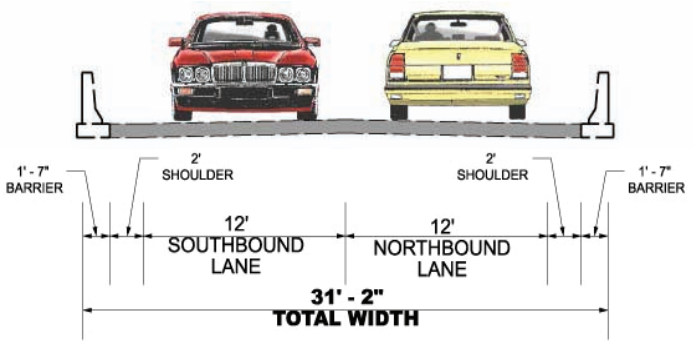
Bridge and River Facts

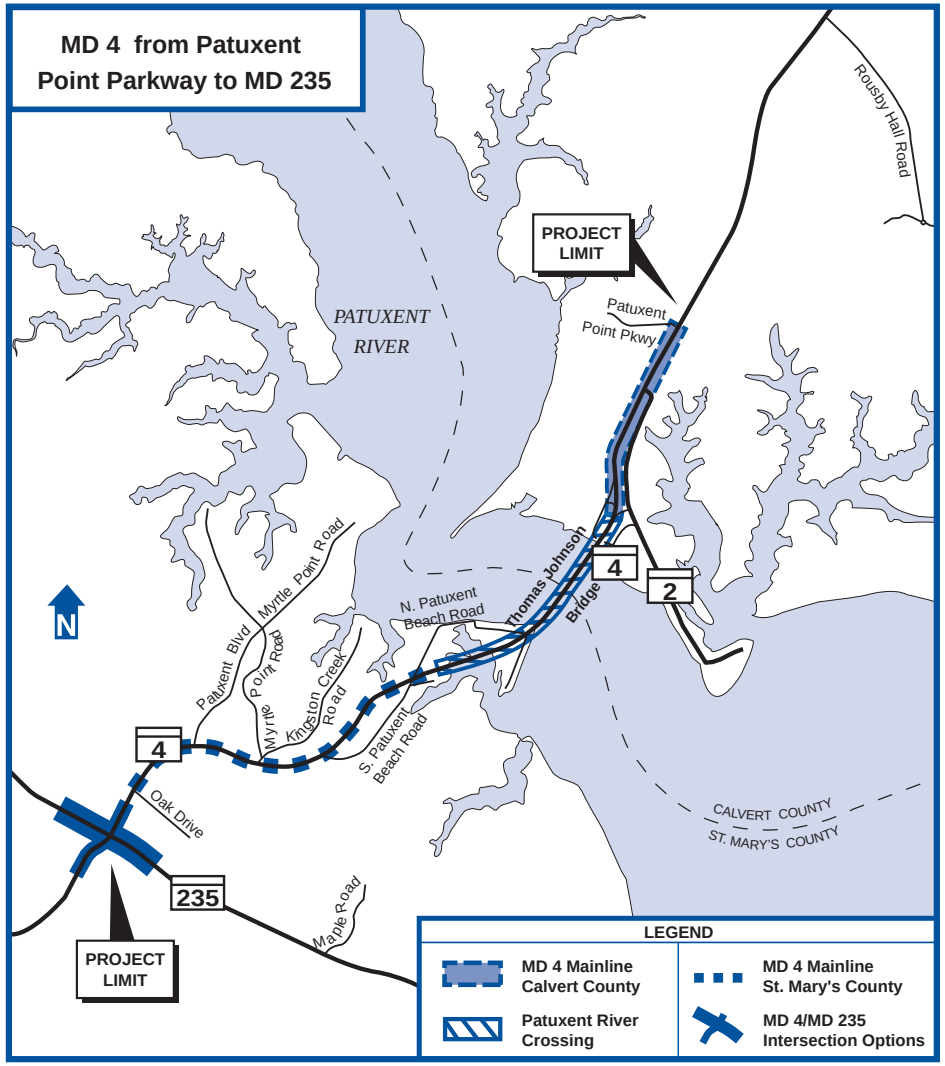
- **Built in 1977**
- **Width: 28’ inside and 31’-2” total**
- **Length: 7,207’**
- **Vertical navigable clearance at highest point: 140’**
- **Depth of river at channel: approximately 130’**



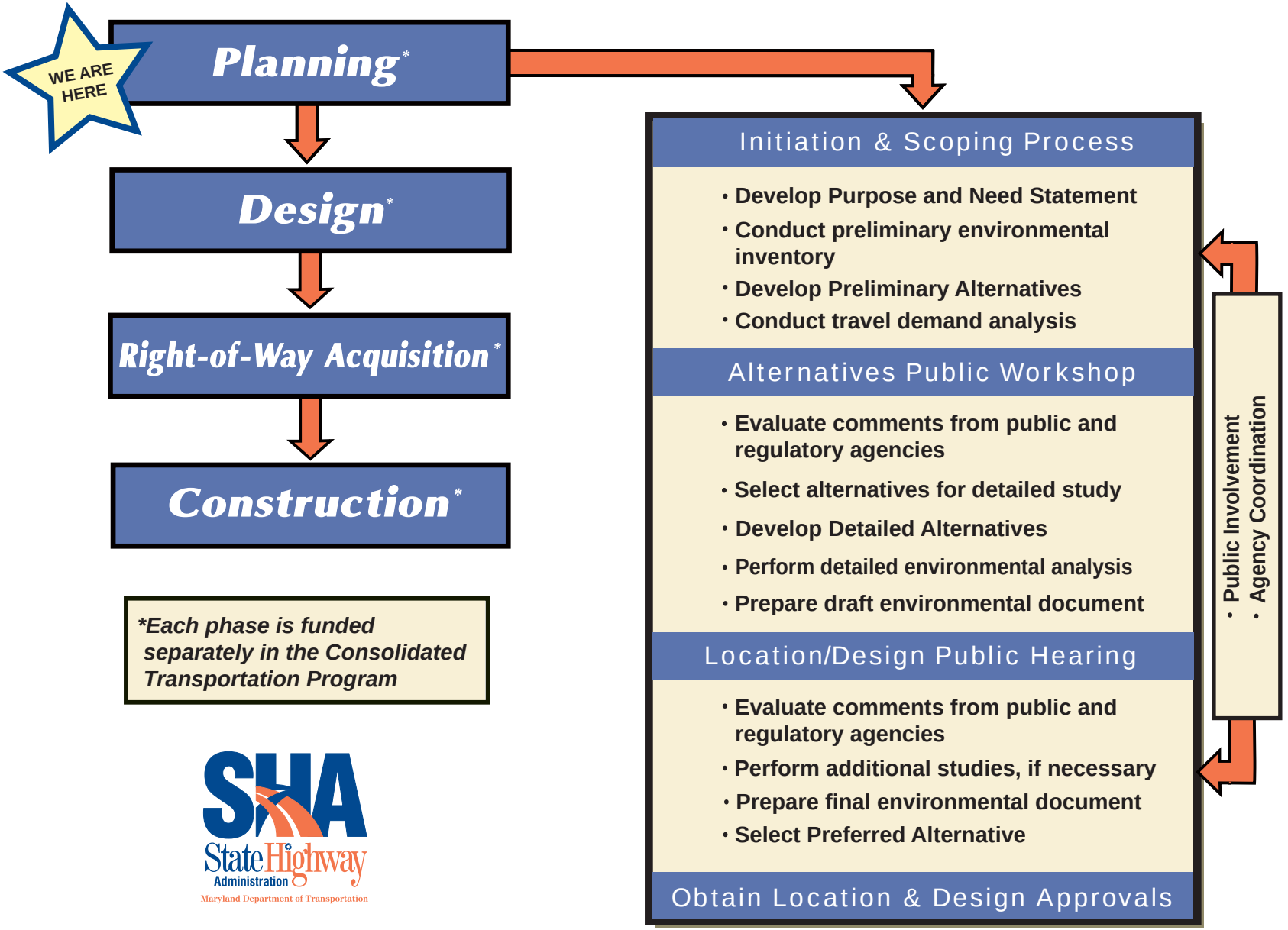
Existing Thomas Johnson Bridge
Typical Section

MARYLAND
4

Project Location



PROJECT DEVELOPMENT PROCESS



Each phase is funded separately in the Consolidated Transportation Program

SHA
State Highway Administration
Maryland Department of Transportation

Purpose of the Project

- **Improve existing capacity and traffic operations**
- **Increase vehicular, bicycle, and pedestrian safety**
- **Support existing and planned development**

Need for the Project

- **Existing and projected traffic volumes generated by rapid growth will result in future congestion**
- **Traffic volumes across Thomas Johnson Bridge:**
  1990: 12,900 vpd 2007: 27,000 vpd 2030: 33,600 vpd
- **Bridge presently carries one lane in each direction and becomes a major bottleneck when crashes occur or maintenance is scheduled near or on the bridge**
- **Bridge has no shoulders or pedestrian / bicycle facilities**

Average Daily Traffic

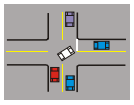
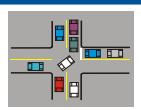
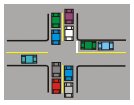
Average Daily Traffic			
Limits	2007 Existing	2030 No-Build	2030 Build
	Average Daily Traffic (Vehicles/Day)		
MD 235 north of MD 4	40,300	52,400	62,000
MD 235 south of MD 4	55,800	64,600	71,700
MD 4 south of MD 235	17,000	18,600	19,300
MD 4 - MD 235 to Patuxent Boulevard	28,300	35,200	41,500
MD 4 - Patuxent Boulevard to Kingston Creek Road	27,900	33,600	40,000
MD 4 - Kingston Creek Road to MD 2*	27,000	32,500	39,000
MD 4 - MD 2 to Patuxent Point Parkway	24,500	29,500	34,500

** Limits include the Thomas Johnson Bridge.*

What is Level of Service (LOS)?

