



Estimating For GC'S Part One Estimating Procedures RHCA / ASPE

Estimating for GC's
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Introduction

- Introduction
 - The practice of construction Estimating is a highly technical discipline. It involves certain standards of ethical conduct and moral judgment that go beyond the technical aspects of the discipline.
 - Estimators are often the persons most familiar with the complete project. They must exercise sound moral judgment when preparing the estimate. Estimators sometime receive pressure from other members of the construction team to make expedient short term decisions that can result in an unsound bid. Resistance to this pressure is part of an estimator's job.
 - For these reasons the American Society of Professional Estimators (ASPE) that the basis of every estimate should include the following:
 - **Ethics – Construction Estimators should follow a high standard of ethical practices**
 - **Integrity – All Estimators shall use standards of confidentiality in a manner at least equal to that of other professions.**
 - **Judgment – Judgment is a skill gained by estimators through proper training and extensive experience. Proper use of judgments may mean the difference between profit and loss for the company or client.**
 - **Attitude – approach each estimate with a professional attitude and examine in detail all areas of work. Total mental concentration is basic when preparing accurate estimates**

Traits of a Good Estimator

- Traits of a good Estimator
 - Thoroughness – Allow enough time to research and become familiar with the details of a project. The estimator with the most knowledge of a project has the competitive advantage.
 - Awareness – review the project scope and determine if the company has sufficient financial resources and staff to complete the project.
 - Uniformity – 'Develop a good system of estimating forms and procedures that exactly meets the requirements of the company.
 - Verification – the methods and logic employed in the quantity survey must be in a form, which will provide a method of proof of the accuracy of an portion of the survey.
 - Documentation – document all portions of the estimate in a logical, consistent, and legible manner. The Estimate should be clear and concise so that any estimator can pick up the estimate and follow it.
 - Evaluation – The estimator should evaluate all bids received during the bid process to be sure all scope of that category is included in bid. The estimate should also investigate the past performance records of subcontractors to determine the level of competence and quality of performances.
 - Analysis – Develop methods of analyzing complete estimates to find out if they are reasonable.

Key items to a successful bid

- Three key items for a successful bid are:
 - Know Project Scope – Know the scope of each category that is assigned to you
 - Know your Bidders – Know what subcontractors or vendors who are bidding on each category that is assigned to you prior to bid day.
 - Know your Bidders Scope – Know the scope of each bidder of each category that is assigned to you prior to bid day.

The Estimating Process

- Setting Project Up for Bid
- Bid Recording or Bid Tabulation Sheets
- Reviewing Existing Conditions
- Review of Bid Documents
- Understanding Bidding Requirements
- Developing Scope Of Bid
- Communication with Subcontractors and Vendors
- Developing the Proposal Submittals
- Preparing the Estimate
- Bid Day
- Post Bid

Setting the Project Up for Bid

- After the decision has been made to bid the project it is time to set up the Estimating Structure for that particular project.
- Acquiring the Bidding Documents
 - Typically a deposit or purchase of the bid documents is required either from the architect or the printing company that the owner place the plans
- Setting up the Bid Team
 - A good bid team consist of the following"
 - Lead Estimator – Runs the estimate
 - Estimators – scopes particular scopes of work and takes bid to his or her assigned codes
 - Bid Takers – Estimators or Field Personnel who scope bids from his or her assigned codes
 - Bid runner – delivers the bid to the site designated on the documents
 - Fax runner – keeps the faxes coming on bid day
 - Proposal writer – fills our the proposal forms with all the technical information
 - Executive – reviews the General Condition and assists Chief Estimator with the Estimate
 - Depending on the size of the project a bid team can be as few as two or as many as ten or more.
 - Most large companies have field personally come into the office to assist the estimators on bid day.

