Procedure Manual

This manual is meant to provide the basic insight to the process and actions; the project manager ensues, throughout the construction project. Many of the functions that are required are repetitious. The project manager who masters the process, who has construction smarts and demonstrates good leadership skills will be in control of his project.

As companies differ in organizational structure, they may have philosophical differences that dictate the approach the company takes in bidding and managing a project. Be mindful that this is a guide and that your success will be measured by you're ability to manage a project following your companies policies.

The manual is broken into three main sections:

I. Bidding
II. Purchasing
III. Construction Management

The categories that are commonly dealt with in the estimating departments, with the project manager involvement are:

I. BIDDING

- General Bid Procedure
- Scope Analysis Sheets
- Preparing The Bid List
- Interviewing Subcontractors
- Preparation For Bid Day

After notice of award and signing of a formal commitment letter you need to follow the next procedure, purchasing the subcontractor trades and material venders including:

II. PURCHASING

- General Requirements
- Smaller Projects
- Larger Projects

III. Construction Management & JOB START UP

- Applying for the Building Permitting
  - Forms
  - Formulas
  - Request for checks
  - Affidavits
- Refining the Project Scheduling
  - Developing the front end of the schedule
    - Purchase, fabrication & delivery dates
    - Milestones activities
- Cost Analysis
  - Setup of spreadsheet
  - Analysis of general conditions
  - Projections of subcontractor project completion
- Administrative

- Filing System
    - Project Directory
- Insurance and Bonds

IV. Managing the day-to-day

- Document Control
    - Shop drawings
    - Architectural drawing log
    - Request For Information
    - Cost Event Log
- Meeting Minutes
- Requisitioning
    - Owner
    - Stored material
    - Subcontractor
- Cost Control
    - Maintaining cost reports
    - Monthly Executive Reports
- Change Management
    - Owner Change Orders
    - Subcontractor changes
- Field Operations
    - Daily Reports
    - Quality Control
    - Safety
- EEO
    - Minority Requirements
    - Local Residence Employment Plan
    - HUD
- Miscellaneous
    - Timesheets
    - Expense reports
    - Reproduction
    - Labor rates / agreements
    - Publication Agreement

V. CLOSEOUT PROCEDURES

- Substantial Completion
- Owner / Architect Closeout
- Subcontract / Vendor Closeout
- Jobsite Closeout
- Sample Correspondence / Closeout Package
- Storage

I. Bidding

General Bid Procedures

General bid procedures require the setting up of all of the forms that will be used to control the outcome of the bid.

Printing of plans and specifications by use of the bid team.

Selection of all subcontractor bidders, notification of the project, bid day and time and special requirement of the bid.

Bid team meeting schedule.

Assignment of the trades to bid team members.

Scope Analysis Sheets

Developing the scope requires that the project manager (bid captain) read the front end of the contract documents and notes all information germane to the bid. The information noted is generally applicable to all subcontractors and for the purpose of consistency in bidding a requirement at the time of the bid.

- Prepare a scope sheet for each trade.
- Read the general conditions carefully; note the requirements in numerical order on the scope sheets.
- Discuss the items in detail with the bid captain being certain that all relevant information has been noted, eliminating duplications.
- Items that are generally standard items, i.e., sales tax, union affiliations, etc. should be noted first.
- Items common to all bidders should appear following the standard items on the scope sheets.
- Next list all items that are trade specific, that appear in the documents and are unique or require special coordination.
- These scope sheets will be used in discussions with subcontractors at the time of solicitation of estimates, in a telephone qualification session, confirming completeness of the subcontractor's estimate.
- When in the course of taking bids inconsistencies are discovered in the scope of bidders, and you need to understand a common scope for all, you must complete the missing information and add assign a value to that information.
- When all information is complete it must be summarized at the bottom of the page.

Preparing the Bidder's List

Preparing the bid list is generally one of the easiest tasks that the project manager/estimator has. The standard listing of potential bidders is used with one special inclusion, that is, specialty subcontractors identified at the initial bid document review. All potential bidders need to notify at the same time giving them access the bid documents and equal time to prepare a bid. Follow-up telephone calls must be made to gain knowledge of the bidders who are interested in the bid and whom you will become dependent upon through this process.

