Change Order Management

Identification – Quantification – Presentation – Negotiation

By: David Brown
About The Profit Happens Here… Series

The Profit Happens Here… series is the result of codifying the experiences of our senior consultants into modules that can help our clients grow, change and train their teams more effectively. These modules are delivered in a variety of formats including books, training classes, one-on-one coaching, speaking topics, etc.

We are constantly adding new modules and enhancing existing ones based on feedback, client projects, changing industry conditions and input from new team members. Current modules include:

- Construction Documentation Overview
- Schedule Management
- Pre-Planning
- Impacted Productivity
- Production Tracking
- Customer Service and the Project Team
  - Change Orders
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- Profit Dynamics
- Cash Flow and the Project Team
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- Keeping Your Project On-Track
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- Integrating Accounting and Operations
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- Work-In-Progress Management
- Process Documentation
- Implementing a Project Management System
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www.dbrownmanagement.com

(916) 912-4200 PHONE
david@dbrownmanagement.com
PO Box 1296, Lodi, CA 95241
About D. Brown Management

Headquartered in Northern California, D. Brown Management provides a comprehensive scope of general management solutions to construction clients nationwide, including strategy, planning, operations, field productivity, workflow, financial management, technology, and marketing. With D. Brown Management, organizations can improve processes, productivity, and ultimately profitability.

Working with us is like having a very well-rounded, hands-on General Manager working closely with you to solve a variety of business problems on an as-needed basis.

About The Author

DAVID BROWN is the Founder and President of D. Brown Management. Beginning his construction career in 1988 as an electrician, Dave quickly worked his way up the ranks to foreman, superintendent, and project manager before moving to executive management. In addition to managing client projects nationwide he frequently speaks to groups such as CFMA, Electric West, the Engineering & Utility Contractors Association (EUCA), and the Western Electrical Contractors Association (WECA) about how to increase profitability. Recent speaking engagements have addressed integrating accounting and operations, production tracking, change order management, construction technology, and cash flow.

CONSTRUCTION EXPERIENCE: Includes commercial, residential, industrial, underground construction, airports, telecommunications and traffic operations systems for private, public, federal and military owners.
Introduction – Change Orders

Despite this fact most flights take-off and land on-time and at the correct locations – even if your baggage may not be so lucky.

How can something that is off-course so much finish so accurately?

Look into the cockpit of any commercial airliner and you will see that the pilots have hundreds of gauges to help them tell if they are off-course and by how far. They also have dozens of levers they can pull to help get them back on course.

A project is no different. You will have a plan and that plan will change hundreds of times over the course of the project. How you deal with those changes will determine how successful you are.

How many gauges and levers do you have?
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Changes and Construction

Change is a fact of life for construction projects. It is so much of a fact of life that there is still a widespread belief that planning is over-rated, because “Everything changes the very first day!”

It is very easy to see this point-of-view. Even with the best intentions it is simple to fall into this mode during a challenging project.

Project leaders cannot allow themselves to fall into this mode. The leaders have to see the goal clearly, know what the plan was to get there, understand what has changed, and also know what has to be done to get back on course. As a leader, this is your primary job – everything else is just a detail.

Regardless of whether you fall into the category of proactive or reactive, everyone can agree that building a project is 10% planning and 90% last minute changes. During this module, we are going to focus on managing these changes. This will include:

- Identifying changes early to minimize impacts.
- Refining the scope change identification process.
- The hidden impacts of changes.
- Tracking impacts created by changes.
- Pricing changes, including backup documentation.

Are Changes Good or Bad?

The industry is definitely split on this issue. The answer is that changes are neither good nor bad – they are a FACT of construction, and like any fact they need to be dealt with, not celebrated or solved.

Because of a few pieces of misinformation, there are a lot of project owners and construction managers who mistakenly believe that contractors get rich off of changes.

Contractors Make A Ton Of Money On Change Orders

Changes Have Too Many Unforeseen Impacts And Should Be Avoided At All Costs!
Often Project Managers perpetuate this thinking by not fully understanding all the hidden impacts of changes. They communicate this to the Superintendents and Foremen, who talk about it at breaks, and then the project owners eventually hear it and that is what keeps the myth going.

Are there “windfall” change orders that were lump-sum and the production far exceeded the expectations? Absolutely – just like there are “windfall” projects. In regards to changes, these are the things people talk about and the things owners remember.

The reality is that for every “windfall” change, there are hundreds that were too small to have any significant profit impact, yet they produced a cumulative slowing down of the project. The result is often non-compensable schedule delays and extra costs for the contractor, far exceeding the change order margin. Also, just like projects for every “windfall,” there will be at least one change that was lump-sum and took far longer than expected, yet the contractor was stuck with the lump-sum pricing.

Again, changes are not good or bad – they shouldn’t even be categorized like that. Changes are a FACT of construction. It is critical that you learn to deal with them effectively.

**The $100,000 Lesson**

A GOOD project runs at about 10% changes. A contractor with a volume of $10M per year will have about $1M in changes.

Developing a strong, standardized process for dealing with changes, accounting for the hidden impacts correctly, and generally applying the principles in this module will add up to 10% margin to your change orders – or about $100,000.

This is not about gouging – this is only about recognizing changes more effectively, and getting compensated properly for them.

