

V. SECTION 4(f) EVALUATION

A. INTRODUCTION

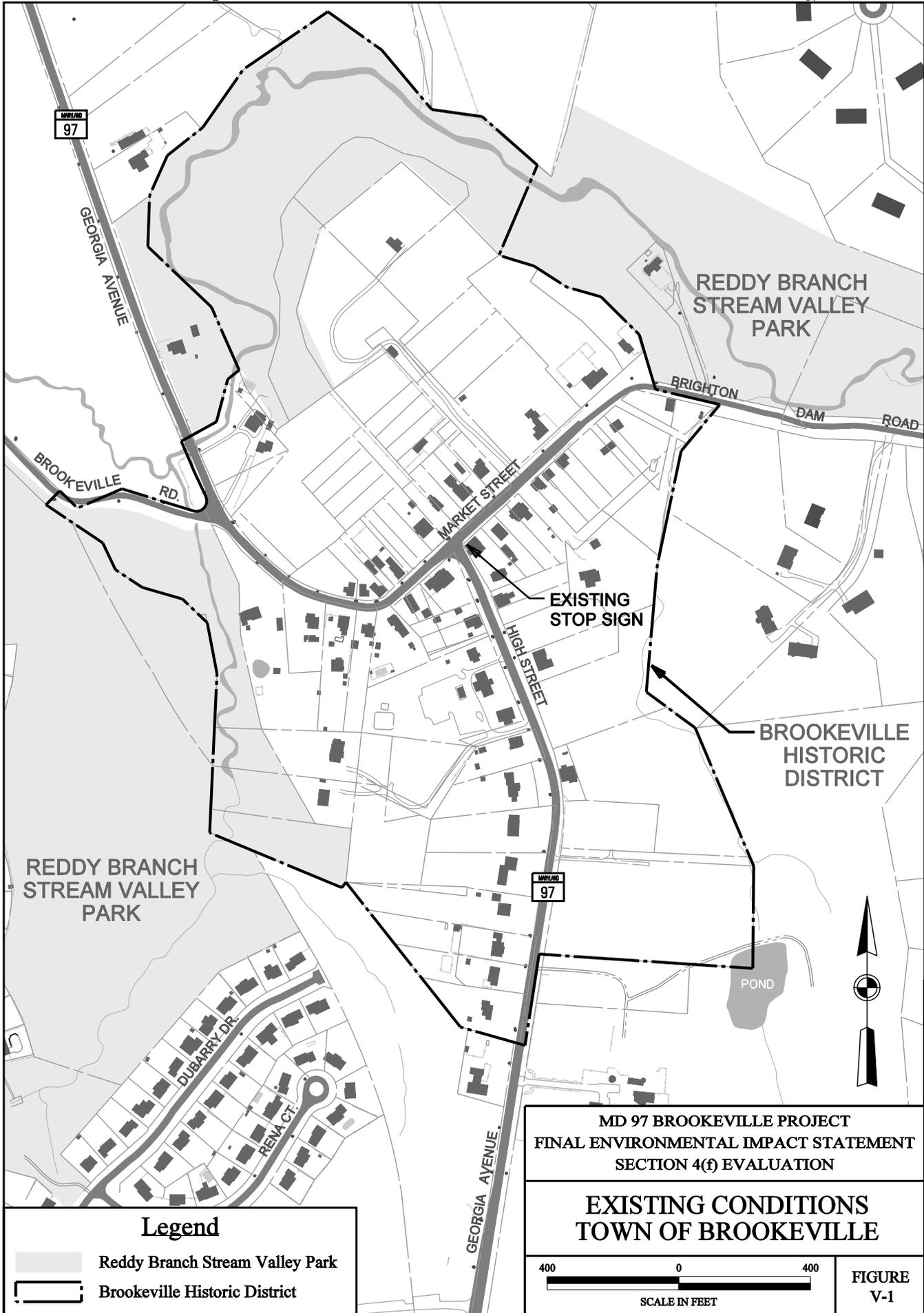
Section 4(f) of the US Department of Transportation Act of 1966, 49 U.S.C. 303(c), states that the use of land from a significant publicly-owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site (as determined by the officials having jurisdiction over the resource) as part of a federally-funded or approved transportation project is permissible only if there are no feasible and prudent alternatives to the use and that the proposed action includes all possible planning to minimize harm to the property.

B. PROPOSED ACTION

Georgia Avenue (MD 97) is an arterial highway serving eastern Montgomery County and central Maryland, originating in Washington, D.C. and extending north past the Capital Beltway (I-495) and I-70 in Howard County to the Pennsylvania line. Regionally, MD 97 functions as a major north-south commuter route between employment areas in and around the Washington, D.C. metropolitan area (**Figure ES-2**). Locally, MD 97 also serves the residential communities of Howard and Carroll Counties and upper Montgomery County, including Brookeville, which is the focus of the MD 97 Project (**Figure ES-1**). Brookeville is a late 19th-century crossroads town and is centrally located in the eastern part of Montgomery County, Maryland. The entire Town of Brookeville has been listed on the National Register of Historic Places (National Register) since 1979 as a historic district (**Figure V-1**).

Transportation problems on MD 97 within the historic Town of Brookeville are associated with two intersecting roads and approximately 25 driveways; a narrow typical roadway section; and, substandard horizontal and vertical geometric conditions. These result in unsafe conditions and sight distance problems for motorists at the right angle intersection of MD 97 (High Street in Brookeville) and Brighton Dam Road (Market Street in Brookeville) (**Figure V-1**). Brookeville is a unique historic town whose quaint ambiance is being compromised by a continually increasing volume of commuter traffic. As explained in the **Section I** of this Final Environmental Impact Statement (FEIS), the Purpose and Need for the MD 97 Brookeville Project is to remove the increasing through-traffic volumes from the Town of Brookeville, to improve local traffic operations and safety on existing MD 97 and to preserve the historic character of Brookeville.

In addition to the No-Build Alternate, four Build Alternates (one east of Brookeville-Alternate 5C and three west of Brookeville-Alternate 7, Alternate 8A, and Alternate 8B) were initially considered to improve traffic operations on MD 97 through Brookeville. The four Build Alternates were presented in the August 2001 Draft Environmental Impact Statement (DEIS)/Section 4(f) Evaluation and are identified on **Figure V-2**. Detailed descriptions of these alternates are provided in **Section II** of this FEIS. The four DEIS Build Alternates were all developed as two-lane undivided roadways on new location with a typical section consisting of two 11-foot travel lanes with two 10-foot shoulders (five feet paved for bicycle traffic and safety grading). This typical section has been retained in this FEIS/Section 4(f) Evaluation and is discussed in the Minimization Options section of this document.

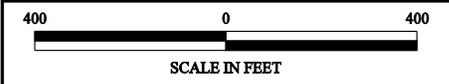


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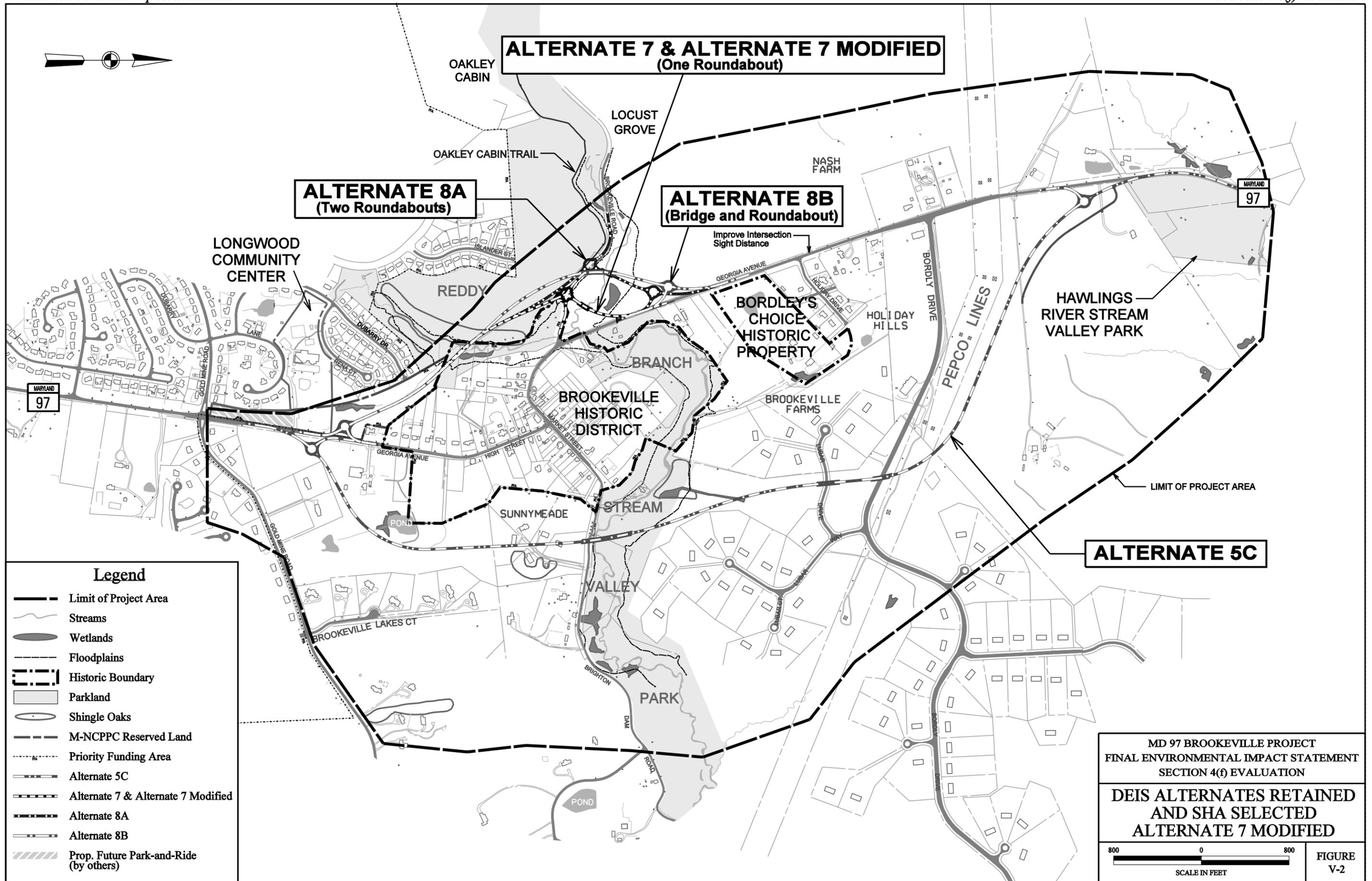
- Reddy Branch Stream Valley Park
- Brookeville Historic District

MD 97 BROOKEVILLE PROJECT
 FINAL ENVIRONMENTAL IMPACT STATEMENT
 SECTION 4(f) EVALUATION

**EXISTING CONDITIONS
 TOWN OF BROOKEVILLE**



**FIGURE
 V-1**



MD 97 BROOKEVILLE PROJECT
 FINAL ENVIRONMENTAL IMPACT STATEMENT
 SECTION 4(f) EVALUATION
**DEIS ALTERNATES RETAINED
 AND SHA SELECTED
 ALTERNATE 7 MODIFIED**
 800 0 800
 SCALE IN FEET
 FIGURE V-2

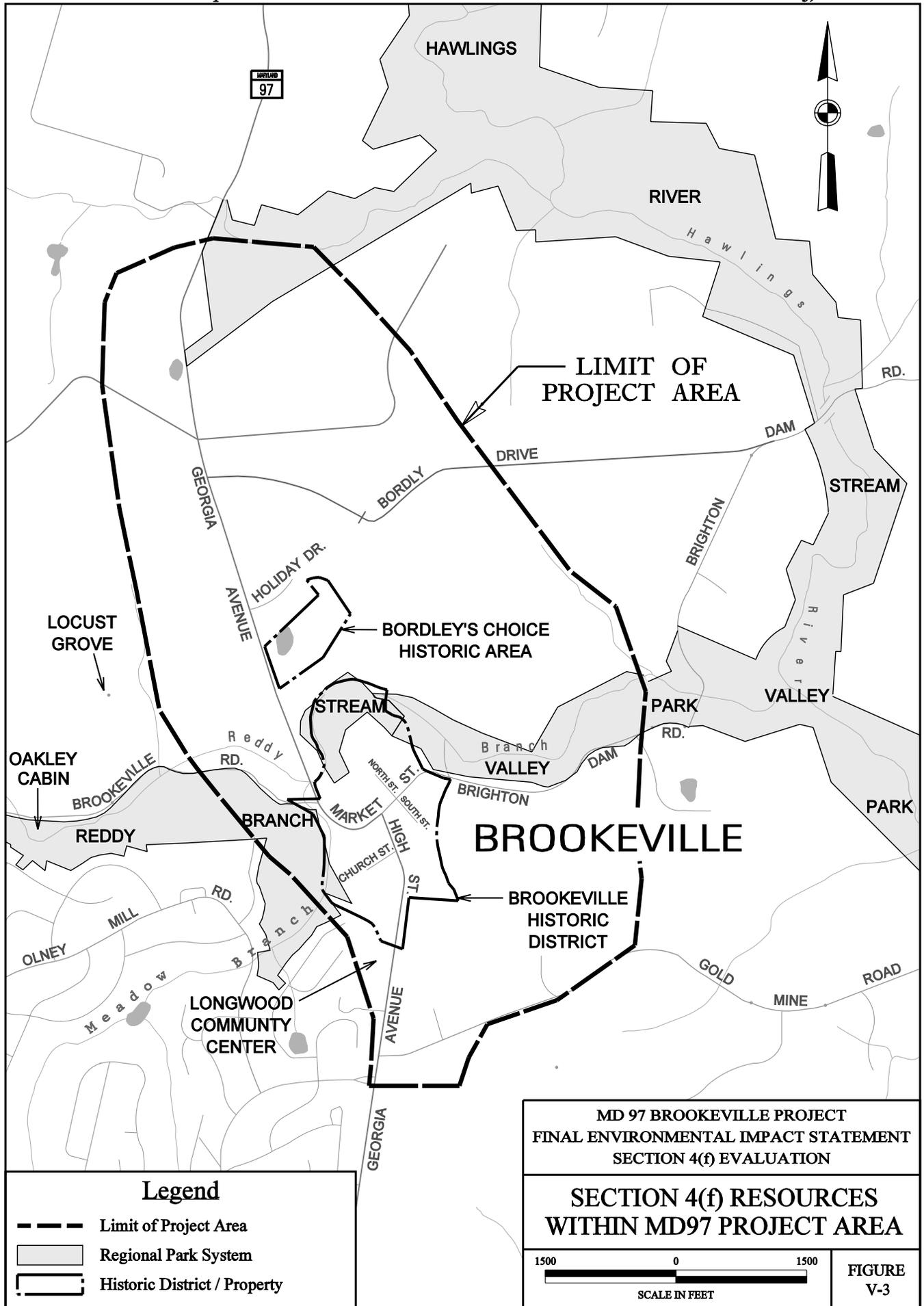
The Build Alternates and typical sections considered in the DEIS were developed in 1999 in response to the October 1997 Smart Growth and Neighborhood Conservation Act, which was intended to control growth and urban sprawl. In compliance with the Smart Growth criteria, roundabouts would need to be included at the northern and southern termini of these alternates to control traffic flow and to help limit the capacity of the new roadway. The roundabouts would be landscaped as “gateways” to historic Brookeville. Proposed speed limits and access restrictions would enable future design to be consistent with Brookeville’s small town setting. By incorporating these “traffic-calming” features into the proposed MD 97 Build Alternates, sprawl growth near Brookeville would be discouraged, while relieving traffic problems within the historic town. As described and illustrated in the Minimization Options section of this document, open drainage is the recommended project design as it is consistent with Smart Growth criterion; is compatible with the roadway sections where the proposed improvements would reconnect with existing MD 97 to the north and south of Town; and, would create a parkway type two-lane roadway section in Reddy Branch Stream Valley Park.