Level of Service is a quantitative measure of traffic operational conditions. Ranges of operation are defined for each type of roadway section (signalized intersections, freeways, ramp junctions and weaving sections) and are related to the amount of traffic demand at a given time as compared to the capacity of that type of roadway section.

Six levels of service are defined for each type of roadway section and are given letter designations from A to F, with A representing good operating conditions and F representing unsatisfactory operating conditions.

	Intersection		Roadway
LOS A	• Highly stable, free-flow condition with little or no congestion • Delay: <10 seconds/vehicle		• Free flowing • Uninterrupted vehicle
LOS B	• Stable, free-flow condition with little congestion • Delay: 10 to 20 seconds/vehicle		• Stable flow • Other vehicles are more noticeable
LOS C	• Free-flow condition with moderate congestion • Delay: 20 to 35 seconds/vehicle		• Stable flow • Vehicle operations affected by other vehicles
LOS D	• Approaching unstable condition with increasing congestion • Delay: 35 to 55 seconds/vehicle		• High density free flow • Operation of vehicle is affected by other vehicles
LOS E	• Unstable, congested condition • Delay: 55 to 80 seconds/vehicle		• High density traffic flow, nearing capacity • Operating conditions are extremely poor
LOS F	• Stop and go • Delay: >80 seconds/vehicle		• Forced or breakdown flow • Amount of traffic exceeds capacity

Level of Service

MD 4 Mainline Levels of Service (AM/PM)			
Limits	**2007 Existing AM/PM**	**2030 No-Build AM/PM**	**2030 Build AM/PM**
MD 4 – MD 235 to Kingston Creek Road	**F/F**	**F/F**	**C/C**
MD 4/Patuxent Boulevard intersection	**F/E**	**F/F**	**D/C**
MD 4/Kingston Creek Road intersection	**F/E**	**F/F**	**D/C**
MD 4 – Kingston Creek Road to MD 2*	**F/F**	**F/F**	**C/C**
MD 4 – MD 2 to Patuxent Point Parkway	**B/B**	**B/C**	**C/C**

** Limits include the Thomas Johnson Bridge.*

Level of Service

MD 4/MD 235 Intersection Level of Service	
	LOS (AM/PM)
2007 Existing	**F/E**
2030 No-Build	**F/F**
Option A – Continuous Flow Intersection	**D/D**
Option B – One-Directional Flyover *	**C/E**
Option D – Single-Point Urban Interchange **	**C/D**

**Uninterrupted flow from southbound MD 4 left-turn to southbound MD 235*
*** Uninterrupted flow northbound and southbound MD 235*

ENVIRONMENTAL CONSIDERATIONS

National Environmental Policy Act (NEPA)

Requires that we do everything possible to protect and enhance the natural, cultural and human environment. A complete study of all reasonable alternatives (including measures to avoid and minimize impacts) must be prepared, and the results must be made available to public officials and citizens before decisions are made.

Natural Environment

• Geology/Groundwater Resources • Soils • Surface Water
• Floodplains • Wetlands • Aquatic Life • Wildlife

Section 404 of the Clean Water Act, Nontidal Wetlands Protection Act

Regulates dredge and fill of Waters of the United States. Guidelines published by the Environmental Protection Agency for evaluating alternatives require that the Corps of Engineers evaluate the proposed project for environmental impacts (including historic and rare/threatened/endangered species impacts) and select the least environmentally damaging, practicable alternative.

Endangered Species Act

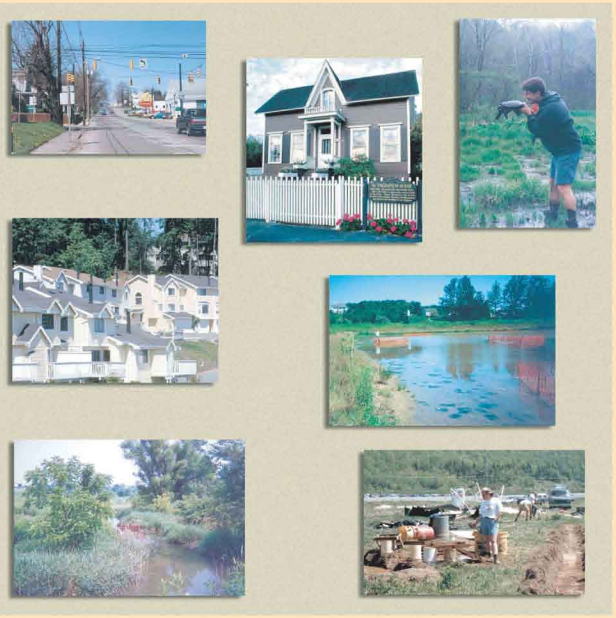
Ensures that actions are not taken to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of such species.

Cultural Environment

• Historic Structures • Archaeological Sites

Section 106 of the National Historic Preservation Act

Requires that agencies take into account the effects of a project on properties that are included in or eligible for the National Register of Historic Places.



Socio-Economic Environment

• Demographics • Community Facilities
• Economic Setting and Land Use • Noise • Air

Section 4(f) of the US Department of Transportation Act

Requires that special effort be made to preserve publicly owned public parks and recreation areas, wildlife/waterfowl refuges and historic sites. No project which requires land from these resources may be approved unless 1) there is no feasible and prudent alternative to the use of the land and 2) the action includes all possible planning to minimize harm to the property resulting from such use.

Clean Air Act and Clean Air Act Amendments

A microscale air quality analysis must be performed to determine if there are violations of the State or National Ambient Air Quality Standards for carbon monoxide. Also, a conformity analysis must be completed by the Metropolitan Planning Organization to make sure the Transportation Improvement Plan conforms to the State Implementation Plan.

Farmland Protection Policy Act

Requires that federal programs minimize conversion of farmland to non-agricultural uses (does not apply to farmland that is zoned or committed (planned) for urban development).

Executive Order 12898 (Environmental Justice)

Requires that agencies identify and address disproportionately high and adverse human health or environmental effects on minority or low-income populations.

Environmental Impacts

Summary of Impacts										
RESOURCE CATEGORY	Mainline Alternatives[1]						MD 4/MD 235 Intersection Improvements[1]			Complete Build Alternative[2]
			Patuxent River Crossing		MD 4 Mainline					
	Alternative 1: No-Build	Alternative 2: TSM	Alternative 3: 2-Lane Parallel Span	Alternative 4: 4-Lane Parallel Span	Mainline - Calvert County	Mainline - St. Mary's County	Option A: Continuous Flow Intersection	Option B: At-Grade Intersection with One-Directional Flyover	Option D: Single-Point Urban Interchange	Worst Case Impacts
Community										
Residential Relocations (number)	0	0	0	3	0	0	2	1	4	7
Business Displacements (number)	0	0	0	0	0	0	1	0	4	4
Properties Impacted	0	13	4	22	1	19	59	53	56	101
ROW Impacts (acre)	0	4.5	1.1	6.2	0.2	15.6	12	10.8	14.1	36.1
Natural Environment										
Stream Impacts (linear feet)	0	0	187 l.f. / 59,548 s.f.*	187 l.f./ 70,965 s.f.*	0	440	90	90	90	717
Floodplain (acre)	0	0	0.4	0.6	0	0	0	0	0	0.6
Woodland (acre)	0	2.7	2.6	3.4	0.4	24.6	14.5	11.3	14.1	42.9
Wetlands (acre)	0	0.001	0.02	0.04	0.01	0.2	0.03	0.01	0.06	0.31
Critical Area Impacted (acre)	0	3.9	15.3	18.5	2.5	8.3	0	0	0	29.3
Total Cost (in millions)[3]	N/A	N/A	$305 - 325	$475 - 500	$2.4 - 3.0	$96 - 100	$67 - 73	$77 - 83	$137 - 143	$470.4 - 746

** Impacts from bridge alternatives to Patuxent River in square feet. The impacts are associated with the footers for the piers to the proposed bridge.*

[1] Note: A complete build alternative for the study will include Mainline – Calvert County, one Patuxent River Crossing alternative, Mainline – St. Mary's County and one MD 4 / MD 235 Intersection Improvement option.

[2] Note: Worst case impacts have been calculated for each resource and are a summation of the impacts for the Calvert and St. Mary's County Mainline Alternatives, Alternative 4 and one of the three intersection options.

[3] Cost is based on 2010 dollars.

