

Field Based Project Management

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Four Critical Areas of Understanding

- Sales, Marketing and Estimating
 - What makes your company unique?
 - Are you the preferred supplier?
 - How loyal are your customers?
- Financial
 - Making your numbers work for your job
 - Understand all the cost categories and what it takes to make a profit
 - Know your financial and production position each day
 - Your job financials, budgets, job costing, estimating have to tie together
- People and Production
 - Finding and keeping good people is a challenge unto itself
 - Journeymen
 - Foreman and superintendents
 - Project managers
- Safety
 - Safety is a primary responsibility
 - A safe job equals a productive job
 - Safety is good business

Keep It Simple

If supervisors are not careful, they can over complicate their jobs and fail to get the fundamentals correct. Here is a basic checklist of some things you can do:

- **Raise Standards:** Don't except mediocrity, however be careful of the analysis paralysis. Sometimes in action is worse than a bad decision. If you eliminate and/or upgrade many of your problems will disappear.
- **Strategic Job Costing Review:** A small percentage of your activities cause most of the problems. Learn which of your activities provide you the biggest payback.
- **Business Structure:** Foreman need to build a structure that fits their needs and personality, rather than let the structure just "happen". For many foremen, having a two key people that you can count on and will tell you the truth are critical.
- **Set crews:** It is impossible to hold your people accountable if you are constantly shifting people around.
- **Days and hour goals:** Your workers must be told hours/production rates and asked to hit the targets.
- **Identify Winners:** You must identify which workers will perform, won't perform or can't perform.
- **Influencing Skills:** You must learn how to effectively communicate and deal with negotiations, sales, conflict and also be able to influence workers, suppliers and other stakeholders to perform.
- **Systems:** We need basic but simple systems for communicating to the crews, job set up, ordering material and things that are routinely required. These systems need not be over complicated. There purpose is to allow everyone to see and understand what is going on with jobs even if they are not present

These are some of the basic areas we should target for productivity improvement.

Day to Day Realities

- Five reasons jobs make or lose money
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
- Jobs Don't go bad on the last day
- Rarely does only one sub-contractor make money
- You have got to understand your production rates
- Estimator's job is twofold
 - Sell the job to the customer
 - Sell the job to the production team
- The PM's responsibility is to assist and manage job site conditions so that the foreman can meet or exceed production standards. In general the PM is the leader of the project.
- The foreman's responsibility is to meet or exceed production and to inform management of changes in job conditions.
- Street Rate Vs. Industry rate Vs. Internal Rate Vs. Production Rate
- Learn to say NO. Don't become part of someone else's agenda
- Know the rules and how all players make money
- We have got to be assertive and customer oriented
- Ask questions up front and get clarifications
- If the GC or CM is not running the job then you must take a leadership position don't let things just happen
- Test your production rates early for accuracy and document

Customer Types

- **Construction Manager**
 - Scheduler, process implementer, group in charge of project
 - Most cases they look after the owner's interest
 - They usually do not self perform but do provide the documentation function
- **Owner**
 - The individual or group which has the vested and financial interest in the building or project, they are the end user and who the building is for
 - The value buyer... the person who ultimately controls the purse strings.
 - The one entity where quality and performance is a real issue
 - The owner is the ultimate decision maker and can override decisions if it is in his or her best interest

Owner Agent

- The go-between among the owner and the contractors
 - Hired to look after the owner's best interest via price, quality, and what the owner deems important
 - Could be technical or non-technical in process, i.e. architect or engineer
-
- **Mechanical Contractor**
 - Prime contractor
 - In some parts of the country we often work within the scope of their estimate, and our contract is with them.
 - They can be the source of the money for us
 - **General Contractor**
 - Can act as construction manager, but traditionally provides more than just project management, many times they self perform functions

Types of Contracts and Project Options

TYPES OF CONTRACTS

Firm Price Contract

- Open or select bid list
- Low price gets the job based on quoting to a set of specifications and drawings