- Send out a general facsimile to all potential bidders; identify a brief scope, date and time of bids, availability and location of plans.
- Follow-up telephone calls to confirm bidder interest is very important.
- After the completion of the scope sheets. Calls and confirmation of the scope with all interested bidders must be done. This is a good time to discuss your understanding of the scope with the subcontractors, your trade experts. Make the necessary adjustment, additions to your scope sheets as new information is learned, and be certain to qualify that scope with each bidder.

Interviewing Subcontractor

The interviews with subcontractors require that you are familiar with their scope, so you must be construction smart. The following are sets that you should take in preparing for these interviews.

- Read the scope sheet before beginning your review of the contract documents.
- Make note of facts stated in the documents that are not on the scope sheets for discussion with your team members and ultimately your subcontractor contacts.
- From you carefully prepared list discuss, in as much detail as possible, these items with the subcontractors.
- Carefully note all adjustments, and be certain that the subcontractor provides a value for this adjustment.
- Take bid information carefully, exclusions, additions, alternates, allowances and their bid value.
- Exclusions and additions mean incompleteness or inconsistency, be certain to qualify each item carefully.

Preparation For Bid Day

Bid day preparation requires the careful crafting of forms to be used, creating an order by which you can monitor the forms and an instrument to summarize your bid. A location to put the bid together. Bids forms pre-prepared and ready for delivery, a delivery team and bid day leader to accept the final numbers and to complete the bid.

For each trade section of work:

- Scope summary sheet by trade
- Trade value
- Allowance section
- Alternates section
- Adjustment section

For the general bid:

- Summary by trade
- Direct Cost Bid Amount
- General Conditions Amount
- Fee Amount
- Total Bid
- List of Alternates Summarized and Totaled

II. Purchasing

General Requirements

General Requirements are made of two (2) elements:

- General Conditions, the costs associated with doing business including the salaries and expenses incurred by the general contractor in performing the work, and,
- Work performed by the General Contractor’s labor force in completing various construction tasks

Smaller Projects

Upon notification of a bid award the process moves into purchasing. Depending of the size of the project this function can be managed differently. For smaller projects the project manager, acting independently he will contact the subcontractors and confirm and finalize their bids, awarding the work to the lowest bidder.

Larger Projects

For larger projects, where subcontract scope and volume are much larger and more detailed the process should be followed:

- Consolidate the information collected during the bidding process from each of the subcontractors participating on bid day.
- Use the form of the scope sheet, expanding it to include a column for all subcontracts whom participated, and space for new subcontractors if necessary.
- Discuss the items in detail with the bid captain and project manger being certain that all relevant information has been noted, eliminating duplications and including information from a detained study of the plans and specification.
- Be certain that all items of the general conditions that pertain to the subcontractors and all standardized language that your company requires are listed on these scope summary sheets.
- The Development of the subcontract and/or purchase order scope beyond the bid day version requires another look at the plans and specifications, this time from a builder's standpoint.
- A superintendent's input is very valuable at this stage, recognizing issues of construction that can not be drawn onto plans or typically described in trade specification sections.
- Noting the schedule start time for a subcontractor is a factor at this juncture.
- Develop a contract status log, which will allow for tracking, routing and completing the document process.

III. Job Start-up

The Building Permit

Permitting is primarily a function of the project manager in conjunction with the superintendent, as construction supervisor, the signatory of the permit and the contractor's responsible authority.

The Project Manager's responsibilities are to:

- Receive and prepare the appropriate form, which are generally available at the local building inspector's office.
- The cost of a permit is usually based on a formula that is particular to each community or jurisdiction
- The superintendent as signatory for the contractor must execute the form
  - It is required that the signer be the site supervisor.
  - If required, have the owner sign as noted.
- Submit a check with the permit submission to the proper authorities, and follow up on the assigning of the permit.
- Many large constructions are governed by the overseer, generally the architect and/or engineers who designed the project and they must submit an affidavit that they will responsibly oversee that construction portions of their design with respect to local standards.

The Project Schedule

More clearly defining the project schedule, is keynote to the success of a project manager, a clear recognition of the tasks of work, the proper order of their appearance on the job, correct duration of work, complete resources allocation to tasks and a clear purchasing and delivery register.