Setting the Project Up for Bid

- **Setting up bid recording or bid tab sheets**
 - Bid Packages – A breakdown in the Estimate in similar types of work.
 - Bid recording or bid tabulation sheets shall be set up for each bid package. These sheets shall be distributed to Estimator or Bid Taker that is assigned that category to be filled out prior to bid day with the exception of course to the actual bid.
 - Each bid package shall have a line in the Estimate that corresponds with the identification number.
 - Bid folders for each category should be set up to hold both the bid recording sheets and all the pertinent bids that relate to those bid recording sheets.
 - The bid folder shall have the following information
 - Bid Package number – Description
 - Project Name
 - Project Location – Bid number
 - Bid Date
 - The following information should be stored in the bid folder
 - Bid recording or tabulation sheets
 - Bids for that category
 - Copies of specifications for that category
 - Copies of takeoffs for that category
 - All bid tabulation sheets should be saved on the company shared drive for future ref.
 - All bid folders should be maintained in a bid box and filed away for ref for future projects as well as to be used in the buyout process if the company is successful in being awarded the project.

Setting the Project Up for Bid

- Plan Flip – A time where all the bid team can review the drawings and identify items that may be of concern. This is not a detail review of the plans.
- ITB - Invitation to Bid
 - The Chief Estimator creates the subcontractor and vendor listing for each bid using the table of contents of the specification and information collected from the plan flip
 - There are many ITB Systems that can be used to assist this process.
 - List from previous bids can be used for the ITB process.
 - If a bidder declines a bid a number of times or says he will bid and then fails to turn a bid in, consideration should be made to purge this subcontractor off the ITB list.
 - Special care should be taken to be sure invites are made to MWBE subcontractors and vendors. All public projects and some private project require good faith efforts to attempt to reach the MWBE Goals of the project. These invites are used to show the good faith of the company to giving opportunities to minority and small businesses.
 - It is the responsibility of the Estimator or Bid Taker to call all subcontractors or vendors in his or her assigned category to discuss that particular bid.

Bid Tabulation Sheets

■ Filling out the Bid Tabulation Sheet

- Bid tabulation sheets should be filled out as much as possible prior to bid day.
- Information that should be shown on the tabulation should be as follows:
 - Specification Section
 - Description of Specification Section
 - Takeoff and unit of takeoff
 - Scope of category
 - MWBE certification number
 - Sales tax included
 - Payment and Performance bonds
 - Addendum number that are acknowledged
- Subcontractors that are confirmed to be bidding on the project should be filled in prior to bid day
- The subcontractors bid price should be entered in the base bid line of the tabulation sheet.
- Any item that needs to be added or subtracted from the bidders price shall be done below the base bid line of the bid.
- Symbols such as a an x should be used to show if the item is included or excluded from the subcontractors bid.
- If there is an X in the subcontractors column, however a check mark in the companies column, there needs to be some type of pricing for this item.
- All alternates should be included below the line as well as unit pricing.
- The bid tab or bid recording sheets should be filled out in such a fashion that they can be handed off to another person and the intent of the estimator can be followed without any questions.

Reviewing Existing Conditions

■ Pre-bid Meeting

- It is very important that someone on the bid team attends the Pre-bid Meeting if one is set up by the owner.
- During the pre-bid meeting the parameters of the bid process generally is outlined along with other pertinent information regarding the project that is out to bid.
- There is generally time for a question and answer session during the pre-bid, however it is generally asked that any questions asked in pre-bid be submitted in writing after the pre-bid.
- Pre-bid meetings is a good time to see who your competition is as well as who your potential subcontractor bidders.
- Usually a sign in sheet is passed around and a copy of that sign in sheet is generally posted in the next addendum or on the website after the pre-bid.

■ Site Visit

- Site visits are strongly encourages
- Generally a site visit will follow a pre-bid meeting
- Site visit check list should be followed with common items that one should survey.

Review of Bid Documents

- Bid documents typically come in the form of:
 - Blue Prints – Architectural, Civil, Structural, MEP, and Landscaping
 - Specifications
 - Addendums
- Typical Review of Plans
 - Review the plans to interpret the design professional style and intent.
 - Analyze details for constructability
 - Read all notes
 - Review plans for each section of work and determine the degree of completeness
 - Review wall sections noting any special type of construction
 - Note any area restrictions of work area

Review of Bid Documents

- **Specification Review**

- Review the summary of work section
- Review the instruction to bidders
- Review the bid date and location that the bid is to be submitted
- Note the bonding requirement for the project.
- Review the bid form required with all alternates and unit pricing required
- Review the General Conditions and Supplemental Conditions
- It is the assignment of each of the bid teams to review his or her section that they will be collecting bids on bid day

- **Addendums**

- Addendums is a written or graphic change made by the AE staff during the bid process
- Addendums do become part of the contract documents
- Generally Addendums are not issued less than 7 days prior to bid
- Each estimator or bid taker shall review all addendums prior to bid day.

