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Advances in Project Delivery

October 18, 2016

presented by
Todd Christopherson, P.E.
President, Wenck Construction

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Outline

- Background and Perspective
- “Traditional” Project Delivery Approach
- Why Change?
- Alternative Approaches
- Trends
- Q and A

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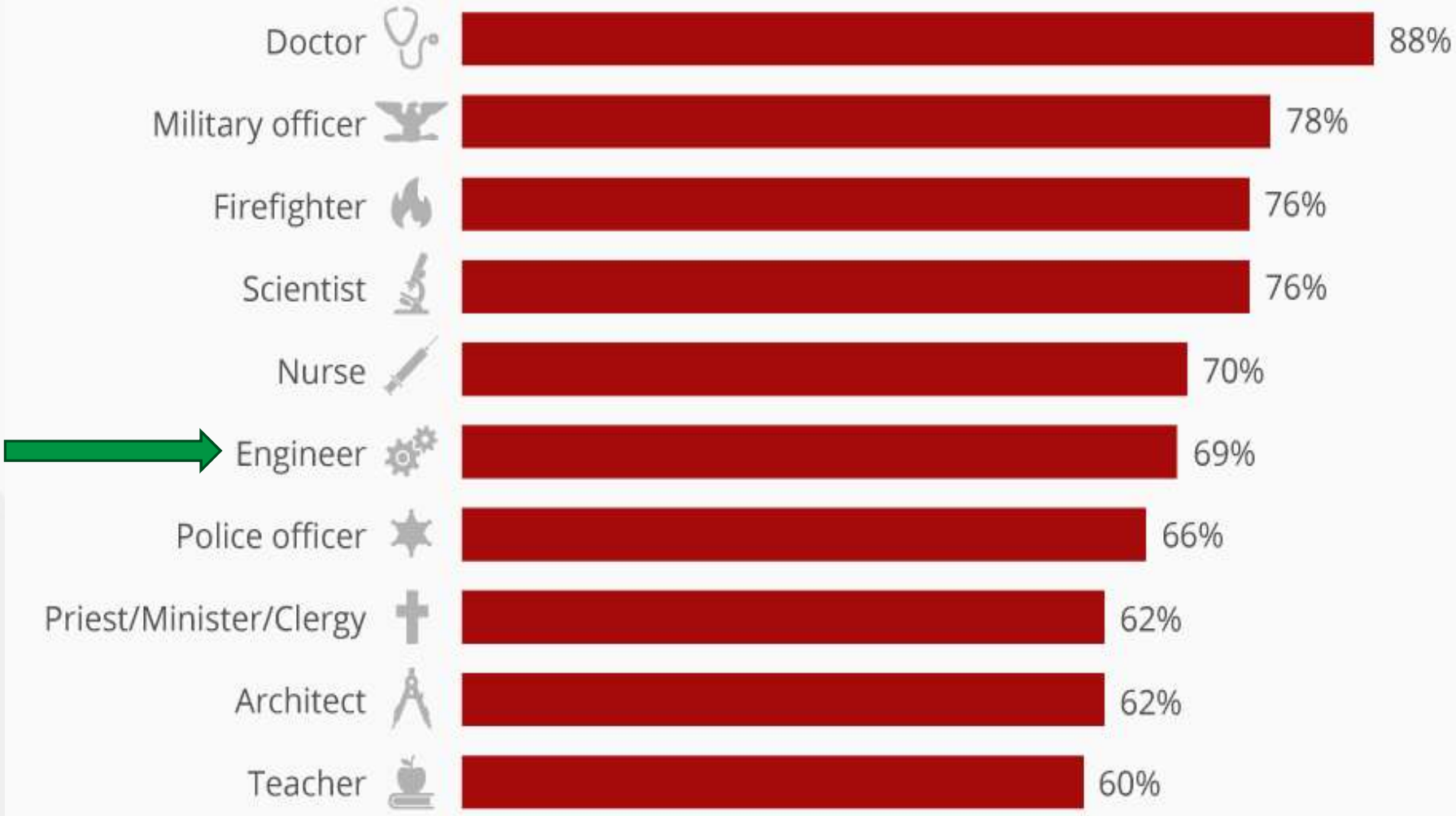
America's Most Prestigious Professions

% of people finding the following occupations prestigious



n=2,537

Source: Harris Interactive

Forbes statista


BEN AFFLECK
The Accountant
OCTOBER 2016

America's Most Prestigious Professions

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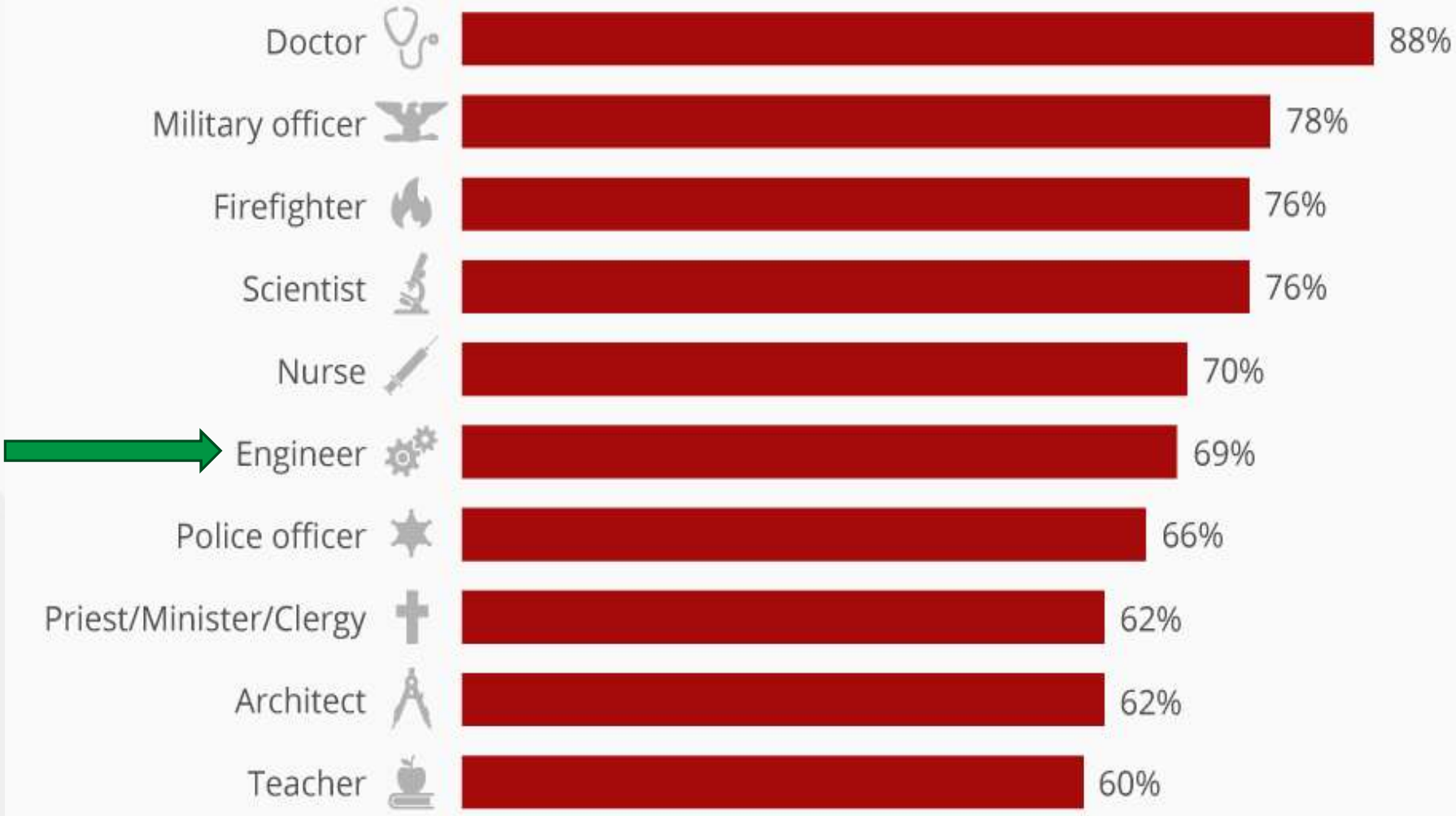

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3 Take Aways….

1. **Traditional** Design-Bid-Build…is not
2. Project Success is greater when builder selected by other than low bid method - **QBS.**
3. Project Success is greater when builder is on your team **EARLY.** **Collaboration!**

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Perspective

THE AMERICAN INSTITUTE OF ARCHITECTS

CMAA
Construction Management Association of America

- Acknowledge the organizations shown here for their graphics and resources used for this presentation.

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Perspective

- Consulting Engineer

ch2m SM

BRIERLEY ASSOCIATES
Creating Space Underground

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- Sub-Contractor

VSL
Construction Solutions (Pty) Ltd

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Perspective

- Builder – DB - CM

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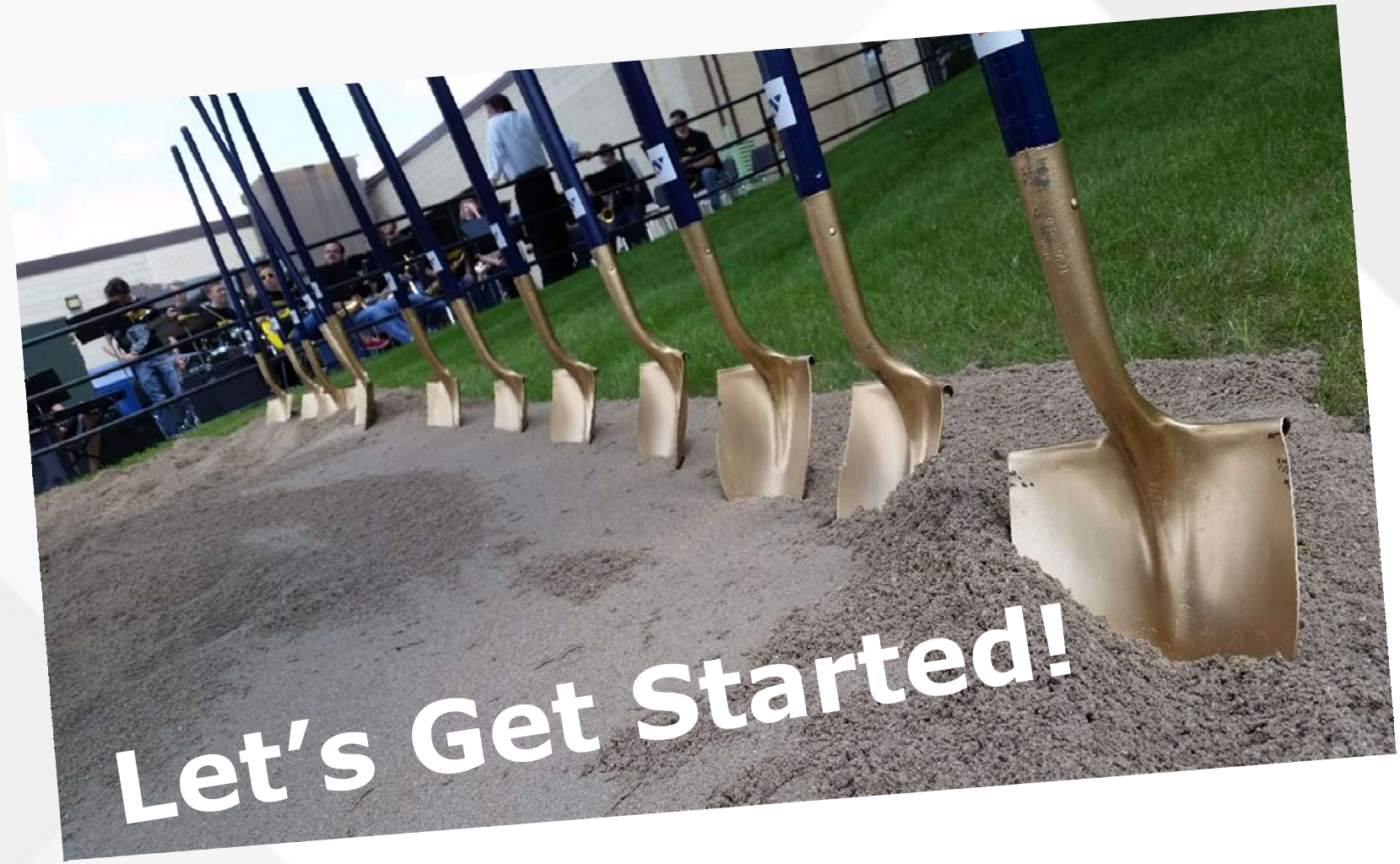

