

Project Pre-Planning

Profit Happens Here - We Understand That



36%
Other
Activities

64%
Actual
Installation

Increase Labor Productivity
Stop Burning Money On Your Projects

**Facilitated Planning Sessions For The
Whole Project Team**



D. BROWN
MANAGEMENT



A Hands-On Approach



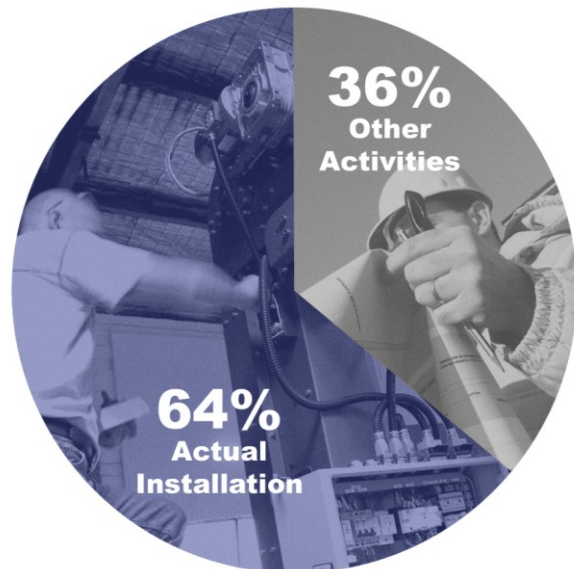
"If I had two hours to chop down a tree I'd spend the first hour sharpening the ax." – Abraham Lincoln

*The construction process is very inefficient with **36%** of craft labor hours spent on **NON-INSTALLATION** activities!*

*This presents a **HUGE OPPORTUNITY** for contractors that take the time to become more proactive in pre-planning their projects.*

This is the amount of time spent moving around the jobsite, mobilizing and cleaning up every day, studying the plans, laying out the work and other activities not directly related to actual installation.

This "non-installation" time is spread evenly over the course of the typical project. A few minutes here, a few minutes there, day-by-day, spread over the entire crew. More than half of this "non-installation" time is spent on plans, layout and material logistics.



- What if you could shift those activities to the front of the project, the "Pre-Planning" stage?
- Could those activities be done more efficiently as a dedicated task rather than in the field a few minutes before going to work?
- How much money could you save in efficiency if more of the work was pre-planned? Could you get your crew to work a few minutes earlier?
- Could you minimize trips from the work areas to the job office / gang box if things were better planned?

How much would the bottom-line on your projects change if you could improve labor productivity by 5%?

Project Pre-Planning – The Business Case

*If you had an investment opportunity that provided a **300% annual return** would you pass it up?*

Pre-planning your construction projects provides at least this level of return. Save thousands of dollars on labor costs by making a relatively small up-front investment of time and money before you start actual “work” on the project.

Between facilitation costs (whether done in-house or by a 3rd party) and the manpower costs of planning (likely 100+ hours) you will spend around \$10,000 planning the project but a labor savings of even 5% which is very modest on a 15,000 man hour project will save you around \$30,000.

Where do these savings come from? They usually do not come from one single area; rather they come from saving a few minutes here and a few minutes there. This is readily apparent if you are in the field watching intently on how time is really spent during the day.

What if you could get the entire crew starting to actually work just 5 minutes earlier every morning by having the work more clearly laid-out and having a better material and tool logistics system? (Save 150+ Hours)

What if you reduced the number of trips the crew has to make to go find the foreman to ask clarification questions about layout? (Save 100+ Hours)

What if you could reduce the number of trips a two-person team makes walking to the gang box or storage container trying to find material or tools by just one trip per day? (Save 250+ Hours)

How much re-work do you really end up doing because the crew was not precisely clear on layout? (Save 100+ Hours)

How much time do you spend fixing stub-ups and anchor bolts that were incorrectly laid-out during the underground phase? (Save 75+ Hours)

What if you eliminated just one re-mobilization of a small crew to another part of the jobsite each week by coordinating schedules better with other trades? (Save 200+ Hours)

Pre-planning will not completely eliminate these typical time wasters but it will help minimize these and many more, saving you precious minutes every day adding up to significant savings

Some Key Points & Activities

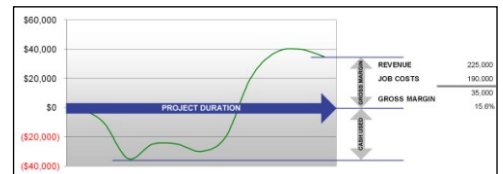
Learn the 4 pillars of productivity and how to apply those to your specific project



