LEPATNER C³ MODELTM CONSTRUCTION COST CERTAINTY

Providing corporate owners, institutions, developers and real estate investors with a *true*, fixed-price approach to designing and building complex capital projects

> the LEPATNER C³ BLUEPRINTTM

>> the LEPATNER C³ AGREEMENTSTM

>>> the LEPATNER C³ PROJECT FORMS TM

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PART I

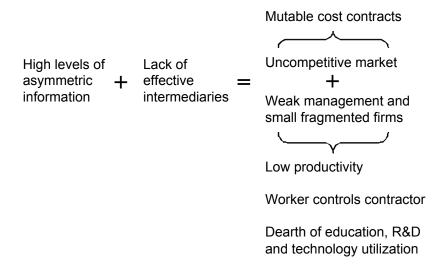
THE STATE of the CONSTRUCTION INDUSTRY TODAY

We live in an era when economic power has broadly and decisively shifted from suppliers to consumers. The availability of product information and cost has exploded geometrically in recent years. Consumer choices have multiplied greatly. It is not nearly as easy as it once was to get away with peddling expensive junk. Just ask GM and Chrysler, or if you could find them, RCA or Philco. Companies propose. Consumers dispose. Don't like something—no, make that anything—you took home from Wal-Mart or Target yesterday? Take it back tomorrow and an "associate" will refund your money with a smile. We speak here not just of clothing and iPods. Even in citadels of professional privilege like medicine, consumers (patients)—at least in countries like the United States—exercise choice at levels unthinkable a decade or two back, and providers (doctors on down) have no choice at all but to try hard to satisfy them.

If there's anything that Americans are more cynical about than politics, it is construction. And with good reason. In politics at least we get an opportunity to vote and turn out one set of rascals for another—the hope of change anyway. In construction we do not seem to have even that much choice. It always costs more and always takes longer than the owners thought. And always, if they want their building finished owners put-up and pay-up. Like as not, construction is likely to be the only experience where otherwise sophisticated, business savvy owners feel distinctly uncomfortable with the process because of their inability to understand and control it. As seen in the figure below, the fact that the building construction industry is highly fragmented, primarily populated by small business owners continually struggling with cash flow who have little access to credit and are unable to afford significant technologic investments to improve productivity results from a lack of reliable owner intermediaries to level the playing field between owners and contractors.

The Equation of Existing Industry Failure

Source: Barry B. LePatner



This reality reinforces the asymmetry of information which favors the contractor over the owner and ensures that the contractor maintains full control of pricing and scheduling. As a result, contractors shift many project risks they should assume to the owner, operate in an opaque manner, and most importantly, rarely if ever provide the owner with a true fixed price for the project – risks and all.

If owners are going to avoid paying more than they bargained for on their capital projects, it is absolutely essential that they understand the construction industry's history, economic structure, incentives and disincentives. Only when armed with the most powerful weapon in a business arsenal—knowledge—will owners have a fighting chance to get the building it wants, on schedule, for the budget it established and the contract price it agreed upon.

Understanding the structural failures of the industry is one thing. Understanding how a particular project will be built and delivered is another. For example, over the past several decades, Guaranteed Maximum Price contracts and Fast-Track project delivery became the norm for most large scale, complex projects. Construction Managers, who serve as the aggregators of the various subcontractors and materials suppliers for a project, answered owners' and developers' calls to provide them with a building process that, at first look, allowed construction to proceed on an accelerated basis, potentially saving the owner millions of dollars in financing costs and ostensibly allowing it to capture "early" revenue from the completed project. However, owners and developers were slow to recognize a major flaw in the model: GMP contracts and the Fast-Track process were based on incomplete design documents, which invariably led to significant cost overruns.

Despite its name suggesting otherwise, a GMP is misleading. To "expedite" construction, Construction Managers routinely require the owner's architects and engineers to issue incomplete drawings and specifications to contractors as the basis for the GMP. The contractors must infer and make cost assumptions on the "missing" design elements since they are not provided with a full set of information on the project design. GMP agreements ultimately allow for myriad exclusions, allowances, and pricing assumptions based upon the incomplete design. It is no surprise that these pricing and scope assumptions rarely bear out once construction starts, the final design completed, and actual costs determined.

Fast-track projects also fail to provide assurances that projects will be completed within budget and on schedule. Despite fast-track jobs commencing construction while the design is still being finalized, these projects rarely finish sooner than if construction had begun after complete, fully developed construction documents had been prepared and bid. In effect, fast-track often extends the construction schedule, increases construction costs, and ensures the likelihood of even more costly completion delays.

