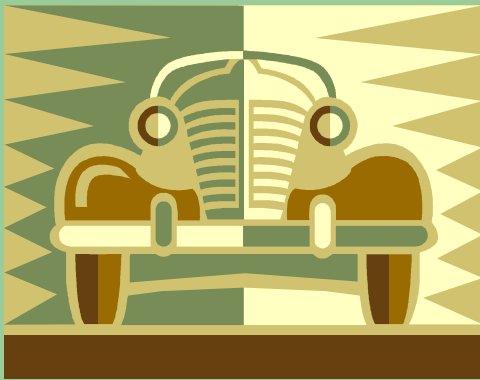


MD 97 – Brookeville Bypass Construction Management at Risk (CMAR) Project

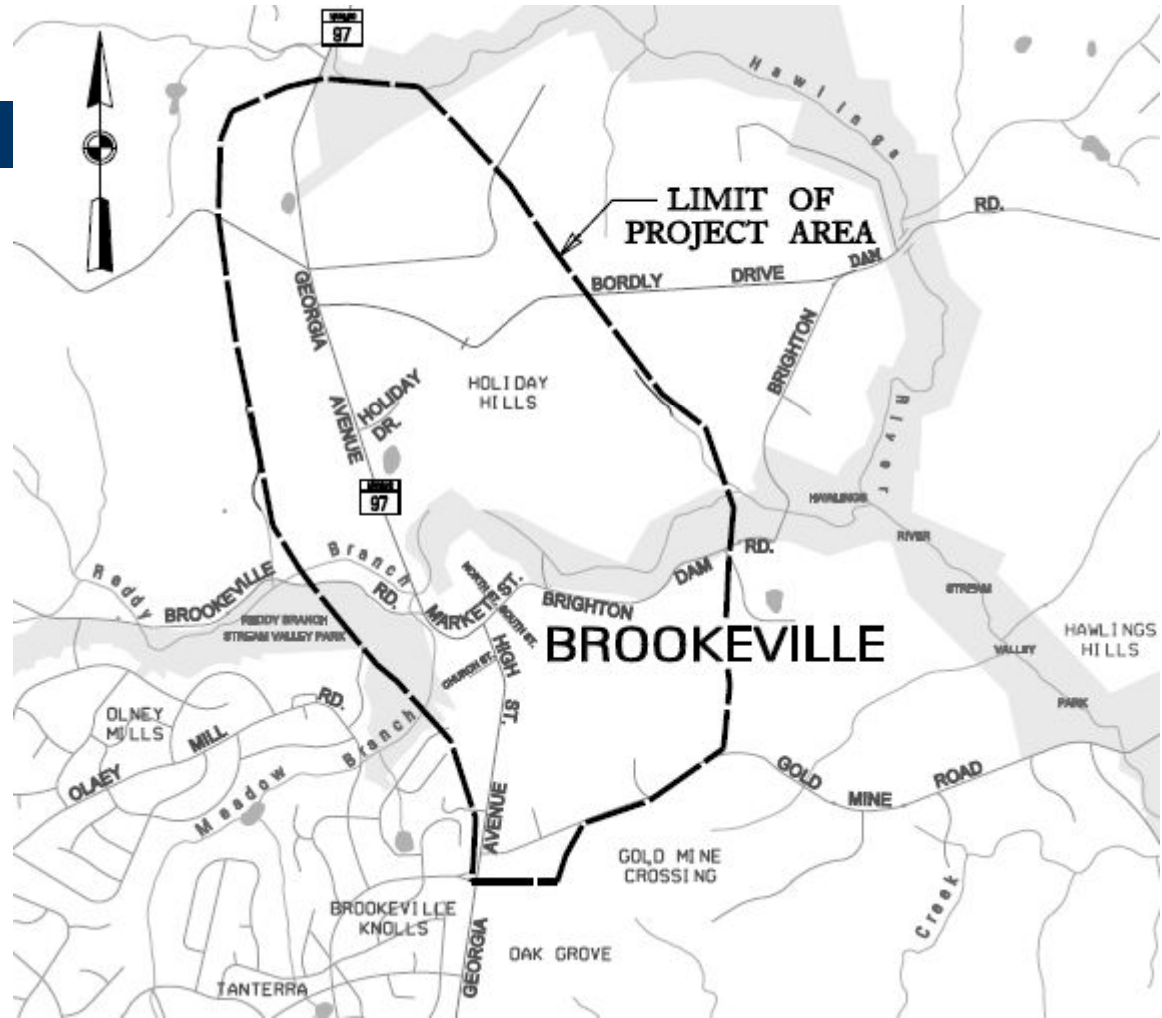


**INFORMATIONAL MEETING
MARCH 27, 2015**

Overview

- MD 97 – Brookeville Bypass Overview
- Construction Management at Risk Project Delivery Overview
- Overview of the Procurement Process

Project Study Area



Background

- MD 97 is an arterial highway serving the east Montgomery County corridor and central Maryland from Washington, D.C. and the Capital Beltway (I-495) to I-70 in Howard County.
- MD 97 functions as a major north-south commuter route between the employment areas in and surrounding Washington, D.C., and the residential communities north of Brookeville, including northern Montgomery County, Howard, and Frederick Counties.