Time and Material Contract

- Work is billed on an itemized basis
- Requires documentation and justification

Negotiated Contract

- Owner has a preferred vendor
- Usually a budget and/or fee is established

GMP Contracts

- Similar to negotiated plans may or may not be available
- The pricing can be asked for before the plans are completed

PROJECT OPTIONS

Plan Spec

- Contract price is based on specifications and drawings provided

Design Build

- Contract price and design is mutually agreed upon
- May or may not be involved in the design team

Design Bid

- Design is developed by others and then a firm price is given

Design Assist

- Assist with the design and you may or may not be involved in the construction of the project (typically not desirable)

Providing and Getting Feedback

Reactive vs. Proactive

- *Reactive is waiting for it to happen*
- *Proactive is making things happen*

- **Be Proactive**
 - Showing up on the job builds trust confidence and improves your knowledge
 - Constantly go over the estimate and job information with estimator and PM staff to insure proper procedures and accuracy. Learn and take a positive approach – don't place blame.
 - Learn and improve. Always look for things that may have been missed and look for things you may be able to improve
 - Catch mistakes and improve communication, look for ways to improve production
 - Know beforehand what you own and what you are responsible for.

- **Early and constant**
 - Develop a three-week look ahead plan, and insure that it is used, and a one-week look-behind report to monitor and improve the job. These are simple tools that can keep the job moving in the right direction.

- **Real world**
 - The lack of specifications, details, plans, and slow response to information make it difficult to stay ahead.
 - Make an effort to set current and real production numbers. A ten minute phone call can tell a lot.
 - Jobs don't lose money on the last day - they usually start on the wrong foot. If errors are caught early many times they can be corrected and the job has a chance to become profitable again.

- **Build team and communicate**
 - Insure that your production team communicates don't assume anything.
 - Develop a good core of people around you and train them.
 - Good communication helps insure a profitable job.
 - Demand open and honest information – “do not shoot the messenger”.

Exercise 1

What was your worst project?

Describe the situation you were in where you had a project which turned out to be a real loser.

What specifically caused this to happen?

How can you avoid from making this or ones like these again?

What was your best project?

Describe a situation you were in which you had a project which turned out to be real winner.

What specifically caused this to happen?

How can you duplicate the success again?

Self Management

Time is an unusual asset. We all have the same amount of it, it cannot be stockpiled, and we never seem to have enough of it. While we can at length discuss options and methods for better management of our time, our ultimate success is driven strictly by our acknowledgment that we are masters of our own time. The following overview identifies the basics of better time management:

- activities tend to expand to the time available.
- paper and pencil are essential tools.
- step one is to analyze how time is currently spent.
- step two is to commit to changing habits and practices.

Change is required and usually entails:

- eliminating time wasters and low priority items.
- being more effective and performance focused.
- delegating.
- long term success includes thinking, planning and personal time.
- prioritization.

Simple but effective planning and discipline provide time savings. Complexity and time constraints are a reality, success is in the acceptance and management of the problem.

A common trait of successful people is prioritizing and getting the important

Task Lists

List What do you do? Seems like an easy thing to remember, quite the contrary. Take a moment and list as specifically as possible all of the things you have done in the last few days.

Example:

A. Priced change order.

B. Got prices from supplier

C. attended safety meeting

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

Identifying How You Spend Your Time

On the previous page is a time card we have designed to help you identify your current activities. Be as specific as possible. It will be a lot harder to remember specifics than you might think, therefore we encourage you to actually keep a time card on yourself.

Once you have identified current activities, you will need to evaluate your time using the following criteria:

- * **Hourly value:** Assign an hourly value beside the activity to determine its cost effectiveness.
- * **Delegation Possibilities:** High for easily delegated, Medium and Low, etc.
- * **Importance:** Rate each one by High, Medium and Low in importance.
- * **Strengths or Weakness:** Put an **S** or **W** by areas for identifying your personal strengths and weaknesses.
- * **Likes and Dislikes:** Put an **L** by the tasks you like and a **D** by the ones you dislike.
- * **Job Effectiveness:** Circle the items where focusing will have the greatest impact.

