Business

An Infinitely Configurable Material Estimating Tool

BY JON BEER

Material estimating can be one of the most tedious yet critical tasks for builders and remodelers. It's a familiar task: printing plans, using a ruler and calculator to measure based on the scale, and with notebook at my side, manually calculating the quantities needed for each project.

Then a few hours spent Googling and making phone calls to assemble pricing. Estimating always meant sitting down for several hours per project to figure these things out. If clients changed their minds, then you were literally back at the drawing board.

After a few years of this, I decided to try to improve the process using Excel spreadsheets with formulas to help do some of the math. I created a spreadsheet containing prices of frequently used materials. I even created a specialized one just for bathroom remodels. This was an improvement but still meant a lot of manual data entry, and the chance for making mistakes was high.

As my workload increased and my crew grew larger, I knew I needed to spend less time doing material take-offs. By chance I stumbled onto Stack. While doing a full-access free trial, I quickly realized that the cloud-based software was a robust solution to increase the ease, speed, and accuracy of material take-offs.

To get started, you log in to the website, create a new project, and upload a set of plans. Stack has some intelligent code that will read the title block and auto-organize the sheets for you. The program works directly off plans—so you measure directly on top of the drawings. Like most software, when you open it up for the first time, it can feel a bit overwhelming. But Stack comes loaded with a robust item-and-assembly catalog to get you estimating as quickly as possible.

Once the plans are imported, each project is built around "Takeoffs"—which are individual measured items that you apply "Items" and "Assemblies" to. For instance, if you want to measure baseboard and shoe molding in a room, you'd create a "New Takeoff," select "Linear," name it "Baseboard Trim," set the scale, and click on the areas you want to measure. Once you've drawn all the areas you want to measure, you apply an assembly from your assembly database. Stack will then auto-calculate all the items included in the assembly and present them in a takeoff report that auto-updates as you build and add more measured takeoffs.

