

# **Greenbelt Metro Interchange Construction Management at Risk (CMAR) Project**



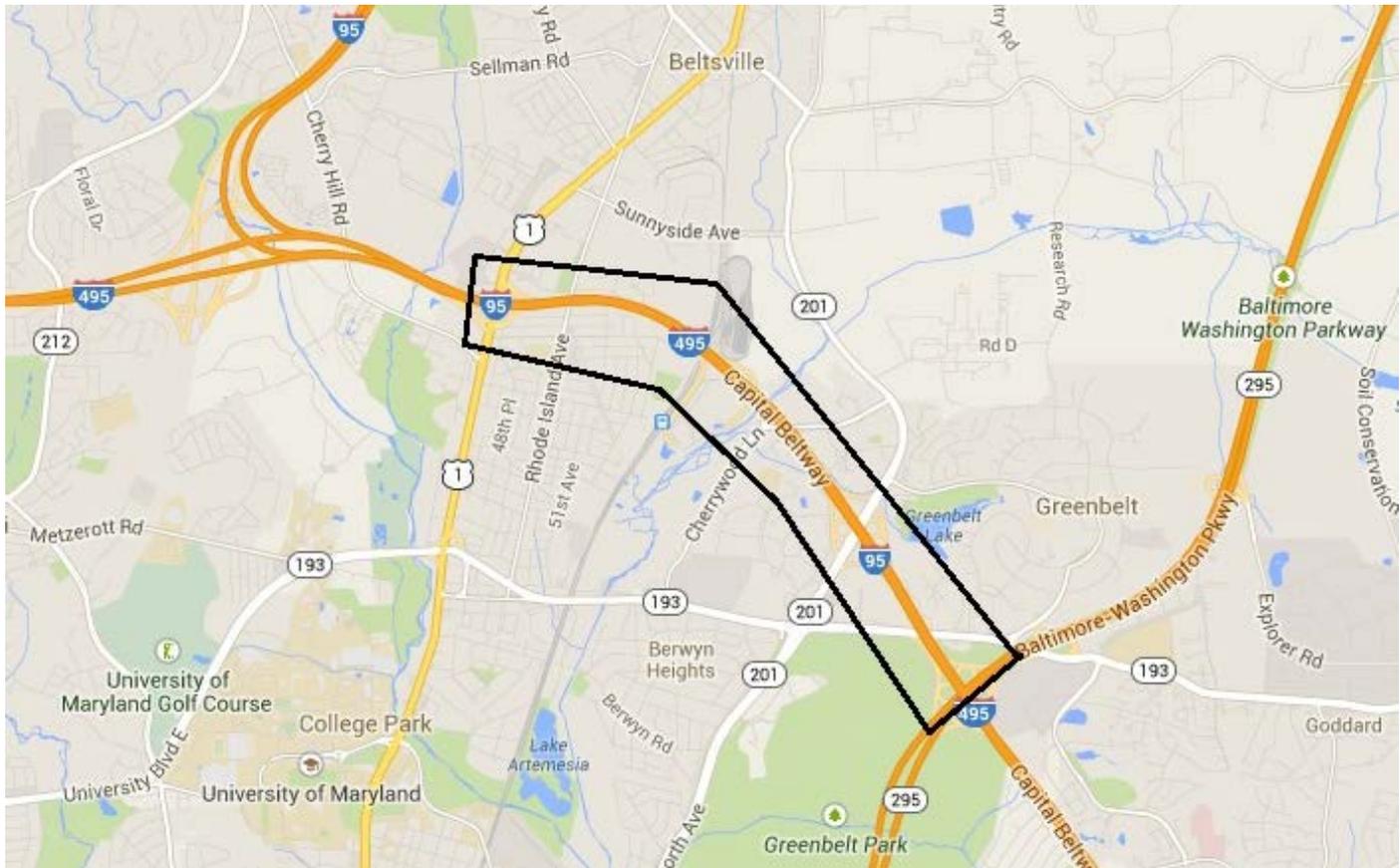
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**INFORMATIONAL MEETING  
AUGUST 3, 2015**

# Overview

- Greenbelt Metro Interchange Overview
- Construction Management at Risk Project Delivery Overview
- Overview of the Procurement Process

# Project Study Area



# Background

- The Washington Metropolitan Area Transit Authority (WMATA) “Joint Development Program” seeks to promote Transit Oriented Development (TOD) at the Greenbelt Metro Station.
- The U.S. General Services Administration (GSA) shortlisted the Greenbelt Metro Station as a potential site for the new FBI headquarters complex which will employ 11,000 agents plus service workers. The other shortlisted sites are in Landover, Maryland and Springfield, Virginia.