Review of Bid Documents

■ Takeoffs

- Each estimator or bid taker should complete his or her takeoffs prior to bid day to understand the scope of the work for the bids they will be reviewing on bid day.
- The preferred method of takeoff should match the order of construction
- Each estimator or bid taker should review the required takeoffs with the Chief Estimator.
- Several methods can be used in the takeoff process:
 - Digitizers
 - On Screen Takeoffs
 - Standard Scales and paper tablet
- Scales shall be verified on each sheet prior to taking off items.
- Units used in most takeoffs:
 - EA – Each
 - SF – Square Feet
 - CY - Cubic Yard
 - CF – Cubic Feet
 - LF – Linear Feet
 - TN - Ton

Understanding The Bidding Requirements

- Bidding Requirements
 - The Chief Estimator must review the bidding requirements to understand the following:
 - Bid Date
 - Bidding Location
 - Bonding Requirements
 - Liquidate Damages
 - Special insurance requirements
 - Evaluation Requirements (CSP)
 - Deadline for questions
 - How discrepancies and Interpretations are handled
 - How addendums will be issued
 - If the procedure noted in the Instruction to Bidders is not followed exactly then the bid will be deemed “Unresponsive” therefore thrown out!!

Communication with Subcontractors and Vendors

- **Communication Prior to bid**
 - It is very important that each estimator communication with his potential subcontractor and vendors
 - Understand who is bidding the project.
 - Determine the scope of work the bidder will be pricing.
 - Determine any issues that the subcontractor may have in the pricing of the project.
 - Determine what your subcontractor coverage is prior to bid day.
 - Pre-fill the subcontractor information prior to bid day on the bid tabulation sheet.
 - Subcontractors will usually give better numbers to General Contractors that show an interest in what they are bidding by making those phone calls and discussing the scope.
 - Prior to making the calls, the estimating needs to have a thorough understanding of the scope of work he is calling about.
 - All information obtained from the calls need to be recorded on the bid recording sheets for others to see and understand.
 - Calls to major supplies that are specified is a great source to locate subcontractors that you may not have on your call sheets.
 - It is also important to request scope sheets prior to the bid date so that the scope can be reviewed and possible holes in the bid be determined and filled.

Communication with Subcontractors and Vendors

- Communication with the subcontractor should continue up till and possibly after the bid is received.
- Sometime if the subcontractor has not responded with a scope letter prior to the bid date, the estimator can review the scope with the subcontractor over the phone. This way if the subcontractor is just waiting for his vendor pricing (which usually arrives minutes before the bid deadline for MEP subs) the scope issues can be worked out and then the estimator is only waiting on the pricing.
- The more information you can get before the bid deadline the more complete your bid will be at the bid deadline.
- Sometimes when the bid comes in extremely lower than the other bids and there is suspect of an error the estimator can try to either have the subcontractor realize his error in his bid or get him to pull his bid. A fine line from bid shopping and keeping the subcontractor out of trouble needs to be followed in this procedure.

Developing the Scope of Bid

- **Scope of Bid**
 - It is the responsibility of each of the Bid Team to understand the scope of bid for each of the categories that he or she is assigned.
 - The scope of work that is to be priced must be defined line by line before the estimate is prepared.
 - Generally scope is done the same way that the takeoffs are done, the way the structure is built.
 - Scopes should be noted on each bid recording or bid tab sheets and compared to the scope letters that each subcontractor shall submit prior to bid day.
 - It is particular important that every note is read before going to the next page.
 - Scope should be recorded on each bid recording sheet or bid tabulation.

Developing Proposal Submittals

- Proposal Submittal can include the following
 - Proposal Forms
 - Technical Proposal Forms
 - Methodology
 - Schedules
 - Staffing
 - Project References
 - Safety
 - IRM – Insurance Rate Modifier
 - OSHA Records
 - Financial Status of Company
 - AIA 305 Qualification Forms
 - Bid Bonds
 - Legal Forms
 - M/WBE Forms
- In a Competitive Sealed Proposal (CSP) it is very important that all the information is given in an orderly fashion so that the company can get full credit in the grading process. It can win or lose a project for the company.