Time Waster

Time wasters come in many forms and varieties but generally can be categorized in two types: individual and environmental.

- **Individual Time Wasters:** Personal time wasters are areas where we have direct control of our own destiny. They usually center around our likes, dislikes, habits, personality, etc.
- **Environmental Time Wasters:** Environmental time wasters are harder to control and focus on issues other than ourselves. They can be caused by co-workers, acts of God, systems, bosses, suppliers, etc.

Specific time wasters are:

- **Disorganization:** Some people are disorganized by nature, others simply have never learned effective organizational skills. Two major sources of disorganization are:
 - ◆ Ineffective Work Areas
 - ◆ Poor paperwork management
- **Procrastination:** Some individuals by nature procrastinate. Rarely do procrastinators make good managers. One common trait of effective supervisors is a sense of urgency.
- **Interruptions:** Interruptions can be a source of inefficiency. Some interruptions are inevitable but learning to control them can be a key to improved efficiency.
- **Lack of Self Confidence:** Studies have show that there is a tendency for an insecure manager to simply take no action and wait to see what happens.
- **Meetings:** Meetings can an effective way to communicate with a group or a great way to waste great deal of time all at once.
- **Crisis Management Versus Crisis Prevention:** Failure to plan and avoid problems can create a constant fire fighting need which destroys any hope of being effective.

All of these areas can affect the ability of a manager to get things done.

Focus on the Important

We can't control everything, trying to control everything is futile and creates tremendous stress.

- What we can control is our choice of action.
 - **What we do first, second, third and the emphasis we put on it.**
 - We can not control the consequences of our actions.
 - “For example we make sure that our material order is in on time, but we can't control if the order is delivered. “
- In order to stay focused we need to concentrate and stay focused on the **outcome**.
 - The outcome is what you need to accomplish.
 - A very important aspect you want to ask yourself is why do you want to accomplish the outcome? What will the results be?
- What is your purpose for doing it?
 - Why do you want to do it?

How will this outcome help you?

Develop an action plan.

- List what you need to do.
- Chop the list into to small bites so that they are manageable this will allow you to break the action plan into manageable pieces so it is more manageable and easier to accomplish.

Take an Active Role in Meetings

Kick-off meeting

- Is the transition from the estimator to project team?
- During the kick-off meeting knowledge of project is passed from those who estimated the project to those who will build the project.
- In this handoff it is important to Include all relevant project information that the production team needs to hit your production rates.
- It is important to pass all applicable information to the production team. Don't assume that the production department understands the estimate in many situations it may be the first time they have seen the estimate.
- Running a good kick-off meeting is a process and if you follow the process your chance of having a profitable job increases

Project meetings

- Is a timely meeting to inform critical personnel as to status of project and to adjust and correct productivity issues as needed. This meeting needs to be proactive and be future focused. The goal of the meeting is to keep or improve the projects profitability.
- Insure project is on schedule, and if not then develop a new schedule to get project back on track.
- If you attend project meetings take an active role in them.

Postmortem

- Did the job hit the target?
- Review all Jobs the good, the bad, and the ugly.
- Avoid placing Blame, use this as a learning tool and a way to sharpen your estimation skills.
- Review good jobs as well to see if your company has improved production standards and rates.
- Update your production standards after every post mortem.