**What Is A Change?**

A change is ANYTHING that is a deviation from a plan. On a project, that will mean anything that is a deviation from the plans, specifications, your scope, or your contract. It also means anything that is different from the way you planned / budgeted to build the project.

Not all changes result in a cost impact for the project owner. Some changes are for internal deviations and should be counted as such. We will discuss this further in the following sections.
Identification – The Earlier the Better

Changes – like problems, are best identified before the start of construction. The cost of running a larger feeder is a lot cheaper under the slab, rather than overhead after the ceiling system is complete. The cost of changing out a piece of equipment is much cheaper when problems are caught at the submittal stage, rather than after the equipment is already on the jobsite and moved into position.

When you identify changes early in the process, this presents the perfect opportunity to show the owner, architect, and engineer that you are looking out for them. They already know that it is much cheaper to have identified the problem early, but make sure you quantify just how much cheaper.

You will also be able to work-in more of a margin on your changes at this stage – especially after you explain how much money you “saved” by finding the problem this early. This is also a selling point for your company, where you explain your “detailed pre-planning process and how much better of a project it produces…”

In addition to working in more of a margin at the early phases of the project, you will also be able to minimize disruptions to your own productivity that unforeseen changes cause. This will increase your actual margins even more.
Giving Money Back is Worth the Most Money

Looking for ways to save the customer money is a winning strategy in any business.

You should be looking at ways to present value engineering proposals to the customer from the moment you start the estimating take-off. Work with your key vendors and subcontractors to ask them to look for value engineering opportunities as well.

The most conservative change orders you will process will be on Public Works projects, where usually everything from the labor rates to the mark-ups are stipulated and rarely deviated from. Changes that increase costs on Public Works projects typically have margins from 10-25%.

On the other hand, most agencies are well aware of how much money can be saved through value engineering. They have contracts or specification clauses that allow for a 50/50 split of the savings with contractors – or a 50% margin – or more than twice what a “Good” cost increasing change would be.

**Cost an owner an additional $1,000, and you’ll probably make $150. Save them $1,000 and you’ll make $500!**

Add a zero to those numbers and you will see why saving money for the customer is such a big deal.
The Change Lifecycle

Because change is a fact, it is important to develop and understand a complete cycle for dealing with changes. A typical example is shown below:

- **Initiator:** There are various events that can lead to a change, from delays on critical deliveries, to weather, to owner changes in design. These things start from the moment the project begins – the important thing is how you track them.

- **Issue:** Not every event is necessarily an issue – ask yourself if the event is, or could create, a material change to the budget / plan / design / scope. If it is then it should be logged and tracked for the future.

- **Change Order Request:** If the issue becomes such that you want to submit it for additional compensation, a formal change in scope or a value engineering proposal, then it will be moved to this stage and be sent formally to your customer.

- **Potential Change Order:** Also called Proposed Change Order, or PCO, this is a term that should be reserved for changes submitted between the general contractor and the owner, or CM firm. If your Change Order Request will be passed on to the owner, then the general contractor will assign a separate PCO number and submit it. You should track this number for easy reference when communicating with them in the future.

- **Change Order:** Until this moment, everything is just a request or proposed. The actual Change Order (CO) is a contractual document that legally revises the original contract, scope, and pricing.
Scope Change Identification Process

The most important process you can put in place in your company is a simple process to track **ANYTHING** that will change the scope, budget, or project plan in any material way.

This process has to be simple or else people will not follow it. It has to be tracked across the project and across the company to make sure opportunities for changes don’t fall through the cracks, and also to track internal revisions to the budget to continually learn and improve.

Once these changes are identified and logged, they may fall into one of several categories as shown in the diagram above:

- **Change Order**: They will get submitted to the customer and will become actual change orders.
- **Internal**: These are for internal changes to the budget / plan.
- **Voided**: Remember that the key to the process is to have EVERYONE on the project team identifying any POSSIBLE changes to the scope. Many of the issues identified will not become actual changes. Sometimes the owner may decide that the additional work is not worth the money and will rescind the change. These are tracked as voided.
- **Settled**: Use this for when changes are “horse-traded” to make them go away – i.e. a credit is traded with a cost-increasing change and they wash each other out.
- **Claim**: If you truly believe there is a change in scope that results in additional costs, but the customer is unwilling to compensate you for the change, you can track these for future potential claims.
Scope Change Notification Form

Changes and potential changes are identified throughout the project team – it is important to keep track of them and to build one tool that everyone can use. At this time, it is still impractical to rely on e-mail or some form of electronic communication to track these scope changes.

The best process that can be put in place is a simple “Scope Change Identification Form,” which is sequentially numbered and in a three-part carbonless format. There is a minimum of information required on the form, and it is simply a document used to open up something as a potential issue and start tracking backup documentation.

If the issue was initiated by the project owner, architect, engineer, CM, or general contractor, you can get their signature on the form while in the field, along with having them check whether you should proceed with the work or if this is for a quote only.

A stack of these forms should be kept with the Project Manager and Foreman at all times so that any issue that comes up that they deem material to the project scope / budget / plan can be noted.

These forms can be transmitted daily back to the office and logged appropriately. It is a very simple way to keep track of issues that lead to changes on the project. The sequential numbering will allow you to track them across the company and ask questions if there are gaps in them for particular projects or managers.