Environmental Site Design

Environmental Site Design (ESD)

- Mandated by the Stormwater Management Act of 2007
- Is intended to mimic pre-development conditions
- Uses several smaller facilities instead of a few large ones
- Is more project-area oriented

Impacts in MD 4 Project Area

- May require partial acquisitions of several properties
- Facilities are typically along property lines along MD 4 and MD 235
- Final acreages will be determined during design

Regional Economic Analysis

The project's benefits consist of:

- **Demand Side – the benefit to cost ratio is 1.77 with benefits to users of almost $800 million**
- **Supply Side – the project creates more than 30,000 person years of work, provides an additional $1.65 billion in extra household income and $440 million of property value increase**
- **Government Tax Value – the tax payment to Federal, State, and local government over the life of the project is equal to 75% of the project cost**
- **Community Benefits – Calvert and St. Mary's Counties receive most of the benefits including the jobs and income impacts**

AS VEHICLE OPERATORS ON MARYLAND ROADS BICYCLISTS HAVE RIGHTS AND RESPONSIBILITIES

It's the law:
Section 21-1202 Annotated Code of Maryland

It's MDOT Policy:
Twenty-Year Bicycle and Pedestrian Access Master Plan

"Vehicle" means any device in, on, or by which any individual or property is or might be transported or towed on a highway.

Annotated Code of Maryland

As part of roadway construction projects, SHA provides on-road features like these:

wide outside lane for bicycle compatibility

minimum four-foot-wide shoulder

bicycle lane/pocket bike lane markings

Bicycle Route & Share the Road signage

And off-road features like:

shared-use path (hiker/biker trail)

Bicycles provide a valuable transportation option for many people and will help Maryland meet our state's long-term transportation needs.

BICYCLE FAQ

Why are bicyclists allowed on the road?

Bicyclists are vehicle drivers, too. By law, "vehicle" means "any device in, on, or by which any individual or property is or might be transported or towed on a highway." (Section 11-176, Annotated Code of Maryland) Every person operating a bicycle in a public area has all the rights granted to and is subject to all the duties required of the driver of a vehicle. (Section 21-1202, Annotated Code of Maryland)

Why are bicyclists allowed to ride next to cars that are going fast?

Bicyclists are prohibited on roadways with a posted maximum speed greater than 50 mph unless a continuous paved shoulder or bicycle lane is provided. In addition, a person may not ride a bicycle on an expressway or on any controlled-access highway with signs stating that bicycles are prohibited.

There's a hiker/biker trail right next to the road. Shouldn't bicyclists be riding there?:

Maryland law requires SHA to include bicycle accommodations in roadway construction projects whenever appropriate and feasible. That's because not everyone who rides a bicycle does so for the same purpose. Hiker/biker trails are shared-use paths suitable for joggers, pedestrians, dog-walkers, children, babies in strollers, inexperienced or recreational cyclists, and others who enjoy exercising and spending time outdoors. Individuals who use a bicycle as their primary means of transportation may find that on-road bicycle accommodations better suit their needs. By removing themselves from the "mix" of hiker/biker trail-users, on-road bicyclists can reach their destinations more efficiently and lessen the risk that trail-users will find themselves in the path of bicyclists focused on getting from Point A to Point B as quickly as possible.

Shouldn't bicyclists ride on sidewalks?

The law allows bicyclists to ride on sidewalks only in Montgomery County. Not permitting bicycles on sidewalks minimizes conflicts between bicyclists and pedestrians.

Isn't it a law that bicyclists have to wear a helmet?

In Maryland, everyone under age 16 is required to wear a helmet when riding a bicycle on public property. Some local jurisdictions have requirements for helmet use that are tougher than State law. Wearing a helmet is a good safety measure for everyone who rides a bike: 85 percent of head and brain injuries resulting from bicycle crashes could be prevented if riders wore bicycle safety helmets.

Every day as I drive downtown I see bicyclists and motorists behaving in rude and dangerous ways. Whatever happened to common courtesy?

Motorists and bicyclists who share the road—especially in heavily traveled urban and suburban areas—need to look out for one another. Motorists should leave at least three feet between their vehicles and any bicycles they pass, and bicyclists should leave at least three feet between themselves and parked cars. By law, bicycles are vehicles: motorists should treat them as such, and bicyclists should obey all traffic laws, including those that govern left- and right-turns, lights and stop signs, right-of-way, and proper lane position.

I bike—where can I get more information on bicycling in Maryland?

Additional information is available on SHA's website at *www.marylandroads.com,* **click on Bicycling under EXPLORE MD, or by telephone at 1-888-204-4828.**

Handout materials are also available at the bicycling station during today's meeting.

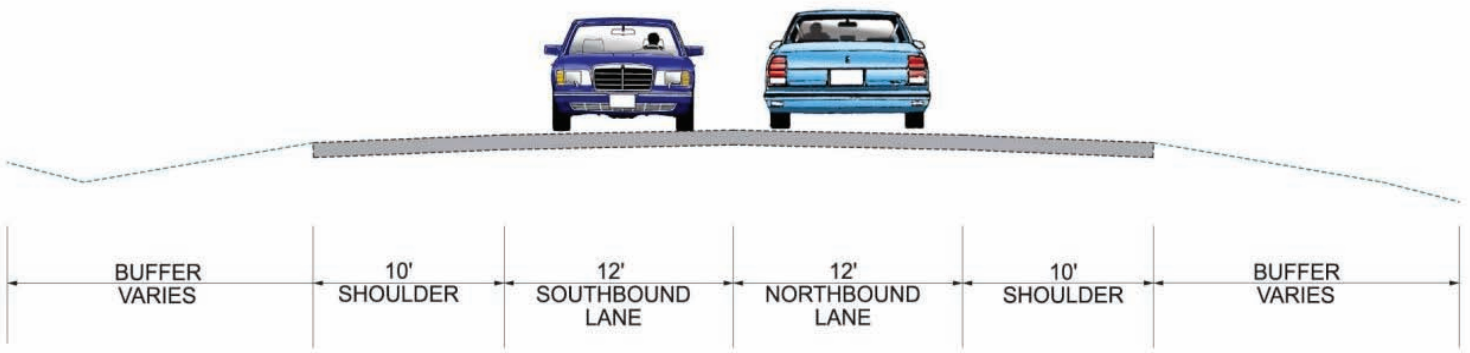
Next Steps

- **Evaluate and address public/agency comments received at the hearings and on the Environmental Assessment** — ***Fall 2010***
- **SHA Preferred Alternative and Conceptual Mitigation** — ***Spring 2011***
- **Location/Design Approval** — ***Fall 2011***

Dismissed Alternatives

- **Northern Parallel Bridge**
- **Ferry System**
- **Transit-Only Alternative**
- **Drawbridge**
- **Tunnel**
- **Four-Lane Myrtle Point Alignment**
- **MD 4/MD 235 Partial Cloverleaf Interchange**

Alternative 1: No-Build



EXISTING MAINLINE (ST. MARY'S COUNTY)

- **No major improvements proposed**
- **Minor, short-term improvements would occur as part of routine maintenance and safety operations**
- **Serves as a baseline for comparison with the build alternatives**

Alternative 2: TSM
(Transportation System Management)

Potential Strategies May Include:

- **Modifying or consolidating access points**
- **Closing the southernmost entrance to South Patuxent Beach Road and creating an improved intersection at the northernmost entrance**
- **Providing signalized or unsignalized "Modified Tee" intersections at cross streets along MD 4**
- **Improving MD 4/MD 235 intersection**

MD 4/MD 235
Intersection Options

- **Option A: Continuous Flow Intersection**
- **Option B: At-Grade Intersection with One-Directional Flyover**
- **Option D: Single-Point Urban Interchange**