The Maryland State Highway Administration (SHA) has selected Alternate 7 Modified mainly as a result of post-DEIS coordination with resource agencies including the Maryland Historical Trust (MHT) and jurisdictional officials and owners of impacted parkland (Maryland-National Capital Park and Planning Commission [M-NCPPC] and Montgomery County). Based on results of Phase II archeological study and findings, Alternate 7 Modified was developed to reduce impacts to the National Register eligible Newlin/Downs Mill Complex archeological site, partially located within the Brookeville Historic District where it overlaps the Reddy Branch Stream Valley Park, and then extends to the west within the park. Alternate 7 Modified is similar to the DEIS Alternate 7 alignment except that Alternate 7 Modified has been shifted approximately 30-40 feet in a westerly direction through the Reddy Branch Stream Valley Park between the proposed roundabout located at Brookeville Road and the area north of Dubarry Drive (**Figure V-2**). As discussed in the Mitigation Measures section of this document, a retaining wall design is proposed south of Brookeville Road and east of the proposed roundabout to reduce impacts to the Newlin/Downs Mill Complex site. The retaining wall would also reduce Section 4(f) use of Reddy Branch Stream Valley Park where the public park overlaps the Brookeville Historic District.

C. DESCRIPTION OF SECTION 4(f) RESOURCES

Based on consultation with jurisdictional officials, a total of five individual resources including three publicly owned parks or recreational facilities (Longwood Community Center, Reddy Branch Stream Valley Park and Hawlings River Stream Valley Park), and two historic resources (Brookeville Historic District and Bordley’s Choice) are present in the project study limits (**Figure V-3**). Each of the project’s five Build Alternates would impact two of the five identified Section 4(f) resources. Bordley’s Choice is not addressed in this Final Section 4(f) Evaluation because none of the five Build Alternates would impact this National Register eligible property. The National Register eligible Newlin/Downs Mill Complex site is not a Section 4(f) resource because MHT has agreed that data recovery is acceptable mitigation and preservation-in-place is not warranted (**Appendix A**).

It is important to note that portions of the regional Reddy Branch Stream Valley Park overlap the boundary for the National Register listed Brookeville Historic District (**Figure V-3**), as nominated in 1997 that includes the entire town of Brookeville (**Figure V-1**). Descriptions of all public recreational facilities, parks, and historic properties within the project area are included in **Section III** of this FEIS. As discussed in **Section IV-A.1.c**, the portion of the Longwood Community Center that would be impacted by the project is not considered to be a Section 4(f) impact because the publicly owned parcel was reserved for transportation use when the recreational facility was initially planned in 1980.



1. Brookeville Historic District

The Brookeville Historic District, a late 19th-century crossroads village, is significant for its architecture and its history as a commercial and service center for the surrounding agricultural area. Brookeville comprises an important collection of well-preserved buildings in a pristine setting spanning to the late 18th-20th centuries. Homes reflecting both Federal style and Gothic Revival architecture are also included in the district. The Federal style and Gothic Revival architecture were common in the early and mid-1800s, respectively. The Brookeville Academy (circa 1810) was one of the first private academies in Montgomery County. The original road pattern of the historic village remains relatively unaltered, and is essential to its historic character.

The Town of Brookeville was originally settled by Richard Thomas in 1794 and was chartered by the legislature in 1808. Brookeville was incorporated in 1890 making it the oldest incorporated municipality in Montgomery County. It functioned as a center for education and commerce and was home to progressive agronomists including Thomas Moore who made several significant contributions to advance the farming industry at first locally then nationally. During the War of 1812, President James Madison fled Washington, D.C. during a short-lived British occupation of the capital and directed the federal government for two days from the home of Caleb Bently, a farmer in Brookeville. In the early 20th century automobiles were introduced which changed the traffic patterns around Brookeville. More products were developed in factories rather than in small artisan's shops. This changed the demographics and markets ending the commercial base of Brookeville. The town became a predominantly residential community.

In 1979, Brookeville was listed on the National Register as a historically significant 19th century rural settlement. In 1985, the Montgomery County Historic Preservation Ordinance was adopted. Subsequently, in 1986, the town was designated as a Master Plan Historic District to be protected under that Ordinance (Brookeville Planning Commission, 1994). Today, Brookeville remains a small town consisting of approximately 52 buildings (Brookeville Planning Commission, 1994) and 120 residents (US Census Bureau, 2000). **Figure V-1** illustrates what can be considered current town conditions including the Brookeville Historic District National Register boundaries. The historic district boundary coincides with the boundary for the Town of Brookeville. The Maryland State Historic Preservation Officer (SHPO) concurred with the eligibility and recommended boundaries for the district (September 29, 1995). **Figures V-1, V-2** and **V-3** illustrate where portions of the historic district are part of Reddy Branch Stream Valley Park.

Associated with the Town of Brookeville, and located within Reddy Branch Stream Valley Park, is the Oakley Cabin Trail (**Figure V-2**). The Oakley Cabin trail historically connected the Town of Brookeville with the historic African American Oakley Cabin, which is located outside the limits of the project area. The historic Oakley Cabin, which was originally built for slaves and later became the center of a small roadside Free Black community, is the only publicly owned African American historical site in Montgomery County that is open to the public. The Oakley Cabin trail paralleled an old millrace for Newlin's Mill in Brookeville and was used by people who lived in the community and worked at Newlin's Mill, which is described in **Section III** of this FEIS. A small portion of the trail within the project impact area in the vicinity of the DEIS western alternate alignments has recently been cleared by M-NCPPC and is considered to be man-made and not historic.

2. Reddy Branch Stream Valley Park

Reddy Branch Stream Valley Park is a multi-jurisdictional regional conservation park that extends in an east-west direction throughout the project area (**Figure V-3**). It is part of a larger system of regional stream valley parks throughout Montgomery County. See **Section IV-O.2.d** for information regarding the Upper Patuxent Watershed Rural Legacy Area. The Reddy Branch Stream Valley Park portion of the regional park system currently totals approximately 274 acres of publicly owned lands acquired in segments (defined as three major units, two of which are within the project area) by Montgomery County and M-NCPPC administrations dating to the late 1960's. The park is administered by M-NCPPC. Based on consultations with jurisdictional park officials, several parcels were acquired by Maryland Program Open Space funds (**Table V-1** and **Figure V-4**). No US Department of Interior's Lands and Water Conservation Act funding was used to acquire parcels in the MD 97 project area. Agency coordination letters are located in **Section VI** of this FEIS.

Unit 1 of Reddy Branch Stream Valley Park is located east of MD 97 (**Figure V-4**). In 1997, consultation with jurisdictional officials indicated that Unit 1 included 64.8 acres. Parcels 1, 5, 12, and 14 are in the ownership of Montgomery County, with Parcels 3, 4, and 11 in the ownership of M-NCPPC. All of the parcels are administered by M-NCPPC. This includes Parcels 7, 8, and 9, which added 61.7 acres deeded to M-NCPPC in 2001. All of this acreage is undeveloped and considered to be conservation parkland. Current public use of this park is generally limited to hiking and nature study with no defined trail system. Future recreational use is not likely to change substantially. Unit 1 Parcel 1 has been acquired with Maryland Program Open Space monies, as noted on **Table V-1**. The table includes only the parcels potentially impacted by the project and identifies ownership and the funds used to acquire the property.

Unit 2 of Reddy Branch Stream Valley Park is west of MD 97 and contains approximately 71.2 acres (**Figure V-4**). Parcels 8, 9A, 9B, 9C, and 11 are in the ownership of Montgomery County, Maryland (**Table V-1**). Parcels 7, 10, and 13 are in the ownership of M-NCPPC. As with Unit 1, there are no trails and the acreage is undeveloped and considered to be conservation parkland. Current public use of this park is generally limited to hiking and nature study activities. No substantial change in recreational use is expected in the future. Parcel 8 is the only property in Unit 2 acquired using Maryland Program Open Space funds.

3. Hawlings River Stream Valley Park

Hawlings River Stream Valley Park is also part of Montgomery County's multi-jurisdictional regional conservation system (**Figure V-3**). It totals 554 acres and is located at the north end of the project area, primarily east of the project area where it joins with the Reddy Branch Stream Valley Park. Two parcels (parkland parcel 20 and parkland parcel 26) are located in the MD 97 project area (**Figure V-4**). Parcel 20 is owned by M-NCPPC and was acquired with Patuxent River Watershed Act of 1969 funds (**Table V-2**). Parcel 26 is owned by Montgomery County and was purchased with Maryland Program Open Space funds. Both parcels are administered by M-NCPPC, as is the entire regional park system within Montgomery County.

TABLE V-1 Summary of Section 4(f) Impacts to Reddy Branch Stream Valley Park

Reddy Branch Stream Valley Park Parcels/Size (acres)	Parcel Size (acres)	No-Build Alternate (acres)	Alternate 5C (acres)		Alternate 7 (acres)		SHA's Selected Alternate (acres)	Alternate 8A At-Grade (acres)		Alternate 8B Grade-Separated (acres)	
			Open	Closed	Open	Closed		Open	Closed	Open	Closed
Unit 1 Parcel 1 ^{1,3,5}	2.63	0	0	0	0.24*	0.21*	0.24 *	0.29 *	0.29 *	0.31 *	0.31 *
Unit 1 Parcel 9 ^{2,5}	57.29	0	2.15	2.05	0	0	0	0	0	0	0
Unit 1 Parcel 11 ^{2,5}	4.83	0	0.52	0.49	0	0	0	0	0	0	0
Unit 2 Parcel 8 ^{1,3,5}	54.30	0	0	0	2.19*	1.89*	2.19 *	3.30 *	2.87 *	4.26 *	3.69 *
Unit 2 Parcel 9A ^{1,4,5}	0.51	0	0	0	0.11	0.11	0.11	0.11	0.11	0.18	0.17
Unit 2 Parcel 9B ^{1,4,5}	0.86	0	0	0	0.50	0.50	0.50	0.50	0.50	0.61	0.59
Unit 2 Parcel 9C ^{1,4,5}	1.40	0	0	0	0.72	0.72	0.72	0.71	0.71	0.79	0.79
Unit 2 Parcel 10 ^{2,5}	2.30	0	0	0	1.05	0.92	1.05	0.86	0.76	0.14	0.09
Unit 2 Parcel 11 ^{1,4,5}	4.13	0	0	0	0.49	0.49	0.49	0.10	0.10	<0.01	<0.01
Total Reddy Branch Stream Valley Park Acres and Uses	128.25 ac as part of 242 ac. park	0	2.67⁶	2.54⁷	6.65⁶	4.84⁷	5.62⁶	7.22⁶	5.34⁷	7.64⁶	5.64⁷

¹ Owned by Montgomery County, Maryland.

² Owned by Maryland-National Capital Park and Planning Commission.

³ Acquired with Maryland Program Open Space Funds.

⁴ Located within Brookeville Historic District.

⁵ The parcel impact quantities do not include acreage to be required for stormwater management.

⁶ The impact quantities for the open section include the acreage estimated for stormwater management.

⁷ The impact quantities for the closed section do not include acreage estimates for stormwater management facilities because the open section was selected as the typical section.

* Indicates deed covenants and replacement land restrictions apply.

TABLE V-2 Summary of Section 4(f) Impacts to Hawlings River Stream Valley Park

Hawlings River Stream Valley Park Parcels	Parcel Size (acres)	No-Build Alternate (acres)	Alternate 5C (acres)		Alternate 7 (acres)		SHA's Selected Alternate (acres)	Alternate 8A At-Grade (acres)		Alternate 8B Grade-Separated (acres)	
			Open	Closed	Open	Closed		Open	Closed	Open	Closed
Parcel 26 ^{1,3}	6.08	0	1.78 *	1.18 *	0	0	0	0	0	0	0
Parcel 20 ^{2,4}	1.0	0	0.10 *	0.08 *	0	0	0	0	0	0	0
Total Hawlings River Stream Valley Park Acres and Uses	7.08 ac. as part of 550.4 ac. park	0	1.88	1.26	0	0	0	0	0	0	0

¹ Owned by Montgomery County, Maryland.

² Owned by Maryland-National Capital Park and Planning Commission.

³ Acquired with Maryland Program Open Space Funds.

⁴ Acquired with Patuxent River Watershed Act of 1969 Funds.

* Indicates deed covenants and replacement land restrictions apply.

