

Construction Project Delivery Methods



How we got here (History)

The Master Builder of ancient times was not an architect, engineer, or general contractor, but was instead a combination of all three.

The Master Builder approach held sway from the Middle Ages through the early years of the Renaissance.

However, as the Renaissance progressed, the functions of design and construction began to diverge, becoming separate tasks.

The Industrial Revolution encouraged further separation between the design and construction functions. Specialized design and construction expertise was needed to address unique production and facility needs.

By the end of the nineteenth century, the notion of the Master Builder was long gone.

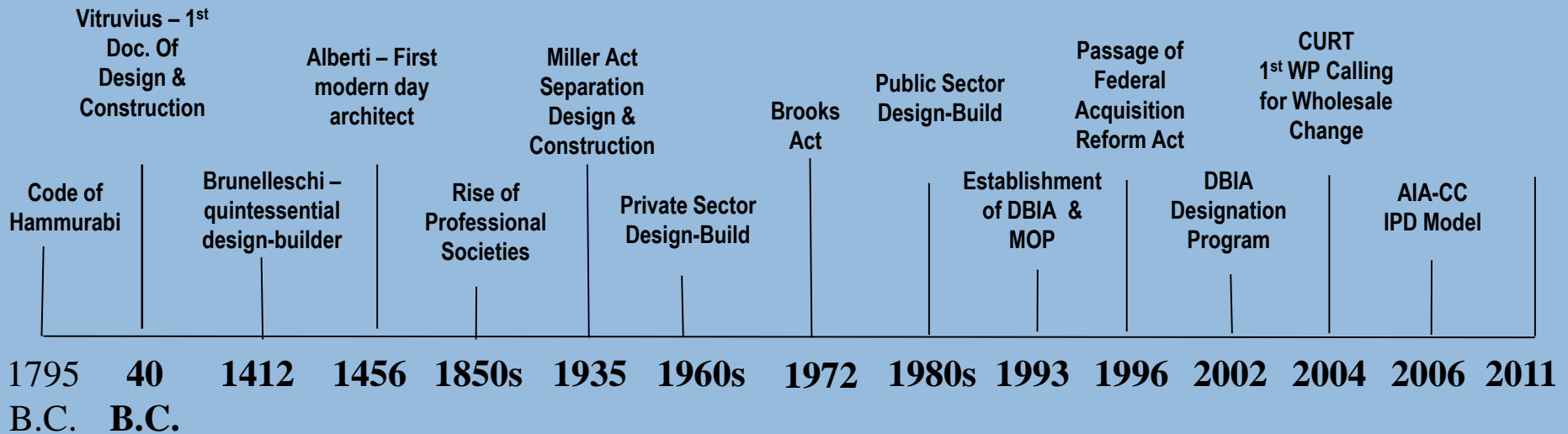
Most people would agree that cheaper is not always better. Yet, during the mid-twentieth century, it became law in virtually every state in the United States that construction contracts would be awarded on the basis of lowest price, at least in the public sector.

As price became the driving factor for contractor selection, the construction industry responded by working hard to eliminate every extra service or product that might add an extra dollar to the project.

This “you only get what you pay for” attitude set the stage for a progressive deterioration of the design-contractor-owner relationship. Change orders, claims, and litigation became the standard methodology for managing risks and protecting profits.

“The way we have always done things” is getting in the way of “getting things done.”

Project Delivery Historical Perspective



Master Builder

Separation

Integration

Renaissance

Industrial Revolution

Information Age





Suddenly, a heated exchange took place between the king and the moat contractor.

