

T202107101

Old Baltimore Pike, Battle Drive to SR 72

Welcome

The Delaware Department of Transportation (DelDOT) is holding this Public Workshop to solicit public input for the proposed improvements along Old Baltimore Pike from Battle Drive to SR 72 and Old Coochs Bridge Road from the intersection with Old Baltimore Pike to approximately 1,000 feet south of the intersection.

The purpose of the project is to:

- Reduce congestion
- Improve mobility for all users within the study area
- Improve the bridges to a “good” condition rating to extend the lifespan of the structures

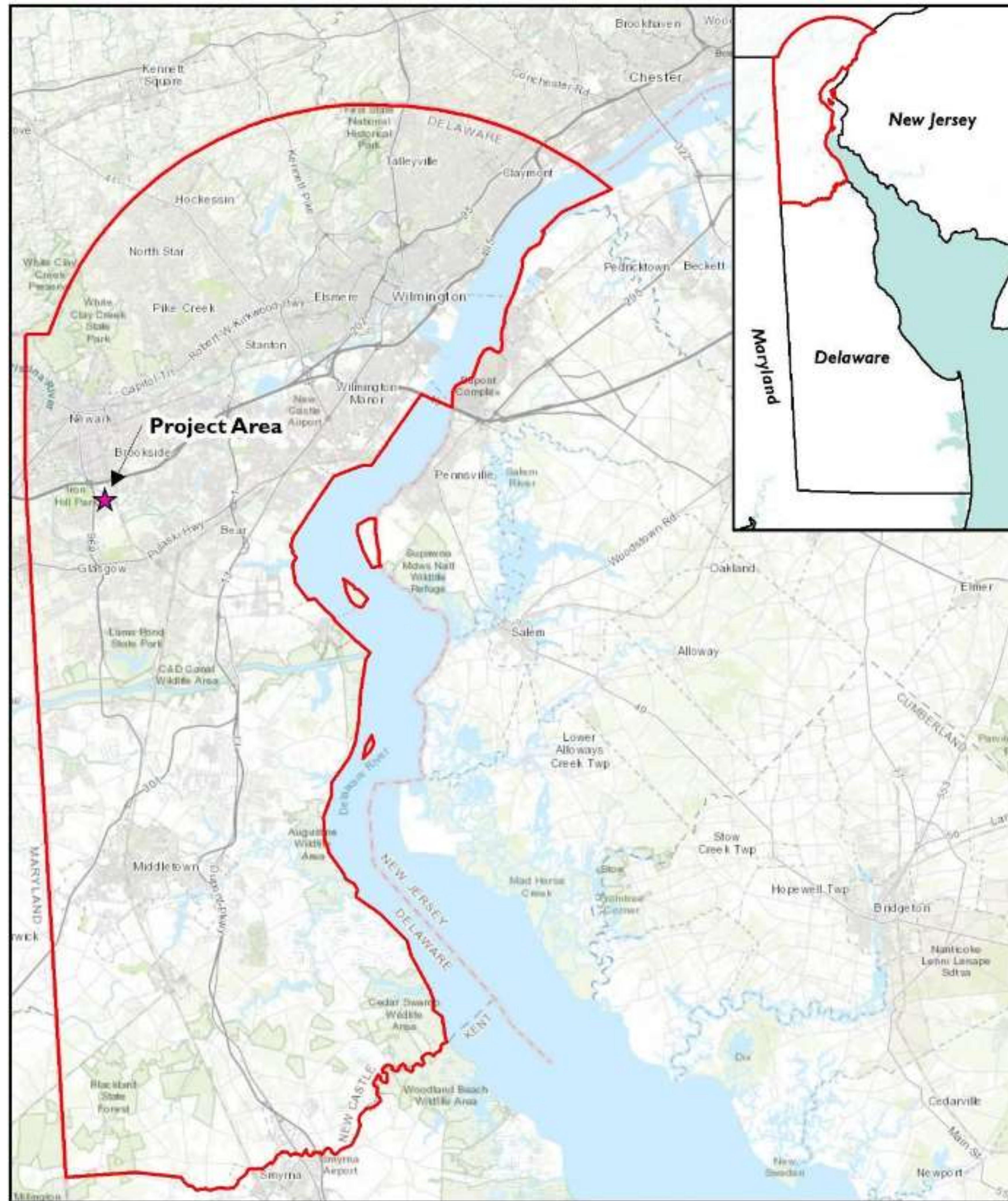
The project is currently in the Pre-NEPA phase. All comments and potential impacts will be considered to help determine the NEPA class of action. Attendees will have an opportunity to review the proposed improvements and provide comments to DelDOT representatives.



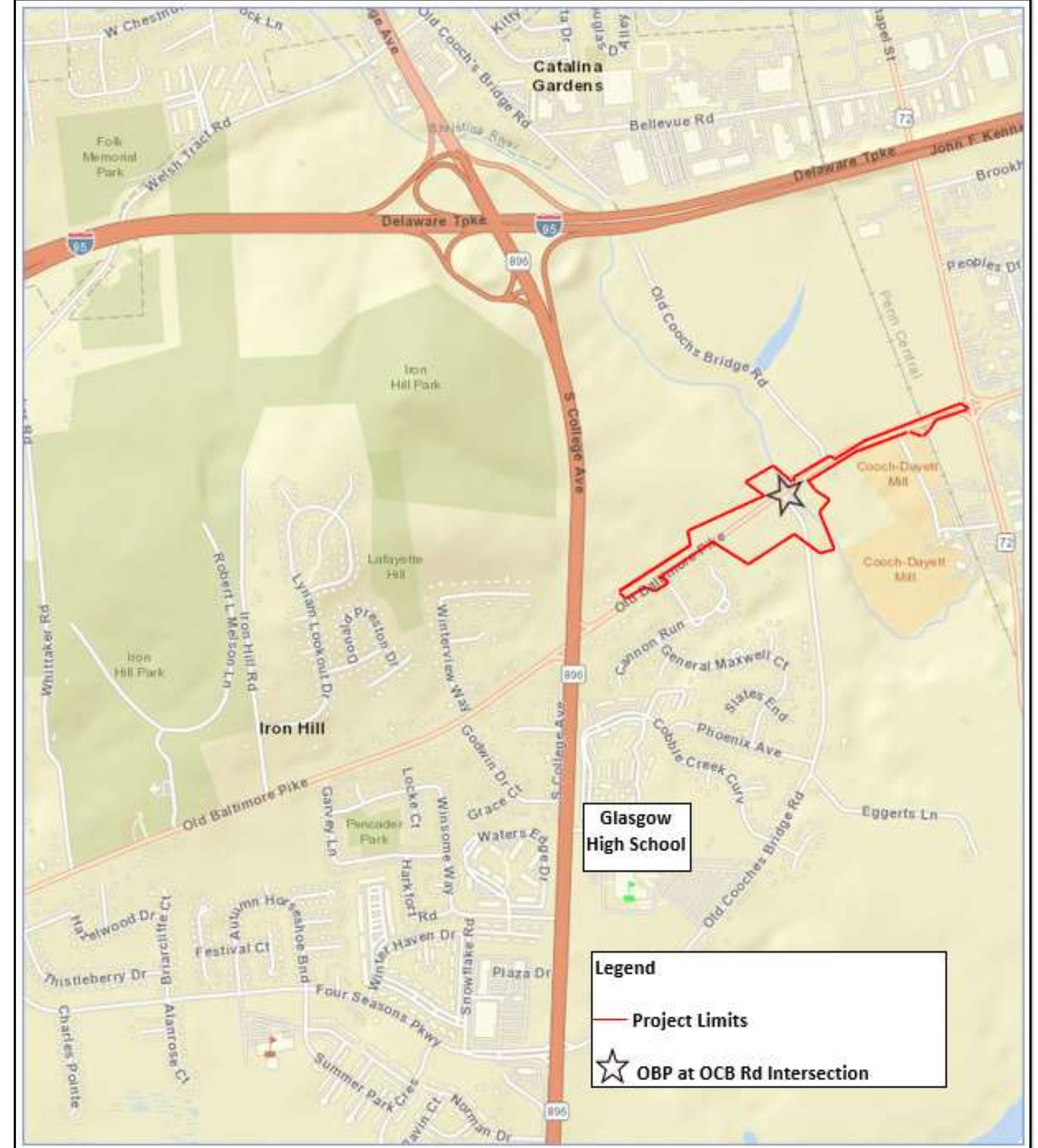
T202107101

Old Baltimore Pike, Battle Drive to SR 72

Project Location



Study Area



T202107101

Old Baltimore Pike, Battle Drive to SR 72

Purpose

The purpose of the project is to reduce congestion and improve mobility for all users within the study area and improve the bridges to a “good” condition rating to extend the lifespan of the structures. Addressing substandard geometric, structural, and operational conditions along the corridor will result in a benefit from a safety perspective.



Need

The project need arises from the deficiencies associated with substandard geometric conditions, including narrow travel lanes and shoulders along the corridor and on the bridges, structural deficiencies, non-compliant roadside safety features and unprotected hazards within the clear zones, a lack of multimodal accommodations within the study area, and intersection capacity and traffic operations.

