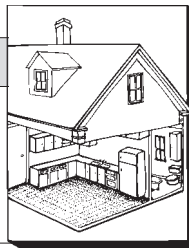


# Careful Estimating for K&B

by Paul Turpin



## Work Codes for Estimating and Job Costing

### 1. Administration

- 1.1 General Administration
- 1.2 Contract Administration
- 1.3 Regulatory
- 1.4 Financial
- 1.5 Insurance
- 1.6 Maintenance

### 2. Design

- 2.1 Consultation
- 2.2 Planning
- 2.3 Drafting

### 3. Estimate

- 3.1 Estimate Organization
- 3.2 Plan Analysis
- 3.3 Subcontract Organization
- 3.4 Materials Takeoff
- 3.5 Labor and Equipment Takeoff
- 3.6 Projected Schedule
- 3.7 Bid Formation

### 4. Job Setup and Support

- 4.1 Access
- 4.2 Security
- 4.3 Utilities
- 4.4 Procurement/Supply
- 4.5 Work Area Setup
- 4.6 Storage Area Setup
- 4.7 Cleanup and Disposal
- 4.8 Scaffolding, Cranes, etc.

### 5. Site Preparation

- 5.1 Clearing
- 5.2 Rough Grading
- 5.3 Utilities Groundwork
- 5.4 Drainage
- 5.5 Excavation
- 5.6 Demolition

### 6. Structural-I

- 6.1 Foundations
- 6.2 Caissons
- 6.3 Rebar
- 6.4 Masonry — structural
- 6.5 Steel — structural

### 7. Structural-II

- 7.1 Floor Assemblies
- 7.2 Wall Assemblies
- 7.3 Ceiling Assemblies
- 7.4 Roof Assemblies

### 8. Rough Utilities

- 8.1 Electrical
- 8.2 Pre-Wire (standard voltage)
- 8.3 Plumbing

8.4 Rough HVAC

8.5 Specialties

### 9. Envelope-I: Exterior

- 9.1 Roofing
- 9.2 Sheathing
- 9.3 Siding
- 9.4 Stucco
- 9.5 Doors and Windows
- 9.6 Eaves Treatments
- 9.7 Entry Treatments
- 9.8 Ornamental Metalwork
- 9.9 Exterior Millwork

### 10. Envelope-II: Interior

- 10.1 Insulation
- 10.2 Interior Doors
- 10.3 Drywall
- 10.4 Plaster
- 10.5 Ceiling Finish
- 10.6 Floor Finish
- 10.7 Wood Flooring
- 10.8 Ceramic Tile/Stone
- 10.9 Finish Carpentry

### 11. Interior Appointments

- 11.1 Closets
- 11.2 Cabinets
- 11.3 Countertops
- 11.4 Lighting, Finish Electrical
- 11.5 Fixtures, Finish Plumbing
- 11.6 Finish HVAC
- 11.7 Kitchen Specialties
- 11.8 Bath Specialties
- 11.9 Electrical Specialties

### 12. Site Improvements

- 12.1 Finish Grading
- 12.2 Gutters and Finish Drainage
- 12.3 Landscape Planting
- 12.4 Landscape Irrigation
- 12.5 Landscape Lighting and Power
- 12.6 Concrete Paving
- 12.7 Stone Paving
- 12.8 Accessory Structures
- 12.9 Fences and Gates

### 13. Job Completion

- 13.1 Decorating
- 13.2 Furnishing
- 13.3 Weathersealing
- 13.4 Punch Lists and Job Review
- 13.5 Site Shutdown
- 13.6 Final Cleanup and Disposal
- 13.7 Warranty Calls

A lot of what goes on in kitchens and baths lends itself well to unit-pricing. Countertops and flooring, for example, can be readily measured and quoted in cost per square feet. Then appliances, fixtures, and factory-built cabinets can be added on piece by piece.

When estimating these costs, the only challenge is to measure and count carefully. Make sure of your specifications. Don't start estimating until you have a workable set of drawings, whether they are coming from you or someone else. And make sure your prices are current.

Most of us, however, rarely lose money on a job because we counted materials wrong or underestimated the labor for a routine task. When things go wrong, it usually stems from something forgotten or something unknown. The kitchen is the trickiest room in the house because it requires a careful orchestration of cabinets, countertops, appliances, lighting, plumbing, ventilation, flooring, framing, and finish.

## Begin With Job Costing

Unit-cost estimating begins with job costing. Contrary to popular opinion, job costing does work for remodeling. Job costing is the record of what you actually did, how long it took, and how much it cost. Careful job costing not only allows you to set current prices for routine labor, it also shows you where problems have cropped up in the past. Pay attention to these problems; they will help you identify red flags on current jobs.

The secret to precise job costing is using a consistent list of job categories that accurately describes your work. Few Mac-based job-costing programs I have seen are project oriented, so I set out to develop my own list of task-oriented job categories in order of construction. My early attempts ran over four pages long and were too complicated to carry over from job to job. My current list fits on one side of a page, with 13 headings with number codes that workers can reference on time cards (see Figure 1). Using this breakdown, I can tie my bookkeeping to each job to pull off accurate subtotals for each category.