If there is one process that you should not shortcut on, it is this one!
Change Order Request Log

Rather than keeping a separate “Issues Log,” you can track all these in the Change Order Request Log by adding a couple additional status codes, as shown below. This log will help you keep track of every potential issue throughout its lifecycle.

**Internal Vs. External Changes**

External changes are simple. They are the changes caused by entities outside of the company, such as the project owner or general contractor.

Internal changes are for ANY material deviation from the project plan or budget. By tracking these throughout the life of the project, it will be easier to have a productive project post-mortem and refine both estimating and project management processes. Without this history, you will often be guessing about both successes and failures on the project.
Group Activities – Prior Lessons and Experience

You already have 100% of the information for this section in your head from both your experience in the industry and from prior management modules, including Pre-Planning, Impacted Jobsite Productivity, and Production Tracking. The purpose of the following activities is to pull this information back out and re-organize it as applicable to the change process.

Group Activity: Most Common Changes

Start with a large index card. Write “Common Changes” across the top with your name underneath. Number the card 1-4 and write in the most common change order you run into on the first line. Pass the card to the person on your right and have them write in the most common change they can think of. Repeat the process three times until you have a list of the top four changes on the card.

<table>
<thead>
<tr>
<th>COMMON CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe Spark</td>
</tr>
<tr>
<td>1. Specific change #1</td>
</tr>
<tr>
<td>2. Specific change #2</td>
</tr>
<tr>
<td>3. Specific change #3</td>
</tr>
<tr>
<td>4. Specific change #4</td>
</tr>
</tbody>
</table>

Group Activity: Hidden Impacts

Pass the cards back to the person whose name is on the card. Flip the card over and write “Hidden Impacts” across the top. Start making a list of the biggest hidden impacts for the changes listed on the front of the card. Pass the card to the right and repeat the process three times, as in the prior exercise.

<table>
<thead>
<tr>
<th>HIDDEN IMPACTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hidden impact #1</td>
</tr>
<tr>
<td>2. Hidden impact #2</td>
</tr>
<tr>
<td>3. Hidden impact #3</td>
</tr>
<tr>
<td>4. Hidden impact #4</td>
</tr>
</tbody>
</table>

Group Activity: Making Lists

With a volunteer, create lists from the various cards, noting how many times each change or impact is cited in order to create a “Top 5” list.

Group Activity: Tracking Impacts

Break into five groups. Each group takes one of the top five impacts and creates a plan for how to both track and mitigate the impact. Make a presentation to the class about what they have planned.

Copy the lists made during these group exercises onto the following pages for your future reference.
### CHANGES and IMPACTS:

Make a list of all the top changes and their hidden impacts.

<table>
<thead>
<tr>
<th>Changes and Impacts</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### TRACKING and MITIGATION:
Make a list of the best mitigation and tracking methods for the top five hidden impacts from the list on the prior page.
Pricing – Pulling It All Together

All the information we have discussed is absolutely useless if it cannot be quantified, priced, packaged, and sold to the customer.

Ten Rules for Pricing Changes

Effective pricing and packaging of change orders can be summarized into ten basic rules:

1. Format changes to meet customer's expectations.
2. Start selling the rates and format immediately upon award of the project.
3. Build indirect costs into the labor rate(s).
4. Set rates for equipment and tools.
5. Create standardized commodity pricing and units.
6. Establish a daily rate for extended project overhead.
7. Make sure field DEWR's are clear, complete and signed.
8. Set pricing precedence with the first change order.
9. Include ALL backup documentation with change.
10. Communicate these standards with your subcontractors

In the following sections we will explore each of these in more depth.

1. Formatting Changes for the Customer

Most customers have their own standards for how they like to see change order requests formatted. Public agencies typically have very detailed standards for everything from cost categories, mark-ups per cost category, calculation of labor/equipment rates, and required backup.

By formatting changes in a way that looks “normal” to the customer, they will be easier to process. This will expedite the approval process and increase the customer’s perceived value.

In the long-run, you will consistently get more changes approved this way. They will get approved faster at a higher margin, and the customer will be happier than if you try to force your own format on them.
If you are dealing with public agencies, remember that even though they have provisions for “Lump-Sum” changes, they are used to the format of “Force Account” changes, so you are better off providing a recap that looks similar.

You should start a collection of the various standards for the agencies you work for. A section from the Sacramento County Standard Construction Specifications is shown at right.

Many other public agencies all have similar standards.

A lot of larger private owners have their own standards.

General contractors will all have their own formats.

By reviewing all of these, you will be able to develop your own company-standard format that can be easily modified to meet the various requirements.