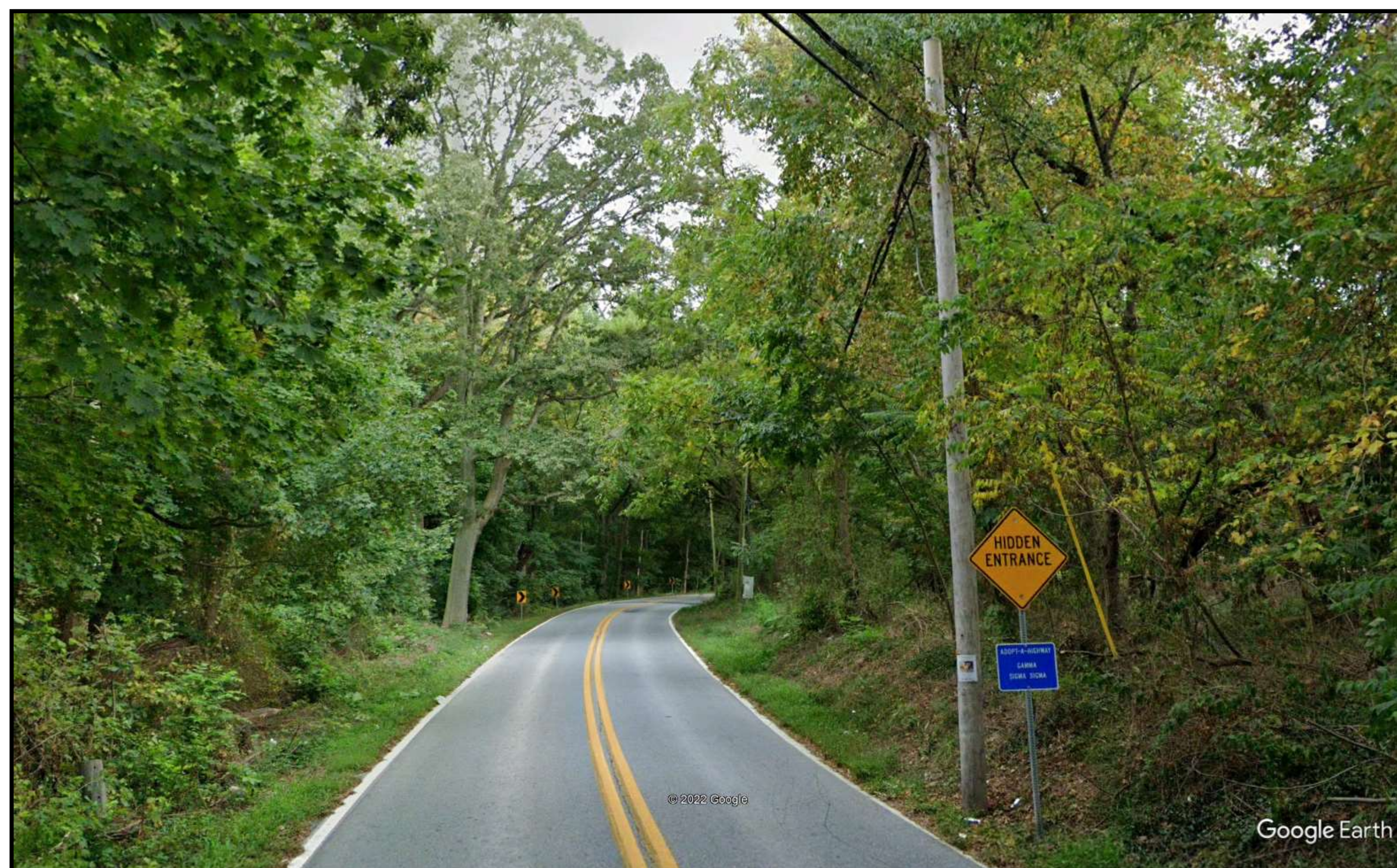
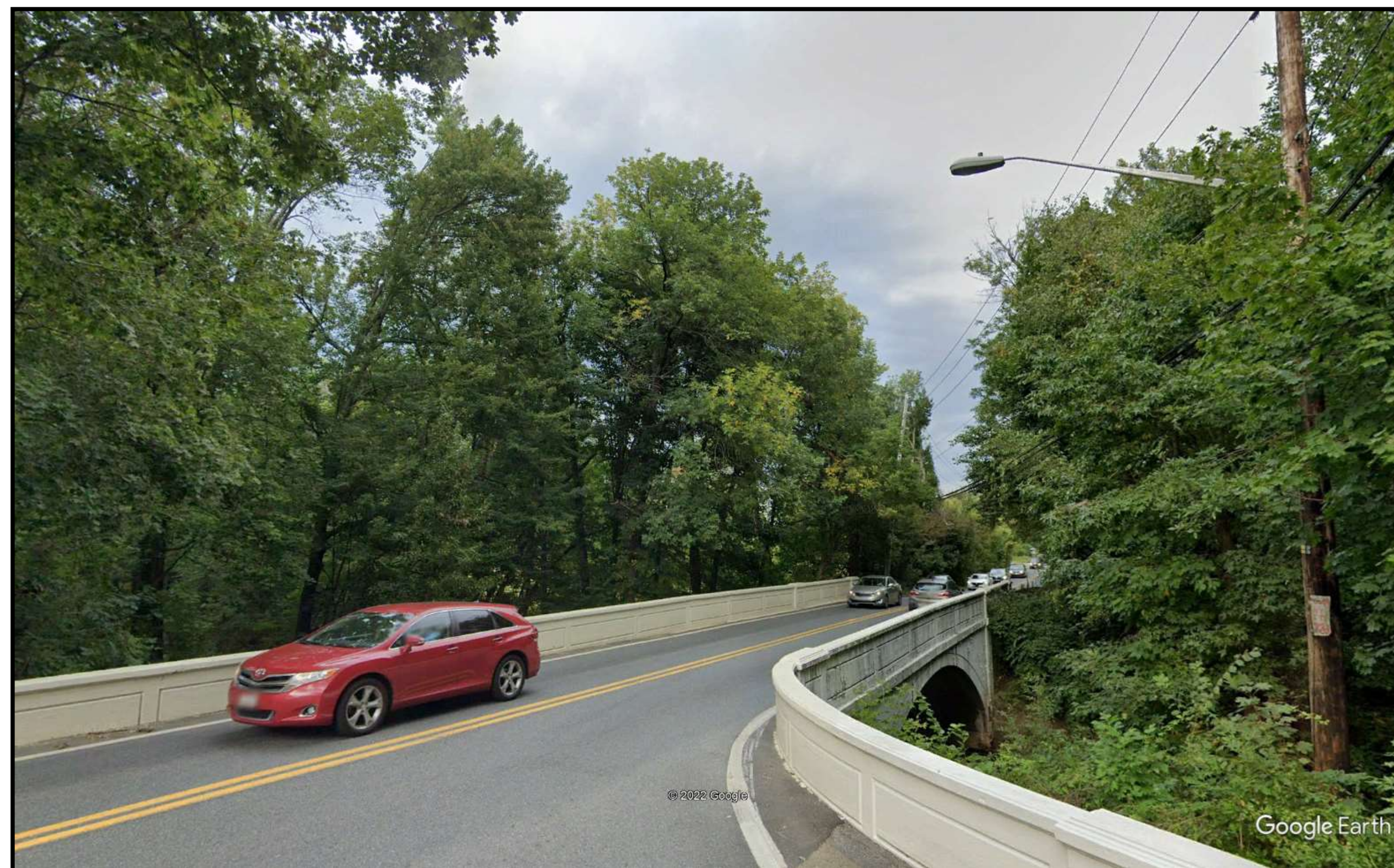


T202107101

Old Baltimore Pike, Battle Drive to SR 72

Substandard Geometric Conditions Inadequate Sight Distances

Inadequate sight distances exist for vehicles operating at the Old Baltimore Pike and Old Coochs Bridge Road intersection and along the two roadways, notably eastbound Old Baltimore Pike between the Christina River and Dayett Mill Road. Narrow Travel lanes with minimal to no shoulders also exist along both roadways.



The Project Team coordinated with the Christina School District regarding bus routes in the area, notably for Glasgow High School and residential developments along Old Coochs Bridge Road. They do not route any buses to use the intersection of Old Baltimore Pike and Old Coochs Bridge Road due to operational concerns. If the intersection were improved, they indicated that more efficient bus routes may be possible.



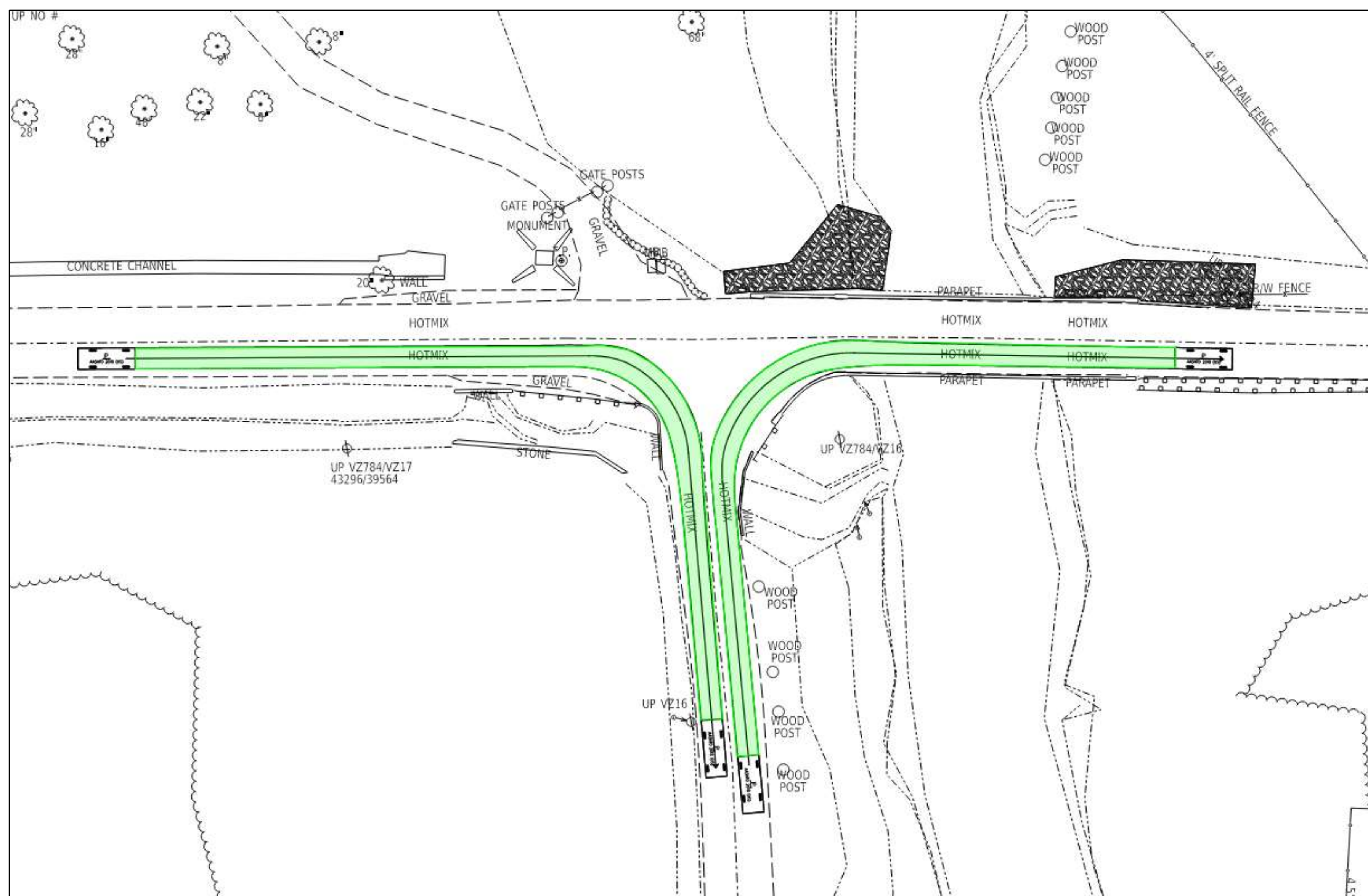
T202107101

Old Baltimore Pike, Battle Drive to SR 72

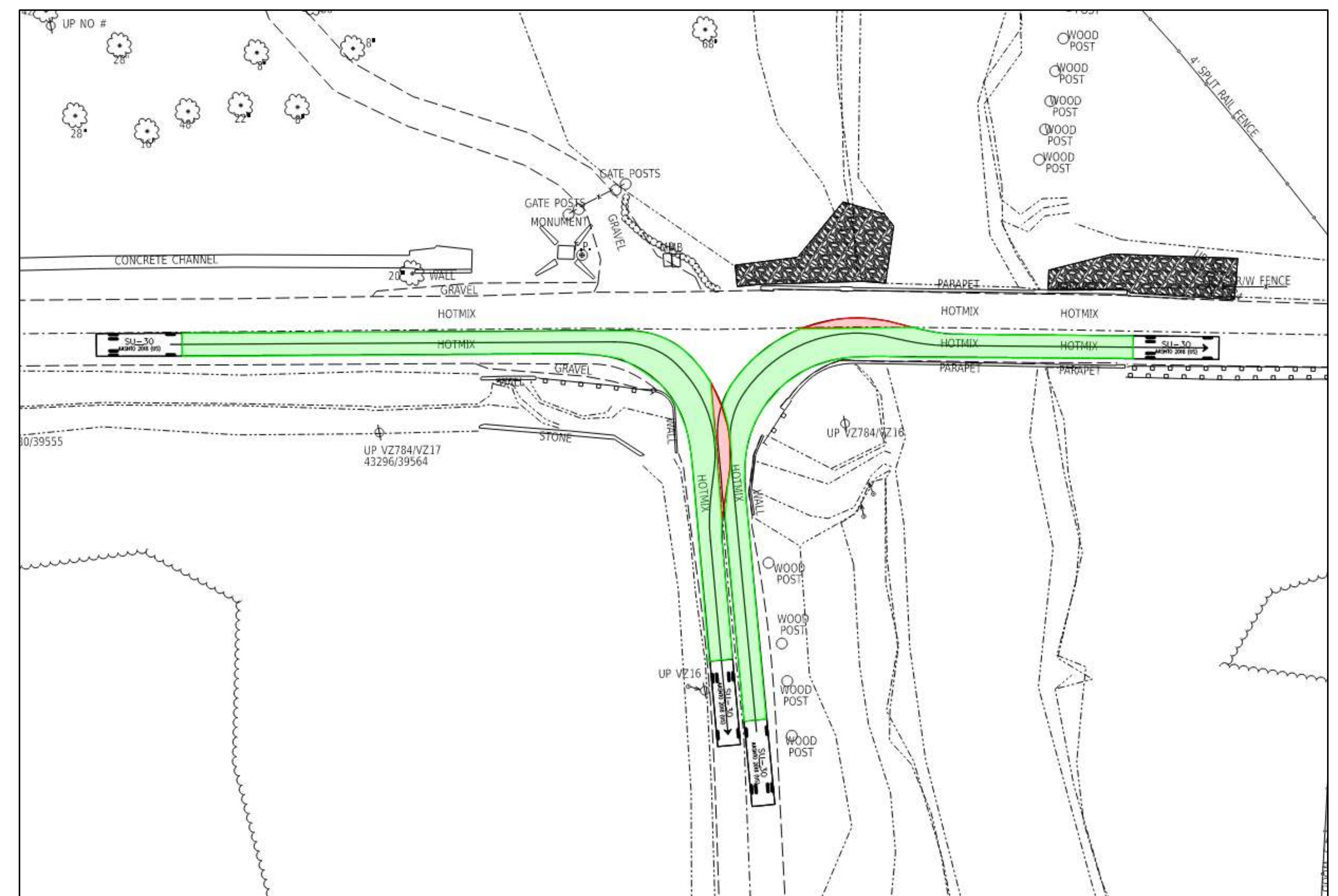
Substandard Geometric Conditions

Inadequate Turning Geometry at the OBP and OCB Rd intersection

Vehicles larger than a Passenger vehicle cannot make the Old Coochs Bridge Road Northbound right turn movement or the Old Baltimore Pike East Bound right turn movement without encroaching into the travel lane of opposing vehicles.