As a result, change orders, claims, and delays to project completion, stemming largely from incomplete design documents, became the norm driving up actual project costs by 20% or more – even 100% at times – over the owner's anticipated project budget. To the nation as a whole, construction cost overruns damage the economy by over \$120 billion

each year. For many commercial and institutional owners and developers, paying for unexpected overruns and carrying costs out-of-pocket are often catastrophic.

In the recent past, those unexpected cost overruns were paid to the builders by owners accessing additional lines of credit or by reducing the developer's anticipated profits. In the current economic climate however, unlimited project financing is no longer available. Lending requirements have tightened, typically requiring a 40% to 50% owner equity stake in order to obtain a construction loan. Moreover, mezzanine loans, which financed project overruns that enabled an owner to pay for contractor claims, are a thing of the past. Such costs will now have to be paid by the owner. As a consequence, public and private owners will increasingly demand certainty for their capital project costs in order to protect their equity stake. Unanticipated project cost overruns can no longer remain an afterthought or be assumed to be covered by additional financing.

Yet, standard design and construction agreements, including those generated by or based upon the AIA and AGC models, fail to provide any sense of certainty in these critical areas. In fact, the AIA and AGC agreements are silent on the critical issue of contractor bids based upon incomplete designs and fail to offer any mechanism to anticipate and price "unexpected" conditions. These are precisely the circumstances in which cost overruns and change order claims run rampant through the construction industry.

These precepts are set forth and discussed at great length in Barry B. LePatner's book, *Broken Buildings, Busted Budgets: How to Fix America's Trillion Dollar Construction Industry* (University of Chicago Press, 2007). It has sparked a long overdue debate among owners, design professionals, and contractors on the mutual benefits of construction industry reform, including the need for widespread adoption of true fixed-price contracts.

While *Broken Buildings* explained why the industry operates the way it does and offered industry-wide and individual recommendations for improvement, including use of fixed-price contracts, it did not specify how to go about obtaining a true fixed-price contract. In Part II, we explain how the LePatner C³ Model helps owners reduce the risk of unwarranted cost overruns while securing greater assurances of timely completion of their projects.

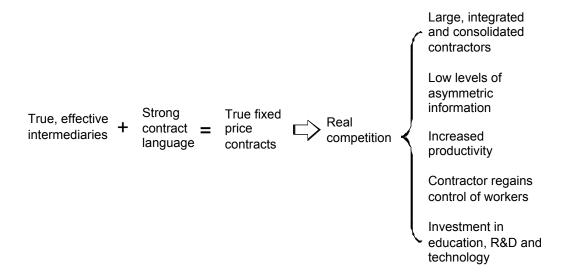
PART II

THE MISSION AND CONCEPT of the LEPATNER C³ MODELTM

Building on LePatner's "Equation for Industry Reform" published in the final chapter of *Broken Buildings*, the LEPATNER C³ MODEL™ instructs owners how to regain control of its project and rebalance its relationship with the contractor by obtaining, for the first time, a *true* fixed-price contract. LePatner's reform hinges on two fundamental principles: (i) a *true* fixed-price construction contract based upon fully complete and coordinated construction documents; and (ii) a transparent construction process brought about by the introduction of a reliable owner's intermediary to the process, who is able to restore balance to the asymmetric owner-contractor relationship.

The Equation for Industry Reform

Source: Barry B. LePatner



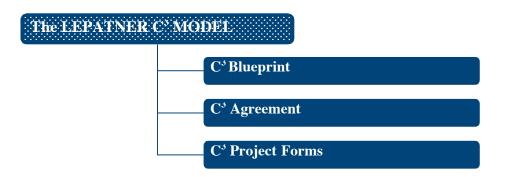
To address these concerns and others, LePatner & Associates has devised and implemented, with input from owners and construction industry leaders, a revolutionary and seamless project management process, the LePatner C³ Model, which incorporates a set of *true* fixed-price contracts. It aligns the often conflicting incentives and objectives of owners and contractors and casts aside misplaced industry assumptions and rigid hierarchies that fail to serve owners, lenders, designers, or contractors. Instead, the LePatner C³ Model is based upon: (i) thorough upfront project planning and design preparation; (ii) an equitable accounting and allocation of project risks between owners and contractors; (iii) a transparent process for owners and builders to exchange information on project pricing and market conditions; and in return, (iv) it ensures a built-in *fair* profit for contractors when the project is completed "on time and on budget" and without fear of time-consuming and costly claims procedures.