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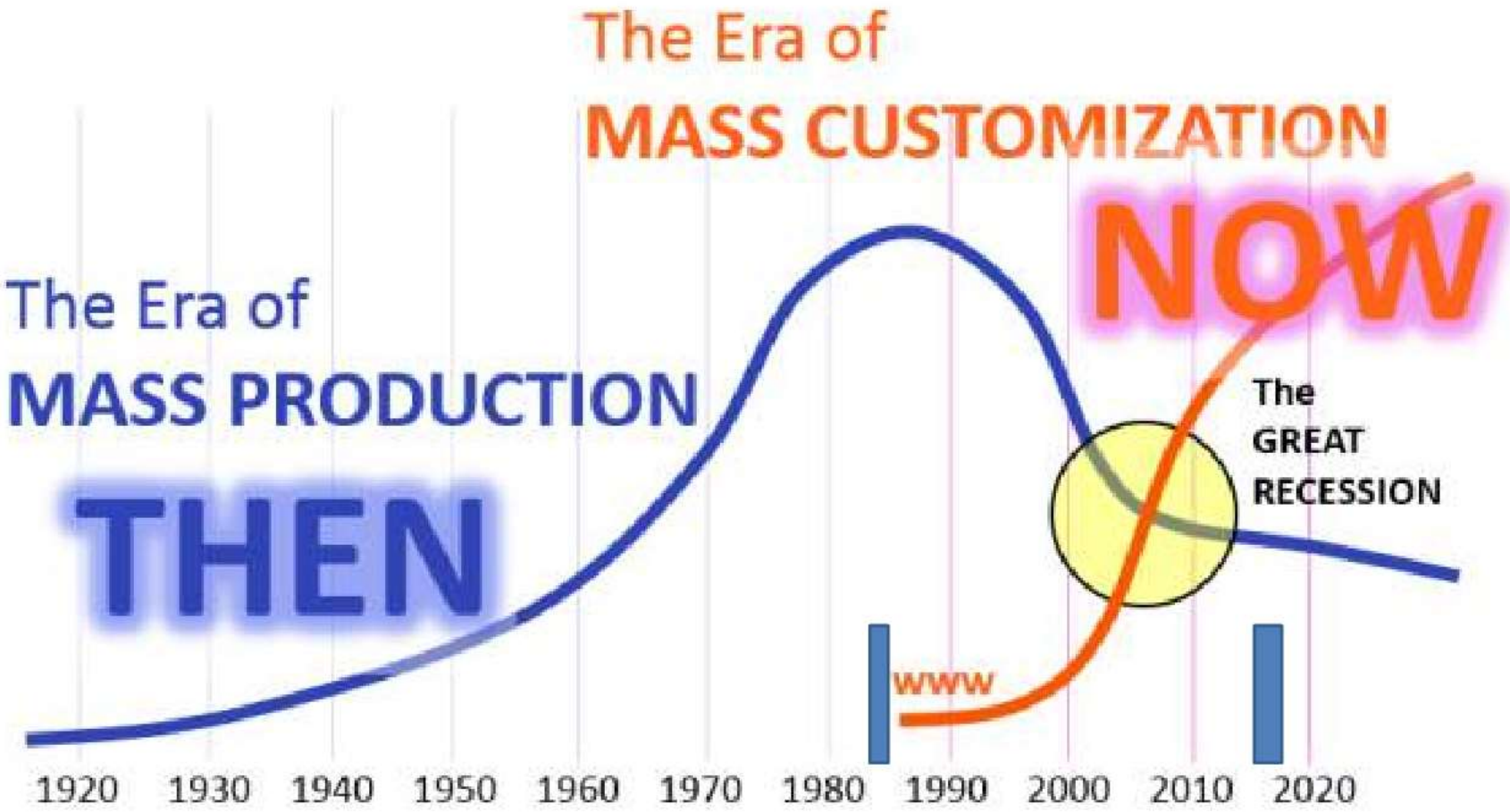

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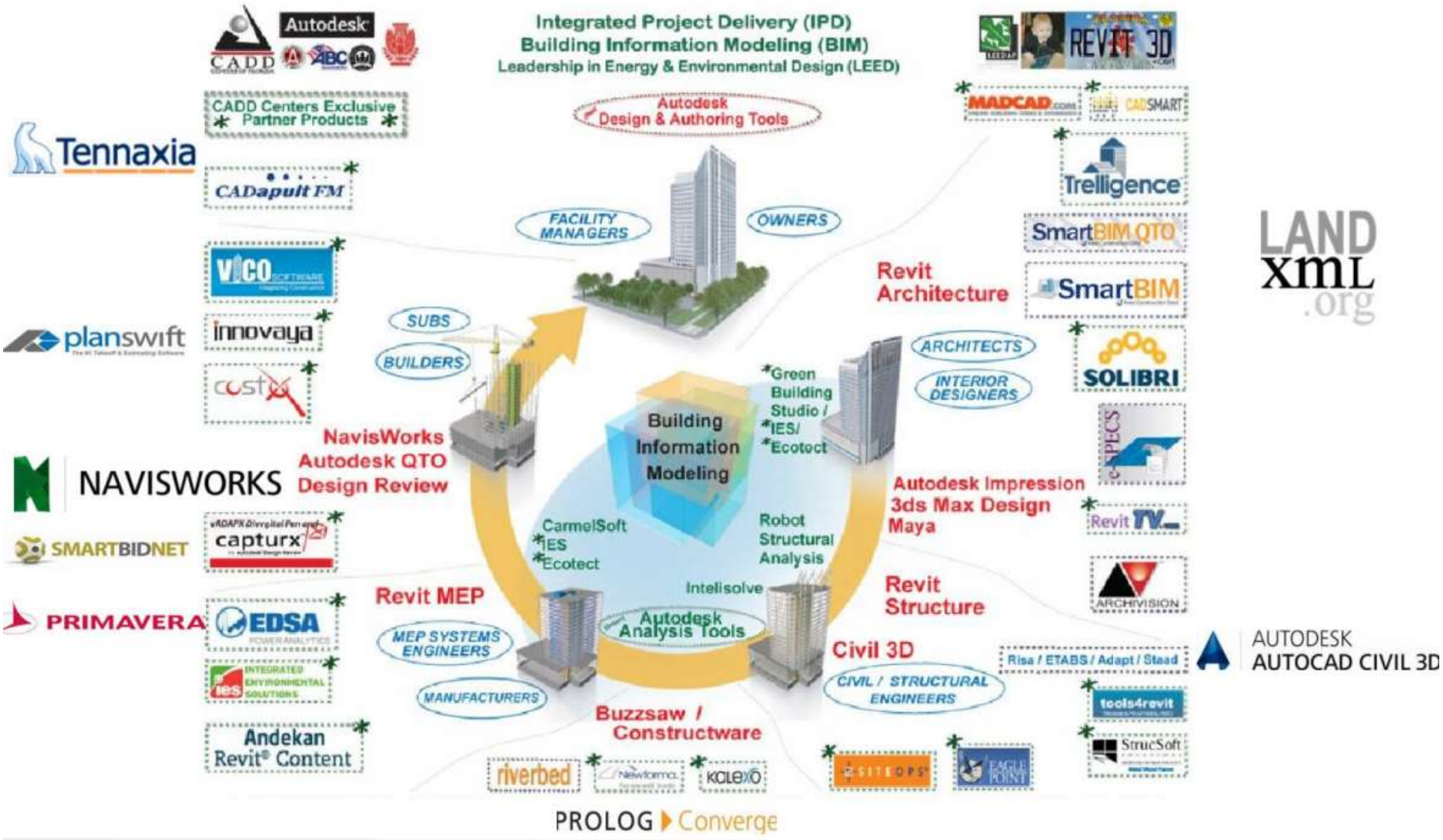

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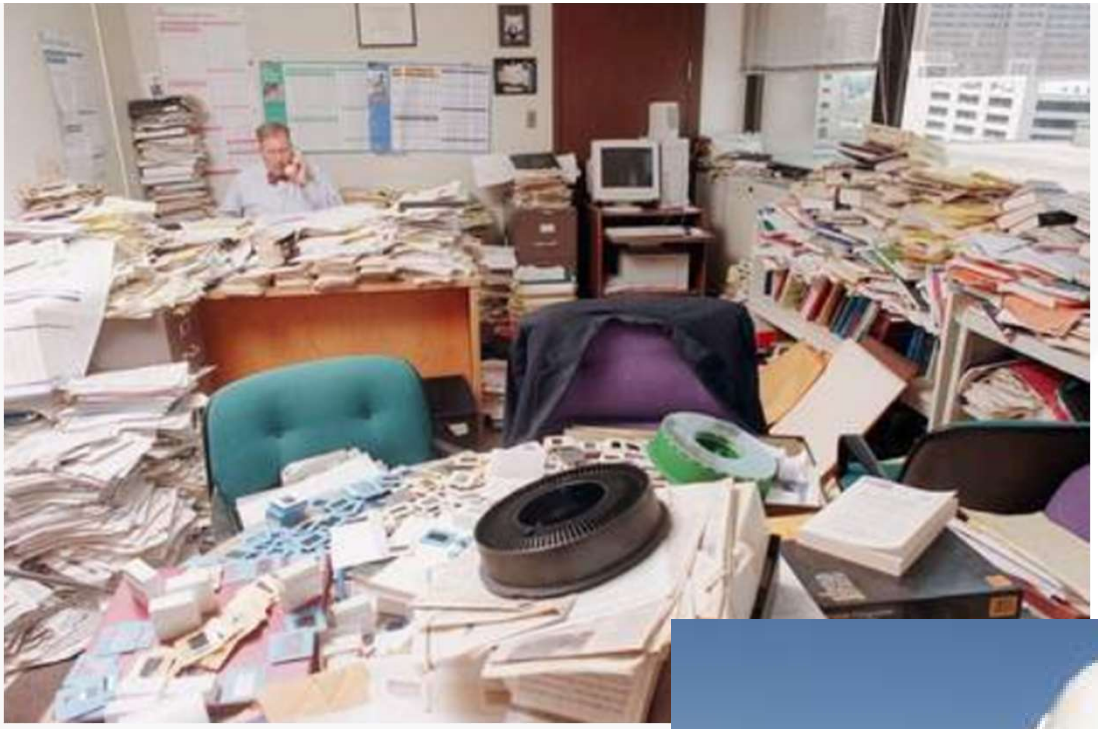
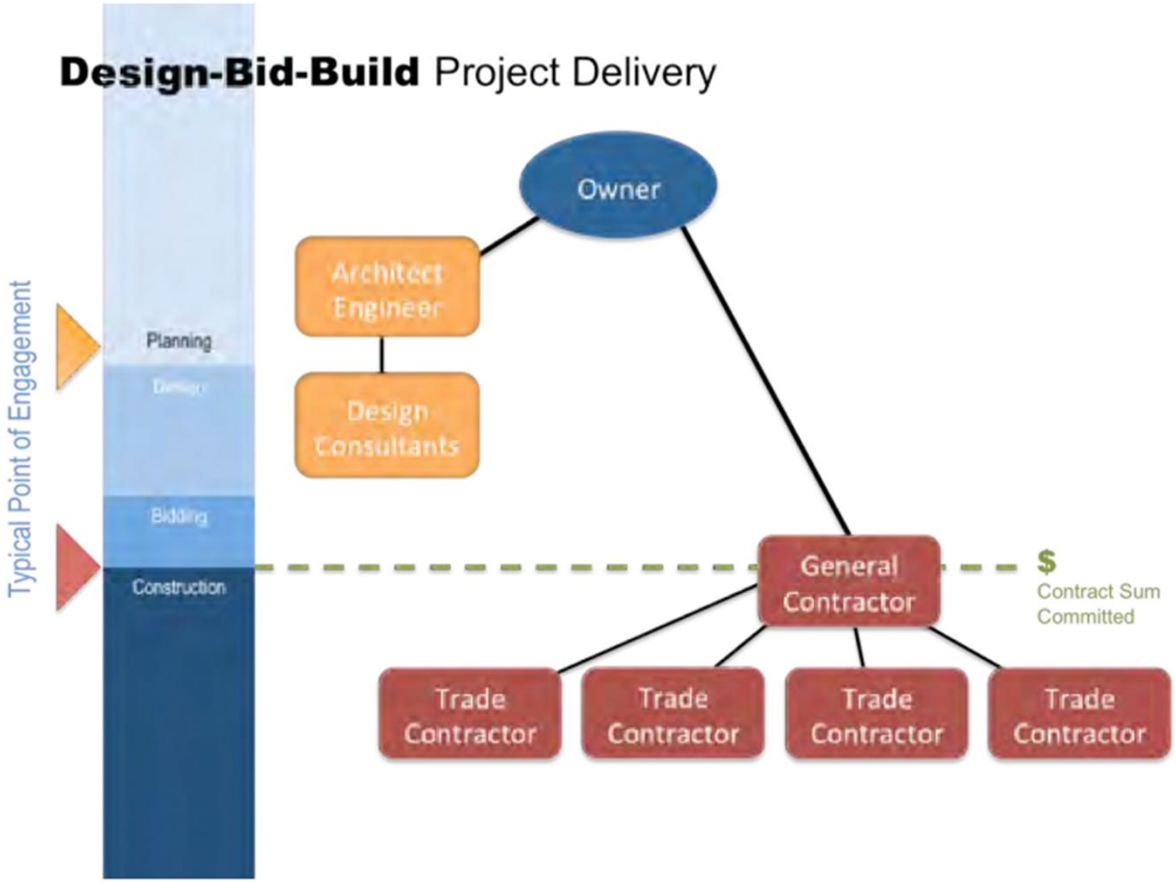



INSTEAD OF RISKING ANYTHING NEW, LET'S PLAY IT SAFE BY CONTINUING OUR SLOW DECLINE INTO OBSOLESCENCE.
TOM FISH BURNE


“It is not necessary to change.
Survival is not mandatory.”
— W. Edwards Deming

“Traditional” Project Delivery



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What's Wrong – Why Change?

- Survey of Federal Project Owners…
  - Think "team first" to drive project quality
  - Pre-select on Qualifications
  - Life Cycle oriented, performance focused RFP's
  - Manage Expectations
  - Pick a Partner – not an enemy

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What's Wrong – Why Change?

- What's needed for Project Success?
  - Right People
  - Right Tools
  - Right Processes
  - Leadership!

