



I-495 & I-270 Managed Lanes Study

APPENDIX G

FINAL SECTION 4(F) EVALUATION

June 2022



U.S. Department
of Transportation

**Federal Highway
Administration**



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1 INTRODUCTION

1.1 Overview

The Federal Highway Administration (FHWA), as the Lead Federal Agency, and the Maryland Department of Transportation State Highway Administration (MDOT SHA), as the Local Project Sponsor, are preparing a Final Environmental Impact Statement (FEIS) in accordance with the National Environmental Policy Act (NEPA) for the I-495 & I-270 Managed Lanes Study (Study). The I-495 & I-270 Managed Lanes Study (Study) is the first environmental study under the broader I-495 & I-270 Public-Private Partnership (P3) Program.

This Final Section 4(f) Evaluation focuses on analysis of the Preferred Alternative. The Preferred Alternative, also referred to as Alternative 9 – Phase 1 South, includes building a new American Legion Bridge and delivering two high-occupancy toll (HOT) managed lanes in each direction on I-495 from the George Washington Memorial Parkway in Virginia to west of MD 187 on I-495, and on I-270 from I-495 to north of I-370 and on the I-270 eastern spur from west of MD 187 to I-270. Refer to **Figure 1**. This Preferred Alternative was identified after extensive coordination with agencies, the public and stakeholders to respond directly to feedback received on the DEIS to avoid displacements and impacts to significant environmental resources, and to align the NEPA approval with the planned project phased delivery and permitting approach.

The Final Section 4(f) Evaluation presents the existing conditions, an assessment of potential direct impacts of the Preferred Alternative to parks, recreation areas, and historic sites subject to Section 4(f) protection and final mitigation, if applicable, for unavoidable impacts. This Final Section 4(f) Evaluation builds upon the analysis in the Draft Section 4(f) Evaluation, DEIS and Supplemental DEIS (SDEIS), and has been prepared to support and inform the FEIS.

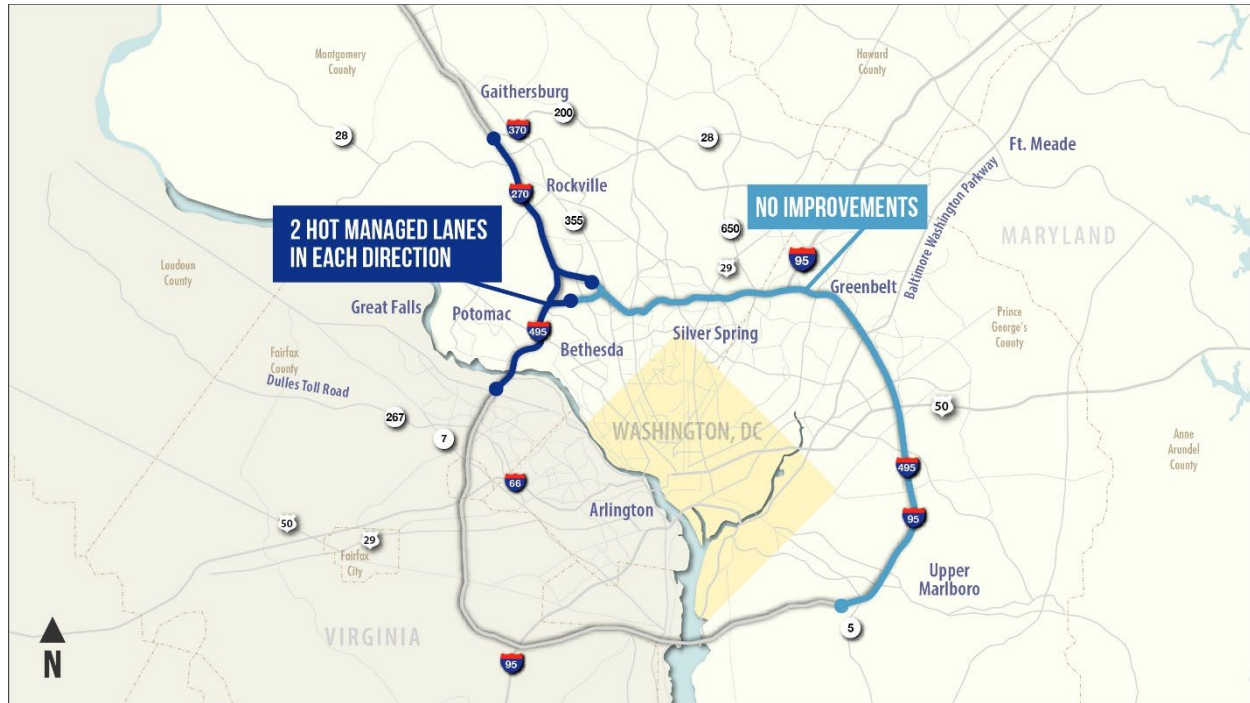
1.2 Study Corridors and the Preferred Alternative

In the SDEIS, published on October 1, 2021, FHWA and MDOT SHA identified the Preferred Alternative: Alternative 9 – Phase 1 South to be consistent with the previously determined phased delivery and permitting approach, which focuses on Phase 1 South. As a result, Alternative 9 – Phase 1 South includes the same improvements proposed as part of Alternative 9 in the DEIS, but focuses the build improvements within the Phase 1 South limits only. The limits of Phase 1 South are along I-495 from the George Washington Memorial Parkway to west of MD 187 and along I-270 from I-495 to north of I-370 and on the I-270 east and west spurs as shown in **dark blue** in **Figure 1**. The improvements include two new HOT managed lanes in each direction along I-495 and I-270 within the Phase 1 South limits. There is no action, or no improvements, included at this time on I-495 east of the I-270 east spur to MD 5 (shown in **light blue** in **Figure 1**). While the Preferred Alternative does not include improvements to the remaining parts of I-495 within the Study limits, improvements on the remainder of the interstate system may still be needed in the future. Any such improvements would advance separately and would be subject to additional environmental studies and analysis and collaboration with the public, stakeholders and agencies.

The 48-mile corridor Study limits remain unchanged: I-495 from south of the George Washington Memorial Parkway in Fairfax County, Virginia, to west of MD 5 and along I-270 from I-495 to north of I-

370, including the east and west I-270 spurs in Montgomery and Prince George's Counties, Maryland (shown in both dark and light blue in **Figure 1**).

