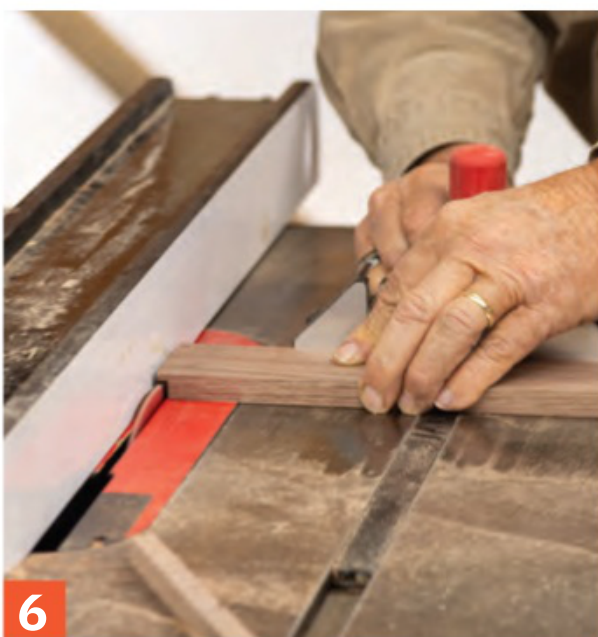
3



4



5



6



7



8

STEP-BY-STEP (CONTINUED)

3] Cut grooves to support the tray bottom. Replace the dado set with a standard blade, raise the blade height to $\frac{3}{8}$ inch, and then set the saw fence $\frac{7}{16}$ inch from the blade. With the bottom edge against the fence and the inside facedown, cut a kerf in each short side. Now adjust the fence away from the blade about $\frac{1}{16}$ inch, and make another pass through each of the short sides.

4] Cut out the handles. Use double-stick tape to fasten the plywood template (see Tip) to the short sides, then use a Forstner or spade bit to drill out the rounded ends of the handle holes. Use a jigsaw to roughcut the handle holes, and a jigsaw or band saw to cut the outer contoured edge above the handle.

5] Rout the cutouts. With the template still taped to the short sides, use a router and a top-bearing flush trim bit to clean up the handle holes and curved upper edges.

6] Rabbet the bottom pieces. Set the table saw blade $\frac{3}{8}$ inch high and the fence $\frac{3}{16}$ inch from the blade. Using the miter gauge, make several passes on each end of the seven bottom pieces to cut a $\frac{1}{8}$ -by- $\frac{3}{16}$ -inch tongue.

7] Assemble the tray. Add wood glue to the box joints' mating surfaces on one end of the short sides and both ends of one long side. With the bottom grooves facing inward, slide the box joints together. Now slide the bottom pieces into the grooves with their rabbeted sides facing down.

8] Add the final side. Dry-fit the second long side before adding wood glue. If the last floor piece is too wide, rip it a little narrower. When everything fits, apply wood glue to the remaining box joints and slide the final long side into position. Loosely place four bar clamps around the corners of the tray, check the tray for square, and tighten the clamps. Wipe any excess glue off with a damp rag, and allow to dry. ■

TIP

MAKING THE HANDLE TEMPLATE

Go online to download a scale drawing of the handle template Tom used here. The grid lines should be spaced $\frac{1}{2}$ inch apart for printing. Alternatively, you could use a ruler to draw a $\frac{1}{2}$ -inch grid on a sheet of paper and then draw this template, or one of your own design. Glue or tape the paper template onto the plywood, cut to the lines with a band saw or jigsaw, and then use the plywood template to lay out the handles.



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[Tool Lab]

Track saws

TOH carpenter Nathan Gilbert gives guidance on choosing and using these job-site favorites

BY CHRIS ERMIDES

Not long ago, a table saw or a conventional circular saw was the only option for ripping large sheet goods, making a long bevel cut on a thick piece of oak, or cutting a straight edge on rough-sawn stock. Introduced by Festool in 1980, the track saw has since become a go-to tool for carpenters and woodworkers for these tasks and more.

Consisting of a plunge-style saw with a shrouded blade that's guided by a companion track, a track saw can make rip cuts, crosscuts, and bevel cuts with the accuracy of a table saw. But it's portable, safer, and costs considerably less. A track saw is ideal for working solo; instead of two people having to move bulky materials, the saw travels to where it's needed. Its splinter-free and ruler-straight cuts make quick work of jobs that require precision, like breaking down plywood for site-built cabinets, trimming doors, and making plunge cuts to repair flooring.



STEADY AS HE GOES Nathan moves a saw along its aluminum track, which has rubber strips on the underside to keep it in place.

WHAT TO LOOK FOR



COMMON FEATURES

- 1 | Dust port**
Connects to a dust bag or vacuum
- 2 | Riving knife**
Follows blade to help prevent kickback
- 3 | Bevel adjustment knob**
Sets bevel angle
- 4 | Depth adjustment**
Controls blade depth
- 5 | Blade lock lever**
Handy for changing blades
- 6 | Variable speed control**
Maximizes motor efficiency
- 7 | Trigger switch**
Turns on the saw
- 8 | Trigger release**
Acts as a safety lock
- 9 | Track adjustment**
Eliminates saw wobble on the track

WORTHWHILE UPGRADES

- A | Splinter guard**
Eliminates chipped edges on the blade's waste side
- B | Anti-tip mechanism**
Makes cutting bevels safer
- C | Power-cord outlet**
For removable power cord



SHOWN:

Festool Plunge Cut Track Saw

(TS 55 FEQ-F-Plus-FS)

SAW BLADE DIAMETER: 6¼"

CUTTING DEPTH AT 45°: 11⅛"

CUTTING DEPTH AT 90°: up to 2⅞"

BEVEL CAPACITY: -1 to 47°

NO-LOAD RPM: 2,000–5,800

PRICE: \$699 (corded, includes 55" guide rail, carrying case); festoolusa.com

GUIDE TO TRACK SAWS

Ryobi 18V ONE+ HP Brushless 6½" Track Saw

THE DETAILS: This Ryobi kit (PTS01K), which includes the saw, two tracks, a battery, a charger, and track clamps, is the most budget-friendly cordless track saw on the market. Its powerful brushless motor is efficient and runs on the 18V ONE+ battery platform. The saw's depth capacity is slightly less than those of its competitors' models, but it does have a good bevel range. The saw features both an electric blade brake and an anti-tip safety feature. The tracks are only 27½ inches long, so to make longer cuts, you'll need to buy additional sections.

Affordable
cordless



SAW BLADE DIAMETER: 6½"
CUTTING DEPTH AT 45°: 17/16"
CUTTING DEPTH AT 90°: up to 115/16"
BEVEL CAPACITY: -1 to 48°
NO-LOAD RPM: 4,300
PRICE: \$399 (cordless, includes two 27½" tracks, riving knife, track clamp); ryobitools.com

DeWalt Corded TrackSaw

THE DETAILS: This track saw (DWS520CK) is loaded with features such as a riving knife, adjustable speed control, an antikickback mechanism, and an electric blade brake. In addition, its tracks (one 59 inches long or two 51 inches long) are designed so that either edge can be used—a nice feature in tight spaces. The saw is available as a cordless or corded tool, and can be used with several other manufacturers' tracks. Its one downside is that it has the least smooth plunge mechanism of the track saws shown.

Fully
loaded
and
versatile



SAW BLADE DIAMETER: 6½"
CUTTING DEPTH AT 45°: 15/8"
CUTTING DEPTH AT 90°: up to 21/8"
BEVEL CAPACITY: 0 to 47°
NO-LOAD RPM: 1,750–4,000
PRICE: \$599 (corded, includes 59" and 102" track and carrying case); dewalt.com

Kreg Adaptive Cutting System Saw + Guide Kit

THE DETAILS: DIYers on a budget would do well to look at the Kreg track-saw kit (ACS2000), which is designed to integrate with Kreg's Project Table, a modular work surface. In addition to the saw and track, the kit includes a riving knife, an electronic blade brake, a dust bag, and an antikickback control. Available only as a corded tool, the saw is equipped with an extra-long power cord that gives you more flexibility. The saw comes with one 62-inch-long track, so you'll need to buy an additional section to rip full-length sheets of plywood.

DIY-
friendly
corded
kit



SAW BLADE DIAMETER: 6½"
CUTTING DEPTH AT 45°: 1½"
CUTTING DEPTH AT 90°: up to 21/8"
BEVEL CAPACITY: -1 to 47°
NO-LOAD RPM: 2,000–6,000
PRICE: \$400 (corded, includes 62" guide track, carrying case); kregtool.com



WATCH See Nathan demonstrate the basics of track saws at thisoldhouse.com/track-saws

How to set up a track saw

BEFORE USING YOUR TRACK SAW for the first time, it's necessary to trim the splinter guard, the track's plastic edge that prevents the material from chipping beneath the track.

- ➔ Place the track on a sacrificial surface. A piece of rigid foam over a workbench works well.
- ➔ Set the saw on the track and, if it is equipped with track adjustment, adjust it so that the saw moves freely on the track but does not rock left or right as you push it along the track's guide rail.
- ➔ Set the blade adjustment to ¼ inch or so—enough to cut through the splinter guard and slightly score the sacrificial surface beneath it.
- ➔ Once the saw glides smoothly and firmly along the track's guide rail, it is ready to use.
- ➔ Starting at the leading edge of the track, turn the saw on and slowly lower the blade into the splinter guard.
- ➔ When the blade reaches its full depth, push it slowly along the track to the end.
- ➔ Now the track is ready to be used as a guide for accurate cuts.



TRIM THE SPLINTER GUARD To make sure that the track accurately determines the position of a cut, Nathan must make a shallow cut through the splinter guard.