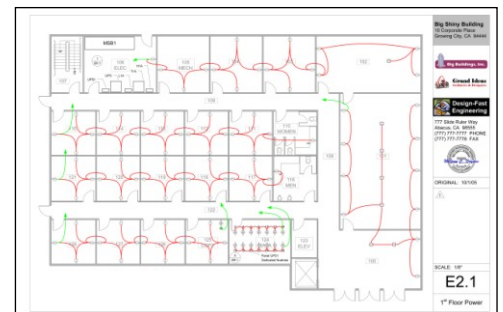
Analyze the schedule to level your manpower requirements



Enhance cash flow by planning the timing of your work



Layout the work ahead of time to minimize conflicts and questions in the field during installation



Develop lists of anticipated problems and build action plans with due-dates and responsibilities to drive results

DESCRIPTION	RESP	DUE
1 Look at how to efficiently use a forklift on the project - coordinate with supplier.	Dave / Joe / Dan	02/17/05
2 Look into the fire suppression system in the kitchen and the exhaust system - make a detail sheet and coordinate with vendors / rules.	Mike / Dave	02/19/05
3 Site has already been provided with temp lighting / power. Walk the site and make a good estimate of the temp materials required. Stage these separately.	Dave	02/19/05
4 Make a deal with the ceiling contractor to cut out all the tiles. Use CAD on a reflected ceiling plan to layout all holes / sizes / locations. Do the math to see if it is better to have the contractor do it or do it in-house.	Dave	02/20/05
5 Make checklists of all the things to review for missing information - circuiting, equipment room layout, mounting, controls, missing dimensions, missing shop drawings, etc.	Mike / Frank	02/20/05
6 Breakup major materials by phase / area and have them pre-staged on pallets by the area to minimize field breakdown and staging.	Frank / Mike	02/21/05
7 Make a detailed material list of everything needed in kitchen area	Dave	02/21/05
8 Separate plan sheet just for kitchen area layout	Mike / Dave / CAD	02/22/05
9 Kitchen - Make a drawing showing all sawcuts with exact dimensions. Get it material together and plan to do this ASAP to get it covered back-up. Plan for ways to protect the floor boxes from damage during construction.	Mike / Dave / CAD	02/22/05
10 Finalize buyouts with specific vendor for lighting / switchgear	Frank	02/23/05
11 L22 track is flexible track - 12 locations where it needs to be installed. Will follow features such as a conference table. Need to RFI this to get detailed layout before the feature is installed for supports.	Frank / Mike	02/23/05
12 Double check for all AV system power requirements. Make sure that all conduits shown on plans are enough.	Mike	02/24/05
13 Extra Yanking - (1) everyone in their own pods, (2) all materials / equipment laid out, (3) daily production goals by crew.	Dave / CAD	02/24/05
14 Do a separate drawing for all core locations and then bid it out to get them all done quickly. 120' locations.	Frank / CAD	02/25/05
15 Look into elevator inspector and coordinate how the smoke/heat detector will shut power and tie into fire alarm system.	Mike	02/25/05
16 Break out man hours for branch install by area and coordinate with schedule and GC to make sure even flow of crew for branch installation.	Joe / Dave / Frank	02/26/05
17 Lighting typically will go through Northeast (same with commodities)	Frank	02/26/05
18 Hire a rigging contractor to do the remove / replace on the switchgear and setting of the UPS.	Mike	02/26/05
19 Consider a plan to put 1-2 computers in the job trailer and start with basics such as timecards and action item lists.	Bob	02/26/05
20 Coordination drawings with HVAC - Ratco to check.	Frank / Dave / Joe	02/27/05
21 Plan for all 1-1/4\"/>		

Communicate the plan effectively with the whole project team

Learn these any many more valuable ideas during the project pre-planning facilitation

Project Pre-Planning Facilitation Services

Nothing will increase project profitability more than a good pre-planning process. Our structured approach combines training, project-specific discussion and group exercises that create the framework for a solid project plan.

Follow-up phone calls and e-mails will help keep the process moving forward.

Additional modules designed for very specific reasons such as change order management, scheduling or keeping the project on-track are available as required.

Facilitation service includes a company-wide, non-expiring content license.

Use the training materials anytime for future internal training.

The pre-planning and close-out phases of the project lifecycle present some of the biggest opportunities for refining processes and improving profitability but with the hectic schedules most contractors work with these phases are most often squeezed or eliminated from the process.