- Begin with the contract award date, this identifies the actual date that your company is committed to the project.
- List all trade of significance that need to be purchased early, basing these dates on delivery to jobsite
- List all of the design team approval dates needed to succeed at making these delivery dates attainable, backing into the submission date of shop drawings and allowing adequate review and approval periods.

- Link the entire submittal to the delivery process.
- Based on the delivery of key elements, how do they match up with the initial schedule performance items? This is where adjustments must take place. An example is that you're completion of concrete foundation, which began 8-weeks after excavation for footings, is 8-weeks after commencement. Steel delivery is projected at 20 weeks after approved shop drawings. Your schedule shows 4-weeks of down time, unless you can improve on the review period or shorten your fabrication time. If the initial schedule did not show this delay, then you may be faced with unexpected job delay. Caution prevails!
- Verify with your selected subcontractors the manpower they have estimated to perform this work, and the duration that they expect to complete their assignment in. Qualify the time allowed within your schedule by comparing your estimate with your subcontractor's estimate. Discuss this dates fully with them, your schedule must be a part of you contract with them. If you choose to buy time of completion as a part of the project schedule, be certain that your subcontractor understands parameters of your schedule.
- Certain tasks are dependent on predecessors tasks, create these links accurately. If a question of order makes creating a link an uncertainty, confer with the project superintendent and subcontractor, remember, they are both team members now, and each have a stake in the project's success.
- Lastly on your way to completing the schedule, there will be construction elements that must be delivered at exact dates for their installation and for the success of a predecessor task to begin. These elements give birth to milestones, a task of no duration, a point in time that doesn't exist on your schedule, denoted as a symbol, a flag, an emblem or a pennon. An insignificant market that points to success.

The Cost Analysis

The analysis of the cost of a project is much different than the estimate prepared to build the project. The day the project is assigned takes on a new meaning to the value of worth the project has. Preparing a method to evaluate the worth is very important to the project manager, so much so, that many computer software companies are writing specific programs to deal with the financial matters of a construction project. These programs are a diversion from the standard accounting software that monitors dollars spent against cost commitments made.

- A schedule of the general conditions distribution for the life of the project
  - Current projected cost distributed monthly
  - Anticipated monthly expenditures that affect these projections
  - Outside influences that affect these projections
  - The difference between the budgeted amount and the projected amount
- Subcontractor costs estimated on bid day
  - The actual purchasing value
  - Anticipated costs due to oversights in the bid
  - Costs for delays attributed to poor schedule planning
  - Lost work performed recovery to be negotiated at end of project.

The Administrative Process

The filing system should be standard throughout the company. The day the project is assigned to the project manager and the files are delivered to their workstation is the time to initiate the filing system. An example of the type of files that should be created is as follows.

Projects Folders :

- General folders should include the following:

Chronological	____	Estimate	____
Owner In Correspondence	____	Owner Out Correspondence	____

Architect In Correspondence	____	Architect Out Correspondence	____
Meeting Minutes	____	Superintendents Daily Reports	____
Other Correspondence	____	Photographs	____
Permit	____	Requisition	____
General Conditions	____	Schedules	____
Cost Reports	____	Change Orders	____
Insurance / Bonds	____	Owner Contract	____
Other________________	____	Other____________	____

- Trade folders should be created for all subcontractors/venders and include

Example:

Subcontractor/vendor	Contract folder Costs/ requisition folder Correspondence folder Shop Drawings folder Transmittals
Studies	____
Inspection Reports	____

- Project Directory

  The project directory was begun early on in the process. At this time the administrative assistant assumes the responsibility of this document and maintains it throughout the project through completion.

The Insurance & Bonds

Insurance:

The bidding documents and/or contractor define the limits of insurance requirements.

For Subcontractor insurance certificate submission, the industry standard form certificate or the AIA G715 form, an acceptable substitution can be used reflecting the applicable limits and the additional insured. Often it is advisable to forward the sample insurance with the notice to proceed to enable the subcontractor to present this form to their provider to avoid misinterpretation of the requirements. This also allows them to submit their complete insurance before work begins.

Insurance Certificates must be received before personnel arrive on site.

