




# Construction Contracting Methods

By: Nick Thornsby  
Falcon Engineering



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- Typical Contracting Methods Used
  - Key Elements that Affect Design Engineers
  - How Changes Affect Design Engineers

# Typical Contracting Methods Used

- Design – Bid – Build (Single Prime)
- Design – Bid – Build (Multiple Prime)
- Construction Manager @ Risk
- Design / Build
- Negotiated General Contracting (Private)



# Key Elements that Affect Design Engineers

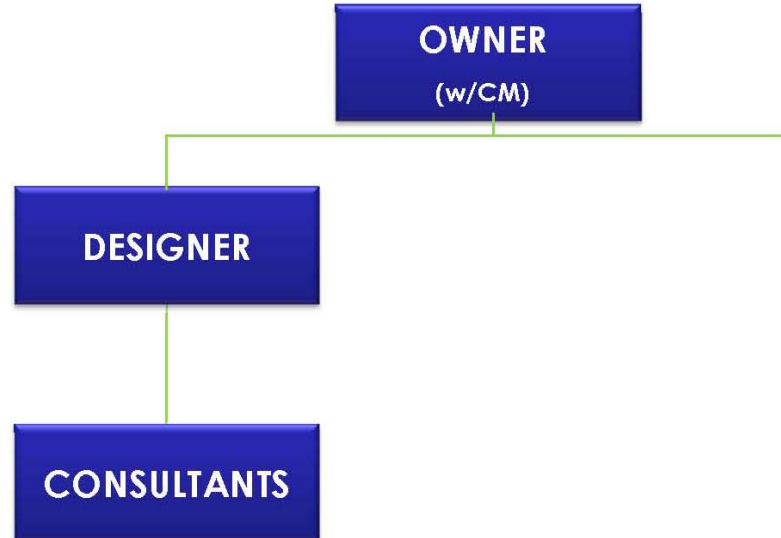
- Contractual Relationships
- Owner's Best Interest
- Projected Project Cost
- Bidding Procedures



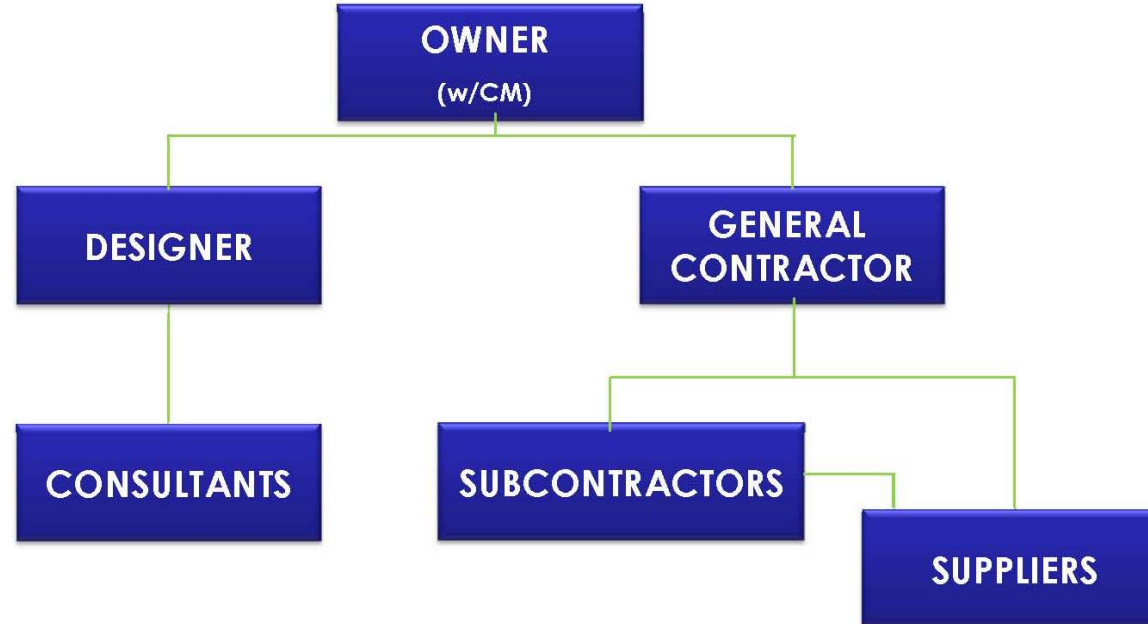
# How Changes Affect the Design Engineers

- Changes During the Design
- Changes During the Construction
- Errors and Omissions