SAFETY CHECKLIST

- ✓ Be sure to wear hearing and eye protection when cutting.
- ✓ When cutting smaller pieces, make sure any overhanging track is supported by scraps of the same stock.
- ✓ Use accessory clamps to keep the track in place when cutting slick-surfaced materials such as melamine or laminate.
- ✓ Check to see that the riving knife is engaged in the material, except when plunge-cutting.
- ✓ Never reach underneath the workpiece when sawing.
- ✓ Always unplug the saw and/or remove the battery when changing blades or accessories.

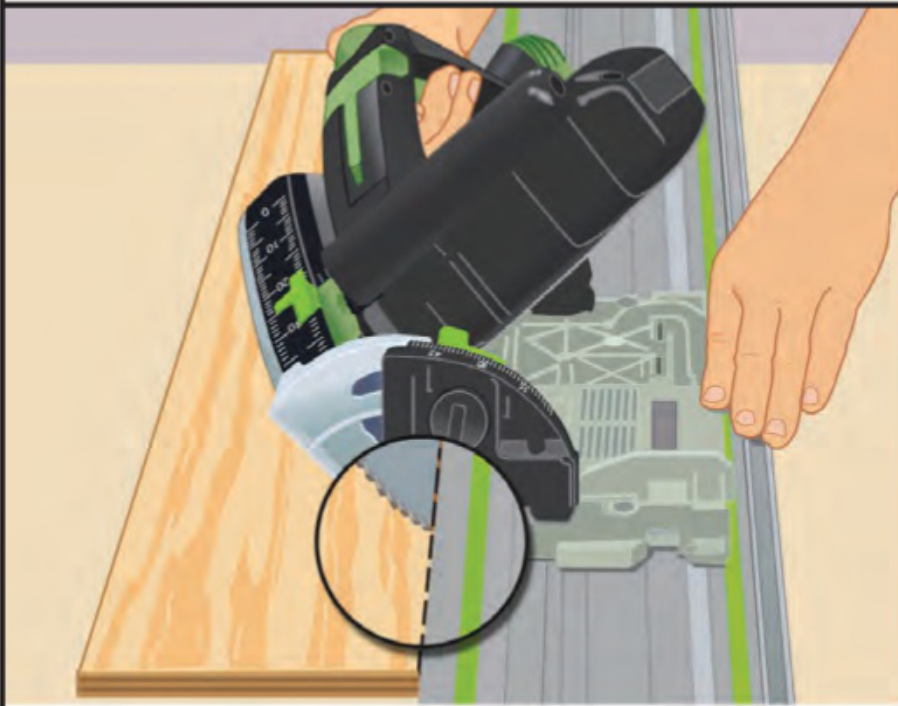


Cut multiple sheets at a time

MOST TRACK SAWS CAN CUT up to two ¾-inch-thick pieces of material at once. If you add a third piece to the stack, the blade will cut a shallow saw kerf on the bottom piece that you can use to align the track on the next cut.

- Stack up to three sheets of ¾-inch-thick plywood on a stable work surface. Make sure the edges are aligned and square to one another. Use bar clamps to keep the sheets in line. Tip: Use 1½-inch-thick rigid foam under the plywood as a sacrificial support.
- Measure and mark each end of the top sheet of plywood.
- Align the track on the marks so that the material you want to keep is under the track; the waste is on the blade side.
- Set the depth of the plunge mechanism to the desired thickness.
- Make your cut along the track.

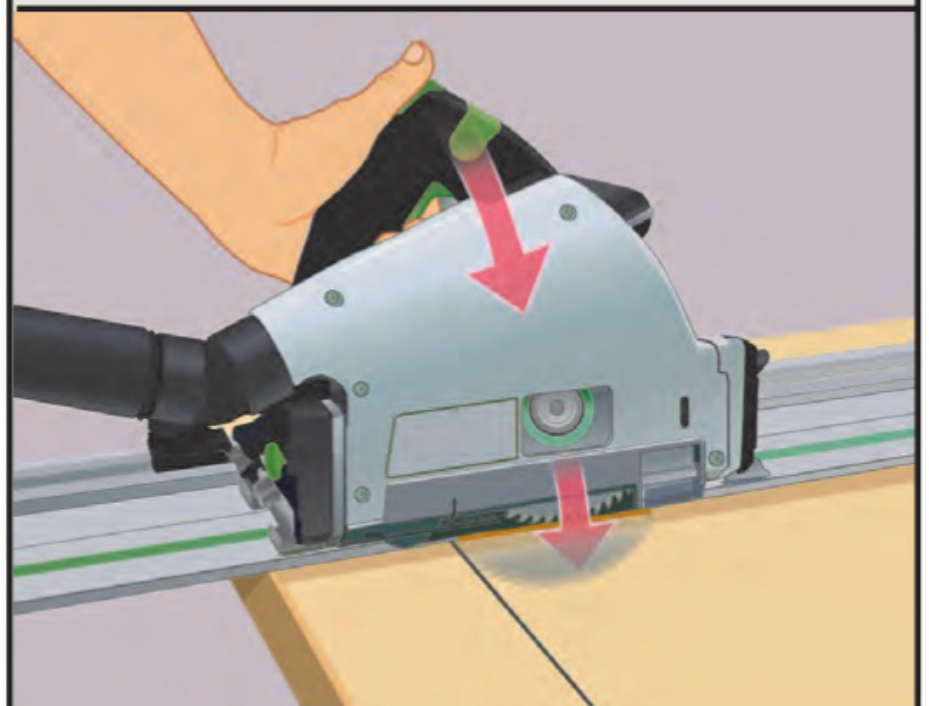
Clean beveled cuts



MAKING BEVELED CUTS FOR long miters, or when scribing baseboard, countertops, or doors, is where the track saw really shines, because the track edge will guide the saw in a perfectly straight line, and the blade aligns against the track, no matter at what angle the blade is set. If you're bevel-cutting material that's narrower than the width of the track, be sure to support the entire track width with scrap pieces to ensure a stable, safe cut.

- > **Start** by measuring to the long point of your bevel angle.
- > **Adjust** the bevel of the saw to your desired bevel angle.
- > **Set** the depth of cut to the material you're using. The best way to do this is to hang the track over the edge of the material and plunge down until the blade looks like it will exit the bottom of the material.
- > **Clamp** the track in place in alignment with your marks.
- > **Start** the saw, allowing the blade to come to full speed, then slowly lower the blade into the material.
- > **Push** through the material slowly until the blade exits.

Precise plunge cuts



PLUNGE CUTS COME IN HANDY for working on jobs such as wood floors or countertops. All track saws are equipped with marks that indicate where the blade cut will start and stop when at full depth. Use these marks to gauge the start and stop points of the cuts. Make sure that the blade can safely cut through whatever is under the material you are cutting. Adjust the depth stop accordingly.

- > **Align the back of the blade** (noted by the plunge mark on the saw) with the beginning of the plunge cut.
- > If the saw is equipped with one, **engage the antikickback lock**. This will keep the blade from accidentally moving backward.
- > **Start the saw**, allowing the blade to come up to full speed, and slowly plunge the blade into the material until it reaches the full depth of the cut, then move forward.
- > **Stop when the blade** reaches the end of the cut.
- > **Release the trigger** and allow the blade to stop.
- > **Raise the blade up** out of the cut, and readjust for the next cut as needed.

Give rough boards a straight edge

ONE OF THE NICE FEATURES of a track saw is that it can be used to rip a straight edge on rough-sawn lumber.

- > First, lay the board on a sacrificial solid surface like a workbench or across two sawhorses.
- > Place the track along the length of the board so that the

irregular, rough edge of the wood is on the waste side.

- > Clamp the track to the board, then make your cut.
- > Once you've made the cut, you can use the straight edge as a reference against the fence of a table saw, or use the track saw to rip the board to the desired width. ■

What's New

The latest tools and home-improvement products to help you tackle your to-do list

BY SAL VAGLICA

1. Screen time Sanibel Decorative Screen Panels

Think of these low-maintenance polypropylene screens as an alternative to wood lattice. Use them at the ends of a porch, to add privacy to an open seating area, or to serve as a skirt under a deck. Available in 2-by-4-foot or 3-by-6-foot sections, framed by powder-coated posts and rails (sold separately). *From \$44 each; barretteoutdoorliving.com*

2. Multiuse grill Apex Pellet Grill

Unlike most pellet smokers, the Apex packs the high-heat punch of gas burners and delivers the lower, smoldering temps of a wood smoker, too. An optional side griddle lets you sear meats after they've been smoked. *From \$1,699; campchef.com*

3. Nail the stone look Evolve Stone Mortarless Series

This new composite, cast with thermoset resin, delivers a

realistic look without mortar. You just pin the pieces to interior walls with 16-gauge finishing nails (stainless steel for exterior applications). With some minimal wall prep, they can be installed 10 times faster than traditional veneer stone. *About \$15 per square foot; evolvestone.com*

4. Bits with bite Diamond Grit Impact-Drive Bit Set

These 2-inch Phillips hex-shank bits last 20 times longer than standard steel ones because they're coated with finely pulverized diamonds. That gives the bits twice as much grip on screwheads and reduces the chances of bit cam out and ruined screws. Use them with impact drivers or standard drill/drivers. *\$9.97 for a set of 12; ryobitools.com*

5. Speedy drilling and driving Nitro Brushless Switchdriver 2.0

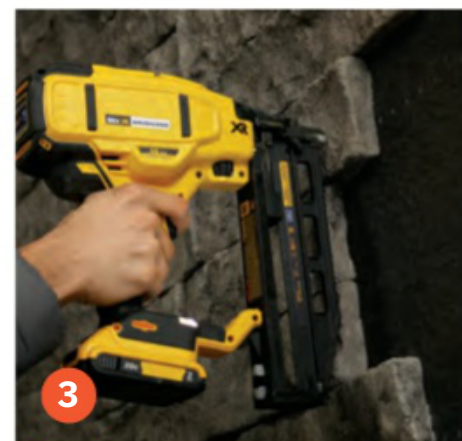
Drilling pilot holes before sinking screws is a good way to keep



1



2



3



With this dual-fuel propane-and-pellet grill, you have the flexibility to cook hot and fast, or low and slow.