Passenger Vehicle Turning Template



Single-Unit Turning Template

Note: Both show ideal turning movement without driver shying away from fixed objects adjacent to travel way at this location.

T202107101

Old Baltimore Pike, Battle Drive to SR 72

Structural Deficiencies

Substandard Bridge Parapets & Barriers

Existing bridge parapets and barriers on the roadways approaching the bridges, and existing guardrail and guardrail end treatments do not meet current design and crash standards.



*Bridge 1-337 Old Coochs
Bridge Road: NB Parapet
Vehicle Impact January 2023*



T202107101

Old Baltimore Pike, Battle Drive to SR 72

Unprotected Hazards within Clear Zone

Rigid objects and other hazardous roadside conditions are located within the clear zone



Lack of Multimodal Accommodations

No bicycle or pedestrian facilities exist within the project limits



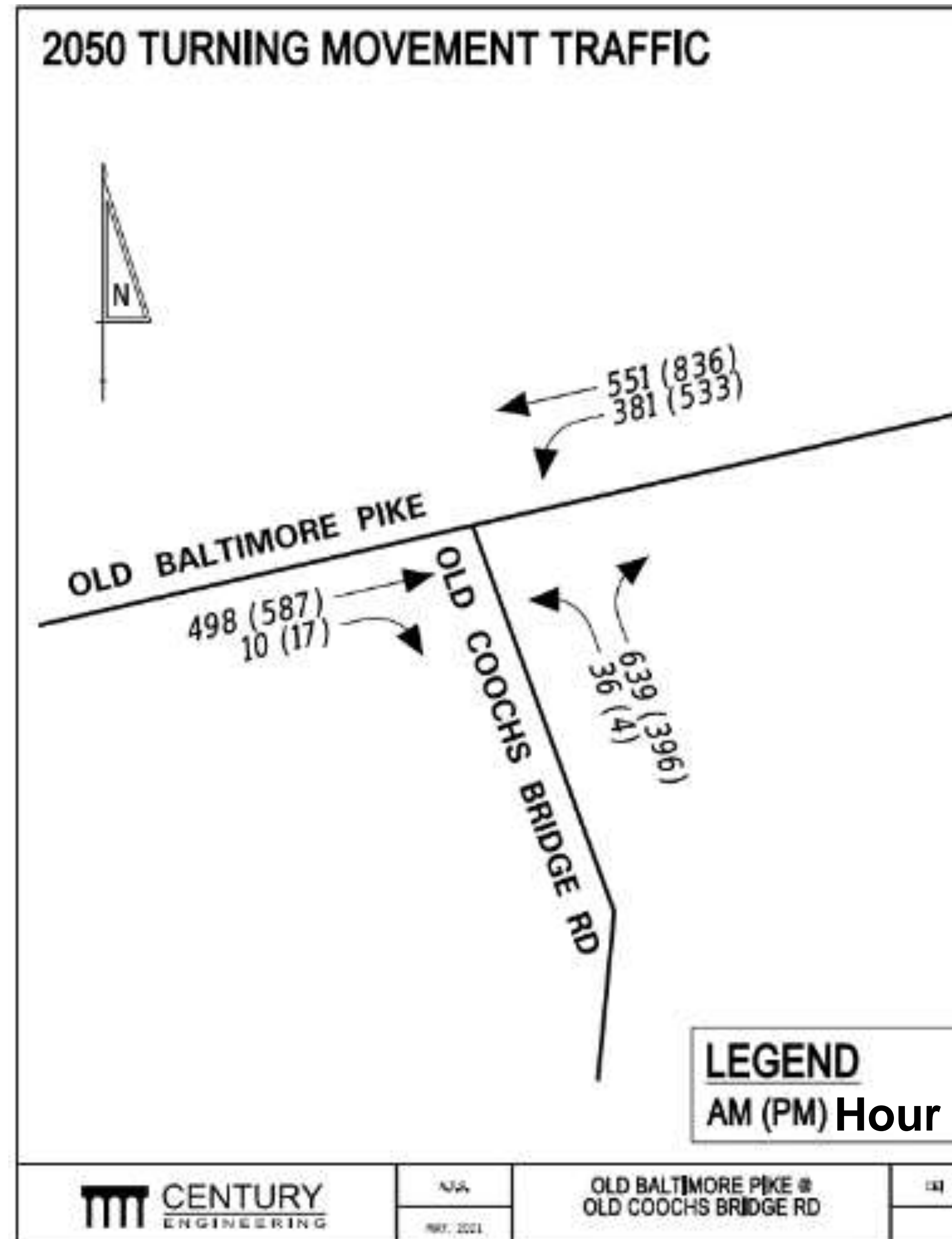
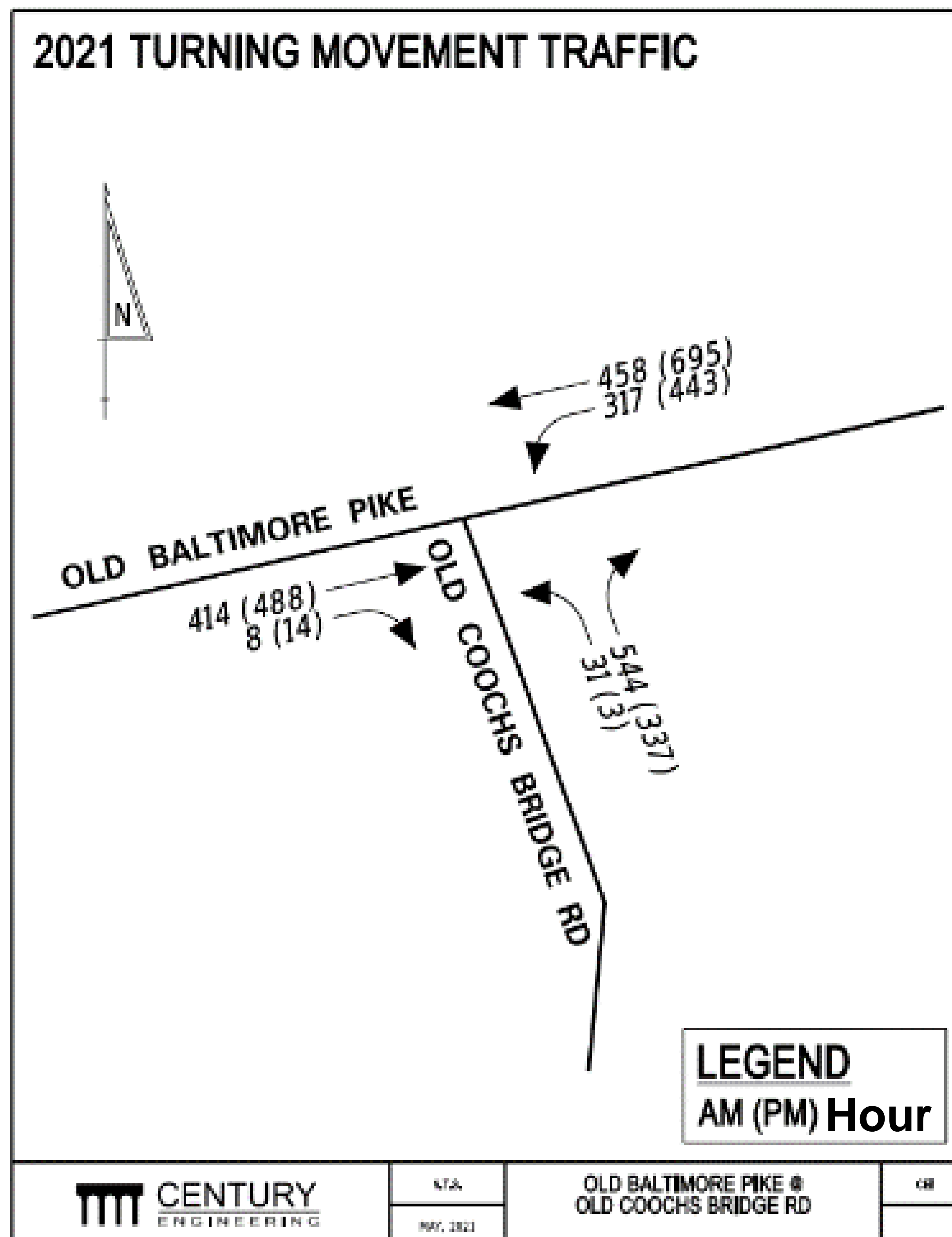
T202107101

Old Baltimore Pike, Battle Drive to SR 72

Intersection Capacity and Traffic Operations

Average Daily Traffic 2021 & 2050

Road	2021 AADT (veh/day)	2050 AADT (veh/day)
OBP	15,080	18,141
OCB Road	8,121	9,534



T202107101

Old Baltimore Pike, Battle Drive to SR 72

Old Coochs Bridge Road

2021 Traffic Conditions

AM Peak: Northbound Approach

LOS F (228.4 seconds delay)

95th Percentile queue of 758 feet

PM Peak: Northbound Approach

LOS E (41.7 seconds delay)

95th percentile queue of 190 feet

Overall intersection delay 75.8
seconds

2050 No-Build Traffic Conditions

AM Peak: Northbound Approach

LOS F (659.4 seconds delay)

95th Percentile queue of 1,415 feet

PM Peak: Northbound Approach

LOS E (44.7 seconds delay)

95th percentile queue of 238 feet

Overall intersection delay 211.8
Seconds

The intersection experiences significant delays on the northbound OCB Road approach and results in lengthy queues due to the limited capacity as a result of the geometric conditions.