47 Steps to a Profitable Job

1. Provide a narrative of the job, your price along with competitors prices (How do we look?) If yes than what? If not than what?
2. Provide project specifics: inclusions exclusions, stuff, the weird, etc.
3. Your initial estimating concept?
4. Your money saving ideas: list
5. Why this is a good job?
6. Provide the contract with details
7. High light specifics in the contract
8. Concerns or issues with contract, who signed it, when can we start?
9. What type of contract?
 - Firm Price
 - Time and Material
 - Negotiated
 - Guaranteed Maximum Price
- 10. What type of contract does our customer have and how will they make money and measure success?
- 11. How will we make money?
- 12. Will this be an aggressive job? Or a passive job?
- 13. Any other contract items that may cause concern or seem unfair?
14. Plans and specifications
 - Problems omissions with engineering or other
 - Any gray areas with plans, estimate the percentage complete?
 - How many sets of plans?
 - Does the field have a complete set, and have a copy of the estimators set?
 - Electronic files? How about CAD? How about BIM?

47 Steps to a Profitable Job

15. Alternatives

- Last minute changes
- Have the alternatives been provided to the field and shop
- Have all the last minute changes been included?

16. Scope Letter

- High light and go over inclusions and exclusions, and provide copy.

17. Explain project perceptions, concerns and concept for hitting target

- Discuss the opportunities and ideas for increasing productivity. (Be creative)
- Explain all the pitfalls and open up discussions for overcoming these pitfalls
- Any PINK ELEPHANTS?
- How will we determine quickly if we are tracking correctly?

18. Does the field know how many hours they have to do the job? Are they in agreement? If not why and what do they think it should be?

- Discussions should get heated

19. 20. Field Labor

- What if anything could effect it?
- Do we have the right people to man the job?
- Your estimated production rates
- Project duration, crew size, peak crew size, crew mix
- Has the BA been contacted?

21. How will we measure production?

Do the production rates make sense?

47 Steps to a Profitable Job

22. List all your subcontractors with their scope and contact information
23. List all subs on project with contract information
 - Who will make contact with them and when?
 - Have we worked with them before? How would we rate them?
24. Equipment and Material
 - List equipment with suppliers, phone numbers and expected delivery dates
 - List potential problems, IE storage, delivery
 - Are there any equipment alternatives? If so what? If so when will we know?

WHO IS RESPONSIBLE FOR MATERIAL TAKEOFFS AND INSURING THE EQUIPMENT IS ACCOUNTABLE FOR?

25. Are there prefabrication opportunities? When will we know? Who is responsible? Can we save \$\$ if we do? How much?
26. Do we have the current schedule of the project?
27. Do we have the bid day schedule? How do we handle the difference and will this effect our production?
28. Estimated start dates, benchmarks, completion dates, addendums
29. Who is required to submit schedule, how often and by whom?
30. What are the incentives and damages for performance and non-performance?
31. How will we handle out-of-sequence work? By us or other subs or mandated by the GC or CM?
32. Does the field and shop have a current copy of the schedule? Who will insure that the field and the shop continually get schedule updates?
33. What are the tool requirements for the job? List
34. Does the field agree?
35. Any special lifting devices?
36. Any special order tools?
37. Who is responsible for insuring proper usage and a good ROI?

47 Steps to a Profitable Job

38. Any special safety considerations? Does the field have a copy who is responsible for administrating and documenting?
39. What are the documenting protocols? Job logs, etc.
40. Any weld testing requirements?
41. Special inspections?
42. Delivery and parking requirements?
43. What are the other site logistics such as, parking, lunches, smoking, breaks, storage, trucking, delivery?
44. What are the job close out needs?
45. What are our commissioning responsibilities?
46. How will change orders be handled?
 - What is your internal strategy? Who will be the good guy and who will be the bad guy?
47. Is there any reason why this job will not make money or hit the number? List?

Project Meetings

- During project meetings keep things simple and future focused. The goal is not to place blame but to meet and exceed the goals of the estimate.
- Jobs get behind schedule and lose money for several reasons.
 - Missed the estimate
 - Production not hitting the benchmarks or milestones
 - Change of scope, improper scope or change in specifications.
 - Acts of God
 - Changes in job site conditions
- Project meetings allow everyone to learn and determine what is right/wrong and help the job move forward in a positive fashion and identify potential opportunities.
- Have the field fill out form copy (next page), with a copy for the Project Manager and the estimator. This helps to ensure the estimate is accurate. If everything is status quo, the job should be on track.
- The project form, a set of marked plans, and production meeting provide an accurate up-to-date production picture.
- Insure the estimating team receives accurate meeting minutes.