4

TOH PRO TIP



TOM SILVA
General Contractor

"Anytime you feel a screwhead starting to strip, stop, back the screw out, and drill a pilot hole. Then sink a new fastener."



This rotating head can hold two bits: one for drilling pilot holes, the other for driving screws.



Working together, repellents like this one emit a nontoxic, synthetic pyrethrum extract formulated to drive mosquitoes from an entire yard.



wood from splitting, but swapping bits can get tiresome. The two 1/4-inch chucks on this tool enable drilling and driving with just a turn of the tool's head. A digital readout shows which of nine torque settings you're using. \$130; worx.com

6. Stick-on solar PowerFit20 Solar Panels

Homeowners with standing-seam metal roofs can now add photovoltaic panels without having to drill holes. Each 66-inch-long panel has a peel-and-stick backing that fits neatly between a roof's seams. Daisy chain the panels together to cover the entire roof. From about \$162 per panel (uninstalled); sunflaresolar.com

7. Master measuring 3-in-1 Digital Laser Measurer

At its core, this 4-inch-long device is a laser

distance meter that can reach up to 65 feet to quickly calculate interior volumes. But two attachments really increase its utility: a wheel (shown) that allows you to easily measure curved surfaces, and a 5-foot tape flexible enough to wrap around square surfaces, like columns. A screen shows measurements in any function and calculates the area, too. \$79; dremel.com

8. Insect repeller LIV Smart Mosquito Repellent System

Hotter summers mean warmer autumns, allowing mosquitoes to linger longer. This outdoor system keeps the biters at bay with up to five connected, smartphone-controlled repellents. Three repellents can protect up to 945 square feet for as long as 40 hours per repellent cartridge. \$699 for a three-module starter kit; thermacell.com

TOH PRO TIP



MAURO HENRIQUE
Painter

"When using blocks to support your work, make sure they're on a level surface so the finish won't run."

9. Faster finishing Multipurpose Project Blocks

Grippy rubber edges elevate workpieces for no-slip routing or sanding. And when you're ready to apply a finish, twist the tops to raise each block's rubber point. After the finish goes on, there's no waiting for it to dry; just flip the wet side onto the points, and coat the edges and dry face. \$20 for a pack of four; kregtool.com 🏠



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[Easy DIY]

Two-drawer nightstand

TOH DIY expert **Jenn Largesse** shares how to put together a sturdy bedside table using a simplified joinery technique

The do-it-yourself projects that jump to the top of my list always seem to be the ones that add more function to our home. If a build promises to put wasted space to good use or bring organization to a cluttered area, I find myself feeling extra inspired.

So when I noticed charger cords, books, and miscellaneous items accumulating on my bedside table, I decided it was time to make something that would provide more storage than I currently have. And while drawers are not typically considered an easy build, the pocket-hole assembly method I used offers a great solution for novices.

Now, thanks to its generous footprint, two stacked drawers, and bottom shelf, my nightstand feels neat and tidy when it comes time to turn out the light.

Up ahead: what you need to know to build one of your own.



PREP STEPS Jenn uses a miter saw to cut the night table's 2x2 legs, as well as its 1x2 crosspieces. A table saw is handy for cutting the sides and shelf, but a circular saw with a guide works, too.



Skill: Moderate
Cost: About \$140
 (not including paint, screws, and glue)
Time: About 5 hours



GETTING STARTED

The standard height for a nightstand generally ranges from 24 to 28 inches. While modern furniture design favors low-slung side tables, I like a traditional nightstand to sit 1 to 2 inches higher than the top of the mattress. For alongside my own bed, I designed this side table to be 30 inches tall; that way, the reading lamp casts its light down onto my book, and its switch is within easy reach. To size the nightstand up or down, you can simply adjust the height of the 2×2 legs, while maintaining the distance of the bottom shelf to the floor.

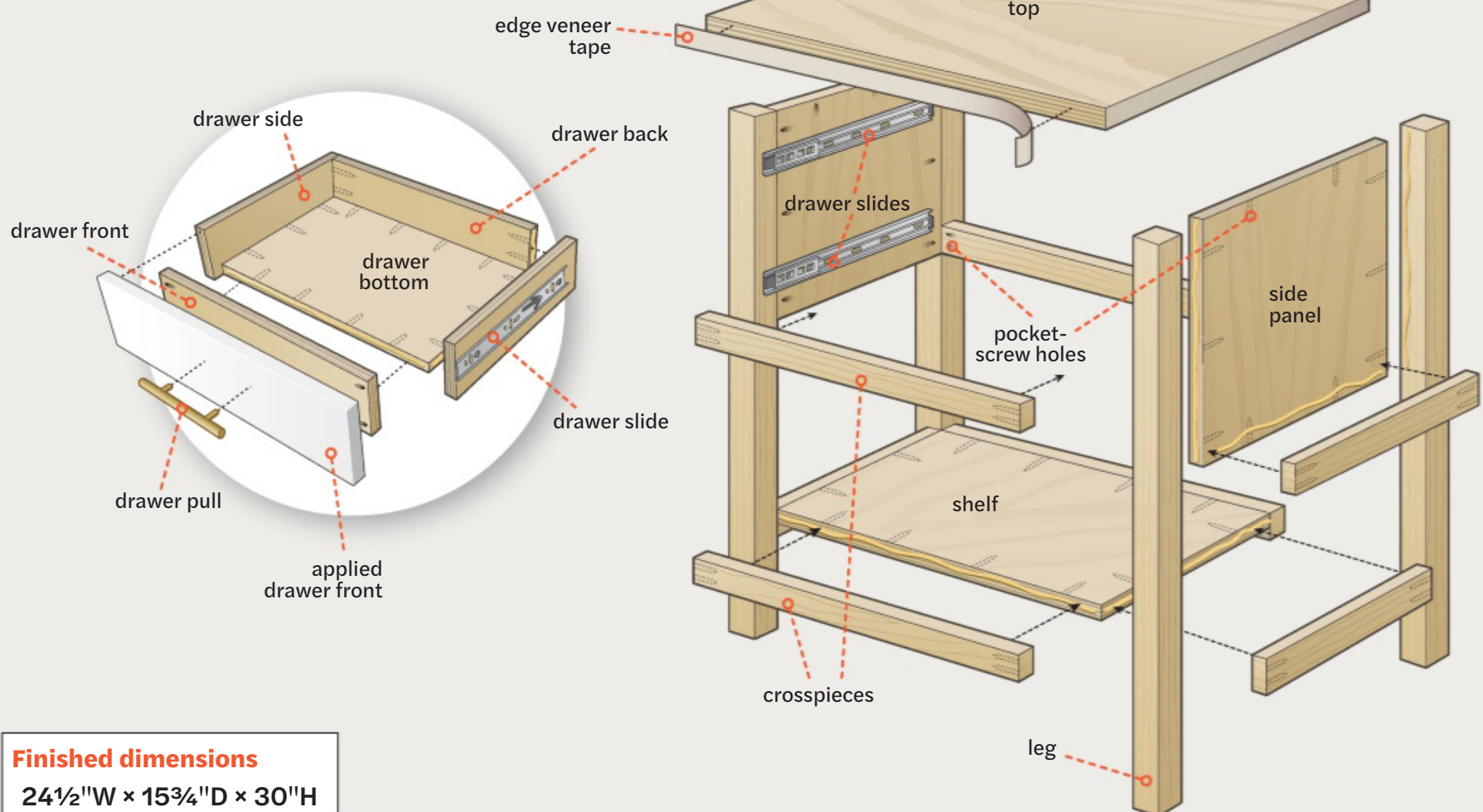
TOOLS

- measuring tape
- pencil
- table saw or circular saw with guide
- miter saw
- drill/driver
- pocket-hole jig
- 36-inch bar clamp
- combination square (optional) to center the top
- clothes iron (to attach edge veneer)
- edge-veneer trimmer or utility knife
- orbital sander
- paint roller and cover
- paintbrush
- drill bit sized to drawer-pull screws

MATERIALS

- two ¾"×2'×4' plywood project panels
- two 2×2×6' boards
- two 1×2×6' boards
- 1¼-inch pocket-hole screws
- two sets of 12-inch drawer slides
- ¾-inch edge veneer tape
- two drawer pulls (with hidden fasteners)
- wood glue
- paint and primer

How It's Made



Finished dimensions

24½"W × 15¾"D × 30"H



WATCH See Jenn build this project at thisoldhouse.com/house-one/two-drawer-nightstand

STEP-BY-STEP

1] Prep the parts. Following the cut list at thisoldhouse.com, cut the pieces to length. Use the pocket-hole jig to drill two holes at the ends of the front and back pieces for the drawers and each 1×2. Drill additional pocket holes along all edges of the plywood shelf and each drawer base, and along the top and side edges of the plywood sides.

2] Assemble one plywood side. Position a 12-inch 1×2 between two 2×2 legs, 12½ inches down from the tops of the legs. Attach it with glue and pocket-hole screws. Place a plywood side on top of the 1×2, its bottom edges flush and its top edge supported; secure with glue and pocket-hole screws.

3] Attach a 1×2 crosspiece. Mark a line 5 inches from the bottom of each leg. Place a 12-inch 1×2 between the legs, propped up on ¾-inch blocks and flush with the legs' inside faces. Using the bar clamp, secure it with glue and pocket-hole screws. Repeat Steps 2 and 3 for the second side.