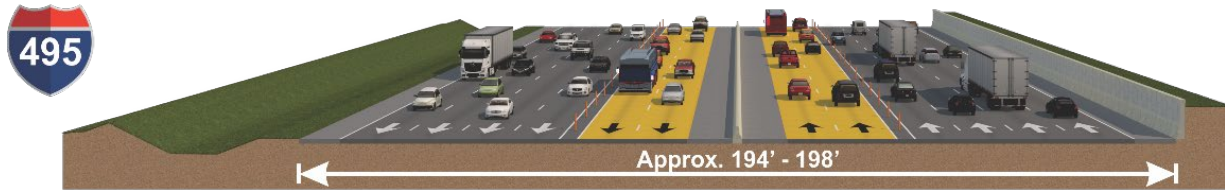
Figure 1: I-495 & I-270 Managed Lanes Study Corridors – Preferred Alternative



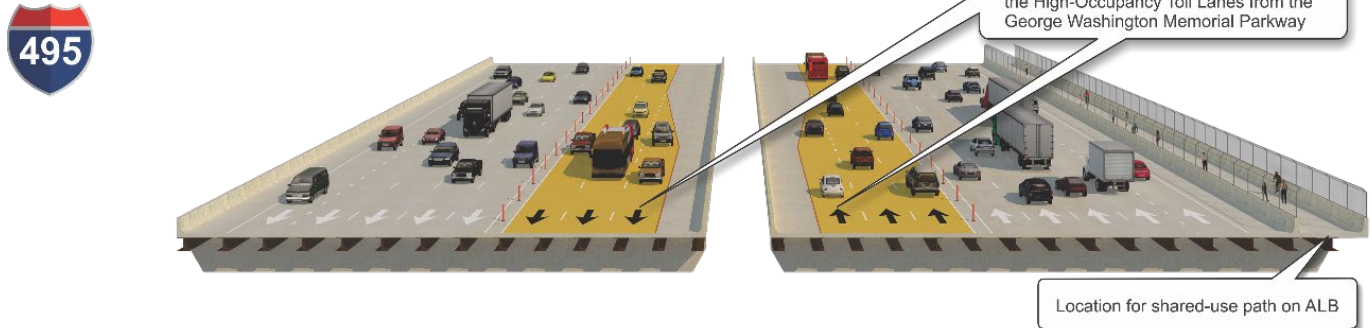
1.3 Description of the Preferred Alternative

The Preferred Alternative includes a two-lane HOT managed lanes network on I-495 and I-270 within the limits of Phase 1 South only. On I-495, the Preferred Alternative consists of adding two, new HOT managed lanes in each direction from the George Washington Memorial Parkway to west of MD 187. On I-270, the Preferred Alternative consists of converting the one existing HOV lane in each direction to a HOT managed lane and adding one new HOT managed lane in each direction on I-270 from I-495 to north of I-370 and on the I-270 east and west spurs. There is no action, or no improvements included at this time on I-495 east of the I-270 east spur to MD 5. Along I-270, the existing collector-distributor (C-D) lanes from Montrose Road to I-370 would be removed as part of the proposed improvements. The managed lanes would be separated from the general purpose lanes using pylons placed within a four-foot wide buffer. Typical sections depicting the proposed lane configurations along I-495 and I-270 are shown in **Figure 2** below. Transit buses and HOV 3+ vehicles would be permitted to use the managed lanes toll-free.

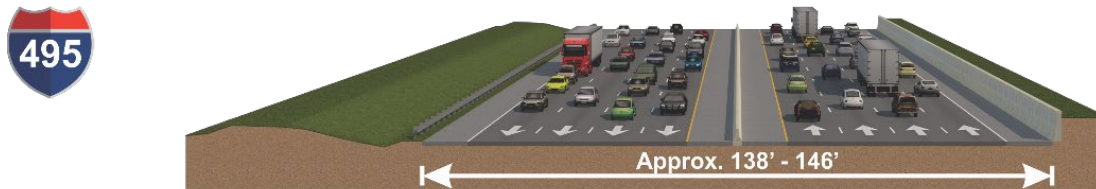
Figure 2: Preferred Alternative Typical Sections (HOT Managed lanes Shown in Yellow)
I-495 from the George Washington Memorial Parkway to west of MD 187



I-495: American Legion Bridge (Looking north towards Maryland)



I-495 west of MD 187 to west of MD 5 - NO ACTION AT THIS TIME



I-270 from I-495 to I-370



1.4 Changes since the Draft Section 4(f) Evaluation, DEIS and SDEIS

Table 1 provides a comparison of the total Section 4(f) impacts identified through the three major milestones of the study (DEIS, SDEIS and FEIS). These totals reflect the continued efforts of MDOT SHA to avoid and minimize impacts to Section 4(f) properties. The initial total of approximately 146.8 acres of Section 4(f) property impact (including permanent and temporary impacts) reported in the DEIS and Draft Section 4(f) Evaluation has been reduced to a total of approximately 33.2 acres for this Final Section 4(f) Evaluation and the corresponding FEIS. Of this impact, approximately 14.7 acres would be temporary¹, and approximately 18.5 acres would be permanent.

¹ Temporarily impacted property would not be permanently acquired by MDOT SHA as part of this project.

The total number of Section 4(f) properties impacted was reduced by 38 properties based on the revised limits of the Preferred Alternative and other minimization measures after the DEIS. This left 21 properties with Section 4(f) use reported in the SDEIS. Since the SDEIS, two additional parks were avoided based on further design refinements - Cabin John Stream Valley Park (Rockville) and Morris Park. One additional Section 4(f) property was identified (the Washington Biologists' Field Club) bringing the final total to 20 properties. The highest impact to any single Section 4(f) property is now 10.1 acres to the Chesapeake and Ohio Canal National Historical Park (9.1 acres of which would be temporary). The largest permanent impact to any single Park is 5.7 acres of impact to Cabin John Regional Park.

Table 1: Comparison of Total Section 4(f) Impacts for Study Milestones

Study Milestone	Total Section 4(f) Impacts (Acres)	Number of Section 4(f) Properties Impacted
DEIS and Draft Section 4(f) Evaluation (Alternative 9)	146.8	59
SDEIS (Preferred Alternative)	39.1	21
FEIS and Final Section 4(f) Evaluation (Preferred Alternative)*	33.2	20

Note: Impacts rounded to the closest 0.1 acres.

* Includes the Washington Biologists' Field Club, which is contained entirely within the Chesapeake and Ohio Canal National Historical Park and was not identified as a Section 4(f) property until after the SDEIS due to recent identification of the property's NRHP eligibility.

The Preferred Alternative has resulted in a net reduction of approximately 113.6 acres of Section 4(f) properties, including both parks and historic resources, compared to the DEIS Alternative 9. (See **Section 2.1** for more detailed information). Impacts were avoided by limiting the Build Alternative to within the Phase 1 South limits, and by minimizing impacts to several parks and historic resources following consideration of public and agency comments received during the DEIS and SDEIS public comment periods. MDOT SHA and FHWA coordinated closely with the Official with Jurisdiction (OWJs) in a series of office and field meetings to identify opportunities to further avoid and minimize impacts to historic resources and park land including contributing features within parks such as forested areas, wetlands and waterways within the Preferred Alternative limits of disturbance (LOD).

Since the DEIS and Draft Section 4(f) Evaluation, substantial efforts to avoid and minimize impacts to park and historic resources around the American Legion Bridge (ALB) have occurred. MDOT SHA and FHWA met with the National Park Service (NPS) on December 8, 2020 to discuss the limit of disturbance (LOD) in the vicinity of the ALB that was presented in the DEIS. The NPS requested that MDOT SHA re-assess the LOD in the vicinity of the ALB to limit impacts to NPS land and its natural resources. MDOT SHA convened an 'ALB Strike Team' composed of national and local experts on bridge design and construction, natural resources, and cultural resources who were charged with the following mission:

To develop and evaluate alternatives for the replacement of the ALB to avoid impacts, to the greatest extent practicable, and reduce overall acreage impacts to the Chesapeake and Ohio Canal National Historical Park and George Washington Memorial Parkway units of the NPS.