T202107101

Old Baltimore Pike, Battle Drive to SR 72

Old Baltimore Pike

2021 Traffic Conditions

AM Peak: Westbound Left-turn
LOS A (9.6 seconds delay)
95th percentile queue of 33 feet

PM Peak: Westbound Left-turn
LOS B (11.0 seconds delay)
95th percentile queue of 33 feet

Overall intersection delay 9.6
seconds

2050 No-Build Traffic Conditions

AM Peak: Westbound Left-turn
LOS B (10.7 seconds delay)
95th percentile queue of 48 feet

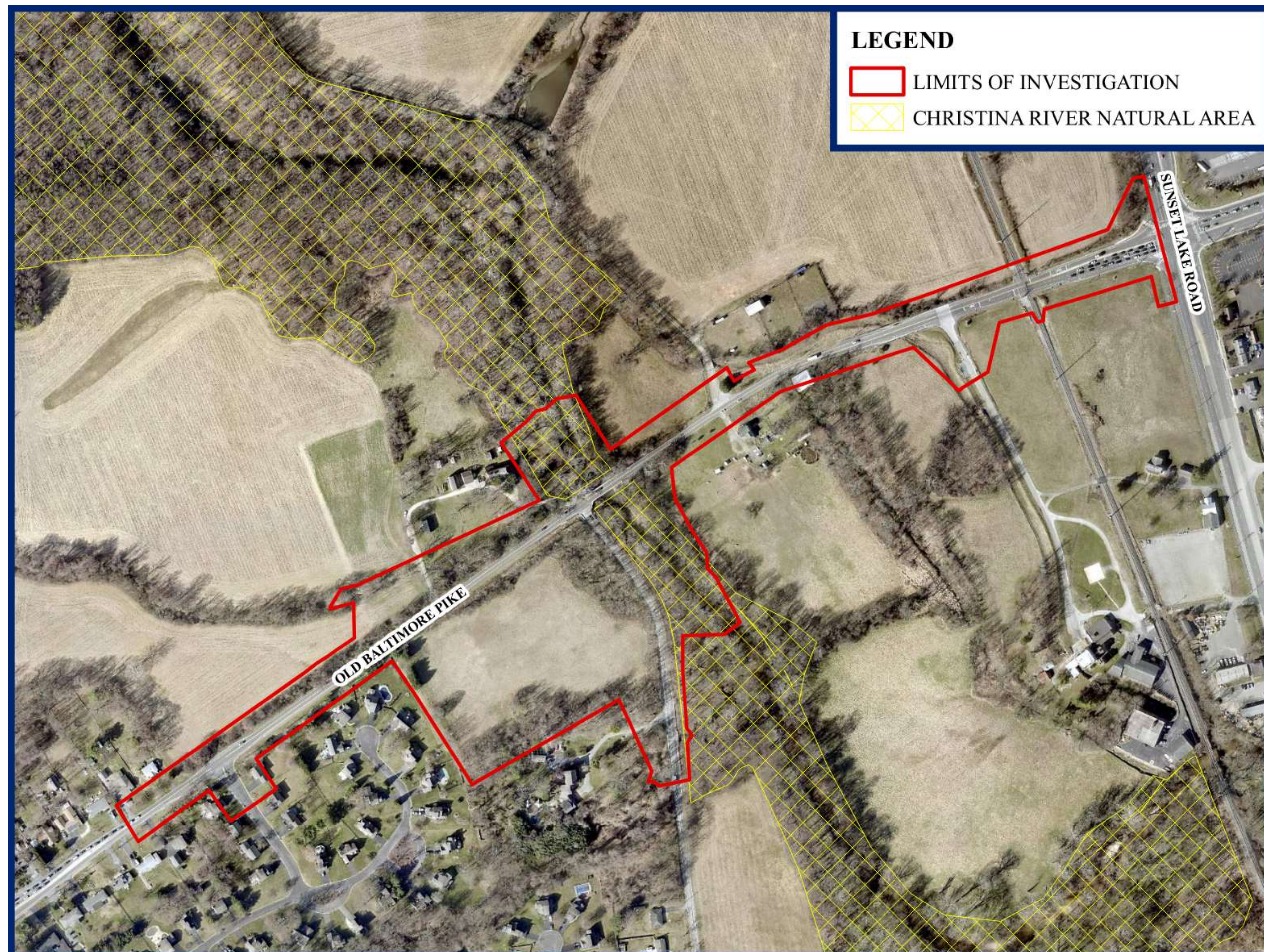
PM Peak: Westbound Left-turn
LOS B (13.6 seconds delay)
95th percentile queue of 33 feet

Overall intersection delay 10.9
seconds



T202107101

Old Baltimore Pike, Battle Drive to SR 72



T202107101

Old Baltimore Pike, Battle Drive to SR 72



October 30, 2023

No State-Rare or Federally Listed Plants, Animals or Natural Communities

Does Not Lie within State Heritage Site or within Delaware National Estuarine Research Reserve

May be suitable Habitat for Federally-Listed Bog Turtle

- Best to Conduct Work during Hibernation Period Nov 15th – Feb 28th
- Active Season Guidance March 1st – November 14th includes use of a Silt Fence around LOD, and Search of LOD Prior to Use of Heavy Equipment
- All work Conducted by a Qualified Bog Turtle Surveyor

Fisheries-Smalley's Pond Dam, No Fish Ladder, No Time of Year Restrictions for Anadromous or Resident Gamefish

Bridges Not Surveyed for Nesting Migratory Birds

- Barn Swallow
- Eastern Phoebe

Survey to be Performed if Construction During Breeding Season

- April 15 – August 1

Tree Survey required to Identify High Ecological Quality Prior to Tree Clearing

July 6, 2021

Avoid Impacts to Christina River Natural Area to Best Ability

Make Efforts to Avoid Impacts to State Rare and/or Federally Listed Plants, Animals, and /or Natural Communities

Design of Culverts Shall Promote Passage of Aquatic Organisms



July 2021

No Effect on Endangered, Threatened, or Candidate Species

Coordination continuing with DNREC, USFWS & DelDOT ESO, including potential for Northern Long Eared Bat Habitat



T202107101

Old Baltimore Pike, Battle Drive to SR 72

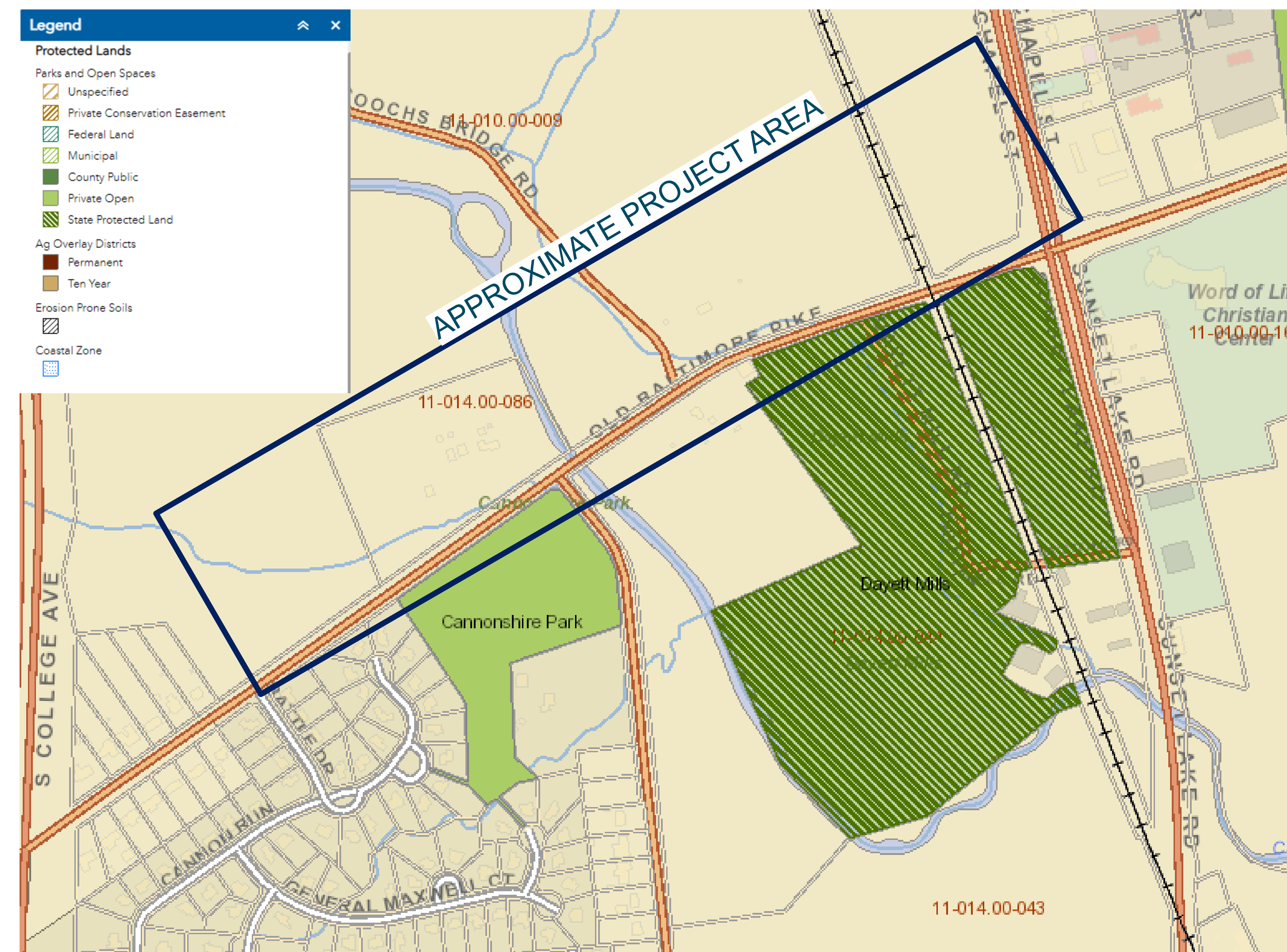
Wetlands & Waters of the US



T202107101

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Active Farmlands and Other Protected Lands



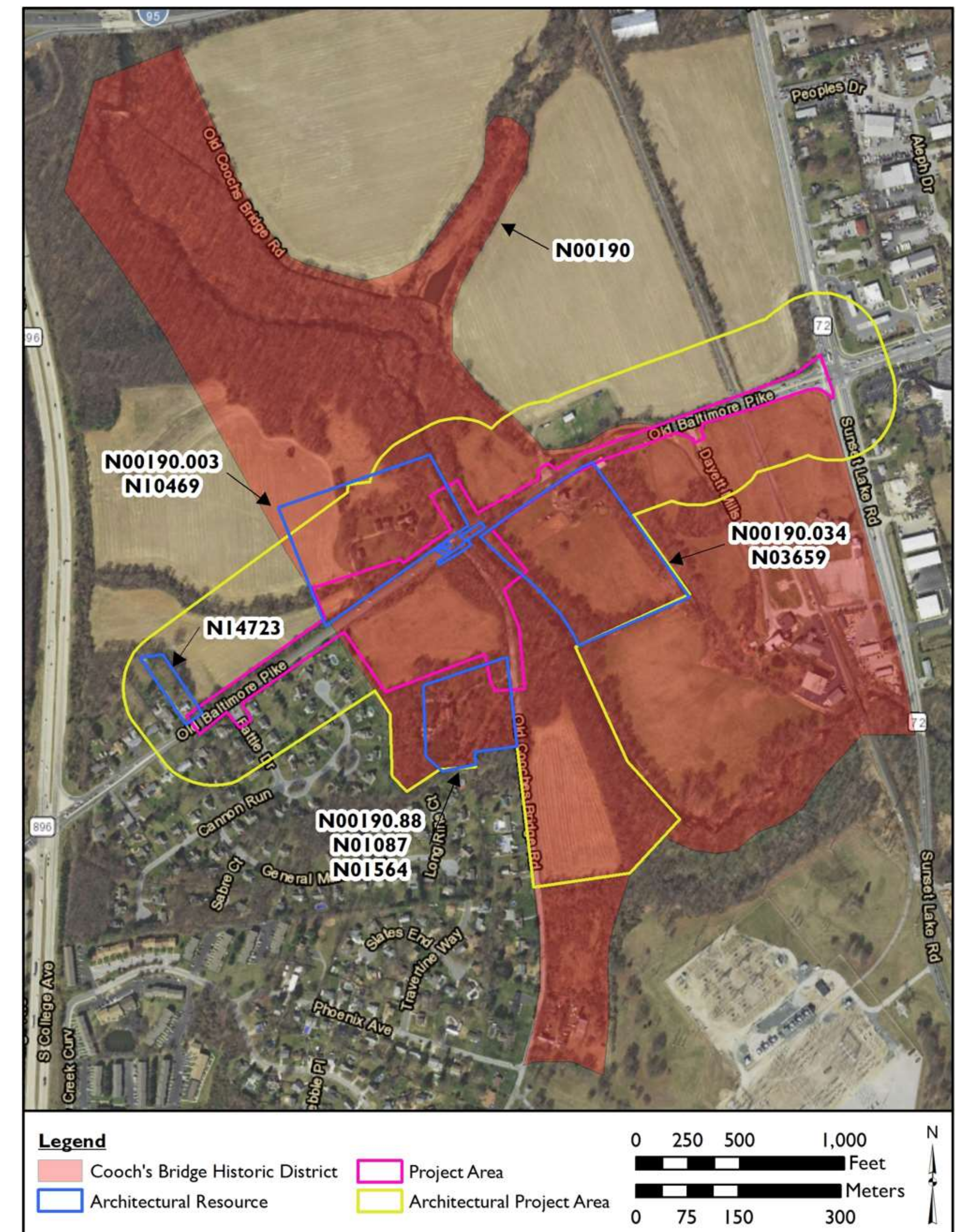
T202107101

Old Baltimore Pike, Battle Drive to SR 72

Historic Architectural Resources

Portions of the National Register Cooch's Bridge Historic District are included in the Project Area. The district is associated with the Revolutionary War Battle of Cooch's Bridge and the prominent family who owned the property and engaged in agricultural and early industrial pursuits.