4] Install the shelf. Glue and pocket-hole-screw 20-inch 1×2s to the front and back edges of the plywood shelf, flush with its top. (The plywood will cover one of the two pocket-screw holes at each end.) With a side assembly lying flat, inside face up, glue and pocket-hole-screw the shelf flush with the top edge of one of the lower 1×2s. Flip the workpiece over, and repeat on the other side. Glue and pocket-hole-screw two 20-inch 1×2 crosspieces between the sides, flush with the upper 1×2s.

5] Attach the top. Place the workpiece upside down on the plywood top, centered along the top's width and flush with its back edge. Drive pocket-hole screws through the plywood panels and into the top. Iron on veneer tape to finish the edges; trim excess.

6] Assemble the drawer boxes. Glue and pocket-hole-screw a plywood front and back to a drawer bottom so they are flush with its underside; glue and pocket-hole-screw the drawer sides to the bottom, front, and back. Repeat. Sand both assemblies smooth, and paint all the pieces.

7] Install the drawers. Separate the slides and screw one part to each drawer box, centered vertically and flush with the front edge. Attach the corresponding parts inside the workpiece. Insert the drawers, rejoining the two parts of each slide.

8] Add drawer fronts and pulls. Mark and drill holes for the pulls in the applied drawer fronts, then tack them to the drawer fronts with screws through the pull holes. From inside the drawers, drive screws through the drawer fronts and into the applied fronts. Remove the temporary screws, drill holes through the drawer boxes, and screw on the pulls. ■



1



2



3



4



5



6



7



8

Upkeep

Maintenance tasks to pay attention to
this season **BY CHARLES BICKFORD**

TRANSPLANT CROWDED SHRUBS

The cooler temperatures of early-to-mid fall make it prime time for moving shrubs that have outgrown their space or are languishing in the wrong location. Here's how:

- 1) Prune or tie back branches with twine to prevent breakage.
- 2) Use a sharp shovel or spade to score the soil just beyond the root ball. A typical 2-foot-tall shrub has a root ball about 14 inches in diameter.
- 3) Dig down, angling the shovel toward the center to isolate the roots.
- 4) Using the shovel, lift the root ball onto a tarp, keeping as much soil as possible around the roots to minimize shock. Drag it to its new location.
- 5) Dig a new hole twice as wide and no deeper than the root ball.
- 6) Place the shrub in the hole, with its best side facing forward and the top of the root ball at or just above grade; backfill with the excavated soil.
- 7) Water well and spread a 2-to-3-inch layer of mulch around the base, making sure to expose the root flare around the main stem to avoid trapping moisture against it.



PLUG BASEMENT LEAKS

Older houses may have air and water leaks in the foundation. Water leaks are usually obvious after a heavy rain; if ignored, they will get worse and damage the foundation. Water seeping in through foundation cracks can be caused by drainage issues; add downspout diverters if needed to channel water away from the house. *TOH* mason Mark McCullough recommends using type N mortar mix to seal holes or cracks in the foundation that are leaking water. Fixing air leaks—typically around windows and doors, and at the rim joist—will keep your basement warmer and lower your energy bills. To identify them, stand in the basement during daytime hours, turn off all the lights, and look for spots admitting daylight. These can be sealed with expanding urethane foam; once the foam has cured, minimize its appearance by cutting away the excess.

TOH PRO TIP



TOM SILVA
General Contractor

“Take a look at your roof for any damaged shingles or bare spots. If you find granules accumulating at the bottom of downspouts, it may be a sign that aging asphalt roofing needs to be replaced.”

NAWADA: COLLEEN MCQUAID

Put cordless yard tools to bed

Before you retire battery-powered lawn gear for the winter, use a stiff wire brush to clean out dried debris from the underside of the mower or string trimmer. Now is a good time to sharpen or replace worn blades, so they'll be ready come spring. If you have a cordless chainsaw, remove the battery, empty the oil tank, clean off debris, and lubricate the chain before storing. Unplug all batteries and their chargers, and store them in a temperate, dry place. Check the manufacturers' charging instructions; while some recommend storing batteries with only a partial charge, lawn-tractor batteries may need to be connected to a low-voltage trickle charger to keep the batteries viable till they're ready for full use.



INSPECT GAS FIREPLACES

Fireplaces that burn natural gas or propane require professional service and maintenance yearly, since these combustion appliances need to operate and vent properly to carry away the carbon monoxide they produce. Here's what you can do:

➤ **While cleaning the glass**, check for cracks or chips, and that the gaskets around the glass aren't degraded. If ceramic logs are starting to crumble, have them replaced. It's also a good idea to vacuum up any loose debris on the floor of the firebox, which can clog burner ports and impede full combustion.

➤ **Examine the walls** outside the unit. Burning gas produces a lot of water vapor, and peeling paint and wallpaper or obvious damp spots can signal a leak in the flue. Check the chimney exterior, too; whitish stains on brick or crumbling mortar joints can indicate excess condensation. Call in a pro if you see any of these signs.

TOH PRO TIP



JENN NAWADA
Landscape Contractor

“Keep watering plants in fall, up until the first hard freeze.

Doing so will help assure their survival through the long stretches of cold, windy weather to come.”

TLC FOR WOOD THRESHOLDS

Between foot traffic, sun, rain, and snow, the transition strip at an entry door really takes a beating. Now is a good time to renew its finish. *TOH* painter Mauro Henrique likes to start fresh, sanding off any existing paint or stain down to bare wood and recoating from scratch. Once the old finish is stripped off a painted threshold, he starts with a coat of oil primer and follows with two coats of porch and patio enamel, sanding with 120 grit between coats. For thresholds that have been stained and clear-coated, after a thorough sanding, he follows with a coat or two of stain as needed, followed by three thin coats of marine spar varnish.



Grub control

Noticed **small patches of dead grass** on your lawn or places where skunks or raccoons have dug up turf? You may have grub trouble. The whitish, C-shaped larvae of several types of beetles (including Japanese beetles, june bugs, and chafers), **grubs emerge in early fall**, feeding on grass roots until cold weather, when they burrow deeper and become dormant. Come spring, the grubs become active again and continue to feed until they mature. Now is **an ideal time to control their numbers**. There are lots of grub-control products on the market, but many of them contain neonicotinoids and pyrethrins, insecticides that can also kill bees and other beneficial insects. A safer alternative: Treat the lawn with a product containing *Bacillus thuringiensis galleriae*, **a naturally occurring bacterium** that is less harmful to other insects. Studies by several state university agricultural schools have shown the bacterium to be more broadly effective than other natural remedies such as milky spore. 🍄

ask▶ This Old House

Repair a sagging gate

The gate to our backyard has become difficult to close, because of a wobbly post and some sagging in the gate itself. How can we get it to look and work like it's supposed to?

—MATT KANE, NEEDHAM, MA

TOH general contractor Tom Silva: To get started, unscrew the hinges from the post and set the gate aside. Then use a posthole digger and shovel to remove soil from around the post, digging down at least 30 inches. Alternatively, it may be easier to simply lift the post free and shovel out the hole so there's a few inches of clearance around the post when you set it back into the hole. (If the post can't be saved, replace it with a new cedar or pressure-treated one.)

Put the post back into the hole, brace it plumb, and align it with the gate's latch post. To brace the gatepost securely, attach diagonal braces to the post and to stakes driven into the ground. Then anchor the post by mixing and pouring an expanding foam posthole filler around its base.

While the foam is curing, place the gate on a



TIP

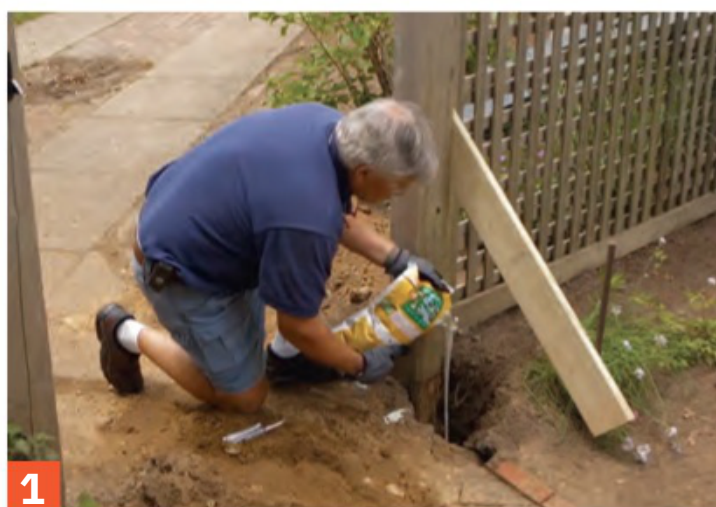
Time for a new wood fence post?

Though a post's outer surface may be rotted, its inner core could still be solid enough to last a number of years more. To assess its condition, dig down below the post's collar of rotted wood, then jab it with a flathead screwdriver. If it doesn't sink in more than ½ inch, the wood is solid enough to anchor with expanding foam or packed pea stone.

GIVE IT A GOOD SQUEEZE Tom places a long pipe clamp diagonally on this wood gate to pull it back into square.

pair of sawhorses, and test it for square by comparing diagonal measurements—the distance between opposite corners of the gate's frame. To true up an out-of-square frame, pull the more distant corners closer together with a long pipe clamp. (Use V-shaped blocks to protect the corners from being damaged.) Stop tightening when both diagonal measurements are nearly identical, but leave the latch side ⅛ to ¼ inch high. That allows the gate to settle into square after being rehung.

Reinforce all four corners of the gate with stainless steel screws; wood brackets provide an extra level of support and a nice finishing touch. Finish the job by rehanging the gate on its now solidly anchored post and driving stainless steel brads through the lattice strips.



MULTISTEP GATE REPAIR

- 1) After removing the gate from its post, Tom braced the post upright, aligned with the latch post. Then he poured a two-part foam—Sika PostFix (retail.usa.sika.com)—around its base; it cures in about 2 hours.
- 2) After clamping the gate to square it up, he cut wood brackets and screwed them in place at the gate's inside corners (note how their grain runs diagonally).
- 3) Then he rehung the gate and shot stainless brads through the lattice strips to reinforce them.