The power of Stack comes from its items and assemblies libraries. Let's say you do a lot of additions and often work with the
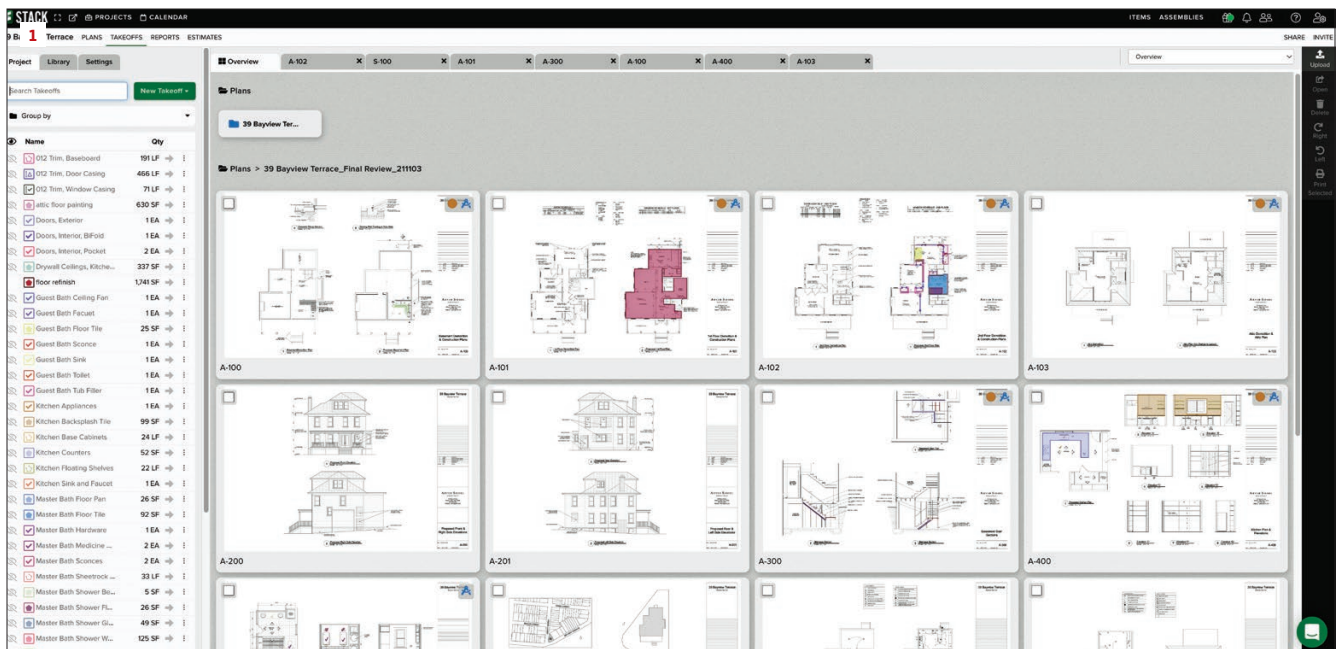
Stack is a cloud-based estimating platform that allows you to upload a set of plans. This is the first step in estimating a project. The program reads the title block, which helps you organize documents for different projects.
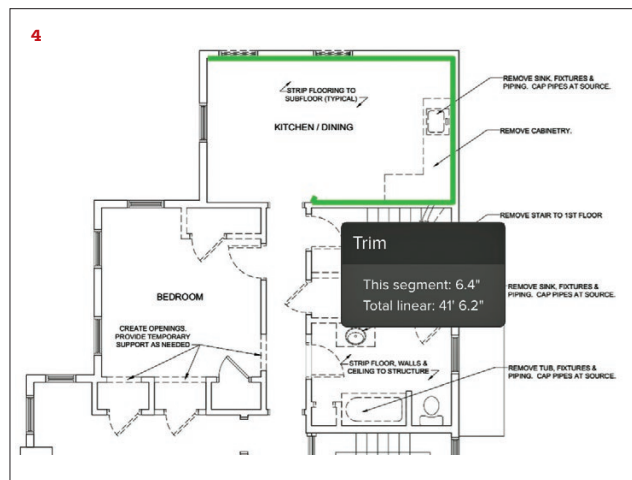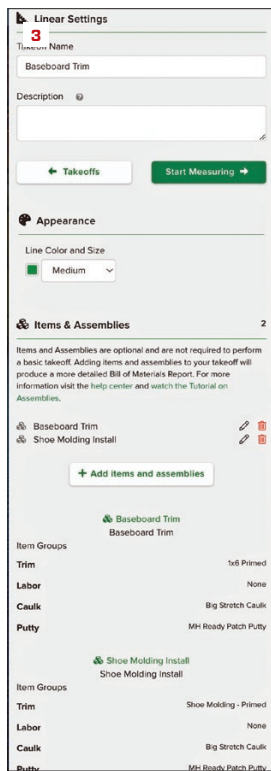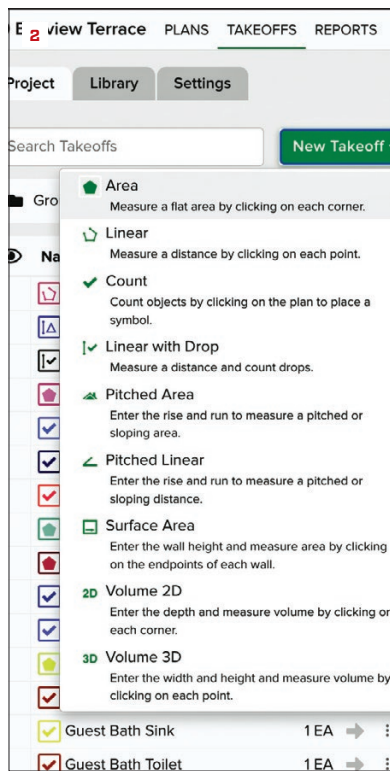
An estimate is built around multiple "Takeoffs" that you can define. The example here for estimating baseboard begins by selecting "Linear Takeoff" (2), defining the settings (3), and measuring directly off the plans where baseboard applies (4).
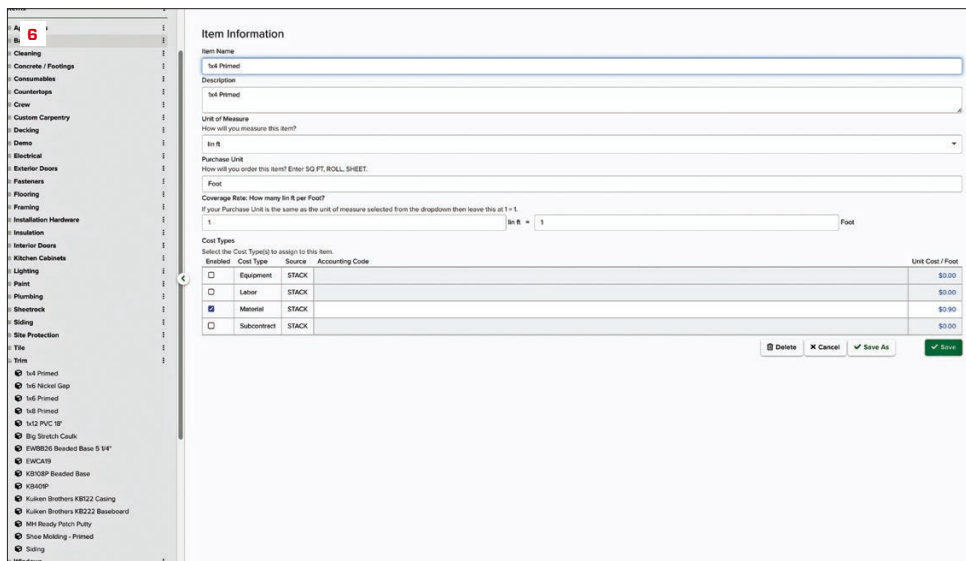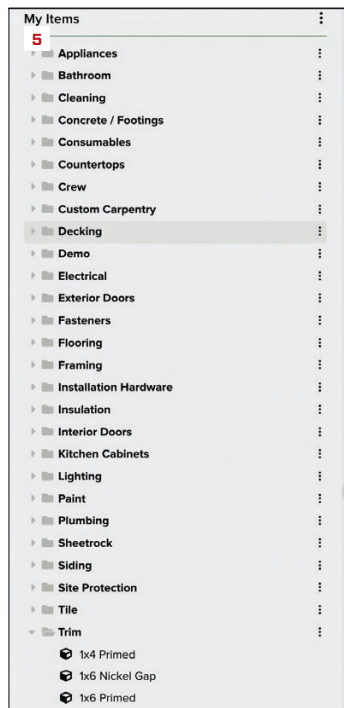
The power of Stack is found in the ability to define your own "Items" and build them into "Assemblies." Here, we see the item library (5). Stack comes preloaded with a range of items, but users can modify them, as well as define new ones (6).