Sample Project Meetings

Job Progress Meeting

Manpower: Will you need more or less people on the job?

Additional Tools/Lifting Devices: Will you need any additional tools you currently do not have, or do any present tools require maintenance or removal from the job?

Material: Is adequate material on hand or verified for delivery?

Areas: Are work areas and the job site ready?

Anticipation: Is there any reason why this job will not be completed on time and/or within budget?

Running Your Team

The leadership skill sets that today's field leader must attain can be a learned skill. We have found that rarely does a field leader achieve high standards in all the skill sets, but through practice and determination they can improve.

- **Consistency and integrity**
- **Self-Awareness**
- **Walk the Talk**
- **Admit your shortcomings**
- **Coach, train and mentor**
- **Make your intentions known**
- **Create a positive environment**
- **Be Honest**

Communication Basics

A company's efficiency depends on the quality of its communication. Supervisors and managers must continually work to improve their communication skills.

- **Frontline**
 - Frontline supervisors are the gatekeepers of communication within the organization.
 - They are the company's link with upper management, employees, and customers.
- **Management**
 - It is not a worker's responsibility to figure out what the supervisor (sender) communicates.
 - In reality, there are no dumb workers, just poorly communicated messages.
- **Communication Gaps**
 - The largest gap in communication occurs between the office and the field.
 - This problem intensifies when the only time the office and field people talk to one another is in a problem or crisis situation.
 - All organizations suffer communication gaps.
 - The larger the organization, the greater the probability of a communication problem.

Only by working to improve communications can a company avoid problems. Since organizations constantly evolve, this is an ongoing practice.

Types of Communication and Misconceptions

There are many systems of communication. The four basic modes of communication are:

- **Symbolic or Judgmental**
 - Clothing, grooming styles, vehicles, height, age, etc.
 -
- **Verbal**
 - Information passed on through content and tone
- **Non-Verbal**
 - The Quiet Communicator
 - Facial expressions, posture, subtle gestures, etc.
- **Written**
 - Documentation and data preservation

Misconceptions

- **Words are precise**
 - Words are not precise.
- **Technology is always accurate.**
 - People operate technology and there are margins for error.
- **Talking and listening dominate communication**
 - There is more to communication than just talking and listening.
- **Open communication is best.**
 - Politics, individual ego strength, and the need for straight forwardness dictates appropriate openness.
- **Communication does not solve all problems.**
 - Communication identifies problems.

Communication is a complicated subject.

Self-Communication

1. Take a moment and list by who and who you were taught to communicate (your parents, first boss, coach, etc):

2. Think of someone you have a close relationship with; wife, girlfriend, children, brother, sister, etc.
 - a) What positives things to they say regarding how you communicate?

 - b) What might they say you need to improve?

3. List all the training programs, classes, courses and other things you have formally done to improve communication.

Communication Realities

Traditionally three factors impact how people communicate:

Habits: Our parents, bosses, teachers and friends all taught us how to communicate. This is why someone who grew up in a ghetto will communicate differently than someone who attended prep school. No matter whether people communicate well or poorly, their patterns and style will vary.

Personality: Just like some people are short and some people are tall, we all have individual personality traits that makes us who we are. While we may have difficulty in actually seeing this personality, it makes it no less a part of us.

Skills: Some people have learned skills that enable them to be better communicators than others. However, many of these skills have been learned through trial and error during actual job and life situations. *Example: a waiter or waitress that has learned that by being friendly and listening to ensure the order is correct; he or she will make more money.*

Personal Versus Structured Communication

For training purposes, we will combine communication into two formats:

Instant or Personal Communication: Most personal communication issues are instantaneous. They are driven by our habits, emotions and responses and are reactive by nature. Personal communication can be very difficult to change, as it is spontaneous and intuitive.