# Purpose and Need

## **PURPOSE**

- To facilitate planned Transit Oriented Development (TOD) and potential FBI headquarters by providing improved access to the Greenbelt Metro Station.
- Improve operations along I-95/495.

## **NEED**

- To provide sufficient access to the Greenbelt Metro Station to support the planned development.
- Congestion along I-95/495.
- System preservation along I-95/495.

# What We Did...

- Project Planning began in July 2000.
- 8 Alternatives were initially studied.
- In 2002, No-Build and 2 Alternatives were studied in detail.
- In 2004, Alternate 3 was identified as the selected alternative.

# Impacts of each Alternative

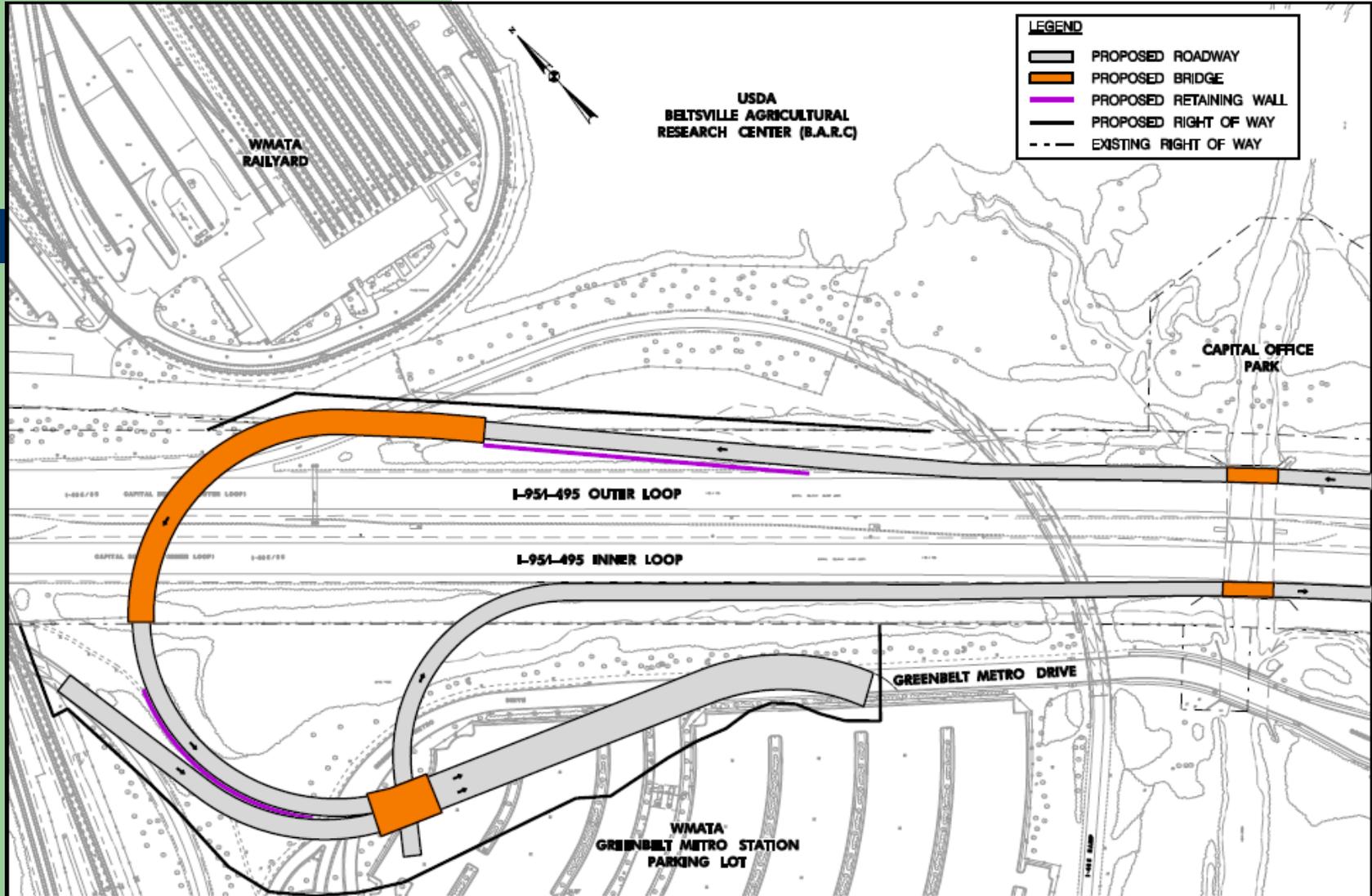
**I-95/I-495 GREENBELT METRO ACCESS STUDY  
IMPACT SUMMARY  
TABLE 1**