PROJECT LIFECYCLE			
ESTIMATE	PRE-PLANNING	CONSTRUCTION	CLOSE-OUT
<ul style="list-style-type: none"> <input type="checkbox"/> Define scope <input type="checkbox"/> Estimate install methods <input type="checkbox"/> Quotes from key vendors / subs <input type="checkbox"/> Est. other costs <input type="checkbox"/> Est. productivity <input type="checkbox"/> Negotiate "Sell" price 	<ul style="list-style-type: none"> <input type="checkbox"/> Refine actual installation methods <input type="checkbox"/> Lock-in quotes with PO's <input type="checkbox"/> Set production targets based on refined methods <input type="checkbox"/> Set budget & sch. based on plan 	<ul style="list-style-type: none"> <input type="checkbox"/> Meet / exceed production targets <input type="checkbox"/> Continue locking in other variable costs with PO's <input type="checkbox"/> Make adjustments based on site conditions <input type="checkbox"/> Manage changes <input type="checkbox"/> Update budget 	<ul style="list-style-type: none"> <input type="checkbox"/> Review act. vs. est. production for more accurate future estimating <input type="checkbox"/> Look for "Best Practices" that should be shared <input type="checkbox"/> Dig deep into problems and share across company

Use our 3rd party facilitation services to extend your resources and help you take full advantage of the pre-planning and close-out phases of your projects.

Project Pre-Planning (Core Modules)

The pre-planning facilitation is broken down into three sessions, each approximately four hours in length and spread out over several weeks allowing enough time to accomplish key parts of the planning prior to the next session.

DESCRIPTION	KEY ACTIVITIES / ACTION ITEM LISTS
<p>1 Project Pre-Planning</p> <p>Establish the cost of finding errors early versus finding them during or after construction. Go over the key areas of pre-planning a project including buyout, safety, work plan and installation details.</p>	<p>Project specific time wasters. Just having a candid discussion, talking about these and quantifying how much these time wasters will cost during the project goes a long way towards mitigating the problem.</p> <p>Mitigation plan for these time wasters including who is responsible. This produces an action item list that will be worked on throughout the next couple weeks prior to the second module.</p> <p>The mitigation plan will include areas that can be dealt with through pre-planning including clearer lay-out, up-front RFI's, material samples and scheduling.</p>
<p>2 Impacted Productivity</p> <p>What is productivity? What impacts productivity? How much does it really cost and what can be done? Learn the effects of multiple change orders, design conflicts and out-of-sequence work including proper documentation of impacts.</p>	<p>Project specific areas where productivity could be impacted including scheduling conflicts, material delivery problems, stacking of trades, etc. The facilitation process combined with the training makes this list more thorough than it would otherwise be.</p> <p>Mitigation plan for these impacts including discussion of how to properly document the impacts and quantification for easier recovery through the change order process.</p>
<p>3 Production Tracking</p> <p>Learn the difference between production tracking and budgeting/job costing. This is the key to improving your bottom line on projects and proving loss-of-productivity to an owner or general contractor in a claim.</p>	<p>Build a list of the biggest production activities and work together creating a system to track productivity on them along with some production targets based on the estimate and budget.</p>

All modules have a workbook with dozens of illustrations and worksheets.

Add-On Modules

Depending on your specific needs some or all of the following modules may be added to the basic pre-planning service.

Change Orders: Identification and pricing of various types of change orders including strategies for creating client backup and how to track the status of project changes across the whole project team. Group activities include working from previously made list of impacted productivity and devising a plan for documentation and pricing.

Scheduling & Keeping the Project On-Track: Scope covers the basics of the CPM schedule, 3 week schedules, production meetings, daily logs and other tools used to keep the project on track. Includes detailed discussions about how to schedule the project to minimize fluctuations in manpower.

Mid-Project Follow-Up: Review of the project's current status against the original plan including a detailed discussion of what is and is not working. Create an action item list that can be used to enhance what is working and try to get the pieces of the plan that are not working back on track. This module should be scheduled when approximately 40% of the man hours have been spent.

Post-Project Review: Similar format to the mid-project review except this time more financial information will be available such as change order logs and job cost reports. The goal of this facilitation is to create a plan for what to do differently next time including quantification of the successes and failures, modification to estimating strategies and discussion about talent gaps that need to be filled.

Facilitation Delivery & Coordination Details

Project Team Involvement: An important part of the planning process is the communication across all members of the project team. Often money is needlessly wasted on a project simply due to miscommunication between members of the contractor's own project team. For this reason it is recommended that all key members of the project team are present during the facilitated sessions. These potentially include the estimator, project manager, project engineer, foreman, superintendent, purchasing agent, crew leaders and the person who will be in charge of site material / tool logistics.