The ALB Strike Team considered bridge construction approaches to determine if any of the approaches could further reduce the LOD. The Strike Team conducted detailed investigation of a top-down segmental

construction approach; a top-down cable stayed design approach; and a slide-in place bridge construction approach. In addition, after field analysis and review of readily available information, MDOT SHA and the ALB Strike Team determined that access to the existing bridge could be consolidated to the northwest quadrant along Clara Barton Parkway, eliminating the construction access from the other three quadrants around the bridge and significantly reducing impacts to NPS land. This would be achieved by constructing a temporary construction access road with entrance from Clara Barton Parkway in the northwest quadrant and installing a temporary bridge over the Chesapeake and Ohio Canal and a temporary haul road paralleling the Chesapeake and Ohio Canal towpath. Refer to **SDEIS Section 4.4.3 and FEIS, Section 5.4.3** for additional details on the ALB Strike Team's efforts.

Another focus area for avoidance and minimization was at the Morningstar Tabernacle No. 88 Moses Hall and Cemetery (Morningstar Cemetery) located adjacent to I-495 inner loop just south of Cabin John Parkway. In response to comments received on the DEIS and Draft Section 4(f) Evaluation, impacts to the Morningstar Cemetery boundary were reduced from 0.3 acres (13,068 square feet) reported in the DEIS for Alternative 9 to complete avoidance as described in the SDEIS. Following consulting party input, additional research, and extensive minimization and avoidance efforts documented in the SDEIS, MDOT SHA and FHWA determined that the project would not adversely affect the Morningstar Tabernacle No. 88 Moses Hall and Cemetery and MDOT SHA updated the effect in December 2021. The boundary of the historic property was also updated in December 2021 to include the area of potential burial features identified by the May 2021 ground penetrating radar survey within state-owned right-of-way. In its February 4, 2022, response, Maryland Historical Trust (MHT) did not concur with MDOT SHA and FHWA's specific no adverse effect finding for the Morningstar Tabernacle No. 88 Moses Hall and Cemetery based on the potential for additional burial features. As the project is governed by a programmatic agreement, which includes a treatment plan specifying the methods, limits, and consultation procedures for further investigation of areas with the potential for burials outside of the current historic boundary, no specific determination of effects to the Morningstar Tabernacle No. 88 Moses Hall and Cemetery is made at this time. An effect determination will be made following completion of the additional investigations specified in the programmatic agreement and treatment plan. On May 2, 2022, MHT agreed with MDOT SHA's request to defer determination of effects to Morningstar Tabernacle No. 88 Moses Hall and Cemetery following completion of the additional investigations as specified in the Programmatic Agreement.

Two properties identified in the Draft Section 4(f) Evaluation are no longer evaluated in this Final Section 4(f) Evaluation due to ownership and avoidance. Millennium Garden Park in the City of Rockville was initially identified as a Section 4(f) property in the Draft Section 4(f) Evaluation, but based on further research, it was determined to be owned by MDOT SHA. Due to design refinements, the property is also avoided by the Preferred Alternative LOD. The second property, Cabin John Stream Valley Park in the City of Rockville, has also been avoided. This is due to further refinements of the stormwater management concept for the Preferred Alternative.

Design refinements have reduced impacts to two City of Gaithersburg parks including Morris Park and Malcolm King Park. Impacts to Morris Park in Gaithersburg have been eliminated completely, and permanent impacts to Malcolm King Park have been reduced by 0.8 acres compared to the SDEIS.

One newly identified Section 4(f) property, the Washington Biologists' Field Club, is included in this Final Section 4(f) Evaluation. The property was surveyed for eligibility on the NRHP and determined eligible by

MHT after the SDEIS was published. The property would incur an estimated 0.28 acres of impacts, of which less than 0.1 acres would be permanent impact and 0.27 acres would be temporary impact. This impact was reduced from the previous impact of 1.9 acres under DEIS Alternative 9. A minimal amount of permanent impact to the WBFC would occur due to drill shafts for the new ALB in the amount of 217.8 square feet. The property is located entirely within another Section 4(f) property, the Chesapeake and Ohio Canal National Historical Park. More information is included in **Section 2.6**.

For the properties where a Section 4(f) use would occur under the Preferred Alternative, **Table 2** below provides a comparison of the impacts in the DEIS, the SDEIS, and this final Section 4(f) Evaluation. Note that the DEIS included only a total impact calculation and did not distinguish between permanent and temporary impacts as in the SDEIS and Final Section 4(f) Evaluation. The last column in **Table 2** summarizes, at a high-level, changes to impacts from the SDEIS related to design refinements of the Preferred Alternative LOD at each property. Additional details on changes to each property since the SDEIS are provided in **Sections 2.2 through 2.22**.

Table 2: Comparison of DEIS, SDEIS and Final Section 4(f) Evaluation Impacts

Section 4(f) Property	DEIS (Alt 9) Impact (acres)	SDEIS (Pref Alt) Impact (acres)	Final Section 4(f) Impacts (acres)	Change from SDEIS Impacts
George Washington Memorial Parkway	Total: 12.2	Permanent: 0.7 Temporary: 3.7 Total: 4.4	Permanent: 0.6 Temporary: 3.8 Total: 4.4	Shift of 0.1 acres from permanent impact to temporary
Chesapeake and Ohio Canal National Historical Park	Total: 15.4	Permanent: 1.0 Temporary: 9.1 Total: 10.1	Permanent: 1.0 Temporary: 9.1 Total: 10.1	No change
Clara Barton Parkway	Total: 1.8	Permanent: 1.6 Temporary: 0.9 Total: 2.5	Permanent: 1.1 Temporary: 0.6 Total: 1.7	Impacts decreased by 0.8 acres, including a reduction of 0.5 acres of permanent and 0.3 acres of temporary impact.
Washington Biologists' Field Club	N/A	N/A	Permanent: <0.1 Temporary: 0.27 Total: 0.28	Property was not identified as NRHP-eligible in the DEIS or SDEIS. However, impacts were reduced from 1.9 acres of permanent impact to 0.2 acres from the DEIS.
Carderock Springs Historic District	No Impact	Permanent: < 0.1 Temporary: < 0.1 Total: < 0.1	Permanent: < 0.1 Temporary: < 0.1 Total: < 0.1	No change
Gibson Grove AME Church	No Impact	Permanent: 0.1 Temporary: 0.0 Total: 0.1	Permanent: 0.6 Temporary: 0.0 Total: 0.6	Permanent impacts increased by 0.5 acres