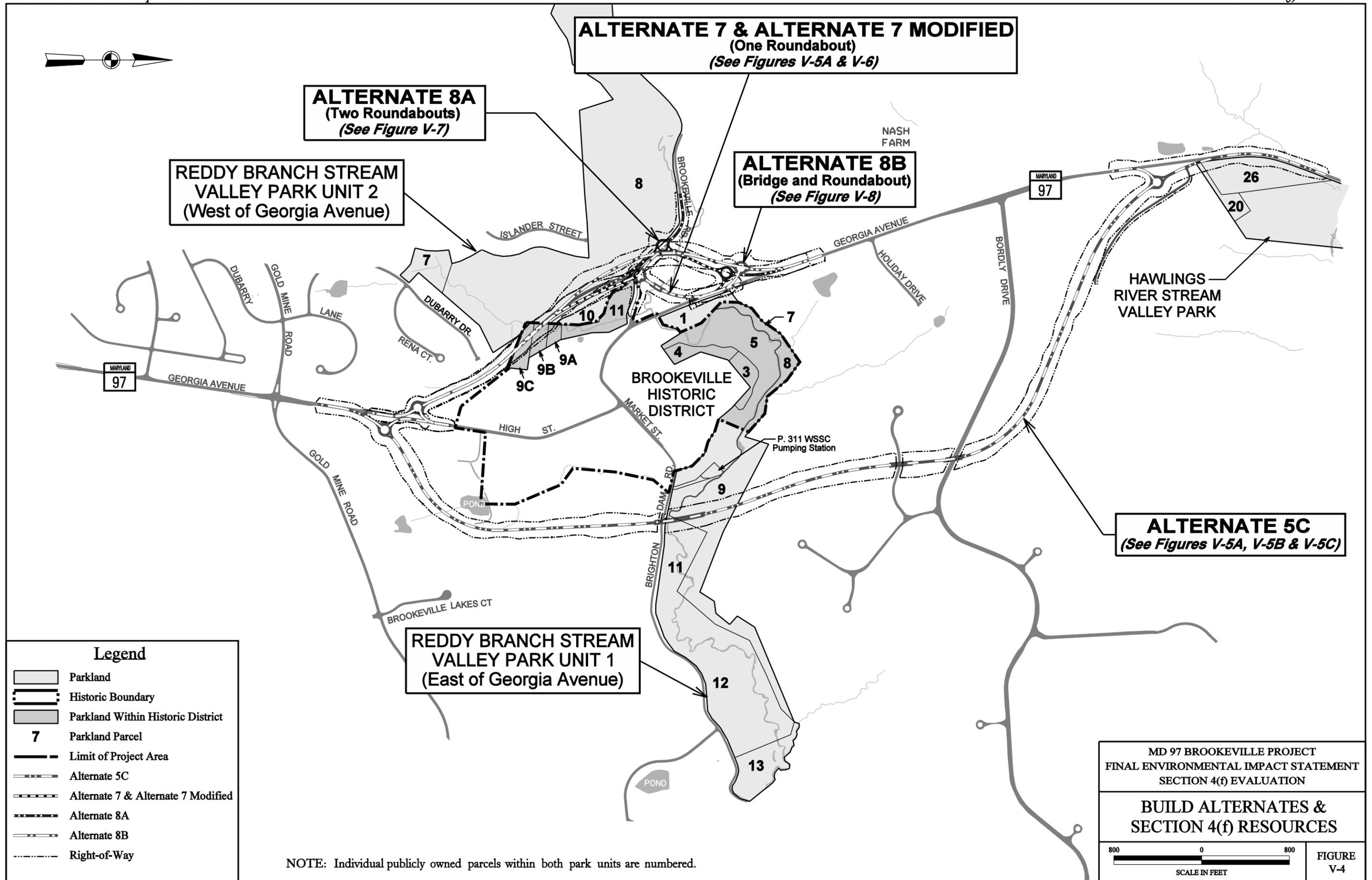
TABLE V-3 Summary of Impacts to Section 4(f) Resources

Section 4(f) Resource	Size (acres)	No-Build Alternate (acres)	Alternate 5C (acres)		Alternate 7 (acres)		SHA's Selected Alternate (acres)	Alternate 8A At-Grade West Bypass (acres)		Alternate 8B Grade-Separated West Bypass (acres)	
			Open	Closed	Open	Closed		Open	Closed	Open	Closed
Brookeville Historic District		0	0	0	2.24 ¹	2.24 ¹	1.66 ¹	1.66 ¹	1.42 ¹	1.58 ¹	1.55 ¹
Reddy Branch Stream Valley Park (Table V-1)	242	0	2.67	2.54	6.65	4.84	5.62	7.22	5.34	7.64	5.64
Hawlings River Stream Valley Park (Table V-2)	550.4	0	1.88	1.26	0	0	0	0	0	0	0
Total Use of Section 4(f)		0	4.55²	3.80³	6.65²	4.84³	5.62²	7.22²	5.34³	7.64²	5.64³

¹ Included within Reddy Branch Stream Valley Park acreages (Unit #2 parcels 9A, 9B, 9C and 11 on Table V-1).

² The impact quantities for the open section include the acreage estimated for stormwater management.

³ The impact quantities for the closed section do not include acreage estimates for stormwater management facilities because the open section was selected as the typical section.



D. IMPACTS TO SECTION 4(f) PROPERTIES

Similar to all the DEIS Build Alternates (Alternates 5C, 7, 8A, and 8B), SHA's Selected Alternate 7 Modified would impact two Section 4(f) properties (**Figure V-4**). The three western alignments (Alternates 7, 8A, and 8B) and SHA's Selected Alternate 7 Modified would impact the Brookeville Historic District and the Reddy Branch Stream Valley Park. The eastern alignment (Alternate 5C) would impact Reddy Branch Stream Valley Park and Hawlings River Stream Valley Park.

All Build Alternates, including SHA's Selected Alternate, would impact the Reddy Branch Stream Valley Park to varying degrees (**Table V-1**). This is because the park is a linear Section 4(f) resource extending in an east-west direction throughout the project area and all Build Alternates follow a north-south axis (**Figure V-4**). SHA's Selected Alternate 7 Modified and the DEIS western alternates (Alternates 7, 8A, and 8B) would impact both the Reddy Branch Stream Valley Park and the Brookeville Historic District, including areas where both Section 4(f) resources overlap. Alternate 5C adversely affects, but avoids Section 4(f) use of the Brookeville Historic District. It would, however, impact both the Reddy Branch Stream Valley Park and Hawlings River Stream Valley Park. **Table V-3** identifies impacts to individual resources and the total amount of Section 4(f) properties that would be used by the Build Alternates.

As discussed in the DEIS/Section 4(f) Evaluation, avoidance and minimization of Section 4(f) impacts was evaluated for each of the Build Alternates. These measures include consideration of a closed drainage design that would reduce right-of-way (ROW) when compared to open drainage as quantified in **Tables V-1, V-2** and **V-3** and described and illustrated subsequently in this section. For the SHA Selected Alternate 7 Modified alignment, the open drainage option has been selected primarily because existing MD 97 is an open roadway section where both the northern and southern tie-ins with existing MD 97 would occur outside of the Town of Brookeville (**Figure V-4**). The open roadway design is also compatible with Smart Growth criterion established for the project including the roundabout design at Brookeville Road and Georgia Avenue south of town. It would also create a parkway type design for the proposed two-lane roadway within Reddy Branch Stream Valley Park.

Stormwater management (SWM) facilities to control runoff and provide quantity control would also be required adjacent to all Build Alternates, including SHA's Selected Alternate 7 Modified. Each of the four western alternates, including SHA's Selected Alternate, share similar locations proposed for the four required pond facilities based on preliminary engineering. Tree clearing would also be required for each facility. In total, the proposed SWM facilities would add approximately one acre of Section 4(f) use as quantified in **Tables V-1** and **V-3**. The acreage is needed so that SHA would own and maintain the SWM facilities.

Section 4(f) impacts associated the SWM facilities are located in both the Reddy Branch Stream Valley Park and the Brookeville Historic District. Three of the four proposed pond facilities are within Reddy Branch Stream Valley Park, one of which is located where the parkland overlaps the historic district. The locations of each facility are based on the proposed drainage patterns once the roadway construction would be complete. In addition to the pond facilities, grass channels would be provided in areas where the runoff could not readily be treated with a pond facility. These grass channels, along with the roadside ditches within the project area, could be utilized to enhance water quality and provide some ground water recharge. The estimated one-acre of parkland to be acquired is considered to be a conservative maximum estimate and may be reduced during final design. Individual discussions for each of the impacted Section 4(f) properties are as follows:

1. Brookeville Historic District

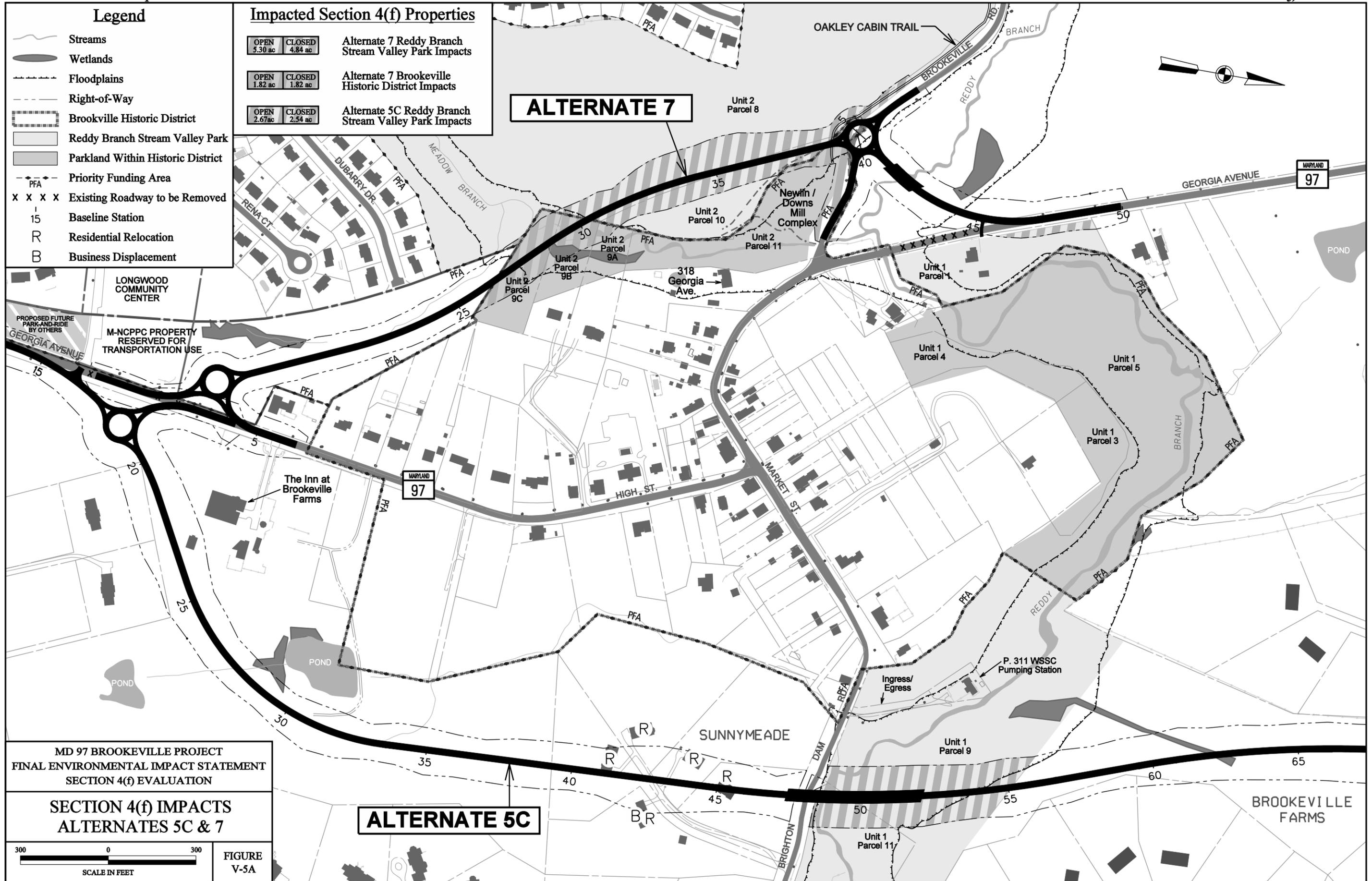
The No-Build Alternate would not require Section 4(f) use of the Brookeville Historic District. Implementation of the No-Build, however, would not improve the identified traffic operations and safety on existing Georgia Avenue and, in turn, would do nothing to help preserve the historic character of the Town. Due to the size and configuration of the National Register boundaries of the historic district, the four western alignments (SHA Selected Alternate 7 Modified and Alternates 7, 8A, and 8B) would require property from the District, although there would be no direct impacts to contributing elements within the Brookeville Historic District. Pursuant to 36CFR800, the MHT has concurred that the historic district would be adversely affected by SHA's Selected Alternate (**Appendix A**), as well as all four DEIS Build Alternates (Alternates 7, 8A, 8B, and 5C).

As shown on **Figure V-4**, the four western alternates have similar alignments, resulting in similar Section 4(f) uses of property from the Brookeville Historic District. As quantified in **Table V-3** and illustrated on **Figures V-5A** through **V-8**, the impacts with the selected open drainage system vary and would range from 1.58 acres for Alternate 8B, due to the bridge over Brookeville Road (**Figure V-8**), to 1.66 acres for both the SHA Selected Alternate 7 Modified (**Figure V-6**) and Alternate 8A (**Figure V-7**), to 2.24 acres for Alternate 7 (**Figure V-5A**).

As illustrated on the respective figures, all four western alternates share a common alignment that would be at-grade near the southern project limit northward to approximately Station 25 located on each figure. North of Station 25, the portion of the Brookeville Historic District impacted by SHA's Selected Alternate 7 Modified and Alternates 7, 8A, and 8B include Unit 2 parkland parcels 9A, 9B, 9C, and 11 within Reddy Branch Stream Valley Park. This is a wooded area with wetlands along Meadow Branch, and there no structures in this area that contribute to the historic significance of the Town of Brookeville.

