



**What is Construction Management At-Risk (CMAR)
and
When Should School Boards Consider Using It?**



THE PANEL



Ben Motley
RRMM Architects



Al Orndorff
*Frederick County
Public Schools*



Cathy Underwood
Branch Builds

WEBINAR OBJECTIVES

- Provide a conceptual understanding and comparison of Construction Delivery Options (untangle a very complex topic...)
- Expound on CMAR
- Tailor our discussion to School Boards
- Point to resources for more information

PRESENTATION OUTLINE

BEN MOTLEY – RRMM ARCHITECTS

- What is CMAR and how does it differ from other methods (“Construction Delivery 101”)

AL ORNDORFF – FREDERICK COUNTY PUBLIC SCHOOLS

- Why FCPS choose CMAR for a new middle school... including tips and steps on how to get there

CATHY UNDERWOOD – BRANCH BUILDS

- CMAR – A Construction Manager’s Perspective

FULL PANEL

- Progress Update / Q+A

CONSTRUCTION INDUSTRY TERMINOLOGY

“Owner” = School Board / Public School System

“Contractor” = General Contractor, Builder, Construction Manager (CM)

“Architect” = Architect / Engineer (A/E), Design Professional

“GMP” = Guaranteed Maximum Price

“PPEA” = Public Private Education Act

Four Construction Delivery Options For Public Schools In Virginia

Design-Bid-Build

Design-Build

PPEA (Public-Private Educational Act)

Construction Manager-at-Risk

- *Conventional Method*

- *Conventional Financing*
- *Conventional Ownership*

- *Very Broad Flexibility*
 - *Leverage the Abilities of Private Companies*
 - *Financing*
 - *Maintenance*
 - *Lease Backs*
 - *Etc*
 - *Uses Design-Build for the Construction Portion of the Contract*