Section 4(f) Property	DEIS (Alt 9) Impact (acres)	SDEIS (Pref Alt) Impact (acres)	Final Section 4(f) Impacts (acres)	Change from SDEIS Impacts
Cabin John Stream Valley Park Unit 2	Total: 1.1	Permanent: 0.8 Temporary: 0.6 Total: 1.4	Permanent: 0.6 Temporary: < 0.1 Total: 0.6	Impacts decreased by 0.8 acres, including a reduction of 0.2 acres of permanent and 0.5 acres of temporary impact
Burning Tree Club	Total: 0.8	Permanent: 1.3 Temporary: 0.0 Total: 1.3	Permanent: 1.3 Temporary: 0.0 Total: 1.3	No change
Academy Woods	Total: 0.2	Permanent: 0.2 Temporary: 0.0 Total: 0.2	Permanent: 0.2 Temporary: 0.0 Total: 0.2	No change
Cabin John Regional Park	Total: 5.7	Permanent: 5.7 Temporary: 0.6 Total: 6.3	Permanent: 5.7 Temporary: 0.6 Total: 6.3	No change
Tilden Woods Stream Valley Park	Total: 0.2	Permanent: 0.6 Temporary: 0.1 Total: 0.7	Permanent: 0.3 Temporary: 0.1 Total: 0.4	Permanent impacts reduced by 0.3 acres
Old Farm Neighborhood Conservation Area	Total: 0.1	Permanent: 0.1 Temporary: 0.0 Total: 0.1	Permanent: 0.1 Temporary: 0.0 Total: 0.1	No change
Cabin John Stream Valley Park Unit 6	Total: 0.4	Permanent: 0.8 Temporary: 0.0 Total: 0.8	Permanent: 0.8 Temporary: < 0.1 Total: 0.8	Temporary impacts increased 0.02
Cabin John Stream Valley Park (Rockville)	Total: 2.1	Permanent: 2.1 Temporary: 0.0 Total: 2.1	No impact	Impacts eliminated
Bullards Park and Rose Hill Stream Valley Park	Total: 0.3	Permanent: 3.3 Temporary: 0.0 Total: 3.3	Permanent: 3.3 Temporary: 0.0 Total: 3.3	No change
Rockmead Park	Total: 0.2	Permanent: 0.2 Temporary: 0.1 Total: 0.3	Permanent: 0.2 Temporary: 0.1 Total: 0.3	No change
Woottons Mill Park	Total: 0.2	Permanent: 0.7 Temporary: 0.0 Total: 0.7	Permanent: 0.7 Temporary: 0.0 Total: 0.7	No change
Woodley Gardens	Total: 0.7	Permanent: 1.2 Temporary: 0.1 Total: 1.3	Permanent: 1.2 Temporary: 0.1 Total: 1.3	No change
Rockville Senior Center and Park	Total: 0.7	Permanent: 1.0 Temporary: 0.0 Total: 1.0	Permanent: 1.0 Temporary: 0.1 Total: 1.1	Temporary impact has increased by 0.1 acres
Ward Building	Total: 0.1	Permanent: 0.2 Temporary: 0.0 Total: 0.2	Permanent: 0.2 Temporary: 0.0 Total: 0.2	No change

Section 4(f) Property	DEIS (Alt 9) Impact (acres)	SDEIS (Pref Alt) Impact (acres)	Final Section 4(f) Impacts (acres)	Change from SDEIS Impacts
Malcolm King Park	Total: 0.1	Permanent: 1.3 Temporary: 0.0 Total: 1.3	Permanent: 0.4 Temporary: <0.1 Total: 0.5	Permanent impacts decreased by 0.8 acres
Morris Park	Total: 0.1	Permanent: 1.1 Temporary: 0.0 Total: 1.1	No impact	Impacts eliminated

Note: all impacts rounded to the closest 0.1 acres.

1.5 Summary of Section 4(f) Conclusions

This Final Section 4(f) Evaluation provides final conclusions regarding the use of Section 4(f) property, avoidance alternatives, all possible planning to minimize harm, and least overall harm as required by Section 4(f) and its implementing regulations at 23 CFR 774. This section provides a brief summary of the Section 4(f) conclusions, which are detailed in **Section 2** through **Section 5**.

As noted above, the Preferred Alternative would require total impacts to Section 4(f) properties of approximately 33.2 acres, including approximately 18.5 acres of permanent impact and 14.7 acres of temporary impact. A total of 20 Section 4(f) properties would require Section 4(f) use by the Preferred Alternative, of which 13 would be *de minimis* impacts. See **Section 2** for more detail.

The analysis of avoidance alternatives (**Section 3**) shows that there are no feasible and prudent alternatives to avoid the use of Section 4(f) property. The Preferred Alternative would not avoid the use of all Section 4(f) properties. It would, however, avoid approximately 110 acres of impact to 40 properties fully avoided by the Preferred Alternative.

Section 4 details the efforts conducted by MDOT SHA to incorporate all possible planning to minimize harm to Section 4(f) properties into the Preferred Alternative. New measures intended to address all possible planning to minimize harm to Section 4(f) properties were documented in the SDEIS and this Final Section 4(f) Evaluation and are included in the Preferred Alternative's avoidance of 40 Section 4(f) properties as compared to the DEIS Alternative 9. Additional avoidance and minimization measures at Section 4(f) properties presented in the SDEIS and FEIS included extensive design refinements in the conceptual stormwater management and in the vicinity of the ALB and at Morningstar Cemetery, and new mitigation measures developed in coordination with the OWJs for each Section 4(f) property impacted. **Section 4.5** provides details on the comprehensive packages of mitigation developed in coordination with the OWJs for Section 4(f) impacts.

Based on the information presented in the Draft Section 4(f) Evaluation, the Updated Draft Section 4(f) Evaluation, and this Final Section 4(f) Evaluation, FHWA and MDOT SHA have reached a conclusion that the Preferred Alternative is the alternative with least overall harm as detailed in **Section 5**. The Preferred Alternative meets the Purpose and Need for the study and impacts far fewer Section 4(f) properties and total acreage relative to the other Build Alternatives that would meet the Purpose and Need.

1.6 Regulatory Context

1.6.1 Section 4(f) of the US Department of Transportation Act of 1966

Section 4(f) of the US Department of Transportation Act of 1966 as amended (49 U.S.C. 303(c) and 23 U.S.C. 138) is a Federal Law that protects properties defined in 23 CFR 774.17 as “publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance.” Section 4(f) applies to all transportation projects that require funding or other approvals by the USDOT. As a USDOT agency, FHWA must comply with Section 4(f) and its implementing regulations at 23 CFR 774.

Regulations at 23 CFR 774.11(c) state Section 4(f) applies to a park, recreation area, or wildlife and waterfowl refuge determined to be significant. For properties where no determination exists, “the Section 4(f) property will be presumed to be significant.” 23 CFR 774.17 further defines “Historic site” to include any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). The criteria for defining a site as eligible for inclusion in the National Register is further detailed in **Section 1.4.8.C**.

FHWA cannot approve a transportation project that uses any Section 4(f) property, unless:

- FHWA determines that there is no feasible and prudent avoidance alternative to the use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 774.3(a)); or
- FHWA determines that the use of Section 4(f) property, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancements measures) committed to by the applicant, will have a *de minimis* impact on the property (23 CFR 774.3(b)).

An impact to a significant public park, recreation area, or wildlife and waterfowl refuge may be determined to be *de minimis* if the transportation use of the Section 4(f) property, including incorporation of any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures), does not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) (23 CFR 774.17). For historic sites, a *de minimis* impact means that FHWA has determined (in accordance with 36 CFR 800) that either no historic property is affected by the project or that the project will have “no adverse effect” on the historic property. A *de minimis* impact determination does not require analysis to determine if avoidance alternatives are feasible and prudent, but consideration of avoidance, minimization, mitigation or enhancement measures should occur.