Project Delivery Methods

CONSTRUCTION CONTRACTING METHODS

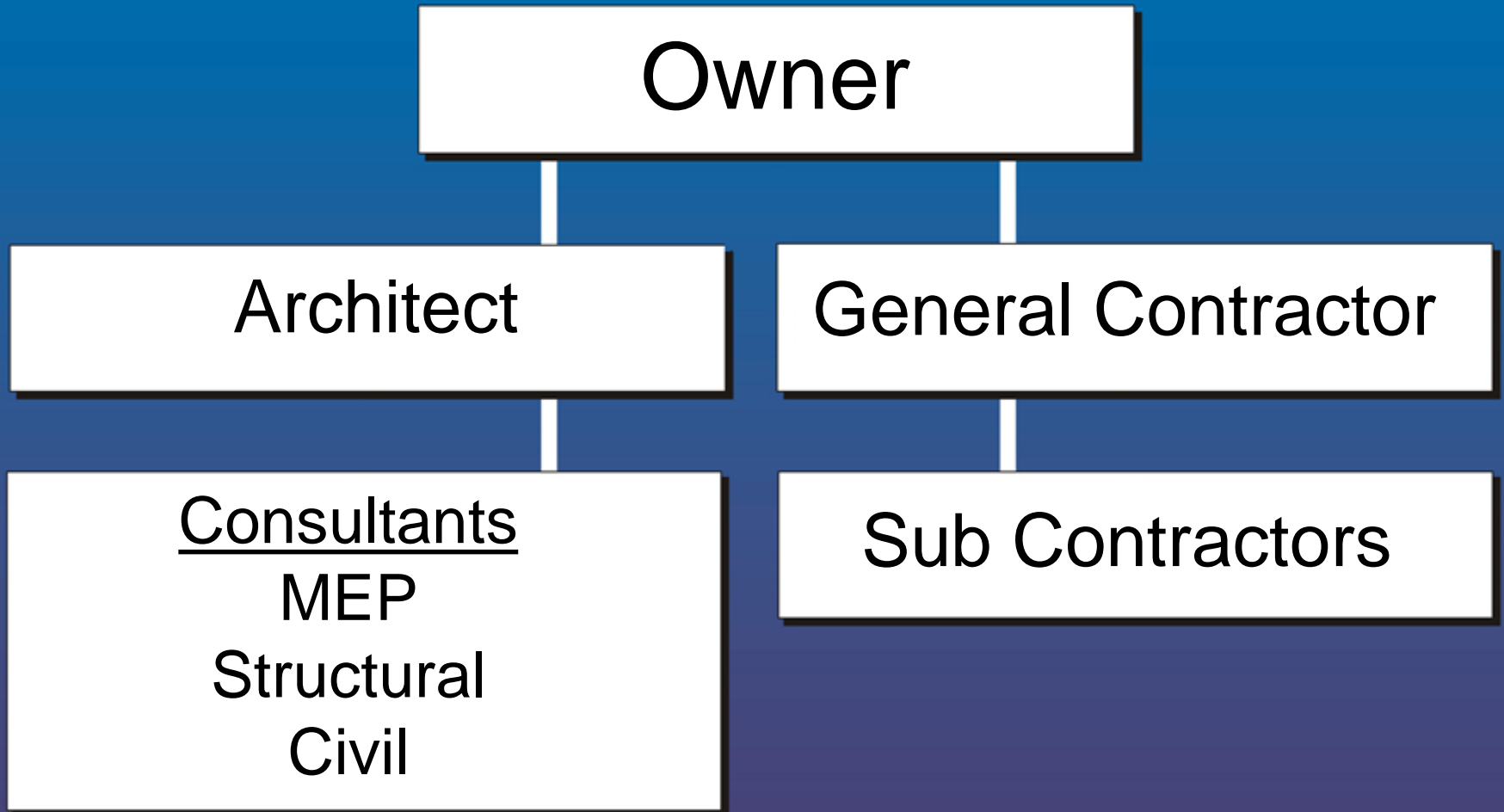
- **Design-Bid-Build**
- **Competitive Sealed Proposal**
- **Construction Management – Agent**
- **Construction Management - At Risk**
- **Design-Build**

DESIGN – BID - BUILD

What is it?

A system of contracting by which an architect is retained, permit plans are drawn, bids received, and a construction contract is awarded, usually to the lowest and best bid.