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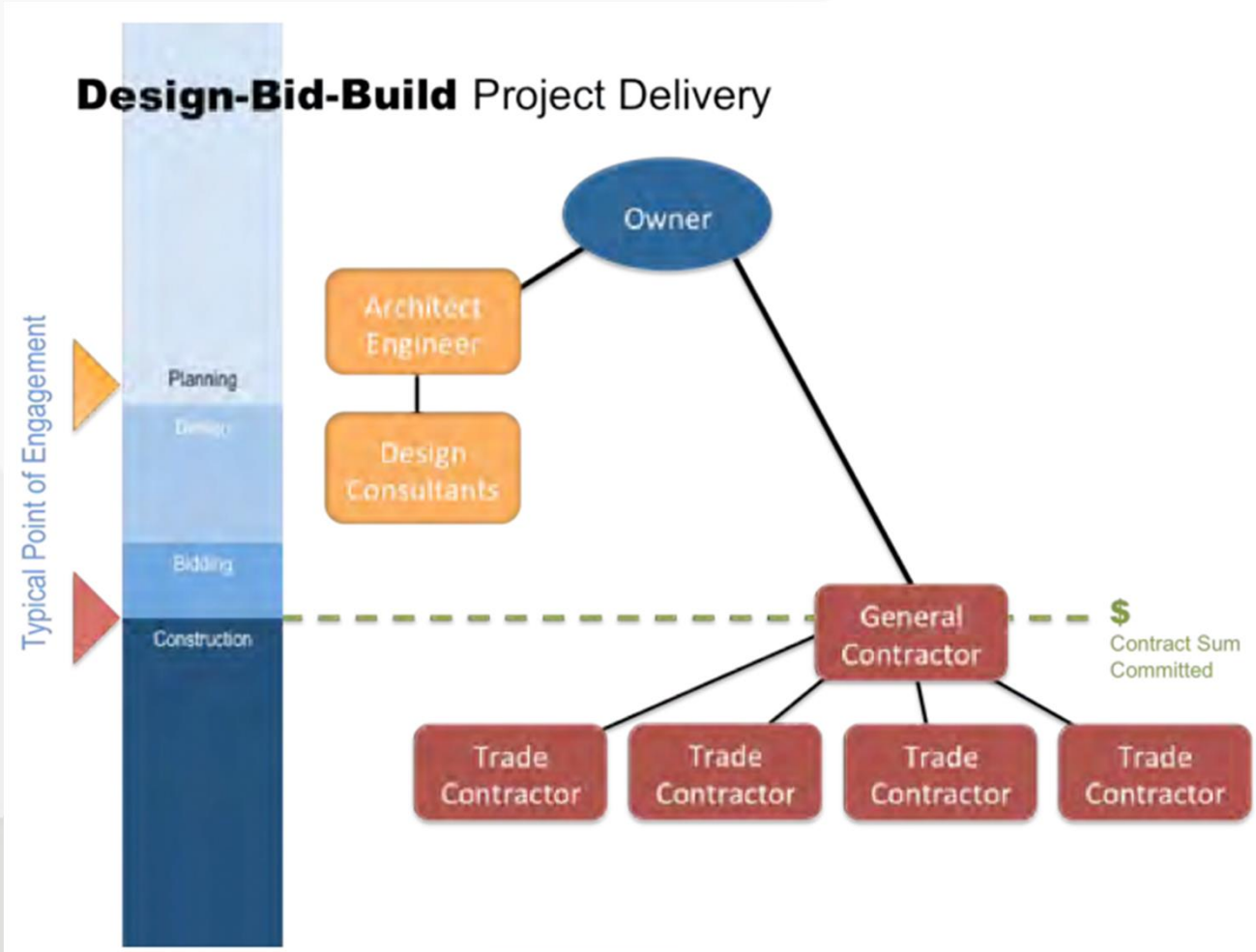
“Traditional” Project Delivery



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“Traditional” Project Delivery

- What works?
  - Tried System – well known
  - Laws and rules are well known – comfortable
  - About 50% of all public projects

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“Traditional” Project Delivery

- What’s wrong - Why Change??
  - Often Adversarial - Lack of collaboration
  - Builder Chosen by lowest price - not quals
  - Linear process – can’t get $$ until plans done
  - Inability to “Fast – Track” – takes longer

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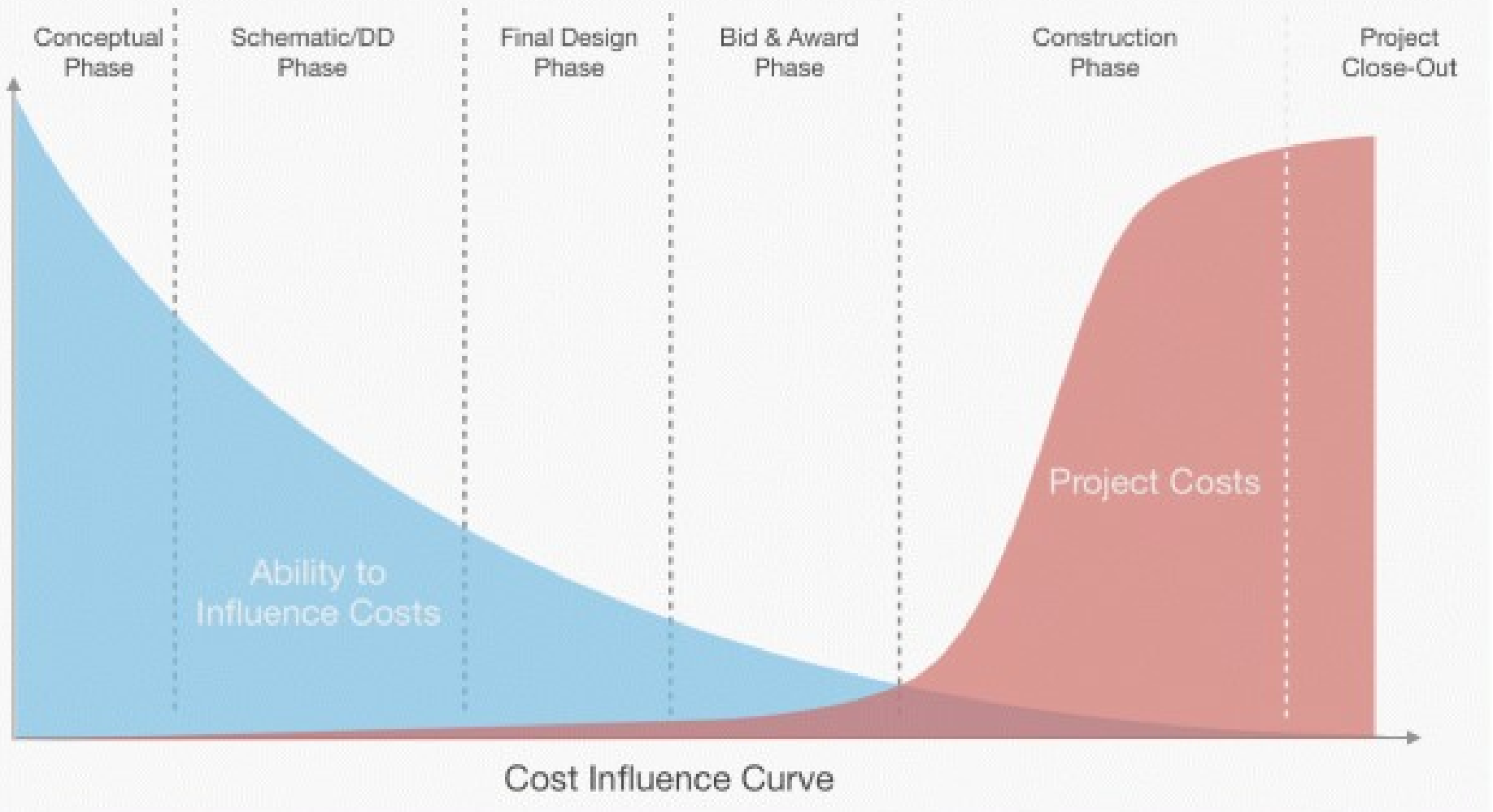

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“Alternative” Project Delivery

- CM at Risk
- Multiple Prime (CM Agency or CM Advisor)
- Design Build
- Others

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Construction Management

Construction Management is a professional management practice applied to construction projects from project inception to completion for the purpose of controlling time, cost, scope and quality

Construction Management

Delivery - Defined

Project Delivery Systems	Procurement Methods	Contract Formats
Construction Management at Risk **(CMR)** also known as CM/GC	Best Value **(BVS)**	Cost Plus Fee
Design-Bid-Build **(DBB)**	Low Bid	Guaranteed Maximum Price **(GMP)**
Design-Build **(DB)**	Negotiated	Lump Sum (or Fixed Price)
Multi-Prime **(MP)**	Qualifications-Based **(QBS)**	Target Price
	Sole Source (or Direct Select)	Unit Price

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Delivery - Defined

Project Delivery Method	Design-Bid-Build (DBB)	Construction Management at Risk (CMAR)	Design Build (DB)	Integrated Project Delivery (IPD)
Contracting Methods				
Lump Sum	Common	Common	Common	Rare
Guaranteed Maximum Price	Rare	Common	Common	Rare
Reimbursable	Rare	Rare - Common	Rare	Common

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Delivery - Defined

Selection Criteria	Low Bidder	Best Value	Best Qualifications
Project Delivery Method	Selection is based solely on Price	Selection is based on a weighted combination of Price and Qualifications	Selection is based solely on Qualifications
Design-Bid-Build	Most Common	Common; Price evaluation based on Construction Cost	Rare
Construction Management at Risk	Rare	Most Common; Price evaluation based on CMAR Fees and General Conditions	Common
Design/Build	Common	Most Common; Price evaluation based on fees and GCs; may or may not include Construction Cost	Common
Integrated Project Delivery	Rare	Common	Most Common

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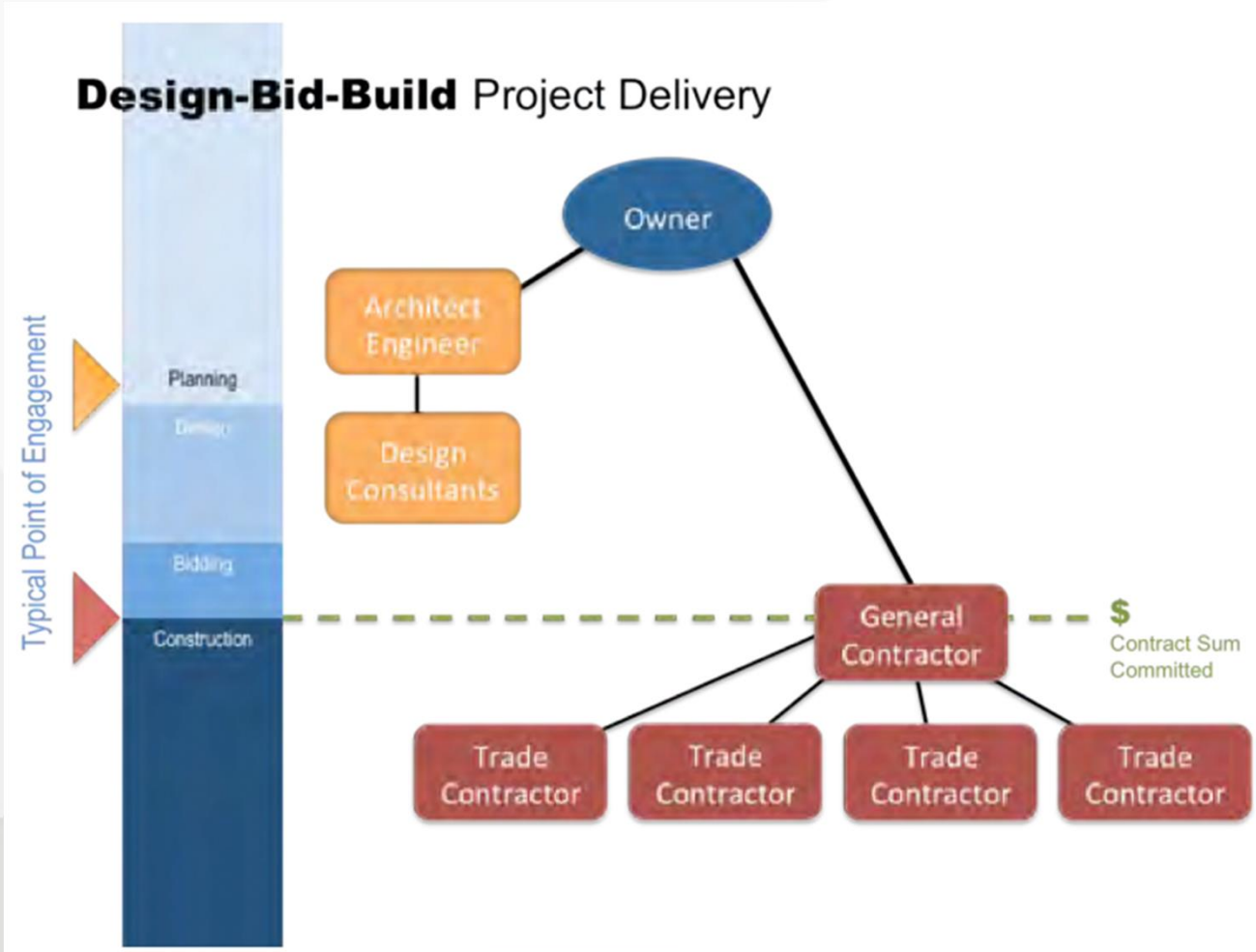
“Traditional” Project Delivery