MD 4 THOMAS JOHNSON BRIDGE PLANNING STUDY

MD 4 / MD 235 INTERSECTION IMPROVEMENTS
OPTION A - CONTINUOUS FLOW INTERSECTION

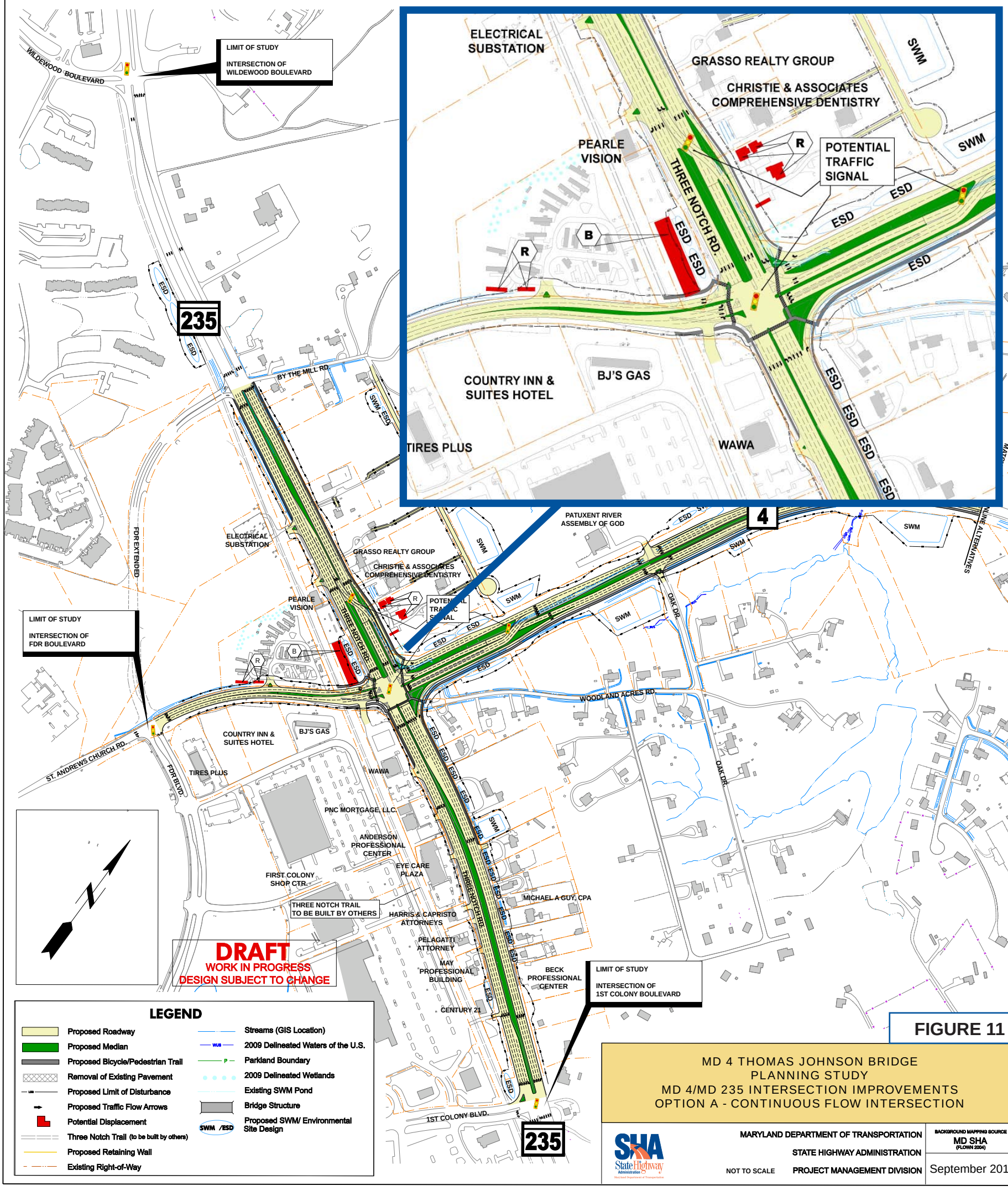


FIGURE 11

MD 4 THOMAS JOHNSON BRIDGE
PLANNING STUDY
MD 4/MD 235 INTERSECTION IMPROVEMENTS
OPTION A - CONTINUOUS FLOW INTERSECTION

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
NOT TO SCALE
PROJECT MANAGEMENT DIVISION

BACKGROUND MAPPING SOURCE
MD SHA
(FLOWN 2004)

September 2010

MD 4 THOMAS JOHNSON BRIDGE PLANNING STUDY

MD 4 / MD 235 INTERSECTION IMPROVEMENTS
OPTION B - AT-GRADE INTERSECTION WITH ONE-DIRECTIONAL FLYOVER

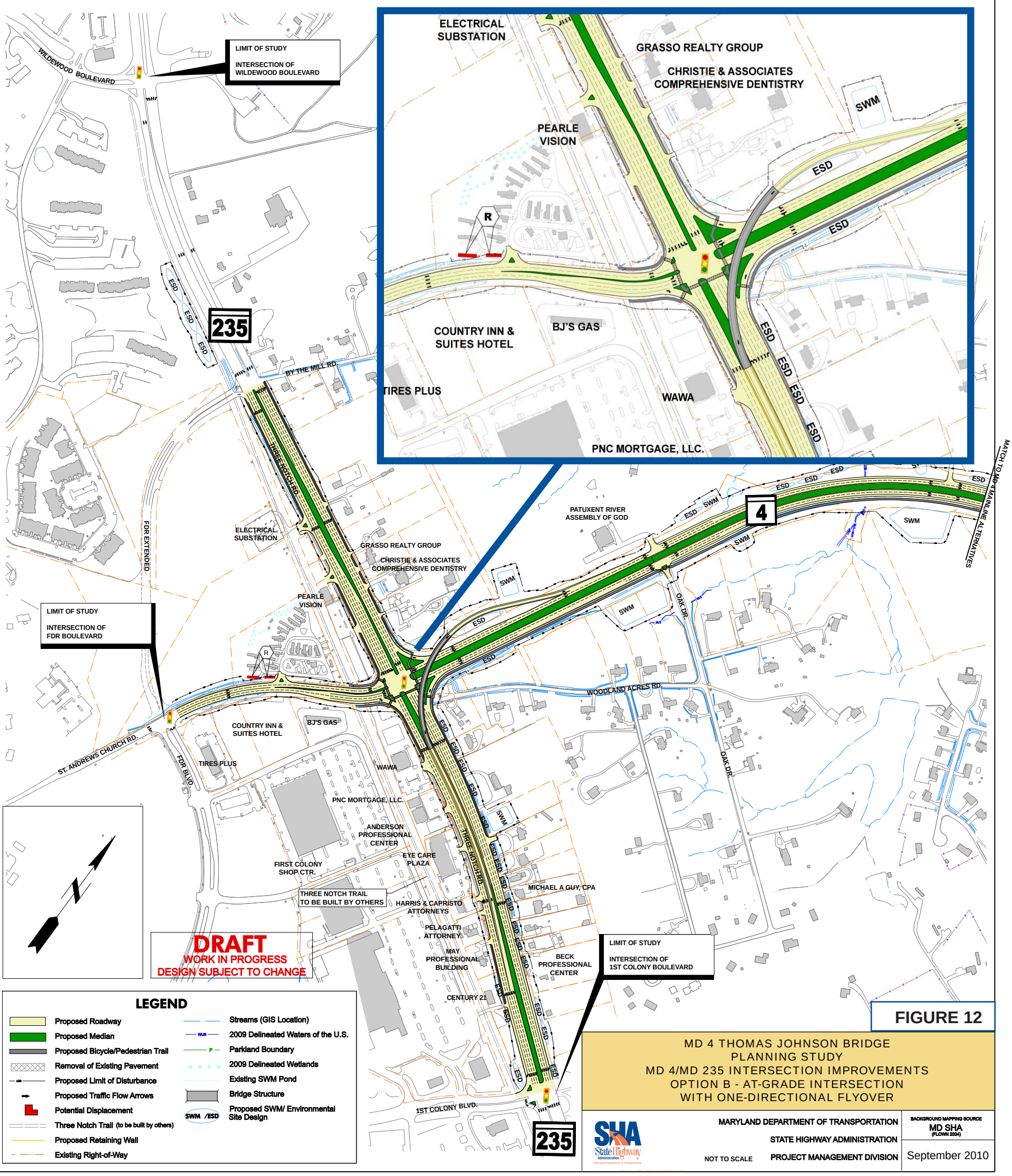


FIGURE 12

MD 4 THOMAS JOHNSON BRIDGE
PLANNING STUDY
MD 4/MD 235 INTERSECTION IMPROVEMENTS
OPTION B - AT-GRADE INTERSECTION
WITH ONE-DIRECTIONAL FLYOVER

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
PROJECT MANAGEMENT DIVISION