	ALT 1	ALT 2	ALT 3
<b>Right-of-Way Required in Acres</b>			
Residential	0	0.00	0.00
Commercial	0	0.56	0.29
BARC	0	0.81	0.32
WMATA	0	12.52	12.26
<b>Total</b>	<b>0</b>	<b>13.89</b>	<b>12.87</b>
<b>Displacements</b>			
Residential	0	0	0
Business	0	0	0
<b>Environmental</b>			
Wetlands (in acres)	0	2.0	2.1
Historic Properties (in acres)	0	0.8	0.3
Number of Stream Crossings	0	2.0	2.0
100 - Year Floodplain (acres)	0	2.8	4.2
Woodlands (acres)	0	4.7	5.8
<b>Cost in Millions</b>			
Total Costs	0	52	57

**NOTES:**

Alt 3 includes relocation of 96" water line outside existing ramp.

# Selected Alternative



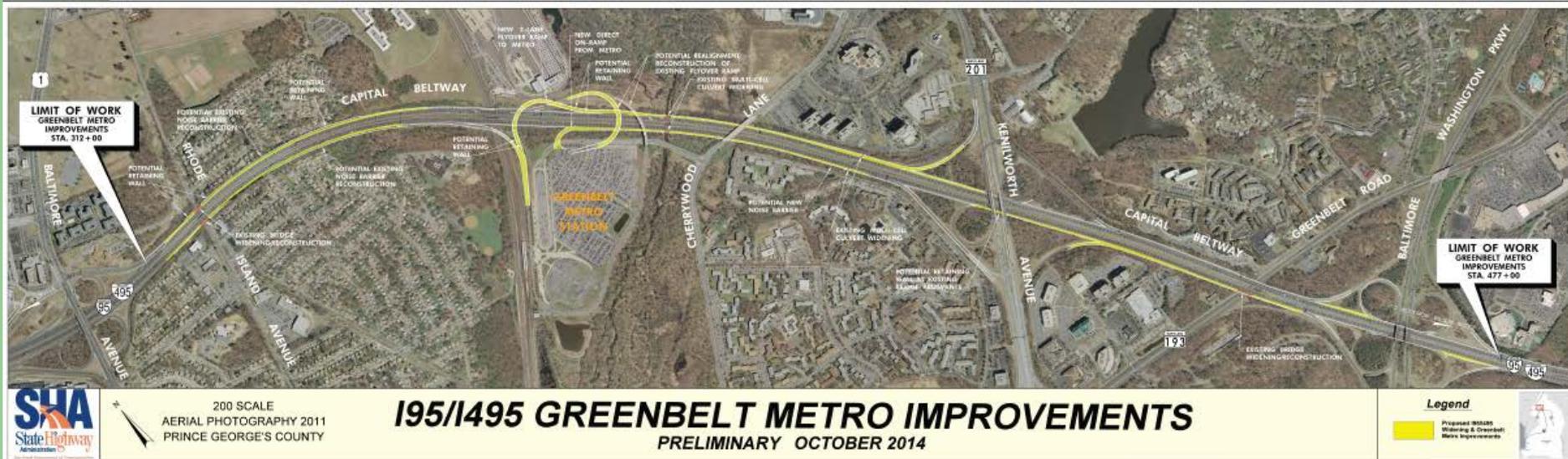
NOTE: PLANS ARE PRELIMINARY AND SUBJECT TO CHANGE.