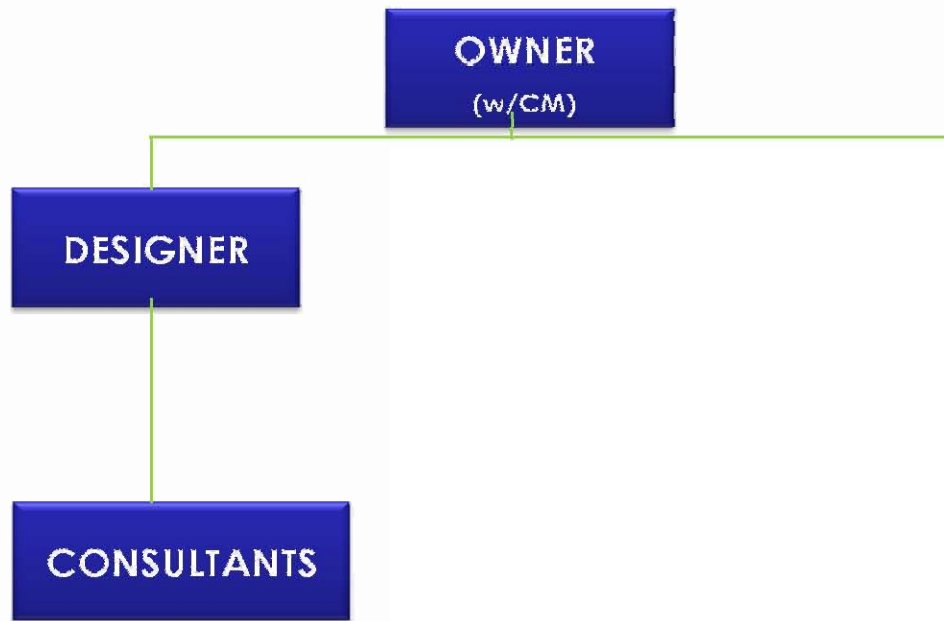
## Design – Bid – Build (Single Prime)



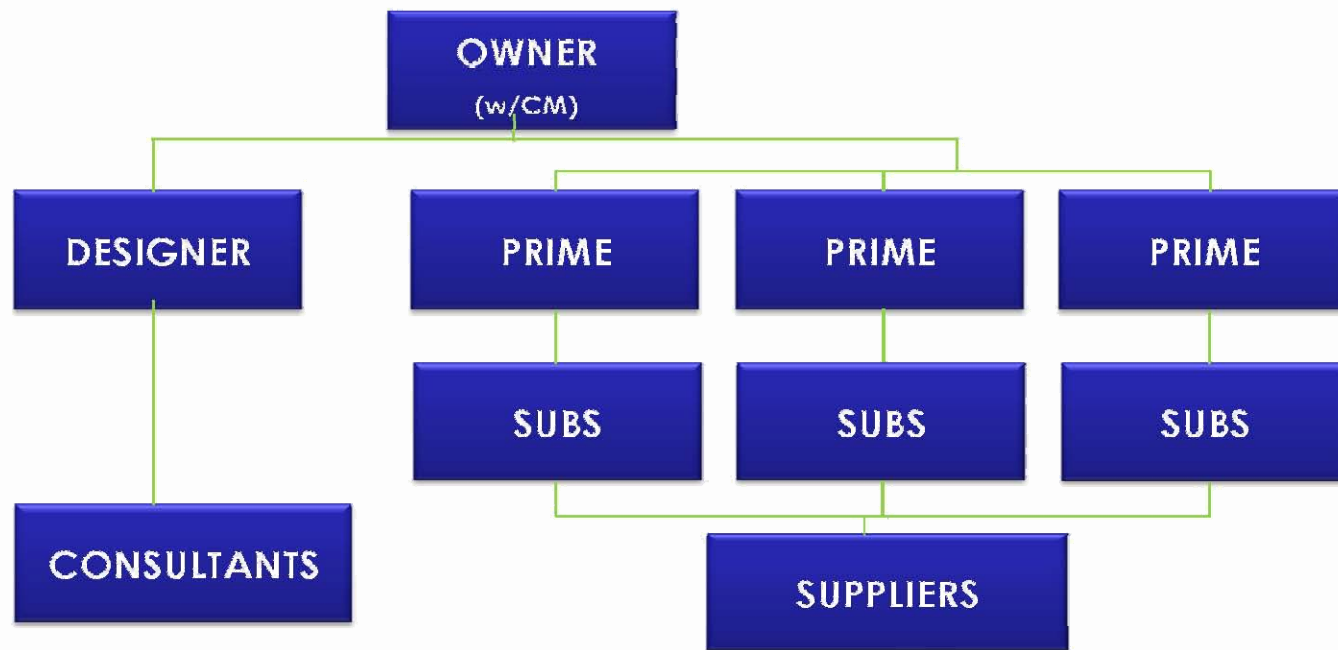
## Design – Bid – Build (Single Prime)