DESIGN – BID - BUILD

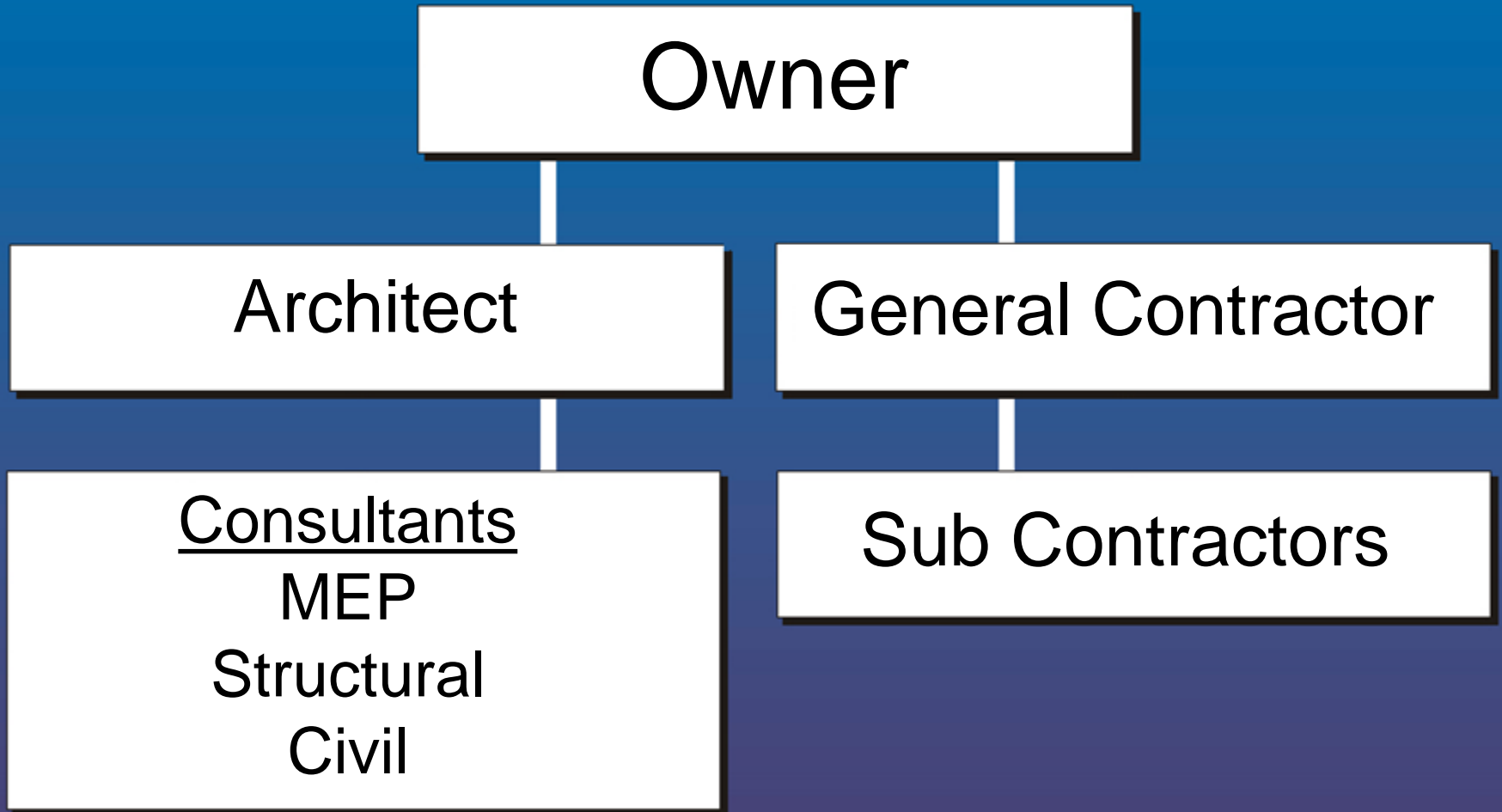


COMPETITIVE SEALED PROPOSAL

What is it?

A system of contracting by which an architect is retained, permit plans are drawn, proposals (with qualifications) are received and a construction contract is awarded to the contractor who has the combination of the best price AND the best qualifications. Sometimes called “Best Value” selection.