Following 23 CFR 774.5(b), the public should be afforded an opportunity to review and comment on the effects of the Proposed Action on the protected activities, features, or attributes of the Section 4(f) parks, recreation areas or wildlife and waterfowl refuges. Opportunity for public review applies to historic sites as well. This is accomplished during the Section 106 process. Documentation of consulting party involvement is required (23 CFR 774.5(b) and 774.7(b)). Moreover, the official(s) with jurisdiction over the property, after being informed of the public comments and FHWA's intent to make the *de minimis* impact finding, must concur in writing that the project will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f).

1.6.2 Other Relevant Authority

A. Capper-Cramton Act of 1930

The Capper-Cramton Act of May 29, 1930 (46 Stat. § 482), as amended, is a federal statute enacted for the acquisition, establishment, and development of the George Washington Memorial Parkway and for the acquisition of lands in the District of Columbia, Maryland and Virginia for a comprehensive park, parkway, and playground system in and around the National Capital Region. The Capper-Cramton Act empowered the National Capital Planning Commission (NCPC) to acquire lands in Maryland and Virginia for the George Washington Memorial Parkway, owned by the federal government and operated by NPS. Property records provided by NPS indicate portions of George Washington Memorial Parkway/Clara Barton Parkway known as Tracts 114-006, 114-009, 119-034, 119-040, 119-043, 119-044, 120-001, 120-003, 120-008 were acquired by funds from the Capper-Cramton Act. All impacts to Clara Barton Parkway are within the above referenced tracts.

The Capper-Cramton Act is discussed in this Section 4(f) Evaluation because impacts to some park properties under the jurisdiction of NPS and M-NCPPC may require additional coordination and approval under the Capper-Cramton Act. The M-NCPPC administers more than 2,200 acres of Maryland Stream Valley Parks in Montgomery and Prince George's Counties. Many of these lands were purchased with funds from the Capper-Cramton Act. There are no implementing regulations or mitigation requirements associated with the Capper-Cramton Act.

The Capper-Cramton Act (CCA) of 1930 (46 Stat. 482), as amended, states that lands purchased with funds appropriated under the CCA for the park, parkway, and playground system in Maryland shall be developed and administered by Maryland-National Capital Park and Planning Commission (M-NCPPC) in accordance with plans approved by the National Capital Park and Planning Commission (predecessor of NCPC). Changes to parks noted as having been purchased under CCA and, therefore, NCPC authority over CCA impacted parkland have occurred since the DEIS and SDEIS. Based on further research and coordination with NCPC and M-NCPPC, Cabin John Stream Valley Park, Unit 2 and Cabin John Regional Park were not acquired with Capper-Cramton funds and, therefore, NCPC does not have any Capper-Cramton jurisdiction over potentially impacted land in these two M-NCPPC owned and managed parks. Moreover, since the land is already owned by the State of Maryland and the Study is a State-sponsored project, NCPC does not have jurisdiction over Cabin John Stream Valley Park Unit 2 or Cabin John Regional Park under the Planning Act either. (Refer to NCPC's SDEIS Comment, dated November 19, 2021, **FEIS, Appendix T.**)

The Preferred Alternative will have impacts to George Washington Memorial Parkway, Clara Barton Parkway, and Chesapeake and Ohio National Historical Park. However, NPS has advised NCPC of its intent to "transfer," via the Highway Deed Easement Process, project-related land within the boundary of the George Washington Memorial Parkway to the State of Virginia and project-related land within the boundary of the Clara Barton Parkway and Chesapeake and Ohio National Historical Park to the State of Maryland should a build alternative be selected and a Record of Decision issued. These resulting changes would negate NCPC's Capper-Cramton jurisdiction over Clara Barton Parkway land and its Planning Act jurisdiction over George Washington Memorial Parkway and Chesapeake and Ohio Canal National Historical Park lands.

B. Section 6(f) of the Land and Water Conservation Fund Act

Section 6(f) of the Land and Water Conservation Fund Act of 1965 (LWCF) comprised a federal program of assistance to federal, state, and local governments for the acquisition of land and water for the benefit of all Americans. The LWCF is administered by the Department of Interior's NPS, which retains oversight of development projects that would cause impacts to or permanent conversion of recreational property acquired with LWCF monies. The implementing regulations at 36 CFR 59 apply solely to the "Program of Assistance to States." Section 36 CFR 59.1 discusses the post-completion responsibilities that "apply to each area of a facility for which LWCF assistance is obtained, regardless of the extent of participation of the program in the assisted area or facility and consistent with the contractual agreement between NPS and the State. Responsibility for compliance and enforcement of these provisions rests with the State for both State and locally sponsored projects."

Section 6(f) is discussed concurrently with Section 4(f) because recreational properties could have been acquired or improved with funds from the LWCF. While mitigation opportunities are more flexible under Section 4(f) and may or may not include replacement land, Section 6(f) directs NPS to assure replacement lands are of equal value, location and usefulness (NPS, 2019). Therefore, Section 6(f) requirements may influence the Section 4(f) mitigation for this project. In Maryland, the Director of Land Acquisition and Planning of the Maryland Department of Natural Resources (MDNR) administers the program. In Virginia, the Director of the Department of Conservation and Recreation administers the program.

MDOT SHA has not identified any State or locally sponsored projects which received LWCF assistance from the "Program of Assistance to States" that would experience an impact from the Managed Lanes Study. NPS has informed MDOT SHA that the Chesapeake and Ohio Canal National Historical Park received LWCF assistance from the federal side of the program. The property is not subject to the specific requirements set forth in Section 6(f) and its implementing regulations at 36 CFR 59.

C. Section 106 of the National Historic Preservation Act

Section 106 of the NHPA as amended and its implementing regulations at 36 CFR 800 are intended to preserve historical and archaeological sites in the United States. Regulations require that each federal agency take into account the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation (ACHP) with a reasonable opportunity to comment. Section 106 requires that federal agencies consult with the SHPO, Tribal Historic Preservation Officer (THPO), and Native Hawaiian Organizations, among other parties. The regulations at 36 CFR 800 define an undertaking, and specify how to identify historic properties, assess potential effects on historic properties, and resolve adverse effects. An historic property is any historic district, site, building, structure or object that is listed in or determined eligible for inclusion in the NRHP. Under Section 106, each federal agency must consider public views and concerns about historic preservation issues when making final project decisions. Refer to **FEIS, Appendix I** for the Cultural Resources Technical Report which includes details on how the Study is complying with Section 106 regulations.

Section 4(f) stipulates that for a historic site to be granted protection, it must be considered significant (i.e., eligible for or listed in the NRHP).² Archaeological sites only qualify for Section 4(f) protection if they are significant *and* warrant preservation in place. No impacted archaeological sites that warrant preservation in place have been identified for the Preferred Alternative at this time. Judgments about a site's importance and preservation value are made by the FHWA after consultation with the SHPO and/or THPO, Federally recognized Indian Tribe as appropriate, and the ACHP if participating in the project.

In the event an archaeological site which warrants preservation in place is discovered during construction, the Section 4(f) process may be expedited, and any required evaluation of feasible and prudent avoidance alternatives will consider the level of investment already made. The review process, including the consultation with other agencies, will be shortened as appropriate.