Communication Realities

Rules of Timing: Timing has a huge impact on communication effectiveness. Learning to use timing to your advantage will improve your communication skills.

Rule 1: Least emotional person wins: Try not to immediately “react” to an emotional situation. Calm down prior to responding.

Rule 2: People love to bitch: It is human nature to blame the problem. By forcing “future” oriented conversations, you are focusing on solutions.

Rule 3: Think and plan first: Never start spur of the moment conversation on major issues without a chance to organize your thoughts.

In summary, by focusing on structured communication we can downplay and overcome our personal communication impulses.

Managing Phony Feedback

Customer and company perceptions frequently differ. A pattern that can develop when forcing conversations with topics that are unpleasant or uncomfortable is the tendency to reply with false or unrelated circumstances.

Phony Feedback: is a preprogrammed defensive posture that is reactive in nature. While not hostile, it is very personal, as it confronts your sense of fair play and values and thereby sets the groundwork for taking things personally.

Tip-Phony feedback is always presented in a personal manner and designed to take advantage of your character and sense of values.

Examples of phony feedback:

Scenario 1: Your 12 year old daughter, Sue, wants to go to a party at her friend's house, who has a somewhat wild high school sister and who will also have friends over. You don't know these people, and while the parents may or may not be home, it is a very large house and you are concerned. You have said no, but the your 12 year old does not accept the answer.

Scenario 2: You and your wife live out of town. Both of your parents want you at home for Thanksgiving dinner. You have made a decision to alternate visits every other year but your Mom is playing unfair and beating you up on this.

Scenario 3: One of your lead people, Mark, is late at least once a week. However, he is your hardest worker, his jobs always come in under budget and is always willing to stay a little late off the time clock. However, his being late is an issue, as others look up to him and a helper must wait for him.

Scenario 4: One of your long-term workers, Joe, has had attendance issues. His wife left him. You know he has two kids to take care of and one of the children is having problems at school and was caught with drugs. You also know he is having financial problems. Joe has missed 11 days in the last month.

The Value of Taglines

Learning to develop preprogrammed responses

Worrying about or thinking about what to reply can be frightening to many people. The simple truth is that we do not have to think, we simply have to defuse the other parties verbal assault. Taglines can be an excellent way to do this:

Taglines: A tagline is a non-emotional response designed to diffuse the “emotional” nature of the conversation. For convenience, we have created some standard taglines you can use:

Acknowledgement lines: We all want to be heard; certain lines help the person feel you have at least heard their position:

- “I can appreciate how you feel, however....”
- “If I were you, I might feel the same way, however....”

Character lines:

- “This isn’t like you and we need to ...”
- “You are one of our better people and...”

Strength lines:

- “You are seen as one of our leaders and....”
- “You have so much potential and...”
- “You are such a great craftsmen and....”

Tip-Try to avoid the word “but”, as it is judgmental

In summary, the basic formula for a tagline is to acknowledge the person’s position, character or strengths and then come back to the issue at hand.

Practice Sessions

Scenario 1 The GC's superintendent at the hospital job called you and told you that he is upset with one of your guys "John". When you ask him what happen he just tells you that John was not working safely. When you talk to John he said that the superintendent was wrong. John is one of your best and most productive workers. How can you diffuse the situation?

Scenario 2 The carpenter foreman and your one of your best guys go into an argument over scheduling issues. The carpenters put up their framing before we could get onto the floor. This has affected your production rates. When you go to the GC he just says work it out, and really does not care. You know if this trend continues than it is only going to get worse. The carpenter foreman is a real hot head. How can you diffuse the situation?

Scenario 3 Your PM is not doing his job, and you have to pick up the slack. He has a lot on his plate and lacks the experience, but this is affecting your ability to meet deadlines and beat your production rates. He is nice guy but you can see that if this trend continues that you will get further and further behind. How can you diffuse the situation?