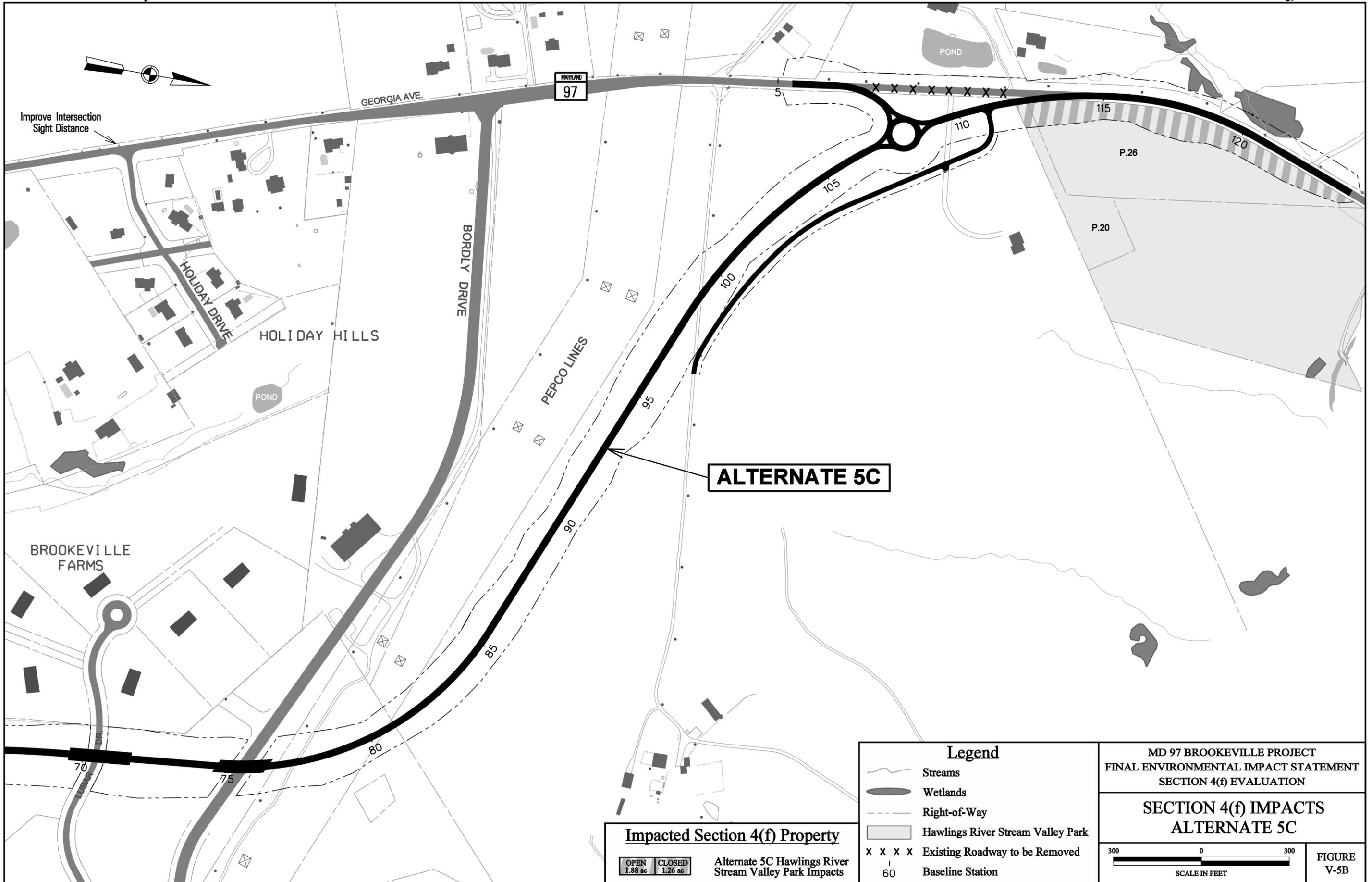
Figure V-5A which locates both Alternates 5C and 7, and **Figures V-6, V-7** and **V-8**, all locate the nearest historic structure, at 318 Georgia Avenue, within the Brookeville Historic District relative to the four western Alternates. As illustrated by the varying ROW on each of the figures, a ridge exists between the buildings in the historic district and the four western alternates. From the vicinity of Station 30 northward, the alignment would become slightly elevated on fill to a maximum height ranging from 8 to 20 feet depending on the alternate including location of the roundabout(s) and type of crossing of Brookeville Road. The shared alignment would then cut into the ridge near Station 35 for each of the alternates. As a result, this would effectively screen the Build Alternates, including SHA's Selected Alternate 7 Modified which is located about 330 feet from the nearest historic structure within the district south of Brookeville Road.

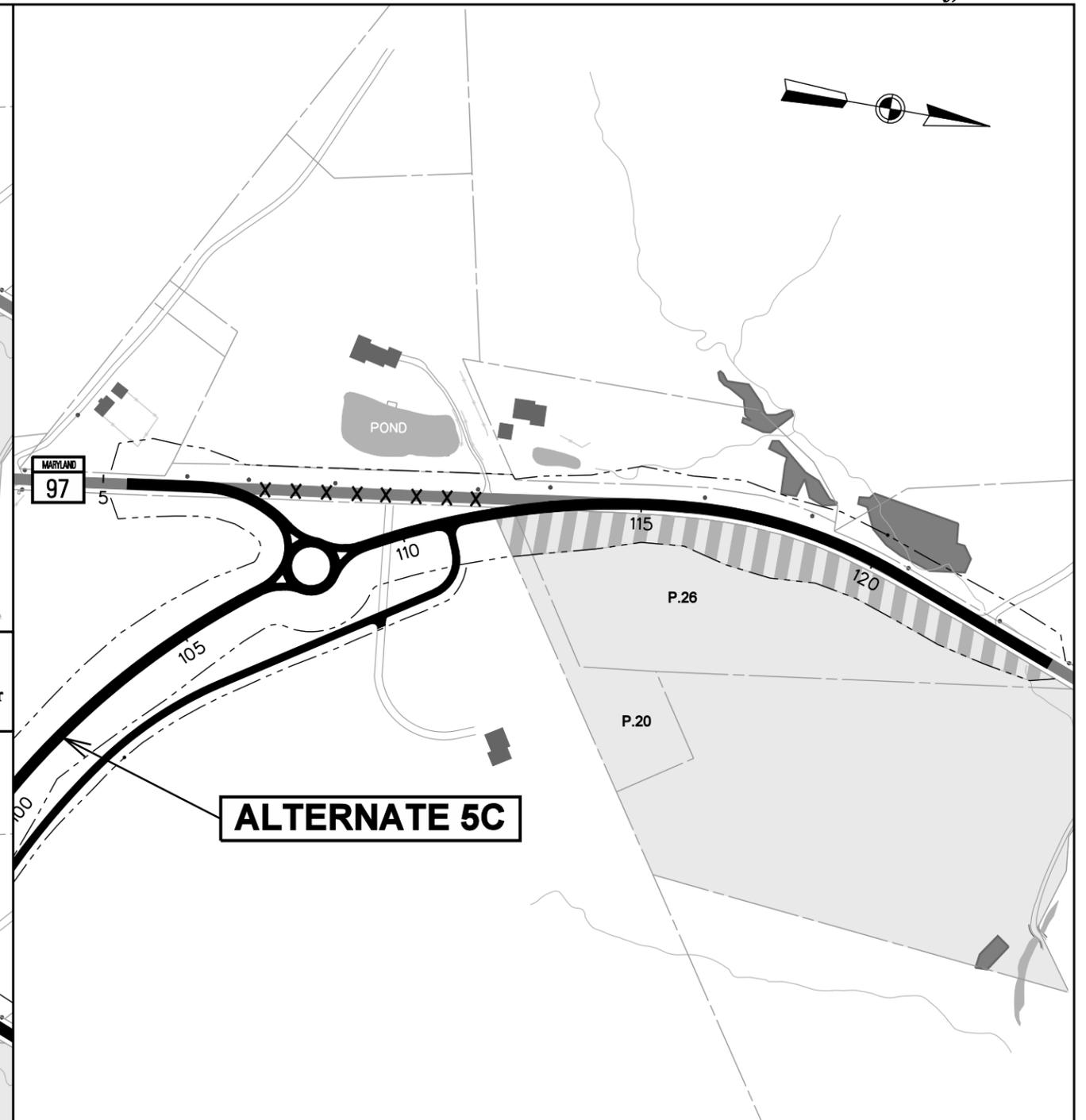
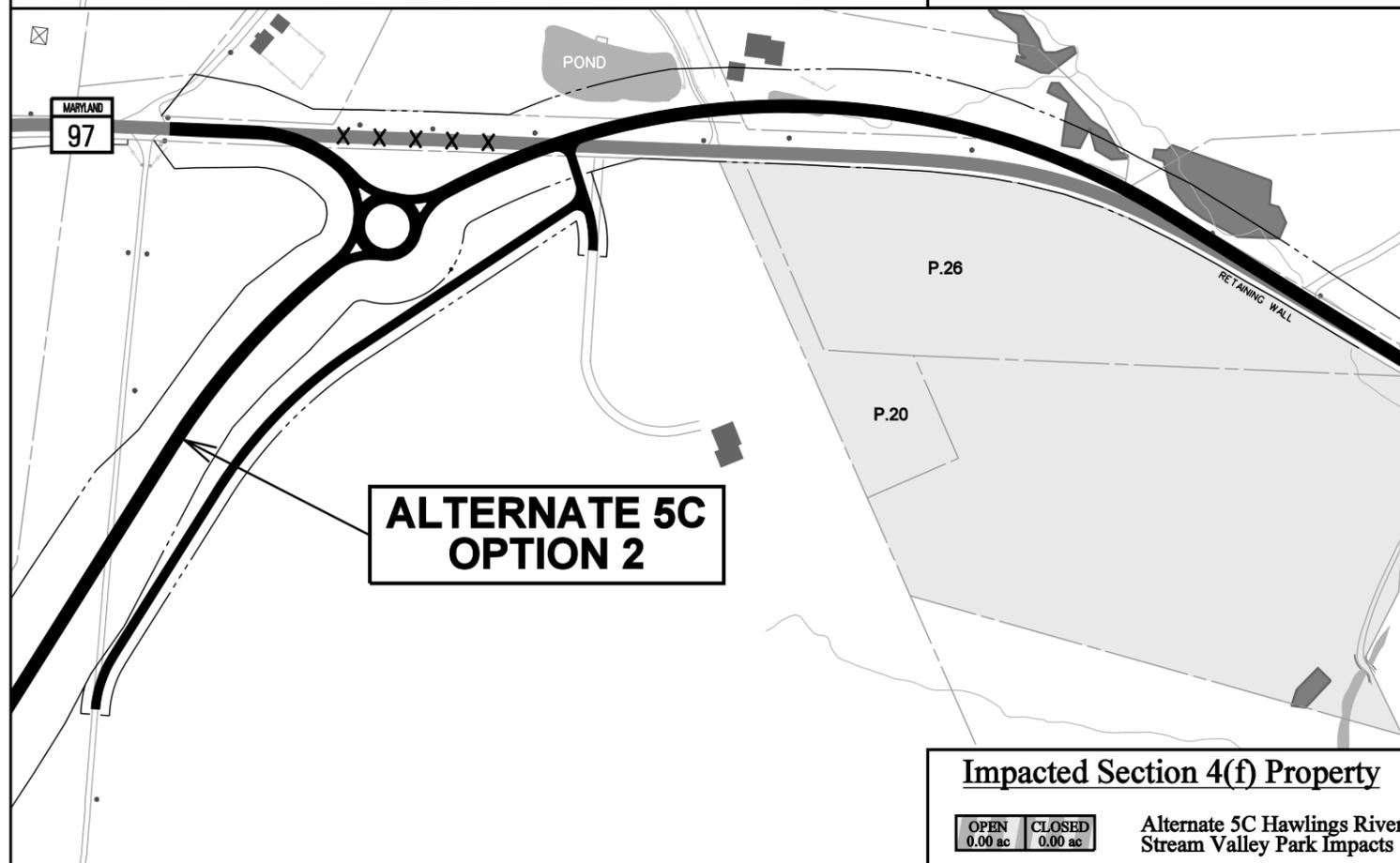
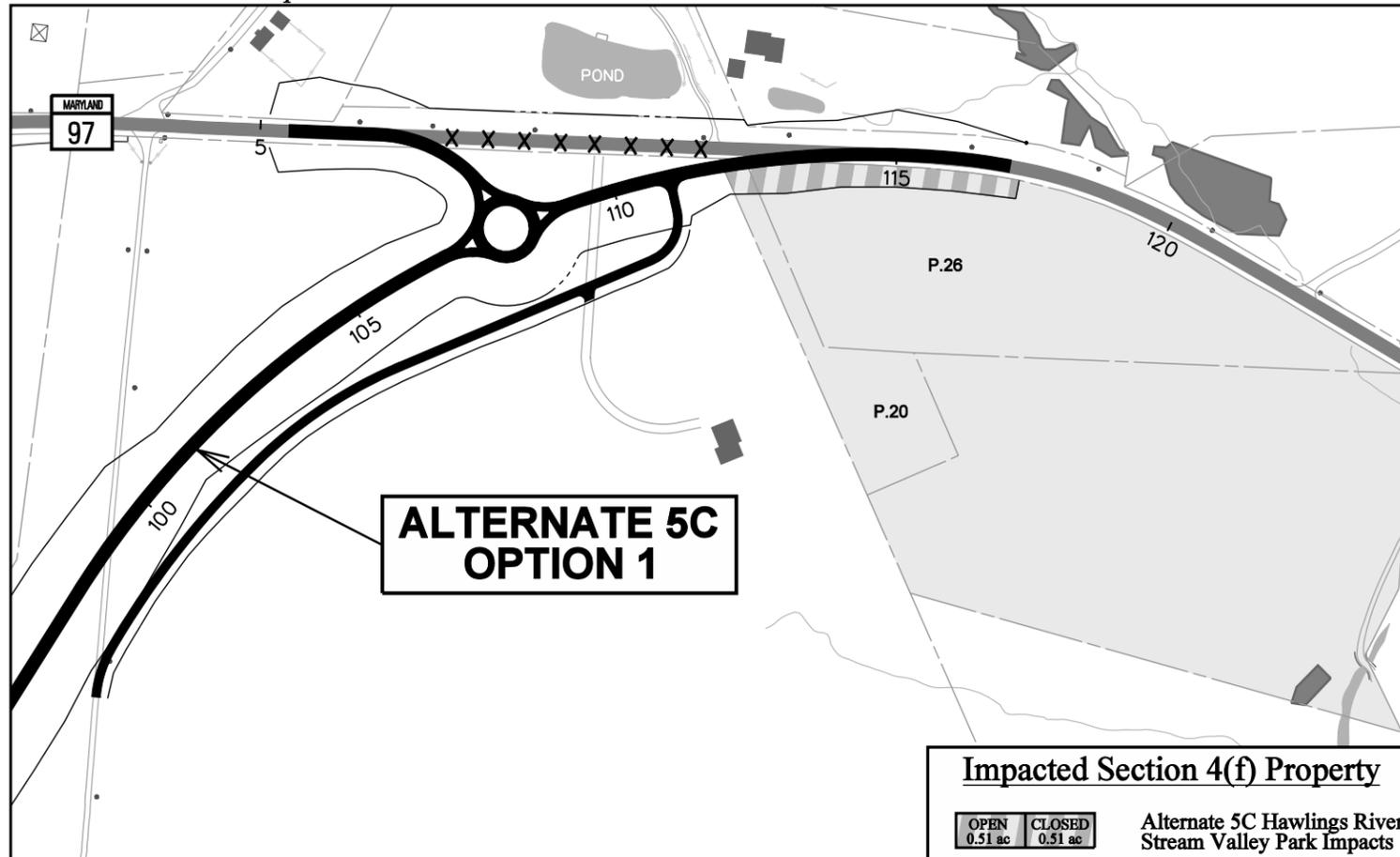
Compared to the SHA Selected Alternate 7 Modified (**Figure V-6**), Alternate 8A (**Figure V-7**), and Alternate 8B (**Figure V-8**) are located about 400 feet from the nearest historic structure, at 318 Georgia Avenue. Alternate 8 was developed as a realignment of the original Alternate 7 in order to minimize wetland impacts by shifting to the west of wetlands located north of Brookeville Road. Alternate 8 was later modified into Alternates 8A and 8B that were carried forward in the DEIS. Alternate 8A differs from the SHA Selected Alternate 7 Modified in that it provides a second roundabout north of Brookeville Road (**Figure V-7**) whereas Alternate 8B includes a bridge to cross over Brookeville Road (**Figure V-8**). As a result, the visual buffer from the nearest historic structure at 318 Georgia Avenue for Alternate 8B would not be as effective as the Selected Alternate which would require 1.66 acres of ROW from the historic district compared to 1.58 acres for Alternate 8B.