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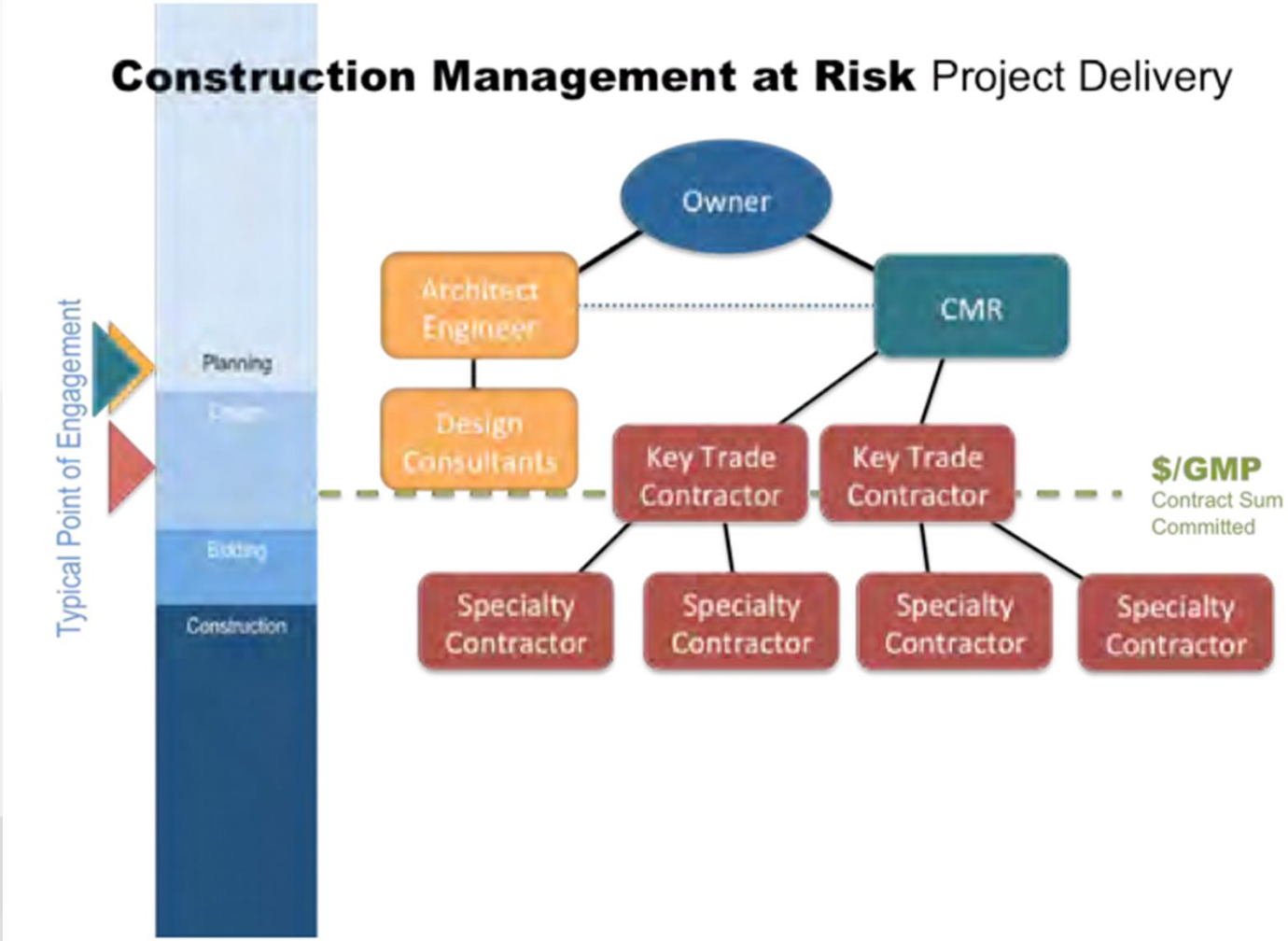
Alternative Approaches



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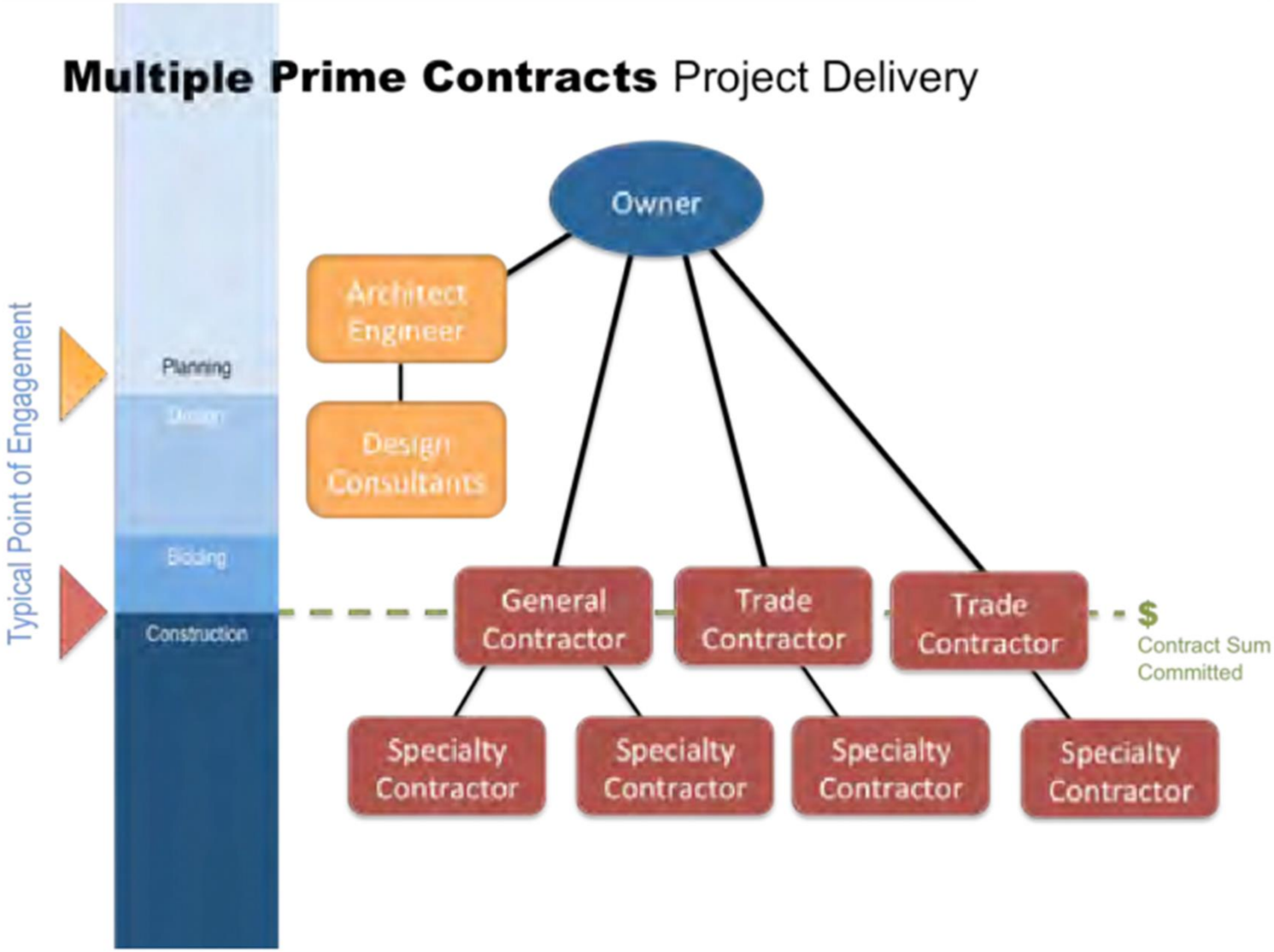
CMR

- Usually Chosen early in planning phase
- QBS with agreed upon rates, % fees
- Higher degree of collaboration than D-B-B
- After scope defined, priced, convert to a GMP
- Common for public projects elsewhere – not here

CMR - Disadvantages

- No single point of responsibility

Alternative Approaches



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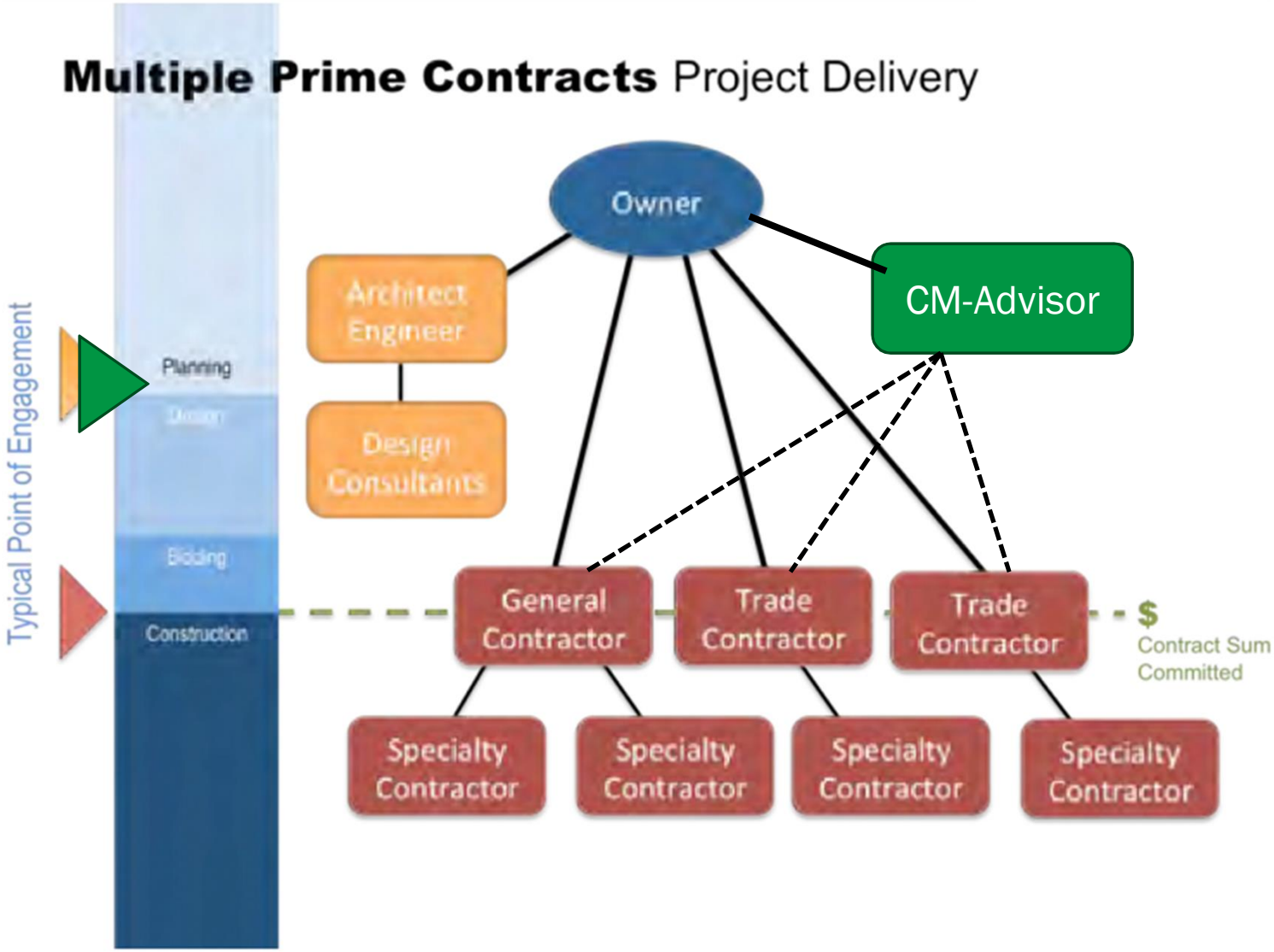
Alternative Approaches



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Multiple Prime Contracts

- Also known as CM – Advisor (Agency)
- Owner holds contracts, more risk, no GMP
- Lower fee, CM is not at Risk
- CM is Owner's advocate