Bonds:

Payment and Performance Bond-
The contractor sets the requirements for bonding of subcontractors at the time of the bid. The bond requirements are usually “performance” of the subcontract by the subcontractor and “payment” by the subcontractor for all material cost.

Certain projects have a requirement that the contractor is bonded, if this is the case the language that described the bonding should be forwarded to the contractor’s bonding agent for review and processing as defined in the bidding documents.
Bid Bond-
Occasionally bid bonds are required during the bidding stage to insure the bid amount presented.

The project manager again should submit the proper information to their respective binding agent for review and compliance.

Sales Tax Bond-
A sales tax bond is required when contracting with a company that resides out-of-state to insure that the company pays Local State Sales Tax. The bond is submitted to the state. The project manager is responsible for confirming the submission of the bond or that payment is made.

**The bond fees are a percentage of the total “contract value” not just the estimated material value.

IV. Managing the Day-to-Day

- Document Control
    - Project Directory
      At the project start-up, it is imperative to generate and maintain a project directory listing the Contractor/Owner/Architect team members, and the subcontractor team members. The directory should include the name of the company, address, telephone number, fax number and contact person. This listing should be forwarded to the field superintendent and field operations as soon as possible.
      Maintaining this document with updates and additions throughout the project is also very important. At the time of project close out this document can be included in the final project summary report presented to the owner, for easy access to subcontractors throughout the warranty period.
    - Shop drawings
      Are drawing, manufacturer’s literature and sketches the contractor submits to the architect to verify that the interpretation of the design made by the contractor, the detail, profiles and dimensions are consistent to what was rightfully inferred on the plans and in the specification. The development of these materials are usually generated by the subcontractors and verified by the contractor prior to there being submitted.
    - Architectural drawing log
      A standard log that shows the list of drawings and sketches released by the architect and engineers from the initiation of the bid process and throughout the construction project.
        - Drawing number
        - Description
        - Date of drawing
        - Release date
    - Request For Information
      When a question arises, whether from the contractor or a subcontractor, it is recorded by the contractor and forwarded to the architect from an interpretation, determination or resolution it is placed on a log for tracking purposes.
    - Cost Event Log
      This log is used to track outstanding cost items developed by the contractor representing changes or modification to the current construction program. As this is an issue between the contractor and the subcontractor, the contractor tacks these items on a log for their benefit. At such time that one of thee cost items becomes an issue to be discussed with the architect as a change to the construction contract the item become a pending change order.
    - Meeting Minutes

  The project manager in job meetings prepares “Meeting Minutes”, and the superintendent prepares the minutes of field meetings. These are valuable tools when:

- Confirm all attendees are cognizant of the outstanding issues and actions required by each.
- Advise the owner/architect/others of potential and or existent problems that could impact the job in a cost or schedule manner.
- Reminds each team member of responsibilities and forces accountability
- For record keeping and reference

Once an issue is resolved, the item is noted as 'resolved' for one period, usually weekly, The following week the item is removed from the list.

- Requisitioning
- Owner

  Requisitioning to the owner should occur monthly on or about the first of each month. The documents and or contract may specifically define the requisition schedule.

  The requisition is typically submitted with all contract required support literature and can be produced in several formats as indicated below.

  A) Cost Plus

  The requisition represents the actual costs-to-date incurred on the project including the general condition's information from the monthly cost report and payroll, and, ultimately the requisition becomes a derivative of the exact accounting records.

  As a minimum, on a monthly basis, the accounting records should be reviewed and the information documented is transcribed to the application for payment document.

  B) Lump Sum
  The most common contract is in the form of a lump sum. The requisition reflects the actual bid values.

  The requisition is based on the percentage complete in each trade.

  Subcontractor backup may or may not be required.

  Percentages should be reviewed with architect or owner before formal submission or as soon as possible after submission, to confirm agreement in amounts applied for avoiding delay in approval for payment.

  C) Guaranteed Maximum Price
  The owner is aware of all trade contracts and will want to see the 'buyout savings' line item on the generated form the purchasing effort.

  General conditions can be submitted in a summarized format.

  1. Buyout saving is the contractor's money during the construction of the project, covering items of scope that are generally inferred and not appearing in any specific trade line item. At the end of the project, when all costs are accounted for and paid, the remaining balance of the buy out savings is returned to the owner by presenting a final deduct change order.