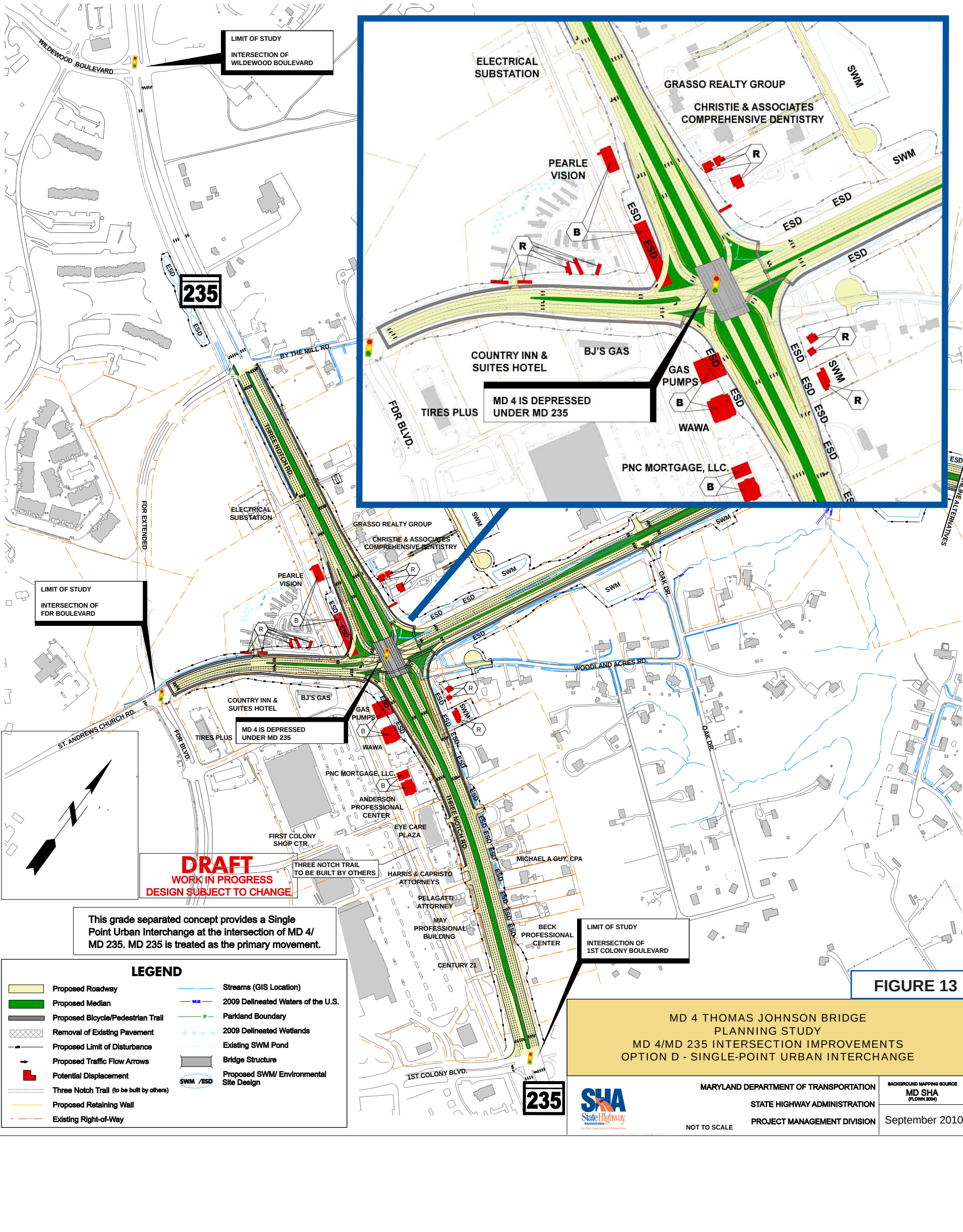
NOT TO SCALE

BACKGROUND MAPPING SOURCE
MD SHA
(FLOWN 2004)

September 2010

MD 4 THOMAS JOHNSON BRIDGE PLANNING STUDY

MD 4 / MD 235 INTERSECTION IMPROVEMENTS
OPTION D - SINGLE-POINT URBAN INTERCHANGE



This grade separated concept provides a Single Point Urban Interchange at the intersection of MD 4/ MD 235. MD 235 is treated as the primary movement.

LEGEND

- Proposed Roadway
- Proposed Median
- Proposed Bicycle/Pedestrian Trail
- Removal of Existing Pavement
- Proposed Limit of Disturbance
- Proposed Traffic Flow Arrows
- Potential Displacement
- Three Notch Trail (to be built by others)
- Proposed Retaining Wall
- Existing Right-of-Way
- Streams (GIS Location)
- 2009 Delineated Waters of the U.S.
- Parkland Boundary
- 2009 Delineated Wetlands
- Existing SWM Pond
- Bridge Structure
- Proposed SWM/ Environmental Site Design

FIGURE 13

MD 4 THOMAS JOHNSON BRIDGE
PLANNING STUDY
MD 4/MD 235 INTERSECTION IMPROVEMENTS
OPTION D - SINGLE-POINT URBAN INTERCHANGE

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
PROJECT MANAGEMENT DIVISION

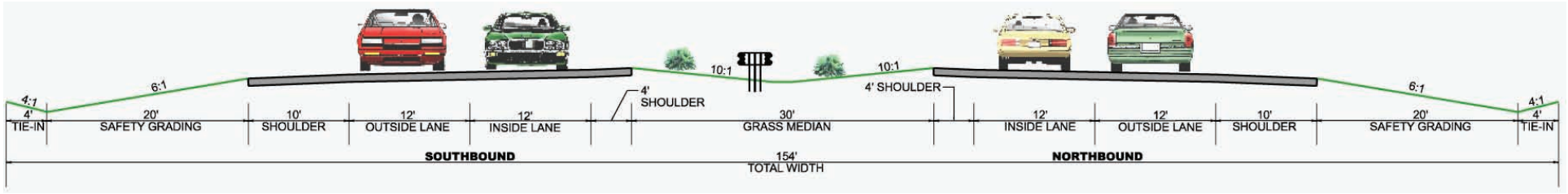
NOT TO SCALE

BACKGROUND MAPPING SOURCE
MD SHA
(FLOWN 2004)

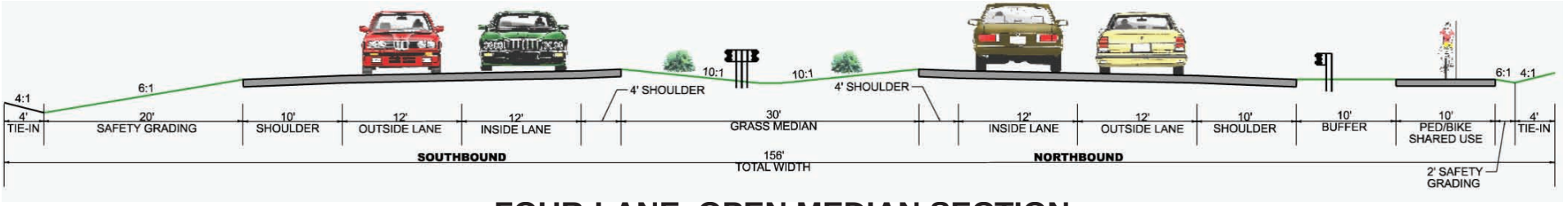
September 2010

MD 4 Mainline: St. Mary's County

- **Four-lane Roadway: Two 12-foot lanes in each direction with a 30-foot median**
- **10-foot Outside Shoulders: Accommodates bicycle traffic and emergency use**
- **Median and edge of roadway to be open section**
- **An option for a 10-foot pedestrian/bicycle facility along the south side**



FOUR-LANE, OPEN MEDIAN SECTION



FOUR-LANE, OPEN MEDIAN SECTION
WITH SEPARATE BICYCLE/PEDESTRIAN FACILITY

Bridge Height

Lowering the bridge could potentially reduce costs, improve mobility by using flatter grades on the bridge, and allow the team to meet the Americans with Disabilities Act (ADA) design criteria more easily.

After coordinating with the U.S. Navy, the U.S. Coast Guard, and upstream marinas, the team has developed two options for the bridge alternatives:

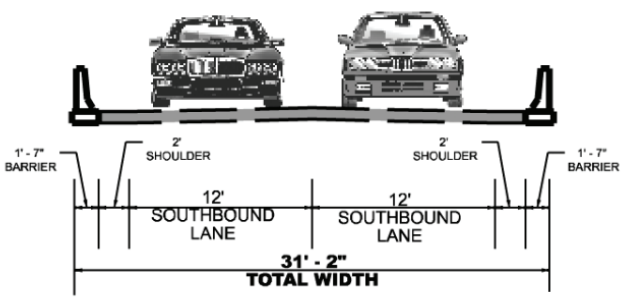
Option A lowers the proposed vertical clearance to approximately 70 feet

Option B maintains the existing vertical clearance of 140 feet.

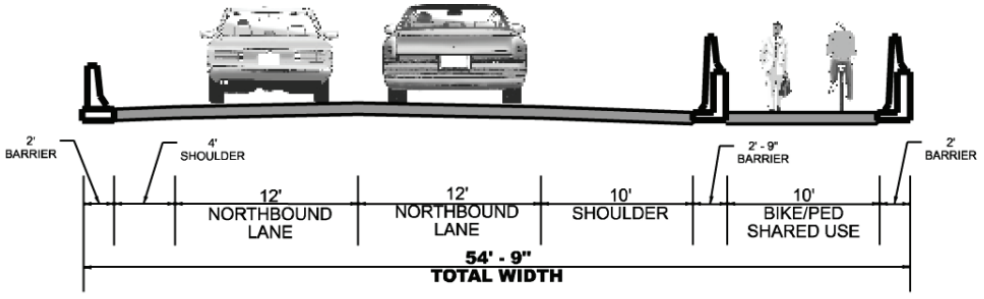
Option A or B can be applied to Alternatives 3 and 4. These options may be modified as the project progresses.