But even if you haven't worked out a way of keeping exact cost records, it's worth reviewing past jobs and logging in what you think went right or wrong. By carefully examining these past jobs, you can get a rough idea of what situations raise red flags. This seat-of-the-pants analysis is better than just thinking "better luck next time," as long as you use it to make price adjustments.

## K&B Red Flags

There are certain areas of kitchens and baths that used to give me trouble when estimating because I either hadn't guessed right about them (if the parts were concealed), or I hadn't bothered to adequately check them out (for example, I hadn't crawled the crawlspace or scoped out the attic). These include, in order of most difficult to easiest:

- ductwork
- DWV (drain/waste/vent)
- water or gas piping
- electrical lines
- structural conditions
- unconventional finish work

Anything previously remodeled by someone who didn't know what they were doing is, of course, in a class by itself — absolutely the worst!

The items at the top of the list are bulky and unbendable materials that have to be snaked through walls, floors, and ceilings. Ductwork, while not heavy, usually takes up so much space between joists that it needs plenty of room to make a turn. Creating space for the duct run can often take an unexpectedly long time. Anyone who's found a ceiling joist and low-slope rafter where the vent hood duct is supposed to go knows just what I'm talking about.

So how do you account for hidden horrors in a unit-price estimating scheme? The best way I know is to create a site inspection list to "red flag" the trouble spots.

I start by carefully doing a quantity takeoff. When I've got all my units of measure ready, I produce a rough-draft estimate for the job before visiting the site. In the process of doing this, I generate a list of things to look for. For example: Where will the vent hood run? Where are the existing heating ducts? Where is the existing DWV for the sink? Where is the gas meter for the

Figure 1. The author uses this list of job categories for estimating and job costing.

new stove line? Where are the water, gas, and electrical feeds? Will the new roof tie into trusses or rafters? Is the floor level where I have to install base cabinets? What is the profile of the existing trim I have to match?

Then, on a site inspection, I use this list to concentrate on verifying existing conditions and paying special attention to the flagged items.

## Avoid the Forgotten And the Unknown

After a site inspection, I am ready to make an accurate bid. I begin by breaking the job down into my 13 job categories, and then I assign an accurate cost to each.

With every red-flag category, I try to break down each task into

what is known and predictable work and what is still unknown. If you break down each installation into small enough increments, you can more accurately evaluate the cost. For example, even if I am able to verify that the floor is level where I need to install base cabinets, I still might not be certain that there is sufficient blocking in the wall to hang the uppers.

So how do you assign a cost to such an unknown? I handle the unknowns in one of two ways. The first option is to add an allowance that is sufficient to cover the worst case. In the cabinet example, it's relatively easy to add an allowance for installing blocking. If I've used my red flag list well, I will have verified whether or not there is

**Table 1. Sample Labor Takeoff**

List	Item	Labor	Notes	Quantity
8.4	stove hood duct	helper	basic	2 hours
8.4	stove hood duct	carpenter	add for reframing	2 hours
8.4	stove hood duct	helper	add for long crawl	2 hours
8.4	stove hood duct	plasterer	add for patch	1 hour

**Note:** On the author's labor takeoff, a simple job, such as installing the duct for a stove hood, might require extra work. In this case, the item is "red-flagged" and scoped out carefully during the site inspection. Additional labor (shown in gray) is then added to the basic installation cost under 8.4 — the Rough HVAC job category.

existing plumbing or wiring in the wall that will have to be rerouted, so the allowance will be more accurate. Adding an allowance is acceptable only if the unknown is small enough.

In the vent hood example, however, I might not have been able to verify the attic conditions. In this case, rather than saying "Jones kitchen stove hood — difficult installation: add extra \$150," I analyze why it's difficult and itemize each additional task separately. For example, in addition to itemizing the labor for a basic duct installation, I would include the labor for reframing the ceiling joists to accommodate the duct, the difficult attic access, and plastering the ceiling where it was reframed (see Table 1). By breaking down the list far enough, you can reduce the number of unknowns and get closer to an actual cost. With this detailed break down, you're less likely to forget an item, too.

On bigger unknowns, I have a second option: I pull the unknowns off the estimate and negotiate these separately with the customer. In some cases, I might revisit the site to inspect more closely or to perform a little exploratory surgery before giving a

price. For example, I won't give a price for refinishing an existing floor until I've stripped off all the linoleum and assessed the condition of the floor. In other cases, I might present a list of items to be handled on a cost-plus basis that are separate from the fixed cost list. In this case, I make an effort to win the customer's confidence by giving them a thorough understanding of all the steps involved.

With practice, a careful red-flag review of your business and each job can help you define what is routine and what needs special attention in your jobs — from the estimate stage and onward. Crew leaders with a list of red-flag items will be better mentally prepared, just by knowing what issues might crop up. I even make use of this information in my negotiations with customers, pointing out which aspects of the job present obstacles and which place demands on craftsmanship. This is a good way of demonstrating to them what they're getting for their money. ■

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