D. Section 110 of the National Historic Preservation Act

Section 110 of the NHPA as amended establishes the broad preservation responsibilities of Federal agencies to ensure that historic preservation is fully integrated into the ongoing programs of all Federal agencies. Section 110(f) of the NHPA and its implementing regulations at 36 CFR 800.10 require that Federal agencies exercise a higher standard of care when considering undertakings that may directly and adversely affect National Historic Landmarks (NHLs). Prior to the approval of any Federal undertaking that may directly or adversely affect any NHL, the head of the agency shall undertake such planning and actions as may be necessary to minimize harm to such landmark, and to provide the ACHP with a reasonable opportunity to comment. No NHLs would be impacted by the Preferred Alternative.

The regulations at 36 CFR 800 also specify the participation of the ACHP in the resolution of adverse effects on NHLs, the invitation of the Secretary to participate in the consultation where there may be an adverse effect, and the ACHP's reporting of the outcome.

E. Maryland Program Open Space

Program Open Space (POS) was established under MDNR in 1969. The POS is split into a statewide program that purchases fee simple land for establishing state parks, forest, and wildlife and fisheries management areas and a local program that provides financial and technical assistance to subdivisions for the planning, acquisition, and/or development of recreation land and open space areas. Potential impacts to land or easements purchased with POS funds requires coordination with MDNR. No park properties subject to Maryland's Program Open Space would be impacted by the Preferred Alternative. Refer to **Section 2.1.3** for more information.

² *National Register Criteria for Evaluation*: The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield, information important in prehistory or history.

2 INVENTORY AND USE OF SECTION 4(F) PROPERTY

Pursuant to 23 CFR 774.17, a “use” of Section 4(f) property occurs:

- When land is **permanently incorporated** into a transportation facility;
- When there is a **temporary occupancy** of land that is adverse in terms of the statute's preservation purpose as defined in 23 CFR 774.13(d). A temporary occupancy of land does *not* constitute a “use” within the meaning of Section 4(f) if the following conditions are satisfied:
 - The duration of the occupancy must be less than the time needed for the construction of the project, and no change of ownership occurs;
 - Both the nature and magnitude of the changes to the Section 4(f) land are minimal;
 - No permanent adverse physical changes, nor interference with activities or purposes of the resources on a temporary or permanent basis, are anticipated;
 - The land must be returned to a condition that is at least as good as existed prior to the project; and
 - There is documented agreement with the appropriate Federal, State, or local officials having jurisdiction over the land that the above conditions have been met.
- When there is a **constructive use** of a Section 4(f) property. As defined in 23 CFR 774.15, a constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. The degree of impact and impairment must be determined in consultation with the OWJ in accordance with 23 CFR 774.15(d)(3).

2.1 Overview

The Draft Section 4(f) Evaluation included descriptions of all Section 4(f) properties identified within the corridor study boundary, the use of Section 4(f) properties for all previously evaluated alternatives, and discussion of minimization measures for each property. The SDEIS updated this information based on the Preferred Alternative (Alternative 9 – Phase 1 South) which avoids the use of Section 4(f) properties within the study limits outside of Phase 1 South where no improvements are proposed, resulting in lower overall impacts to Section 4(f) properties. Since the SDEIS, the design has advanced on the Preferred Alternative, and in coordination with the P3 Phase Developer, minor modifications to the Preferred Alternative have occurred. These modifications included roadway design adjustments based on traffic operations, a new trail connection option from the American Legion Bridge (ALB) to the Chesapeake and Ohio Canal towpath, revisions to noise barrier locations based on further analysis, revisions to stormwater management and culvert augmentation sites, and continued application of avoidance and minimization efforts at sensitive resources.

Table 3 presents the Section 4(f) properties impacted by the Preferred Alternative. Each property with a potential Section 4(f) use is then described in **Sections 2.2 through 2.22**. **Table 3** notes the Official with Jurisdiction (OWJ) for each Section 4(f) property; the OWJ is designated in the Section 4(f) regulations and are for the purposes of Section 4(f) only.

Table 3: Use of Section 4(f) Property

Section 4(f) Property	Official(s) with Jurisdiction ¹	Property Type	Section 4(f) Approval	Final Section 4(f) Impacts ²
George Washington Memorial Parkway	Advisory Council on Historic Preservation (ACHP), NPS, Virginia Department of Historic Resources (VDHR)	Public Park and Historic Property	Individual Evaluation	Permanent: 0.6 Temporary: 3.8 Total: 4.4
Chesapeake and Ohio Canal National Historical Park ³	ACHP, Maryland Historical Trust (MHT), NPS	Public Park and Historic Property	Individual Evaluation	Permanent: 1.0 Temporary: 9.1 Total: 10.1
Clara Barton Parkway ³	ACHP, MHT, NPS	Public Park and Historic Property	Individual Evaluation	Permanent: 1.1 Temporary: 0.6 Total: 1.7
Washington Biologists' Field Club on Plummers Island	MHT, NPS	Historic Property	Individual Evaluation	Permanent: <0.1 Temporary: 0.27 Total: 0.28
Carderock Springs Historic District	MHT	Historic Property	<i>De minimis</i>	Permanent: < 0.1 Temporary: < 0.1 Total: < 0.1
Gibson Grove AME Church	MHT	Historic Property	Individual Evaluation	Permanent: 0.6 Temporary: 0.0 Total: 0.6
Cabin John Stream Valley Park Unit 2	Maryland-National Capital Park and Planning Commission (M-NCPPC) Montgomery County	Public Park	<i>De minimis</i>	Permanent: 0.6 Temporary: < 0.1 Total: 0.6
Burning Tree Club	MHT	Historic Property	<i>De minimis</i>	Permanent: 1.3 Temporary: 0.0 Total: 1.3
Academy Woods	MHT	Historic Property	<i>De minimis</i>	Permanent: 0.2 Temporary: 0.0 Total: 0.2
Cabin John Regional Park	M-NCPPC Montgomery County	Public Park	Individual Evaluation	Permanent: 5.7 Temporary: 0.6 Total: 6.3
Tilden Woods Stream Valley Park	M-NCPPC Montgomery County	Public Park	<i>De minimis</i>	Permanent: 0.3 Temporary: 0.1 Total: 0.4
Old Farm Neighborhood Conservation Area	M-NCPPC Montgomery County	Public Park	<i>De minimis</i>	Permanent: 0.1 Temporary: 0.0 Total: 0.1
Cabin John Stream Valley Park Unit 6	M-NCPPC Montgomery County	Public Park	<i>De minimis</i>	Permanent: 0.8 Temporary: <0.1 Total: 0.8
Bullards Park and Rose Hill Stream Valley Park	City of Rockville Department of Recreation and Parks	Public Park	Individual Evaluation	Permanent: 3.3 Temporary: 0.0 Total: 3.3
Rockmead Park	City of Rockville Department of Recreation and Parks	Public Park	<i>De minimis</i>	Permanent: 0.2 Temporary: 0.1 Total: 0.3

Section 4(f) Property	Official(s) with Jurisdiction ¹	Property Type	Section 4(f) Approval	Final Section 4(f) Impacts ²
Woottons Mill Park	City of Rockville Department of Recreation and Parks	Public Park	<i>De minimis</i>	Permanent: 0.7 Temporary: 0.0 Total: 0.7
Woodley Gardens	MHT	Historic Property	<i>De minimis</i>	Permanent: 1.2 Temporary: 0.1 Total: 1.3
Rockville Senior Center and Park	City of Rockville Department of Recreation and Parks, MHT	Public Park and Historic Property	<i>De minimis</i>	Permanent: 1.0 Temporary: 0.1 Total: 1.1
Ward Building	MHT	Historic Property	<i>De minimis</i>	Permanent: 0.2 Temporary: 0.0 Total: 0.2
Malcolm King Park	City of Gaithersburg Department of Parks, Recreation and Culture	Public Park	<i>De minimis</i>	Permanent: 0.4 Temporary: <0.1 Total: 0.5

Note: 1. Virginia Department of Historic Resources (VDHR) serves as the Virginia State Historic Preservation Office; Maryland Historical Trust (MHT) serves as the Maryland State Historic Preservation Office.