  Change Orders:

The architect on standard AIA documentation typically prepares an owner's change order.

Once the CO form has been signed by the owner and/or architect, the project manager is allowed to bill for the approved items.

Once the requisition is prepared and verified, three copies must be signed and notarized.

Typically, the requisition is forwarded to the architect. Copies of the requisition should go to the owner, project accountant and controller as well.

- Subcontractor

Subcontractor Requisition:
Each Subcontractor, and most vendors, is required to submit a formal requisition.

Typically, when a purchase order is used in lieu of a contract, requisition is not required; the vendor invoice is acceptable.

The subcontractor requisition is due approximately 2 weeks before the owner's requisition. That is done so that there is ample time to revise the request if backup is required for the owner.

Upon receipt of an **invoice**, the project manager is to verify the work has been completed or materials received, sign the invoice as confirmation, code or identify the invoice to match the item of work it becomes associated with on the project and forward the original to accounting for processing.

Upon receipt of the **requisition** from a subcontractor, the project manager is to verify the contents. The following most be correct:

- contract amount,
- the amount billed is equal to the amount completed,
- confirm what has been paid to date or scheduled to be paid,
- verify change order amount,
- confirm insurance certificate is dated for the project,
- performance and payment bonds have been received and are on file,
- The contract has been received and executed.

Upon receipt of funding, accounting notifies the project manager by forwarding a copy of the check for their files. Accounting and project manager should again meet and review what information, if any is missing. If information is missing, it is the responsibility of the project manager to secure. If all paperwork is acceptable, the accountant will proceed with the process of cutting checks. Once checks are available, the accountant notifies the project manager to confirm that the release of checks to all payees is prudent or if a delayed payment is required.

Stored Material:

When a subcontractor invoices for stored material off site, the following items are required,

- Verify payment for stored material is contractually correct.

- Proof-Site visit, photographs, video, shipping manifests are in order

- Bill of Sale- stating the material belongs to the owner once payment is received. This enables the owner to claim material should the subcontractor face financial problems.

- The bill of sale shall state the following information:
  -The name of the subcontractor
  -The name of the storage facility if other than subcontractor's yard
  -What is the material and how is it marked (i.e. job name and number on steel) if possible

- Insurance certificate for Storage facility and courier

  UCC-1 Filing - The UCC-1 filing is a requirement of some owners or lending institutions. The filing is with state and local municipalities and produces a public record of the sale. The responsibility and fee of the filing is with the subcontractor/vendor and a copy of all paperwork should be forwarded
  - Stored Material Billings
- Cost Control
  - Maintaining Cost Report

    Each month, each project manager must coordinate the financial information provided by their accounting department or monthly cash records and summarize them into a report that anticipates and predicts the outcome of the project. This report should be submitted to the head of the company for their review and approval. Success or failure of a project can happen quickly, when project costs run out of control. Be mindful of this very important procedure.

Step	Action
1.	Immediately following the close of the month cost review create the report that you intend to submit. Collect all of the accounting records, including payroll.
2.	Given the information contained in the reports, update the worksheet program that you created at the start of the project, or have been maintaining throughout the project. Today many companies are using computer project management software to control cost and management activities, if your company prescribes to these applications, keep them current.
3.	Presumably if you have made a conscious effort in maintaining the cost information accurately, the summary data will be concise and easy to understand, therefore, usable and predictable.

- Change Management
  - Cost Events / Work Authorization
  - Owner Change Order

    Cost Event Letter

    The owner and or architect may require extra work by issuing a written or oral directive. The contractor must advise the Owner/architect immediately if there is a possibility of a cost or schedule impact. The time allowed for this notification varies with contracts, therefore, it is very important that you are familiar with the language of the contract documents in administering to the contract.

Change Order

The generation of an Owner Change Owner is done in response to this request or directive that asks for additional work or modifies the existing construction design. Clear direction must be given by the owner/architect as to the design change and the contractor needs to understand the scope of the change before proceeding. Once this is clear, the contractor (with their subcontractors) can provide an estimate of cost for review and acceptance by the owner/architect.

Once approved the work of the change can be initiated.

