

## Construction management involves professionals in the complete design and construction process

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Many people have heard the term but few can define it, mainly because there are so many ways to manipulate this construction delivery system that it cannot be specifically defined. Despite this fact, there are several advantages to construction management which involves construction professionals in the complete design and construction process.

Traditionally design and construction was handled by the master builder responsible for both the design and construction delivering a complete product. Contractors normally would perform all aspects of the project within their own workforce. During the mid 1850s, architecture became a separate service from construction. As buildings became more complex in the 1960s and '70s, Contractors that traditionally self performed most of their work became brokers of smaller specialty subcontractors. At the same time, design professionals were beginning to pull away from their construction related responsibilities due to rising liability insurance costs.

Bidding competition became tougher and contractor margins were reduced. The successful bidding contractor would have to take advantage of missing items from the bid documents which would be necessary to complete the project. These items would not be included in the estimate in order to be the low bidder on bid day. As the project progressed, claims for change order compensation for any work not shown or implied on the bid documents created by the design professionals, but necessary to complete the project, were made. This created an increasing adversarial relationship between the owner and the contractor while the design professionals were trying to back away from the construction process. The result can be a construction project over budget, behind schedule and an unhappy owner.

It became evident that the owner required an advocate on the construction side to guide him throughout the complete process. Enter the construction manager. The construction manager became an agent for the owner responsible for managing trade contractors and material purchases in the best interest of the owner. The construction manager will procure competitive pricing from qualified subcontractors and suppliers. A selection recommendation is made to the owner based on qualification, cost and schedule. The owner has complete access to project accounting including construction manager profit throughout the entire job.

In order to take full advantage of the services offered, the construction manager should be involved from the onset of pre planning and design. Construction manager preconstruction services can include the following: aid in design professional selection, project scheduling, project budget, develop cost management procedures, coordinates design comments, review and advise on constructability, develop bidding procedures, coordinate permit process, assist in public relations, generate bidder interest, expedite bidder interest, expedite bid document delivery, conduct pre-bid conference, and bid evaluation.

Construction manager responsibilities during construction include the following: contract administration, manage submittal process, conduct job site meetings, coordinate inspections and testing agencies, construction observation, recommendations regarding non-conforming work, monitor construction schedule, review contractor payment request, negotiate change order costs and time extensions, review contractor claims, receive and review equipment instruction manuals.

Probably the least thought about but equally important is post construction services including: assist in occupancy permit, coordinate as built documents, coordinate training sessions, claim analysis, coordinate punch list items, an final project reports.

Construction managers are normally on a qualification basis with a negotiated fee, similar to selection of a design professional. The American Institute of Architects has several contract formats to address the amount of risk and responsibility the CM will be required to take. Document A131 Standard Form of Agreement between Owner and Construction Manager is a common delivery document used in the industry.

At this point, owners and construction managers must negotiate as to the amount of risk the construction manager is required to take on. AIA Document A121 Standard Form of Agreement between Owner and Construction Manager puts the CM at greater risk by introducing a guaranteed maximum price option. Although this may seem desirable, one must remember that the greater the risk, the greater the reward. Also putting the CM at risk increases the potential for conflict of interest.

In general a professional construction manager can invaluable to an owner with pre-planning, design, construction, engineering and management expertise that can assure the best possible project outcome no matter what type of delivery method used.

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