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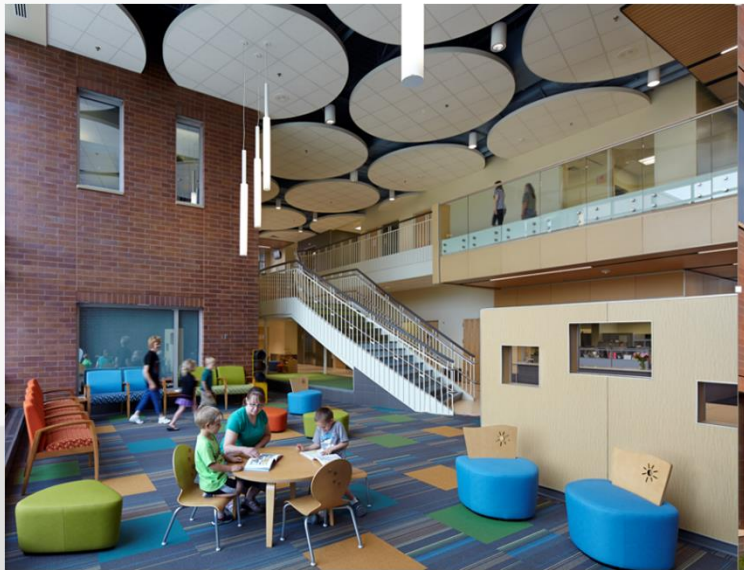
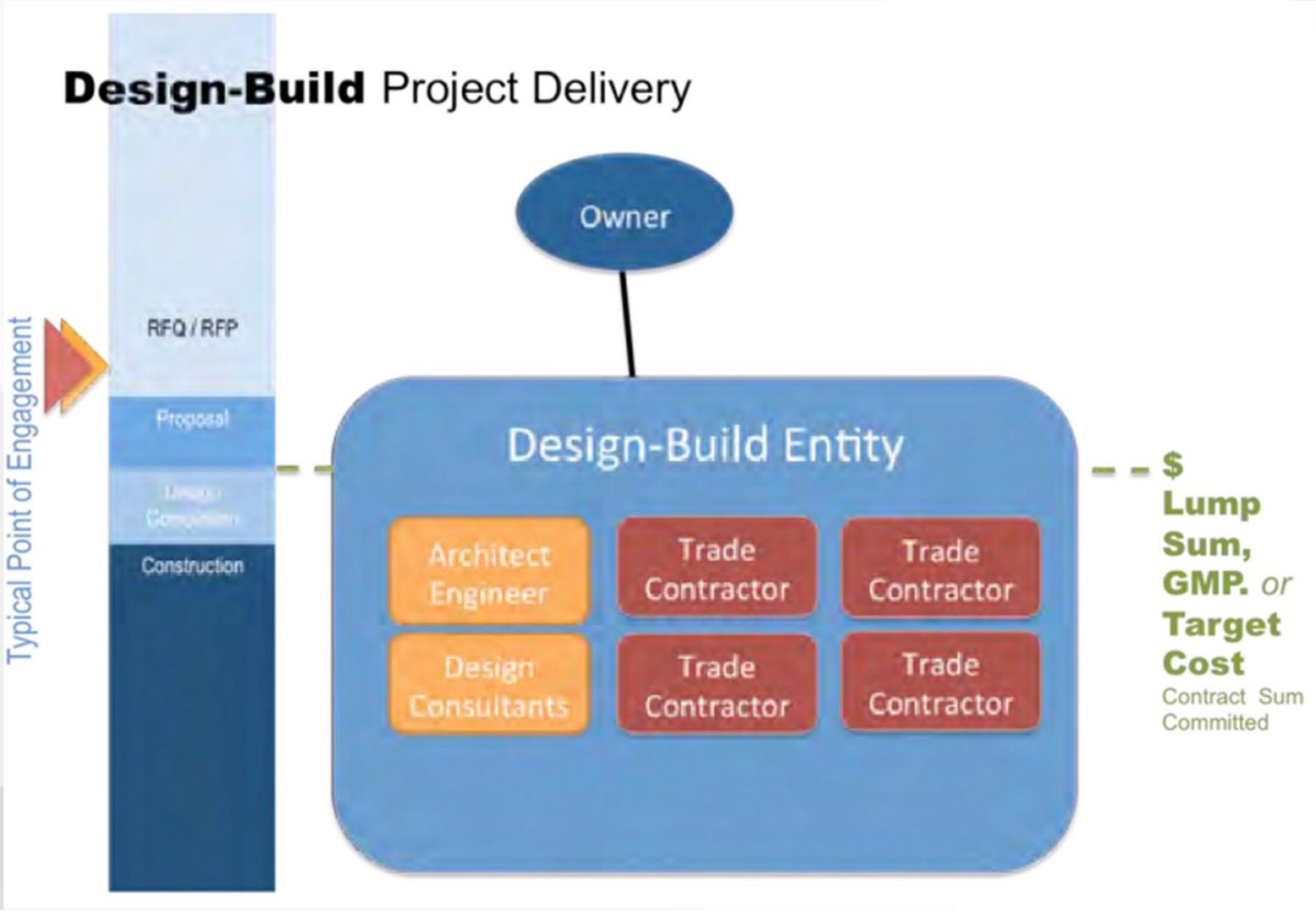
Multiple Prime Contracts - Example

- Majority of K-12 public Schools in MN
  - (State of MN doesn't allow CMR for public jobs)
- Many municipal building projects
- CM by QBS Selection –
- Prime Contractors by low bid



Alternative Approaches



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Design Build

- Single Point of Responsibility for Owner
- 60’s growth in private sector – Opus led
- BIM/VDC
- Usually Contractor leads, hires E/A
- Limited public use in MN, but growing
  - MnDOT
  - MN Water and Wastewater Facilities

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Design Build – Example

- MnDOT – major projects
- 35W Bridge
- Crookston Landslide remediation

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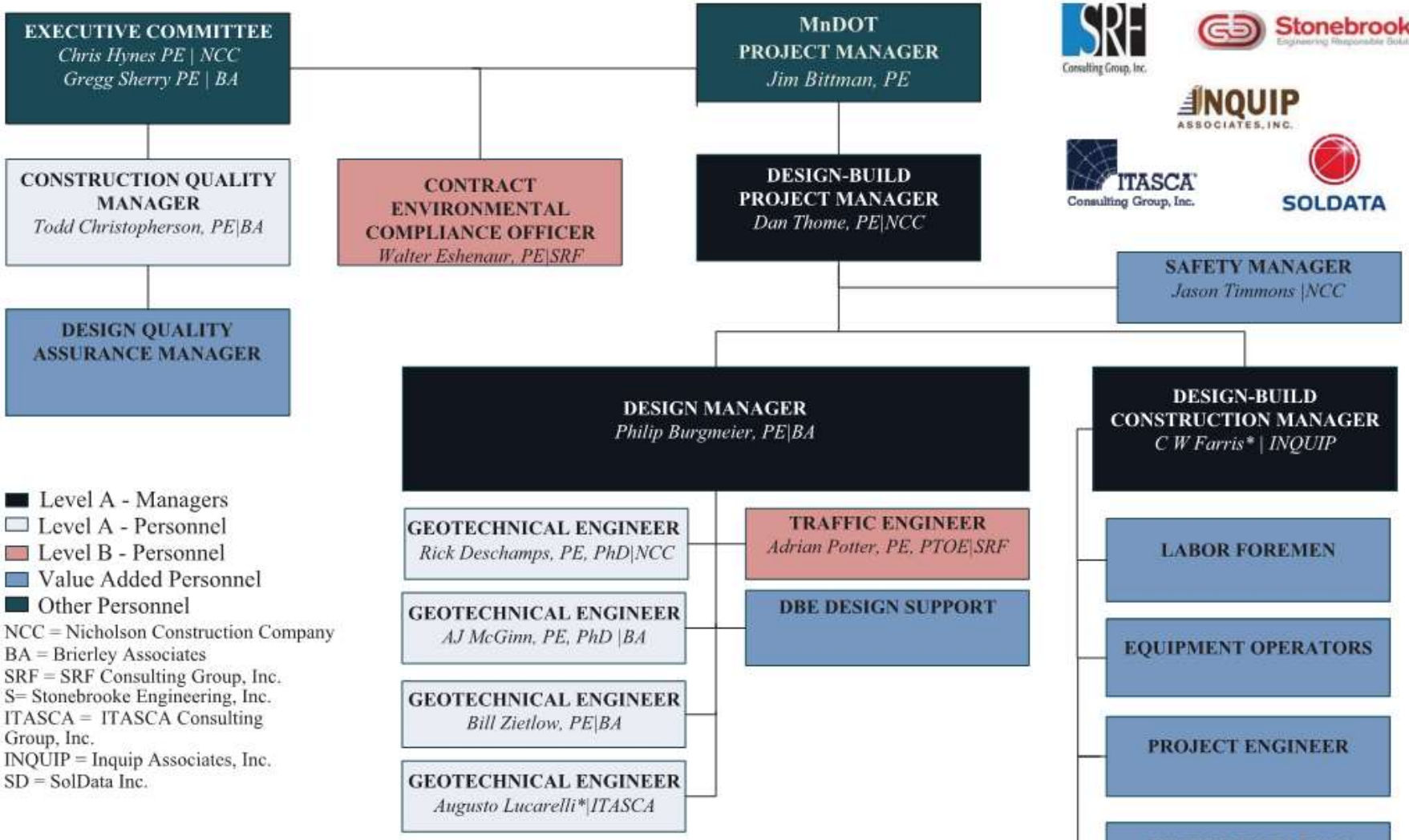
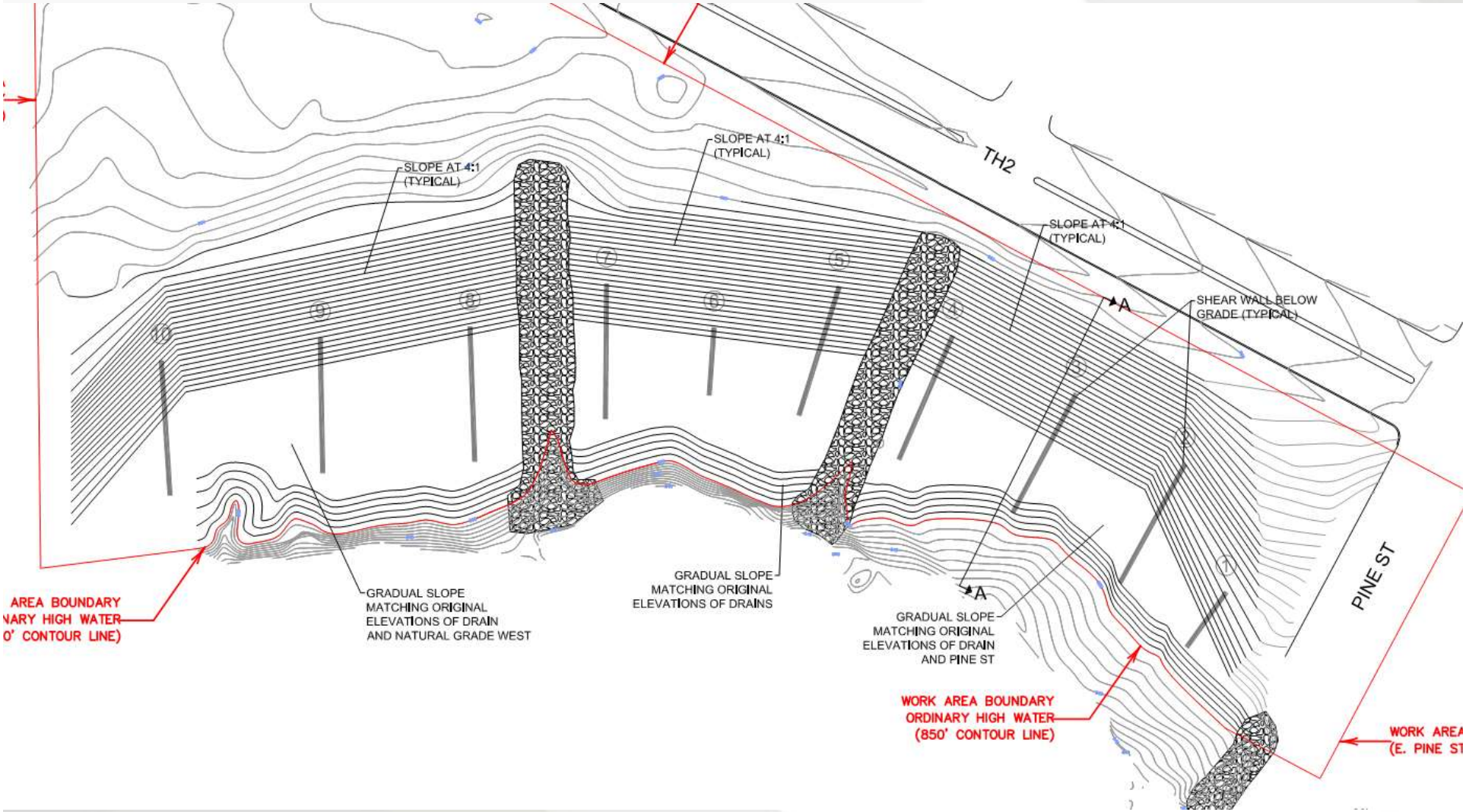
4.2.4.2 SUBMITTER ORGANIZATION AND EXPERIENCE

4.2.4.2 Organization Chart



*Key individuals approved by MnDOT to replace the personnel previously submitted in the SOQ



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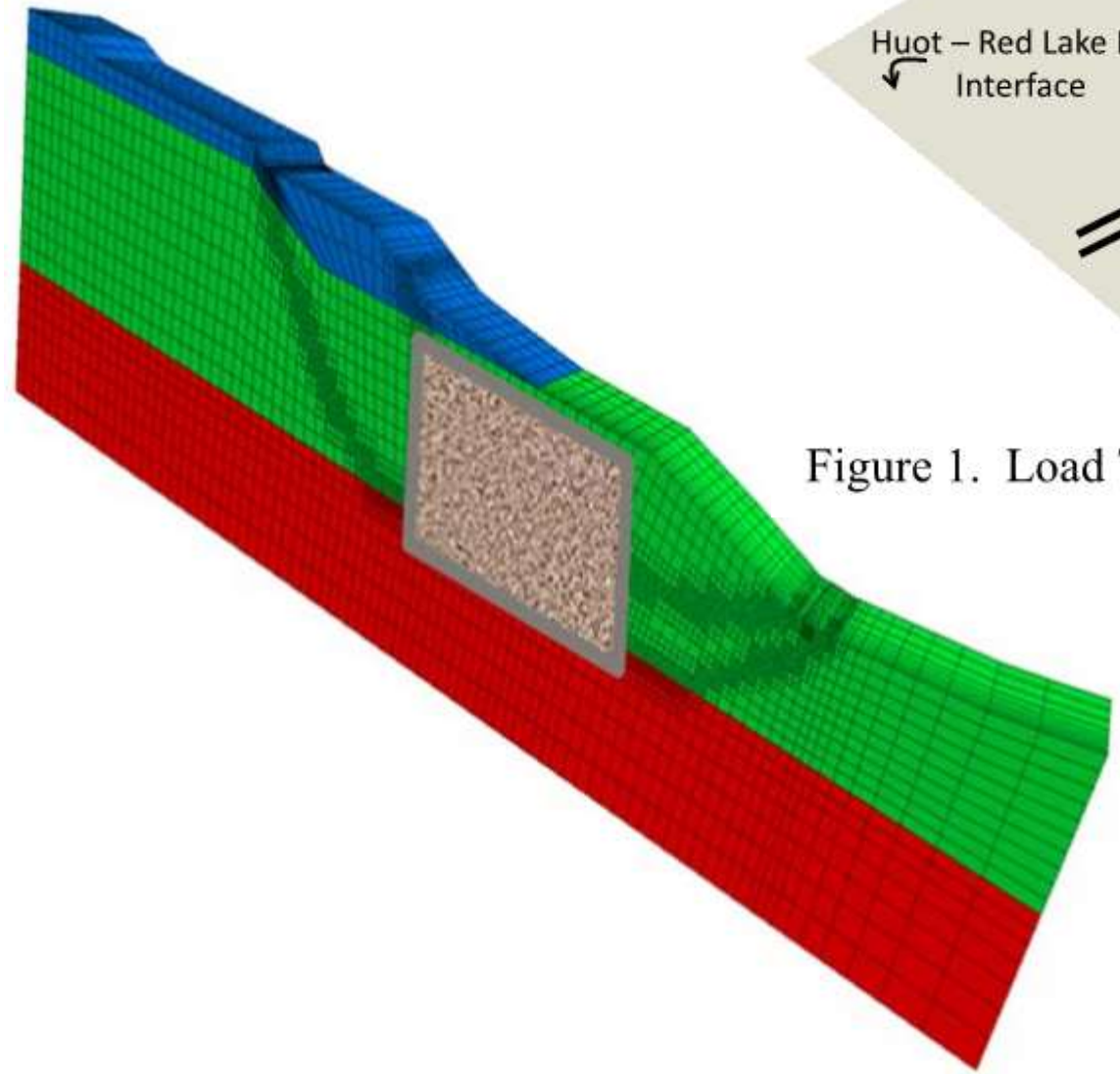

