Estimating: From Yellow Pad to Excel

Knowing what to charge clients for the work you do can make the difference between long-term success and eventual failure for your business. Many contractors look at estimating simply as a way to determine the cost of a project. In the traditional design-bid model of project delivery, this simplistic approach may work, assuming that the sell price generates enough gross profit to cover overhead and net-profit requirements. If your business model is design/build, however, and your current estimating system is limited to producing the project sell price, you're missing out.

Many contractors learn how to estimate using what I refer to as the "yellow-pad method." Using paper and pencil, they can create estimates on the fly anywhere at any time. As a business grows, however—and particularly when it grows to the point where the person who sells the job is no longer the same person who builds it—the yellow-pad estimate may not give the production team the information they need to build the project on their own. Also, the yellow-pad estimate may not be organized in a way that makes it easy to find the information they need.

I came to these realizations as I built my company, and as a result, I formalized my estimating method and started using a better tool. I learned a lot by attending seminars and reading articles, as well as through plenty of trial and error. In this article, I share the basics of what I learned.

When an estimate is built in a spreadsheet, information such as burdened labor rate can be entered once and used in many calculations. It's also easy to update totals when quantities or prices change. Free-form "Task Description" fields allow you to organize line items by phase, room by room, or in some other way that better suits the project.

THE GOOD

To be clear, I think yellow-pad estimating is the best way to learn how to estimate. When you estimate on paper, you start with a blank canvas, which allows you to be creative and experiment with the estimating process and the way that information is organized. For example, using a yellow pad, I could organize the estimate in critical-path order—the same order I promised my client and the order I wanted my production team to follow. For another client, I could assemble the information room by room so he could more easily reduce the project's scope if the total cost came in higher than his budget.

Using a yellow pad, I could also do estimates on the fly for small projects. This often helped me to sell a job at the first visit, as long as I could also easily write up my proposal, ready for a signature. (That was back in the good old days when there was work aplenty and handwritten proposals were the norm.)

THE BAD

Eventually, though, I became frustrated with the limitations of yellow-pad estimating, including the following:

■ Numbers needed to be added up using a calculator at least twice before I had enough confidence to give the estimate to prospects. If the totals didn't match, I needed to enter all the numbers again, then once more to double-check. And if even one line item's price changed, I had to add it all up yet again.

■ Cutting and pasting to insert missed tasks required literally cutting and pasting using scissors and tape. And if a prospect who several months before had rejected my price called back to give me the go-ahead, it was often impractical to make updates to the existing estimate—I had to create the estimate all over again.

■ If a customer wanted to make product substitutions or wanted suggestions to value-engineer the project, I had to refigure each option to be confident about the price differences.

■ After handwriting an estimate and proposal, I (or my staff) also had to handwrite the subcontractor agreements and materials lists. And when I wanted to prepare an estimate for a similar project, reusing an existing estimate wasn't as simple as copying and pasting or changing the quantities; it was more like starting over.

	A	B	C	D	E	F
1			PROJECT ESTIMATE SHEET			
2						
3	PROJECT NAME:	Jones Deck				
4	DESCRIPTION:	New 10 x 10 deck with rails and stairs, includes staining				
5	ESTIMATE DATE:	1/12/2014				
6	ESTIMATE BY:	John				
7						
8	BURDENED LABOR RATE	$49.50	Per Man/Hr			
9	MARKUP	50.00%				
10	Gross Profit Margin	33.33%		Estimated Man Hours		27.75
11	Sales tax on materials	6.75%		Estimated Admin Hours		2.60
12	General Production Costs (GPC) factor					
13	Enter here your materials cost in $	$500,000		General Production Costs factor is		2.40%
14	Enter here your GPC in $	$12,000				
15	Permit Fee in $ (fixed cost)	$150.00				
16	Admin hrs. to add for Lead Carpenter, per 8 man hours inside this estimate	0.75				
17						
18	TASK DESCRIPTION	QUAN.	@	MAT.	HRS.	LABOR
19	Demo Porch			0.00	2.00	99.00
20	footings	2	40.00	80.00	16.00	792.00
21	aluminum flashing	10	1.40	14.00	1.00	49.50
22	2x10 ledger	10	0.85	8.50	2.00	99.00
23	6" lags/washers	16	1.85	29.60	1.25	61.88
24	2x10 joists	200	0.85	170.00	5.00	247.50
25	2x8 joist hangers	8	1.65	13.20	0.50	24.75

ESTIMATING WITH EXCEL

Over time, I incorporated what I had learned from the yellow-pad method into an Excel spreadsheet that I created. The spreadsheet included direct costs to build the project—materials, labor, subcontractors, and equipment. And it also applied the markup I needed to cover labor burden and all of my overhead costs—the expenses I incurred just by being in business, whether I had any work or not. It not only improved the speed and accuracy of my estimates, it also provided most of the information the production team needed to build the job without my being on site—leaving me free to sell more work.

If you believe in design/build as a way of doing business, your estimating system should be a tool that facilitates how you do business, not just a way to get to the price. Typically, a yellow pad and calculator won't suffice here; you need a computerized system that allows the estimator to concentrate on estimating, not on adding up numbers over and over again. The system

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should also allow for on-the-spot "what-if" adjustments. The estimator must be able to quickly estimate the effects of changes or suggested alternatives to the project without having to worry about forgetting some component or corrupting earlier versions. This also helps qualify client decisions during design by providing instant feedback about how those decisions affect the project's budget.