MATCHLINE SEE FIGURE V-6B

MATCHLINE SEE FIGURE V-6A





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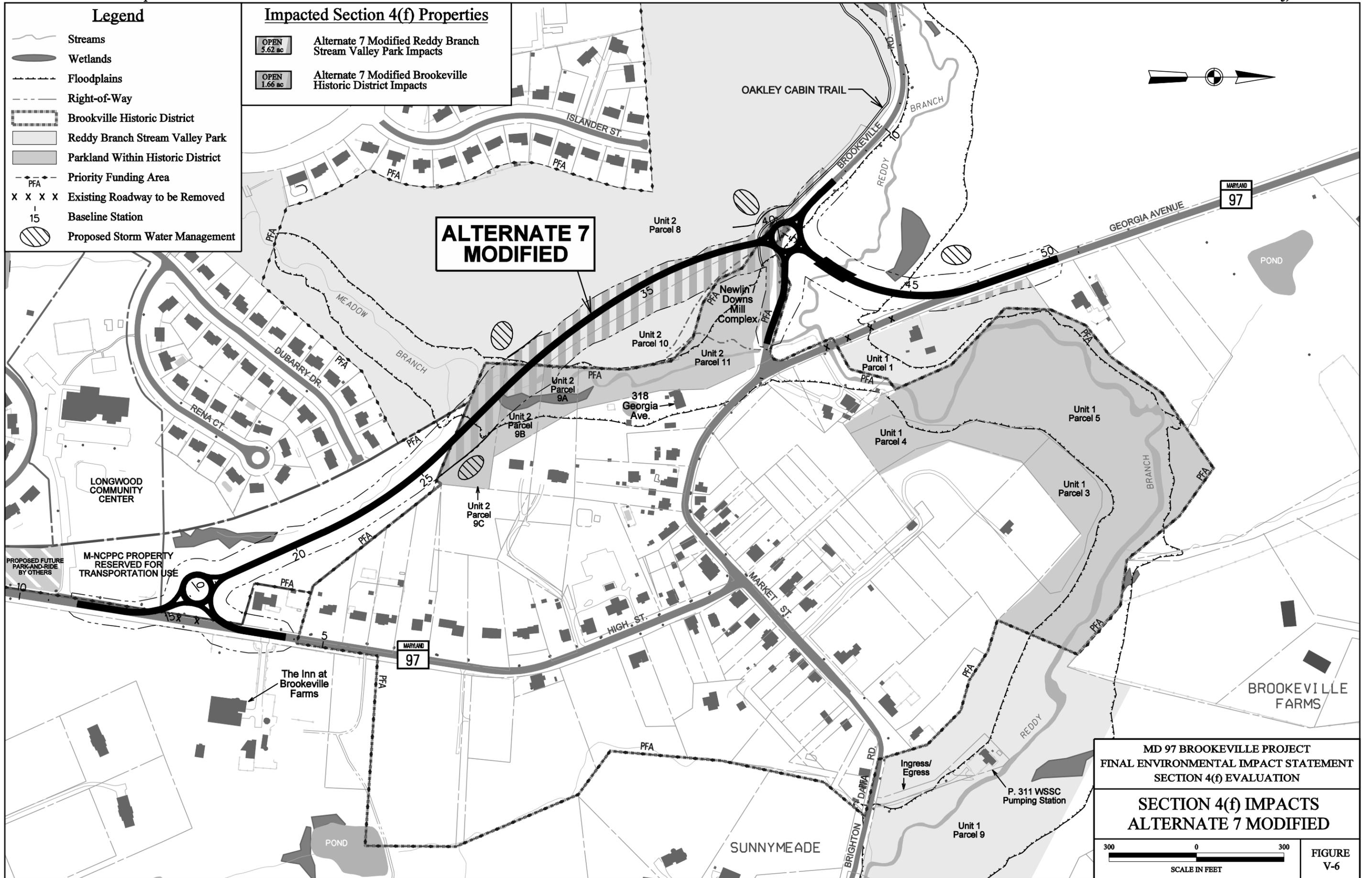
- Streams
- Wetlands
- Right-of-Way
- Hawlings River Stream Valley Park
- Existing Roadway to be Removed
- Baseline Station

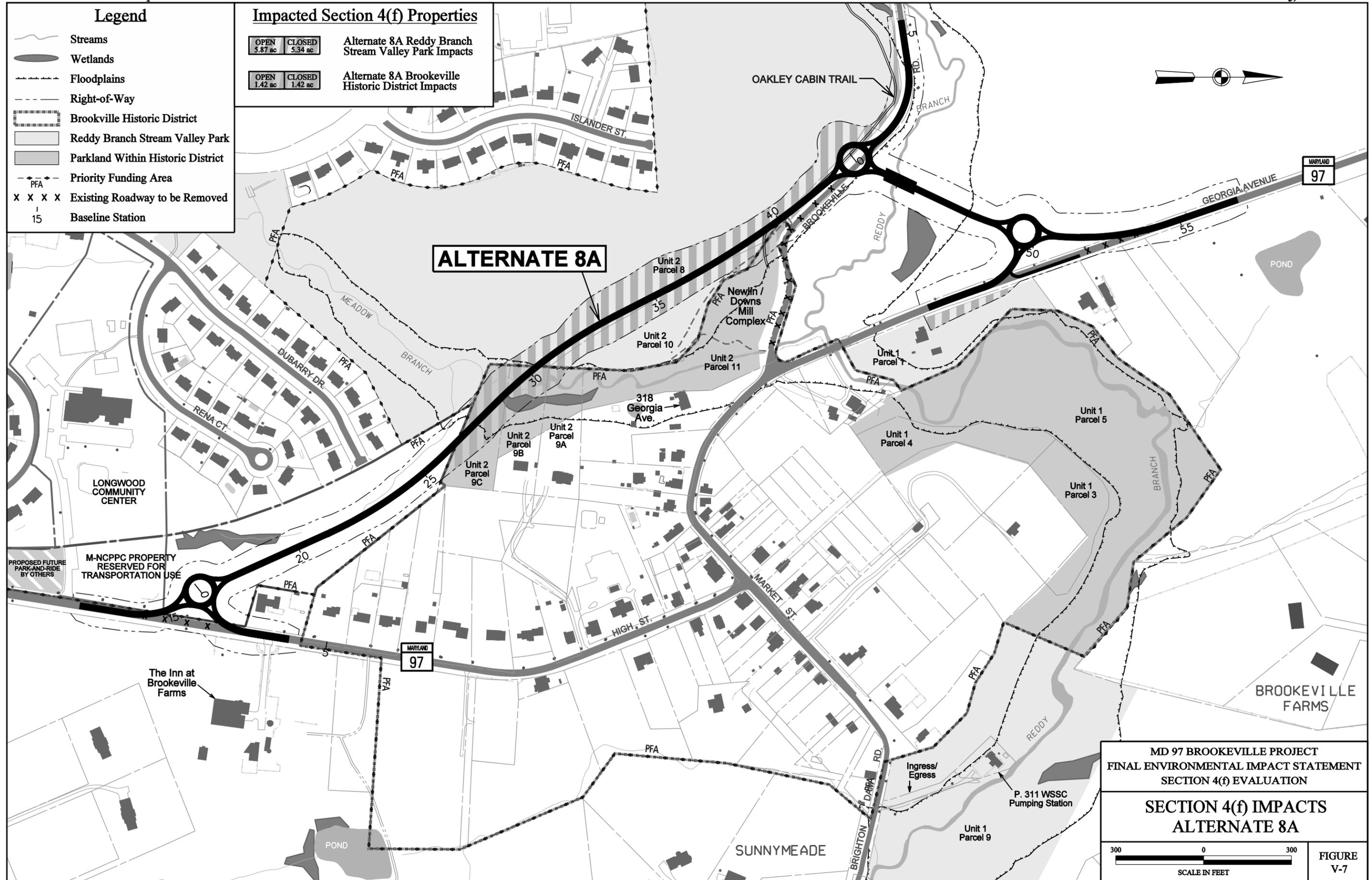
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**SECTION 4(f) IMPACTS
ALTERNATE 5C OPTIONS 1 & 2**

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SCALE IN FEET

FIGURE V-5C

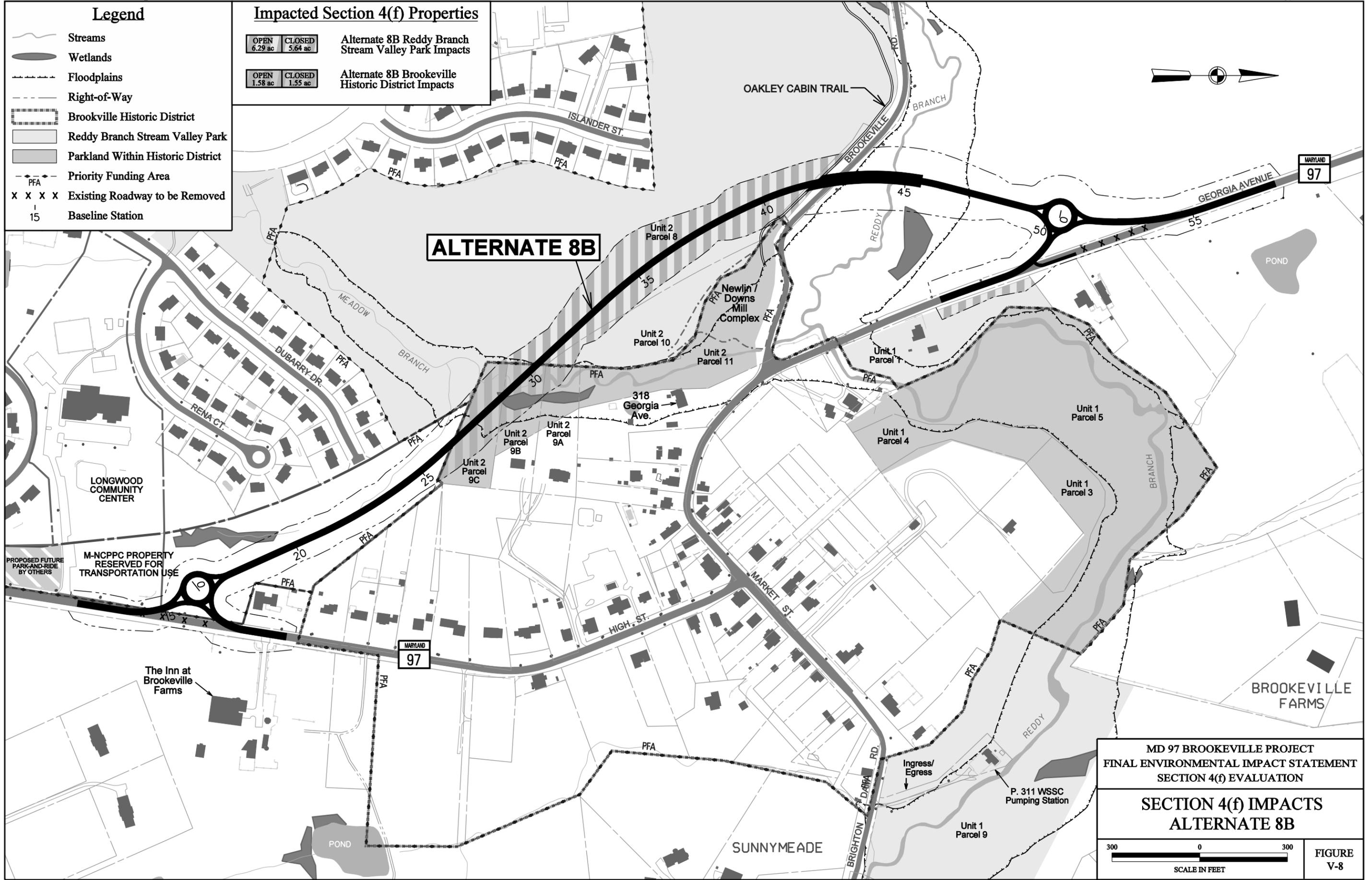




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**SECTION 4(f) IMPACTS
 ALTERNATE 8A**

300 0 300
 SCALE IN FEET

FIGURE V-7



2. Reddy Branch Stream Valley Park

The No-Build Alternate would not impact the Reddy Branch Stream Valley Park. All five Build Alternates, including SHA's Selected Alternate 7 Modified, would impact portions of this public park (**Table V-1** and **Figures V-5A** through **V-8**). As described, Reddy Branch Stream Valley Park is a linear resource throughout the project area (**Figure V-3**). It is therefore impossible to avoid impacting the park with an alignment on new location that will satisfy the identified project need.

SHA's Selected Alternate 7 Modified, and Alternates 7, 8A and 8B would all impact Reddy Branch Stream Valley Park in two locations (**Table V-1** and **Figure V-4**), one to the east of MD 97 and one to the west of MD 97. The portion of the park impacted east of MD 97 (Unit 1 Parcel 1) is owned by Montgomery County and was purchased with Maryland Program Open Space Funds. The wooded parcel fronts Georgia Avenue and originally included a residence that was demolished by M-NCPPC and remains mostly wooded. This parcel is not located in the Brookeville Historic District.

The second area of the park that would be impacted is a forested area located west of MD 97 and includes Unit 2 Parcels 9A, 9B, 9C, and 11, where portions of the park overlap the historic district (**Table V-1** and **Figure V-4**). As shown on the figure, the western alternates enter the park (and Brookeville Historic District) from the south, and would begin to shift north of Dubarry Drive. This is where the alignments begin to differ due to the positioning of the roundabout(s) and type of crossing (at-grade versus fill embankment and structure) of Brookeville Road.