The historic district is made up of contributing elements that are listed on the National Register as important to telling the story of why the district is important. There are also resources, such as the Cooch House and Coochs Bridge (Br 1-336), that contribute to the district but are important on their own. The bridge on Old Coochs Bridge Road near the intersection (Br 1-337) is also individually eligible. All resources listed on the National Register individually or as contributing elements to the historic district are treated the same by Section 106 of the National Historic Preservation Act.



T202107101

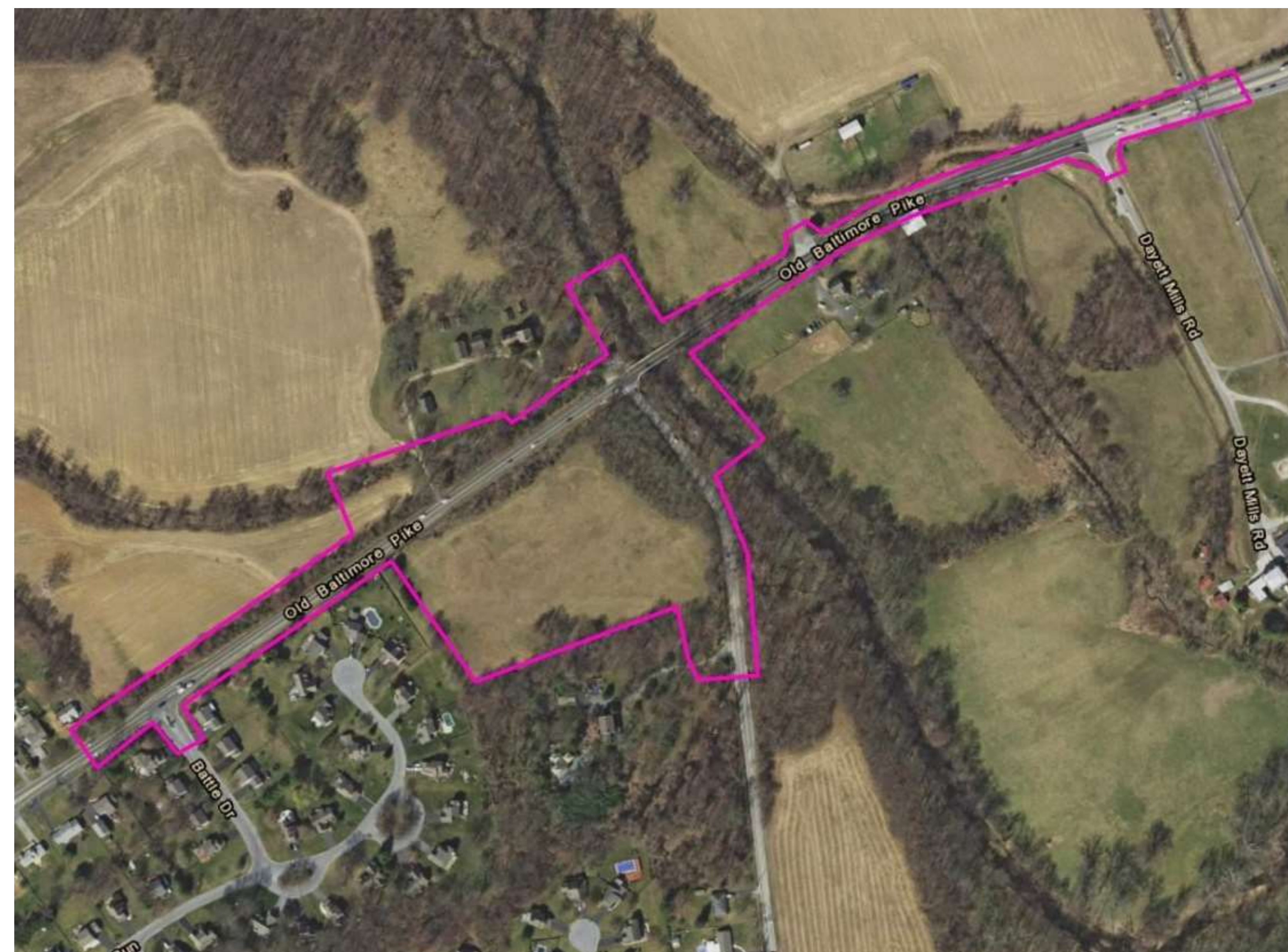
Old Baltimore Pike, Battle Drive to SR 72

Archaeology Next Steps

Phase IA Archaeological Reconnaissance Survey was conducted of the 17.8 acre project area.

The final report recommends a total of 11.7 acres as having potential to contain intact and significant archaeological resources.

Additional investigations will be conducted as project design and alternative development progresses in addressing the project purpose and need.

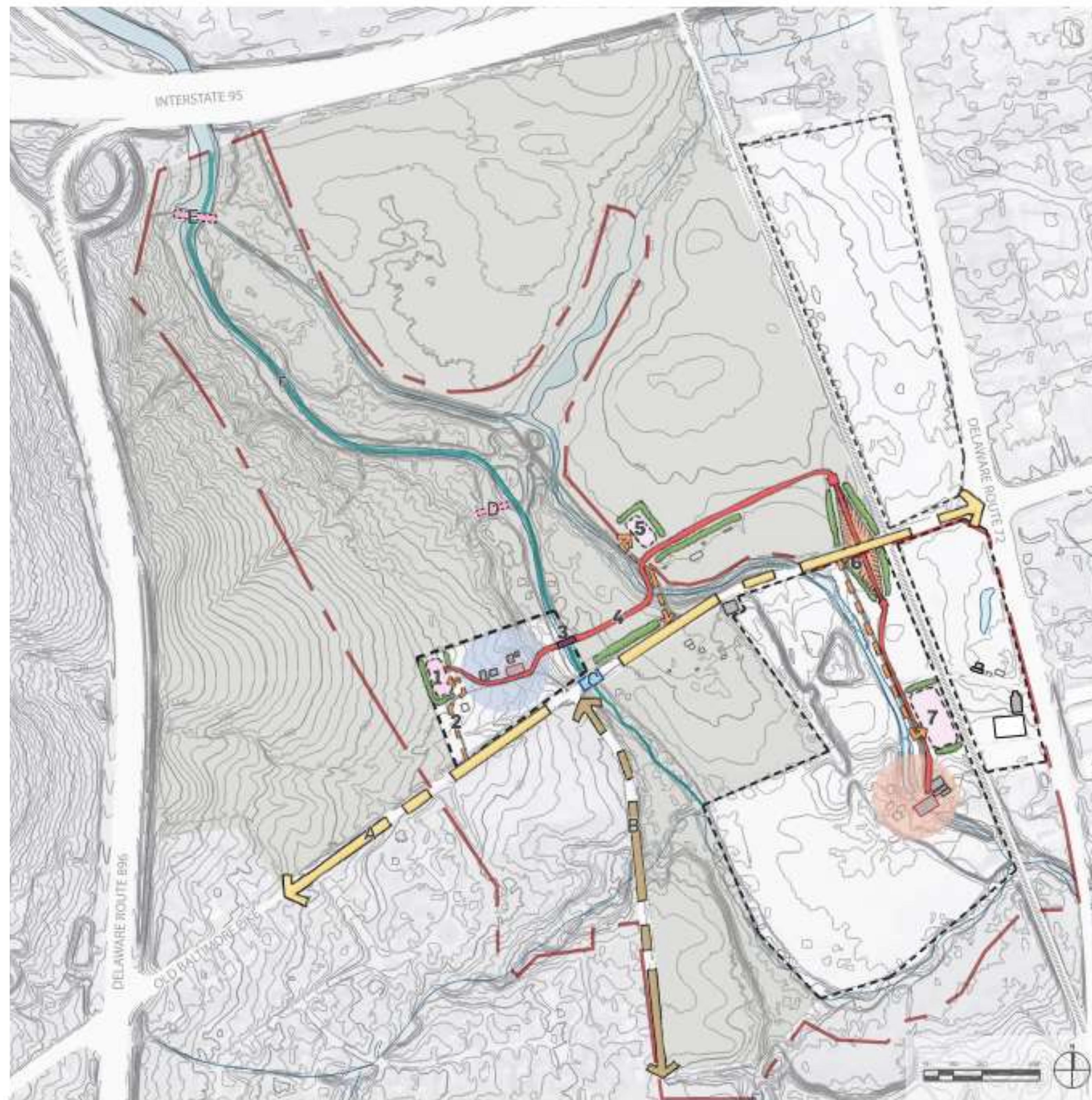


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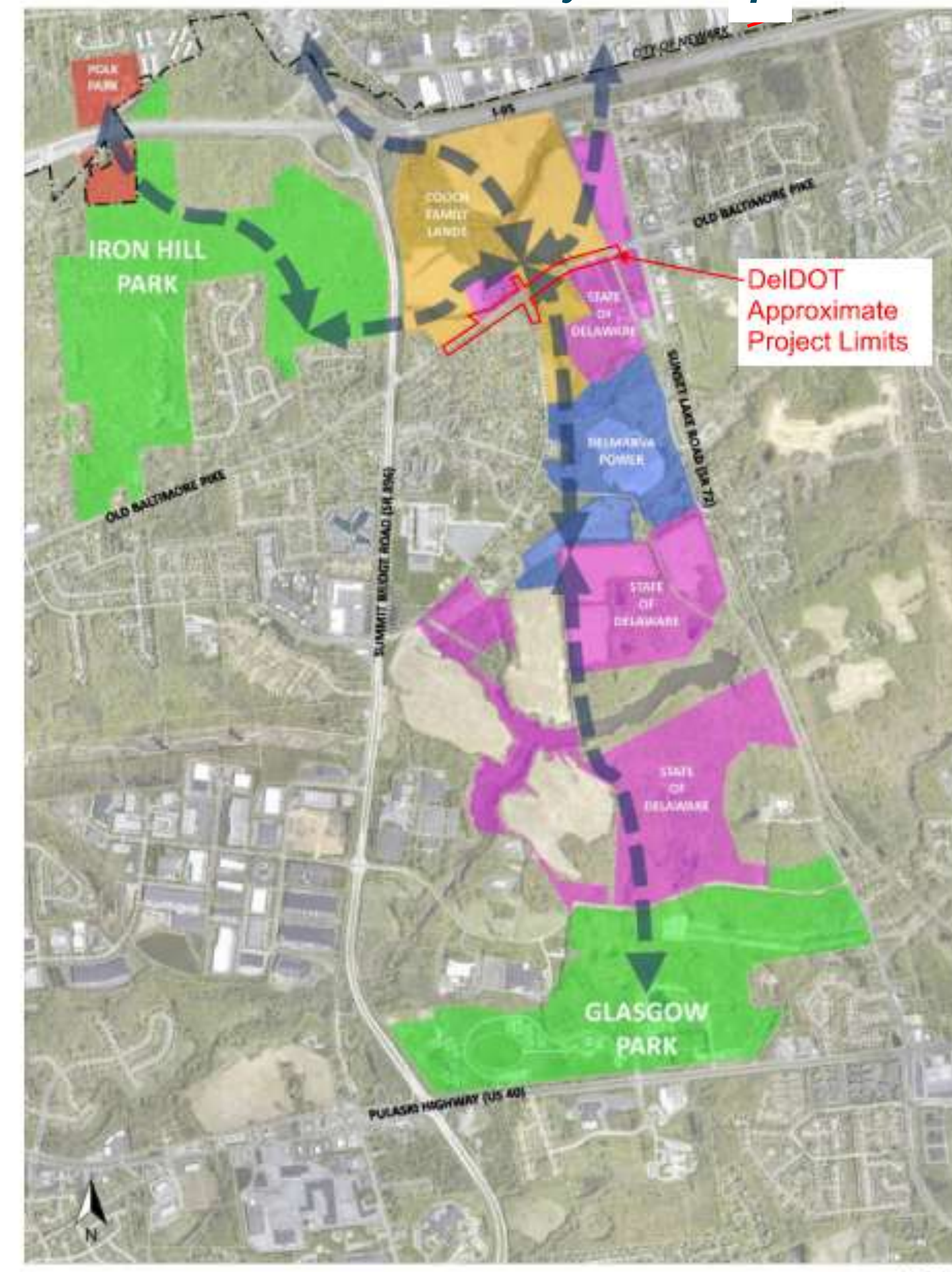
Old Baltimore Pike, Battle Drive to SR 72