An example is shown on the following page and can be used to recap changes, whether they are lump-sum or force-account.
### CHANGE ORDER REQUEST - PRICING RECAP

**DATE:** 12/10/2005

**PROJECT:** Large Shiny Building

**DESCRIPTION:** CCD-7: Revise Litg. Rm. 207

**REFERENCE:** ASI-003, SK-3.1, CCD-7, E3.2

**ATTACHED:** Cost Breakdown & Lighting Invoice

#### LABOR

<table>
<thead>
<tr>
<th>QTY</th>
<th>RATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.00</td>
<td>72.50</td>
<td>$290.00</td>
</tr>
<tr>
<td>3.00</td>
<td>57.50</td>
<td>$172.50</td>
</tr>
<tr>
<td>2.00</td>
<td>52.25</td>
<td>$104.50</td>
</tr>
<tr>
<td>1.00</td>
<td>31.75</td>
<td>$31.75</td>
</tr>
<tr>
<td>3.00</td>
<td>48.65</td>
<td>$145.95</td>
</tr>
<tr>
<td>4.00</td>
<td>42.20</td>
<td>$168.80</td>
</tr>
</tbody>
</table>

**SUBTOTAL**

$913.50

**LABOR BURDEN**

26% $237.51

**SUBTOTAL**

$1,151.01

**LABOR MARK-UP**

25% $287.75

**TOTAL LABOR**

17.00 $1,439

#### MATERIALS

**MISC MATERIALS**

2% $28.54

**SUBTOTAL**

$1,455.54

**SALES TAX**

7.75% $112.80

**SUBTOTAL**

$1,568.34

**MATERIAL MARK-UP**

15% $235.25

**TOTAL MATERIAL**

$1,804

#### EQUIPMENT

**EQUIPMENT MARKUP**

15% $980.00

**TOTAL EQUIPMENT**

$1,127

#### SUBCONTRACTORS

**SECURITY SUBCONTRACTOR**

**FIRE ALARM CONTRACTOR**

**VOICE & DATA SUBCONTRACTOR**

$280.00

**SUBTOTAL**

$280.00

**SUBCONTRACTOR MARKUP**

5% $14.00

**TOTAL SUBCONTRACTORS**

$294

#### ADDITIONAL DAYS

2 820 $1,640

**TOTAL CHANGE REQUEST**

$6,304
2. “Selling” Rates and Format

From the very first day you are awarded the project you should start the “selling” process. At every opportunity you need to reiterate how much changes impact you, how much the daily project overhead is, what it really costs for labor and equipment, etc.

Every one of the ten things in this section needs to be sold to the customer from the time you are awarded the project. How effective you are at this process will determine both customer satisfaction and profitability.

3. Building Your Labor Rate

One area where most contractors typically fall short is on the true calculation of how much their craft labor really costs.

Some agencies, such as the California Department of Transportation (Caltrans), have very reasonable rates and allowable mark-ups for labor that truly cover all the costs. Other agencies, such as the State of California, DGS, have rates that don’t cover all the costs and actually leave you spending a couple of dollars for every change order hour.

If the labor rate is not specified, it is usually left up to the project manager to provide backup. Many project managers are not accountants or company owners, so they are usually unaware of all the payroll burden costs plus the indirect labor costs.

The breakdown above is for costs that are driven from the amount of craft labor a company has, but are not included in the payroll costs. In this case, it is important to calculate what is called the “Indirect Labor Burden” rate. This is usually done for a period of time, such as a quarter or a year. By totaling all the costs and the total field man hours worked during the year, you will be able to come up with an hourly burden rate.
You then need to create some labor cost calculators for the various labor classifications and areas you work in.

The example at the right is for a Prevailing Wage project, but could just as easily be used for private projects by simply not using the lines for fringe benefits.

You will need to check with your Worker’s Compensation policy to see exactly what the rate is.

If the project is out-of-town, you will need to include calculations for travel, per diem, and lodging in the calculation.

If the contract calls for a “Fully Burdened Rate,” then you need to add in the mark-up.

This should be a standard template maintained by the company on a shared network drive and easily modified by all project personnel.

Training should be done so that EVERY project team member can explain EVERY line item on this calculator and in the Indirect Labor Burden Calculator.
4. Establishing Equipment Rates

On almost every project there will be some equipment on the project.

Establishing equipment rates up front and making sure that all equipment used during the course of a change is accounted for is critical to avoid leaving money on the table.

If rates are not specified, or if you use specialized equipment that is not covered in one of the standard specifications, you will need to develop and sell your own rate for the equipment.

Some specifications reference standard rates for equipment. One of the most common standards in California is published by the Department of Transportation (Caltrans) on an annual basis. The Army Corps of Engineers also publishes a list of rates and there are also general standards, such as the Blue Book.

A standard company reference that is updated annually should be a list of all company equipment with internal rates for hourly, daily, and weekly use.

Columns should be added to include a
cross-reference for at least two other equipment standard rate guides. Most of the rates are all broken down to hourly rates, so you can just add two additional columns for each standard. One column should be the rate – the other column should be a cross-reference number from the standard, so that someone could easily look up the rate for verification.

Here are a few tips for maximizing your pricing efficiency when it comes to equipment:

- **Tools**: Many of the standards allow for hourly billing of any electric tools over $450. This $450 is based on the Manufacturers Suggested Retail Price (MSRP) which is a lot higher than what contractors actually pay for equipment. Porta-bands, Roto-hammers, benders, etc. all fall into this category. Make sure that you include these on your list and train your team to include them on all DEWR's and changes.