"Assemblies" can be built with "Items." In this example, we see the assemblies library available to the author and a selected entry—"Window Trim - Linear with Drop" **(7)**. Each assembly can be modified with a range of items, all of which are available in the drop-down menus in the "Assembly Options" window **(8)**.

same group of materials—2x6 exterior walls with 7/16-inch Zip-System sheathing, R-23 Rockwool insulation, 1/2-inch drywall, 1x6 baseboard trim, and shoe molding. You can build a linear-measurement takeoff that has all those assemblies attached to it and measure them all in just a few clicks.

If you are a finish carpenter, you know how time consuming it can be to measure multipiece trim assemblies—in particular, door and window casing. I do all my painting in-house, and for that, I need to also estimate how much caulk and putty I need per job. So I built an assembly for that. More-complex formulas can require converting area measurements to linear ones but with the help of the Stack support team, we figured this all out. In a few clicks, I can now create a takeoff, measure it, choose my items (materials), and generate a report showing how much trim I need for all the doors and windows on a job.

Each takeoff report has pricing attached to it. The beautiful thing is that when you add an item to your item catalog, you can enter a price. You can duplicate and modify the Stack catalog, to get up and running faster. But when you begin using Stack, the majority of your time is going to be spent adding items and assemblies with prices to suit your needs. At the time of this writing, Stack added a feature that allows you to integrate current regional and national material prices directly into Stack, powered by cost data from BNi Building News *CostBooks*.

Stack can measure anything that can be translated into linear, area, cubic, or count measurements. That includes labor. Let's say you hang drywall and work by the square foot. Build an assembly for it and add it to the drywall measurement takeoff! Maybe you're an electrician and want to measure your wire length and charge by the receptacle? Build a takeoff that uses "linear with drop" measurement and calculate both at the same time.

In an effort to streamline my admin and back-of-house tasks, I have tried a lot of software, and I've found that most of it requires you to do double data entry. When you build a takeoff with Stack, however, you can save it to your "Takeoff Library." This is a tab that is shown globally on every project, and you can quickly insert a prebuilt takeoff into a new project rather than having to duplicate it or redo it each time.

I can say that I have easily cut my estimating time in half since I got Stack configured. As a remodeling company, we do a lot of bathrooms. I can now estimate a master-bath gut remodel in about 10 minutes, instead of two or three hours.