In developing the LePatner C³ Model, LePatner undertook a comprehensive review and analysis of (i) how commercial, institutional and development projects are currently

designed and built in the United States; (ii) the most recent 2007 AIA and AGC form agreements (presently regarded as the construction industry standard); and (iii) LePatner's own project agreements prepared on behalf of owners/developers with their contractors, construction managers, and design professionals. For over twenty years, LePatner contracts have provided owners/developers with a more complete set of project protections that more accurately reflect the complexities of the modern construction processes than AIA agreements.

Now, with an improved set of construction contracts and a well-defined project management process, LePatner raises the bar again for design and construction counsel and advisory services.

The LePatner C³ Model™ is designed for corporate and institutional owners, developers, and real estate investors as a complete capital project process guideline from start to finish. It will, for the first time, provide owners with a project strategy as well as powerful contract tools that provide strong assurances that their projects will be completed for a true fixed price without unwarranted cost overruns. The LePatner C³ Model™ is comprised of three interrelated components presented in the accompanying documents:



- **1.** C^3 **Blueprint.** This is a dynamic outline of the entire LePatner C^3 ModelTM, describing in detail the tasks, responsibilities, and step-by-step undertakings by the members of the project team during each phase of the project. See Part IV.
- **2. C**³ **Agreements.** While applicable to any size project, these agreements anticipate the special requirements of complex projects costing \$25 million or more. They depart markedly from standard form agreements by establishing the conditions to avoid unwarranted cost overruns. The primary project agreements are between:
 - owner and construction manager/contractor/vendors,
 - owner and pre-construction manager, and
 - owner and architect / engineer / other design service providers
 These can be edited and shortened as needed to address smaller projects.

The C³ Agreements arose from LePatner's detailed comparative analyses of the 1997- and 2007-AIA, 2007-AGC, and 2008-LePatner agreements. See Part V.

3. C^3 **Project Forms.** A sampling of key forms is listed in Part VI. They are to be used by the Owner and its design and construction consultants to properly manage the project and ensure that the C^3 Agreement provisions are complied with.

Comparing Project Approaches

Traditional Project Construct	The LePatner C³ Model™	
The traditional project process is an opaque process (even with a CM "open-book" project) that hides the true costs of construction from the owner.	The LePatner C ³ Model is a transparent process that demands above-board cooperation, collaboration and honesty in exchange for a fair profit and avoiding the typical project conflicts.	
Bids / GMPs are based on incomplete and uncoordinated CDs, which provide loopholes for change orders and claims during construction.	Contracts mandate complete and coordinated CDs for bidding, which the CM/GC must review and certify are complete prior to award— or provide notice to the owner and revise its bid.	
CM/GC pricing is value-priced, charging what the market will bear.	Pricing is based on actual costs plus a fair, negotiated "pure" profit for CM/GC.	
Little or no owner negotiation is possible since the owner does not have an informed basis to challenge pricing.	• Owner's "team" knows the cost of trades and construction – a unit price list and/or schedule of values is presented to the CM/GC to accept or not. Only their profit is negotiated.	
CM/GC protects itself against all project risks not spelled out on the bid documents. Traditional contracts are silent on these issues. Guess who bears the risk?	LePatner convenes a Risk Allocation Workshop [™] to identify all likely project risks, assign, and price them to create a Risk Contingency for the project. This can be folded into the fixed price or left as a contingency.	
 CM/GC builds in hidden profit centers to supplement its bare bone base contract fee: > General conditions > Insurance > Sub "buys" > Change orders 	No hidden profit centers are allowed. CM/GC records are fully auditable if investigation is warranted. CM/GC efficiency and good management is rewarded if completion is achieved faster than the schedule established by the owner's team.	
Design consultants are in constant fear of being sued over errors and	Design consultants can rest assured that once their CDs are certified as being fully	

omissions in their incomplete	complete and coordinated, they will be
drawings that they are forced to issue	largely insulated from CM/GC claims
prematurely.	arising from the CDs.

Who Wins?

- ✓ **Owners** will not face uncertainty over final costs, undisclosed risks, or uncertain completion dates.
- ✓ **Lenders** will have certainty that their construction loans will cover all completion and contingency costs.
- ✓ **Design consultants and CM/GCs** will no longer need to play the claims game. Instead, they can focus on completing the project on time and on budget in a less acrimonious atmosphere.