Area Project Coordination

Delaware Division of Historical and
Cultural Affairs
2021 INITIATIVES PLAN



New Castle County
*Iron Hill Park to Glasgow Park
Corridor Pathways Concept*



Note: Addressing the project's Purpose and Need has the potential to help meet the project goals of these projects.



T202107101

Old Baltimore Pike, Battle Drive to SR 72

12 Alternatives Evaluated

The Following 7 Alternatives Were Not Carried Forward for Further Study*

- **Alternative 1B: Old Coochs Bridge Road Shifted 150 Feet West; Widen About Centerline**
Shared Use Path on South Side of Old Baltimore Pike
- **Alternative 2B: Improvements at Existing Intersection; Widen North**
Shared Use Path on South Side of Old Baltimore Pike
- **Alternative 3A: Improvements at Existing Intersection; Widen South**
Shared Use Path on North Side of Old Baltimore Pike
- **Alternative 3B: Improvements at Existing Intersection; Widen South**
Shared Use Path on South Side of Old Baltimore Pike
- **Alternative 4B: Improvements at Existing Intersection; Widen South**
Similar to Alternative 3B, but Avoids Block Mill Building
Shared Use Path on South Side of Old Baltimore Pike
- **Alternative 5A: Roundabout - Improvements at Existing Intersection**
Shared Use Path on North Side of Old Baltimore Pike
- **Alternative 5B: Roundabout - Improvements at Existing Intersection**
Shared Use Path on South Side of Old Baltimore Pike

*Not carried forward because:

- Inability to adequately meet project need and/or Significant Impacts to Resources
- Standard procedure to initially develop and review multiple alternatives and identify those to not pursue further.

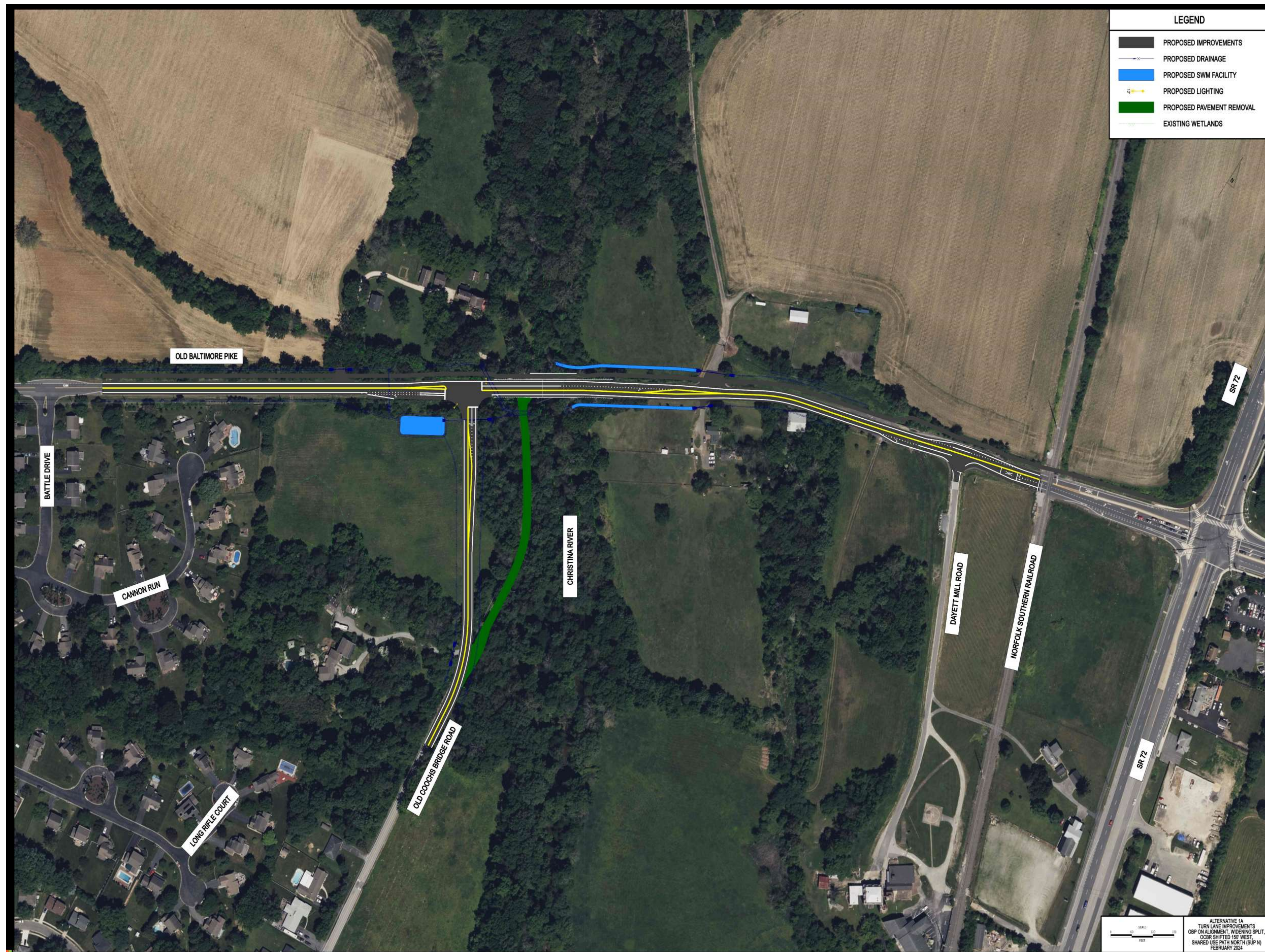


T202107101

Old Baltimore Pike, Battle Drive to SR 72

Alternative Carried Forward

Alternative 1A: Old Coochs Bridge Road Shifted 150 Feet West Shared Use Path North Side of Old Baltimore Pike



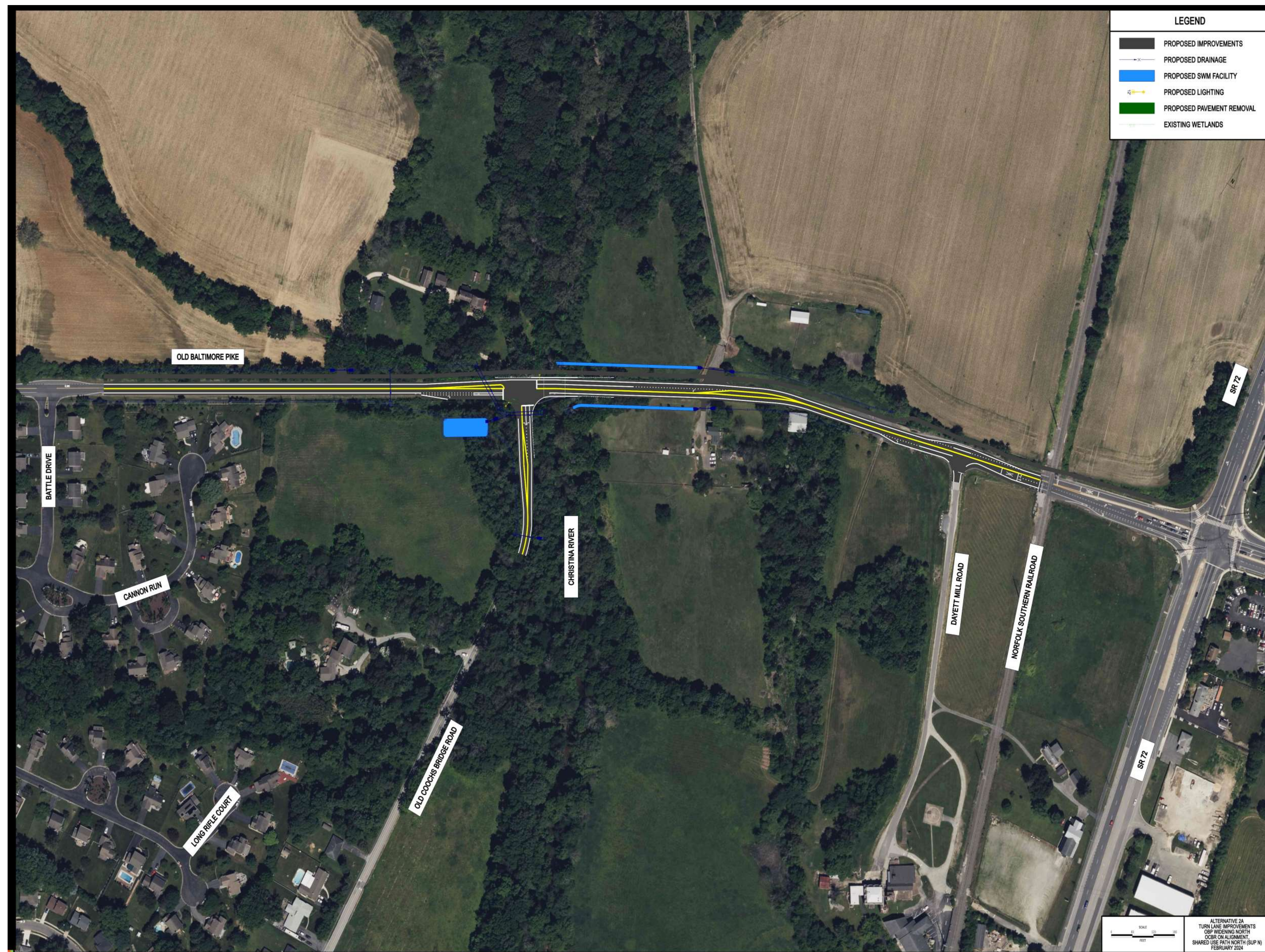
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Alternative Carried Forward