Alternative 3:
Two-Lane Parallel Span

- **Existing Structure: Converted to a one-way, southbound two-lane bridge**
- **Parallel Structure: One-way, northbound, two-lane bridge with a 10-foot outside shoulder and a four-foot inside shoulder**
- **Pedestrian/Bicycle Facility: 10-foot shared-use path on proposed span**
- **Bridge Crossing: 7,280’ Long**

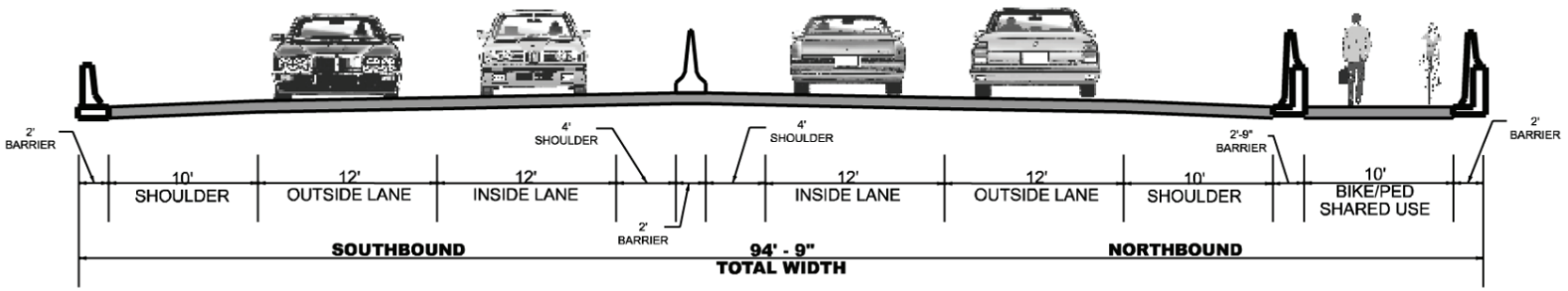


EXISTING STRUCTURE



Alternative 4:
Four-Lane Parallel Span

- **Existing Structure: To be removed**
- **Parallel Structure: Two lanes in each direction separated by a concrete barrier with four-foot inside shoulders and 10-foot outside shoulders**
- **Pedestrian/Bicycle Facility: 10-foot shared-use path**
- **Bridge Crossing: 7,310’ Long**



PROPOSED CONDITIONS

PATUXENT RIVER CROSSING ALTERNATIVES
ALTERNATIVE 3 - 2-LANE PARALLEL SPAN

DRAFT
WORK IN PROGRESS
DESIGN SUBJECT TO CHANGE

OPTION A: 70' VERTICAL CLEARANCE OVER MAIN NAVIGATION CHANNEL

OPTION B: 140' VERTICAL CLEARANCE OVER MAIN NAVIGATION CHANNEL

KINGSTON CREEK
PATUXENT BEACH RD. N
PATUXENT BEACH RD. S
TOWN CREEK SHOPPING CTR.
TOWN CREEK
BILL DIXON RD.
PATUXENT BEACH RD.
PATUXENT RIVER
THOMAS JOHNSON BRIDGE
EXISTING BRIDGE TO REMAIN
PIER AND RAMP TO REMAIN
"PEPPER" LANGLEY FISHING PIER AND BOAT LAUNCH FACILITY
PEDESTRIAN/BICYCLE MIXED USE TRAIL
CALVERT COUNTY
ST MARY'S COUNTY
SOLOMONS CEMETERY
TREATMENT PLANT
POTENTIAL ACCESS POINT CLOSURE
POTENTIAL ACCESS POINT CLOSURE
POTENTIAL ACCESS POINT CLOSURE
CALVERT COUNTY HISTORIC SITE
ENTRY TO FISHING PIER TO REMAIN
SOLOMONS ISLAND RD. S.
MATCH LINE
MATCH LINE
MATCH LINE
MATCH LINE
CALVERT COUNTY
ST MARY'S COUNTY
ESD
SWM
2-4
4
2

LEGEND

- Proposed Roadway
- Proposed Median
- Proposed Bicycle/Pedestrian Trail
- Removal of Existing Pavement
- Proposed Limit of Disturbance
- Proposed Traffic Flow Arrows
- Potential Displacement
- Three Notch Trail (to be built by others)
- Proposed Retaining Wall
- Existing Right-of-Way
- Streams (GIS Location)
- WUS 2009 Delineated Waters of the U.S.
- P Parkland Boundary
- 2009 Delineated Wetlands
- Existing SWM Pond
- Bridge Structure
- SWM / ESD Proposed SWM/Environmental Site Design

FIGURE 2

MD 4 THOMAS JOHNSON BRIDGE PLANNING STUDY
PATUXENT RIVER CROSSING ALTERNATIVES
ALTERNATIVE 3 - 2-LANE PARALLEL

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
PROJECT MANAGEMENT DIVISION

NOT TO SCALE

BACKGROUND MAPPING SOURCE: MD SHA (FLOWN 2004)

September 2010

PATUXENT RIVER CROSSING ALTERNATIVES
ALTERNATIVE 4 - 4-LANE PARALLEL SPAN

DRAFT
WORK IN PROGRESS
DESIGN SUBJECT TO CHANGE

OPTION A: 70' VERTICAL CLEARANCE OVER MAIN NAVIGATION CHANNEL

OPTION B: 140' VERTICAL CLEARANCE OVER MAIN NAVIGATION CHANNEL

KINGSTON CREEK
PATUXENT BEACH RD. N
PATUXENT BEACH RD. S
TOWN CREEK SHOPPING CTR.
TOWN CREEK
BILL DIXON RD.
PATUXENT BEACH RD.
PATUXENT RIVER
THOMAS JOHNSON BRIDGE
EXISTING BRIDGE TO BE REMOVED
PIER AND RAMP TO REMAIN
"PEPPER" LANGLEY FISHING PIER AND BOAT LAUNCH FACILITY
PEDESTRIAN/BICYCLE MIXED USE TRAIL
CALVERT COUNTY
ST MARY'S COUNTY
SOLOMONS CEMETERY
TREATMENT PLANT
POTENTIAL ACCESS POINT CLOSURE
POTENTIAL ACCESS POINT CLOSURE
POTENTIAL ACCESS POINT CLOSURE
CALVERT COUNTY HISTORIC SITE
ENTRY TO FISHING PIER TO REMAIN
SOLOMONS ISLAND RD. S.
MATCH LINE
MATCH LINE
MATCH LINE
MATCH LINE
CALVERT COUNTY
ST MARY'S COUNTY
ESD
SWM
2-4
4
2

LEGEND

- Proposed Roadway
- Proposed Median
- Proposed Bicycle/Pedestrian Trail
- Removal of Existing Pavement
- Proposed Limit of Disturbance
- Proposed Traffic Flow Arrows
- Potential Displacement
- Three Notch Trail (to be built by others)
- Proposed Retaining Wall
- Existing Right-of-Way
- Streams (GIS Location)
- WUS 2009 Delineated Waters of the U.S.
- P Parkland Boundary
- 2009 Delineated Wetlands
- Existing SWM Pond
- Bridge Structure
- SWM / ESD Proposed SWM/Environmental Site Design

FIGURE 3

MD 4 THOMAS JOHNSON BRIDGE PLANNING STUDY
PATUXENT RIVER CROSSING ALTERNATIVES
ALTERNATIVE 4 - 4-LANE PARALLEL SPAN

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
PROJECT MANAGEMENT DIVISION

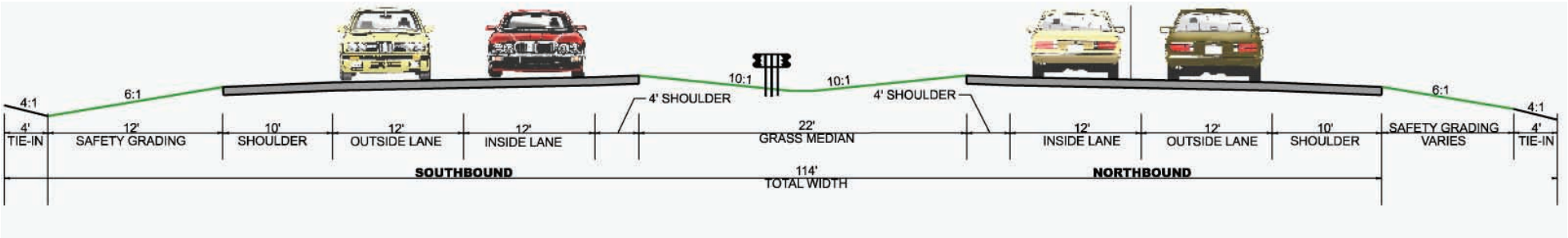
NOT TO SCALE

BACKGROUND MAPPING SOURCE: MD SHA (FLOWN 2004)

September 2010

MD 4 Mainline: Calvert County

- **Four-lane Roadway: Two 12-foot lanes in each direction with a 22-foot median**
- **10-foot Outside Shoulders: Accommodates bicycle traffic and emergency use**
- **Median and edge of roadway to be open section**