TIP

Keep deer at bay

To curb hungry deer's appetite for arborvitae, spray a deer repellent like Bobbex (bobbex.com) on the foliage as high up as you can reach. Its combination of fish oil and putrefied eggs (among other stinky ingredients distasteful to deer) doesn't wash off easily, and is safe for humans, pets, and aquatic life.

Planting a privacy hedge

I would like to plant a privacy hedge of arborvitae, but do not know the best kind to plant or how far apart to plant them.

—CHRISTOPHER D'AMICO, WEST BABYLON, NY

TOH landscape contractor Jenn Nawada:



Given your location (zone 7), I'd recommend planting 'Emerald Green' arborvitae trees to create your privacy hedge. Sometimes referred to as 'Smaragd' because of its Danish lineage, this

arborvitae will take wintry weather in stride and has excellent resistance to disease and insects. You can expect an 'Emerald Green' arborvitae to grow into a narrow pyramid shape, about 10 to 15 feet tall and 3 to 4 feet wide when mature. It can grow up to 2 feet per year, so you won't have to wait long for your hedge to provide effective screening.

It's best to plant these trees now, in fall, or in spring to avoid stressing them in the heat. If you want a straight hedge, you'll need to keep the trunks aligned, so instead of digging individual holes for the trees, you're better off making a trench and placing their trunks 3 to 4 feet apart. Use spray paint to outline a trench location about twice as wide as your trees' root balls, then remove the grass, weeds, and stones from the area.



LIVING FENCE A line of 'Emerald Green' arborvitae (monrovia.com) provides a dense, year-round privacy screen that requires little to no pruning.



WATCH See how Tom saves a sagging fence gate at thisoldhouse.com/gate-repair

Shovel the soil onto a tarp as you make the trench about 2 inches shallower than the average height of the root balls.

Carefully place the trees in the trench, with their best sides facing your yard, then use a sharp-pronged cultivator tool to tease the surface roots from each root ball. Mix some compost in with the soil you dug out (1 part compost to 2 parts soil), and fill in around each tree. Leave the top 2 inches of each root ball exposed, forming a soil dam around each root ball.

The dam is temporary; its job is to hold water around the root ball as you give each plant's roots a thorough soaking. Fill each dam with water twice, waiting till the water drains away before filling again. Then rake away the dams and cover the roots with a couple of inches of mulch.

Continue watering your newly planted trees once a week until cold weather arrives. To encourage growth next spring, apply a slow-release 10-10-10 fertilizer.

Unless you have a dog to discourage deer on your property, you'll need to protect your arborvitae from being eaten, especially in winter. Deer repellents can be effective (see Tip, previous page) if reapplied regularly, but some homeowners choose to erect temporary screens around their hedges until warm weather arrives and deer can eat elsewhere.



THE TRENCH APPROACH When planting a straight arborvitae hedge, first spray a line on the ground, then dig a trench alongside it. After that, it's a simple matter of gently rolling in and aligning each root ball.

DIY Smarts



REVERSE-OSMOSIS FILTER COMPONENTS

- A) Prefilter
- B) Activated charcoal
- C) Reverse-osmosis membranes
- D) Holding tank
- E) Remineralizing cartridge

Reverse-osmosis water filter

Our town water department just informed us that the water supply is contaminated with too high a level of PFAS. Would a reverse-osmosis water filter be a good idea?

—KRIS DHUPAR, NORTH ATTLEBORO, MA

TOH plumbing and heating expert Richard Trethewey:

You're right to be concerned: Per-fluoroalkyl and polyfluoroalkyl substances (PFAS) are a family of toxic, human-made chemicals that are hazardous to ingest.

One of the best ways to remove these contaminants from drinking water is with a point-of-use, reverse-osmosis (RO) filtration system. Some units, like the GE one shown above (homedepot.com), are compact enough to fit under a kitchen sink. (I don't recommend whole-house RO systems, because of their size, expense, and maintenance requirements.)

Reverse osmosis has three stages of filtration. A prefilter (A) traps sediment that can make water cloudy and odorous. Activated

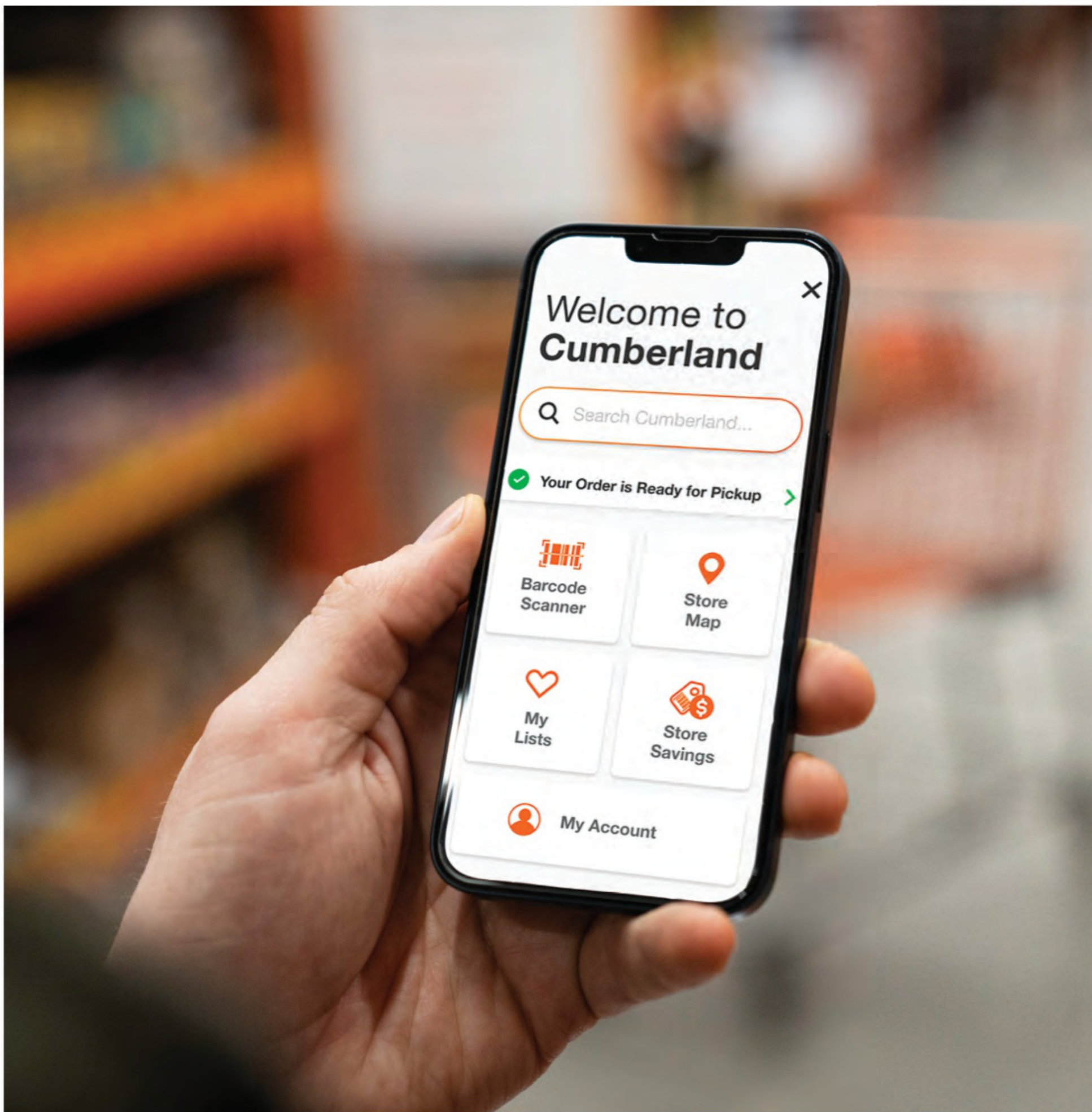
charcoal (B) takes out most of the volatile organic compounds (VOCs), heavy metals like lead and cadmium, PFAS, and other chemical contaminants. A third filter (C) contains layers of semipermeable membranes that trap whatever gets past the charcoal, so only purified H₂O comes through.

Because it takes time for water to make its way through all these filters, the system shown here has a small holding tank (D) to keep some liquid ready for use.

RO filtration also removes beneficial minerals, which give water its taste. But those can be added back with a remineralizing cartridge (E), which restores water's flavor before it reaches your glass.



WATCH See how Richard installs an undersink filter at thisoldhouse.com/reverse-osmosis



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Low-profile deck lighting

We have just built a 12-by-24-foot deck and are looking to add some low, soft lighting so we can enjoy it in the evenings. Any suggestions?

—MARY BREWER, NEWNAN, GA

TOH master electrician Heath Eastman:



I'd recommend low-voltage LED strips that can be mounted on the underside of the deck's top rail. Available through online sources such as [ledsupply.com](https://www.ledsupply.com), they deliver

a soft glow at night and are virtually invisible during the day.

The light strips are part of a system that includes a transformer that plugs into a standard 115-volt outlet, waterproof connection fittings, feeder cables, mounting hardware, and switches or remote controls. A photosensitive control that automatically turns lights on and off is a nice option.

The total length of your deck railing will determine the length of the lighting strips you need. Shorter strips can be joined with low-voltage wire and connection fittings. If possible, the lighting strips should be laid out so they terminate at the posts. Neighboring strips connect with low-voltage wire and waterproof fittings. The transformer's feeder cables can be run under the deck and then up the railing posts.

If your deck has a 2x6 top rail, install the lighting strips 1½ inches from the front edge of the rail, so they're out of sight. To hide the wires that run between posts, drill holes near the center of the posts, just under the top rails. When fed through these holes, the wires will be out of sight.