**STATE OF MARYLAND**  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION  
 I-95/I-495 CAPITAL BELTWAY @  
 GREENBELT METRO STATION  
 SCALE 1" = 200' DATE OCTOBER 2005 CONTRACT NO. PG333A21

# Changes since 2005

- Traffic volumes have increased on I-95/495 since 2005
- Changes in the site development plan (FBI)
- Value Engineering Study (December 2005)
- Identification of system preservation needs (Rhode Island Avenue and MD 193 bridges)
- Additional studies conducted by SHA
- Avoidance of WSSC's 96" Water Line

# Current Greenbelt Metro Interchange Project



# Project Elements:

Construction is anticipated to consist of the following major elements:

- Widening of I-95/495 (Capital Beltway)
- Maintenance of Traffic
- Two box culvert extensions for Indian Creek and tributary
- SWM and ESC
- Retaining walls
- Noise walls
- Removal of the existing bridges on the ramp from the Metro site to the outer loop
- Three new bridges and replacement of three additional bridges
- Signing (including overhead and cantilever) and pavement marking
- Stream relocation, wetland mitigation, forest mitigation
- Traffic barrier

# Project Challenges:

- The Maintenance of Traffic (MOT) plan needs to provide sufficient capacity and safety during construction while minimizing the number of phases.
- In-stream work is not permitted from March 1 through June 15.
- The contractor needs to avoid any temporary loadings over top or pile driving in the vicinity of WSSC's 96" water line.
- WMATA's high security Storage and Inspection yard is located adjacent to the project, and the contractor will likely need security clearance, access permits and WMATA escorts during construction.
- Coordination with the TOD contractor will be necessary.
- Avoidance and minimization of temporary impacts to natural resources during construction is desired.

# Project Status and Issues:

- Project is funded for construction – construction cost must be less than or equal to budget.
- Project has reached the 30% design level
- Development of the line, grade and typical section is ongoing
- Coordination is ongoing with Environmental Agencies on allowable impacts
- Project will require a National Environmental Policy Act Reevaluation
- Construction is scheduled to start by Spring 2017 and be completed by Spring 2020 - desire to meet current schedule

# Major Stakeholders

- Prince George's County
- Washington Sanitary and Sewer Commission (WSSC)
- Washington Metropolitan Area Transit Authority (WMATA)
- Federal Highway Administration (FHWA)
- General Services Administration (GSA)
- City of College Park
- City of Greenbelt
- Maryland Department of the Environment (MDE)
- Maryland Department of Natural Resources (MDNR)
- US Army Corps of Engineers (USACE)
- National Park Service (NPS)

# **Construction Management at Risk (CMAR) Project Delivery**



# What is CMAR?

A project delivery method where SHA utilizes a two-phase construction contract with a General Contractor to:

- 1) Provide Preconstruction Services which may include, but are not limited to, constructability analysis, value analysis, scheduling, site assessments, and cost estimating;
- 2) Construct the project based on final design plans (or design packages) at an agreed Guaranteed Maximum Price (GMP)

# Authority

- State – Code of Maryland Regulations (COMAR) 21.05.10
- Federal – Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) – *Construction Manager/General Contractor (CM/GC)*