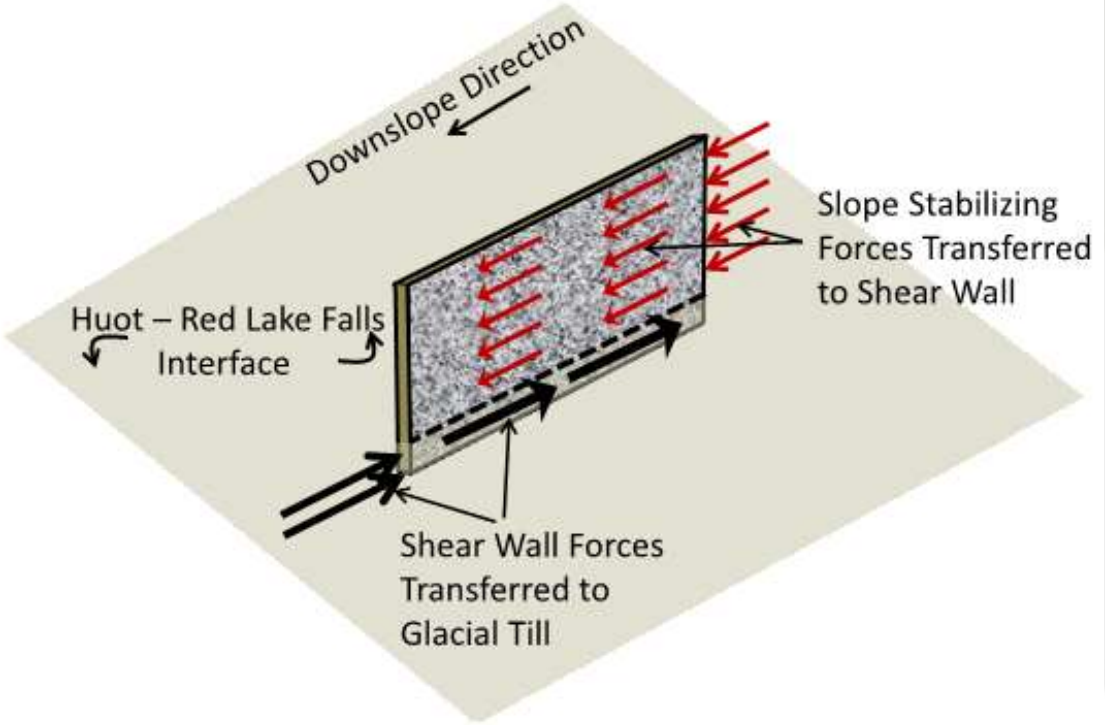

Figure 1. Load Transfer Mechanism for Shear Walls

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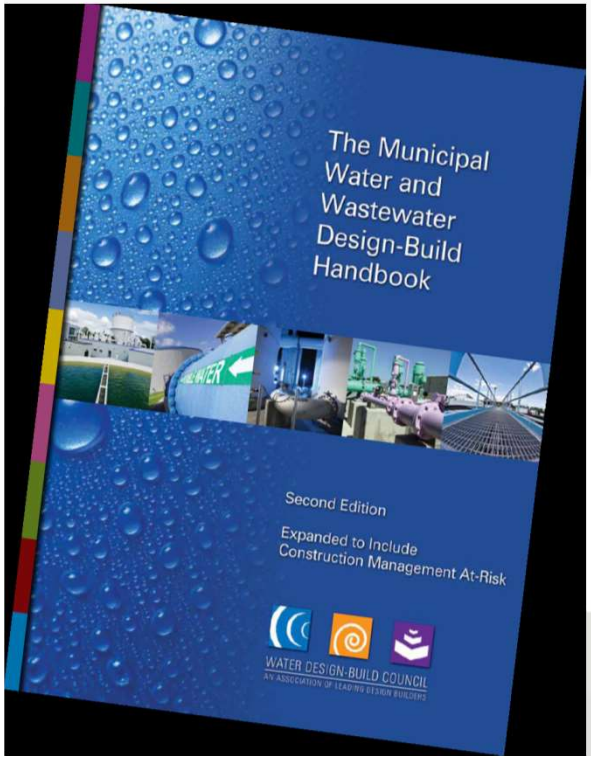
	Technical Proposal Score	Proposal Price
Coastal Drilling	85.00	$ 6,808,808.00
Hayward Baker	82.61	$ 7,496,356.00
JAFEC/VEIT	93.40	$ 7,218,533.00
Nicholson	89.72	$ 6,406,360.00

	Maximum Points	Total Scoring by Criteria						
		Berkel	Coastal Drillers	Hayward Baker	Industrial Builders	JAFEC/ VEIT	Malcolm	Nicholson
Submitter Org and Experience	25	21.45	23.55	21.60	16.50	19.60	20.70	21.00
Key Personnel:								
Managers	25	20.65	19.30	22.60	16.25	20.20	19.90	22.85
Geotech Team	25	22.95	20.95	21.35	20.55	22.75	19.80	22.35
Quality Manager	5	3.98	3.20	3.06	4.15	3.86	2.48	4.62
Project Understanding	10	9.40	6.72	8.68	6.70	9.34	8.30	9.24
Project Management	10	8.12	5.54	7.42	6.68	6.02	6.40	8.04
Total Average Score	**100**	**86.55**	**79.26**	**84.71**	**70.83**	**81.77**	**77.58**	**88.10**
Final Ranking		**2**	**5**	**3**	**7**	**4**	**6**	**1**

Design Build - Progressive



- Growing method nationally
- Water and Wastewater Projects
- Quicker Procurement process
- Shifts Risk to Design-Builder, Control to Owner
- Water Design Build Council

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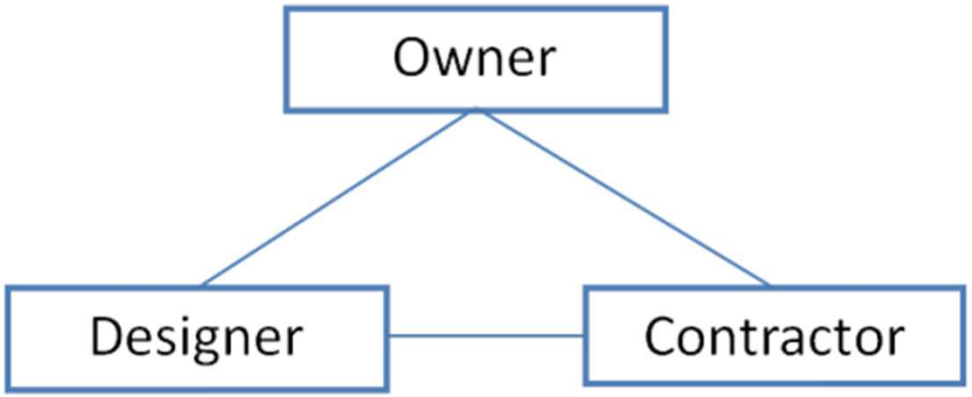
IPD – Integrated Project Delivery

- Design Build – enhanced
- BIM & VDC
- Contractual Definition



Integrated Project Delivery

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IPD – Integrated Project Delivery

- Contractual Definition

IPD is a method of project delivery distinguished by a contractual arrangement among a minimum of the owner, constructor and design professional that aligns business interests of all parties. IPD motivates collaboration throughout the design and construction process, tying stakeholder success to project success,

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IPD – Integrated Project Delivery

- Practical Definition

A project delivery method that attempts to spread the risk, responsibility and liability for project delivery equally among the primary parties—the owner, the designer, and the builder, whether through partnership agreements or multi-party contracts.

Wenck IPD is:
Providing multiple services, within a single operating company or across multiple Wenck Enterprise (WE) companies, on a single project outcome for a client.

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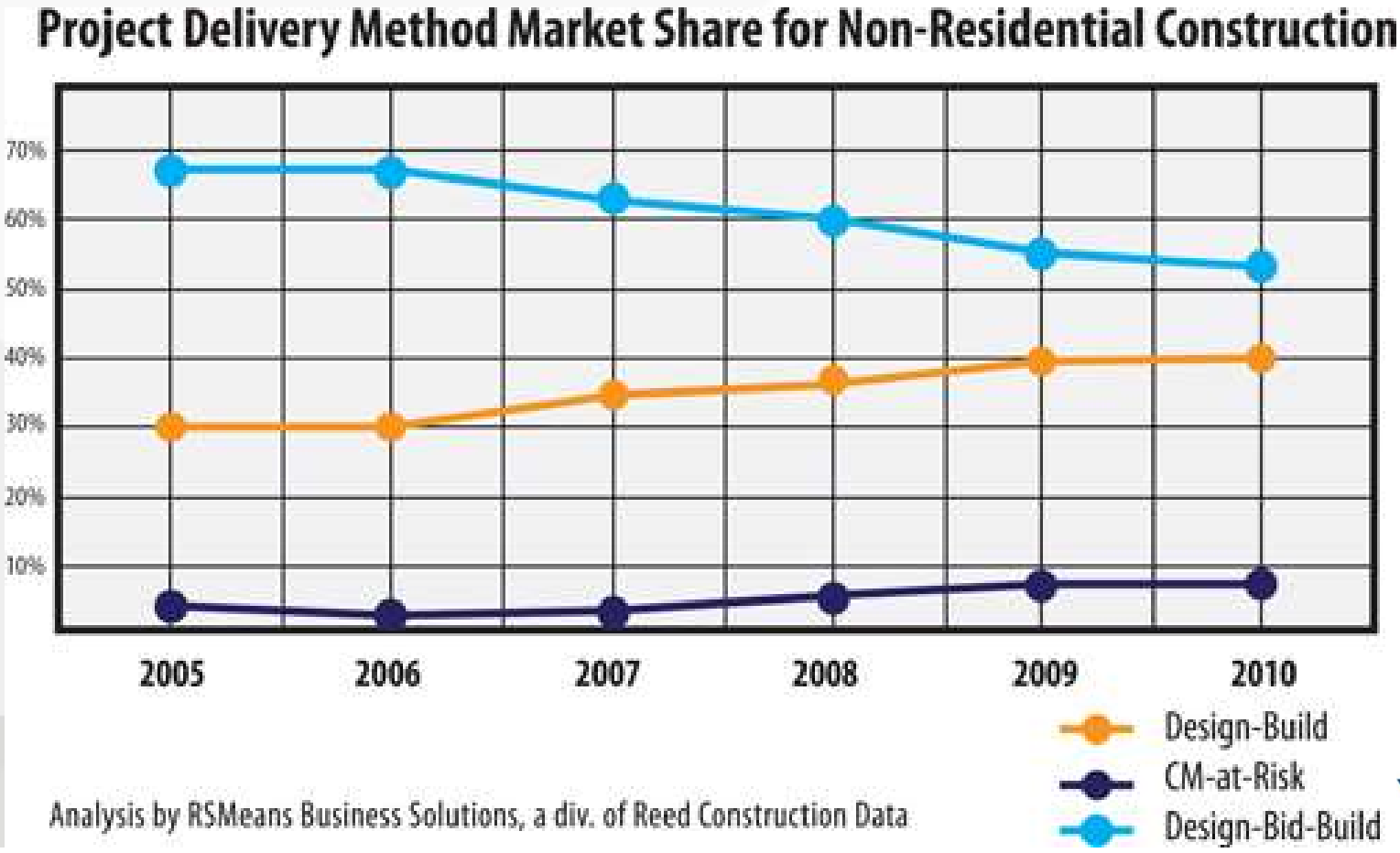
Alternative Approaches – "Others"

- Engineer Procured Construction – EPC
  - Design-Build, led by Engineer rather than Contractor
- Private Public Partnership – PPP
- Program Management - PM
- Multiple Projects:
  - Indefinite Delivery / Indefinite Quantity (IDIQ)
  - Multiple Award Task Order Contract (MATOC)
  - Single Award Task Order Contract (SATOC)
  - Job Order Contracts (JOC)