Install the strips first, then the feeder cables, using mounting clips every 24 inches or so to secure the cable. Make all connections, including to the transformer; plug that into a weatherproof outdoor receptacle. Now you can turn on your lights and take pleasure in a job well done.

STEADY ON At the ends of long runs, LEDs in strips like this one can be dimmer than those closest to the power source. Placing the feed from the transformer in the center, not the end, of the run should correct the issue.

BONUS HOW-TO



TIGHT FIT

Before installing this red oak flooring, Tom examines how its tongue-and-groove ends fit together.

Patch a wood floor

A previous owner removed three old floor-mount heating ducts in our house, leaving patched areas that are obvious and unstable. How can I redo them so they blend in with the surrounding floor? —MIKE SCARMON, EVANSVILLE, WI

TOH general contractor Tom Silva: To make the patches in strip flooring blend in, you'll need to pull them up and weave in new strips between the old ones. The goal is to cut out some of the old strips so that the joints in adjacent courses are staggered, matching the existing joint pattern. But first, you'll need to obtain new tongue-and-groove strips of the same width and thickness as the rest of the floor, and some subflooring of the same thickness to support the unstable areas.

You can complete this repair with some basic hand tools and a sharp chisel, but the process will go much faster and more smoothly with power tools like the ones I'm using here. An oscillating multitool, a circular saw, a table saw, and a brad nailer will all prove useful. A compressor-powered flooring nailer ensures that the joints will be tight. Many of these tools are available at tool-rental centers if you don't already own them.

The steps covered here may vary, depending on your repair, but once you're finished, plan to have the entire floor sanded down and given a fresh new finish. Then any differences between the old flooring and the new should be unnoticeable.

SKILL: Moderate
COST: \$394
TIME: 4–6 hours

STEP-BY-STEP

1] Cut along the floor perimeter.

In the area that you want to patch, use an oscillating multitool with a metal-cutting blade to make thin, vertical cuts through the flooring right next to walls.

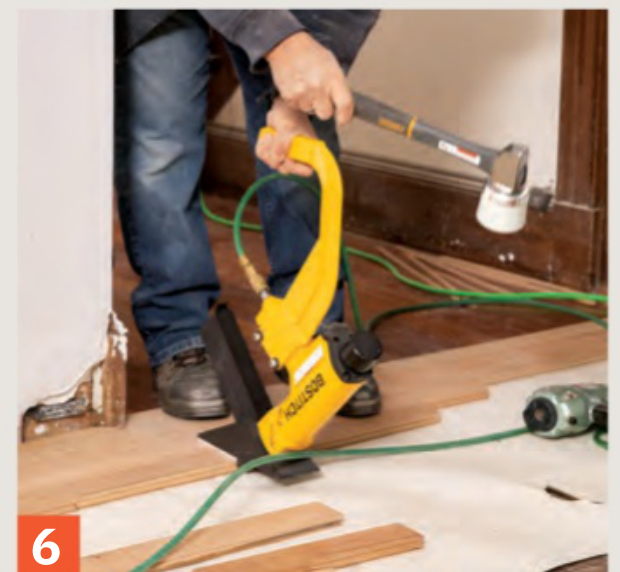
2] Pry up loose boards. A hammer with a straight claw, in combination with pry bars, will lift the loose flooring from the patched area. If you can't loosen and pull the angled nails from the tongue side of the floorboards, cut through them with the multitool.

3] Install subflooring. Cover holes, like this one left by a floor register, with plywood or oriented strand board of the same thickness as the existing subflooring. Square up the opening with a circular saw, then cut the subfloor pieces to fit. Screw the new panels to floor joists, or to cleats fastened to the joists.

4] Create the staggered pattern. Select the strips in the existing floor that need to be removed in order to stagger the joints. First, make a cut down the center of the strip with a circular saw set to the same depth as the strip's thickness. Next, make straight, square end cuts with the multitool (as shown). Then you can pry up the cut sections and vacuum up the debris.

5] Install the new strips. Cover the exposed floor with a moisture barrier or builder's felt. Line up the tongues of the new flooring with the grooves of the old flooring, and tap the new strips between the existing ones.

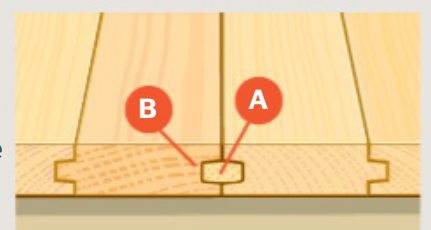
6] Nail in place. Using a pneumatic flooring nailer, drive angled flooring nails through the tongues and into the subfloor, about 16 inches apart. Where there isn't enough room to strike the nailer, turn it around and use splines to support the tongues (see Tip). And where there isn't room to use splines, face-nail the strips to the subfloor using a brad nailer and 1½-inch nails. Once the floor is refinished, fill the nail holes with wood putty that matches the wood's color.



TIP

USING SPLINES

When flooring nailers drive angled nails, they also force the wood strips tightly against one another. But if there isn't enough wall clearance to use a nailer in one direction, you can get tight joints by turning the nailer 180 degrees and nailing in the opposite direction. To do this, first slip long wood splines (A), cut on a table saw, into opposing grooves (B). Then nail the tongues of the reversed strips as usual.

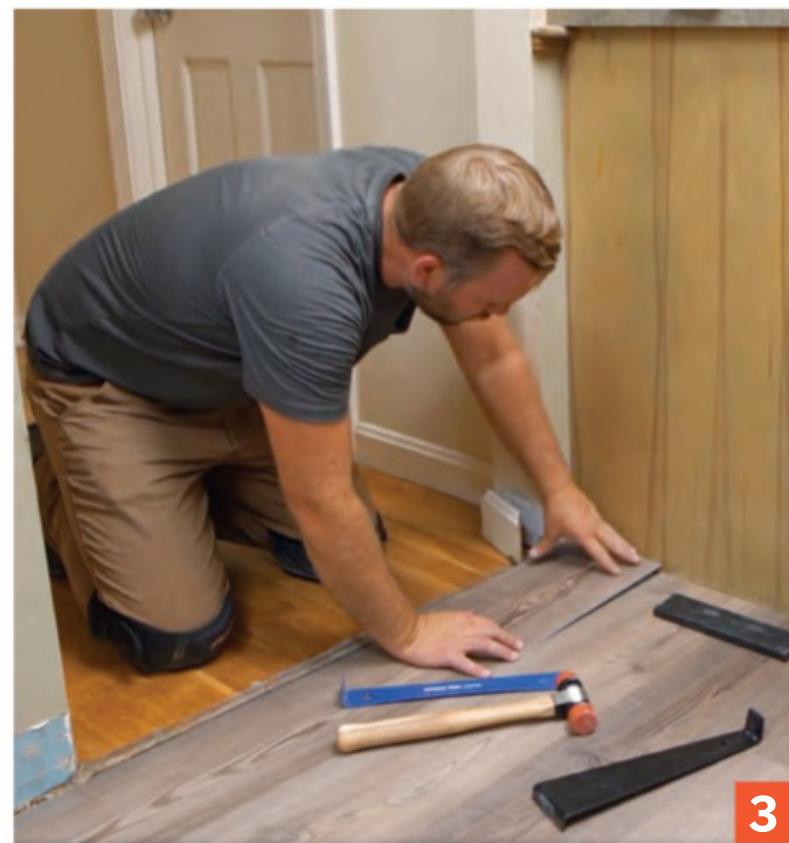




1



2



3

Install a vinyl-plank floor

After a renovation forced by a water leak, I am thinking about installing a floating floor of luxury vinyl planks. Are they a good idea? Can they be installed over tile? —LYUBOV TSINIS, BROOKLYN, NY

TOH carpenter Nathan Gilbert: There are many reasons to like luxury-vinyl-plank (LVP) flooring. It looks like tile or wood but is more affordable and simpler to install, and it's water-proof, durable, and easy to clean. Its VOC levels are very low—far below the thresholds to meet green certification—and if you are concerned about exposure to phthalates (in plasticizers), you can find planks that don't contain those chemicals.

Floating LVP planks are made to snap tightly together and don't require adhesive. Installation can go quickly if they're installed over a smooth, flat surface. You can even put them over a tile floor that's in good condition, with no cracks or uneven grout. But if the floor surface isn't flat, the planks' edge-locking feature won't work reliably.

Buy or rent a flooring cutter (see Tip) and suitable thresholds (vinyl or wood) or metal strips to transition from vinyl to different flooring in adjacent spaces.

The first step of the process is to remove the baseboard molding or cove strip. (Number the pieces if you want to put them back.) The new

TIP



Time-saving cutter

It's easy to make precise cuts in vinyl-plank flooring with this lever-operated flooring cutter from Roberts (tools4flooring.com). Its guillotine-style blade can make cuts up to 13 inches wide and $\frac{5}{8}$ inch thick. Find them at tool-rental centers and flooring stores.

SO LONG, OLD FLOOR Knowing that it was safe to do so, Nathan cut through layers of existing vinyl flooring down to the subfloor (1), then pried up the pieces (2). At the doorways, he laid long planks, then covered their exposed edges with metal transition strips (3).

flooring requires a $\frac{1}{4}$ -inch gap alongside walls so it can expand on hot days without buckling.

Starting along one wall, methodically lift and snap together the edges of each plank, making sure to stagger the courses by at least 10 inches. Tap the ends tight with a block and mallet.

When you're finished, reinstall the base molding, and caulk along its bottom edges.

CAUTION: Vinyl-sheet and vinyl-tile flooring installed before 1986 is likely to contain asbestos, as are the flooring adhesives used to hold them down. While it's safe to lay new flooring over vinyl-laced asbestos, it's definitely *not* safe to cut into or pull up asbestos flooring; doing so could send its lung-damaging fibers into the air.