COMPETITIVE SEALED PROPOSAL

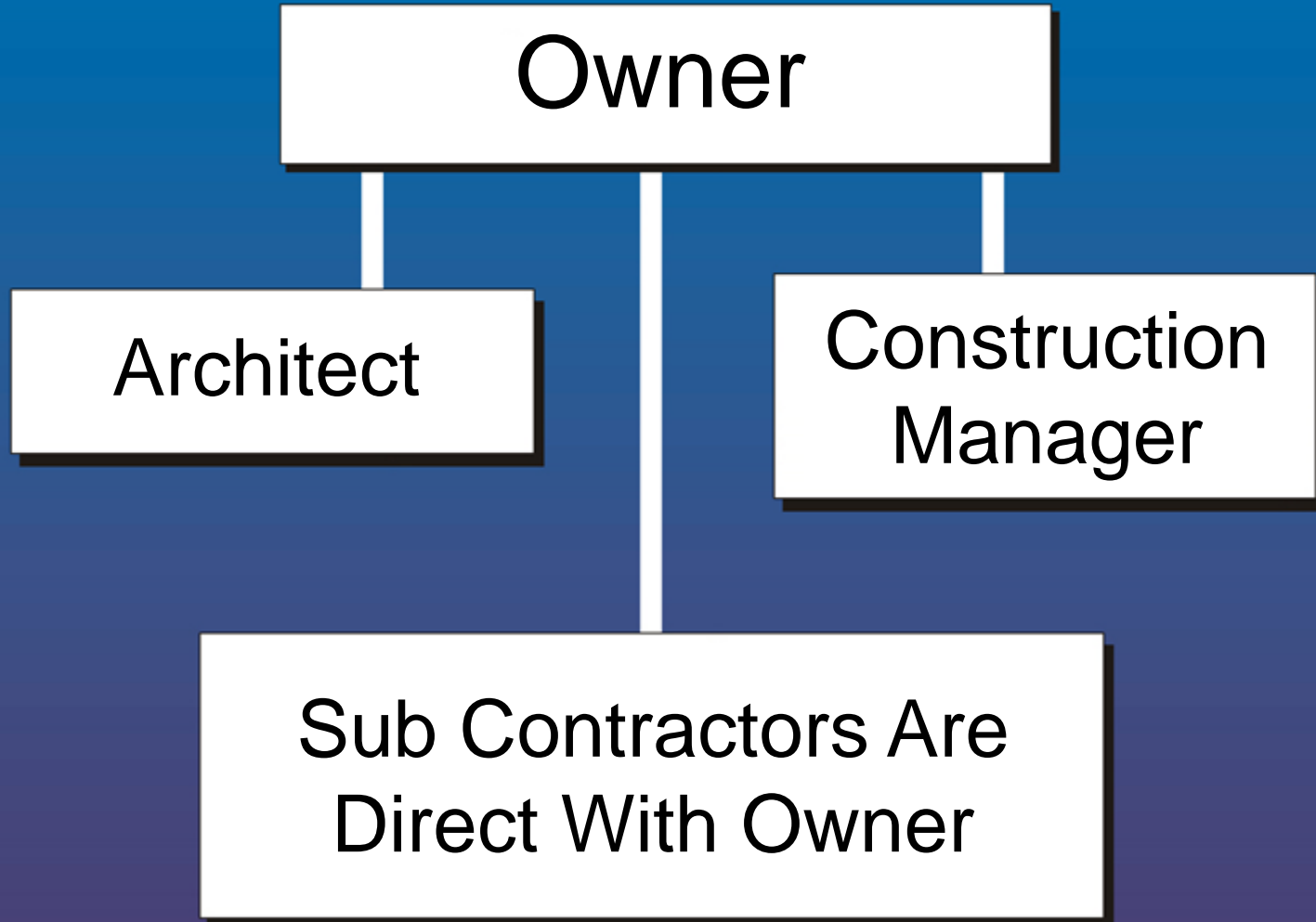


CONSTRUCTION MANAGER – AGENT

What is it?

A system of contracting by which a Construction Manager serves as the Owner's agent to provide management, administrative and technical services. All Contractors and Subcontractors legally contract directly with the Owner and are managed by the Construction Manager-Agent.

