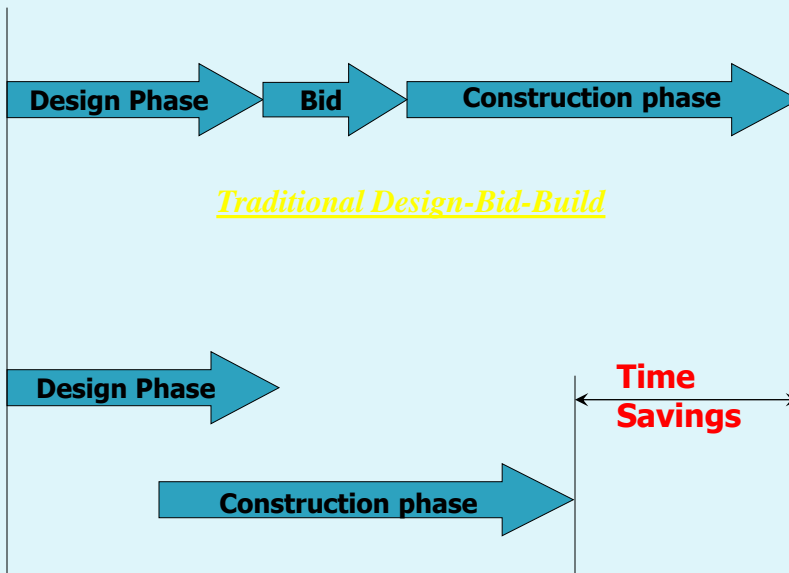


# Method or System of Project Delivery

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Traditional Design-Bid-Build

Phased or Fast-Track Construction

## Elements of a legal contract

- ▶ offer
- ▶ acceptance
- ▶ consideration
- ▶ legal in every respect
- ▶ requires a *meeting of the minds*
- ▶ offer + acceptance = binding obligation

## Construction Contract Documents

- ▶ Advertisement for bids
- ▶ Information for bidders
- ▶ Bid form
- ▶ General notices
- ▶ Notice of award
- ▶ Notice to proceed
- ▶ Bid bond
- ▶ Performance bond
- ▶ Payment bond
- ▶ Contract form or agreement
- ▶ General conditions or provisions
- ▶ Supplemental and/or special conditions
- ▶ Plans
- ▶ Specifications

# Construction Contract Documents

Characteristics of a “good” contract document:

1. Carefully considered
2. Expressed clearly
3. Time-tested
4. Comprehensive
5. Fair
6. Balanced
7. Applicable to the elements of a construction projects

## Construction Contracts

.....bidders are required to

- examine all portions of the contract documents
- examine the physical conditions of the site
- determine legal requirements affecting the work
- complete these investigations prior to bidding

## Construction Contracts

.....contract documents should

- Include a hierarchy to determine which documents govern in case of conflict
- Not contain ambiguous language
- Not contain exculpatory clauses

## Construction Contracts -- General Conditions

- ▶ Contractor's warranties
- ▶ Defective drawings
- ▶ Approval of contractor's plans and equipment
- ▶ Approval of shop drawings other submittals
- ▶ Guarantee by the Contractor
- ▶ Conduct of the work
- ▶ Defective work
- ▶ Relations with other contractors and subcontractors
- ▶ Inspection of materials
- ▶ Inspection of field work
- ▶ Authority of the Eng'r.
- ▶ Duties of the inspector
- ▶ Permits and licenses
- ▶ Labor considerations
- ▶ Work done by the owner
- ▶ Lines and grades
- ▶ Order and discipline
- ▶ Performance
- ▶ Final inspection & acceptance

## Construction Contracts -- General Conditions

- ▶ Federal, state, and local government regulations
- ▶ Employment (EOE rules)
- ▶ Emergencies
- ▶ Minimum wage rate
- ▶ Domestic vs. foreign materials and labor
- ▶ Construction reports
- ▶ Payrolls and bills of material
- ▶ Cooperation among contractors
- ▶ Patents
- ▶ Retainage
- ▶ Bonding and insurance
- ▶ Guarantee of equipment
- ▶ Borings
- ▶ Spare parts

## Risk Allocations -- General Conditions

- ▶ Force majeure
- ▶ Indemnification
- ▶ Liens
- ▶ Labor laws
- ▶ Differing site conditions
- ▶ Delays and extension of time
- ▶ Liquidated damages
- ▶ Consequential damage
- ▶ Occupational safety, and health of workers
- ▶ Permits, licenses, and regulations
- ▶ Termination for default by contractor
- ▶ Suspension of work
- ▶ Warranties and guarantees