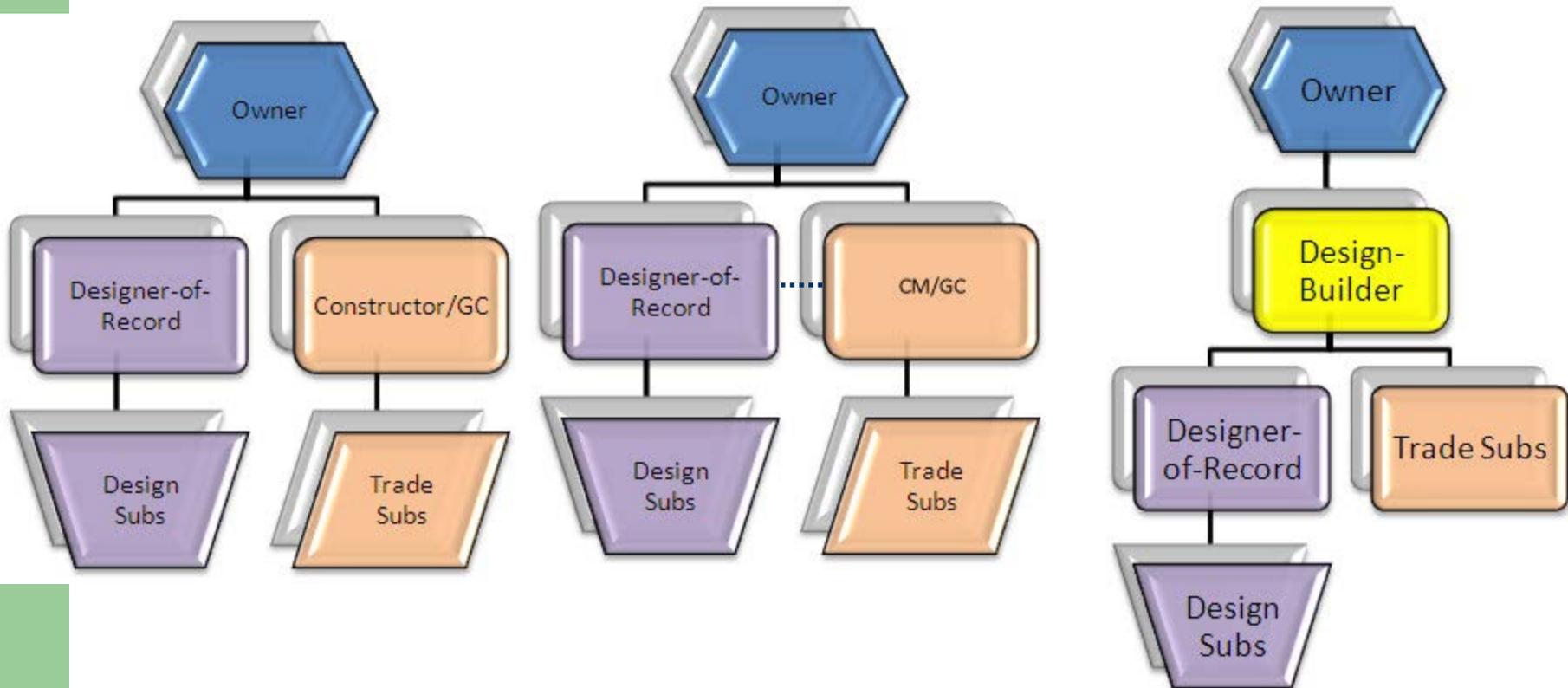


# Project Delivery Methods

## Design-Bid-Build

## CMAR

## Design-Build



# Project Development

Design-Bid-Build  
(DBB)



CMAR



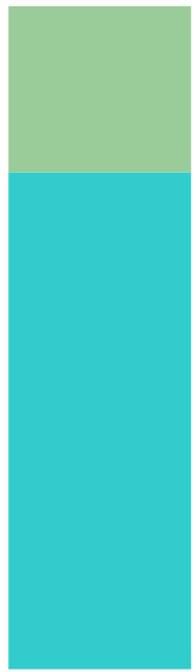
Design-Build  
(DB)



# Reasons for choosing CMAR

- Shorten Project Delivery
- Project Complexity
- Contractor Input During Design
- High Number of Potential Risks/Risk Allocation
- **Scope Flexibility/Maximizing Dollars**
- Cost Analysis of Multiple Design Options
- Informed Owner Decision Making

# CMAR – Risk Allocation



DBB



DB



CMAR

- Contractor
- Owner

# CMAR Expectations

- Meet Project Goals
- Fair Market Price
  - At or Below Proposed Price
- Improved Schedule
- Fewer Change Orders

# CMAR Benefits

- Opportunity to bring on contractor during the design phase to work as an integrated team with the owner and its consultant/engineer to deliver the most efficient, and cost effective design
- Promotes innovation & collaboration
- Owner maintains decision making authority
- Greater cost certainty through GMP and reduction in change orders
- Still allows phased construction similar to design-build resulting in accelerated completion times. Phases must be stand alone and **severable**.
- Risk identification & management during design phase and controlled by the team
- Owner gets up front benefit of value engineering
- CMAR design documents are biddable packages, not necessarily full set of biddable contract documents

# CMAR Potential Risks

- Transparency – Technical Qualifications and Approach are Main Elements for Selection
- Cost Validation – “Negotiated” vs. Bid
- Culture – New Process for All (SHA, Consultants, Contractor, Regulatory Agencies, Etc.)
- Risk – Limited Historical Usage for Heavy Highway Construction

# CMAR Project Team

- Owner (SHA)
- Engineer under separate Contract with owner to provide all design services for the project.
- Two Phase Contract with General Contractor (GC)
  - GC selected through Best Value process
  - Phase 1 – Preconstruction Services - GC considered part of the design team providing constructability, cost, schedule and risk management input.
  - Phase 2 – GC and Owner agree on GMP to construct the project based upon final design plans (or design packages). If GMP cannot be agreed upon, then advertise as design-bid-build.

# Independent Cost Estimator

- Independent party hired by SHA to prepare a series of detailed estimates.
- Estimates are performed independently from Contractor and SHA's Designer.
- Estimates are utilized as a basis of comparison for review of Contractor's GMPs and award of Construction Contract.