FOUR-LANE, OPEN MEDIAN SECTION

MD 4 MAINLINE, CALVERT COUNTY - RAMP OPTIONS

RIGHT TURN OPTION A

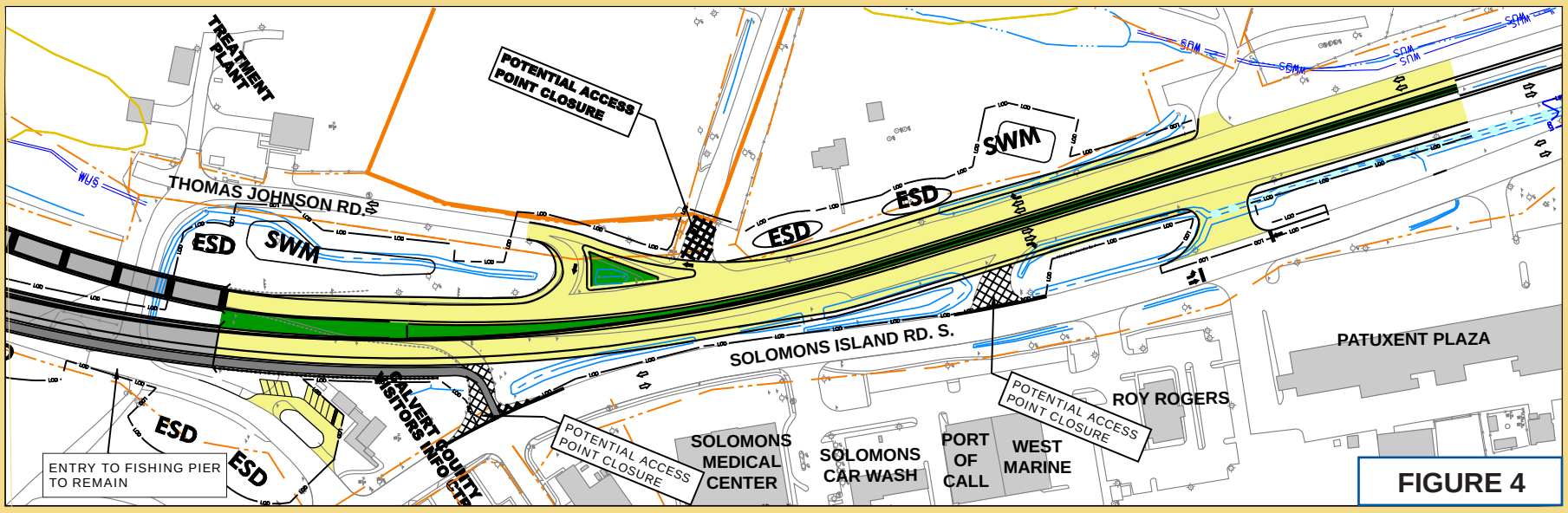


FIGURE 4

MD 4 MAINLINE, CALVERT COUNTY - RAMP OPTIONS

RIGHT TURN OPTION B

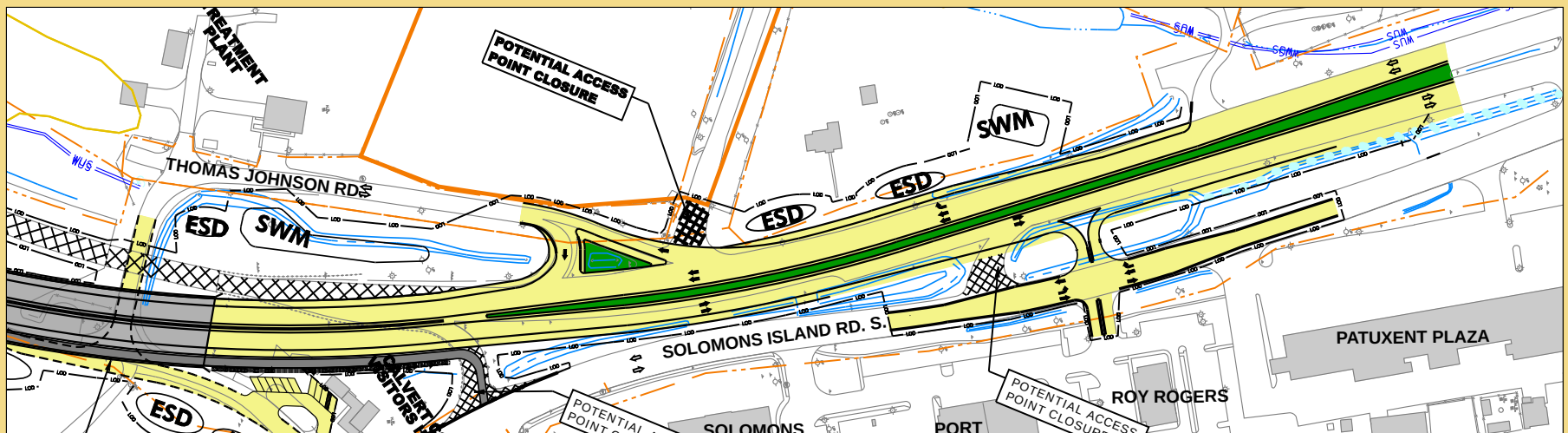


FIGURE 5

MD 4 MAINLINE, CALVERT COUNTY - RAMP OPTIONS

LEFT TURN OPTION

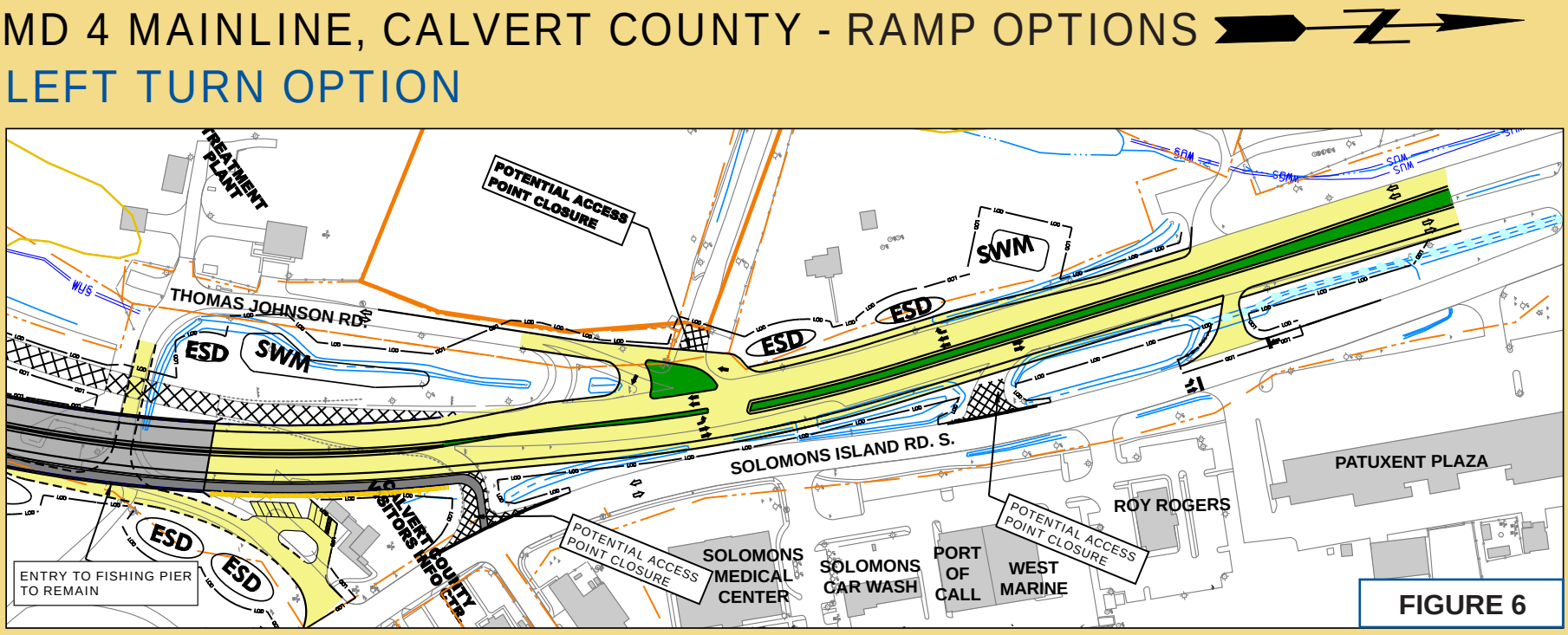


FIGURE 6

LEGEND

- Proposed Roadway
- Proposed Median
- Proposed Bicycle/Pedestrian Trail
- Removal of Existing Pavement
- Proposed Limit of Disturbance (LOD)
- Proposed Traffic Flow Arrows
- Potential Displacement
- Three Notch Trail (to be built by others)
- Proposed Retaining Wall
- Streams (GIS Location)
- WUS — 2009 Delineated Waters of the U.S.
- P — Parkland Boundary
- 2009 Delineated Wetlands
- Existing SWM Pond
- Bridge Structure
- SWM /ESD — Proposed SWM/Environmental Site Design
- Right-Of-Way