CONSTRUCTION MANAGER – AGENT

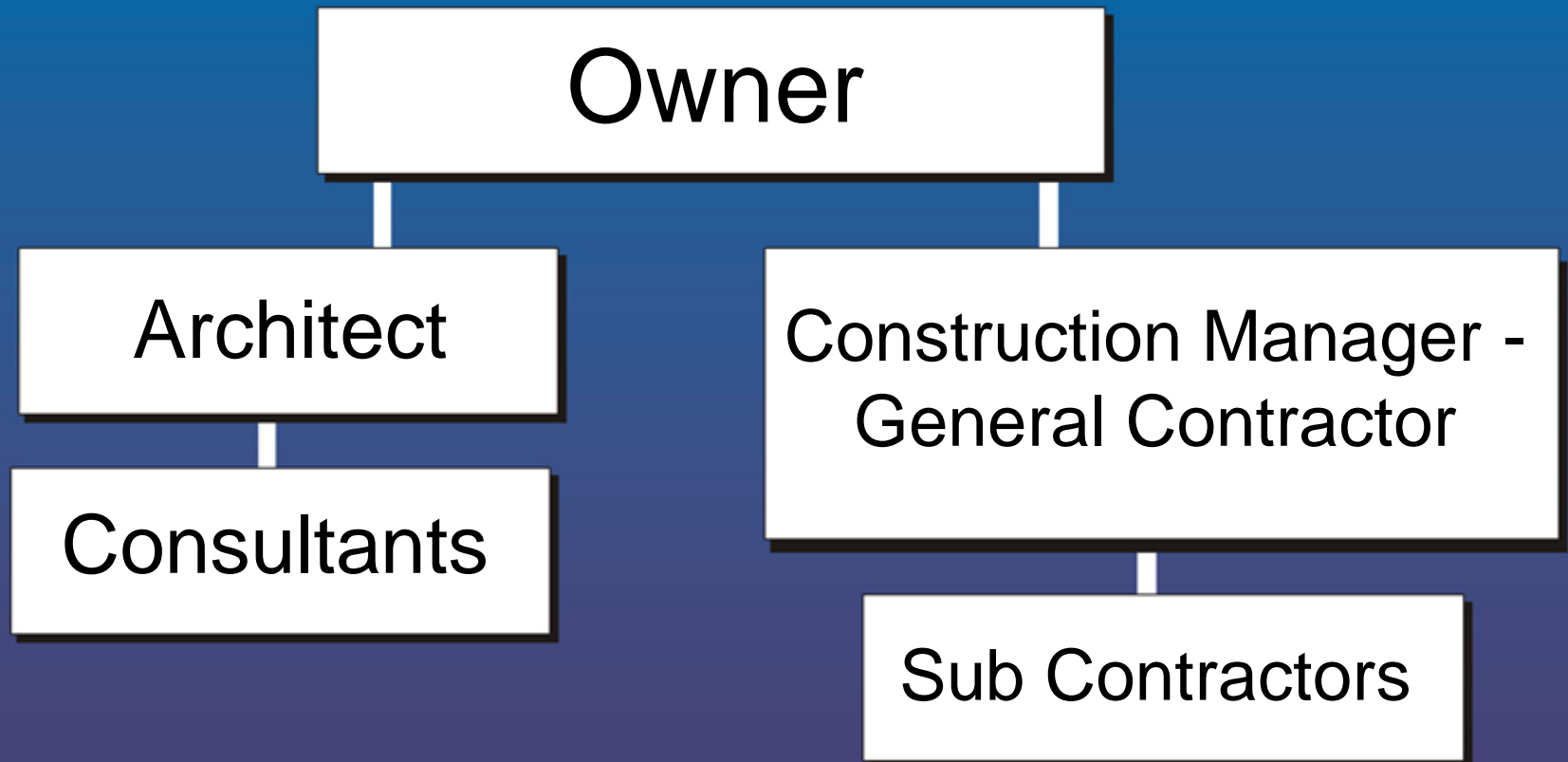


CONSTRUCTION MANAGER – AT RISK

What is it?

A system of contracting by which the Construction Manager provides technical services as the design progresses and then acts as a cost-plus general contractor assuming responsibility for the construction of the project, including the work of the sub-contractors. Sometimes also known as CM/GC.