- *Today's Discussion*



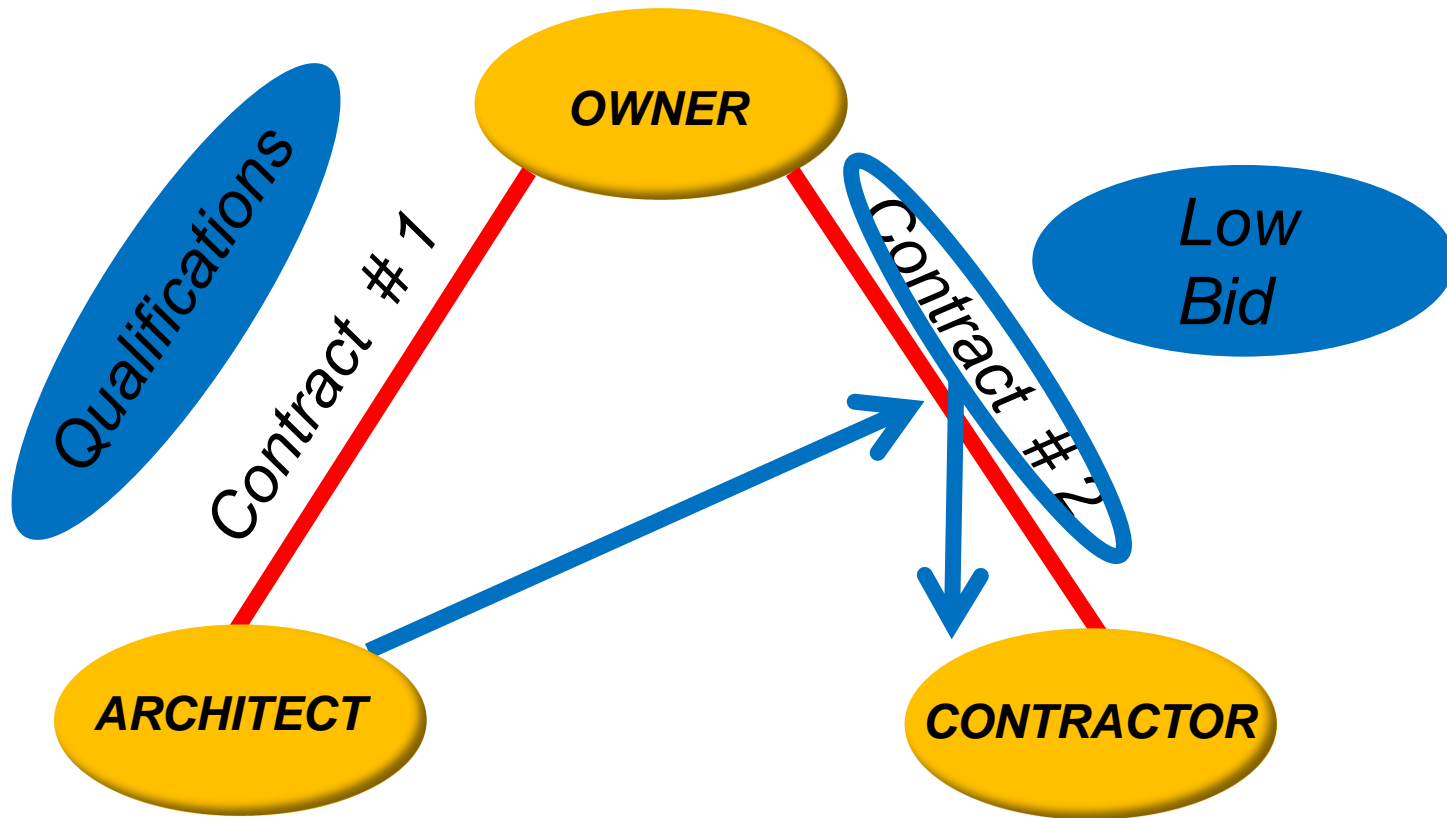
VIRGINIA LAW

• Code of Virginia

Four Construction Delivery Options For Public Schools In Virginia

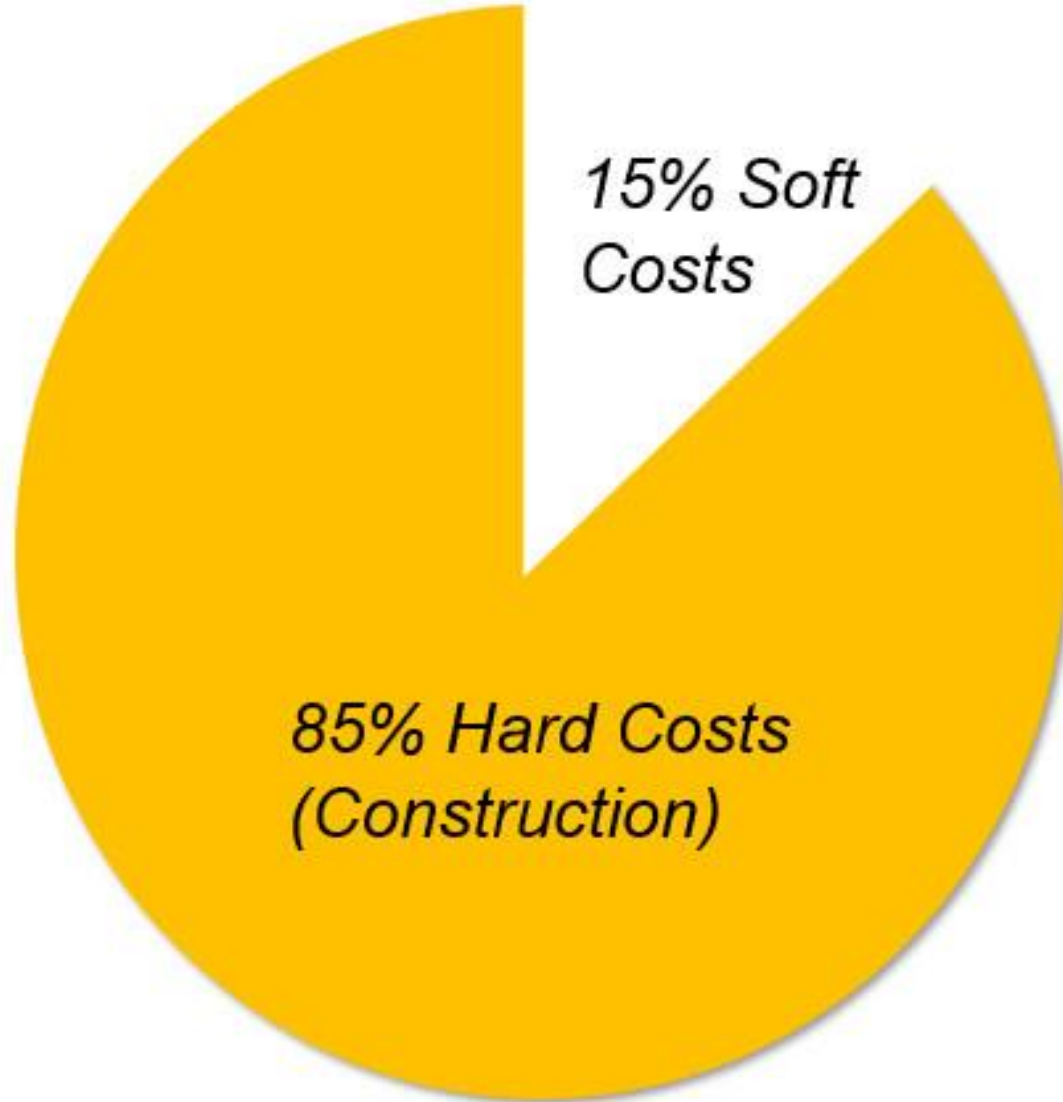
1. **Design-Bid-Build**
2. Design-Build
3. PPEA (Public-Private Education Act)
4. Construction Management-At Risk