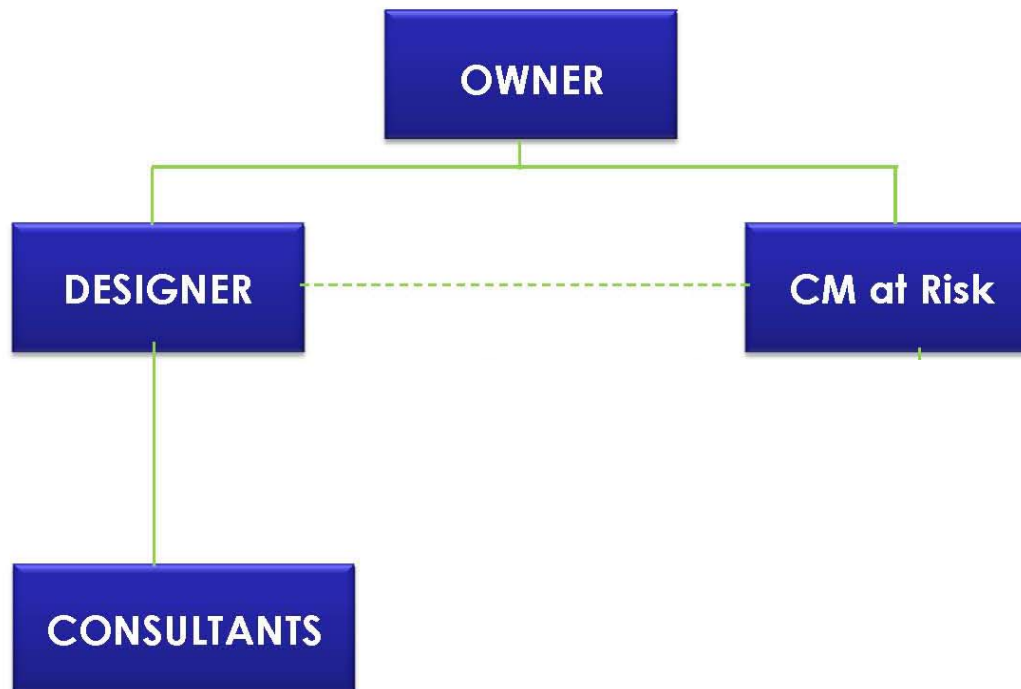
# Design – Bid – Build (Multiple Prime)



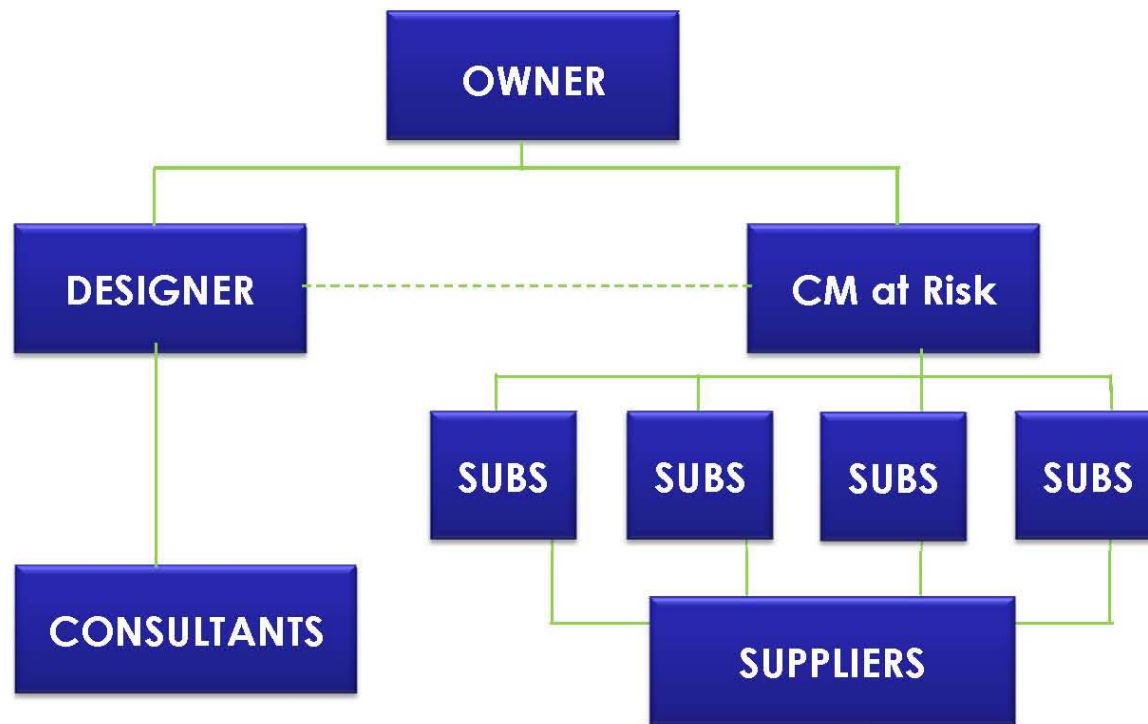
## Design – Bid – Build (Multiple Prime)