- Subcontractor changes
- Field Operations
- Superintendent Daily Reports
  For record keeping and informational purposes, the project manager requires the superintendent or field engineer to submit daily reports indicating:
  - Date
  - Day
  - Weather / Temperature
  - Manpower
  - On site contractors
  - Visitors
  - Description of work performed that day by subcontractors and Beacon craft
  - Items for Project Manager's Attention
  - Field Instructions Received
  - Rental Equipment

  Upon completion, the report should be forwarded to the Project Manager for review and understanding the progress and activities of the project.

- Quality Control
  In the desire to service the owner, and provide and deliver a top quality project, quality control is essential. Ultimately, the field superintendent is responsible for checking each subcontractors conformance to shop drawings, design documents, material deliveries and or erection/installation requirements.

  Should nonconformance or errors be found, the superintendent must notify the subcontractor (s) involved that corrective work is required and follow up until all work is completed satisfactorily.

  Should resolution not be completed to the satisfaction of the superintendent, the superintendent must put the subcontractor on written notice. The notice should be forwarded to the PM also to enable he/she to support the support the completion of the project.

- Safety
  This is a most serious area to manage. Accidents that are simple and considered natural, a minor cut, a fiber in the eye or a twisted ankle can put a worker out of work for hours or days and affect the timing of the project. More caustic occurrences such as a pulled back, bang to the head and deep cut can result in the loss of a man for the duration of the project, damaging your companies

credibility. A tragedy on the jobsite would have serious ramification for a company, or even mean the end of a company.
The company may be viewed as not attentive to worker safety, a possible violator of OSHA regulations, susceptible to major penalties and fines and again the demise of the company.
What worker's think about after an accident, the recovery time to regroup your team, how you handle a crisis situation, additional costs to your operation, industry perceptions and insurance company investigations are clearly issues that require careful, factual documentation.

- Shut down operations until your executive or a principal representative of your company arrives onsite and organizes the investigation. His approach may include:
- Interview everyone onsite at the time of the incident
- The interviews should be witnessed, followed by a repeat review session recalling the accounts of the incident
- Have each person interviewed prepare a chronological detailed account of the incident as they know it
- Have any individual worker or team member at the site of the incident, or in the closest proximity of the incident write a chronological account of the event as they know it
- Focusing on the oral interviews in the short term, decipher what is relevant, and non-damaging, work with your executive in preparing a statement of the incident only addressing the facts, as they are known at this time. Announce to the press or others that no information can be released based on assumption or supposition. Never release names of injured or involved individuals.

- Once organization has returned to the jobsite, begin preparing a binder that includes all of the materials that were gathered.

Focus: You must be completely focused on this accident,

- release no information about the accident and,
- discuss nothing with anyone except you immediate supervisor
- Politely excuse yourself from contact with the Press Corp or anyone outside of the company population.
- Use expressions that are informative, by lettering outsiders know that you are investigating the situation and,
- That as soon as you know more, "all of the facts" you will be prepared to make a statement.
- Providing incorrect information in a formal statement can potentially be damaging to your company.

- Equal Employment Opportunity Program

This is a company policy and rarely managed by the project manager. Language that addresses this policy will be included in the general conditions of your subcontractor's contract. You will be required to assure your company that the practices that your subcontractor is making meet your company's standards, and the standards of the public agencies we serve.

- Resident Requirements

Of growing interest when public monies are used in construction or if the project that you are to begin has tremendous public interest. Recent trends of cities are in an attempt to copy HUD section 3 requirements, in a more stringent way. These requirements strongly suggest that the contractor establish a training program for local workers, then to implement the program on their project. The area from which the workers will come is called an empowerment zone.

- MBE / WBE

When these requirement are imposed on a project, based on the percent of the contractors total contract amount, minority and women enterprise subcontractors must be employed. This process is generally secured during the bidding, pricing process. A good estimator protects their bid by seeking out participants and includes them on bid day.

The project manager, with support from a compliance officer, prepares logs to monitor the monthly information that is a requirement submission to regulatory agencies. The forms maintained by the project manager are a compilation of the information collected from each subcontractor.

Miscellaneous Forms used to preparing and reporting information are listed for explanation and clarification