Who may still object?

Contractors and construction managers whose entrenched, inefficient (and perhaps unscrupulous) ways make them reluctant to change and who are more than comfortable with the status quo.

PART III

KEY COMPONENTS of the LEPATNER C³ MODEL[™] C³ Blueprint, Agreements, and Forms[™]

As the financial crisis abates in 2010 and credit availability enables construction projects to move forward, construction overruns will no longer be affordable, nor should they be tolerated by owners. As corporations, institutions and developers plan new construction projects, they will find that lenders will require 40-50% owner equity to qualify for financing. In addition, experts predict that there will be few, if any, mezzanine lenders willing to fund cost overruns. To make matters more challenging, after several lean years of low-bidding projects just to keep their doors open, contractors will be looking to resume business as usual. The traditional low-bid process embraced by the industry, where contractors routinely bid low (often without profit) to get the job then count on change orders and claims to make a profit, routinely mandates that owners' project budgets must confront unexpected cost overruns. Hence, it has become increasingly imperative for owners to recognize the critical importance of utilizing true fixed-price construction contracts as a means to preclude costly construction overruns.

Inspired by Barry B. LePatner's successful book, *Broken Buildings, Busted Budgets*, which highlighted the economic harm to our nation caused by the inefficiencies of the construction industry, LePatner & Associates is pleased to announce the LePatner C³ Model[™], the first ever *true* fixed-price model for design and construction that assures project cost certainty. It lays out in detail the process and criteria for owners to obtain fixed-price contracts, where the risk of unwarranted cost overruns is minimized, if not outright eliminated.

A fundamental principle of this model is that it calls for the entire project team (architects and engineers, contractors, construction manager, etc.) to coordinate its activities from the outset of the project and generate, review, and acknowledge fully complete and coordinated design documents for final bidding prior to commencing construction. Upfront project planning is strongly emphasized where decisions are made that can ensure savings of millions, if not tens of millions of dollars throughout the design and construction process. Specifically, the C³ AgreementsTM state:

- 1. Design service providers shall provide **fully** complete and coordinated construction documents for final bidding by the contractor (and not as a series of addenda after the owner-contractor agreement has been executed);
- 2. Contractors / construction managers shall undertake a thorough review of the site and construction documents before they bid;
- 3. Contractors / construction managers, as constructability experts, must (a) identify and advise the owner and architect of any observable errors and omissions in the construction documents; (b) certify that the construction documents are in fact fully complete and coordinated at the time it submits its final Project bid, or (c) agree to waive any claims related to errors or omissions that the contractor / construction manager should have inferred or recognized.

Unparalleled in typical project planning, the LePatner Model[™] requires a **Risk Allocation Workshop**[™] between the short-listed construction manager/contractor and owner. The meeting serves to identify, equitably assign, and quantify potential "unforeseen" risks and conditions that may arise over the course of the project so that pricing for such

contingencies becomes part of the fixed-price contract. These are itemized and valued through an agreed-upon "Project Risk Contingency." The owner and contractor can then negotiate one of two outcomes for the Project Risk Contingency:

1. The owner holds the funds for the Project Risk Contingency. If, and only if, these risks materialize during the Project and are verified by the owner will the amounts agreed upon in that Risk Contingency be paid to the contractor. No amount in excess of the funds held for that Risk Contingency shall be incurred by the owner;

OR

2. The Risk Contingency funds are added to the "base" Project price determined by the complete and coordinated construction documents to create the project's maximum cost. If verifiable risks materialize, the contractor is paid from the Project Risk Contingency following owner approval. If the total verifiable cost of the risks encountered exceeds the Project Risk Contingency funds, the contractor pays the full difference – the owner pays nothing. The owner's upside risk is limited to the maximum cost. However, if some or all of the Risk Contingency items do not materialize, then the owner and contractor may share on a sliding scale the remaining Risk Contingency funds. In this Option 2, the owner knowingly pays a "risk premium" (the cost saving / sharing with the contractor, in percentage terms - likely 5-7%) above the basic scope specified in the complete/coordinated construction documents. But this up front "insurance" may represent a potential savings and/or cost avoidance of 15, 20, 30, 50% or more – the amount of an average project's cost overruns.