Scenario 4 One of your guys what caught smoking in a designated no smoking area by the superintendent of the GC. Your guy has always been loyal and he is one of you most productive guys. Your worker has gone through a rough patch. The GC could throw your guy off the job. How do you diffuse the situation?

Scenario 5 You just finished a job where you and your PM did not get along. You are positive the feeling is mutual. You just found out that you will be working together again. What can you do to diffuse the situation?

Scenario 6 The GC asked you to do an extra and that he would pay you. He now says that he did not ask; you are now out that time 1000 hours, and your boss is upset. How do you diffuse the situation with the GC?

Scenario 7 You are working with another foreman at Southland who is a nice guy and hard worker, but he is the most disorganized foreman you have ever met. You know this will effect the job. You are now going to talk to him and see if you can improve things?

Scenario 8 The customer has asked you to donate some of your time to cleanup. The job was bid very tight and you know there is no extra time. You also know that you want to stay on the good side of the GC. Your afraid your PM will give in to easy and you know you will go over on hours. How do you diffuse the situation?

General Paperwork Requirements

Regardless of whether a project outlines a minor renovation or details a brand new building, when finished, the project will have a sizeable amount of documentation. Each project goes through the same creation timeline, including initial design, documentation bid, construction documents and As-Builts. There is no way to anticipate the number of revisions that will take place during each stage. Knowing this, the Architectural Services Department is only concerned with the final As-Built drawings and documentation, since all other revisions never went into construction. These standards were created to help control the information submitted at the end of a project and defines what happens to that information during the archival process.

Documentation Distribution Flow Chart:

There is no set amount of paperwork that will result from the close out of a project. However, to get a general idea of the type of paperwork that will follow, see the information below. The actual size of the project will have a direct effect on the amount of documentation.

- The project manager for the respective project is in charge of collection all documentation from the consultant or contractor and then responsible for delivering them to the appropriate areas.
- Project documentation includes, but is not limited to:
 - O&M Manuals (standard request - 2 copies)
 - Warranties (standard request - 1 copy)
 - Specifications and Addenda (standard request - 2 copies)
 - As-Built Drawings
 - Hardcopy (standard request - 2 copies)
 - CD with PDFs and AutoCAD Drawings (standard request - 1 copy)
 - Certificate of Occupancy (standard request - 1 copy)

Sample of the Paperwork Requirements

Change Log: There's a million ways to change a project. Be sure to log each change you make, so you can be sure that your project is always looking its best. In a world of endless choices, it's important that you only make the best ones. Be sure to log all project changes, and validate each and every one of them. It helps keep your processes organized, and failing to do so puts you and your organization at risk of making critical mistakes.

Change Request: Unplanned project changes are necessary in every project. However, some changes are great, but others aren't. By formally submitting a change request for each change that comes up in a project, you can make them much more manageable. Filter out the bad ideas, embrace the good ones, but keep all of them organized.

Duration Estimate: You don't need to be a rocket scientist to calculate durations. Ensure the success of your project by having a planned methodology for estimating and cataloging durations. Accurate duration estimating is important for developing an accurate project schedule and finishing a project on time.

Implementation and Migration Plan: The Implementation and Migration Plan is a key document you'll want to add to your project management tool box.

Issue Log: Don't just sound-off about your issues! Log and validate, then act on the valid issues. Issues will arise during your project. Maintain a written issue log to document and monitor all issues. Be sure issues are resolved by their target date, or escalated if necessary. Don't let unresolved issues bring your project down.

Meeting Agenda: A well run meeting starts with a well planned meeting agenda. Have you ever been frustrated because a meeting agenda was sent out 30 minutes before the meeting was scheduled to start? Or not provided an agenda until you arrive at the meeting? It's difficult to know what to expect during a meeting and to prepare for the meeting if you don't have an agenda well in advance of the meeting. Typically a meeting agenda should be distributed one week prior to the meeting - or at least a minimum of two days prior to the meeting.