Location & Delivery: The facilitated sessions are held at the contractor's site or other nearby conference facility to minimize travel time and expenses for the project team. The sessions are designed to be remotely facilitated via conference call and online web conference. Remote delivery allows for easier scheduling around everyone's work schedules and the best balance of cost and quality. On-site facilitation is also available.

Conference Room Requirements: The room needs to be large enough to hold the entire project team and should be in a location to minimize interruptions. A high-quality speaker phone will be necessary for the remotely facilitated sessions. A projector or large monitor (24"+) with a computer and internet connection will be required for the slides and worksheets.

Contact us to learn more, discuss the specifics of your project and for scheduling / pricing

David Brown

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Articles Containing More Information (Attached)

Pre-Planning

Why Track Production?

"If I had two hours to chop down a tree I'd spend the first hour sharpening the ax." – Abraham Lincoln

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Construction & Problems

Constructing a project is challenging; it is very messy. There will always be problems. Problems are a fact and they need to be factored into your plans.

Problems are often amplified on construction projects because of the separation of the design functions from the construction functions.

Architects, engineers and design consultants are often forced into “low-bid” contracts and the pressure to constantly deliver lower prices means cutting out on coordination between engineering disciplines, eliminating detail drawings, cutting down on elevations, minimizing plan-checking and peer reviews, etc.

All of the cost-cutting on the design side means that fewer and fewer conflicts are caught at the design stage and left for the contractors to figure out.

How you overcome problems will determine the success of your project.

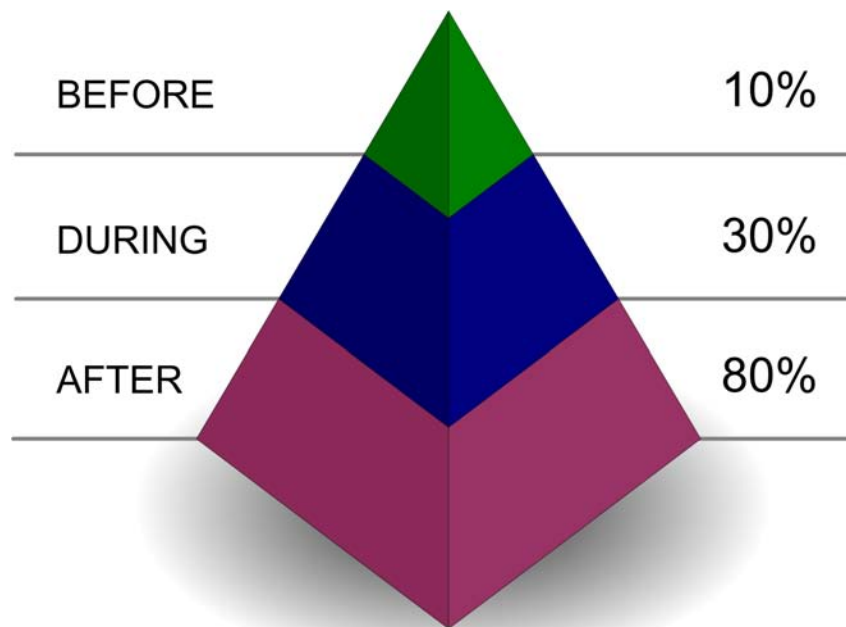
“If a problem has no solution, it may not be a problem, but a fact, not to be solved, but to be coped with over time.” – Shimon Peres (Rumsfeld's Rules)

The Cost of Problems

Problems are not usually recognized until you are right in the middle of them – at this point the problem will cost about 30% to fix – so if you are in the middle of a \$1,000 piece of work and discover a problem it will cost about \$1,300 before you are done.

In the worst case, when problems are discovered after the work is complete it will cost up to 80% to fix.

*Our focus needs to be on spending whatever resources are necessary to identify and solve problems **BEFORE** we are in the middle of construction.*



A 5,000 Man Hour Project

Pre-planning is just what it sounds like – it is about taking the time that is normally spent on planning throughout the project and shifting it to the beginning of the project.

When you look at what happens during the day for one person it just looks like a few minutes and it seems impossible to save any real time. Let's look at a 5,000 hour project and how the time is spent in the field.

