

Introduction to Estimating - Part 1

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BASIC BID CONCEPTS & INTRO TO ESTIMATING



Course Objectives

- Understanding the bid and pricing process & the typical bid format for both primes and subcontractors
- An overview on basic concepts for estimating
- An overview of the basic protocol & process for submitting a sub bid
- Understanding how to develop a professional & credible Scope Letter
- ***This workshop is designed for construction contractors***
- ***Per the CA Public Contract Code....Low Bidder Wins!***

Basic Requirements

- Proper **license as a Prime Contractor - General Contractor (A or B)**
- Proper **license as a Subcontractor - Specialty (C-category)**
- Registered with the **Department of Industrial Relations (DIR)**
(Registration cost is \$400 per year)
- Required liability **insurance coverage**, plus a Workers Compensation policy
- Must pay **prevailing wages** to all workers (effectively, union scale)
- Must comply with **Apprenticeship** standards
- **Standard Pay procedure of once every 30 days, in arrears**
- All bid proposals must meet without qualification or reservation, the specifications as written **in the bid documents**
- If you are bidding as a **Prime**, all projects over **\$25,000** will be required to be fully bonded

Project Information

- Information to Contractors / Invitation to Bid - (Date, Time, & Place)
- Bonding Requirements - (Bid Bond & Performance / Payment Bonds)
- ***The Bid Proposal Form is Always Included in the specifications***
- Description of the Work
- Insurance Requirements
- DIR Registration & Prevailing Wages required along w/ Certified Payrolls
- Project Labor Agreement (PLA) Requirement - (if any)
- MBE / DBE / SBE / WBE / DSVBE / Requirements - (if any)
- Contract completion time & liquidated damages
- Type of CPM Schedule Required
- Submittals Requirements - (Number of Copies, Turn Around Time)
- Change Order Procedures - (Cost backup, Markups, Disputes)
- Weather Days Allowance Policy
- Pay Application Procedure / Retention Policy.... (5% per California PCC)
- Safety Program Requirements
- SWPPP Plan Requirements
- Quality Control / Materials Testing Requirements
- Project Close-out Procedures

Best Practices

Contact with Prime Bidders

- **Meet & Greet sessions with Prime GC's do not occur for every project. They are held occasionally when warranted.**
- **At best, they get your Capability Statement & business card**
- **You will be placed on their list of available subs, it is *not* necessarily a preferred list**
- **You will be sent an email (ITB) for every project they plan to bid**

Typical Sequence of Bidding

- Check the websites of Caltrans & other Public Agencies
- Find a project that fits your profile & capabilities.....if decision is to bid, then
- Download Plans & Specifications (**Caltrans Contractors Corner**)
- Review the Project Description & Engineers Estimate
- **Review the Bid Form List of Bid Items**
- Review the List of Primes planning to bid the job
- Decide what portion you will bid upon and prepare your Scope Letter
(note: be sure to mimic the bid item list as shown in the Primes Bid Form)
- Send the bidding primes your **unpriced** Scope Letter
- Begin working on your estimate
- On Bid Day morning, send your priced-out Scope Letter

Scope Letters - Process & Protocol

- DBE's often feel their bids are ignored, given second class status, or even being shopped around
- The GC must receive, evaluate, track and post a multitude of sub bid data while finalizing their bid, and it is not just their price!
- **Over 95% of all sub bids are submitted in the last hour before bid time**
- Your **Scope Letter** should be on your letterhead with all the information as shown on the sample
- Preparing your price list in the same format as the Prime's Bid Form is the **professional** way to submit your bid
- Following this protocol will ensure you receive fair consideration and evaluation of your proposal. *It immediately signals the GC that this bid is from a sub who understands the process*

Submitting Your Scope Letter

- Be as clear and concise as possible
- Be sure to structure your pricing to match the format in the Prime's Bid Proposal
- Be sure to reference the Spec Section that applies to your work
- Include all applicable taxes & freight
- ***Acknowledge all addendums (key)***
- State any delivery restraints that could affect the schedule
- Identify unloading requirements
- If appropriate, offer alternate pricing for partial scope, but be clear!
- State how long your price is good for ***(key)***

Worst Practices

When Submitting a Scope Letter

- Do not bid alternate items unless they are approved by the A/E firm
- Do not include a detailed quantity take-off unless bid form calls for it
- Do not exclude taxes or freight on any of your materials or equipment
- Don't expect that you will dictate payment terms
- Do not make a long list of exclusions that are not industry standard for your type of work
- *Requests for upfront monies are almost never allowed*
- **Do not wait** until 15 minutes before bids are due to submit price
- Do not wait until bid day to ask questions

Submitting on Bid Day

- **Finalize your price**
- **Email or fax to the bidding primes 45 - 60 minutes early**
- **Follow the owner's website to see bid results**
- **The next day contact low bidder & request results for your work**
- **If they used your number and listed you, send a short congratulatory note**

Questions So Far?

Handouts



(1) Typical Bid Proposal Form



(2) List of Bid Items - 1



2a) List of Bid Items - 2



(4a) Sample Insurance Spec



5) Submitting a Sub Bid - N



Typical Work - Wage Costs



(7a) Laborer



(7b) Carpenter



(7c) Cement Mason



7d) Operating Engineer

BIDDING AND ESTIMATING

Types of bid proposals (for the Prime)

- Lump Sum
- **Unit Price Format (The typical Caltrans or HSR way)**

Unit pricing for a specific list of bid items is how all heavy-civil / transportation type projects are bid.