Design-Bid-Build

- + Architect works for Owner
- + Project is fully defined before bidding
- Low bid does not necessarily yield the best quality and relationships
- Project cost identified late in the process and subject to change orders

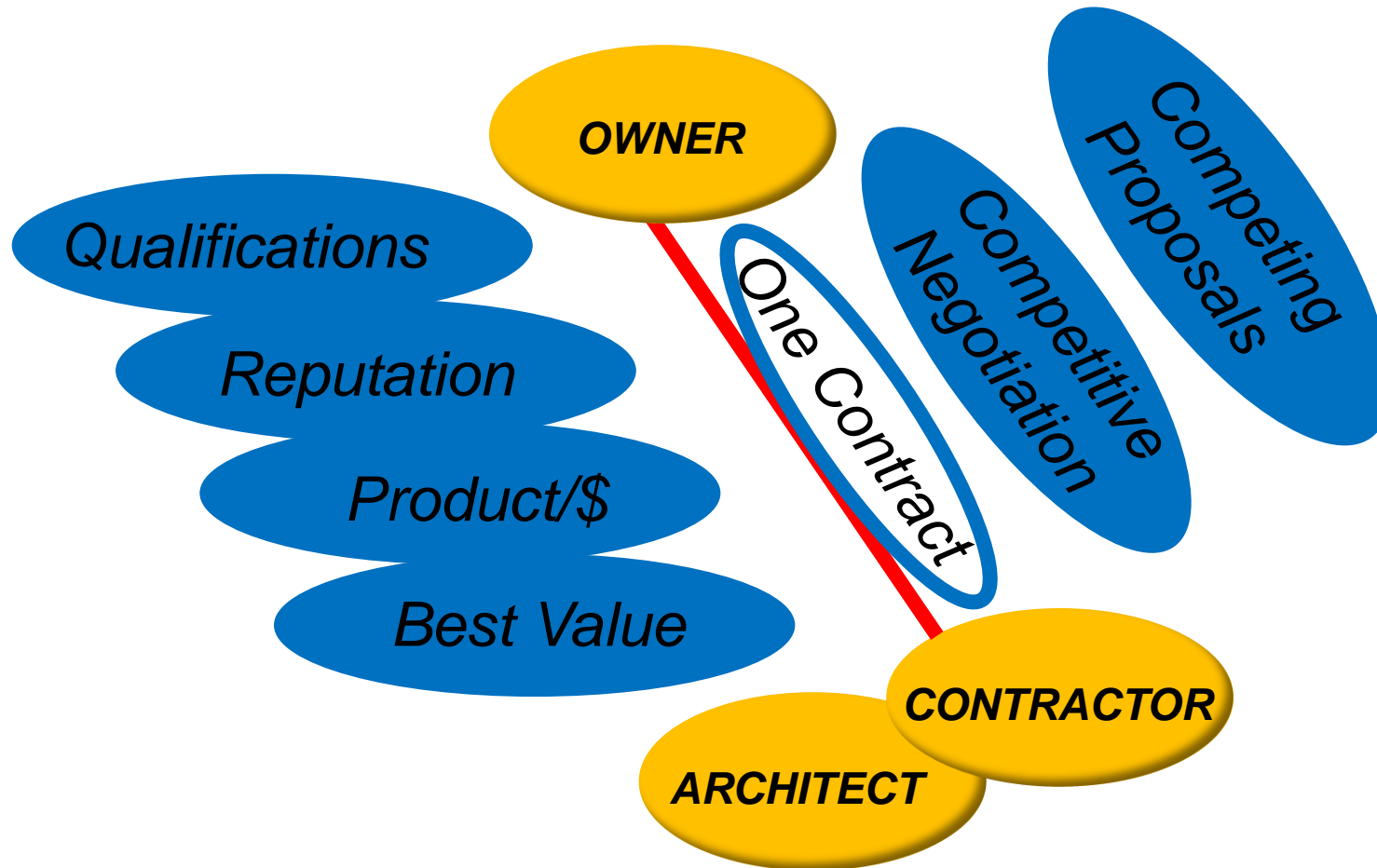


