

“Master of Construction Management”

By

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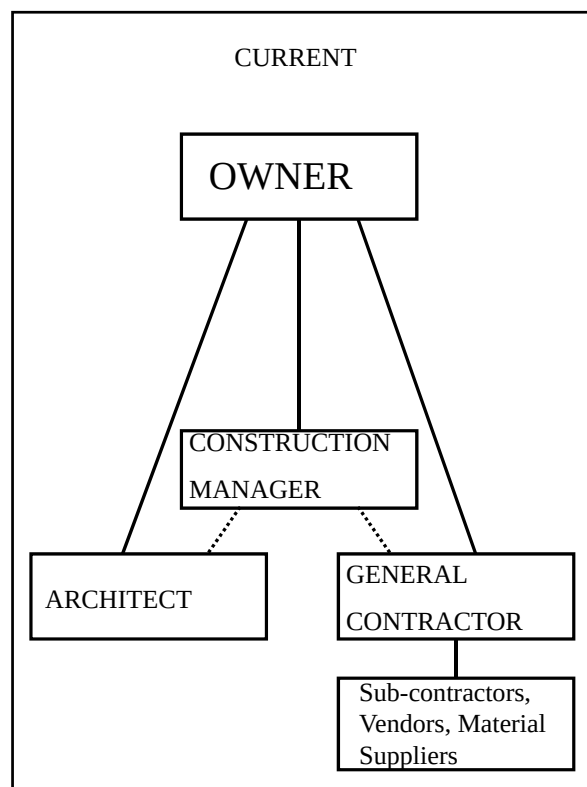
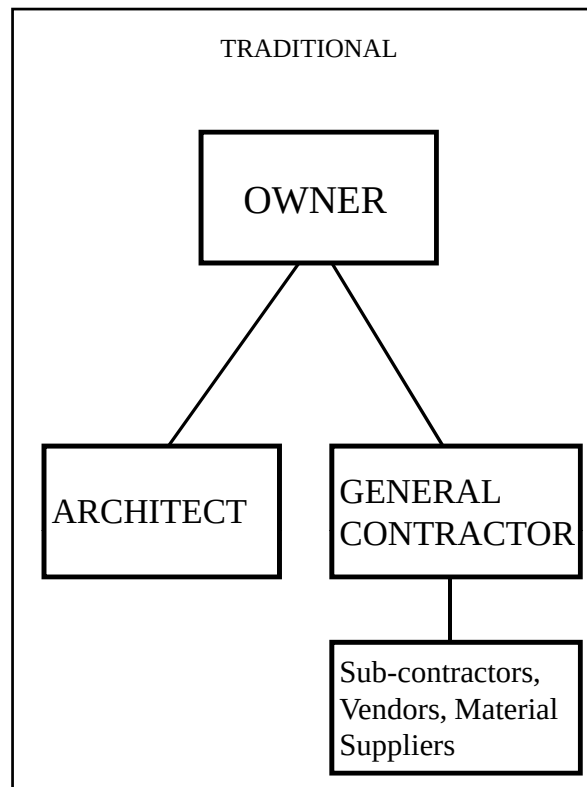
Director, Construction Engineering and Management Program

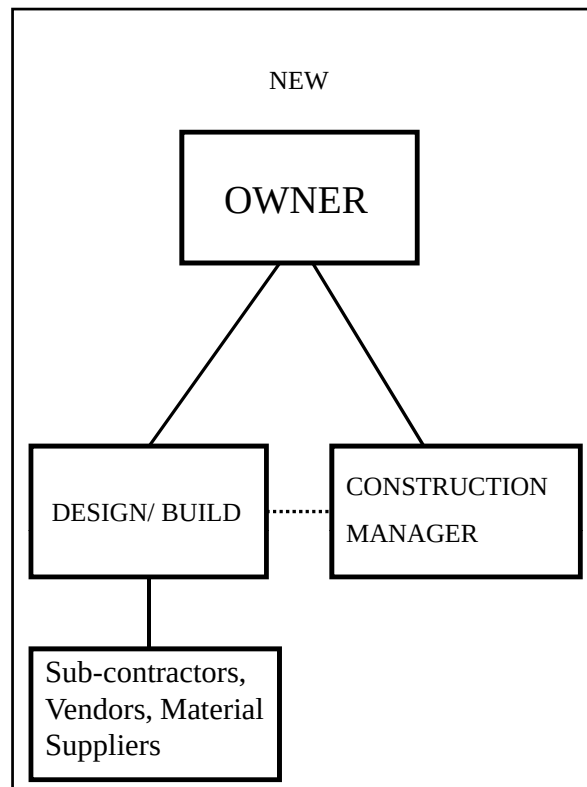
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History