Preparing the Estimate

- Prior to bid day a complete and accurate estimate should be completed using the scoping and takeoffs that were completed with the bid team
- General Conditions
 - General Conditions are the cost of doing business for all construction projects
 - The General Conditions can include the following:
 - Supervision
 - Project management
 - Field Office
 - Temporary Toilets
 - Temporary Utilities
 - Safety
 - Layout Services
 - Testing
 - As built drawings
 - Misc Equipment for project
- Most companies have a General Condition check list that the Lead Estimator can use to develop the GC for each project.
- Generally division 1 of the specification addresses the required General Conditions for most projects.
- Generally in most companies the Vice President approves the General Conditions prior to bid day.

Preparing the Estimate

- The estimate form has places for each phase codes and sub phase code to be entered in with the takeoffs and unit pricing.
- As subcontractor and vendor bids come in on bid day, they can be compared with the estimated amount using the bid recording or tab sheets.
- It is important that all blanks on the estimate information sheet is filled out.
- When entering the bids in it is important to note the subcontractor name and if he is a MWBE Subcontractor. Generally it is a good idea to high light the names of the MWBE Subcontractor so you can keep a running total of the MWBE Participation during the bid process.
- All plugs shall be noted with a P next to the item until those items are firmed up with a Subcontractor name and bid amount.
- It is the Chief Estimator verify the insurance cost, bonding cost and fee before finalizing a bid.

Bid Day

- Bid day can be the most stressful and fulfilling of days for a Estimator.
- It is important to have an orderly manor that all bids are presented and recoded on bid day.
- Chief Estimator shall review all proposal documents prior to them leaving the building:
 - He shall check to see that the bond is present and executed
 - He shall be sure all documents are included using a document check list.
 - He shall be sure all documents are signed and sealed by the proper authority
 - He shall be sure that the bid runner knows where he is going and what time he is expected to be there.
 - The bid runner should call the Chief Estimator when arriving at his destination giving the bid clock time so the Chief Estimator can set his bid clock with the one at the bid location.
 - IT IS VERY IMPORTANT THAT THE BID RUNNER KNOWS THAT THE BID CANNOT BE ACCEPTED ONE SECOND AFTER THE CLOCK PASSES THE SPECIFIED BID TIME!!
- It is the responsibility of each Estimator or Bid Taker to close out their bids prior to presenting it to the Chief Estimator, making note who the apparent low bidder is and any concern that bid taker may have with that particular bid.
- As estimate line items are being firmed up, the Chief Estimating shall make notes of any risk the company may have in any of the numbers

Bid Day

- Generally speaking the HVAC, Plumbing and Electrical (MEP) will be the last to turn in a bid. Sometime it may be minutes before the bid deadline before the pricing for these items are acquired. This is due to suppliers holding pricing till the last minute thinking the contractor will bid shop their numbers Once all numbers are recorded and the Chief Estimator is comfortable of the number then the Vice Preside should review briefly the bottom number making any adjustments that need to be made to fee and/or Contingency.
- However, even though the number may be coming in the last minute, scope can be verified long before the final number is received. This can either be done by requesting a scope sheet or reviewing scope over the phone with the potential bidder.
- Once that final number is know, the Chief Estimator gives the required numbers to the bid runner. It is important that these numbers are given clearly and that the bid runner repeat the numbers back to be sure no mistake is made.
- The bid runner will then complete the bid process and turn the bid in.
- Some of the bids have public opening where the results of the bid are read. This can be the most frustrating or rewarding time of an Estimator. Of course if it is on the same day as the bid, the Chief Estimator must wait till the results are presented to him by the bid runner, usually either by text or by phone.

Post Bid Responsibilities

- **Post bid interview or negotiation meeting.**
 - This is when the Estimator becomes the sales man.
 - Usually must answer scope questions regarding bid
- **Buyout or handoff meeting**
 - Usually between Estimator Team and Operations Team
 - Review all aspects of how the estimate was put together
- **Post bid interviews between subcontractor and Contractor**
 - Usually done only if award has been made to the bid team.
 - Generally bring in the top two bids of each trade and review the scope.
 - Flush out any issues that may be with the bid.