Where Does the Money Go?

Four Construction Delivery Options For Public Schools In Virginia

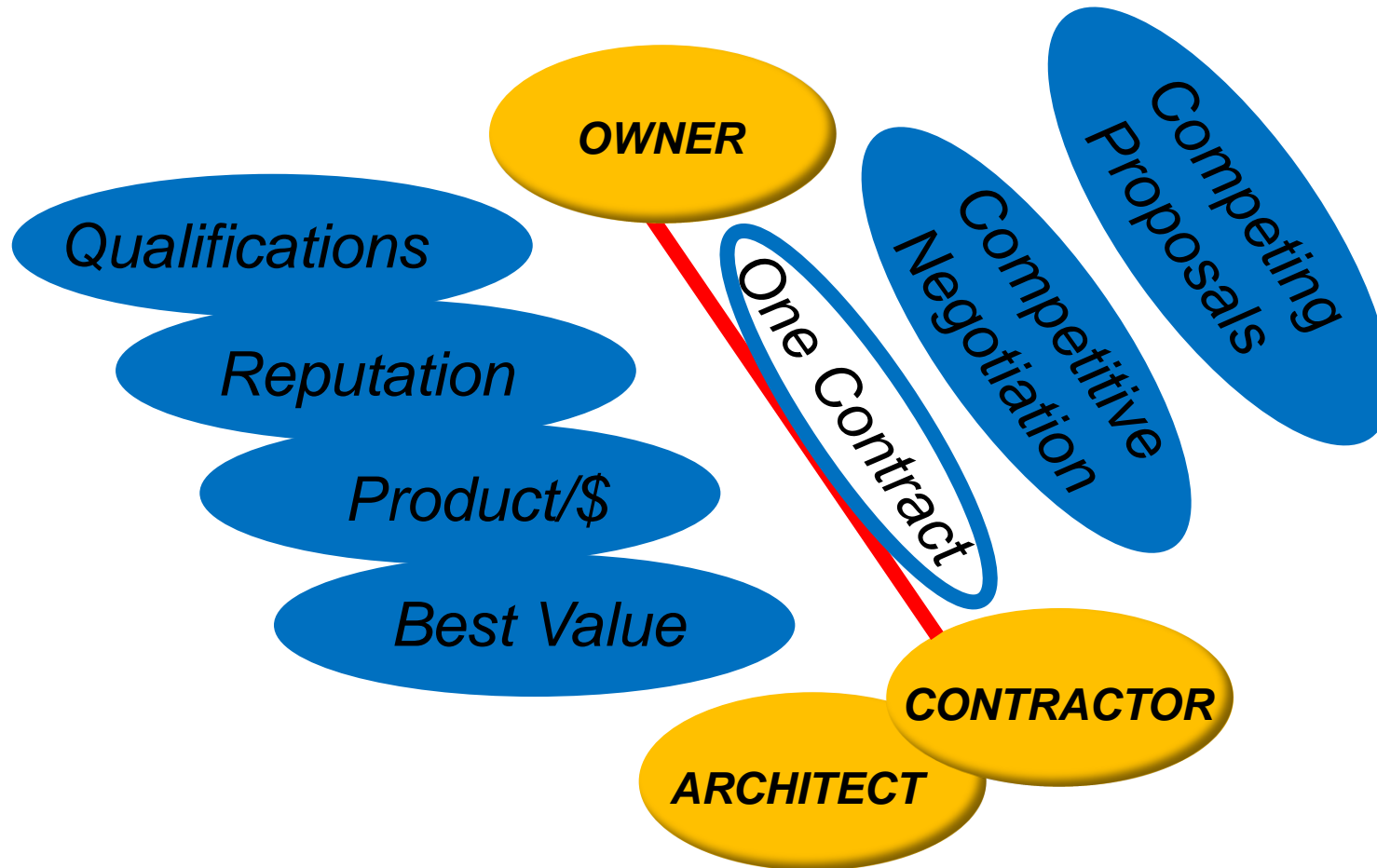
1. Design-Bid-Build
2. **Design-Build**
3. **PPEA (Public-Private Education Act)**
4. Design-Build-At Risk