In essence, only owner-elected scope changes shall be considered valid change orders to the agreed upon total fixed price. Although the owner may pay a premium above the initial project cost in the event a Project Risk Contingency eventuates, the owner can rest assured that it will not be subject to unwarranted change order claims, which often adds substantially to the original contract price as well as delay the anticipated scheduled completion of the project.

No longer will the Construction Manager be permitted to incorporate a straight percentage for general conditions and insurance, without itemizing what is included. Vague general conditions can often added hundreds of thousands, if not millions of dollars in unauditable costs to a project without clear identification of where these monies were spent. The LePatner C³ Model™ provides for strict but fair agreement provisions that itemize general conditions and insurance costs, which must be fully documented as bought and expended on the project by the contractor. The contractor is subject to comprehensive financial controls and audit provisions that permit the owner quick access to books and records if a dispute arises and an investigation is required.

The LePatner C^3 ModelTM offers a fully transparent construction process for the owner's and contractor's mutual benefit. The contractor earns a fair, "clean" profit / fee for the job. The LePatner C^3 ModelTM discourages and prevents hidden profit centers and incentivizes the contractor with higher fees and opportunities for shared cost savings.

Experienced, efficient and well-managed contractors will undertake projects where this methodology is incorporated because they are the ones who, along with the owner, will recognize that a more transparent project approach benefits them by providing a reliable,

fair profit and by avoiding the distraction, animosity, and costs of playing the "claims game."

The LePatner C^3 ModelTM will require comprehensive up-front planning and ongoing monitoring by the project participants. The LePatner C^3 BlueprintTM is generally structured as follows, as is further detailed in Part IV.

- 1. Strategic Planning Stage. Prior to commencing design services, the owner's business priorities and goals are defined, stakeholder input obtained, and the pros and cons of appropriate project delivery models are debated. Budgets and schedules are established, and due diligence is conducted to pre-qualify prospective consultants and contractors.
- 2. Scope Refinement and Design Stage. LePatner-prepared RFPs fully define the scope of work and services for each consultant, and specimen C³ Agreements are included to ensure that each architect, engineer, subcontractor and the Construction Manager is fully aware of the contract requirements when submitting proposals. The RFP and C³ Agreements clearly state the responsibility of the design service providers to prepare fully complete and coordinated Construction Documents for final contractor bidding, and allow them the additional time and fee required to do so, if necessary.

Project costs are monitored and controlled during the design process by an independent cost estimator / pre-construction consultant, who provides detailed estimates and constructability checks at crucial design milestones. With design costs being on average ten percent of construction costs, the additional effort made during the design phase far outweighs the effort and cost needed to correct design errors and omissions during the construction phase.

- 3. Bidding Phase. When construction documents are issued for competitive contractor bidding, the owner's cost estimator prepares a final cost estimate as a baseline control for leveling and negotiating the contractor bids received. Risk allocation meetings are convened with short-listed consultants / contractors to identify and quantify the common, and uncommon, risks that may give rise to change orders and additional project costs, e.g. subsurface conditions, delivery delays, strikes, subcontractor defaults, etc. The parties agree on a Project Risk Contingency, which remains in the owner's control and caps the client's cost for such risks.
- **4. Construction Administration.** Project costs continue to be closely monitored during the construction phase by procedures and controls established in LePatner's C³ Agreements and C³ Project Forms. Payment is always based on earned value for work in place and verifiable documented costs and is only given in exchange for lien waivers from the Construction Manager and each subcontractor.

Potential changes are flagged through an early warning procedure (outlined in the C³ Agreements) that brings the parties together quickly to devise a solution that mitigates cost and delay. If the change is determined to be legitimate (either an owner-elected scope change or one of the contemplated Risk Contingency items), a process is in place to establish fair cost plus profit (verified by the independent cost estimator) to integrate the work seamlessly into the project schedule.

If a dispute arises over the validity of a change order or claim, the C³ Agreements' quick-dispute resolution provision provides the procedure necessary to reach a

solution within weeks, not the months or years that arbitration or litigation can take. Legal fees and costs are kept to a minimum for such disputes. The owner may access the contractor's books and records, including the original electronic files, at any time, which further incentivizes the contractor to settle any dispute quickly.

The LePatner C^3 ModelTM provides an owner a level of assurance that project costs will not exceed a pre-determined budget, unless it elects to increase the scope of work contained in the contract documents. Unwarranted and unwelcome cost overruns will be a vestige of the past for those owners who choose to move past the construction industry's blandishments that entice owners into open-ended cost agreements. Instead, owners can embrace the peace of mind and bottom-line benefits that the LePatner C^3 ModelTM delivers.