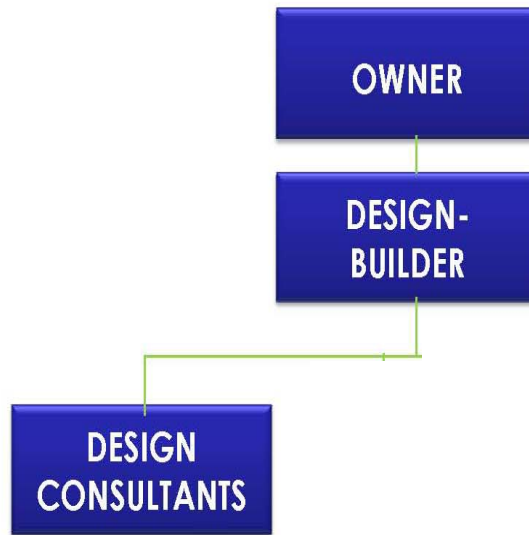
# Construction Manager @ Risk



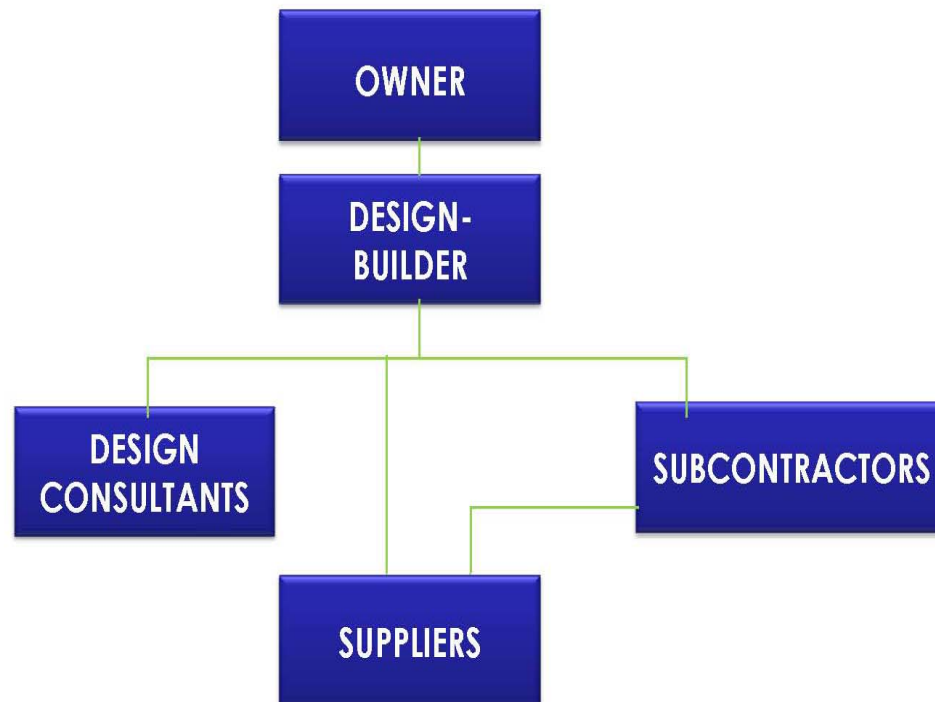
# Construction Manager @ Risk



# Design / Build



# Design / Build





## Negotiated General Contracting (Private)

- May Have Similar Set-up As Any Other
- May Be a Hybrid of Many Others
- Often Have Different Terms/Conditions



# Key Elements For Any Project

- How Much Does it Cost?
- How Long Will it Take?
- How Well Will it Be Built?
- Are These Three Inter-related?