Unique Opportunities with Design-Build / PPEA

- *No cost risk in early design phases*
- *Early identification of realistic budget*
- *Fix your price / No Change Orders*
- *Increased motivation to serve the client*
- *Ability to Fast Track the Project*
- *Potential "deal" that can only be obtained through the private sector (PPEA)*



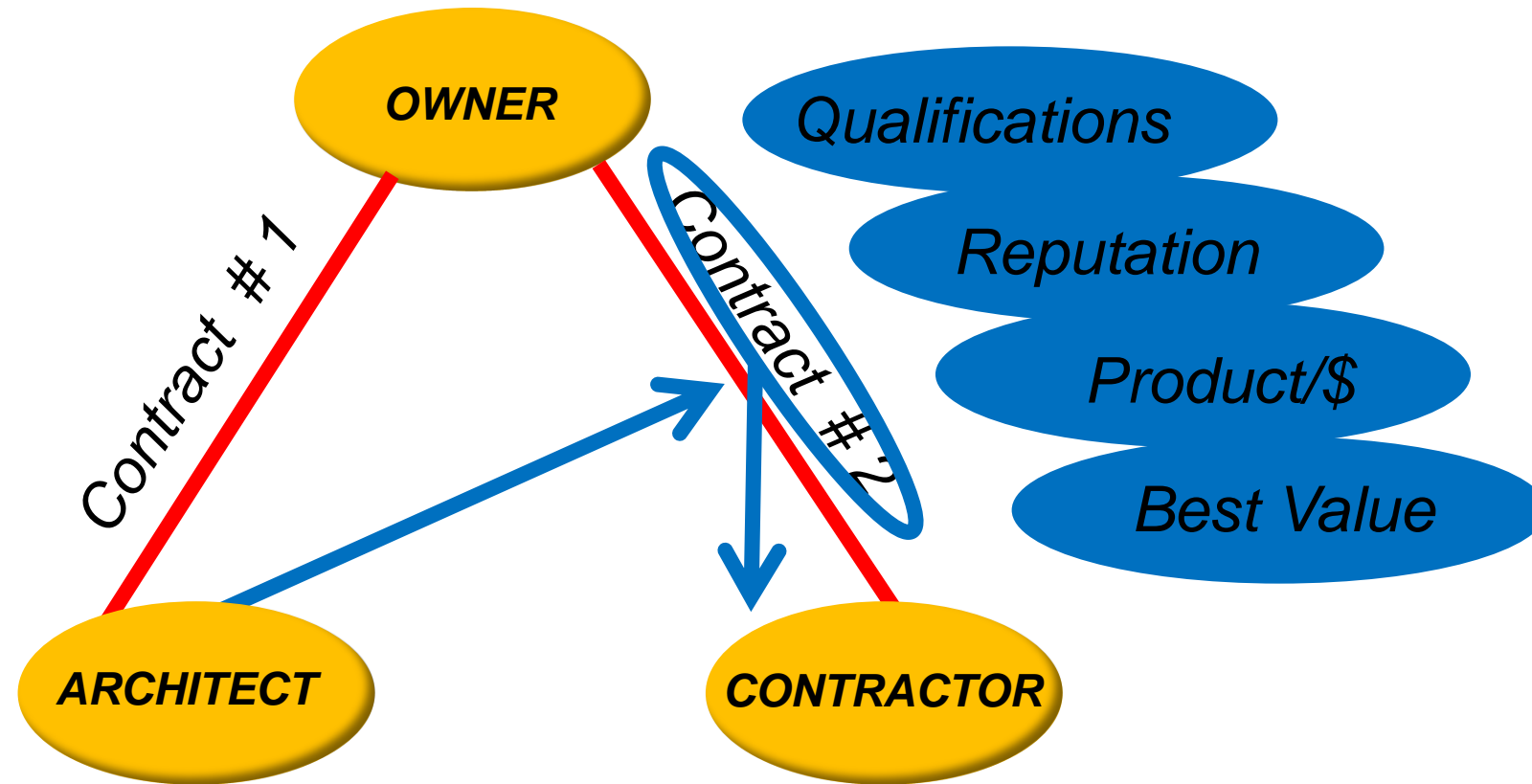
Potential Challenges with Design-Build / PPEA