Alternative 2A: Improvements at Existing Intersection

Shared Use Path North Side of Old Baltimore Pike

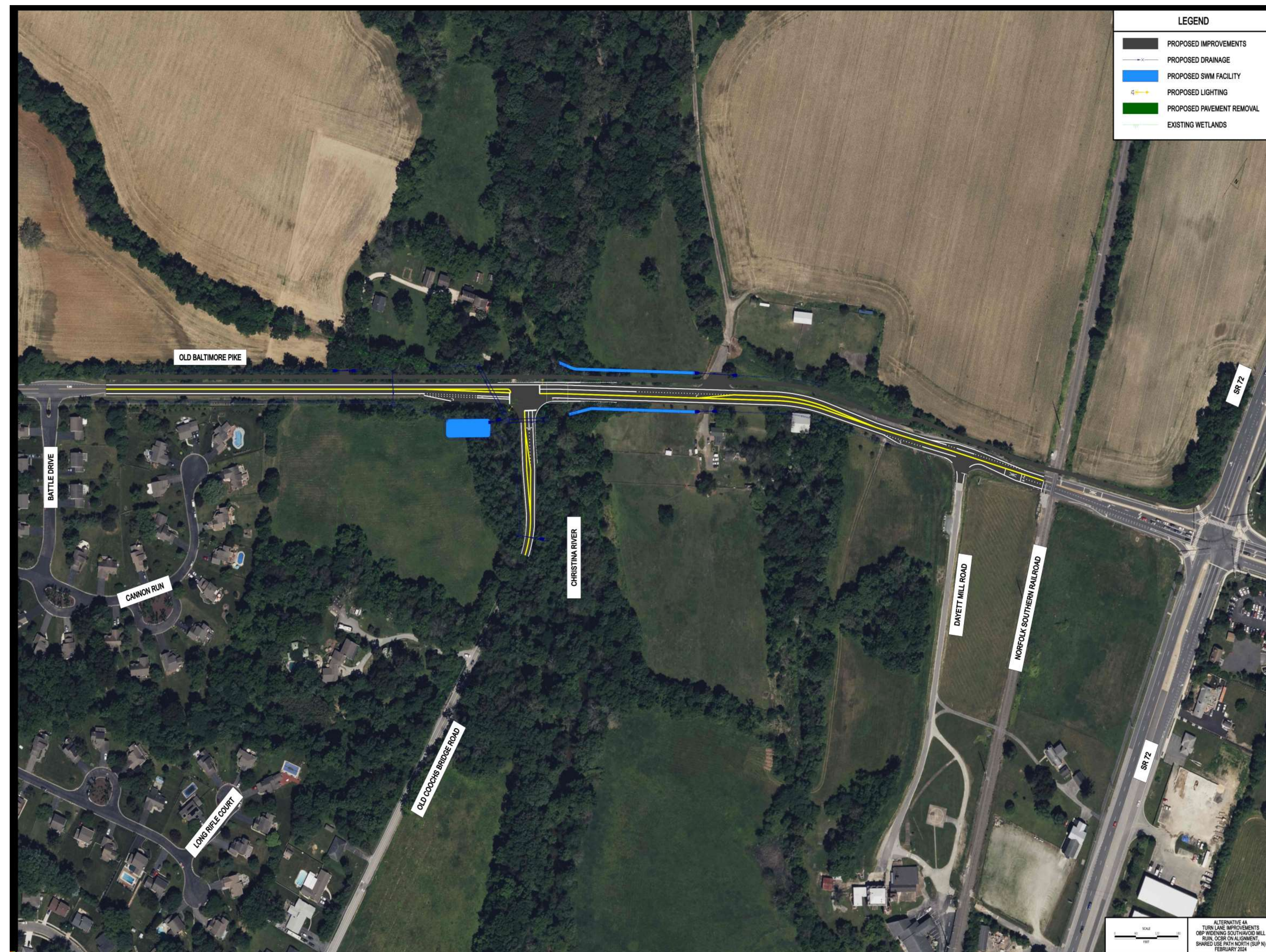


T202107101

Old Baltimore Pike, Battle Drive to SR 72

Alternative Carried Forward

Alternative 4A: Improvements at Existing Intersection
(Similar to Alternative 2A but Old Baltimore Pk widened 5-8 feet south)
Shared Use Path North Side of Old Baltimore Pike

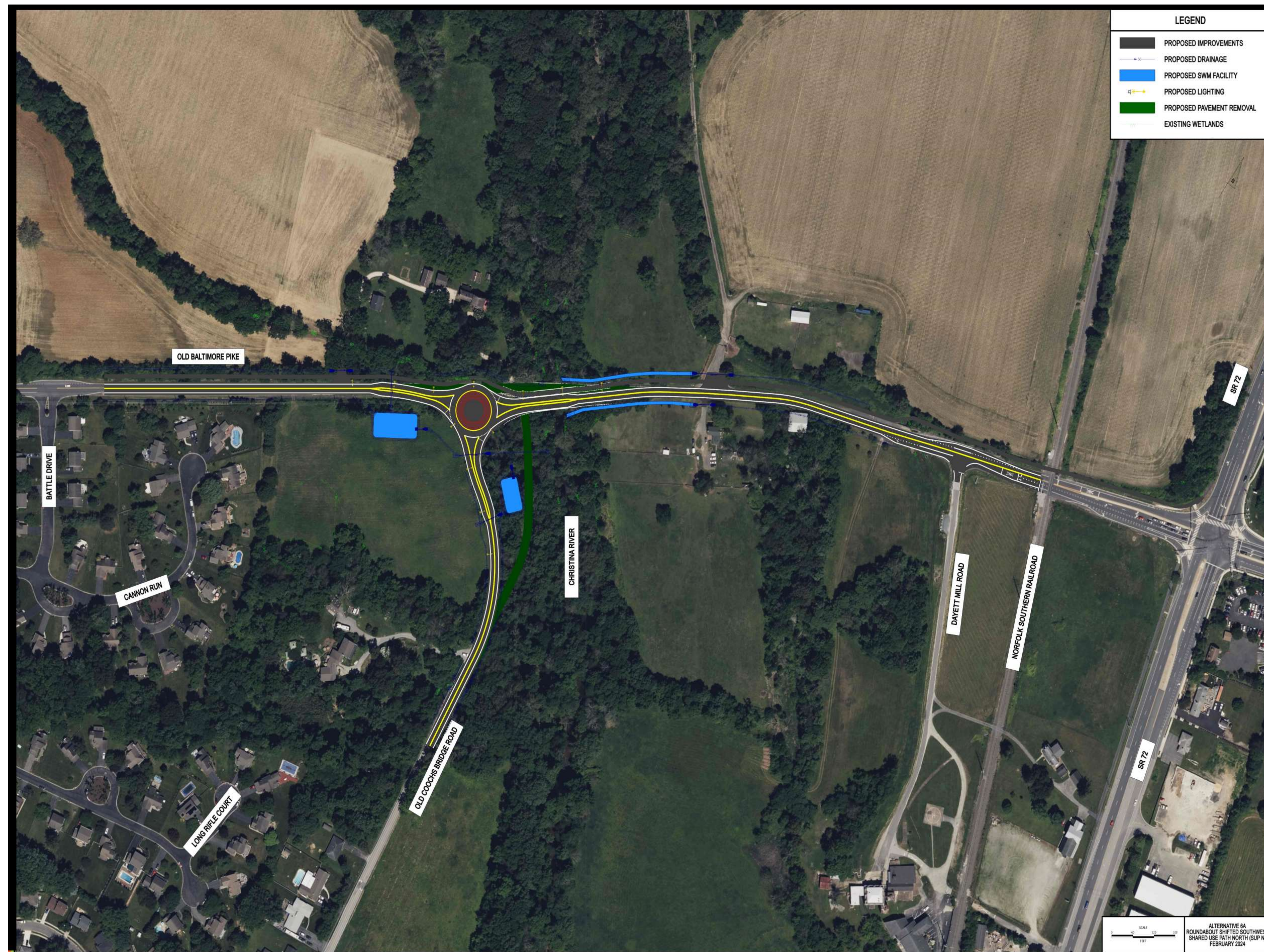


T202107101

Old Baltimore Pike, Battle Drive to SR 72

Alternative Carried Forward

Alternative 6A: Roundabout – Old Coochs Bridge Road Shifted 150 Feet West
Shared Use Path North Side of Old Baltimore Pike

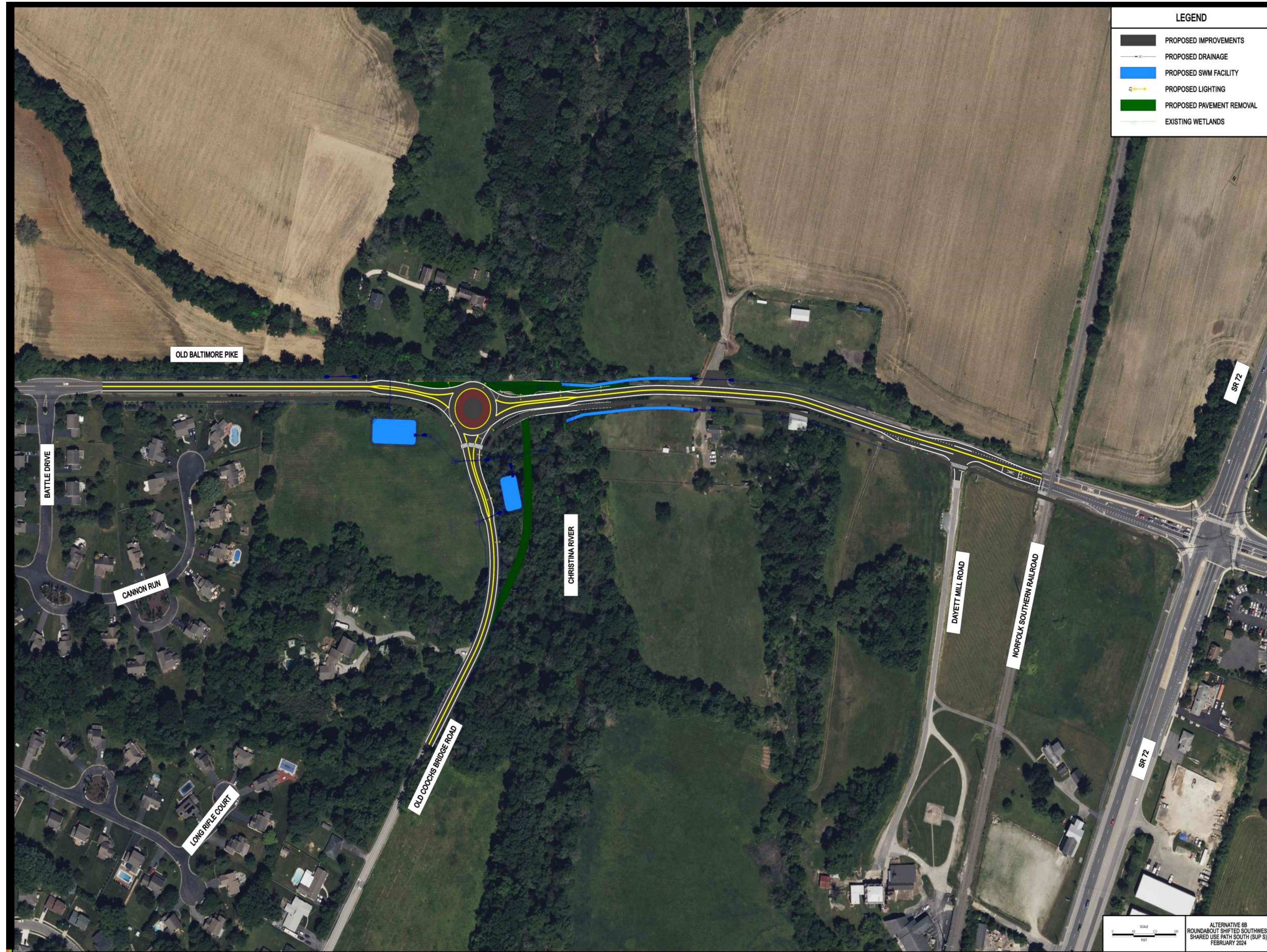


T202107101

Old Baltimore Pike, Battle Drive to SR 72

Alternative Carried Forward

Alternative 6B: Roundabout – Old Coochs Bridge Road Shifted 150 Feet West Shared Use Path South Side of Old Baltimore Pike