If your vinyl flooring dates back to that era, or you are unsure of its age, have it tested before doing any work. Search "asbestos abatement" online to find local contractors who are trained and equipped to test for and safely remove flooring that contains asbestos.

GILBERT: MAKAYLA TOWNSEND (2)



WATCH See how Nathan installs vinyl-plank flooring at thisoldhouse.com/vinyl-plank

How to refinish a fiberglass door

The cherry finish on our fiberglass entry door has begun to fade, crack, and peel. We've had two painters try to restore the finish, but their work lasts only about a year before it peels, too. What refinishing strategy do you recommend?

—DENNIS MURPHEY, ASHBURN, VA

TOH painter Mauro Henrique: For a better-looking, longer-lasting finish, you'll need to strip all the finish off and start over.



Set up a work area in your garage: Cover the floor with a plastic drop cloth, then lay your door across a pair of sawhorses. If your door has a window, cover the glass with painter's tape. Now remove the door handle and its hardware, and use a disposable brush to apply a thick layer of a fiberglass-safe, zero-VOC stripper like Smart Strip (dumondglobal.com) over the entire door. Give it a few hours to loosen the finish, then use a plastic putty knife to scrape the softened finish and stripper into a plastic container for later disposal. Stubborn areas may require a second application of stripper. When you're done stripping, go over the entire surface with a dampened Scotch-Brite pad, followed by a damp cloth.

When the surface is dry, put on gloves and a respirator with an organic vapor cartridge and use a lint-free rag to quickly apply a gel stain using a circular motion. Do the panels first, then the rails, followed by the stiles and edges. Keep the stain off adjacent unstained areas, or where stain has already been applied. Remove any stain that collects in crevices with a moistened brush onto a dry rag. Once you've completely covered the door surface with stain, wait 3 minutes and wipe off any residue with a clean rag. If you want a deeper color, wait 24 hours, then apply another coat of stain. Allow the stain to dry for at least 24 hours, then brush on two coats of spar varnish, which holds up better outdoors because it's loaded with UV blockers. When these top coats are dry, you can reattach the hardware and reinstall the door.

To maintain the finish and keep it from peeling again, scuff-sand it every year or two with 220-grit paper. Clean off the dust with a tack cloth, and apply two more coats of the varnish.



THE RIGHT COATING MAKES A DIFFERENCE

Fiberglass doors stained to look like wood have a finish that needs regular maintenance, just as wood doors do. Spar varnish is the best choice here because it's flexible and can withstand the sun's rays longer than ordinary polyurethanes.

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Replace a rotted post base

The columns holding up my 96-year-old front porch are in good shape, but the plinths they rest on are starting to rot. Can I replace the plinths and save the columns?

—STEWART HANCOCK, RICHMOND, VA

TOH general contractor Tom Silva: Yes, a plinth support, which sits under the column base, can be replaced without scrapping the rest of the column. Rotting wood column bases are common in older houses, but you can keep that from happening by replacing the plinth and other damaged pieces with rot-resistant composite lumber. The material I used here is made of recycled components, is naturally resistant to water and insects, and can be worked and finished like wood (see Tip). With it, I was able to replicate the original plinth, as well as the other pieces that make up the column base, and feel confident that the new base would hold up for decades,

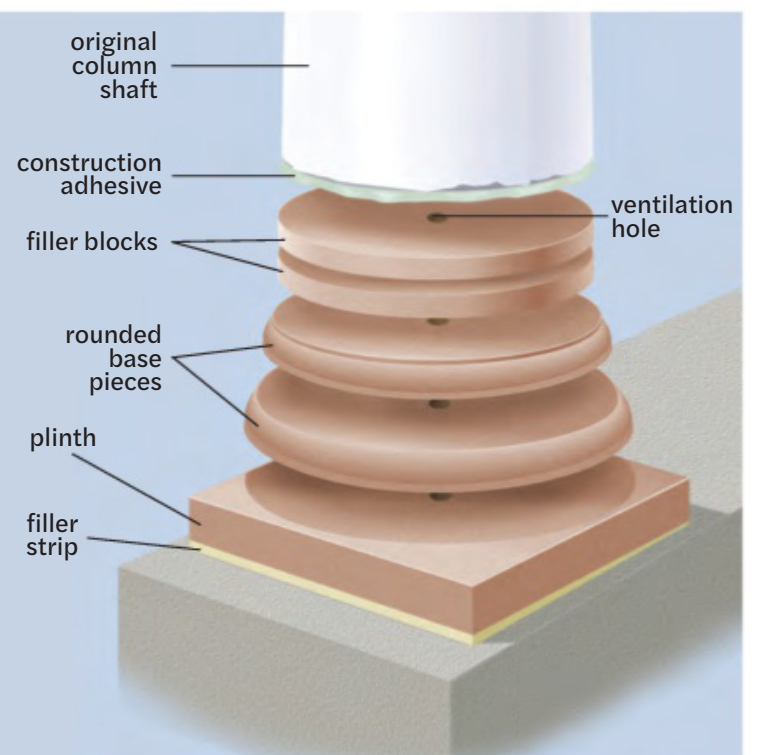
The first step is to jack up the corner of the roof above the column to be repaired. Cut a length of 4×4 lumber to extend from the top of the jack to the underside of the roof. Keep the 4×4 plumb and as close to the column as possible—then pump it up just enough to remove the plinth and any other damaged pieces. Remove the jack's handle so it won't be knocked accidentally.



OLD COLUMN, NEW BASE Tom lines up pieces of the new base directly under the column. His red pump jack, seen in the background, holds up a 4×4 that supports the porch roof until the repair is complete.

BASE FOR A TUSCAN COLUMN

Its slim shape and decorative built-up base distinguish this Roman-style column from the Doric ones of ancient Greece. Its repair required pieces of varying size and profile.



TIP



Rice-hull composite lumber

Using no phenols, formaldehyde, or adhesives, Acre lumber (modern-mill.com) is made from recycled plastics and rice hulls and can be cut, routed, glued, and painted or stained like wood, but is much more resistant to water and pests. It comes in sheets or boards.

Now trace a level line around the column above the rotted areas, and cut along the line with a reciprocating saw. In this case, I had to replace about 1½ inches of the column itself, because of damage. For each layer I repaired, I glued together the composite sheets to make them about as thick as the original base profiles.

First, cut the square plinth block. If needed, use a compass and a torpedo level to scribe and glue filler strips to the underside of the plinth to ensure it is level. Now set a compass to draw the diameters of each base with a rounded profile—the top one should be slightly smaller. Make the curved cuts with a jigsaw, and smooth out each one's edge with a random-orbit sander and a 120-grit sanding disk. Round over the top edges with a router and a ¾-inch roundover bit.

If you need filler blocks in your repair, like I did, cut them slightly larger than the diameter of the column so you can sand them flush with the column after they're installed.

Drill a 1½-inch ventilation hole in the center of each layer to ventilate the column's interior.

Your repair pieces are now ready to install. Position the plinth directly under the center of the column; fasten the rounded-profile pieces to it with 1½-inch stainless steel screws, taking care to countersink each screw. Bond the filler blocks to one another and to the column with construction adhesive. When the filler blocks are aligned beneath the column, release the jack and lower the column into place. Complete the job by filling screw holes, then sand, prime, and finish-coat. ■



HOUSE TOUR Upstairs Downstairs (pp. 11–19)

Architect: Jeff Troyer, AIA; jefftroyer.com.
General contractor: Doug Rens; fairoaksconstruction.org. **DINING AREA > Exterior doors:** marvin.com. **Pendant fixture:** shadesoflight.com. **Paint:** Steam (brick wall and fireplace surround), benjaminmoore.com; Carbon (trim), behr.com. **Pantry door:** pasadenaarchitecturalsalvage.com. **KITCHEN > Range:** lacanche.com. **Range hood:** modernaire.com. **Custom cabinets:** fairoaksconstruction.org. **Soapstone countertops:** stonevilleusa.com. **Pendant lights:** schoolhouse.com. **Barstools:** westelm.com. **Sinks:** julien.ca. **Faucets:** calfaucets.com. **Tile:** missiontilewest.com. **Limestone floors:** finishes.biz. **Paint:** Steam (walls), benjaminmoore.com; Carbon (door and trim), behr.com. **LIVING ROOM > Pendant light:** rejuvenation.com. **Paint:** Steam (walls), Distant Gray (ceiling), benjaminmoore.com; Carbon (trim), behr.com. **EXTERIOR > Cast stone veneer:** eldoradostone.com. **MAIN BEDROOM > Chandelier:** wayfair.com. **Sconces (vintage):** rejuvenation.com. **Windows:** marvin.com. **Paint:** Floral White (walls), benjaminmoore.com; Carbon (trim), behr.com. **MAIN BATH > Sinks:** us.kohler.com. **Faucets:** calfaucets.com. **Vanity top:** annsacks.com. **Sconces and mirrors:** rejuvenation.com. **Field floor tile:** cletile.com. **Border floor tile:** missiontilewest.com. **Paint:** Cloud White (walls), Distant Gray (ceiling); benjaminmoore.com.

BEFORE & AFTER: PORCH Perking Up a Plain Facade (pp. 21–22) Architectural designers: Anthony Wilder and Maria Fanjul, Anthony Wilder Design/Build Inc., Cabin John, MD; anthonywilder.com. **Siding:** jameshardie.com. **Porch floor:** azekco.com. **Lighting:** seagulllightinglights.com.