CONSTRUCTION MANAGER – AT RISK

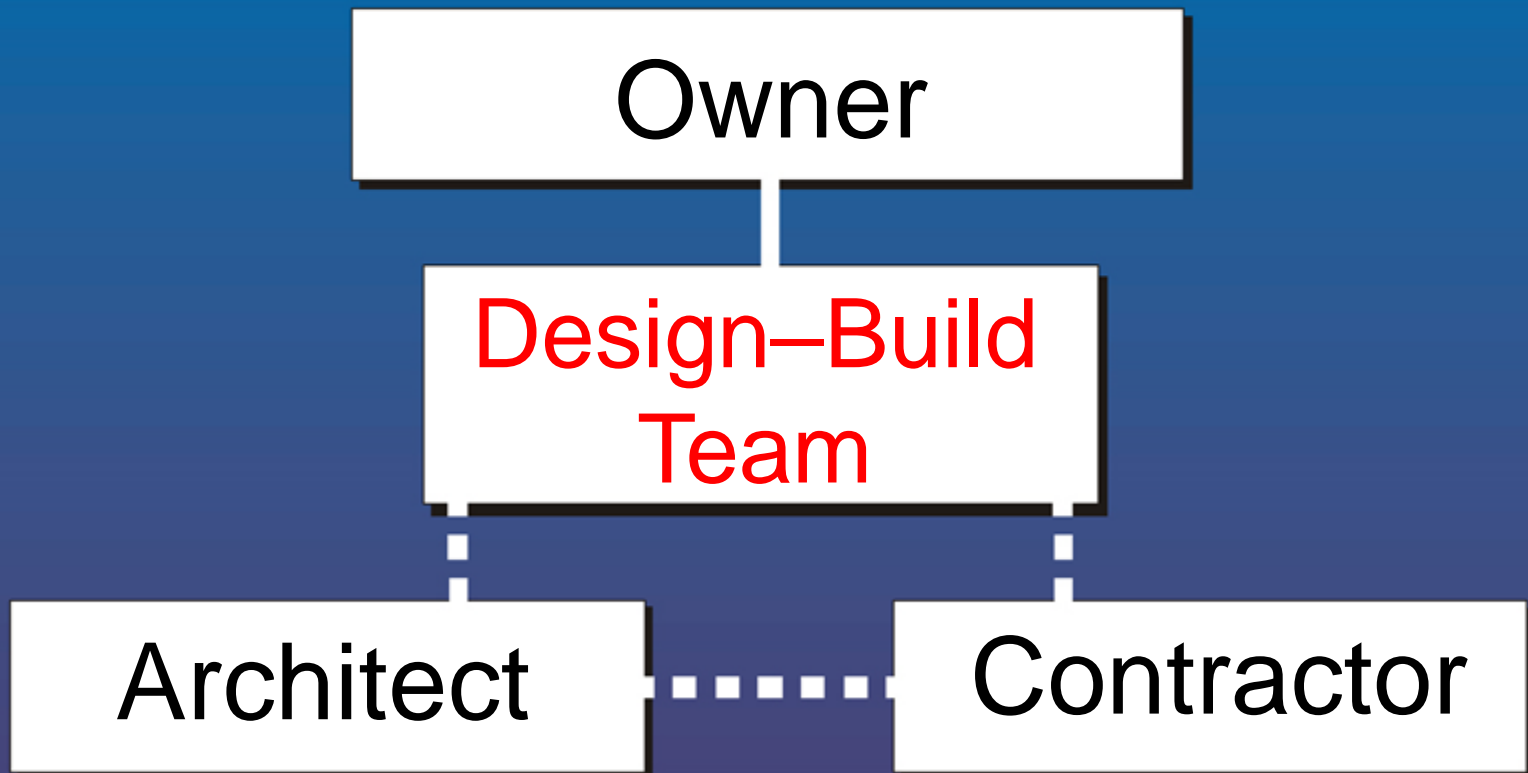


DESIGN - BUILD

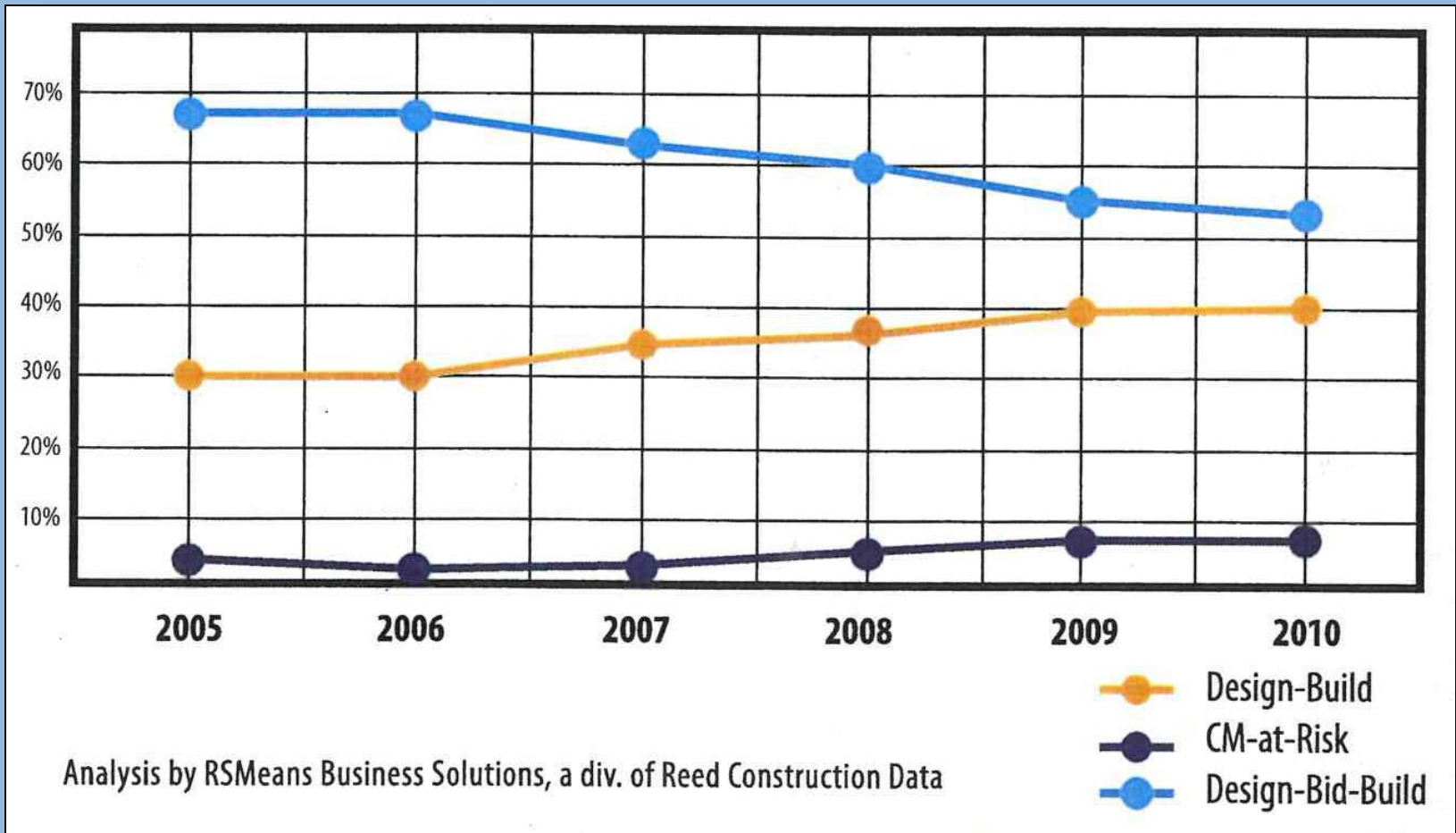
What is it?

A system of contracting by which one entity performs architecture, engineering and construction services under a single contract with the owner.

DESIGN - BUILD



Project Delivery Method Market Share for Non-Residential Construction



Advantages & Disadvantages

DESIGN-BID-BUILD ADVANTAGES

- **Familiar delivery method**
- **Owner employs design team directly – has control (also responsibility) over the design.**
- **The design team is impartial and looks out for the interests of the owner.**
- **The design team prepares documents on which all general contractors place bids. The bids are based on complete documents.**
- **Provides perceived fairness to potential bidders.**

DESIGN-BID-BUILD DISADVANTAGES

- Failure of the design team to be current with construction costs could cause project delays if the construction documents must be redone to reduce costs.
- Redesign can be expensive and time-consuming if revisions are required to reduce costs.
- Development of a “cheaper is better” mentality amongst the general contractors bidding the project so there is the tendency to seek out the lowest cost subcontractors. This can result in increased risk and compromise the quality of construction.
- As the general contractor is brought to the team after design is complete, there is little (or late) opportunity for input on design or construction options as decisions are being made.