SHA's Selected Alternate 7 Modified (**Figure V-6**) and Alternate 7 (**Figure V-5A**) would require a total of 5.30 acres of park property for ROW (see **Table V-1** and **Table V-3**) to build the selected open typical roadway section. In comparison, Alternate 8A (**Figure V-7**) would require 5.87 acres, with Alternate 8B (**Figure V-8**) requiring 6.29 acres for ROW. As described above for the Brookeville Historic District, Alternates 8A and 8B were developed to avoid wetlands north of Brookeville Road. The alignments for Alternate 8A and Alternate 8B are similar, the major difference being a roundabout proposed for Alternate 8A (**Figure V-7**) in place of the approximately 24 foot high bridge spanning Brookeville Road for Alternate 8B (**Figure V-8**). North of Brookeville Road, the four alternates would span Reddy Branch where both sides of the stream are privately owned and anticipated by M-NCPPC to become part of the regional park system in the future. Based on coordination with M-NCPPC and the regulatory resource agencies, the vertical clearance of any structure spanning Reddy Branch would require a minimum of eight feet clearance over the stream.

Reddy Branch Stream Valley Park continues east of MD 97, forming a continuous Section 4(f) linear resource across the project area (**Figures V-3** and **V-4**). Alternate 5C was originally developed in the early 1990s as an eastern alignment that would minimize floodplain impacts on several privately owned parcels at the time. The parcels impacted by Alternate 5C are now publicly owned as part of the Reddy Branch Stream Valley Park regional system and therefore protected under Section 4(f). As a result, Alternate 5C would impact 2.67 acres of parkland including lands from Unit 1 Parcels 9 and 11 (**Table V-1** and **Figure V-4**) for the open roadway section. The design proposed for Alternate 5C (**Figure V-5A**) would consist of fill embankment in the park and a structure to span both Reddy Branch and nearby Brighton Dam Road. The impacted portion of the park is mostly wooded and primarily used for passive recreation. The proposed bridge would provide wildlife passage and pedestrian access along Reddy Branch with a vertical clearance of approximately 33 feet over the stream due to the steep topography in the area.

3. Hawlings River Stream Valley Park

The No-Build Alternate, SHA’s Selected Alternate 7 Modified, and the DEIS western alternates (Alternates 7, 8A, and 8B) all avoid ROW acquisition from the Hawlings River Stream Valley Park.

Section 4(f) impacts for Alternate 5C (**Figure V-5A**) would total 1.88 acres for open drainage design (**Table V-2**). Two parcels (parkland parcel 20 owned by M-NCPPC and parkland parcel 26 owned by Montgomery County) would be impacted and have deed covenants requiring replacement land restrictions. The impacted area includes primarily open fields and woodland fronting MD 97.

E. AVOIDANCE AND MINIMIZATION ALTERNATES

The following section addresses a total Section 4(f) avoidance for the entire project followed by individual Section 4(f) avoidance for each of the three impacted Section 4(f) properties. Minimization alternates are then discussed, including the identification of two section 4(f) minimization alternates, one east of MD 97 and one west of MD 97.

1. Total Section 4(f) Avoidance

As illustrated on **Figure V-3**, the presence of the entire Town of Brookeville as a National Register listed historic district and the linear nature of the publicly owned Reddy Branch Stream Valley Park extending throughout the MD 97 study area as a 274 acre regional park, preclude the development of a total Section 4(f) avoidance alternate that would fully meet the project need. Reddy Branch Stream Valley Park is a linear park extending in an east-west direction throughout the project area, whereas all five Build Alternates follow a north-south axis (**Figure V-4**). For this reason, the No-Build (Alternate 1) is the only alternate that results in total avoidance of Section 4(f) properties.

Although the No-Build Alternate is capable of avoiding Section 4(f) resources, it is not considered to be prudent because it would not provide significant improvements to MD 97 in the Brookeville area and would not meet the project need. With the No-Build Alternate, minor improvements could occur as part of normal maintenance and safety operations (i.e., sidewalks, curbing, resurfacing, restriping, lighting, signing, drainage, etc.). These improvements would not measurably affect roadway capacity or reduce accident rates on MD 97 throughout the project area.

The No-Build Alternate would not solve the current congestion problems at the Market Street/High Street intersection (**Figure V-1**) in Brookeville nor the unsafe sight distance conditions that exist along the two-lane, undivided section of MD 97 through Brookeville and on the north and south approaches of MD 97 into town. These operational and safety deficiencies would be expected to worsen with time, due to continued development in the growth areas of Montgomery and Howard Counties, which will contribute to the traffic along MD 97 through Brookeville. The present average daily traffic of 9,000 vehicles on MD 97 through Brookeville is forecasted to double by Design Year 2020. As a result, MD 97 would effectively operate at an unacceptable LOS D north of Brookeville and at a worse LOS E, south of Town as discussed in **Section II** of this FEIS.

Currently, the T-intersection at Market Street and High Street operates at a LOS A but only after the long queues (back-ups) waiting in turn to pass through the intersection. LOS D exists along High Street south of the T-intersection resulting in long queues. These long queues together with the stop-controlled intersection degrade Brookeville’s historic character and small town ambience. These conditions would only become worse with the No-Build Alternate.

The No-Build Alternate would not be consistent with the 1994 Brookeville Comprehensive Plan or the 1980 Olney Master Plan. The No-Build was compared to assess its ability to address project goals such as improving safety, reducing congestion, and supporting the Olney Master Plan and the Town of Brookeville’s Comprehensive Land Use Plans and Smart Growth Initiatives. A summary of these is shown on **Table V-4** and includes the Section 106 Adverse Effect Determinations pursuant to 36 CFR 800.5. Descriptions of the individual Section 4(f) avoidance and design minimization alternates also considered for the project are discussed following the table.

TABLE V-4 Summary of Avoidance and Minimization Alternates

Alternates		Use of Section 4(f) Resources			Addresses Project Need	Consistency with Land Use Planning		Section 106 Effects Determination
		Brookeville Historic District	Reddy Branch Stream Valley Park	Hawlings River Stream Valley Park		Supports Brookeville Comprehensive Plan	Located in Certified PFA Boundary	Adverse Effect
A	Alternate 1 (No-Build)	No	No	No	No	Yes	Yes	
M	Alternate 5C	No	Yes	Yes	Yes	No	Yes	
M	Alternate 7 (West Bypass)	Yes	Yes	No	Yes	Yes	Yes	
M	SHA’s Selected Alternate	Yes	Yes	No	Yes	Yes	Yes	
M	Alternate 8A (At-Grade)	Yes	Yes	No	Yes	Yes	Yes	
M	Alternate 8B (Grade-separated)	Yes	Yes	No	Yes	Yes	Yes	

2. Individual Section 4(f) Property Avoidance

As explained in **Section II of the DEIS**, alternates were evaluated during the initial stages of the project’s alternate development process to avoid impacts to five properties originally identified that could qualify as Section 4(f) resources. Alternates were then considered that would reduce the total number of impacted Section 4(f) properties as explained in **Section II** of the FEIS. This resulted in each of the five Build Alternates (SHA’s Selected Alternate 7 Modified and Alternates 5C, 7, 8A and 8B) impacting two of the three Section 4(f) properties addressed in this Section 4(f) Evaluation (**Table V-4**). Avoidance of each of the three impacted Section 4(f) properties include the following:

a. Brookeville Historic District Avoidance

The No-Build Alternate would avoid the Brookeville Historic District. However, as explained previously, it would do nothing to improve the existing congestion problems in the Town of Brookeville, which would only become worse with the No-Build Alternate. This, in turn, would continue to adversely affect the Town’s historic character and small town ambience.

The 1990 Feasibility Study for the project evaluated a combination of nine eastern alignments capable of avoiding the Brookeville Historic District. The feasibility study concluded that the M-NCPPC should identify a western bypass alternate for land reservation purposes to be incorporated into the update of the Greater Olney Vicinity Master Plan. For this reason, the eastern bypass alternates; including Alternate 5C, were considered as not being compatible with the Greater Olney Vicinity Master Plan. It was also concluded at the time that any alternate adopted for reservation of ROW would be subjected to a full project planning study by the SHA. This resulted in the MD 97 Brookeville Bypass Study, which was initiated by the SHA in January 1995.

Alternate 5C was initially carried forward in 1995 as the least impactful eastern alternate and remains the only current Build Alternate capable of avoiding the Brookeville Historic District. For the open roadway section, Alternate 5C would impact 2.67 acres of Reddy Branch Stream Valley Park compared to 5.62 acres that would be impacted by SHA's Selected Alternate 7 Modified, the least amount of any of the western alternates. Alternate 5C, however, is the only Build Alternate that would impact Hawlings River Stream Valley Park (1.88 acres) for a total Section 4(f) use of 4.55 acres, as quantified in **Table V-2** and shown on **Figure V-5A**. As a result, Alternate 5C would impact two Section 4(f) properties (Reddy Branch Stream Valley Park and Hawlings River Stream Valley Park) and not reduce the total number of Section 4(f) impacts (two) which is the same as the four western Build Alternates including SHA's Selected Alternate 7 Modified that also impact two Section 4(f) properties (Brookeville Historic District and Reddy Branch Stream Valley Park).

Of the five Build Alternates, Alternate 5C would also use the least amount of Section 4(f) resources (4.55 acres) compared to 5.62 acres for SHA's Selected Alternate 7 Modified, the least amount of Section 4(f) impact by the western alternates. Alternate 5C, however, would introduce a transportation corridor to the east of Brookeville and this is not consistent with the local Comprehensive Plans. It would disrupt community cohesion within the developing Brookeville Farms community. Three undeveloped lots planned for in the Brookeville Farms Subdivision off Lubar Drive south of Bordly Drive would also be impacted. It would also remove the entire small community of Sunnymead consisting of five residences including one business that would be displaced (**Figure V-5A**) compared to none for the other Build Alternates. The estimated \$34 million cost of Alternate 5C is nearly three times more costly as SHA's Selected Alternate at \$12.5 million. Only two (out of 38) comments received at the project's Combined Location/Design Public Hearing expressed support for Alternate 5C and 20 of the 38 total public comments specified opposition to Alternate 5C (**Section VI** of this FEIS). For these reasons, Alternate 5C is not considered a prudent avoidance of the historic district.

b. Reddy Branch Stream Valley Park Avoidance

Reddy Branch Stream Valley Park is a linear Section 4(f) resource that extends throughout the MD 97 project area (**Figure V-4**). Its boundaries extend west to North Branch Stream Valley Park near MD 108, which connects to Rock Creek State Park. To the east, the Reddy Branch Stream Valley Park connects with the Hawlings River Stream Valley Park, which then extends to the east to the Patuxent River State Park (**Figure V-4**). All of the Build Alternates follow a north/south axis and therefore would result in impacts to the linear Reddy Branch Stream Valley Park system. For this reason, only the No-Build Alternate is capable of avoiding Reddy Branch Stream Valley Park. As explained previously, implementation of the No-Build would not solve the current and future traffic congestion and safety problems along existing MD 97, and is not consistent with local and regional planning goals that include a western bypass of the Town of Brookeville. For these reasons, the No-Build Alternate is not a prudent or feasible avoidance of Reddy Branch Stream Valley Park.

c. **Hawlings River Stream Valley Park Avoidance**

In addition to the previously described No-Build Alternate, SHA's Selected Alternate 7 Modified, and Alternates 7, 8A, and 8B, all avoid Hawlings River Stream Valley Park. This is because the four western alternates connect with MD 97 about one-half mile south of the park (**Figure V-4**). In the DEIS/Section 4(f) Evaluation, a shift of the eastern Alternate 5C was evaluated that would avoid Hawlings River Stream Valley Park by tying into MD 97 to the south of the park. This Section 4(f) avoidance of the Hawlings River Stream Valley Park (evaluated as Alternate 5C Option 2 on **Figure V-5C**) would shift the proposed MD 97 tie-in to the west. This would impact the residential property west of MD 97 including displacement of the residence in addition to the five residential relocations and one business displacement required to build Alternate 5C. A 0.24 acre pond would be impacted with approximately 0.19 acre of wetland impact in addition to the 0.21 acre required by Alternate 5C. In addition to these social and environmental impacts, Alternate 5C Option 2 would cost an estimated \$500,000 more when compared to Alternate 5C. For these reasons, Alternate 5C Option 2 was not considered to be a prudent avoidance of Hawlings River Stream Valley Park.

3. **Minimization Alternates**

Each of the five Build Alternates can be considered to be a Section 4(f) minimization alternate. This is mainly as a result of the alignment shifts and design measures that have been made throughout the project development process in order to reduce Section 4(f) impacts wherever practical prior to and during the development of the DEIS. **Section II of the DEIS** discusses the 1997 Preliminary Alternates (Alternate 3 Option B, Alternate 4 Modified Option A, and Alternate 5C) including Section 4(f) impacts. At the time, Section 4(f) impacts estimated for those alternates included approximately one acre more of public parkland impacts when compared to the four DEIS Build Alternates (Alternate 5C, Alternate 7, Alternate 8A, and Alternate 8B) that are retained in this FEIS along with the SHA Selected Alternate 7 Modified. The preliminary engineering and design modifications to minimize harm to Section 4(f) properties throughout the project area have resulted in the following minimization alternates to the east and west of MD 97.

a. **Section 4(f) Minimization of Reddy Branch Stream Valley Park and Hawlings River Stream Valley Park (east of MD 97)**

As part of the design avoidance of Hawlings River Stream Valley Park described above as Alternate 5C Option 2, a design minimization to reduce impacts to the park was evaluated as Alternate 5C Option 1 in the DEIS/Section 4(f) Evaluation. As illustrated on **Figure V-5C**, Option 1 would connect the eastern alignment back into MD 97 about 600 feet south of Alternate 5C and not impact the residence and wetlands west of MD 97. Although this shift would reduce Alternate 5C impacts to Hawlings River Stream Valley Park from 1.8 to 0.5 acre for the open section, most of the previously identified impacts associated with Alternate 5C would remain for Alternate 5C Option 2. These include the highest construction cost (\$34 million compared to \$12-\$17 million), the most residential displacements (five compared to none for the other Build Alternates), and the highest prime farmland soils impacts (24 acres compared to less than 5 acres), as summarized in **Table V-5**.

**TABLE V-5
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
Socio-Economic Resources						
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
Natural Resources						
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.