T202107101

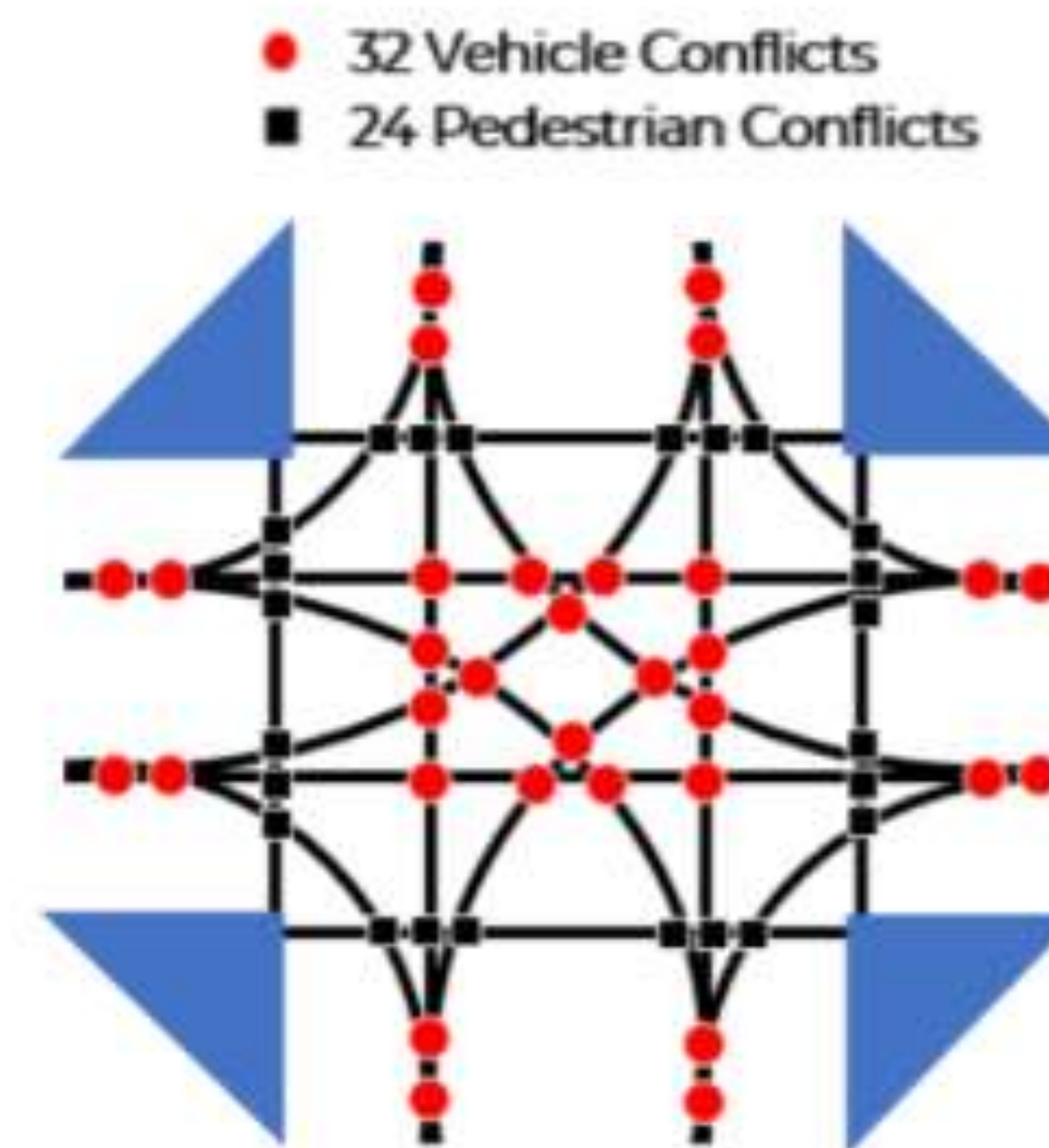
Old Baltimore Pike, Battle Drive to SR 72

Roundabout Characteristics

- **Speeding**
 - With channelized, curved approaches; vehicle speed is reduced on the entry and exit points.
- **Turning Movements**
 - 75% fewer conflict points than a typical 4-way intersection; which reduces the amount of crash types.
 - The reduced speed also means a 78%-82% reduction in fatal and injury crashes.
- **Visibility**
 - Only have a single counterclockwise flow of traffic which reduces the amount of roadway a driver needs to review prior to entering, which is improved over having to check for vehicles in multiple directions.



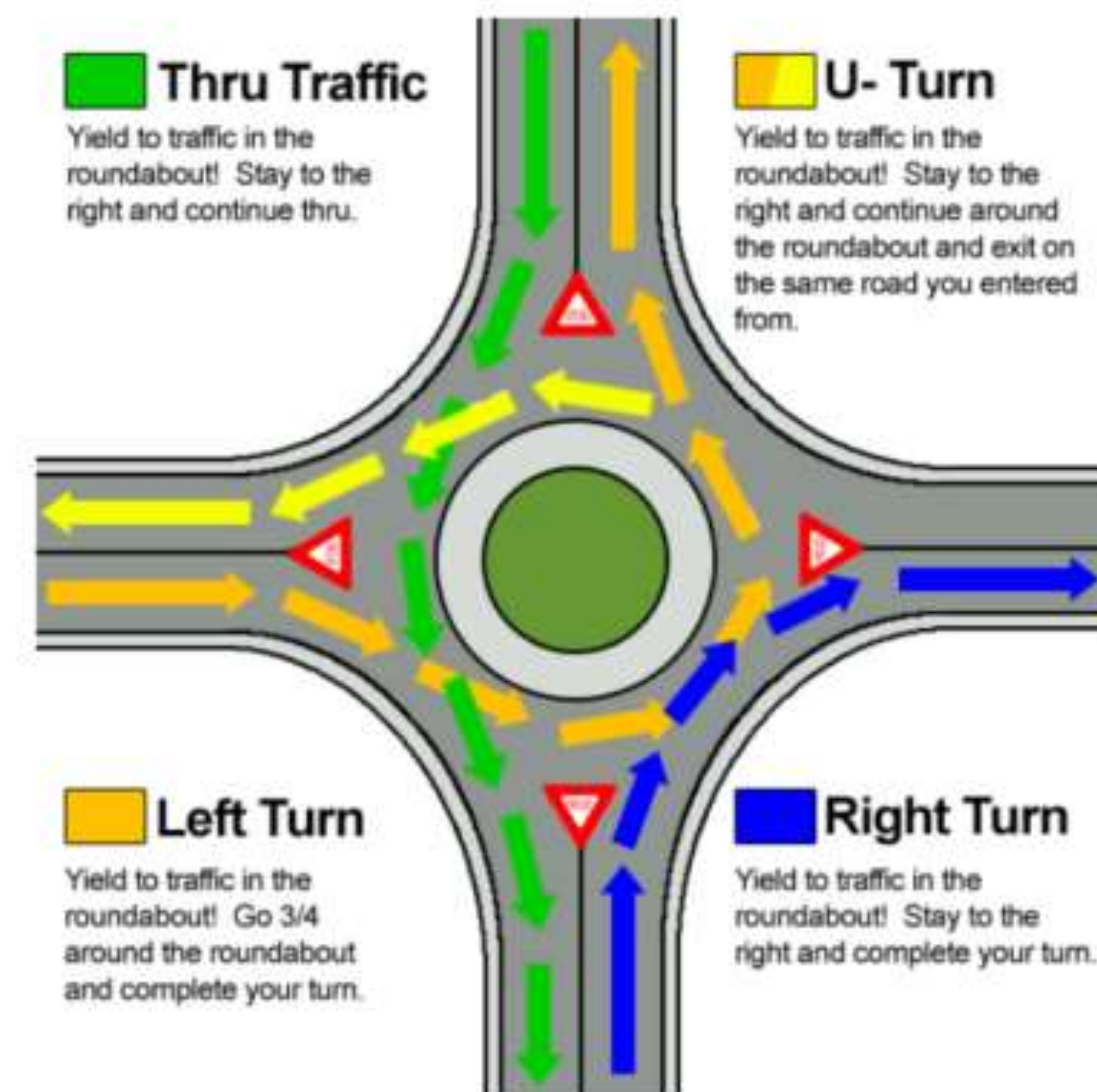
DelDOT



• 32 Vehicle Conflicts
■ 24 Pedestrian Conflicts



• 8 Vehicle Conflicts
■ 8 Pedestrian Conflicts



GPI
Greenman-Pedersen, Inc.

CENTURY
ENGINEERING
A Kleinfelder Company

DOVETAIL
CULTURAL RESOURCE GROUP

T202107101

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Impacts Matrix

RESOURCE		UNIT	NO BUILD	BUILD ALTERNATIVES				
				1A	2A	4A	6A	6B
				Turn Lane Improvements OBP on Alignment, widening split, OCBR shifted 150' West, SUP N	Turn Lane Improvements OBP Widening North OCBR on Alignment, SUP N	Turn Lane Improvements OBP Widening South/Avoid Block Building, OCBR on Alignment SUP N	Roundabout Shifted SW SUP N	Roundabout Shifted Southwest SUP S
Watercourses (Christina River)	Number	0		1	1	1	1	1
	Linear Feet	0		140	140	140	140	140
Watercourses (Tributaries)	Number	0		1	1	1	1	1
	Linear Feet	0		370	415	415	390	390
Floodplain Encroachment	Acres	0		3	2	2	3	3
Wetlands	Number	0		1	1	1	1	1
	Acres	0		0.06	0.07	0.09	0.01	0.01
Forests	Acres	0		1.72	1.09	1.30	1.68	1.88
Potential Hazardous and Residual Waste Sites	Number	0		2	2	2	2	2
Environmental Justice Communities	Number	0		0	0	0	0	0
Above-Ground Historic Resources Section 106*	Number	0		6	5	5	6	6
Archaeology Section 106*	Number	0		1#	1#	1#	1#	1#
Section 4(f) Resources**	Number	0		6	5	5	6	6
Natural Areas	Acres	0		0.27	0.29	0.25	0.19	0.26
ROW Acquisition Residential	Partial	Number	0	6	5	5	6	6
	Full	Number	0	0	0	0	0	0
ROW Acquisition Commercial	Partial	Number	0	0	0	0	0	0
	Full	Number	0	0	0	0	0	0
Estimated Total Project Cost		\$ million		\$14 million	\$14 million	\$14 million	\$15 million	\$15 million
Does this Alternative meet the Purpose and Need?			No	Yes	Yes	Yes	Yes	Yes

* These resources are protected under Section 106 of the National Historic Preservation Act of 1966 (NHPA)

** Includes only resources previously recorded. These resources are protected under Section 4(f) of the USDOT Act of 1966 (49 U.S.C., Section 103)

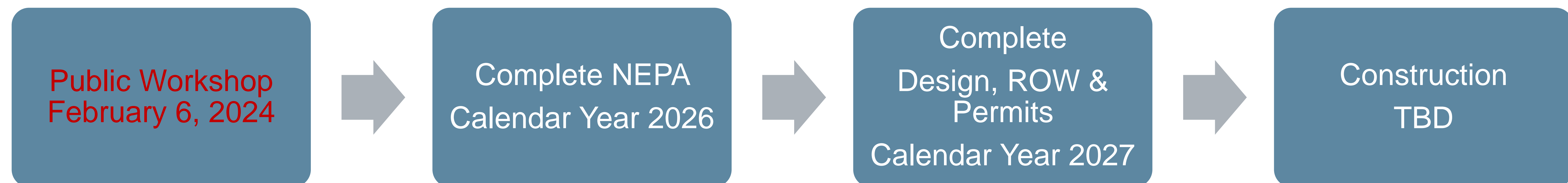
Archaeological resources only include those previously recorded; no project fieldwork has occurred.



T202107101

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TENTATIVE PROJECT SCHEDULE



Thank You

The Delaware Department of Transportation would like to thank you for your participation and contribution to this important project. Your comments and opinions are very important. All information received tonight will be carefully reviewed by the Project Team. Comments will be received during the workshop, submitted online or can be mailed to DeIDOT Community Relations, P.O. Box 778, Dover, DE 19903 or sent via email to dotpr@state.de.us. Under state law, this information is public domain, and if requested, a copy of it must be provided to the media or public.