  ![Electric Powered Hand Tools Table]

<table>
<thead>
<tr>
<th>OVER</th>
<th>TO</th>
<th>Code</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>600</td>
<td>045-060</td>
<td>$0.24</td>
</tr>
<tr>
<td>600</td>
<td>800</td>
<td>060-080</td>
<td>$0.32</td>
</tr>
<tr>
<td>800</td>
<td>1000</td>
<td>080-100</td>
<td>$0.41</td>
</tr>
</tbody>
</table>

- **Daily Rates**: If you can, try to sell the fact that equipment is utilized in units of a single day, not an hour. The reason is simple. You cannot transport a piece of equipment from one job to the next and get any use out of it in the same day. For this reason, any change requiring equipment should be billed at a daily rate (8-10 hours) and should include transport fees, if applicable.

- **What Else?**: You should look through a couple of the standards and see exactly what is allowable to be charged for – all these little things add up, and a few hundred dollars extra on each change order can add tens of thousands of dollars to the bottom line over the course of the project. If you look closely at the Caltrans specification, there are rates in there even for traffic cones. By studying these, and building them into a custom company template, you will minimize the chances of your project team not billing for something.
5. **Standardized Commodity Pricing and Units**

Commodity pricing for things such as pipe, wire, and fittings are always tedious to show in a take-off. If each change is priced separately, there will be discrepancies in the pricing that often get flagged by the customer.

A simple solution to this is to establish a standardized commodity list that is price updated on a quarterly or bi-annual basis.

Standardize on things like fittings. Pick a single type and price everything out at that rate, regardless of what type of fitting is actually used. For instance, all electrical fittings should be steel, compression.

Do the same with things like condulets. Price all at ‘T’ and for supports – assume strut clamp pricing for all supports.

By standardizing the commodity pricing, you will make estimating a lot easier and you will build in a little extra margin into the material.

Use some type of standard for material pricing, such as Tra-Ser end-column, so that it is always justifiable.

Use standard rates for installation units from RS Means, NECA or another established standard. Make sure that you differentiate rates for changes for pre-construction changes, changes during construction, and changes after construction. You could use the three columns of NECA pricing for this purpose and the units are actually very close to the actual installation time for most changes. Standardizing everything will streamline the pricing process and avoid constant questions from the customer about pricing. Establish the process and rates up front.
6. Establishing a Daily Rate for Delays

This is your biggest “selling” job on the project. You may not always be successful when it comes to selling the costs of additional days on the project but it will definitely help you plead your case for the owner or contractor to stay on schedule and avoid changes that cause delays. You could also use this as a tool to get compensated at premium time rates for changes to avoid schedule delays. The example shown below is a standard template that you should build for your company, and make available to the project managers, who can modify as required for their particular project.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY</th>
<th>% UTILIZED</th>
<th>RATE</th>
<th>EXTENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>HRS</td>
<td>168</td>
<td>20%</td>
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SUBTOTAL                  |       |     |            | $ 20,767 |
MARK-UP                  | 20%   |     |            | $ 4,154  |
TOTAL MONTHLY DIRECT PROJECT OVERHEAD COSTS |       |     |            | $ 24,921 |
WORKING DAYS - AVERAGE MONTH |     | 22  |            |          |
TOTAL DIRECT PROJECT OVERHEAD / PER DAY |       |     |            | $ 1,133  |
7. Field Daily Extra Work Reports (DEWR’s)

If you have to proceed with work that you have determined to be a change to the scope, (a Scope Change Notification form has been filled out), then you need to either; (1) have a commitment from the customer regarding your estimate of costs, or (2) provide backup for the work and costs incurred. The most common method of tracking these costs are on the Daily Extra Work Report or DEWR.

This is a relatively simple form, but make sure that ALL man hours, including the foreman time, material handling time, and actual craft labor are accounted for. Also make sure that all material is detailed out, and that any equipment or tools are noted.

Often there will be a dispute about whether this is an actual scope change. A process should be set up between the Project Manager and the customer that, in this case, the DEWR will be signed as “Verification of T&M Only,” leaving the document as simply a basis for justifying costs in the event that it is determined to be a scope change.

Set up the process to keep the field relationship positive, and let those things that come into dispute be worked out between the Project Managers.

One of the most costly things you can do is to create a poor field working relationship. The PM’s are better suited to work these out and decide between them what an extra is and should become a Change Order Request (COR), and which just weren’t included in your estimate and are internal changes.
8. Setting Precedence with Your First Change

How you proceed with your very first change order will set the standard for all other changes. It is almost impossible to recover from a mistake on labor rates, equipment rates, commodity pricing, formatting errors on the recap sheet, or mark-ups on a project.

If a project is two years long and you make a $50 mistake on the first change order that sets a standard, this could easily cost you $10,000 over the remaining change orders. Spend a lot of time on the first change order to make sure everything is perfect from the pricing to the submission to the billing to the collection of your cash.

YOU NEVER GET A SECOND CHANCE TO MAKE A FIRST IMPRESSION

9. Include All Backup with Change

This is an often overlooked detail that is so simple it should be made a company-wide standard, without question. When you submit a Change Order Request it should be bundled together with ALL backup documentation including:

- **Cover/Scope**: A cover letter / scope that includes boldly the number of the COR, the scope, total cost / credit, total additional days required and terms and conditions.

- **Recap**: The recap sheet in the format agreed upon for the project.

- **Estimate Backup**: If it is a lump-sum, and they requested backup, all the estimating details should be behind the recap.