BEFORE & AFTER: BATH Classic Takes a Modern Turn (pp. 28–30) Floor tile: Colore Field Series 2"×10" tile in Black and White; annsacks.com. **Paint:** White Dove (walls), Gray Owl (vanity); benjaminmoore.com. **Pendant light:** Satellite 6 Chandelier in True Black; schoolhouse.com. **Sconces:** Satellite Sconce 2.25" in Polished Nickel; schoolhouse.com. **Vanity mirrors:** Yaquina Oval Pivot Mirror in Polished Nickel; rejuvenation.com. **Bathtub:** Studio 60"×36" Drop-In Bathtub; americanstandard-us.com. **Faucet:** Litze Widespread with Industrial Levers in Polished Nickel; brizo.com. **Tub filler:** Litze Tub Filler with Handshower in Polished Nickel; brizo.com. **Painting above tub:** vintage. **Towels:** rejuvenation.com. **Vanity pulls (discontinued):** cb2.com.

FROM THE TOH JOB SITE Long Time Coming (pp. 34–41) Architect: Derek Rubinoff, West Roxbury, MA; derekrubinoff.com. **General contractor:** Deliandro Dias, Alpha Smart Builders, Avon, MA; alphasmartbuilders.com. **Electrical contractor:** Leandro Amancio, Smart Choice Solutions Inc., Malden, MA; smart-choice-solutions-inc.business.site. **Plumbing contractor:** Fabio Kirch, FRC Enterprise Inc. Plumbing & Heating, Burlington, MA; 617-594-9400. **HVAC contractor:** Al Vieira, Aldo's HVAC, Medford, MA; aldoshvac.com. **Masonry contractor:** Mark McCullough, MJM Masonry Inc., Arlington, MA; mjmmasonry.com. **Kitchen designer:** Marissa Perez, The Gallery Worldwide Cabinets, Newton, MA; worldwidedecabinetsgallery.com. **Interior designer (daughter's bedroom):** Cheryl Rosenberg, Piña Home, Roslindale, MA; pinainteriors.com. **Tile installer:** Gabriel Oliveira, New England Tile Install, West Boylston, MA; 508-361-7281. **Stone fabricator and installer:** James Hanna, First Class Marble & Granite, Franklin, MA; firstclassmarble.com. **Painting contractor:** Aleksandro Cruz, AFC Painting Corp.; 617-697-1561. **Stained glass restoration:** Cathryn Blackwell, Blackwell's Leaded Glass, Wakefield, MA; blackwellsglass.com. **Landscape installation:** Kelstrom Landscape, Chestnut Hill, MA; kelstrom.com. **Landscape contractor:** Frank Walsh Landscape Company Inc., Canton, MA; frankwalshlandscape.com. **House wrap:** gcpat.com. **Exterior siding:** jameshardie.com. **Heat pump:** ecoer.com. **HVAC zoning system:** zonefirst.com. **Gutters:** duragutter.com. **Brick pavers:** pinehallbrick.com. **Granite steps:** Cavicchio Greenhouses Inc., Sudbury, MA; cavicchio.com. **American elm tree:** westonnurseries.com. **Sod:** sodco.net. **THROUGHOUT > Windows:** marvin.com. **Plumbing fixtures:** hansgrohe-usa.com. **Countertops:** caesarstoneus.com. **Recessed LED lights:** lotusledlights.com. **Door supplier:** JB Sash & Door, Chelsea, MA; jbsash.com. **Interior doors:** trustile.com. **Rear exterior door:** thermatru.com. **Door hardware:** delaneyhardware.com. **Bathroom fixtures:** duravit.us. **Furniture:** circlefurniture.com; westelm.com (daughter's bedroom). **Rugs:** Landry & Arcari, Boston; landryandarcari.com. **Artwork:** lanouegallery.com. **FRONT PORCH > Front-door paint:** Rookwood Red; sherwin-williams.com. **ENTRY FOYER > Wall paint:** Fortitude; sherwin-williams.com. **LIVING ROOM > Wall paint:** Guild Grey, Forged Steel (accent wall); sherwin-williams.com. **DINING ROOM > Wall, ceiling paint:** Forged Steel; sherwin-williams.com. **Lighting:** Neena's Design Lighting, Boston; neenaslighting.com. **KITCHEN >**

Cabinetry: The Gallery Worldwide Cabinets, Newton, MA; worldwidedecabinetsgallery.com. **Appliances:** mieleusa.com. **Sink:** franke.com. **Faucet:** hansgrohe-usa.com. **BREAKFAST AREA > Wall paint:** Guild Grey; sherwin-williams.com. **GUEST BEDROOM > Wall paint:** Warm Pewter; sherwin-williams.com. **PRIMARY BEDROOM > Wall paint:** Grey Heron, Ironclad (headboard wall); sherwin-williams.com. **PRIMARY BATH > Wall, floor tile:** porcelanosa-usa.com. **Floor-warming system, linear drain:** schluter.com. **PRIMARY CLOSET > Closet system:** containerstore.com.

FROM THE TOH JOB SITE Safeguarding a Legacy (pp. 43–48) Architect: Christopher Bailey, Atlanta; chrisbaileyarchitecture.com. **Project manager:** Tristain O'Donnell, Atlanta; tristainodonnell.com. **General contractor:** Jerry Davis, Park Atlanta Homes, Atlanta; 678-489-3024. **Environmental educator:** Robby Astrove, Atlanta; 404-583-0505. **HVAC design:** Southface Institute, Atlanta; southface.org. *Thanks to* Ann Hill-Bond, independent researcher, Atlanta; annhillbond.com.

ANIMAL HOUSE Putting in a Dog Wash (pp. 66–67) Thanks to Bryan Sebring, Sebring Design Build, Chicago and Nashville; sebringdesignbuild.com. Shannon Soro Interior Design, Toronto; shannonsoro.com. Kathryn Nelson Design, Dallas; kathrynnnelsondesign.com. SJ Janis Company Inc., Wauwatosa, WI; sjjanis.com. Galt Renovations, Westport, CT; galtrenovations.com.

SAVE THIS OLD HOUSE (p. 96) Thanks to Ted Alexander, Preservation North Carolina, Shelby, NC; presnc.org. Jason Luker, Gaston County Museum, Dallas, NC; gastoncountymuseum.org. Lucy Penegar, Gaston County Historic Preservation Commission, Gastonia, NC; gastongov.com.

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SAVE This Old House

Circa 1850 house with original details

THE HISTORY This wood-clapboard one-story home was the first house built on the main square around 1850, when the town held the county seat. A year later, it became home

PRICE \$115,000

LOCATION

Dallas, NC

CONTACT

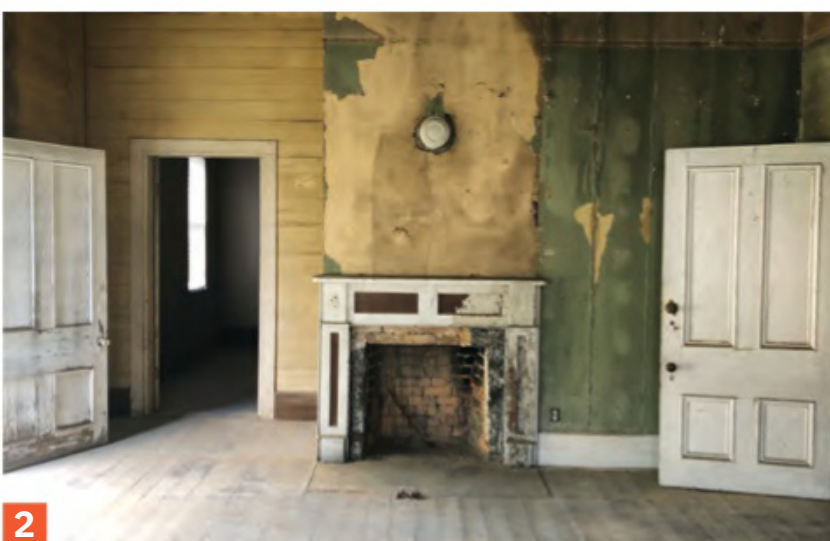
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to the first mayor, Eli Pasour, who also served as postmaster and as a state legislator. Eli and his wife, Catherine, had 10 children, among them a daughter, Hersilia, who taught school in a front addition built as a

classroom for her use. Though the house stayed in the family for well over a century, it sat vacant for 40 years before Preservation North Carolina acquired it in 2019.

WHY SAVE IT? In largely original condition, the house retains four fireplaces, nine-over-nine double-hungs, walls and ceilings clad in heart-pine boards, and heart-pine doors and trim. The airy front rooms benefit from 10½-foot ceilings. The house is one of the area's few remaining antebellum Greek Revival homes and is a contributing structure in the town's historic district. It borders a residential neighborhood and sits on ⅓ acre facing the town green, among other well-preserved 19th-century buildings. Just over 30 minutes from downtown Charlotte, Dallas has been experiencing a boom in recent years.

WHAT IT NEEDS While the foundation and roof have been stabilized, the house needs a top-to-bottom rehab, including a new kitchen and baths and all new systems. Preservation covenants apply, and tax credits may be available. The house offers myriad possibilities as a residential, commercial, or live/work space. It's a big undertaking, for sure, but also a unique opportunity for an adventurous buyer who prizes history and recognizes potential. —SUZANNE ZENKEL



1. The 1,947-square-foot house comprises the original five-bay-wide section (on the left), a three-bay-wide addition (on the right), and two rear 19th-century additions. Its low-pitched gable roof and transom lights are characteristic of the Greek Revival style, as are the four-panel entry doors, which were recently updated with red paint.

2. One of three high-ceilinged rooms in the front, this space, added around 1871, served as a schoolroom and holds its original wood-burning fireplace.

3. The chimney on the south side of the house is one of three that remain. All need relining and masonry repair.

4. The old well house still stands in the backyard. The well itself is tucked under the roof overhang; the brick building was used to keep food cold.

5. The original paneled entry door, crowned with a four-light transom, opens into the front hall, which leads to graciously proportioned rooms on both sides.



GOT A HOUSE? If you know of an old house for sale that should be saved, write to **This Old House**, 262 Harbor Dr., Stamford, CT 06902 or savethisoldhouse@thisoldhouse.com



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