2. All impacts quantities rounded to the tenths of an acre. For purposes of determining Section 4(f) use, temporary impacts are considered short-term, construction related activities that do not require permanent incorporation of a Section 4(f) resource into a transportation facility. Short-term, construction related work includes but is not limited to construction staging, material and equipment storage, construction access easements, and other areas needed to support the construction, but not part of the long-term improvement.

3. Section 4(f) impacts to Chesapeake and Ohio Canal National Historical Park and Clara Barton Parkway as currently noted in Chapter 5 exclude the area that currently has an existing transportation use. The area within NPS property defined as transportation use includes existing I-495 at-grade roadway sections to the toe of slope, Clara Barton Parkway Interchange ramp sections to the toe of slope, existing pier locations for the structure over the Chesapeake and Ohio Canal and eastbound Clara Barton Parkway, and existing pier locations for the American Legion Bridge.

As described in Section 1.2.2.A of the Draft Section 4(f) Evaluation, a constructive use analysis was conducted to evaluate whether the proposed action, if not directly incorporating land from a Section 4(f) property, could have proximity impacts that would substantially impair the use or value of the resource. These analyses evaluated how the Preferred Alternative would affect neighboring or nearby Section 4(f) properties and determined if impacts from the proposal would result in substantial impairment of the activities, features or attributes that qualify the resource for protection under Section 4(f). The constructive use analysis determined that no constructive uses would occur from noise, visual intrusions, restrictions of access or vibrations.

2.2 Section 4(f) Properties Avoided

While the study limits remain the same as noted in the DEIS, the limits of build improvements under the Preferred Alternative are limited to Phase 1 South only. There is no action or no improvements included at this time on I-495 east of the I-270 east spur to MD 5. Additionally, two park properties within the Phase 1 South area, Morris Park and Cabin John Stream Valley Park in Rockville, have been avoided based on design refinements since the SDEIS. As a result of these refinements, the Preferred Alternative would avoid the use of 40 Section 4(f) properties that were previously reported as Section 4(f) uses in the DEIS and Draft Section 4(f) Evaluation, totaling approximately 108.8 acres. This avoidance comprises the vast majority of the net reduction in impacts to Section 4(f) properties of 113.6 acres compared to DEIS

Alternative 9. The properties avoided and acreage of Section 4(f) use previously included in the DEIS and SDEIS are included in **Table 4**.

Table 4: Avoided Section 4(f) Use by the Preferred Alternative

Section 4(f) Properties No Longer Impacted by the Preferred Alternative	Acres of Avoided Section 4(f) Use
Andrews Manor Park	2.6
Baltimore Washington Parkway	69.3
Beckett Field	0.2
Beltsville Agricultural Research Center (BARC)	0.5
Blair Local Park	0.4
Buddy Attick Lake Park	0.1
Cabin John Stream Valley Park (Rockville)	2.1
Calvary Evangelical Lutheran Church	<0.1
Carsondale	0.1
Cherry Hill Road Park	1.8
Douglas E. Patterson Park	0.7
Fleming Local Park	0.1
Forest Glen Historic District	0.2
Forest Glen Neighborhood Park	0.3
Glenarden Historic District	0.8
Greenbelt Historic District	0.3
Greenbelt Park	0.6
Grosvenor Estate (Wild Acres)	0.1
Henry P. Johnson Park	<0.1
Henson Creek Stream Valley Park	0.1
Heritage Glen Park	0.5
Hollywood Park	<0.1
Indian Spring Club Estates and Indian Spring Country Club	1.2
Indian Springs Park (City of Greenbelt)	0.1
Indian Springs Terrace Local Park	1.4
Locust Hill Neighborhood Park	0.3
Manchester Estates Park	0.5
McDonald Field	<0.1
Metropolitan Branch, Baltimore & Ohio Railroad	8.8
Montgomery Blair High School Athletic Fields	1.4
Morningstar Tabernacle No. 88 Moses Hall and Cemetery	0.3
Morris Park	1.1
National Park Seminary Historic District / Forest Glen	1.2
Northwest Branch Stream Valley Park, Unit 3	3.2
Rock Creek Stream Valley Park, Unit 2	0.4
Rock Creek Stream Valley Park, Unit 3	3.3

Section 4(f) Properties No Longer Impacted by the Preferred Alternative	Acres of Avoided Section 4(f) Use
Sligo Creek Parkway	4.1
South Four Corners Neighborhood Park	0.1
Southwest Branch Stream Valley Park	0.3
Suitland Parkway	0.3
TOTAL ACRES AVOIDED	108.8

Note: all avoided impacts presented are relative to DEIS Alternative 9.

Properties that would experience a Section 4(f) use from the Preferred Alternative are detailed in **Sections 2.3 through 2.21** below. Within the Preferred Alternative LOD, there is one property subject to the Capper-Cramton Act, Clara Barton Parkway, and one property, the Chesapeake and Ohio Canal National Historic Park, subject to Section 6(f). **Section 1.4.8** includes additional information on other relevant authority including Capper-Cramton Act of 1930 and Section 6(f) of the Land and Water Conservation Act.