Traditional Bidding Scenario

Traditional Design-Bid-Build

What's wrong with this picture?

- Owner and Architect work together to develop a design for the facility – often work for months
- Architect develops detailed plans and specifications

Traditional Design-Bid-Build

What's wrong with this picture?

- Contractors bid the job (usually in a 2- to 3-week period)
- Bids are often put together in the last 2 hours, even down to minutes
- Contractors tempted to take last minute subcontractor bids

Traditional Design-Bid-Build

What's wrong with this picture?

- Low bidder gets the job!
- Often low bidder is “the one who made the biggest mistake” or used a low-ball subcontractor bid.
- Contractor in a position to make up money.
Options:
 - Lower quality work
 - Lower quality materials
 - Get subcontractors to lower their prices more
 - Find error and omissions on plans
 - Change orders

What's wrong with this picture?



What do you mean you left out the foundation in our bid?

Traditional Design-Bid-Build

What's wrong with this picture?

- Architect hired to “police” the contractor to endeavor to ensure that construction is done per plans and specs



COMPETITIVE SEALED PROPOSAL ADVANTAGES / DISADVANTAGES

- **Similar advantages and disadvantages as Design-Bid-Build**
- **One main advantage over Design-Bid-Build:
Qualifications together with best price form the basis for
contractor selection.**

CONSTRUCTION MANAGER - AGENT ADVANTAGES

- **CM-Agent is usually hired early in the project, thus providing cost and scheduling input as design decisions are made.**
- **Owner receives all subcontractor bids and has control of selection of the construction team.**
- **Possibly Saves money – omits mark-up on subcontractors.**
- **The CM-Agent offers impartial advice throughout the project since he is neither the designer nor the general contractor.**

CONSTRUCTION MANAGER- AGENT DISADVANTAGES

- All subcontractors technically work directly for the Owner. (The C.M. just coordinates their work on behalf of the Owner.) This increases risk (and paperwork) for the Owner.
- There is no single bond on the project. Therefore, for a public entity, all major subcontractors have to provide a bond for their own work.
- Upon project completion there is no single responsible contractor for warranty items. Owner has to go to each subcontractor for any warranty work.

CONSTRUCTION MANAGER - AT RISK ADVANTAGES

- **CM-At-Risk is usually hired early in the project providing cost and scheduling input during the design phase.**
- **Owner sees all subcontractor bids and has input on selection of the construction team. Yet all subs are contracted by the CM-At-Risk.**
- **A single bond is provided by the CM-At-Risk.**
- **A GMP (guaranteed maximum price) can be established prior to completion of the final plans and specifications.**
- **Typically eliminates a “low bid” construction project.**

CONSTRUCTION MANAGER - AT RISK DISADVANTAGES

- Selection process requires specific steps for a public entity to hire.
- Often, being General Contractors by nature, a CM-At-Risk may feel closer to the subcontractors than the Owner by habit.
- If sub-bids come in higher than the GMP (Guaranteed Maximum Price) allowance, there is pressure to reduce the scope of work to fit the guaranteed price.
- Larger contingencies are plugged in to safeguard the GMP.

DESIGN-BUILD ADVANTAGES

- **Single point of responsibility**
- **Accelerates project delivery**
- **Establishes firm “budget” price earlier**
- **Team approach - avoids adversarial relationships**
- **Prevents “budget-busting” on bid day**

DESIGN-BUILD DISADVANTAGES

- **There is a more involved initial selection process to hire the Design-Build Team. Takes more time upfront to get things going (but saves time later).**
- **The checks and balances that exist between the architect and general contractor are missing.**
- **Difficult for the Owner to determine whether the best price has been achieved.**
- **Design-Build requires “Trust”.**

CURRENT / FUTURE TRENDS

- **I.P.D. – Integrated Project Delivery – put forth as an alternative to Design-Build by the AIA. Features a Tri-Partite (3-Party) Agreement where all parties share liability and responsibilities. Little case law exists for the settlement of disputes.**
- **Hybrid Design-Build / CMaR – owner basically converts the agreement from DB to CMaR arrangement.**

I'm sure glad the
hole isn't in our
end.....



Questions????

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