Need for improvement

- **Roadway deficiencies**

“dog-leg” or “S” curve located along MD 97 (High Street, Market Street, and Georgia Avenue)

- **Increasing traffic volumes**

ADT: 2013(10,400) 2033(12,700)

Truck: 5%

- **Need to preserve the historical character of the town**

Brookeville is recognized as a historic district and was listed on the National Register of Historic Places in 1979.

MD 97 Brookeville Bypass

– Purpose and Need –

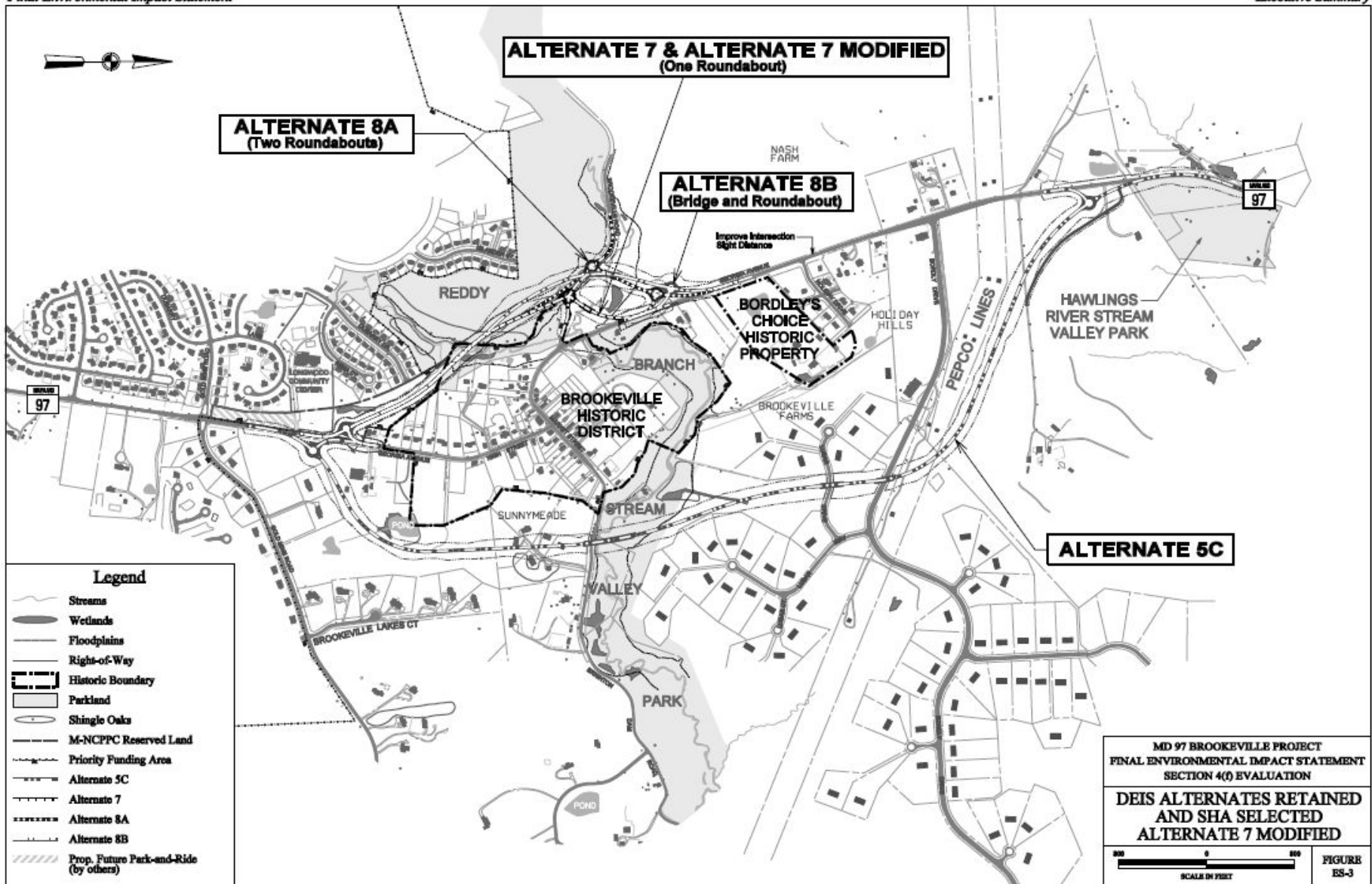
To remove the continually increasing traffic volumes from the Town of Brookeville, improve traffic operations and safety conditions on existing MD 97, and preserve the historic character of the town.