ACCURACY & DETAIL

To ensure accuracy, any estimating system should operate in parallel with a company's job-costing system. Ideally, both functions should take place within the same software package, but—at a minimum—information within both the estimate and the job-costing systems should be broken down to a level of detail that gives you the insight you need to make future adjustments based on past experience.

For example, it may be beneficial to estimate each component—floor, wall, roof—of an addition frame as a separate item rather than treating the entire frame together in one line item. That way, if framing costs are higher or lower than estimated, you can use job costing to pinpoint exactly where in the framing process the variance occurred. If roof framing is consistently under-

priced, you can make an adjustment only to the roof-framing line item on future estimates.

OUTPUT BEFORE INPUT

The overall estimating system format may be the most important consideration because how information is entered into the estimate can either restrict or enhance how it can be used and by whom. Strive for a format that allows the information created by the estimator to be easily shared throughout the company.

An estimate report that follows the order in which you build the project creates a critical path for production that is ready-made for use by your production supervisor or project lead carpenter. By providing a predefined path showing labor and material breakdowns, your estimate enables your team to predict and schedule resources, including subs, material quantities, ordering lead times, just-in-time deliveries, and overall labor requirements. If it's done correctly, you can also use individual project information to create a master schedule for all company projects and resources. You will know when and where you need which employees or subs and will be able to identify schedule conflicts or shortfalls before they occur. This critical path can also help you identify cash flow needs during the project and establish payment schedules.

KEEP COSTS & QUANTITIES SEPARATE

Another formatting consideration is how to break apart the information for each line item within your estimate. Rather than entering lump-sum amounts for materials and labor—such as total cost of wall studs or total cost of flooring and installation—separate the costs from the quantities. By formatting your information in this way, you can quickly apply what-if options for material substitutions, changes in room size, or additional labor requirements. This also facilitates quick pricing updates when a client calls back two years later and wants to go ahead with a project. There's no need to redo the entire estimate because you're not sure how the lump sums were determined—the quantities will likely still be the same. Just check for pricing changes.

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This article is adapted from The Design/Builder's Blog *at shawnmccadden.com, where you can download McCadden's Excel estimating template.*

Settling Construction Disputes

BY ALEXANDER BARTHET

There's no escaping the fact that we live in a highly litigious society, and construction litigation is all too common: There's a 1 in 4 chance that a contractor will have a potentially devastating lawsuit filed against him. Becoming involved in a lawsuit is at best an expensive proposition and at worst a gut-wrenching experience. Even if you are able to adequately recover your litigation costs, the process of dealing with construction disputes is both long and emotionally draining and is sure to challenge your patience and test your will.

For contractors, accepting the threat of litigation in your future is the first step; understanding how to best resolve any dispute that arises is the more difficult next step. Always know that somewhere—likely buried in the positions put forth by the opposing parties—lies a resolution, where each party compromises its demand just enough to eliminate the necessity of a costly judicial action.

Finding that place isn't always easy, but it is almost always possible.

SETTLE WITH EVERYBODY

It gets more complicated when there is more than one contractor involved, as in the following example. A college hired a general contractor to renovate one of its residence halls, including some bathrooms and shower stalls. After completion of the project, the school discovered that there were a number of leaks being caused by defective work in the bathrooms. The college sued the general contractor for breach of contract and sued the plumber for breach of its warranty, alleging improper installation of shower pans and drains in the bathrooms. The plumber quickly settled. Eventually so did the general contractor.

Case closed? Not quite.

The GC cross-claimed against the plumber, seeking payment of the monies that the GC paid to the college. The plumber cried foul, saying that his company had been released from claims for improper work when it settled with the college.

But the plumber was wrong. The court concluded that just because the plumber settled with the college, that didn't mean it was released from claims for indemnification being made by the general contractor. A tough lesson for the plumber who had forgotten to make the general contractor part of its settlement with the college.

THREE PARTS TO EVERY SETTLEMENT

Settlement agreements are interpreted and governed by the law of contracts, so it is critical that the parties not only reach an agreement conceptually, but that they also sign a document that's clear and concise, and that lists the actual terms of the settlement. This will demonstrate that the parties have mutually agreed upon the essential elements of their resolution.

When settling any type of construction dispute, make sure you formalize the settlement in a written document. Have it signed and dated, and include:

1) The names of all the parties that may be involved or have anything to do with the dispute;

2) A description of the what, when, and where of the incident that led to the dispute; and

3) The consideration for the settlement—what the parties are giving and getting to obtain a release and settlement of the dispute.

Settlement agreements are highly favored by judges as a means of conserving judicial resources, and therefore courts will enforce them when possible. Parties will do themselves a favor in making sure that any settlement they reach is one that is reduced to a written document

As a contractor, you have a 1 in 4 chance that a lawsuit will be filed against you.

and signed. Case after case has been unnecessarily litigated because the parties never got around to formalizing their settlement. Courts are reluctant to enforce what one party only thought the other party agreed to.

It is bad enough to find yourself in the middle of a dispute; it is ever so much worse to think that you have settled a controversy and then be hauled into court because the deal was never actually formalized or signed. Remember to always ink the deal.

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