Alternate 5C would also not be compatible with the local Comprehensive Plans and would disrupt the community cohesion of Brookeville Farms east of town by bisecting the entire community (**Figures V-6A and 6B**). For these reasons, Alternate 5C Option 1 is not considered to be a prudent Section 4(f) minimization alternate compared to Alternate 5C, which can be considered to be the Section 4(f) design minimization alternate to the east of MD 97.

As explained previously, Alternate 5C would result in 4.55 acres of total Section 4(f) impacts in Reddy Branch Stream Valley Park and Hawlings River Stream Valley Park, and this is the least total amount of Section 4(f) impacts when compared to 5.62 acres for SHA's Selected Alternate 7 Modified; 6.65 acres for Alternate 7; 7.72 acres for Alternate 8A; and, 7.64 acres for Alternate 8B, as compared in **Table V-5**. As also explained, Alternate 5C impacts to Reddy Branch Stream Valley Park can not be avoided but would be reduced to 2.67 acres, which would be the least amount of ROW required from the park by the Build Alternates (**Tables V-1, V-3 and V-5**).

Although Alternate 5C would minimize impacts in Reddy Branch Stream Valley Park, it is the only Build Alternate that would impact Hawlings River Stream Valley Park, where 1.88 acres of the total 4.55 acres of Section 4(f) impacts would be required. Alternate 5C, however, would introduce a transportation corridor in the park to the east of Brookeville. This is not consistent with M-NCPPC plans including purchase of lands reserved for transportation use to the west of Brookeville (**Figure 5A**). Alternate 5C also lacks compatibility with the local Comprehensive Plans and would disrupt community cohesion within the developing Brookeville Farms community. It would also remove the entire small community of Sunnymede including five residences and one business that would need to be displaced (**Figure V-5A**). The estimated \$34 million cost of Alternate 5C is nearly three times more costly as SHA's Selected Alternate at \$12.5 million. Only two (out of 38) comments received at the project's Combined Location/Design Public Hearing expressed support for Alternate 5C with 20 comments of the 38 total public comments specifying opposition to Alternate 5C (**Section VI**). For these reasons, Alternate 5C is not considered to be a prudent Section 4(f) minimization alternate when compared to the four alternates to the west of MD 97.

b. Section 4(f) Minimization of Brookeville Historic District and Reddy Branch Stream Valley Park (west of MD 97)

Each of the western alignments presented in the project's DEIS/Section 4(f) Evaluation (Alternate 7, Alternate 8A, and Alternate 8B) and the SHA Selected Alternate 7 Modified, have included design refinements to minimize impacts to Reddy Branch Stream Valley Park and Brookeville Historic District. As compared in **Table V-5**, the SHA's Selected Alternate 7 Modified would require the least amount of ROW from the Brookeville Historic District (1.66 acre) and would result in the least amount of total Section 4(f) use (5.62 acres) of the four western Build Alternates. It would require no displacements and would result in the least amount of impacts to prime farmland soils, statewide important soils, streams, and forest cover. For these reasons, SHA's Selected Alternate 7 Modified is considered to be the prudent and feasible alternate for the project.

F. MEASURES TO MINIMIZE HARM

Measures to minimize harm that would result from SHA's Selected Alternate 7 Modified have included an evaluation of reduced typical sections that occurred early in the project development process and mitigation measures developed to offset impacts to Section 4(f) resources.

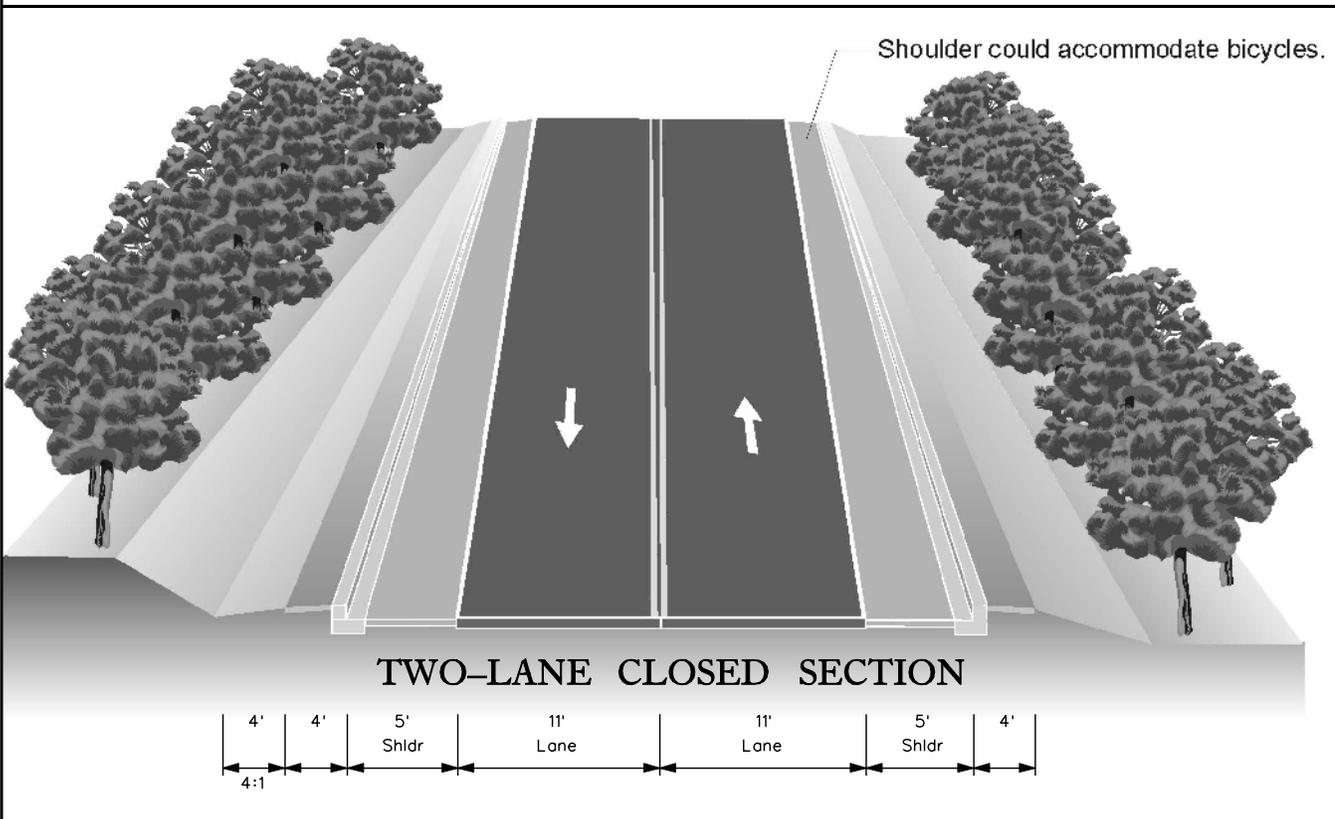
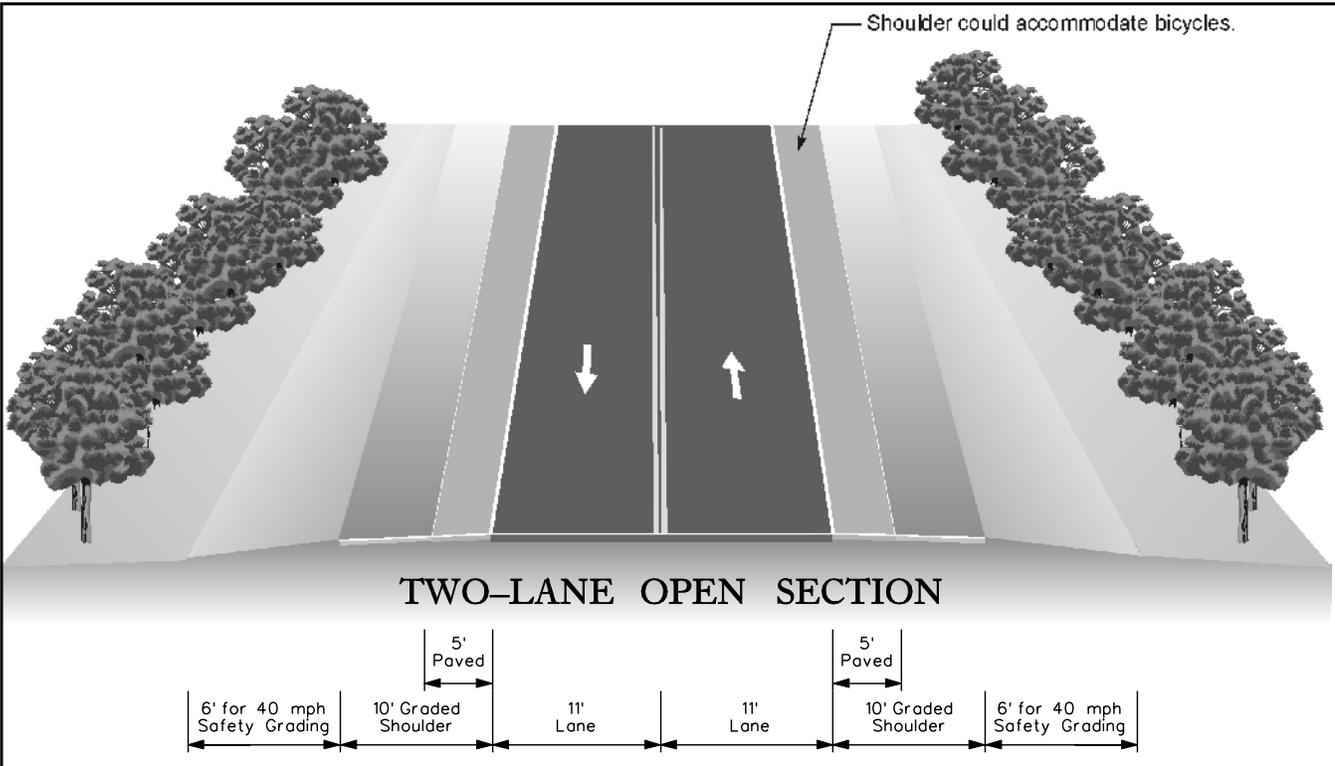
1. Minimization Options

A minimization option that occurred early in the project development phase was an evaluation of reduced typical sections for all of the Build Alternates. As explained in **Section II of the DEIS**, previous typical sections that were considered and not carried forward because of their Smart Growth implications ranged from a four-lane divided roadway with full shoulders and safety grading to a roadway section of two 12-foot wide travel lanes and ten-foot shoulders (**DEIS Figure II-5**). The two-lane roadway section proposed for the DEIS Alternates and retained in the FEIS consists of a 42-foot wide paved roadway to accommodate two 11-foot travel lanes and two ten-foot shoulders (five-foot paved shoulders for bicycle traffic and five-foot for safety). Both open and closed sections are illustrated on **Figure V-9**. In addition to the 42-foot of pavement, open drainage includes an additional six-foot graded shoulder for roadside safety and open drainage. The closed drainage system includes curb and gutter along the five-foot paved shoulders with four-foot of curb backing and four-foot slope, reducing ROW by approximately 15 feet.

The difference in impact acreages between the open and closed sections is compared in **Tables V-1, V-2 and V-3**. As indicated in **Table V-3**, the impacts that would be reduced range from less than one acre for Alternate 5C to two acres for Alternate 8B. Although the open drainage section would result in an estimated 1.8 acre of additional Section 4(f) impacts, it has been selected as the roadway section for SHA's Selected Alternate 7 Modified mainly due to its compatibility to the Smart Growth criterion established for the project and the support it has received from the regulatory resource agencies and jurisdictional officials based on the following:

Although the open section would result in the use of up to 2 additional acres of Section 4(f) property, it was selected mainly because of its compatibility with the Smart Growth criterion established for the project. It would accommodate the need for a permanent easement bordering the entire roadway that would preclude access points for unplanned development, as well as the traffic-calming design requirements discussed in **Section IV** of this FEIS. The open section is also consistent with the open drainage roadway sections where the SHA Selected Alternate 7 Modified reconnects into MD 97 at the northern and southern project limits. The proposed open section is also consistent with *“the recommendation that Environmentally Sensitive Design elements be introduced for the project in order to keep the new road as environmentally friendly as possible in the form of no curb and gutter and narrower roadway widths”*. These comments were made by the Maryland Department of Planning (MDP), the State Clearinghouse coordinator for intergovernmental review of the DEIS (**Section VI** of the FEIS).

The SHA Selected Alternate and Conceptual Mitigation package for MD 97 Brookeville, which included the proposed open section, has been coordinated with FHWA, the cooperating agencies (US Army Corps of Engineers, US Fish and Wildlife Service and US Environmental Protection Agency) and other State and local review agencies, resulting in concurrence on SHA's Selected Alternate 7 Modified and the proposed mitigation measures. MDP commented that the SHA Selected Alternate 7 Modified best minimizes the potential of encouraging secondary sprawl while meeting the Purpose and Need for the MD 97 Brookeville Project. In addition, MHT, M-NCPPC and Montgomery County as the jurisdictional agency officials of the impacted Section 4(f) properties, have agreed to the SHA Selected Alternate 7 Modified and proposed mitigation for the Brookeville Historic District and Reddy Branch Stream Valley Park. Consultation letters are included in **Appendices A and B**.



TWO-LANE OPEN SECTION

This typical section consists of two 11-foot travel lanes, 10-foot graded shoulders (5-foot paved), and safety grading (6-foot for 40 mph). The 5-foot paved shoulder is wide enough to safely accommodate bicycle traffic.

TWO-LANE CLOSED SECTION

This typical section consists of two 11-foot travel lanes, 5-foot paved shoulders with mountable curb and gutter, 4-foot of curb backing and 4-foot slope. Again, the 5-foot paved shoulder is wide enough to safely accommodate bicycle traffic.

**MD 97 BROOKEVILLE PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT
SECTION 4(f) EVALUATION**

TYPICAL SECTIONS

NOT TO SCALE

FIGURE
V-9

Based on this agency support and because the open section would reconnect into existing open roadway sections north and south of the project limits; better accommodate the Smart Growth criteria for the roundabout designs to function as traffic-calming features which also serve as gateways to historic Brookeville; and, in effect, create a two-lane parkway type roadway within the proposed permanent easement required to satisfy Smart Growth criteria for the MD 97 Brookeville Project, the closed section design is not considered to be a prudent option.

In addition to the evaluation of the typical sections and the alignment adjustments to minimize Section 4(f) impacts as described above, additional design measures also occurred for the Build Alternates and are addressed in the DEIS/Section 4(f) Evaluation. The following discussions identify the design measures recommended specifically for the SHA Selected Alternate 7 Modified, which minimize harm to Section 4(f) resources.