– Project Objectives –

- ✓ Construct a two-lane roadway to move the traffic from the town.
- ✓ Minimize environmental impacts (stream, wetland, forest, parkland, archeological features etc.).
- ✓ Preserve the historic character of the town.

What We Did...

- In 1990, 13 Alternatives were initially studied as part of a Feasibility Study.
- In 2001, No-Build and 5 Alternatives were studied in detail.
- In 2003, Alternative 7 Modified was identified as the selected alternative.



Impacts of each alternative

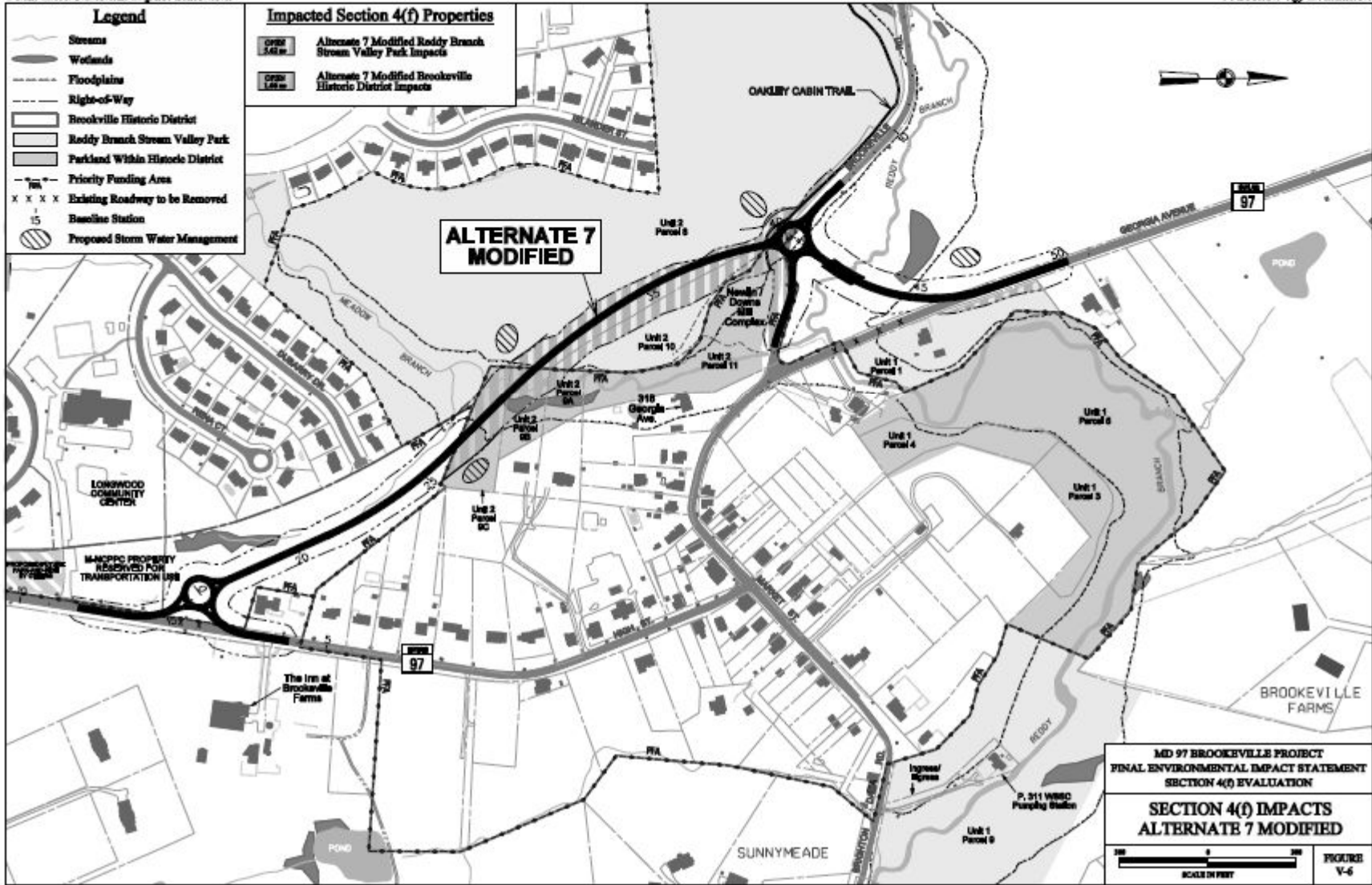
TABLE ES-1
ENVIRONMENTAL IMPACT SUMMARY

FEATURE	ALTERNATES EVALUATED IN THE FEIS					
	Alternate 1 No-Build	Alternate 5C East Bypass ⁵	Alternate 7 West Bypass	Alternate 7 Modified West Bypass	Alternate 8A At-Grade West Bypass	Alternate 8B Grade Separated West Bypass
		Open Section	Open Section	Open Section	Open Section	Open Section
Length (miles) ¹	0	2.12	0.72	0.72	0.95	0.95
Cost (millions-2001 dollars)	0	\$ 34.2	\$ 12.2	Approximately \$12.5 (assuming retaining wall along Brookeville Road)	\$ 13.7	\$ 18.0