Whatever format the Prime is bidding to owner, then subs must bid to the Prime in same format

ESTIMATING THE PROJECT

OBJECTIVES

- Efficiently Estimating The Job In A Timely Manner
- Develop the Correct Spreadsheet Format For Unit Pricing
- Obtaining sub & supplier pricing
- Develop the Unit Prices per Bid Item
- Developing a Scope Letter the Prime will view as competitive & credible



BIDDING AND ESTIMATING

Estimate Structure

Direct costs

- Labor
- Materials
- Equipment
- Subcontractors
- General Conditions

Indirect costs = Markup

- Office Overhead & profit



Key Components of the Estimate

- Unit Pricing - Definition of Pay Quantities (in the specs)
- Determining labor and equipment costs
- Unit Pricing Spreadsheet Format
- Distribution of Cost for General Conditions
- Quantity Take-offs
- Bundling or Breakout of Bid Items

Labor Costs

- Work to be performed “in-house” by your own forces
- Productivity = How much work can be done in given unit of time
- All workers to be paid prevailing wage and benefits
- Apprenticeship regulations will apply
- All workers to be paid hourly... “*Piece work*” method is illegal
- Department of Industrial Relations (DIR) sets the wages
- Certified payrolls are required

Best Practices

True Cost of Labor

- Every contractor should be aware of what their total cost per hour is for the trades they employ
- Always consider the proposed schedule of the contract in case your work goes into another pay raise category
- With CA Labor regs and union contracts, quite often a partial day's work warrants a full days pay (show-up/minimum time).
- Multi-tasking requires multiple pay rates (*avoid if at all possible*)

Crew Rates

- Size Crew Needed to Perform Task

- 1 - Carpenter foreman @ \$90/hr * = \$ 90
- 2 - Carpenters @ \$85 * = \$ 170
- 1 - Apprentice Carp @ \$50 * = \$ 50
- 2 - Laborers @ \$65 * = \$ 130

- **Total Cost / hour for framing crew = \$ 440**

- For a 40 - hour week, cost is: $\$440 \times 40 = \$17,600$

For one (1) day, cost is \$3,520

(Please note.. sample values)

Subcontractors

- **Competitive Price**
- **Defined Scope of Work**
- Reasonable Exclusions & Conditions
- Good references & track record
- Staffing ability
- Safety Record *(Check the specs for EMR requirements)*
- Staffing capacity
- Administrative ability
- Bonding capacity *(if necessary)*

Best Practices

Material Costs

- Be sure material quotes are approved for use in the project
- ALWAYS include sales tax and freight to jobsite
- Be sure to account for unloading expense
- Be sure supplier can deliver material or equipment within the schedule contract time
- Get commitment in writing from supplier for price protection
- If not possible, get an estimate on possible cost increase & **use it**
- Get familiar with payment terms – No upfront money from GC
- Always use a Purchase Agreement in lieu of standard PO

Quantity Take-offs

The term “*take-off*” refers to the process of calculating the quantities of materials need to build the project.

1. The old-fashioned way (Math):
Measure, count, & calculate
2. Software programs
 - a. Blue Beam
 - b. Heavy Bid

Materials & Equipment

- For Material Costs be sure to include tax and delivery
- Always double-check your quantities!
- Be sure material meets the specifications
- Check availability & delivery time
- Figure out how to handle price escalation....(NO change orders for price increases)

- For Equipment Costs be sure to include tax, **freight** and delivery
- Be sure equipment meets specifications **completely!** This means the Mfgr' quote must include submittals preparation and other items tied to the equipment spec...(testing & commissioning, training, performance,etc.)
- If awarded your contract, use a Purchase Agreement instead of simple P.O.

- For your in-house equipment or equipment rentals, be sure to include cost of fuel, maintenance, delivery and pickup

Selecting Subs & Suppliers

- Develop a source list (Builders Exchange, Daily Pacific Builder, etc.)
- Consult with industry peers
- Send out requests for proposals/bids
- Compare bid sheets and select best bidders
- Build network of reliable subcontractors and suppliers
- Beware of the “*Lowest Price Mentality*”
(i:e check via the “Apples to Apples”) evaluation

Best Practices

Jobsite Overhead

- General Conditions in Specifications define supervision & other PM requirements such as engineer, safety officer, etc.
- Cost of temporary fencing, job trailer, toilets, drinking water, erosion control, permits, inspections, vehicles and fuel, etc. can be substantial..... (6 -10 % of the cost of the bid).
- Jobsite OH is a real and valid **JOBSITE COST**, it is not office OH.
- Safety Programs cost money and will be mandatory (Covid)

Typical Cost Items in General Conditions

- Supervision
- Project management
- Bonding and insurance
- Temporary Power
- Surveying
- Permits & fees
- Special Insurance Riders
- Jobsite utilities
- Temporary fencing at laydown site
- Soils Lab expense
- Jobsite facilities: Chemical toilets, inspector's trailer, job office trailer, storage containers, security guards, etc.

Best Practices

Admin Costs

- Be aware that project management cost can be substantial
- On certain transportation projects, liability insurance limits can be substantially higher than normal. Get quote from broker
- Certified payrolls must be filed weekly
- *For open-shop subs, *workers will get the entire prevailing wage package*, including the cost of benefits as one hourly rate. This is if you do not have approved health & pension plans

BIDDING AND ESTIMATING

Post-Bid

- **Develop standard estimating checklists, and spreadsheet templates**
- **De-brief on both successful and unsuccessful bids**
- **Maintain files on all successful and unsuccessful bids**



Thank You