- *Need for Third Party Oversight*
- *Being assured that you get the quality that is expected*
- *There is a cost to the transfer of risk.*
- *Should have a compelling reason to consider PPEA / Design-Build*

Four Construction Delivery Options For Public Schools In Virginia

1. Design-Bid-Build
2. Design-Build
3. PPEA (Public-Private Education Act)
4. **Construction Management-At Risk**





What about CMAR?

- + Architect still under contract with Owner
- + Construction expertise available early in the project
- + Relationship and reputation matter
- + Ability to have Guaranteed Maximum Price (GMP) contract...no change orders

When to Consider the CMAR Procurement Process

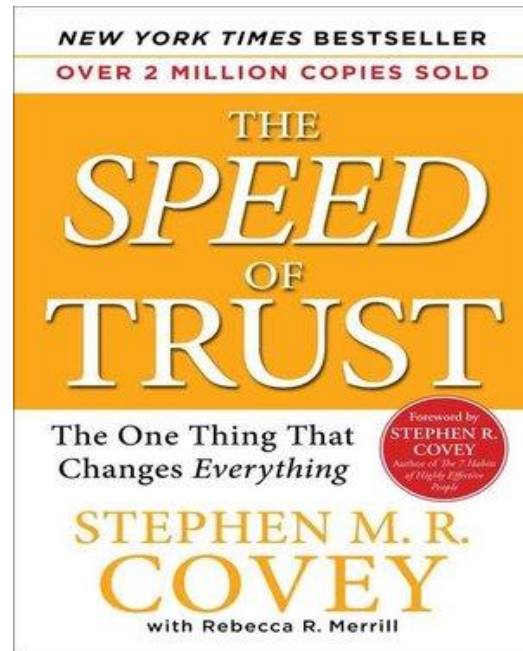
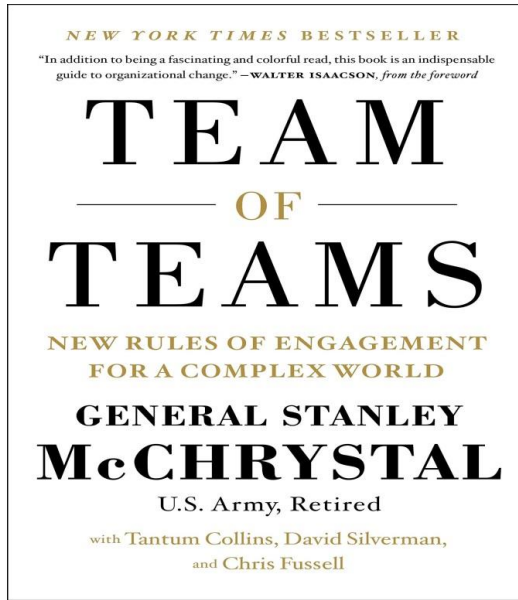
- Extreme construction cost limitations
- Project complexity
- Restricted project timeline
- Project phasing
- Necessity of value engineering or constructability analysis concurrent with design
- Quality control or vendor prequalification
- Cost/design control needs



What are the Challenges for a School Board in using the CMAR Procurement Method?



- Adherence to Virginia Code and procurement requirements,
- Need for an experienced Construction Supervisor in addition to the typical Clerk-of-the-Works,
- Significant time investment and commitment by school personnel during the preconstruction phase,
- Establish the “scope of work” (SOW) setting firmly the building size, student capacity, instructional programming, level of finishes, ancillary buildings and facilities,
- Establish the “not to exceed” final guaranteed maximum price (GMP) for the CM,
- School staff must understand that changes in the SOW equals changes in the final GMP.