Table V-6 lists the locations of project stations identified on **Figure V-7**, where design adjustments have been made to SHA’s Selected Alternate 7 Modified in order to minimize Section 4(f) impacts. These include cross section adjustments, slope reductions and use of retaining walls (where necessary) to reduce fill/cut requirements in order to minimize Section 4(f) impacts. For example, 2:1 slopes are proposed for SHA’s Selected Alternate 7 Modified between Stations 27+50 and 31+00 to minimize Section 4(f) use of public parkland and the historic district.

TABLE V-6 Summary of Design Minimization of Section 4(f) Impacts

Alternate	Station	Cross Section Adjustments	Minimization of Impacts
SHA’s Selected Alternate Open	Sta 24+00 to 27+50 LT	3:1 Slopes	Reduce Fill / Reduce Impact to ROW, Streams, Wetlands, Floodplains, Woodlands and Parklands
SHA’s Selected Alternate Open	Sta 27+50 to 31+00 RT	2:1 Slopes	Reduce Fill / Reduce Impact to ROW, Streams, Floodplains, Woodlands, Parkland , Shingle Oaks and Historic District
SHA’s Selected Alternate Open	Sta 28+00 to 32+00 LT	3:1/2:1 Slopes	Reduce Fill/Cut / Reduce Impact to ROW, Streams, Wetlands, Floodplains, Woodlands, Parkland , Shingle Oaks and Historic District
SHA’s Selected Alternate Open	Sta 38+00 to 40+00 LT	2:1/3:1 Slopes	Reduce Cut / Reduce Impact to ROW, Streams, Wetlands, Floodplains, Woodlands, Parkland and Historic District
SHA’s Selected Alternate Open	Sta 38+50 to 44+00 RT	2:1/3:1 Slopes	Reduce Fill / Reduce Impact to ROW, Floodplains, Woodlands, Parkland and Historic District

As discussed previously in this Section 4(f) Evaluation, Alternate 7 Modified was developed to minimize impacts to the Newlin/Downs Mill Complex archeological site by shifting Alternate 7 approximately 30-40 feet to the west to avoid the core of the site. For SHA’s Selected Alternate 7 Modified, this would involve design of a retaining wall that would be placed on the south side of Brookeville Road to further minimize impacts to the Mill Complex, reducing impacts to five percent of the site. Because the site is located where the Brookeville Historic District overlaps Reddy Branch Stream Valley Park, the proposed retaining wall has also reduced Section 4(f) impacts in the Brookeville Historic District to 1.66 acres and total Section 4(f) impacts to 5.62 acres in Reddy Branch Stream Valley Park, as identified throughout this document and summarized in **Table V-5**. For these reasons, the design features proposed for SHA’s Selected Alternate 7 Modified are considered to be prudent and feasible.

2.0 Mitigation Measures

The mitigation measures to further minimize harm to the Section 4(f) resources that have been coordinated with officials having jurisdiction of the Brookeville Historic District and Reddy Branch Stream Valley Park are as follows:

a. Brookeville Historic District

The mitigation measures proposed to minimize harm and mitigate the identified impacts to the Brookeville Historic District include:

- SHA will design a landscape plan to reduce the visual intrusion of Alternate 7 Modified on the Brookeville Historic District.
- SHA will coordinate with M-NCPPC and the SHPO concerning the development and placement of an interpretive sign at the Newlin/Downs Mill Complex, along the Oakley Cabin Trail, concerning its historic significance. The panel will satisfy the public interpretive component of the proposed data recovery treatment of the Newlin/Downs Mill Complex, a contributing resource to the Brookeville Historic District.

b. Reddy Branch Stream Valley Park

The mitigation measures proposed to minimize harm and mitigate for the permanent use of Reddy Branch Stream Valley Park property include:

- SHA will coordinate with M-NCPPC, and the Maryland Department of Natural Resources to identify suitable replacement land of equal or greater natural resource and economic value for the estimated 5.62 acres of Reddy Branch Stream Valley Park required for construction of Alternate 7 Modified. The estimated 5.62 acres of public parkland required includes two parcels [Unit 1 Parcel 1 (0.24 acre) and Unit 2 Parcel 8 (2.19 acres)] totaling 2.43 acres that were acquired by Montgomery County with Maryland Program Open Space Funds. For this reason, negotiations for these two parcels as part of the 5.62 acres will also involve coordination with the owners, Montgomery County. SHA will acquire the replacement park properties during the design phase of the project and will complete the transfer prior to construction.
- SHA will continue coordination regarding floodplain impacts with M-NCPPC and state and federal resource agencies regarding final design of the structure over Reddy Branch and the culvert type and size for Meadow Branch within Reddy Branch Stream Valley Park.
- Stormwater management design will also be coordinated with M-NCPPC officials.
- SHA will continue coordination with the M-NCPPC and state and federal resource agencies in the development of more detailed design of the M-NCPPC approved wetland mitigation and stream restoration locations within Reddy Branch Stream Valley Park. Wetland areas will be monitored and maintained in conformance with the timeframe specified in the Section 404 permit. Stream restoration techniques will likely include riparian buffer plantings as well as in stream stabilization measures such as grading and stabilization of eroded stream banks.

- Mitigation for loss of forested areas will be coordinated with M-NCPPC. SHA complies with the Maryland Reforestation Law, which requires a one for one replacement. SHA will coordinate with M-NCPPC staff to identify viable areas for reforestation, including areas of MD 97 pavement removal and within Reddy Branch Stream Valley Park. No mitigation is required for the shingle oak impacts; however, SHA would include shingle oak plantings as part of the reforestation efforts.
- SHA will coordinate with the M-NCPPC regarding the replacement of trees that are damaged during construction.
- Design of wildlife passage along Reddy Branch will be coordinated with M-NCPPC officials. The design goal will be a north side passage meeting the 25 feet of horizontal and 8 feet of vertical clearance requested by the resource agencies. Additional design measures to reduce wildlife collisions could include combinations of fencing, one-way gates, passageways, reflectors, lighting, etc. within state-owned property or SHA ROW.
- No equipment or materials will be stored on park property. Additionally, sediment and erosion controls will be implemented prior to construction to minimize sediment runoff into park property and any streams within the vicinity of the proposed project.
- Orange construction fences will be placed around specific trees that will be identified by M-NCPPC and SHA for protection, thereby minimizing the risk of impacts from construction of the proposed MD 97 improvements.

3. Description of Proposed Temporary Use

In addition to the permanent use of park property as outlined above, temporary use of park property will also be required from Reddy Branch Stream Valley Park for the creation of wetland mitigation and stream restoration located within the park. On May 1, 2003, M-NCPPC formally concurred with FHWA's temporary use criteria and agreed that the proposed MD 97 improvements will not result in permanent or adverse impacts to Reddy Branch Stream Valley Park (**Appendix B**).

As discussed in **Section IV** of this FEIS, SHA's Selected Alternate 7 Modified will impact an estimated 1,211 linear feet of streams and 0.12 acre of wetlands. Replacement mitigation is proposed at a 2:1 ratio for 0.03 acre of palustrine forested and 0.03 acre of palustrine scrub shrub wetlands, and at a 1:1 ratio for 0.06 acre of palustrine emergent wetlands. Accordingly, the wetland mitigation needed for this project totals approximately 0.18 acre. Areas identified for stream restoration include a section of Meadow Branch south of Brookeville Road and a section of along Reddy Branch adjacent to Brighton Dam Road as mapped in **Appendix B**.

Approved stream restoration sites are also mapped in **Appendix B**, and include sites upstream and downstream of the proposed location where SHA's Selected Alternate 7 Modified would cross Meadow Branch, and along a section of Reddy Branch adjacent to Brighton Dam Road. Stream restoration techniques are likely to include riparian buffer plantings and grading and stabilization of eroded stream banks. SHA will work closely with the regulatory resource agencies and M-NCPPC in the development of the detailed stream restoration and wetland mitigation design as part of project design, when funding activities are approved.

The M-NCPPC, as the agency with jurisdiction over Reddy Branch Stream Valley Park, has no objections to the temporary occupancy of parkland and has concurred with the proposed project (see May 1, 2003 letter, **Appendix B**) with consideration of the following conditions:

1. The M-NCPPC Planning Board supports the selection of Alternate 7 Modified including the recommended stream restoration and wetland mitigation locations within Reddy Branch Stream Valley Park coordinated with M-NCPPC staff.
2. The temporary occupation of the parkland will not affect ownership of the land (M-NCPPC will retain ownership of the area) and will be limited to the creation of stream restoration and wetlands mitigation locations with a maintenance easement to be granted by M-NCPPC. The SHA will maintain and monitor the wetland and stream restoration sites for a period not to exceed the regulatory requirements to be established during the permitting.
3. The M-NCPPC staff finds the wetlands creation and stream restoration mitigation locations to be beneficial and consistent with M-NCPPC's Policy for Parks guidance on non-park uses that serve the greater public interests. As a result, there will not be temporary or permanent adverse change to the activities or features that are important to the purpose or function that qualifies the resource under Section 4(f).
4. The temporary occupation will include a minor amount of land.

In accordance with the FHWA guidance on the applicability of Section 4(f) in cases of temporary use and based on FHWA's July 7, 2003 concurrence (**Appendix B**), the temporary occupancy of Reddy Branch Stream Valley Park for stream restoration and wetland creation mitigation is not subject to the requirements of Section 4(f).

G. CORRESPONDENCE AND COORDINATION

As stated previously in this document, federal and state resource agencies have concurred with the SHA Selected Alternate 7 Modified and proposed open design section as part of the Maryland Streamlined Environmental and Regulatory Process. Concurrence letters are included in **Section VI** of this FEIS. The discussions below summarize the Section 4(f) coordination that has occurred including the mitigation previously described that would be implemented during project design.

1. Brookeville Historic District

Project coordination with MHT commenced in June 1995. On November 6, 2002, the MHT concurred that SHA's Selected Alternate would constitute an adverse effect on the Brookeville Historic District (**Appendix A**) similar to their prior notification of adverse effect for the Build Alternates 5C, 7, 8a and 8B. A Memorandum of Agreement (MOA) for the execution of specific actions and measures designed to constitute adequate and acceptable mitigation of adverse effects of SHA's Selected Alternate has been prepared and is included in **Appendix A**. The MOA was circulated by FHWA to the Advisory Council on Historic Preservation (ACHP) in April 2003. On June 3, 2003, FHWA was notified that the ACHP would not be a signatory to the MOA. The MOA was signed by MHT on August 28, 2003. FHWA signed the MOA on December 10, 2003 and submitted it to the ACHP on December 15, 2003 (**Page V-A-1**) to be processed and filed pursuant to 36CFR800.6 (b) (IV).

2. Reddy Branch Stream Valley Park

Project coordination with M-NCPPC began in December 1995. On September 25, 2002, SHA met with M-NCPPC's Director of Planning and staff to present the preliminary design concepts presented in the DEIS (**Appendix B**). This resulted in Montgomery County Council expressing support of the improvements and willingness to work with the FHWA, SHA, and MHT in constructing the proposed improvements.

Mitigation for both the temporary and Section 4(f) permanent use of public parkland is described in M-NCPPC correspondence located in **Appendix B**.

H. CONCLUSION



Based on the above consideration, there is no prudent or feasible alternate that avoids impacts to Section 4(f) lands. The alternate resulting in the least harm to Section 4(f) resources (after mitigation) is Alternate 7 Modified, which has been selected for the following reasons:

Alternate 7 Modified –Western Bypass shift of Alternate 7 was selected to minimize impacts to the Newlin/Downs Mill Complex archaeological site. The approximate 30 to 40 feet shift to the west and retaining wall design proposed south of Brookeville Road under Alternate 7 Modified would avoid the core of the site and reduce impacts to less than five percent of the site. The retaining wall design would also reduce Section 4(f) use of the Brookeville Historic District and Reddy Branch Stream Valley Park. As a result, Alternate 7 Modified would have the least amount of Section 4(f) use of the historic district and public parkland, as compared to the other three western alternates (Alternate 7, Alternate 8A, and Alternate 8B). It would also have the least amount of impacts to prime farmland soils, statewide important soils, streams, and forest cover. Alternate 7 Modified satisfies the project's Purpose and Need, addresses the proposed roundabouts, and complies with Smart Growth criteria.

The following alternates were evaluated and found not to be prudent:

Alternate 1 –(No-Build) was not considered prudent and was not selected because it does not satisfy the Purpose and Need. The quality of life for the Town of Brookeville would not be enhanced by the selection of the No-Build Alternate because commuter through traffic would continue to deteriorate the quality of life in the historic Town of Brookeville.

Alternate 5C – (Eastern Bypass) was not considered prudent and was not selected due to excessive cost (nearly three times the \$12.5 million cost of SHA's Selected Alternate 7 Modified), and strong opposition from the public including local residents, Montgomery County, and M-NCPPC as jurisdictional officials of impacted parkland. It is the only alternate that would impact two public parks and would also have Section 106 adverse effects on the Brookeville Historic District (visual intrusion and increased noise), similar to the other Build Alternates. Alternate 5C is not consistent with the local Comprehensive Plan and would bisect the Brookeville Farms development and disrupt community cohesion. Alternate 5C would triple the length of the Selected Alternate 7 Modified impacting 26 properties that would include five residential relocations and one business displacement compared to 11 property impacts with no displacements for SHA's Selected Alternate 7 Modified.

Alternate 7 – (Western Bypass) was not considered prudent and was not selected because it would result in 6.65 acres of Section 4(f) impacts compared to 5.62 acres for Alternate 7 Modified, including the highest use (2.24 acres) of the Brookeville Historic District. An identified project Purpose and Need is to preserve the historic character of the town. Alternate 7 would have greater impacts to the Newlin/Downs Mill Complex.

Alternate 8A – (At-Grade Western Bypass) was not considered prudent and was not selected because of the highest amount (7.72 acres) of Section 4(f) impacts, lack of public support, and costs that would be \$1.5 million more than SHA’s Selected Alternate 7 Modified.

Alternate 8B – (Grade Separated Western Bypass) was not considered prudent and was not selected because of a greater amount of Section 4(f) impacts (7.62 acres), including viewshed impacts and increased noise in the historic Town of Brookeville. The elevated structure is within sight distance from the historic district; a concern expressed by citizens of Brookeville. In addition, the estimated \$18.5 million cost of Alternate 8B is about \$5.5 million more than SHA’s Selected Alternate 7 Modified.

Concluding Statement: Based upon the above considerations, there is no prudent or feasible alternate to the use of land from the Brookeville Historic District and Reddy Branch Stream Valley Park, and the proposed action includes all possible planning to minimize harm to the historic district and public park property resulting from such use.