# Key Elements For Any Project



# Key Elements For Any Project



# Key Elements For Any Project

- Reduce The Time – Cost and Quality Are Affected
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# Contractual Relationships

- Direct From Owner to Design Team
- Direct From Owner to Contractor
- Between Design Team and Contractor

# Contractual Relationships

- Direct From Owner to Design Team
  - Direct From Owner to Contractor
  - Between Design Team and Contractor
- Design-Bid-Build  
CM @ Risk
- Design-Build

Negotiated Private Contracting



# Owner's Best Interest

## Design Team

Design-Bid-Build

CM @ Risk

Design-Build

Negotiated Private Contracting

## Contractor

CM @ Risk

Design-Build

Negotiated Private Contracting

# Projected Project Cost

## Design Team

Design-Bid-Build

CM @ Risk

Design-Build

Negotiated Private Contracting

## Contractor

CM @ Risk

Design-Build

Negotiated Private Contracting

# Bidding Procedures

## Design Team

Design-Bid-Build

Negotiated Private Contracting

## Contractor

CM @ Risk

Design-Build

Negotiated Private Contracting

# Changes During Design

Design – Bid - Build

## Design Team

Determine Need For Changes

Check Pricing

Review for Options

Incorporate Changes

Request Owner's Approval??

## Contractor

# Changes During Design

CM @ Risk

## Design Team

Determine Need For Changes

Review for Options

Incorporate Changes

Request Owner's Approval??

## Contractor

Confirm Need For Changes

Check Pricing

Review for Options

Request Owner's Approval??

# Changes During Design

Design – Build

## Design Team

Determine Need For Changes

Check Pricing

Review for Options

Incorporate Changes

Request Owner's Approval??

## Contractor

Determine Need For Changes

Check Pricing

Review for Options

Incorporate Changes

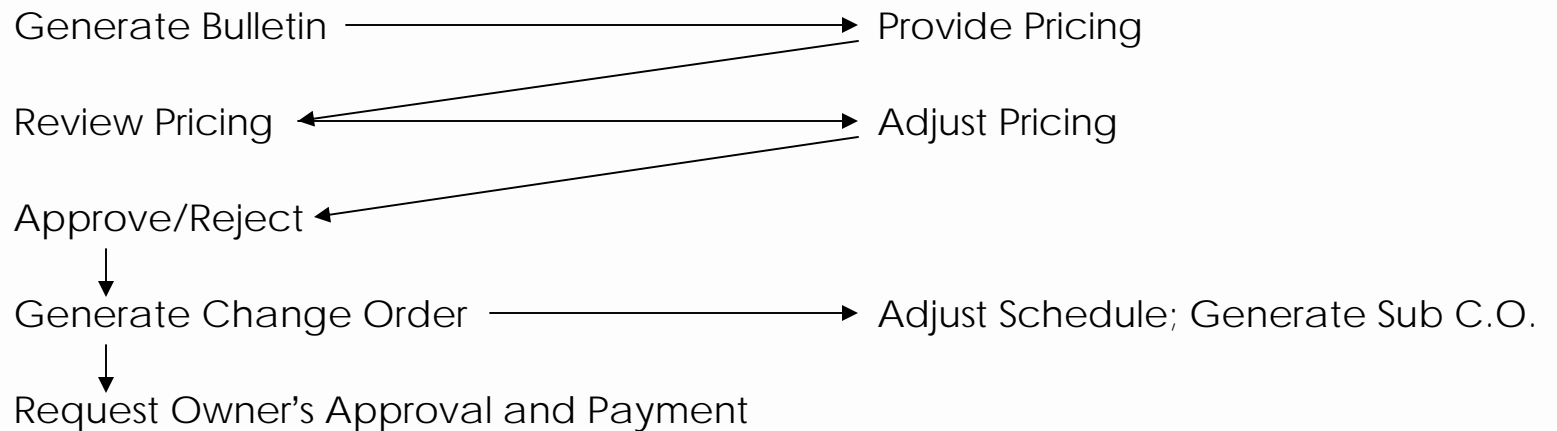
Request Owner's Approval??