<i>Socio-Economic Resources</i>						
Residential Relocations (no.)	0	5	0	0	0	0
Business Displacements (no.)	0	1	0	0	0	0
Affected Properties (no.)	0	26	11	11	14	14
Comprehensive Plan Compatibility	No	No	Yes	Yes	Yes	Yes
Recreational Facilities (acres)	0	4.55	6.65	5.62	7.22	7.64
Historic District (acres)	0	0	2.24 ^{3,4}	1.66 ^{3,4}	1.84 ^{3,4}	2.00 ^{3,4}
Section 106 Adverse Effects	Yes	Yes	Yes	Yes	Yes	Yes
Total Section 4(f) ⁶ (acres)	0	4.55 ^{2 parks}	6.65 ^{1 park}	5.62 ^{1 park}	7.22 ^{1 park}	7.64 ^{1 park}
Impacted Waste Sites (no.)	0	0	1	1	2	1
Air Quality (SIP Conformance)	0	Yes	Yes	Yes	Yes	Yes
Noise Receptors (no.) ²	0	8	10	10	10	10
<i>Natural Resources</i>						
Prime Farmland Soils (acres)	0	25.88	4.84	4.53	5.50	5.34
Statewide Important Soils (acres)	0	5.63	1.79	1.63	7.50	8.51
Wetlands (acres)	0	0.21	0.13	0.12	0.11	0.17
Streams ⁷ (linear feet)	0	482.12	1169.2	1211.8	1067.32	1191.72
FEMA 100-year Floodplains (acres)	0	2.59	3.34	3.22	3.03	3.34
Forest Cover (acres)	0	11.50	10.47	9.02	13.53	14.2