Why should a School Board consider the CMAR procurement process?

For a school construction project on an extremely limited time commitment and budget, the CMAR team process has the potential to deliver an outstanding finished product meeting the School Board's SOW demands for the best product per dollar investment.



CMAR Case Study

Why Frederick County chose CMAR for a new middle school and the steps to get there





CMAR

The perspective of a Construction Manager with significant experience with Alternative Delivery Methods





CMAR Case Study

Why Frederick County chose CMAR for a new middle school and the steps to get there





Collaborative Environment

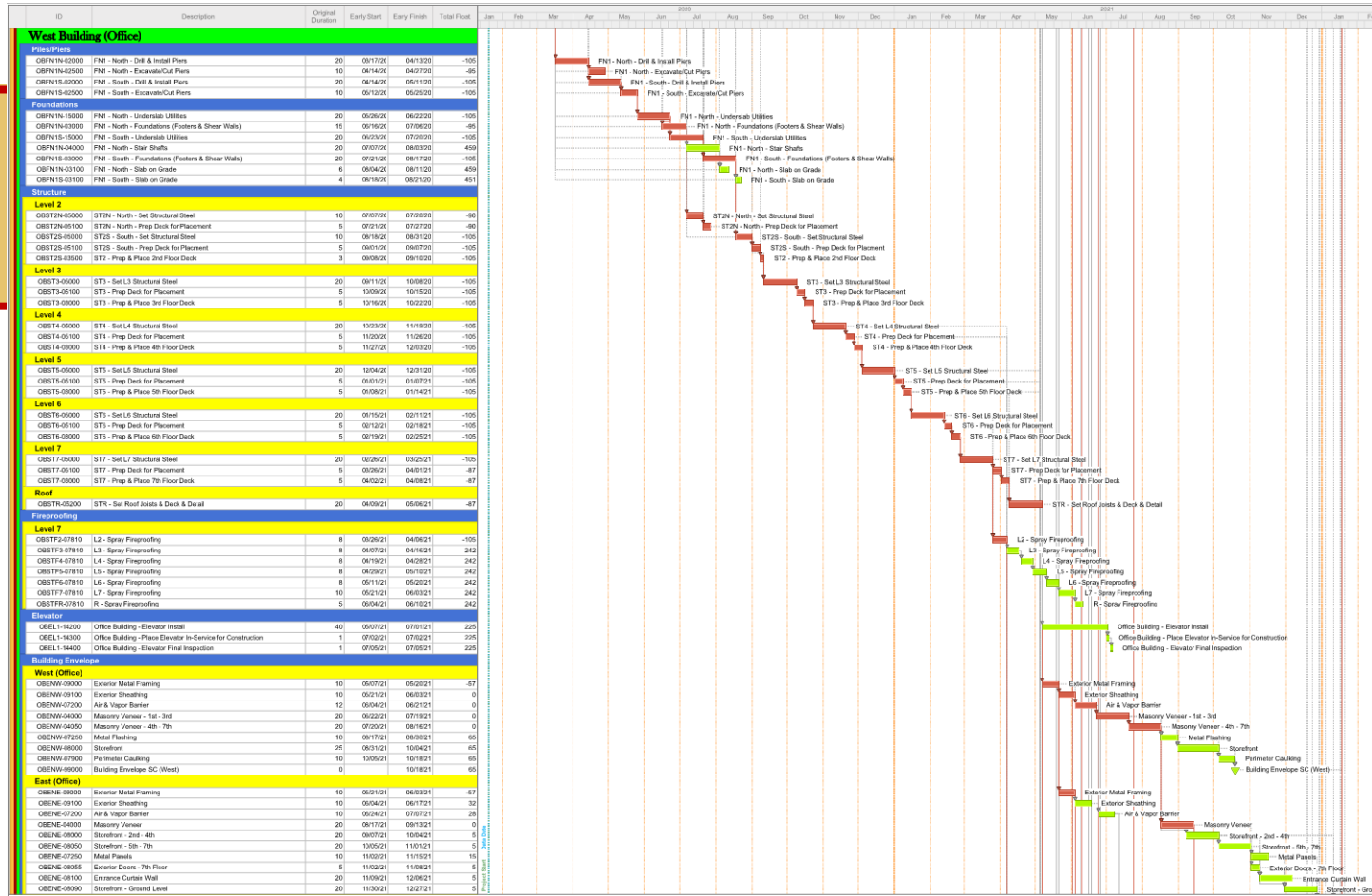
Why?