PART IV LEPATNER C³ BLUEPRINTTM

LePatner's C³ Blueprint was visualized in mind-mapping software, where the hundreds, and potentially thousands, of project tasks, responsibilities, and interconnections can be recognized instantly. The six key phases of the C³ Blueprint are summarized below:

No.	Phase	Key Players	Primary Tasks
1.	Strategic Evaluation & Planning	Client, LePatner	 Identify goals / objectives Project delivery options Determine risk profile
2.	Develop Project Management Plan (PMP)	LePatner	 PM Controls Design/Construction QA/QC Project Organization, Roles, Tasks Site Management Plan Risk analysis
3.	Project Team Assembly	LePatner	 Team selection criteria Prepare RFPs Review and level bids
4.	Design Process Oversight	LePatner, Team, Client	 Roles and responsibilities Design process Owner's Independent Cost Estimator Filings and approvals
5.	Contractor Selection, Bidding, & Award	LePatner, CM, Team, Client	 Pre-qualification Prepare and issue RFP Analyze and level bids CM interviews and negotiations
6.	Construction Administration & Close-Out	LePatner, CM, Team	 Pre-construction planning Construction Administration Close-out tasks Post-Occupancy

PART V

LEPATNER C³ AGREEMENTSTM

There are three primary LePatner C³ Agreements. These will serve as the baseline agreements from which we will create additional consultant agreements and smaller project and limited scope agreements.

The primary agreements are:

Owner – Construction Manager

Agreement for Construction Services Resulting in a Complete Project Price

Owner - Architect

Agreement for Architectural Services

Owner – Pre-Construction Consultant

Agreement for Pre-Construction Consulting Services

As noted in Part III, the C³ Agreements are seamlessly intra-coordinated in order that all parties are subject to the same key provisions, including: providing complete and coordinated construction documents for bid pricing; providing detailed complete, fixed-price breakdowns, including prices and/or allowances for project risks determined in the Risk Allocation Workshop; procedures for approving owner-initiated changes; payment procedures; and dispute resolution forums.

PART VI LEPATNER C³ PROJECT FORMS[™]

LePatner's C³ Project Forms complement the C³ Agreements. They provide a standardized way for professional and non-professional (client) project managers alike to ensure that the terms and provisions of the LePatner C³ Agreements are followed and implemented properly to ensure a true fixed-price project outcome.

Where appropriate, the forms and checklists reference the specific C³ Agreement provision in order to provide additional clarity and guidance to the process. More forms and checklists will be developed and added to reflect the needs and requirements of specific projects in the future. Current forms and checklists include:

- Request For Proposal: Architectural Services
- Request For Proposal: MEP / LS Engineering Services
- Request For Proposal: AV / IT / Security Design Services
- Request For Proposal: Pre-construction Consulting Services
- Request For Proposal: Code / Zoning Consulting Services
- Request For Proposal: Civil Engineering Services
- Request For Proposal: Structural Engineering Services
- Request For Proposal: LEED Consultant Services
- Request For Proposal: Commissioning Agent Services
- Request For Proposal: Landscape Architectural Services
- Request For Proposal: Interior Design / Lighting Design Services
- Request For Proposal: Construction Manager
- Request For Proposal: General Contractor
- Request For Proposal: Owner's Vendor and/or Supplier
- Bid Proposal Forms: [for each of the above]
- Bid Leveling Form
- Consultant / Contractor Interview Checklist
- General Conditions Costs Form
- Owner's Project Insurance Checklist
- Project Management Plan
- Project Kickoff Meeting Checklist
- Project Meeting Record Form
- Pre-Construction Kickoff Meeting Checklist
- Architect / Engineer / Consultant Application for Payment
- Architect / Engineer / Consultant Additional Service Request
- GC / CM Application for Payment Checklist
- GC / CM Application for Payment and Schedule of Values
- GC / CM /Subcontractor Conditional Partial Waiver of Lien and Release
- GC / CM / Subcontractor Conditional Final Waiver of Lien and Release
- GC / CM Affidavit of Payment and Lien Search Results
- Contractor Weekly / Monthly Reports Checklist
- Action Items Checklist
- Early Warning Form
- Field Change Authorization
- Request for Change / Change Order
- Change Order Checklist
- Change Order Approval Form
- Project Closeout Checklist
- RFI Form