## Codes, Standards, and Regulations (Model codes)

- Basic/National Building Code (BOCA Code)
- Uniform Building Code
- Standard Building Code
- National Electric Code (NEC) and Life Safety Code by the NFPA under ANSI
- The International Building Code 2000 (IBC) replaces the first three codes. Several sub-codes of the IBC include Fire, Residential, Plumbing, Energy Conservation, Mechanical, & Private Sewage

## Codes, Standards, and Regulations (Model codes)

Model codes are adopted in whole or in part by the local municipality, and become enforceable under the law

### **Zoning Regulations**

- imposed by local zoning commissions

### **Environmental Regulations**

- imposed by the EPA, State DEP (DNREC), or local agency

## Codes, Standards, and Regulations

- ASTM
- Underwriters Laboratories, Inc. (UL)
- AASHTO
- ACI
- AISC

## Submittals required in the contract

- copies of subcontracts
- shop drawings and support calculations
- catalog cuts
- material or equipment samples
- schedule(s)
- certified payrolls
- certificates of insurance
- environmental test reports
- material test reports & certifications

## Drawings

- structural steel details & erection plan
- erection procedures (safety)
- PS/PC concrete items
- shoring & underpinning details
- jacking plans and calculations
- scaffolding
- concrete formwork design and details
- construction sequencing diagrams
- cofferdam design & details
- dewatering procedure
- stream diversions
- pipe and ductwork fabrication details
- reinforcing steel bending diagrams and bar lists
- structural timber elements
- ornamental iron or steel
- maintenance of traffic plans (alternates)

## Payments and related issues

- mobilization and initial costs
- retainage
- progress payments and partial payments
- material payments
- change orders
- substantial completion
- punchlist
- final acceptance and payment



## Changes in plans and specs

Clarification, correction, modifications prior to bid are referred to as **“addenda”**

- owner must maintain a system of distributing and acknowledging receipt of addendum

Plan and spec changes after award are referred to as **“revisions”**, and generally require issuance of a change order(s)

## Change Orders

- a written order issued by the owner to the contractor for a change to the contract within the scope of work
- change orders are written for:
  - extra work
  - increasing or decreasing the contract quantities
  - alterations
- change orders state the basis and amount of payment and time extensions

## Contracts

- ▶ Liquidated damages
- ▶ Incentive/Disincentive (bonus/penalty)
- ▶ Acceleration
  - Increase crew levels, crew size
  - Add shifts and/or extend work hours
- ▶ CPM schedule is an **extremely** valuable tool in analyzing delay claims

## Claims and Disputes

- ▶ a claim is a request by a contractor for additional compensation or time extension for occurrences beyond the contractor's control including:
  - differing or unexpected site conditions
  - change in scope
  - delays caused by the owner
- ▶ owner has duty to provide adequate, accurate data to the bidders
- ▶ owner is liable to contractor when:
  - inaccurate data are given
  - extras develop because of improper design
  - design is significantly changed after the contract is signed (constructive change)
- ▶ Contractor must prove entitlement and the associated damages
- ▶ Contractor must provide timely notice of claim upon discovering impact

## Types of Claims

- delay or disruption claim
- extra work claim
- acceleration
- impossibility-of-performance claim
- defective design claim (error or omission)
- interference claim
- superior knowledge claim

## Dispute Resolution

- ▶ Early settlement between parties
- ▶ Alternative dispute resolution (ADR)
  - negotiation – arbitration (1 or 3 members)
  - mediation – neutral advisors
  - Dispute Review Board (DRB)
    - 3 or more odd number of board members selected evenly by both sides
- ▶ Litigation
  - sometimes unavoidable; usually undesirable; but sometimes best method

## Claims Can Be Avoided

- ▶ producing comprehensive, accurate, contract documents
- ▶ constructibility review
- ▶ clear understanding of contract requirements prior to bidding
- ▶ having good administrative procedures in place
- ▶ open and honest communication
- ▶ timely troubleshooting
- ▶ Claims avoidance begins in the pre-construction phase
- ▶ Contract documents need to be clear, accurate, comprehensive, and fairly distribute risk

## Design Professionals obligations

- ▶ Specify locally available material
- ▶ Allow substitution of equal quality material
- ▶ Avoid one-of-a-kind or non-standard items where possible
- ▶ Design structures with as many redundant elements as possible
- ▶ Design should allow construction using the prevailing methods and equipment
- ▶ Design to minimize required labor
- ▶ Specify a quality of workmanship consistent with the quality of the project
- ▶ Do not require the contractor to assume responsibility for information that should be furnished by the design engineer/architect
- ▶ Produce simple, straight-forward specs = clearly state what is expected



THANKS