Construction Experts

Schedule Options



Start Date: 01/20/20
 Finish Date: 01/16/21
 Data Date: 01/20/20
 Run Date: 11/09/21

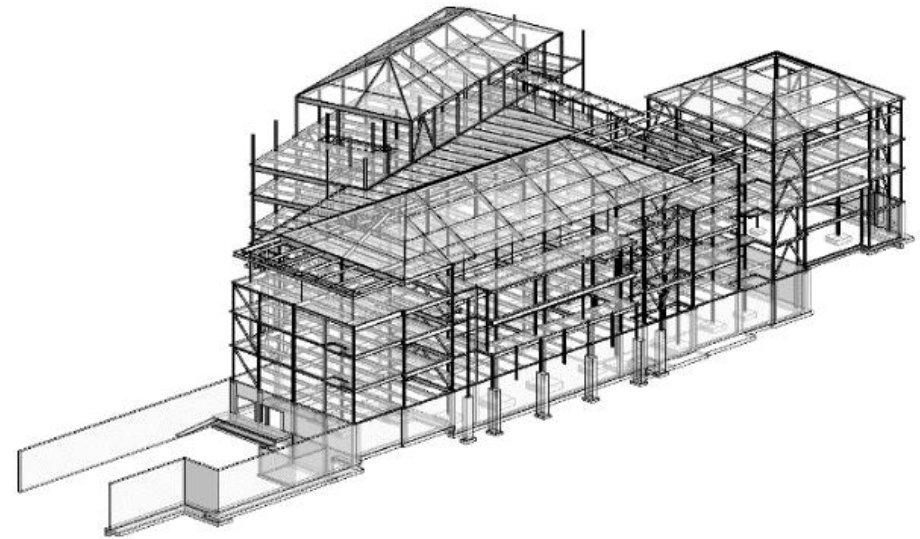
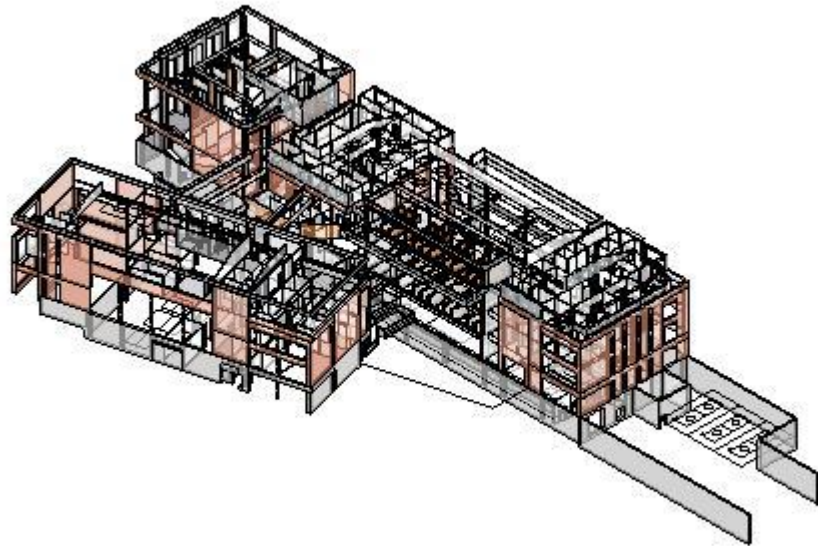
Campbell Court
 Residential and Office Building
 13 Campbell Ave
 Roanoke, VA 24011





Open Book Process

Utilize 3-D **Building Information Modeling (BIM)** systems to ensure constructability of the design while minimizing cost and schedule



Trade Partner Engagement



Challenges



High Level Communication

This method requires a high level of communication between the Owner and the CMAR

Cooperation

Requires cooperation of the Design/Construction Team to work out details of design before and/or during construction

New Vocabulary

Requires the team to establish a new vocabulary and understanding of expectations that are not typical to Alternative Procurement Methods

THANK YOU!



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