- **DEWR’s**: If the change was on DEWR’s, then all field signed DEWR’s should be behind the recap.

- **Invoices / Quotes**: For material and equipment that is not at standard commodity rates.
- **Initiating Documents**: Any initiating document including RFI’s, ASI’s, Directives, etc.

- **Plans**: Any plans, SK drawings, etc. that show the change.

- **Photos**: If there were field photos of the change they should be attached.

- **Correspondence**: Any e-mails, phone conversation records, letters, memos, or other correspondence relating to the change – especially those indicating that you should proceed with the work.

Adobe Acrobat and a scanner is the best tool for assembling all these different documents together into a single document that can be stored and sent to the customer.

It makes it incredibly easy to go back at a future point in time and reference all the backup for the change, because everything is stored together.

It is also incredibly easy for the customer to review it because every document they need to review the change was included. Remember that if you have 100 changes on a project, the owner or general contractor will have 10-20X that many.

Anything you can do to make it easier for them to review your changes will be greatly appreciated. It shows your level of professionalism and increases customer satisfaction. It will also get your changes processed quicker.

The cost of a license for Adobe Acrobat and a good scanner is around $600 but the time saved is amazing. Think of how many times you have been asked for additional backup for change orders or what RFI it was from, etc. When you have to go back into the files and pull together all the separate documents to re-mail or re-fax it takes substantial amounts of time. When everything is electronic it is simply a matter of hitting the “Send” button.

### 10. Subcontractors and Change Orders

Assuming you have all your processes in place now, all you have to do is contend with the processes (or lack of them) of your subcontractors. This should be dealt with in the pre-planning phase, and your project standards for how change orders are to be formatted should be established as an attachment to their subcontract. Make sure they get you copies of their rates for all labor and equipment well before the first change. There is nothing more irritating than doing everything right and having your change held up because the subcontractor’s backup was not in order.
Organize for Success

All the information outlined in this module is completely useless if it is not put into practice. The best way to put these ideas into practice is to build all the templates and forms for your company and organize them on a shared network drive accessible by everyone on the project team. Below is a checklist for these items. It will take about forty hours to create these, lock them to avoid formula errors, and develop some basic training on how to use them.

Even if these only save you $10,000 over the course of the year, this is probably one of the highest returns you can have for forty hours of work.

- **Format:** Create two to three standard recap forms for different types of projects, building in formulas and noting cells that have to be changed. Also, create a standard format for estimating backup. This can be either a specific report from your estimating system, hand form, or an Excel worksheet.

- **Indirect Costs:** Build a worksheet for all labor indirect costs for the prior fiscal year to use when selling the additional costs.

- **Labor Rate Calculators:** Build these calculators tying into the Indirect Costs for all basic labor classifications you use and for all geographic areas you typically work in. Include all costs – training people to delete, or explaining an extra row to a customer, is a lot easier than trying to add in a row or cost.

- **Equipment Rates:** Build one spreadsheet that includes all your equipment and larger tools with both your internal rates (if you have any) along with some standard rates. This needs to be updated about once per year and can easily be modified to suit a particular project.

- **Commodity Pricing:** Establish a short list (300 items max) of commodities used for change orders. Figure out pricing for these items, consolidating wherever possible, as well as labor units for pre, during, and post construction changes. If everyone uses estimating software for pricing changes, this list can be in the database. If they are priced by hand, then this can be an Excel table, or you can build a spreadsheet solution that automatically pulls the values from the table into a formatted estimate sheet. This sheet should be updated quarterly unless there is a major hike in pricing.

- **Daily Rate Calculator:** Build a company standard template with maximum costs included and let people delete as required.

- **Change Request Log:** Make a standard template that EVERYONE uses to track anything they believe might be a change in scope!!
Building a Change Library

Often you will be required to justify change pricing. You may also need to have references for putting together certain types of changes, such as cumulative impact changes or overtime efficiency changes. Having standards to reference is extremely valuable.

Most of these references are available in electronic format so they can be stored in the same location on the shared network drive as the templates. You should also store the paper format in loose-leaf binders centralized in the office so they are accessible to everyone.

- **Standard Specifications**: You should have copies of these standards for all agencies and large owners that have such documents that you work for.

- **Rate Guides**: You should have at least three references for equipment rates.

- **Prevailing Wages**: If you do prevailing wage work, you should have copies of the current and prior prevailing rates arranged by County for quick reference.

- **Estimating Standards**: You should have at least three references for units for the types of work you do including RS Means, NECA or some other widely accepted standard.

- **Impact Guides**: It will be important to have a library of the various studies showing how to calculate various impacts, so that you can reference them for ideas on presenting changes, and also reference them in the changes for backup.

Changes and Customer Service

If changes are not handled correctly, they can seriously damage your “Perceived Value” in the customer’s eyes, and lower their satisfaction with your company.

Remember that customer satisfaction has to do with the difference between “Perceived Value” and “Cost.” Every change is an opportunity to improve customer satisfaction by presenting the change in such a way that the value exceeds the costs in the mind of the customer. This is easiest done with Value Engineering changes and changes that are caught in the pre-construction phase.

*If you do a poor job of selling the value on changes, then customer satisfaction will drop – along with your margins.*
Group Activity – Lessons Learned

This is a group brainstorming session with the topic being:

**What can you do to improve the change process in your company starting tomorrow?**

A volunteer will write down the ideas and the class will vote on them at the end.