DESCRIPTION	%	HOURS
Study Plans	3%	150
Material Procurement	3%	150
Receiving & Storage	3%	150
Mobilization	5%	250
Site Movement	5%	250
Layout & Marking	8%	400
Actual Installation	64%	3,200
Cleanup	3%	150
Breaks - Non-Productive	6%	300
TOTAL DAY	100%	5,000

Over a 1 year, 5,000 man hour project there are 6-7 hours per day spent on non-installation activities; a total of 1,800 man hours. We can plan our attack by focusing on four key areas:

1. Plans & layout – 11%, 550 hours
2. Material Logistics – 6%, 300 hours
3. Mobilization, cleanup and site movement – 13%, 650 hours
4. Breaks and other non-productive time – 6%, 300 hours

*A small company with 15 field employees can add **\$75,000** to the bottom-line just by decreasing non-installation activities by a few minutes per day.*

Planning & Layout – Where Can You Be Most Efficient?

There is no question that planning and layout has to be done. The question is when and where can it be done most efficiently?

- ❑ Pre-planning is about moving as many of the field layout, coordination and planning issues to the front of the project as possible.
- ❑ Pre-planning is about taking the activity out of the field and into a controlled environment that is specifically designed for efficient planning.
- ❑ Pre-planning is about taking advantage of tools that allow more accurate layout and communication of ideas.
- ❑ Pre-planning is about finding and resolving problems before you start working to minimize disruptions to progress and re-work.
- ❑ Pre-planning is about locating value-engineering and pre-fabrication opportunities well before construction starts.



There is no hard and fast rule about what pre-planning looks like. The process will look slightly different for each company and project type.

The goal is to build a culture into the company where people seek out opportunities to shift work from the project to a more controlled environment. It is about shifting the thought process from being reactive to proactive.

D. Brown Management provides Pre-Planning facilitation services that include critical training for the project team on pre-planning, impacted productivity and production tracking. During the sessions we focus on identifying risks and opportunities specific to your project. Working together we develop action-item lists and the outline of a project plan. These sessions can be done remotely to minimize the impact on your project team. Learn more at:

www.dbrownmanagement.com/preplan.htm

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Why Track Production?



A Hands-On Approach

By: David Brown

"If I had two hours to chop down a tree I'd spend the first hour sharpening the ax." – Abraham Lincoln

Can you imagine an NBA game without the fans in the stands, cheerleaders on the floor or a scoreboard?

This seems unimaginable yet these are the circumstances we typically work with every day in the construction industry.

- Could you imagine playing basketball for 8 hours and not having some way to keep track of how many baskets your team scored? Most construction crews go to work and their only clearly defined goals are start, finish and break times.
- Could you imagine playing basketball for 8 hours against another team and only knowing how many baskets your team had scored? For the few crews that go to work everyday and can actually tell exactly what they accomplished even fewer have a way to compare whether their production was good or not.
- Could you imagine playing basketball everyday for months without knowing the score? That is exactly what construction crews are doing when they are relying on job costs and budgets to tell them whether they are over or under budget (winning or losing).
- Could you imagine a coach letting their team play basketball for several months with little feedback and then just showing up and telling them that they were way behind the other team? That is what happens in many companies when the project manager finally sees the results of daily production on the job cost reports.
- Could you imagine a coach trying to lead his team to victory by defining plays, setting strategy, making player decisions, etc. all based on his "gut" feeling without knowing what the score was or what the other team was doing? Many superintendents and foremen are forced to work in this environment – sometimes their "gut" pays off and sometimes it does not.



- Could a coach pull together all the diverse personalities and egos necessary to win and make them work together effectively if they were each focused on different aspects of the game rather than the common goal of getting the ball in the basket? Many project teams function like this each and every day with each person focused intently on what they think their individual responsibilities are or should be without looking at what they could do RIGHT NOW to facilitate getting the ball in the basket.

For the construction crew production tracking can provide that scoreboard and unite the team. Production tracking is significantly different than job costing because it is done daily, even hourly.

Production tracking can be used to set daily goals with hourly milestones.

Production tracking creates a competitive environment where the crew is competing against and trying to beat the budgeted production, their past production or the production of other crews within the company.

Production tracking creates a common language within the company that can be shared by everyone from the apprentice laborer up through the operations manager.

Production tracking creates a common measurement (dollars) so that activities can be prioritized within in the project team. EVERYONE on the project team should be focused on the activities that will generate the most money every day.

D. Brown Management has successfully helped a variety of different contractors setup production tracking systems helping them fine-tune both their estimating and field operations. These services are provided as part of our Construction Project Pre-Planning facilitation services that include critical training for the project team on pre-planning, impacted productivity and production tracking. During the sessions we focus on identifying risks and opportunities specific to your project. Working together we develop action-item lists and the outline of a project plan. These sessions can be done remotely to minimize the impact on your project team. Learn more at:

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