Trends



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Trends

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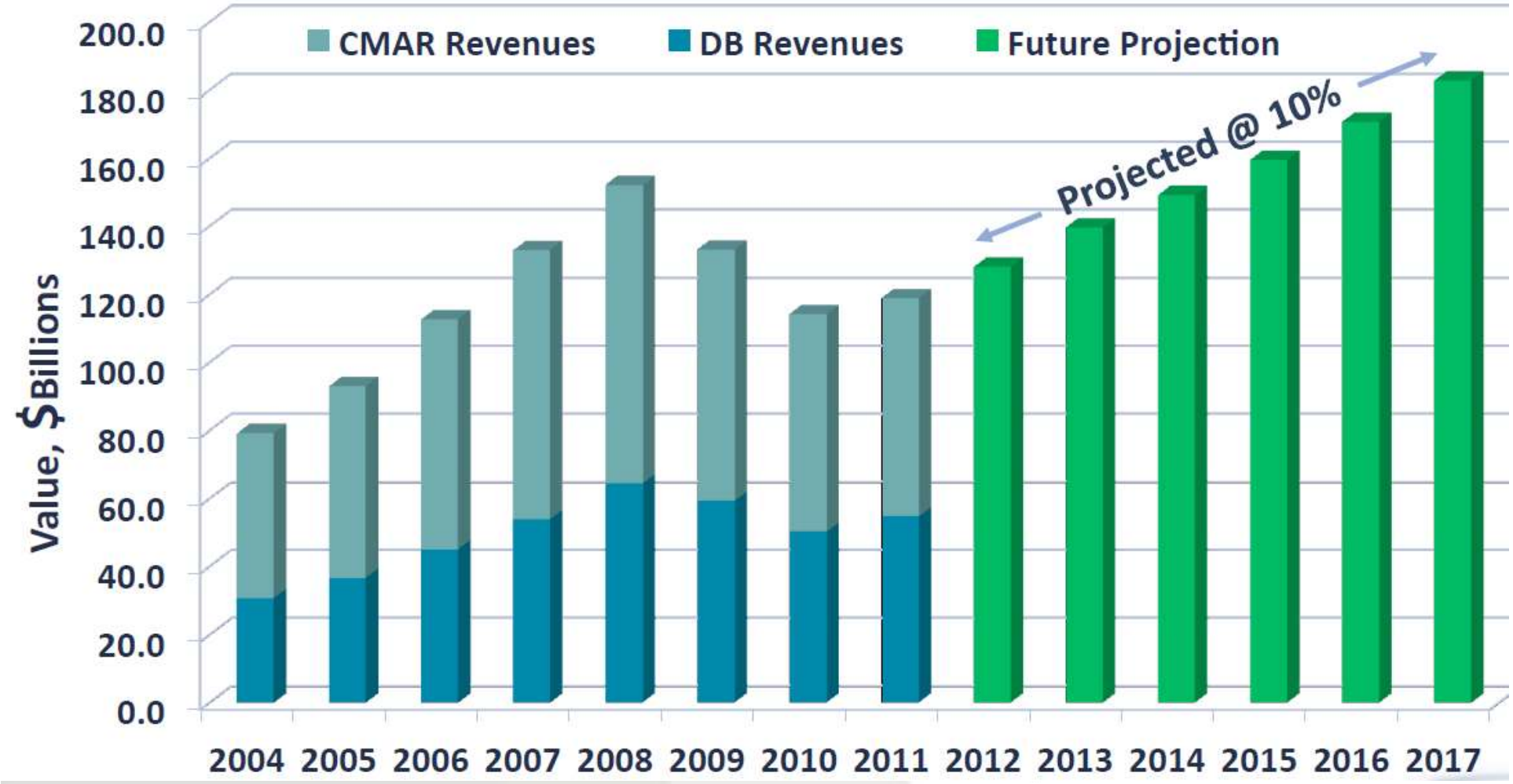
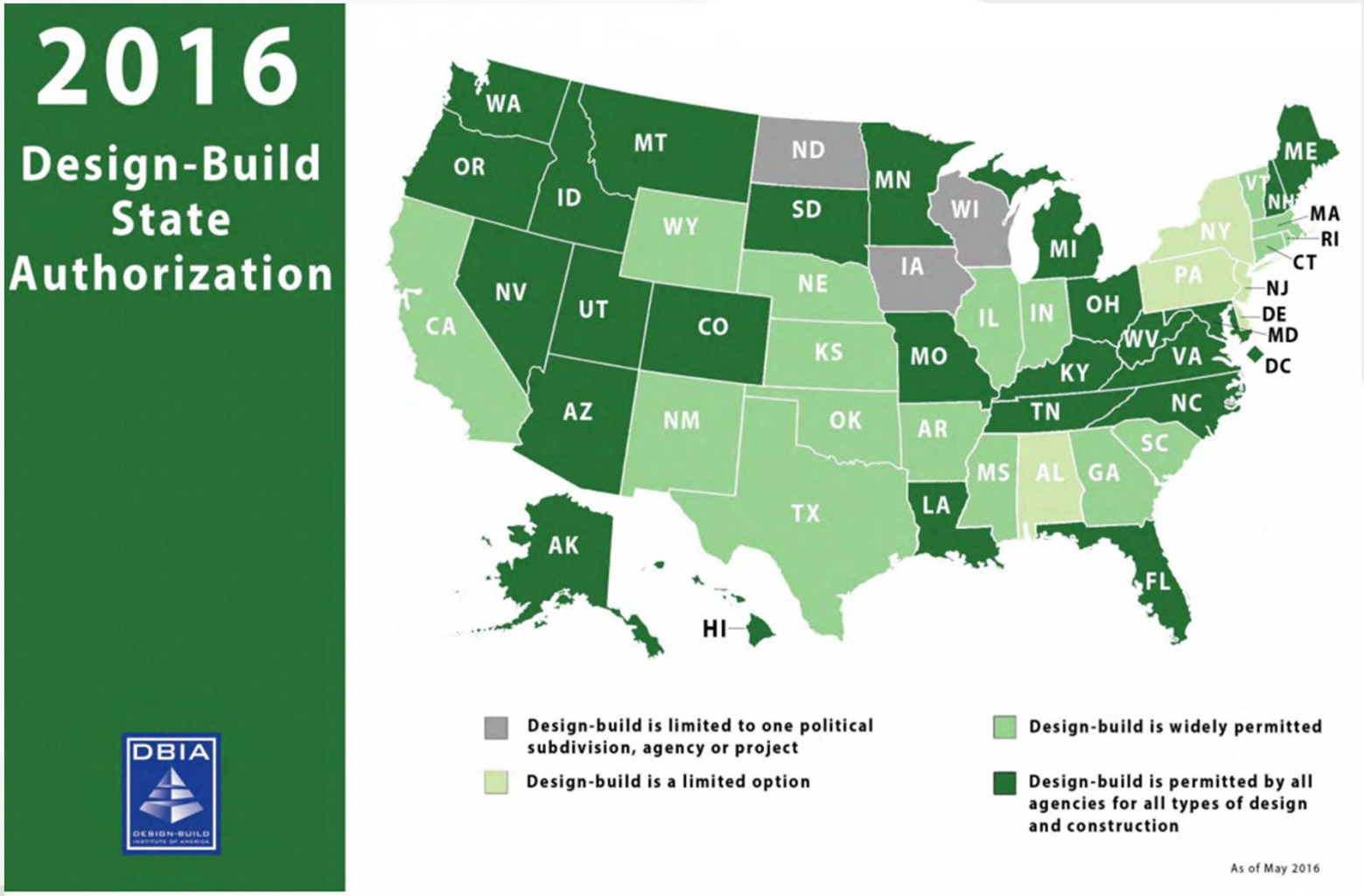


Trends



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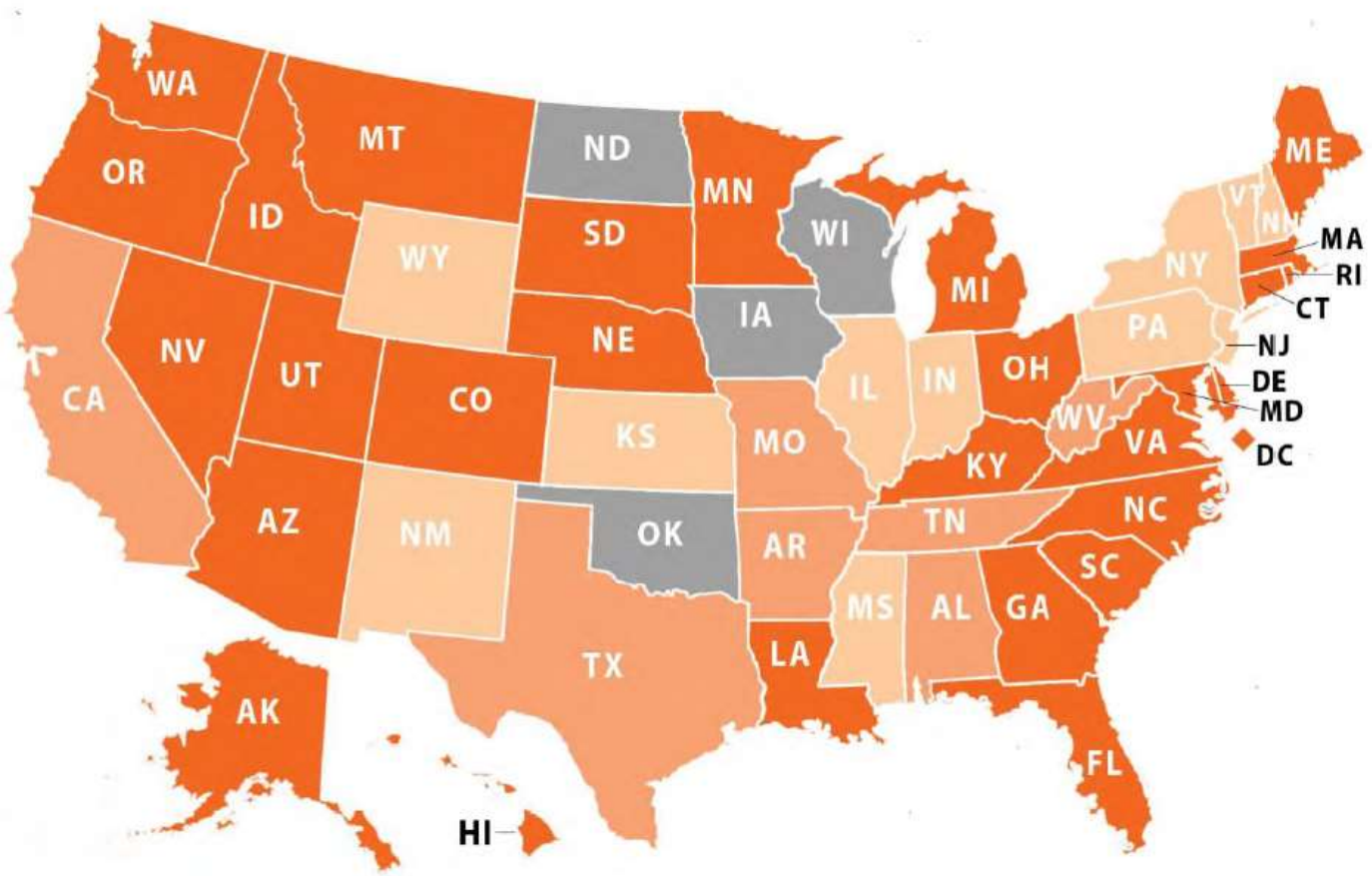
Design-Build Authorization for Transportation



- Design-build is not specifically authorized
- Design-build is widely permitted
- Design-build is authorized with certain limitations
- Design-build is fully authorized

As of June 2016

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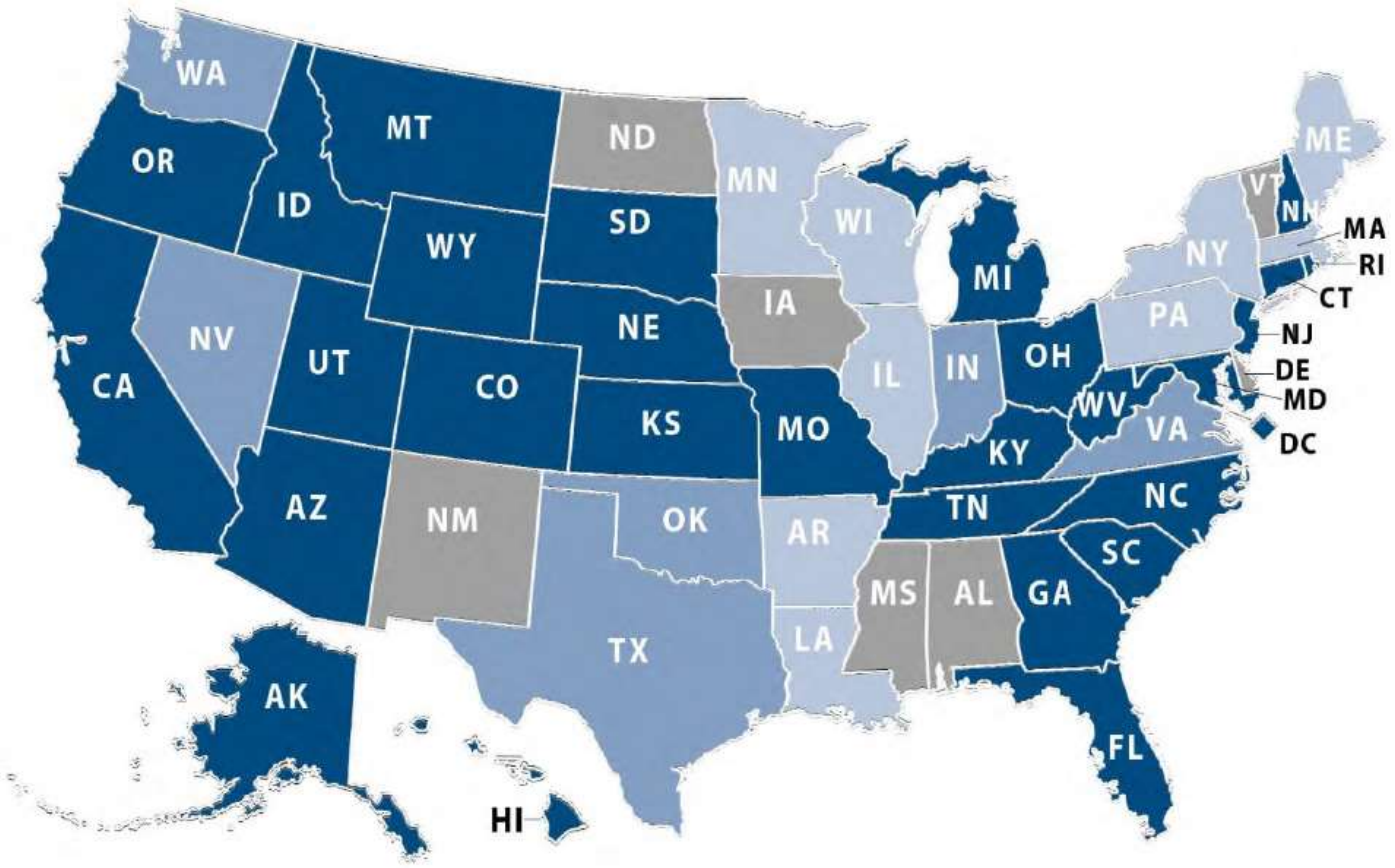
States Granting Local Design-Build Authorization