Once you've measured everything, you can quickly turn the takeoffs into a "Proposal." The current construction marketplace is a volatile place with extreme price changes. Stack allows you to modify item prices and add markup, sales tax, and unmeasured costs before completing your proposal. If you created a proposal six months ago and want to review older costs, no problem: Your previous version is saved for you. The export feature allows you to generate proposals with the option to toggle on or off line items or category details for as much transparency as you are comfortable with.

Training. I like to think I'm someone who is technologically savvy, and I was not scared to jump right into using the software. That said, if I had to do it again, I would have started with more training sessions. The staff at Stack Construction Technologies have helpful insights on how to organize and build an assembly library, set up your account, and connect additional software like QuickBooks, Procore, and Buildertrend. Taking the time to set it up correctly in the beginning will mean spending less time modifying things after the fact. (Ask me how I know.) The support staff is always available during business hours—just click the message icon on the bottom right of the screen to begin a chat. There have

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Takeoff Reports

eoff Quantity
eoff Summary
surements By Takeoff
List
Cost
Cost By Type
Cost By Takeoff

Estimate Reports

erial and Labor Estimate

Snapshots

saved snapshots

Material and Labor Estimate ⌄

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☰ Columns (13) ⌄   ⚏ Groupings (1) ⌄   ↗ Expand ⌄   ▼ Data Filters ⌄   ↺ Reset

Accounting Code ▲	Item Name ▲	Cost Type ▲	Takeoff Quantity	Purchase Unit	Waste Quantity	Adjusted Quantity	Unit Cost	Extended Cost	Total Markup	Selling Price	Tax	Selling Price w/Tax
▼ 🔲 012 Trim, Baseboard												
5200	1x6 Primed	Material	191.13	Foot	0.00	192.00	$1.99	$382.08	$95.52	$477.60	$39.40	$517.00
	Big Stretch Caulk	Material	9.56	tube	0.00	9.56	$6.68	$63.89	$15.97	$79.86	$6.59	$86.45
	MH Ready Patch Putty	Material	2.00	quart	0.00	2.24	$16.30	$36.47	$9.12	$45.58	$3.76	$49.34
	Finish Nails, 15 ga - 2 1/2"	Material	1.91	Box	0.00	2.00	$22.00	$44.00	$11.00	$55.00	$4.54	$59.54
	Shoe Molding - Primed	Material	191.13	Foot	0.00	192.00	$0.50	$96.00	$24.00	$120.00	$9.90	$129.90
	Brad Nails, 18 ga - 2"	Material	1.91	box	0.00	2.00	$8.00	$16.00	$4.00	$20.00	$1.65	$21.65
								$638.44	$159.61	$798.04	$65.84	$863.88
▼ ✅ Kitchen Sink and Faucet												
	Basic Faucet with drain	Labor	1.00	Set	0.00	1.00	$250.00	$250.00	$25.00	$275.00	$0.00	$275.00
								$250.00	$25.00	$275.00	$0.00	$275.00
▼ 🔺 012 Trim, Door Casing												
	1x4 Primed	Material	465.60	Foot	0.00	466.06	$1.33	$619.86	$154.96	$774.82	$63.92	$838.75
	Big Stretch Caulk	Material	11.64	tube	0.00	11.65	$6.68	$77.82	$19.45	$97.27	$8.02	$105.30
	MH Ready Patch Putty	Material	0.62	quart	0.00	0.70	$16.30	$11.35	$2.84	$14.18	$1.17	$15.35
								$709.02	$177.26	$886.28	$73.12	$959.40
▼ ☑ 012 Trim, Window Casing												
	1x4 Primed	Material	142.80	Foot	0.00	142.94	$1.33	$190.11	$47.53	$237.64	$19.61	$257.24
	1x8 Primed	Material	71.40	Foot	0.00	72.00	$2.75	$198.00	$49.50	$247.50	$20.42	$267.92
	Big Stretch Caulk	Material	1.79	tube	0.00	1.79	$6.68	$11.93	$2.98	$14.92	$1.23	$16.15
	MH Ready Patch Putty	Material	0.06	quart	0.00	0.07	$16.30	$1.09	$0.27	$1.36	$0.11	$1.47
								$401.13	$100.28	$501.41	$41.37	$542.78
▼ ☑ Doors, Exterior												
	EZ Door Hang Kit, 1 Door	Material	1.00	Pack	0.00	1.00	$5.50	$5.50	$1.38	$6.88	$0.57	$7.44
	Expanding Foam, Window and Door	Material	1.00	can	0.00	1.00	$5.00	$5.00	$1.25	$6.25	$0.52	$6.77
	Basic Fiberglass Front Door	Material	1.00	Door	0.00	1.00	$2,300.00	$2,300.00	$575.00	$2,875.00	$237.19	$3,112.19
								$2,310.50	$577.63	$2,888.13	$238.27	$3,126.40
▼ ☑ Doors, Interior, BiFold												
	EZ Door Hang Kit, 1 Door	Material	1.00	Pack	0.00	1.00	$5.50	$5.50	$1.38	$6.88	$0.57	$7.44
	48" (4'0 x 6'8) 6 Panel Bifold Door	Material	1.00	single	0.00	1.00	$250.00	$250.00	$62.50	$312.50	$25.78	$338.28
								$55,366.39	$13,804.10	$69,170.49	$5,683.88	$74,854.37