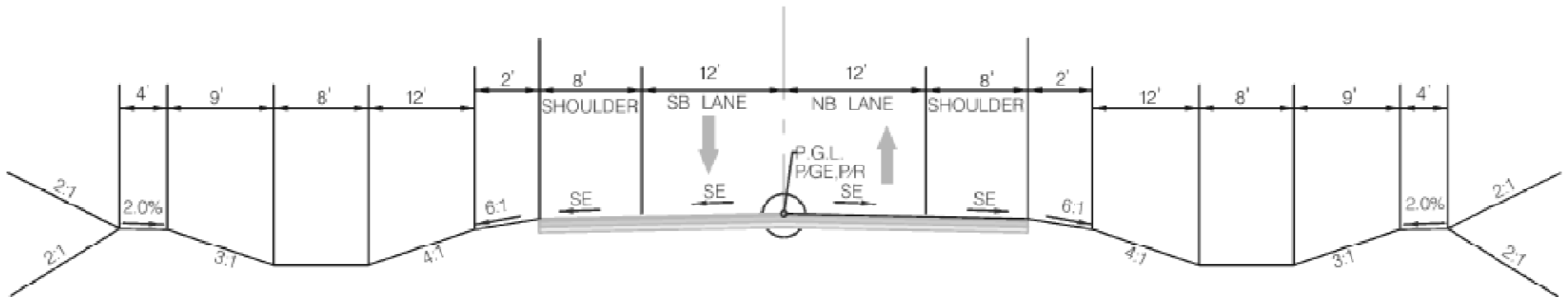
NOTES:

- 1 Alignment length does not include frontage, access roads and exclude additional length for traffic roundabouts.
- 2 Noise levels 66 dBA or greater or those which increase 10 dBA or more over ambient levels.
- 3 Included within Reddy Branch Stream Valley Park Acreages.
- 4 One park property, two locations.
- 5 For this alternate, impacts do not include right-of-way needed for storm water management. All other alternates include right-of-way impacts for storm water management ponds.
- 6 Includes overlapping acreage of the Brookeville Historic District within impacted Public Parkland.
- 7 Based on re-evaluation, the impact numbers decreased from the Selected Alternate and Conceptual Mitigation Package.

Selected Alternative



Typical Section



Project Elements:

Construction is anticipated to consist of the following major elements:

- Construction of 0.72 mile long roadway pavement
- Two roundabouts at the southern and northern termini
- Two bridges crossing Reddy Branch stream and Meadow Branch stream
- SWM and ESC
- Retaining walls
- Removal of a bridge
- Replacement of the culvert at Brookeville Road
- Traffic barrier
- Landscaping
- Signing and pavement marking
- Stream relocation, wetland mitigation, forest mitigation.

Project Challenges:

- Watercourse 1 (Reddy Branch) and Watercourse 2 (Meadow Branch) are Class IV-P waters (Recreational Trout Waters and Public Water Supply). Structures are proposed to cross these two streams.
- Intermittent Watercourse 3 and Perennial Watercourse 4 are tributaries to Meadow Branch. Watercourse 3 is expected to be impacted and would require mitigation. Impacts to Watercourse 4 need to be avoided.
- In-stream work is not permitted from March 1 through May 31.
- The alignment goes through M-NCPPC parkland and ESD facilities for SWM were not considered in original study. Avoidance and minimization of additional or increased impacts to parkland and forest is desired.
- Archeological sites are expected to be impacted and the impacts should be minimized.
- Avoidance and minimization of temporary impacts to natural resources during construction is desired.