**LESSONS LEARNED:**
Make your own notes from the brainstorming session about what ideas you can put into practice immediately.
Customer Service – The Company Lifecycle

Before we jump into the meat of the subject, it is important to look at the beginnings of the company. Successful founders started their companies because they saw a better way to serve the customer – higher quality, better pricing, or meeting an unfilled need.

The founder and their original team members all provide this level of remarkable service. Often, there is little or no financial acumen, yet the company is successful, continues to grow, and becomes profitable.

Over time the company grows larger, separate specialized “departments” form to manage the business more effectively. You may get a separate one for purchasing, accounts payable, accounting, tools, equipment, human resources, safety, estimating, engineering, service, and projects. Many of these departments have little or no direct contact with the customer – they are set up to make the business operate more “efficiently.”

For a period of time the company does appear to operate more “efficiently,” and in an effort to improve upon initial results by doing more of the same, the company starts to become even more inwardly focused on their own internal processes. There is a point when this inwardly focused culture can put the business into a serious decline – think Apple Computer in the early 1990’s.

This decline can head in two directions. In one scenario, it continues and the business continues to deteriorate because of poor customer service, and it eventually folds. In the other scenario, the business finds renewed focus on listening to and serving the customer. With its internal structure all refocused, the business rebounds – think Apple Computer in 2005.
Developing Stronger INFRASTRUCTURE for CONTRACTORS

STRATEGIC OPERATIONS
Alignment Of Markets, Systems & People
Project Management / Field Management
New Market Planning & Startup

FINANCIAL PROCESSES
Integrated Operations & Accounting
Management Reporting
Cash Flow Management

TECHNOLOGY
Streamlined Workflow
System Conversion / Integration
Custom Programming (Excel / Office / SQL)

BUSINESS DEVELOPMENT
Marketing
Sales
Estimating

TALENT – “PEOPLE PROCESSES”
Organizational Planning
Review & Compensation Processes
Aligning Personnel & Company Goals

Will Your Infrastructure Support The Company You Want To Build?

INFRASTRUCTURE

A Hands-On Approach
We are so confident that our services will add value to your business that we want to share risk with you.

Most management consultants will talk to you about the risks of business but themselves take very little risk with conservative time & material billing rates and little in the way of performance guarantees.

There are times when this is necessary but for most projects we strive to look at alternate pricing methods that provide sharing of risk.

Monthly Retainer: Regularly scheduled on-site and/or phone meetings keep your projects moving forward. These have proven to be the most effective programs for driving long-term change.

Fixed Price: As much as possible we will work together to clearly define a project to the point of being able to provide a lump-sum pricing structure with mutually agreed upon deliverables and payment schedule.

Results-Driven: We will seek to tie as much of the pricing to specific results-driven deliverables as possible. If you don’t get the value we discussed you don’t pay.

Payment Timing: Many projects have heavy up-front costs but the business results are longer-term. We recognize this and will spread the payments over time – tied to the future results as applicable.

Contingency Pricing: For some projects we will tie up to 100% of the pricing contingent on the outcome.

The early roots of this company started to grow in the early 90's, not long after I turned out as a Journeyman Electrician and started running work. What bothered me then and continues to bother me today is that there is basically a lot of inefficiency in the construction management process.

Because this inefficiency is industry-wide across all trades I view this as a minor problem and a HUGE OPPORTUNITY.

I have worked hard to put systems in place to improve the process in a variety of capacities working my way from apprentice to the executive level and making several horizontal moves along the way to deepen my experience in accounting, marketing, HR, and technology. Today I am proud to be able to offer solutions to a lot of those problems through the great team at D. Brown Management.

The D. Brown Management team consists of a group of experienced professionals from the construction industry who have proven themselves at the senior management level with bottom-line results.

Each team member has their own specialty including operations, productivity, finance, technology and marketing. We work at the intersection of those systems with a heavy focus on the Project Management processes. It is our depth and breadth of experience in the other areas and how they all interrelate that really creates the results and is our key differentiator.

Our goal is to integrate thoroughly with the client's team working in a *"Hands-On"* Approach to help build a stronger business.

We offer a variety of solutions for the construction industry ranging from structured programs to training to meeting facilitation to special projects. Thank you for taking the time to get to know our company. Please call or e-mail me with any questions.

Sincerely,

David Brown
(916) 912-4200 PHONE
(916) 716-1696 MOBILE
david@dbrownmanagement.com
Strategic Operations & Business Planning

Planning is important but without execution and follow-up it is at best a waste of time and can seriously impact morale and actually have negative effects on an organization.

By combining higher level strategic planning with detailed operational planning and a structured follow-up process including a strategic 5 year schedule, monthly written updates, a secure client website for collaboration, action items and status and regular, professionally facilitated status meetings a culture of planning and execution will be built into the culture of the organization.

Project Management

- Schedule Delays Cost Between $600-$1,000 Per Day Or More
- A 5% Increase In Production Can Be Worth $50,000 Per Year

Effective Project Management is a primary driver of profitability for contractors. We provide custom designed Project Management training programs specific to your company, your people and your processes with focus on processes, pre-planning, production tracking, schedule management & customer relationships.