Meeting Minutes: A well executed meeting ends with prompt and clearly documented Meeting Minutes. A skilled and successful Project Manager always has meeting minutes prepared and distributed within 24 hours of having a meeting. Project meeting minutes not only summarize what was discussed and agreed upon during the meeting but also includes a list of action items. It is important that the action items are documented and distributed quickly so the assignees have

Sample of the Paperwork Requirements Cont.

enough time to follow up on their action items or ask for clarification.

Milestone List :As a significant point or event in your project, all project milestones should be listed and tracked. Milestones are a good means to determine if your project is on schedule and a useful tool for reporting to management.

Performance Report :As a project manager, it's important to show your manager just how well and streamlined all of the processes under your watch are running. Let the "higher ups" know that everything is okay, and that you're performing at your best.

Project Budgeting Requirements :Knowing exactly what your budget requirements will be, before you even get started, is extremely important to the overall success of a project.

Project Scope Statement :The Project Scope Statement provides a baseline understanding of the scope of a project to include the project's scope and deliverables, the work required to complete the deliverables, and ensure a common understanding of the project's scope among all stakeholders.

Quality Checklist :Quality doesn't just happen, it's a product of proper project management. Use a quality checklist to ensure quality is planned into your project. A lack of quality control makes it impossible to guarantee quality in your projects. By implementing a Quality Checklist for all your projects, you can "check" each item off as you develop your project plan. Rest easy knowing that you have all of your bases covered!

Quality Metrics :It's impossible to recognize quality if you don't know what it is in the first place. Define your Quality Metrics before starting your project. Quality Metrics help you translate your clients' needs into measurable goals. It's critical that you define a set of quality metrics during your project's planning phase, so that you and your team know exactly what you need to get done.

Sample of the Paperwork Requirements Cont.

Service Improvement Plan :The Service Improvement Plan is a plan and road map for improving service levels; e.g. if service levels are not attained or if service levels have to be changed. It is based on service level review, and customer and Service Level Management Process improvement suggestions.

Statement of Work : A Statement of Work (SOW) is a very powerful project management tool. Putting a bit of time into creating a detailed SOW will help to ensure that work is being performed according to your specifications and expectations. By clearly defining the work to be done it is more likely that the work is completed according to the project plan.

Court Case: General Contractor vs. MEP

We have come to an impasse the MEP is asking for a 20% increase in labor because the job conditions have changed. The general contractor says no. Both parties have asked the court to decide the case and their decision is binding.

- The general contractor said the mechanical contractor should have known that this was going to happen and they should have planned better.
- The mechanical contractor is late getting to the job because the outside engineer was late getting the final engineering to the mechanical contractor.
- The GC ordered the equipment and it was late getting to the job, which forced the mechanical contractor to work at an accelerated pace.
- This was the first job that the GC has done with the mechanical contractor.
- The GC's PM is new to the company
- The carpenters pushed the schedule which forced the mechanical contractor to work out of sequence to keep up.
- The mechanical contractor shop foreman took a leave of absent at a critical time during the job which slowed shop production.
- The owner had some design changes in the job which affected and caused the equipment spec to change
- The GC had a safety inspector who was a stickler for detail.
- There was an unexpected monsoon during a critical phase of the project which slowed everyone's production.
- The mechanical/sm company got new scheduling software during the project.

GC Players

1 superintended

1 Project manager

1 Expert witness

1 lawyer to try case

MEP Contractor players

1 foreman

1 Project manager

1 Expert witness

1 lawyer to try case

1 Judge to try case

3 jury members to pick to winner

Rules

Each side gets 2 min. for opening statements

Each side gets 5 min. to question opposing side

Each side gets 5 min. to question own side

Each side gets 1 min. for closing argument

Judge can make judgment call and has control of the court.

Jury makes decision and gives a brief summary on why and how they came to the conclusion.