Project Status and Issues:

- Project is funded for construction – desire to meet current budget
- Project has not 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 early-Fall 2016 – desire to meet date if reasonable and feasible

Major Stakeholders

- Montgomery County
- Maryland-National Capital Park and Planning Commission
- Town of Brookeville
- Maryland Department of the Environment
- Maryland Department of Natural Resources
- US Army Corps of Engineers
- US Fish & Wildlife Service
- US Environmental Protection Agency



Construction Management at Risk (CMAR) Project Delivery

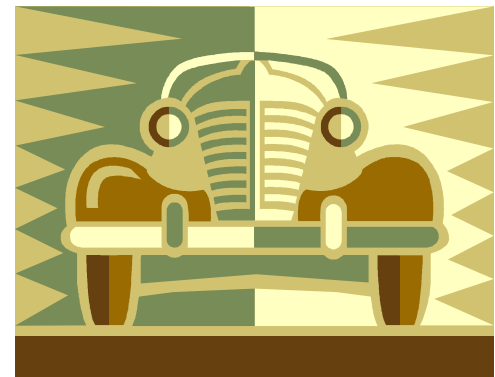
What is CMAR?

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 21st Century (MAP-21) – *Construction Manager/General Contractor (CM/GC)*

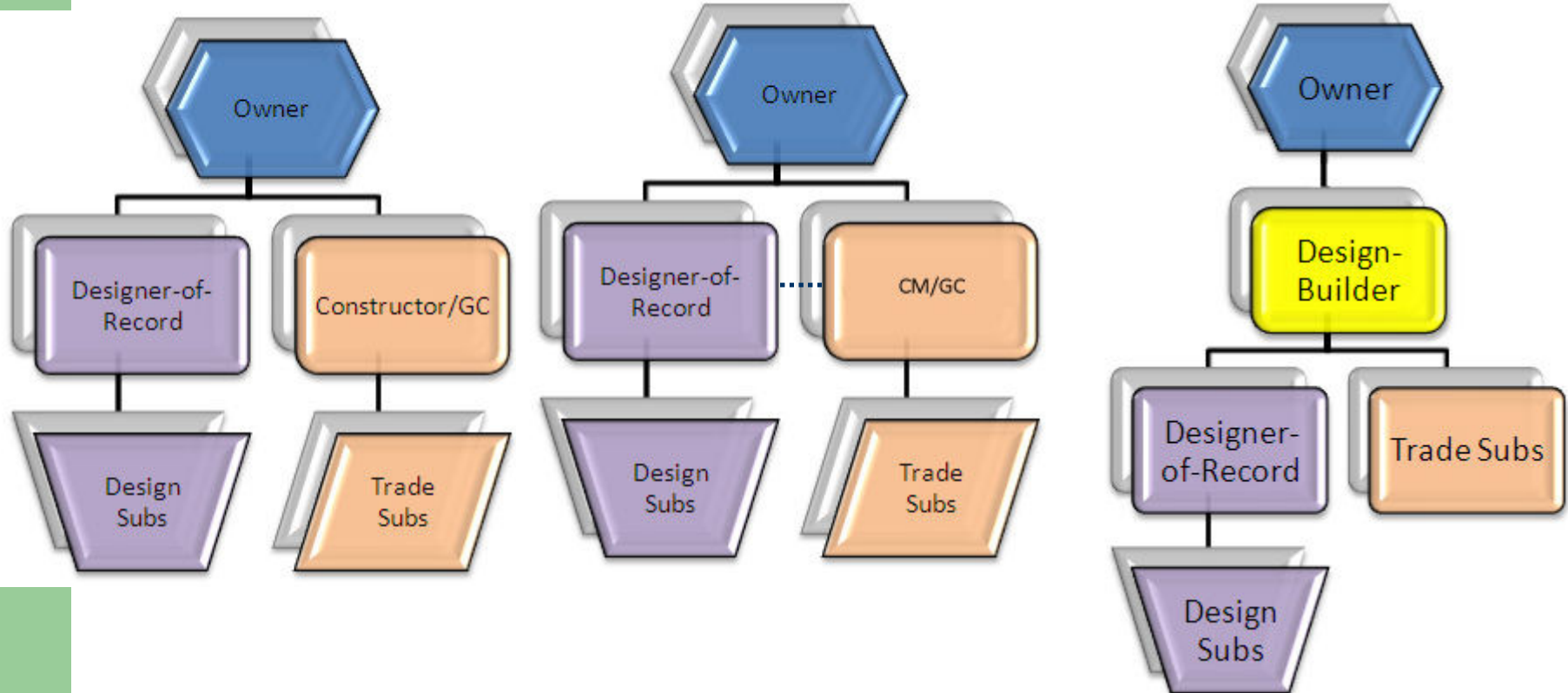


Project Delivery Methods

Design-Bid-Build

CMAR

Design-Build

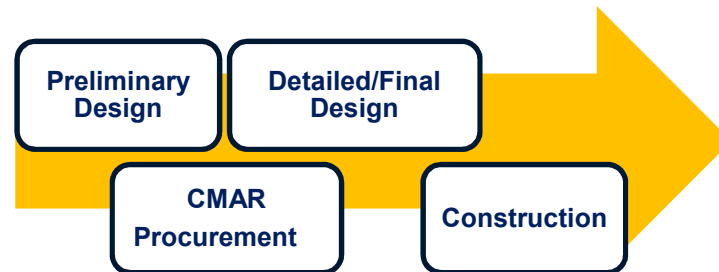


Project Development

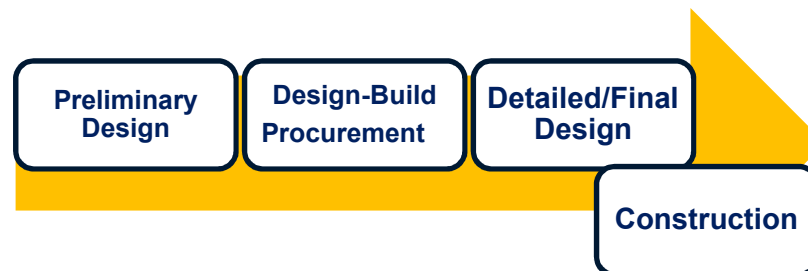
Design-Bid-Build
(DBB)



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

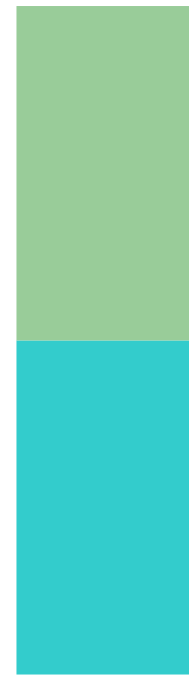
CMAR – Risk Allocation



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 **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
 - Profit and Indirect Overhead Percentage
 - Equipment Types and Rates