MD 4 MAINLINE, CALVERT COUNTY - ACCESS OPTIONS

NO CHANGE OPTION

NOT TO SCALE

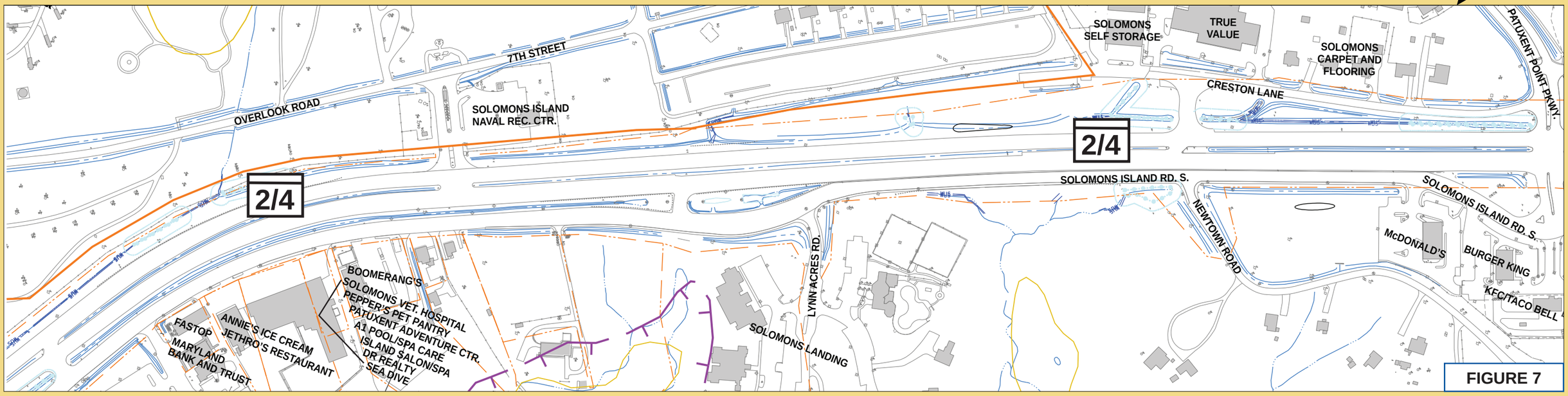


FIGURE 7

MD 4 MAINLINE, CALVERT COUNTY - ACCESS OPTIONS

MEDIAN WIDENING OPTION

NOT TO SCALE

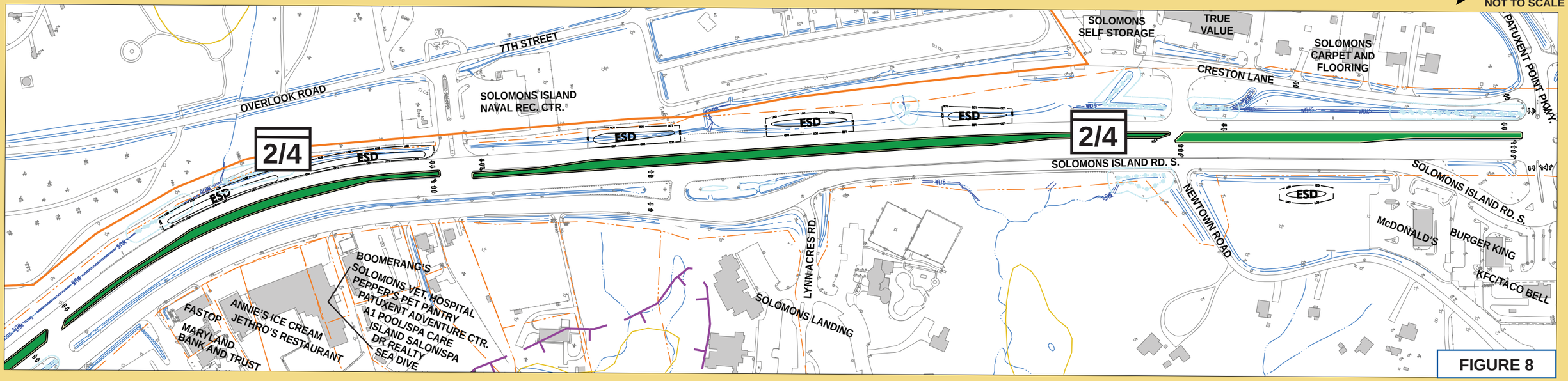


FIGURE 8

MD 4 MAINLINE, CALVERT COUNTY - ACCESS OPTIONS (Continued)

ACCESS CONTROLLED OPTION

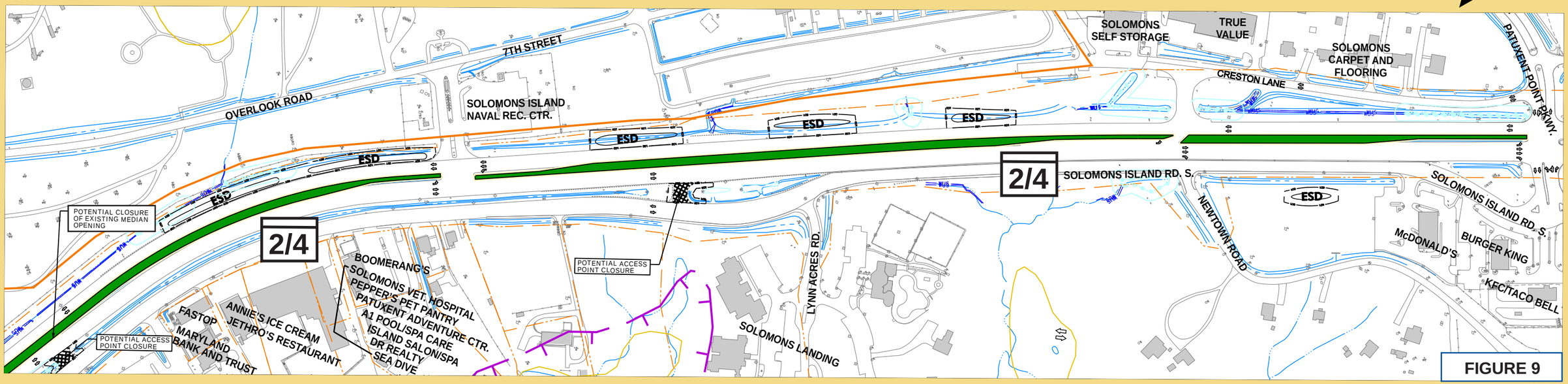


FIGURE 9

NOT TO SCALE

MD 4 MAINLINE, ST. MARY'S COUNTY - WIDENING OPTION

DRAFT
WORK IN PROGRESS
DESIGN SUBJECT TO CHANGE

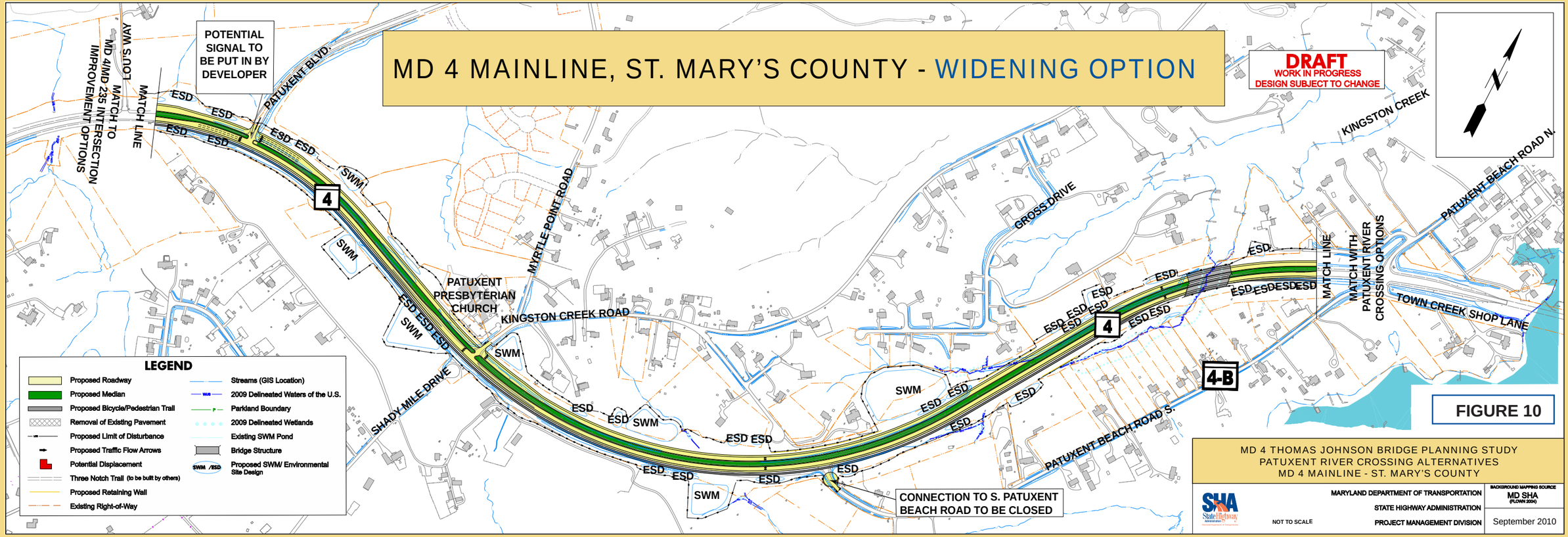


FIGURE 10

MD 4 THOMAS JOHNSON BRIDGE PLANNING STUDY
PATUXENT RIVER CROSSING ALTERNATIVES
MD 4 MAINLINE - ST. MARY'S COUNTY

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
PROJECT MANAGEMENT DIVISION

NOT TO SCALE

BACKGROUND MAPPING SOURCE: MD SHA (FLOWN 2004)

September 2010

Project Visualizations

Calvert County Information Center

Project Visualizations

Alternative 4 - Four-Lane Parallel Span in Calvert County

Alternative 3 - Two-Lane Parallel Span with Bridge Height Option A - Lowered Bridge