been many times I needed immediate help building an assembly or dealing with a feature I didn't understand and was able to solve the problems right away.

No software is perfect. I'd bet that most of the better features are born of user experience. Stack does a nice job of taking feedback and feature requests but also provides a public development road map that shows improvements it is considering, planning, and working on, and that it has released. In the last year, it acquired SmartUse, which allows blueprint sharing and markup among collaborators. It recently added QuickBooks integration to send proposals and invoices directly from Stack.

Builders can be allergic to spending money on anything other than tools. I encourage you to start as I did with the free trial. You can create a free account and get full access to features for seven days with the ability to apply 10 takeoffs to each project. If you decide to continue, the current rate is $1,999 per year for the first user, and about $1,500 per additional user. For a small company, a single user is likely all you'd need.

Jon Beer is owner of Jon Beer Contracting, a design-build remodeling firm based in Newburgh, N.Y.

Li 10 em Detail

Acct Code	Name	Cost Type	Qty	Unit	Selling Price
012 Trim, Baseboard					**$798.04**
5200	1x6 Primed	Material	192.00	Foot	$477.60
	Big Stretch Caulk	Material	9.56	tube	$79.86
	Brad Nails, 18 ga - 2"	Material	2.00	box	$20.00
	Finish Nails, 15 ga - 2 1/2"	Material	2.00	Box	$55.00
	MH Ready Patch Putty	Material	2.24	quart	$45.58
	Shoe Molding - Primed	Material	192.00	Foot	$120.00
012 Trim, Door Casing					**$886.27**
	1x4 Primed	Material	466.06	Foot	$774.82
	Big Stretch Caulk	Material	11.65	tube	$97.27
	MH Ready Patch Putty	Material	0.70	quart	$14.18
012 Trim, Window Casing					**$501.42**
	1x4 Primed	Material	142.94	Foot	$237.64
	1x8 Primed	Material	72.00	Foot	$247.50
	Big Stretch Caulk	Material	1.79	tube	$14.92
	MH Ready Patch Putty	Material	0.07	quart	$1.36
Doors, Exterior					**$2,888.13**
	Basic Fiberglass Front Door	Material	1.00	Door	$2,875.00
	Expanding Foam, Window and Door	Material	1.00	can	$6.25
	EZ Door Hang Kit, 1 Door	Material	1.00	Pack	$6.88
Doors, Interior, BiFold					**$319.38**
	48" (4'0 x 6'8) 6 Panel Bifold Door	Material	1.00	single	$312.50
	EZ Door Hang Kit, 1 Door	Material	1.00	Pack	$6.88
Doors, Interior, Pocket					**$875.00**
	30" (2'6 x 6'8) Prehung 6 Panel Colonial Door	Material	2.00	single	$500.00
	Pocket Door Frame	Material	2.00	frame	$375.00
Drywall Ceilings, Kitchen, Master Bath					**$309.74**
	1/2 in Mold Resistant Drywall - 4 ft x 8 ft	Material	11.00	Sheets	$233.75
	All Purpose Joint Compound (4.5 Gallon Pail)	Material	0.53	Pails	$12.61
	Drywall Screws #6 x 1.25" (1000 ct)	Material	1.00	box of 1,000	$37.50
	Joint Treatment Mesh Tape - 500 ft	Material	0.53	Rolls	$3.98
	Lightweight Joint Compound (4.5 Gallon Pails)	Material	1.06	Pails	$21.90

Each "Takeoff" report has pricing attached to it, and prices are included in the "Material and Labor Estimate" for each project **(9)**. Users can include what they want to show when they generate a "Proposal" **(10)**.