- Relatively New
- Began After World War II
- American Infrastructure
- Architects Were First Construction Managers
- Contractors Now Dominant
- Design-Build-Transfer





Construction Management vs. Project Management

Construction Management

- Construction Process Only

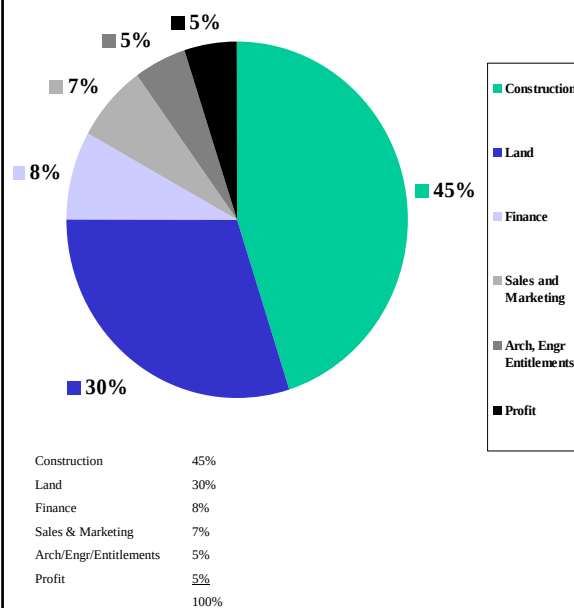
Project Management

- Preconstruction
- Construction
- Close out/ Transfer/ Operate

Design Build

- Growing Trend
- Estimate 40% of Large Projects
- Design Build Institute in Washington D.C. - approx.. 10 years old.
- Joint Venture Between General Contractor and Architect/Engineer
- New firms Fully Integrated

Development Project Cost Breakdown



Construction Management

- 500 Billion or 10% Dollar Value of Gross National Product
- 80% Private
- 20% Public
- 5 Million Workers
- Construction Categories
 - Residential 40-45%
 - Building / Commercial 25-30%
 - Engineering (Heavy Civil) 20-25%
 - Industrial 5-10%
- Estimating
- Cost Control
- Scheduling
- Contract Documents
- Value Engineering
- Alternate Dispute Resolution
- Constructability
- Bonds
- Insurance
- Safety
- Labor Law and Labor Relations
- Mechanics Liens
- Equipment
- Unbalancing
- Computerization

Globalization

- 3rd World Countries
Developing
- Approximately 50-100 years
behind USA
- Asia
- South America
- Peoples Republic of China
- \$400 Billion/ Year
- 3.5 Million Workers

University of Southern California

Construction Engineering and Management Program

- Began in Mid 1970's
- 1992 - 10 Graduate students [MSCE]
- 2006 - 39 Graduate Students
 - 7 - MSCE
 - 32 - MCM
- 43 - Undergraduate Students
 - 13 - BSCE
 - 30 - Minors
- 6 Undergraduate Classes -- 10 Graduate Classes
- Faculty - 1 Director
 - 1 Research Assistant Professor
 - 12 Adjunct Professors
- International - 28% from 7 countries

Project Management Pre-Construction

- Establish Construction Goals & Objectives
- Pre-Construction Activities
 - Prepare Construction Management Plan
 - Develop Overall Construction Schedule
 - Define Organization's Structure
 - Establish and Define Contracting Strategy
 - Establish and Define Procurement Strategy
- Prepare Construction Management Plan
- Value Engineering
- Constructability Review
- Construction Procedures
- Temporary Facilities
- Safety Program

Close Out/Transfer/Operate

- Change Orders
- Claims
- As-Built Drawings
- Maintenance Manuals
- Warranty Period
- Retainage
- Liquidated Damages