# Changes During Construction

Design – Bid - Build

 Design Team

 Contractor



 **TIME = MONEY**

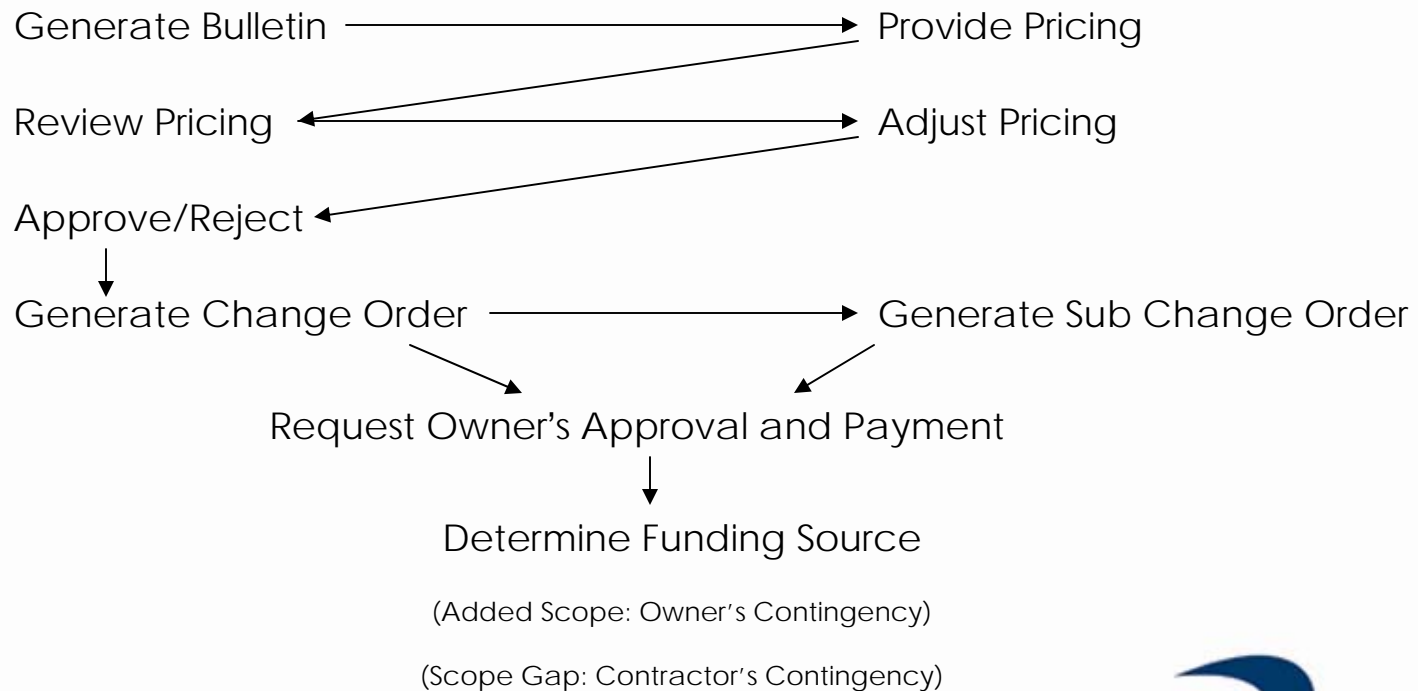
 **CONFRONTATIONAL**

# Changes During Construction

CM @ Risk



 Design Team

 Contractor



# Changes During Construction

Design - Build

 Design Team ↔  Contractor

Generate Bulletin ← → Provide Pricing



Request Owner's Approval and Payment



Determine Funding Source

(Added Scope: Owner's Contingency)

(Scope Gap: Contractor's Contingency)

# Standard Contracts

- American Institute of Architects (AIA)
- Associated General Contractors (AGC)
- Construction Management Association of America (CMAA)
- Design Build Institute of America (DBIA)



# Contract Administration

- Programming Phase: Plan, Procedures, Feasibility, Etc.
- Design Phase: Schedule by Design Phase, Cost Studies, Etc.
- Bidding Phase: Legalities, Qualified Bidders, Contracts, Etc.
- Construction Phase: Schedule, Cost Control, Closeout/Turnover

# Summary

- All Parties Should Have General Construction Knowledge
- Multiple Contracting Methods Available
- Stay Delivery Neutral: Look For The Best Fit For The Specific Project
- Make Sure All Parties Understand Their Contractual Responsibilities
- Always Keep The BIG PICTURE In Mind