- Design-build is not specifically authorized
- Design-build is a limited option
- Design-build is widely permitted
- Design-build is permitted by all agencies for all types of design and construction

As of May 2016

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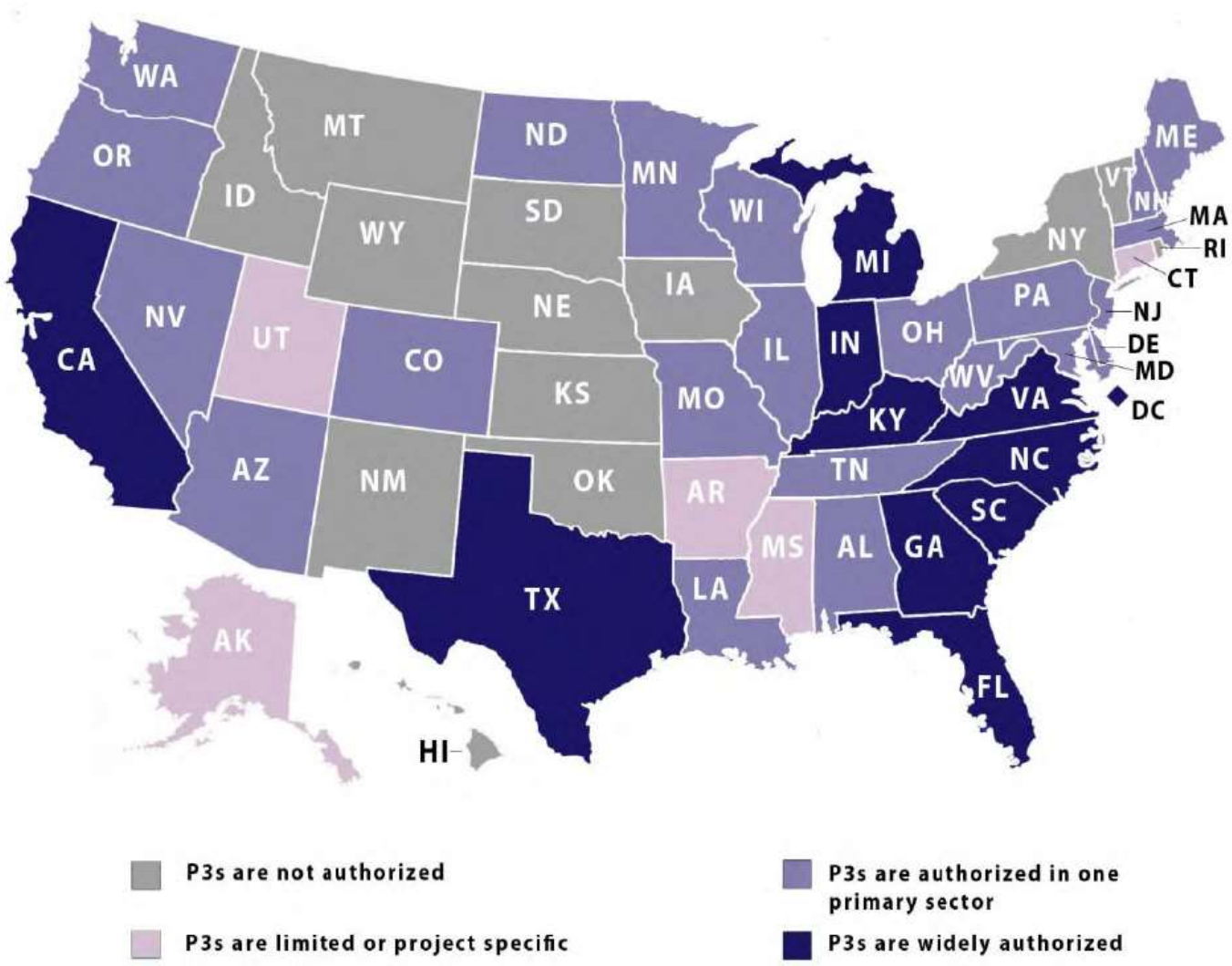
Public-Private Partnership (P3) State Laws



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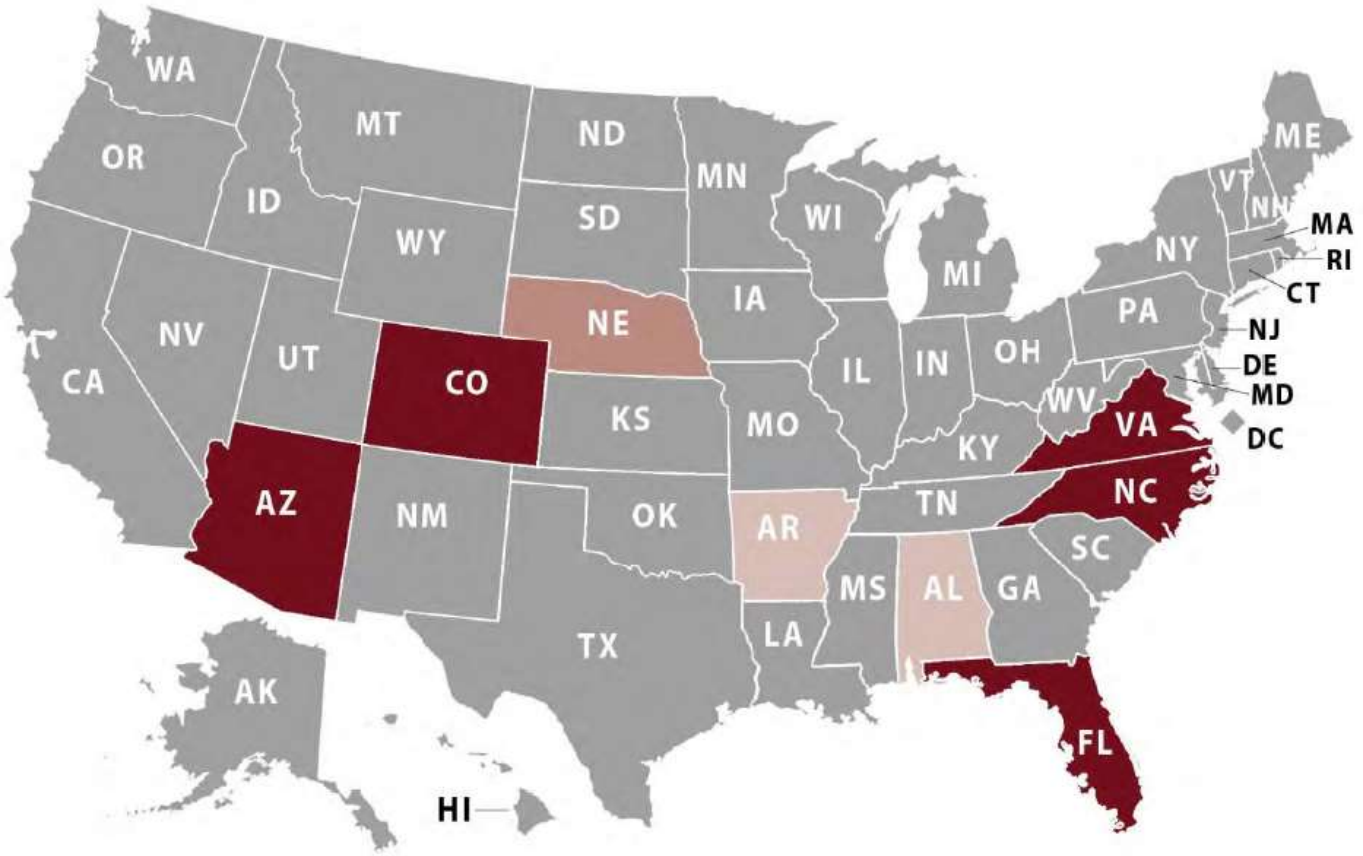
States With Design-Build Qualifications Based Selection



- Qualifications-based selection is not authorized
- Qualifications-based selection is limited to one specific agency
- Qualifications-based selection is authorized with certain limitations
- Qualifications-based selection is widely permitted

As of March 2016

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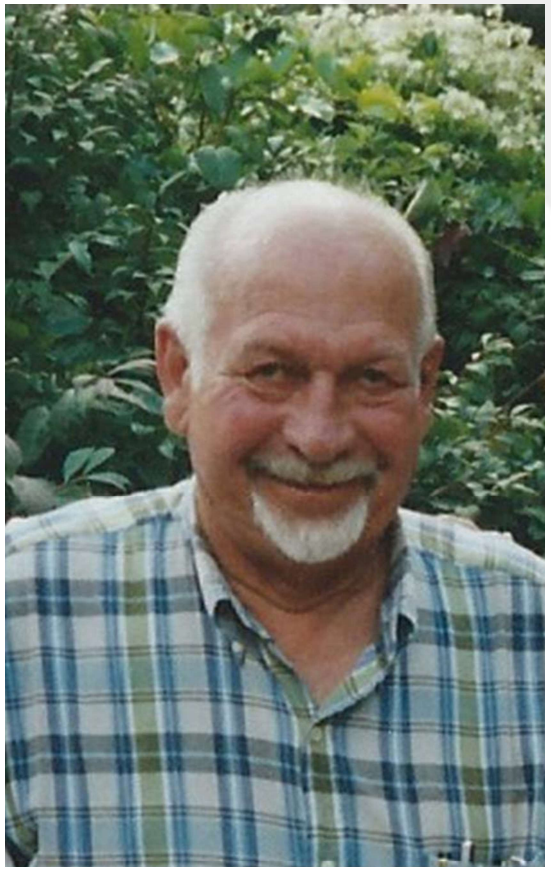
Mentoring…



Harland “Chuck” Zenk

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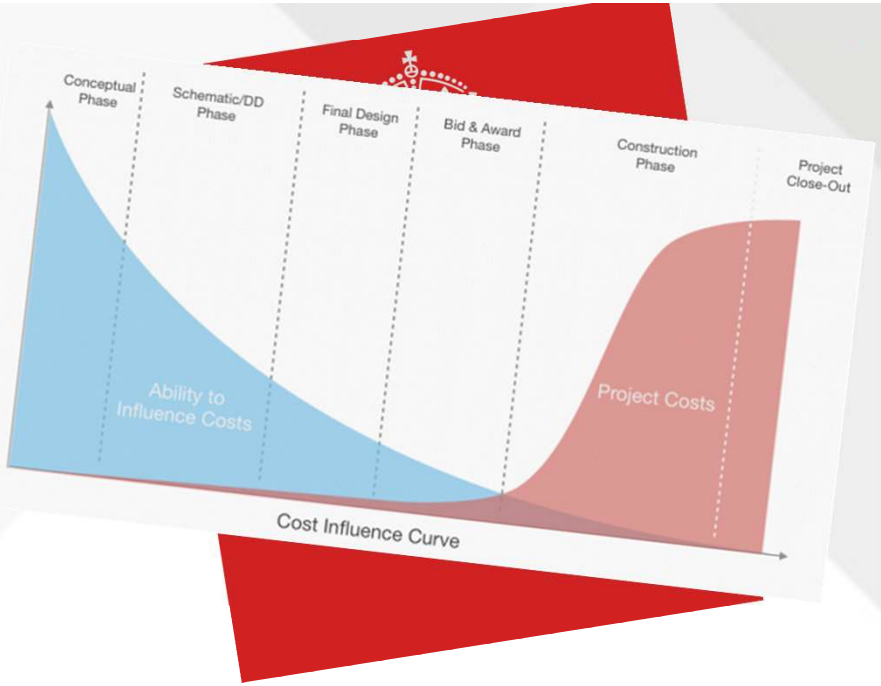
3 Take Aways…



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2. Project Success is greater when builder selected by other than low bid method - **<u>QBS.</u>**
3. Project Success is greater when builder is on your team **<u>EARLY.</u>** **<u>Collaboration!</u>**

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Q and A - Discussion

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The Power of

Responsive partner.
Exceptional outcomes.

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