 - Material Sources
 - Subcontractor Items of Work
 - Risk Agreement and Assignment
 - Schedule

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

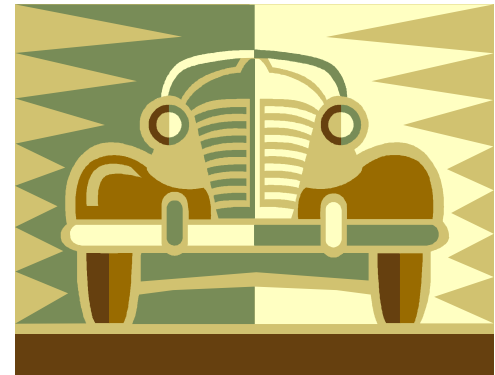


Procurement Process



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*
- *Legal and Financial Information*

Technical Proposals

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

Technical Proposals

- Project Approach
 - Project Goals
 - Project Approach
 - Risk and Innovation Management
- Legal and Financial Information (pass/fail)
 - Bonding Capability

Price Proposals

Evaluation Factors

- *Preconstruction Fee (Lump Sum price)*
- *CMAR Management Fee Percentage*
 - *Overhead and Indirect Costs*
 - *Profit*

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	April 28, 2015
Final Date for Proposer's Questions	May 20, 2015
Letter of Interest Due	May 27, 2015
Technical and Price Proposal Submittal to SHA	June 3, 2015
Selection of Successful Proposer	July 2015
Preconstruction Notice to Proceed	August 2015
Construction Notice to Proceed (TARGET)	Early-Fall 2016

Questions/Feedback?

Information related to this presentation will be available at the following: www.roads.maryland.gov under Business Center, Contracts, Bids & Proposals, Competitive sealed Proposals, MO7465171

Email: MO746_MD_97@sha.state.md.us