

DELIVERY SYSTEMS

Contractual arrangements have a significant impact on project cost. These arrangements establish the “rules of the game” for a construction project. Many owners do not effectively evaluate available contractual arrangements or they fail to perceive the significant savings they can achieve through a more astute approach to developing the rules by which their time and money will be expended. According to research, many owners could achieve cost savings of more than five percent in most projects through utilizing improved or more appropriate contracting techniques.

In assessing the type of contract to be used, one usually must make tradeoffs between cost and time. Although contracting is complex and variations are available, there are three basic contract delivery systems. As indicated, innovative approaches may be used; however, an understanding of the basic systems is obviously a prerequisite. With public projects, owners should reference public bidding statutes for any requirements.

Types of Delivery Systems

LUMP SUM COMPETITIVE BID

Definition:

An agreement between owner and general contractor to perform the work for a fixed price regardless of the cost to the contractor.

A suggested form of contract incorporates the AIA Document A101, “Standard Form of Agreement Between Owner and Contractor”, and the AIA Document A201, “General Conditions of the Contract for Construction”.

Selection Method:

Selection is based on competitive bidding among general contractors for construction of the entire project under a single contract. Bids may be accepted from a pre-qualified pre-selected list or from anyone wishing to bid. In most instances, bidders must furnish proof of financial capability, usually in the form of a bond. When using a pre-selected list, the owner and the architect/engineer should carefully and objectively weigh capabilities of contractors while assembling the list; after the bids are received and reviewed, the award should be made to the lowest qualified bidder.

Owner’s Responsibilities:

- Demonstrate financial capability.
- Provide completed detailed plans and specifications.
- Arrange for adequate professional inspection and supervisory personnel, either in-house or from architects/engineers
- Acquire staff and consultant proficiency in planning, budgeting, and construction feasibility.

Advantages:

- Economy of contractor effort with his own money at risk.
- Objectivity of selection.
- Final price known prior to start of construction, assuming no changes in plans and specifications.

- Reduced administrative and accounting expense.
- Works well for repeat projects where quantities and conditions are known.

Cautions:

- Owner and contractor may have opposing financial interests.
- Procedures required to process changes are complicated and costly for all parties.
- Construction start delayed until plans are complete and bids received.
- Reliance on consultants to provide practical advice on construction feasibility, cost estimates, and schedules, prior to receipt of bids.

CONSTRUCTION MANAGEMENT CONTRACT

Definition:

An agreement with a professional construction organization to provide pre-construction and construction phase services for a fee. Utilizing this format, an owner selects the construction manager to join them and their architect/engineer, forming a building team. The contract can incorporate a guaranteed maximum price amendment when the construction documents are sufficiently complete to define the project.

Suggested contract forms are the AIA Document A121/CMc, coordinated for use with the AIA Document A201, “General Conditions of the Contract for Construction”.

Selection Method:

The owner should make an objective review of the capabilities of interested construction management firms, carefully considering their experience in working with architects and engineers on work of similar character. The basis for selection should be qualifications and an acceptable fee schedule.

Owner’s Responsibilities:

- Appoint representatives with authority to make prompt decisions after weighing the building team’s recommendations.
- Forming a team whose members are willing to operate cooperatively in order to attain the owner’s goals.
- Demonstrate a financial capability to carry out project.

Advantages:

- Creates a “building team” that operates in a non-adversarial relationship.
- A construction professional is available to advise on cost, construction feasibility, and scheduling before a building program is developed that may exceed, or not meet, an owner’s requirements.
- Ability to bid competitively, including public projects, all trade contracts, while having a qualified general contractor on the team from the inception of design through completion of the construction phase.
- Minimizes change orders.

Cautions:

- Final cost not guaranteed unless Guaranteed Maximum Price feature is included in the contract.
- Owner and staff must be competent to evaluate prospective construction management firm’s capabilities during the selection process.

DESIGN / BUILD CONTRACT

Definition:

An agreement with a single administrative entity, who provides the design and construction under one contract. The construction portion of the work may utilize a lump sum, a cost plus, or a guaranteed maximum price contract.

AIA documents are: the A191, "Standard Form of Agreement Between Owner and Design/Builder", the A491, "Standard Form of Agreement Between Design/Builder and Contractor", and the B901, Standard form of Agreement Between Design/Builder and Architect". These documents do not apply to every design/build project. The relationships between the contracting parties will establish which documents are best suited.

Selection Method:

Contract may be negotiated or competitively bid. If competitively bid, it is extremely difficult to compare proposals in a manner that assures the selection made results in the best balance between cost, time, and quality. The owner must produce program requirements and preliminary plans and specifications with as much definition as possible, and make a careful benefit analysis of proposals.

Selection should incorporate the elements suggested in the selection of a Construction Manager. An added requirement is a review of the capabilities and experience of the contractor regarding production of the design.

Owner's Responsibilities:

- Ability to define requirements.
- Staff proficiency in evaluating proposals on the basis of cost and benefits.

Advantages:

- Owner's program and engineering staff can work directly and closely with one contract entity experienced in both the design and construction process.
- Construction may be started before plans are complete, and the work phased, which may produce a timesaving for the project.
- Early purchase of long lead-time items is possible.

Cautions:

- Owner may need a "clerk of the works" as an on-site administrator.
- With other project delivery systems, checks and balances exist that are not present with design/build. Even with the "building team" concept under construction management, owner, contractor and architect/engineer, while cooperating, are separate independent identities.
- Under design/build, the burden to select qualified firms becomes more difficult than with other delivery systems. When the price is guaranteed, and particularly where the contract has been let on a competitive basis, the owner must accept a certain lack of flexibility in obtaining desired features and may have to accept undesirable details in the final design.