Streamlining – Saving Money & Improving Quality

Until you stop trying to manage people and focus on managing processes while leading people you will constantly be struggling just to sustain your organization much less grow it.

You probably started your business because you had a great idea about doing something better. Most likely it was on the customer relationship, employee or productions side. For the business to keep growing you must look at every process, document it, analyze it, streamline it and develop training for it. An experienced third-party can be very helpful with this project.

Talent – “People Processes”

In the end it all comes down to people – the business will not grow without the right people in place doing the right things. If you already have your strategy down, are generating the business and have streamlined most of your processes it is time to look at the “People Processes”

We can help you turn your business strategy and operations plan into a “People Plan” to guide recruiting, training, reviews, compensation and benefits.

Special Projects

One of the biggest challenges a growing business faces is not having the resources to effectively take advantage of an opportunity, develop a new idea or solve a specific problem.

You may have a need for a high degree of expertise for a limited period of time but think you need to pass on the opportunity or try to implement it with less able talent that you can keep employed on a regular basis. We will work with you to design a clear scope and timeline and in most cases will provide you a fixed price for the project.

RCCA - Rapid Construction Company Analysis

A structured method of analyzing the critical aspects of a contracting business including a company overview, technology systems, safety, future goals, talent, financial structure, project management team and market development.

This assessment allows us to more fully understand your organization and for you to more fully understand our approaches and what insights we are able to offer.
The primary purpose of accounting should be to provide the right information at the right time in order to enable better decision making.

Basic accounting does not necessarily provide this information. It is designed more around tax code, Generally Accepted Accounting Principles (GAAP) and very basic summary information.

We design all reporting packages to integrate with your accounting system and other databases to eliminate duplicate data entry while providing critical management information.

Integration: Work with your company to understand the operations, management decision process, IT systems, accounting software, accounting processes and needs of your bank/bonding company so we can integrate that information into your financial reporting.

Training & Automation: Develop customized training for your team and automate as much of the process as possible.

Support Your Decisions With The Right Information

Software selection is one of the most critical things you can do as a business. You are basically trying to mirror your critical business processes in software.

Done correctly software can streamline your business significantly. Done incorrectly it can cost hundreds of thousands of dollars in lost productivity.

Our structured approach along with experience across multiple contracting businesses ensures an effective implementation.

We look at your business needs first and the software second tailoring the selection and implementation around your business.

Nothing will have a bigger effect on your bottom-line than building a stronger top-line.

We work with contractors to help them develop strong marketing and business development processes that provide a steady stream of high-quality projects to the estimating team.

Our focus is not just on the sales side but on the creation of the marketing package, refinement of a target market and setting up the marketing administrative systems that help deliver consistent results.

Technology is a critical part to any business and can be especially productive for contractors. Our experienced team of IT Professionals focuses on nothing but the construction industry.

We work on projects ranging from daily management of a client’s network to complete integrations tying together the field, project managers, estimators and accounting while providing real-time information to the desktops and Blackberry’s of the business owners.
Guaranteed RESULTS

Business is about taking and managing risks. Any project to improve or change your business infrastructure has a lot of risks. We seek to share those risks with you to more closely align our interests and improve the chances of success.

It’s a small world and reputation is king. We understand this and make a few basic promises about our services:

- We will always conduct ourselves with the highest degree of professionalism.
- We will always act ethically.
- We will always deliver on schedule.
- We will price our services to share performance risk with you.

The bottom line is that if unsatisfied with the results achieved you are not obligated to pay. We believe very strongly in our ability to help your business and look forward to working with you.

Learn More ONLINE

<table>
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<tr>
<th>CCD – Construction Company Development</th>
<th>Project Management Processes</th>
<th>Project Management Training</th>
<th>Production Tracking</th>
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<td>Financial Reporting Structures</td>
<td>Organizational Planning &amp; Alignment</td>
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www.dbrownmanagement.com
Producing results is about the balance of fresh ideas combined with a structured system designed to help execute those ideas as quickly as possible.

**Long-Term Development Plan:** A 12-60 month plan with quarterly milestones.

**Executive Meetings:** Regular meetings with senior management focused on progress and major corrections as required.

**Operational Meetings:** Regular hands-on meetings with the entire team keeping everyone on the same page and all action items on track.

**Facilitation / Implementation:** On-site consulting built into the program to help maintain focus, generate fresh ideas and get past roadblocks.

**Coaching:** Follow-up between meetings with individuals by consultant helps with training and personal development of team members.

**Online Management System:** Web-based tool to keep track of all project correspondence, files, action items and milestones with e-mail notifications.

**Follow-Up:** Proactive follow-up with individual team members regarding their action items by Project Coordinator.

**Resources:** D. Brown Management is constantly developing new training content and operational programs to help contractors grow more efficiently. All retainer clients have full access to this content.

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**Retainer Overview**

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**Your Custom Development Plan**

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Each client is unique in their needs and a specialized plan will be tailored around their goals, current status and execution ability.

This plan is strategic in nature and is designed in conjunction with the owners / management team prior to the start of the project.

Adjustments are made to the roadmap milestones on a quarterly basis during the Executive Meetings.

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**A 3rd party can substantially accelerate implementation and change by bringing in outside ideas, perspective and energy.**

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Call today for more information