

## Methods of Procuring and Paying for Design and Construction Services

The following is a brief outline of the most common ways to procure and pay for design and construction services.

### I. Procurement:

There are four primary methods for procuring design and construction services:

1. Design-Bid-Build
2. Design-Build
3. Integrated Project Delivery
4. Construction Management

**1. Design-Bid-Build:** Also known as Plan-Spec Delivery, this is the most traditional and common method used in the marketplace. Under this project delivery method, the Owner hires an Architect to design the project. The Architect hires the necessary engineering consultants. The Design Team produces a set of drawings and specifications describing the project. The degree of completeness and appropriate level of detail used in these “Contract Documents” are decided between the Owner and Architect.

Bid proposals based upon the Contract Documents are solicited from a number of Contractors. The Owner and the Architect evaluate the various bids received and select one of the Contractors. This selection is normally based upon the lowest qualified price. The Owner then enters into a separate agreement with the selected Contractor.

#### *Advantages of Design-Bid-Build:*

- The Owner can get a very thorough set of Contract Documents.
- The Owner can get a large number of competitive bids for the project. This should produce the lowest price.

#### *Disadvantages of Design-Bid-Build:*

- The Owner assumes all risk for design errors and omissions.
- The relationship between Architect and Contractor can be somewhat adversarial as opposed to collaborative.
- The bids received are only as good as the Contract Documents. So if the documents are not very good, the Owner will have to bear the cost and the distraction during the job.
- It can be difficult to compare bids on a complex job.
- This system encourages the practice of the contractors submitting very low initial bids in order to win the project, with the knowledge that additional money will be used for Change Orders later.
- The quality of the anticipated outcome completely depends on the quality of the designers and amount of money invested. Very detailed, high-quality plans and specifications are required to make this work. The process is very time-consuming and therefore very expensive.

**2. Design-Build:** Also called The Master Builder method. Under this project delivery method, the Owner hires a Design-Builder to both design and construct the project. The Design-Builder then

produces the Contract Documents and obtains bids from the various subcontractors necessary to complete the project.

*Advantages of Design-Build:*

- The process can be centered on the Owner's goals.
- The Design-Builder assumes all risk for design errors and construction cost.
- The relationship between Owner, Architect and Contractor is collaborative.
- Change Orders are less frequent because the design is developed from the beginning with input from both the Contractor and Architect.

*Disadvantages of Design-Build:*

- Each Design-Builder may approach this method differently, so the process is different for each Contractor.

**3. Integrated Project Delivery (IPD):** All of the various stakeholders of a project (including Owner, Design Team, and all primary Contractors, Material and Equipment Suppliers, etc.) form a collaborative Project Team in which each member has an equal role in the Project. IPD teams typically share both the risk and the reward of a project's outcome. IPD is well-suited to large and complex projects.

*Advantages of IPD:*

- The design and construction are performed in a collaborative and positive manner.
- The process is centered on the Owner's goals.

*Disadvantages of IPD:*

- The responsibilities of each party are unclear until negotiations are complete.
- It requires an experienced and effective facilitator.
- There is ample room for misunderstandings between the Owner, Designers and Contractors.

**4. Construction Management:** Under this project delivery method, the Owner hires a Construction Manager (CM) to oversee the design and construction of the project as the Owner's Representative. The CM will then direct, on the Owner's behalf:

- Hiring of the Design Team
- Production of the Contract Documents
- Bidding
- Hiring of the Contractor(s)
- The Construction Process

In certain cases, CM also takes on responsibility for the economic performance of the project ("Construction Manager At-Risk").

*Advantage of CM:*

- Owner has tremendous control over quality and process.

*Disadvantages of CM:*

- The Owner assumes all risk for design errors and omissions.
- There is an additional layer of management.
- There is the potential for increased cost.
- The process uses a lot of the Owner's time and resources.
- Success is completely dependent on the skill and knowledge of CM.

**RISK MATRIX**  
**Who is responsible for Cost, Schedule and Quality?**

DELIVERY METHOD	COST	SCHEDULE	QUALITY
Design-Bid-Build	Owner	Contractor	Architect
Design-Build	Design-Builder	Design-Builder	Design-Builder
Integrated Project Delivery	IPD Team	IPD Team	IPD Team
Construction Management	Owner	CM	CM

**II. Paying for Construction Services**

There are three primary methods used to establish a project's construction cost. They are:

1. Stipulated Sum
2. Cost of the Work Plus a Fee
3. Negotiated Bid

**1. Stipulated Sum:** This is often referred to as a Hard Bid or Fixed Price. Using this approach, the Owner and Contractor simply agree to a single lump-sum price for the project.

*Advantages of Stipulated Sum:*

- All pricing risk, except for stated exclusions and limitations, is assumed by the Contractor.
- A simple and easy system for both Owner and Contractor.

*Disadvantage of Stipulated Sum:*

- The Owner might be paying a premium if the job goes well.

**2. Cost of the Work Plus a Fee:** Often called Cost-Plus, the Contractor takes the Contract Sum and adds an amount to it (usually a percentage of the Contract Sum) to cover the Contractor's overhead and profit.

*Advantage of Cost-Plus:*

- The Owner can potentially save money if the job goes well and the fee is relatively low.

*Disadvantages of Cost-Plus:*

- Responsibility for project cost is shared between the Owner and Contractor, regardless of whether the Owner is directly involved in the job or delegates all risk to the Contractor. If the job does not go well, the Owner will take on additional risks that are mostly controlled by the Contractor's actions.
- If the Owner is directly involved with subcontractor selection, there could be warranty and quality issues.
- There is potentially more overhead associated with the record-keeping and ongoing reporting to the Owner.

**3. Negotiated Bid:** The Owner and Contractor agree up front to an amount of net profit the Contractor will receive for the project. This amount usually applies to the work described in the original Contract Documents as well as all subsequent changes made during the course of the project.

*Advantage of Negotiated Bid:*

- The Owner receives the best of both of the other two systems.

*Disadvantage of Negotiated Bid:*

- There is potentially more overhead associated with the record keeping and on-going reporting to the Owner.

**Guaranteed Maximum Price**

For any of the three methods described above, the Owner and Contractor might also agree to a Guaranteed Maximum Price (GMP). Under a GMP agreement, the Owner and Contractor may also agree to share in a portion of any savings from the Contract Sum realized at the end of the project.