# Cost Model Development

- Develop Cost Model for Project
  - Opinion of Probable Construction Cost (OPCC)
  - Guaranteed Maximum Price (GMP)
- Elements of Cost Model
  - CMAR Management Fee Percentage (from Price Proposal)
  - Items
    - Equipment Types and Rates
    - Material Sources
    - Labor
  - Subcontractor Items of Work
  - Risk Sharing Pool (Assignment and Agreement of Risks)
  - Schedule Agreement

# Cost Model Development

- OPCC
  - To be submitted at various Design Completion milestones
  - Blind Estimate Comparison
  - Report of Items Outside of Tolerance (>10%)
  - Reconciliation Meeting to discuss differences in bidding assumptions

# Once Design is Complete

- Contract documents have been developed collaboratively by team
- Follow typical procedures
  - DBE goals established for construction
  - 2008 Standard Specifications and current SP/SPIs
- GMP - Contractor and ICE will independently price project

# Once GMP is Submitted

- Contractor and ICE prices
- Price Reconciliation Meetings as needed
- Up to 3 GMP Submittals allowed
  - Accept GMP and Award Contract
  - Terminate Contract and Bid Project as DBB

# Procurement Process



# Competitive Sealed Proposals

*CM at Risk contracts will be procured using the “Competitive Sealed Proposals” procurement method as defined in the COMAR 21.05.03.*



# Competitive Sealed Proposals

## *One Step Procurement Process*

### *Request For Proposals (RFP)*

- *Technical Proposal*
- *Price Proposal*

*Note: Proposers are responsible for all costs associated with responding to the RFP. All information included in responses to RFP shall be become property of SHA.*

# *Technical Proposals*

## *Evaluation Factors*

- *Project Management Team/Capability of Proposer*
- *Project Approach*
- *Financial Information*

# *Technical Proposals*

- Project Management Team/Capability of Proposer
  - Composition of the Project Management Team
  - Key Staff
    - Project Manager – must be employee of the Prime or JV Contractor
    - Construction Manager
    - Cost Estimator
  - Past Project Performance

# *Technical Proposals*

- Project Approach
  - Preconstruction Approach
  - Construction Approach
  - Risk Management
- Financial Information (pass/fail)
  - Bonding Capability (Cost Group L)
    - Current Funding - +/- \$115 M
    - Potential additional contribution from Prince George's County - +/- \$40 M

# Price Proposals

## Evaluation Factors

- *Preconstruction Fee (Lump Sum price)*
- *CMAR Management Fee Percentage*

Included in Percentage	Not Included in Percentage
Project Principal	Project Manager, Construction Manager
Home Office Support Staff	All On Site CM Staff
Safety Staff	On Site Administrative Staff
Quality Control (QC) Support Staff	Direct costs related to Safety, QC
Cost Estimator during construction	Other project direct costs such as materials, equipment, and labor
Profit	

# *Price Proposals*

## *Evaluated Price*

- *A = Preconstruction Fee*
- *B = \$100 M x CMAR Management Fee Percentage*

$$*Total = A + B + \$100 M*$$

*Ex. – A = \$0.750 M & B = 10.51%*

$$*Evaluated Price = \$0.750 M + \$10.510 M + \$100 M*$$

$$*Evaluated Price = \$111.260 M*$$

# *Evaluations of Technical and Price Proposals*

- Technical and Price Proposals are evaluated separately
- Best Value Process – most advantageous to the State considering technical evaluation factors and price.
- Adjectival Rating process
- Evaluation Factors and Subfactors weighting – Critical, Significant, Important
- Importance of Technical Proposal is significantly more important than Price Proposal

# *Request For Proposals (RFP)*

## PROPOSED PROCURMENT SCHEDULE

Issue RFP	September 8, 2015
Final Date for Proposer's Questions	October 7, 2015
Letter of Interest Due	October 14, 2015
Technical and Price Proposal Submittal to SHA	October 21, 2015
Selection of Successful Proposer	November/December 2015
Preconstruction Notice to Proceed	December 2015/January 2016
Construction Notice to Proceed ( <b>TARGET</b> )	Spring 2017

# Questions/Feedback?

Information related to this presentation will be available at the following: [www.roads.maryland.gov](http://www.roads.maryland.gov) under Business Center, Contracts, Bids & Proposals, Competitive Sealed Proposals, PG3335172

Email: [PG333\\_IS\\_95@sha.state.md.us](mailto:PG333_IS_95@sha.state.md.us)