2.3 George Washington Memorial Parkway

Type of Section 4(f) Property: Historic Property and Public Park

Officials with Jurisdiction: NPS, VDHR

Type of Section 4(f) Approval: Individual Evaluation

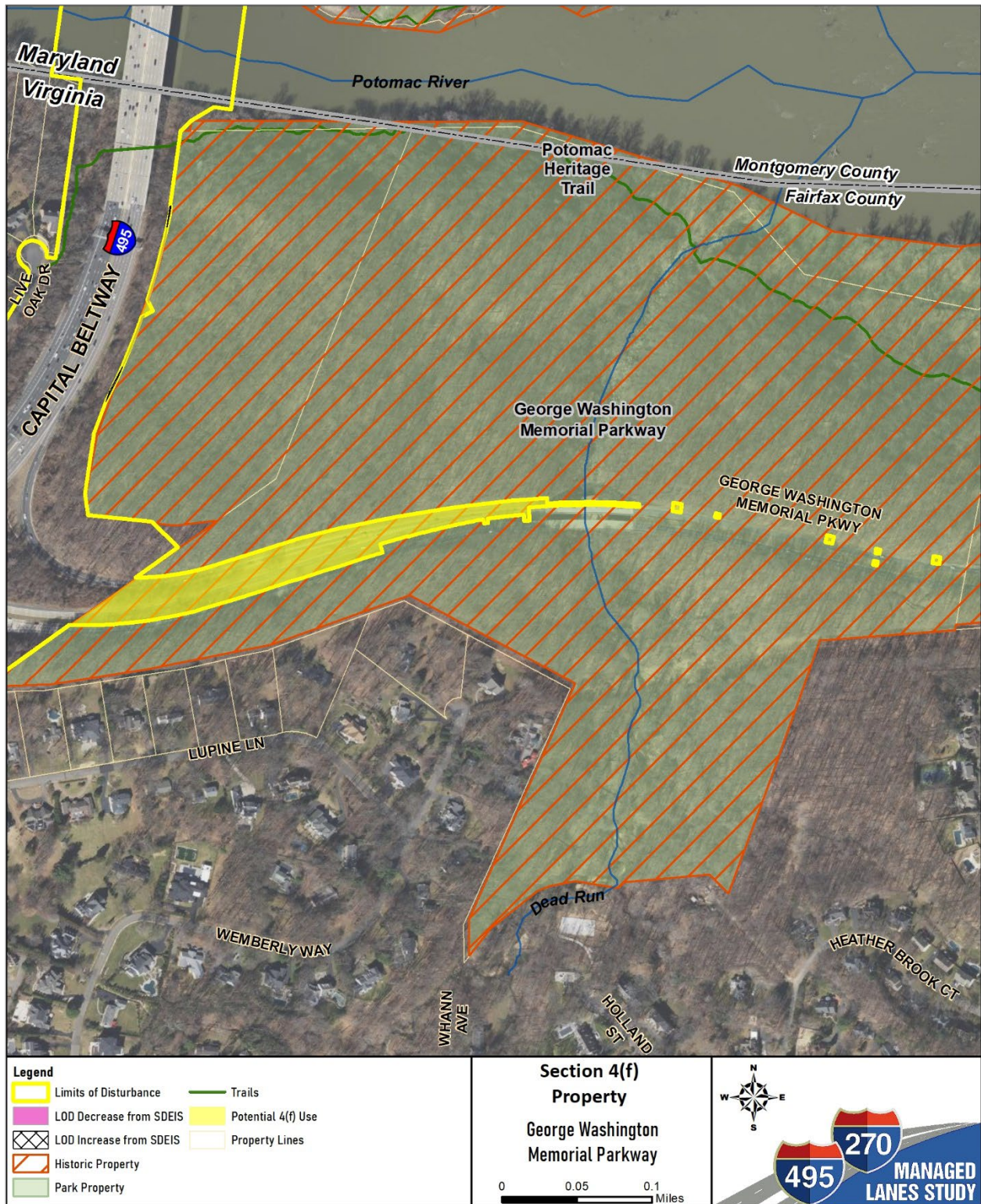
George Washington Memorial Parkway is a publicly-owned park and NRHP-listed historic district that extends along the Potomac River from I-495 to Mount Vernon in Virginia. The George Washington Memorial Parkway is administered by the NPS. The George Washington Memorial Parkway is a scenic roadway honoring the nation's first president that protects and preserves cultural and natural resources along the Potomac River below Great Falls to Mount Vernon. It is also a historic district listed in the NRHP for its association with twentieth-century parkway design, engineering, landscape architecture, park planning and conservation, commemoration, and its association with George Washington. Features within George Washington Memorial Parkway include the Potomac Heritage National Scenic Trail and Turkey Run Park conservation area. The park boundary of George Washington Memorial Parkway extends 38.3 miles and comprises approximately 7,300 acres, including all administrative units and features. Clara Barton Parkway (**Section 2.5**) is part of the larger George Washington Memorial Parkway Historic District with a separate historic boundary in Maryland.

George Washington Memorial Parkway is also a historic district that was listed in the NRHP on June 2, 1995. It is historically significant under Criterion B for its association with the life of George Washington and Criterion C for its embodiment of the distinctive characteristics of a parkway.

The Preferred Alternative would result in a Section 4(f) use of 4.4 acres of George Washington Memorial Parkway (**Figure 3**), including 0.6 acres of permanent impact and 3.8 acres of temporary impact.

The impacts to George Washington Memorial Parkway would be required to accommodate the construction, operation, and future maintenance of new direct access ramps to the managed lanes on I-495; the installation, operation, and future maintenance of electrical conduit and permanent signage to inform the traveling public of toll rates and operation of the facility, resurfacing of George Washington

Figure 3: George Washington Memorial Parkway



Memorial Parkway for maintenance of traffic during construction, construction of a shared use path along the I-495 inner loop and retaining wall. Detailed mapping of the Preferred Alternative design at George Washington Memorial Parkway can be found in **FEIS, Appendix E – Maps 2-4**. The Preferred Alternative would result in temporary closure of the Potomac Heritage National Scenic Trail within the LOD during construction. A detour route, if determined to be necessary, would be developed by MDOT SHA and the Developer in coordination with NPS, Fairfax County, and VDOT. The segment of the trail within the LOD would be restored on a new alignment after construction is completed. No other recreational facilities within George Washington Memorial Parkway would be impacted by the Preferred Alternative.

Since the SDEIS, the proposed impacts to George Washington Memorial Parkway under the Preferred Alternative have been modified to shift 0.1 acres from permanent impact to temporary. The proposed I-495 inner loop and shared use path along the east side of I-495 adjacent to George Washington Memorial Parkway was slightly realigned due to modifications of the design at the George Washington Memorial Parkway interchange. The permanent and temporary LOD is offset behind the proposed retaining wall along the shared use path and due to the realignment, the permanent needs decreased in discrete locations and the temporary needs increased in discrete locations.

MDOT SHA conducted extensive minimization efforts to reduce impacts in the vicinity of the ALB, including impacts to George Washington Memorial Parkway, by evaluating alternative bridge designs and construction staging methods and coordinating with NPS as described in **Section 1.5 and SDEIS Chapter 4, Section 4.4.3**. Minimization efforts resulted in the elimination of a construction access area within George Washington Memorial Parkway that was previously to be used for the location of a construction crane. A new interchange configuration pulled roadwork off the George Washington Memorial Parkway mainline within the park boundary, and a refined signing layout was developed limiting ground disturbance to only those areas where signs will be removed or placed and where electrical conduit must be placed. Through coordination with NPS, a retaining wall was included in the design adjacent to the proposed shared use path that runs parallel to I-495 to further reduce impacts.

MDOT SHA has coordinated with NPS to identify a comprehensive package of parkland mitigation commitments for impacts to George Washington Memorial Parkway, Chesapeake and Ohio Canal National Historic Park, and Clara Barton Parkway. Parkland mitigation measures are summarized in the list below, with more details included in **Section 4.5.1**.

- Develop and implement a comprehensive ecological restoration plan and cost estimate for restoring limits of disturbance to preexisting conditions for the impacted area.
- Create/restore 1.53 acres of wetland northwest of American Legion Bridge (Site ID CHOH-13) per the Wetland Statement of Findings.
- Install new white legend and border on brown background guide signs along I-495 for the George Washington Memorial Parkway exit.
- Shift bridge piers north of Lock 13 to the maximum extent possible while maintaining adequate vertical clearance of 12 feet, 6 inches between towpath and bottom of bridge steel to accommodate NPS equipment. Design new ALB to capture all drainage outfall using downspouts. The downspouts will be located so the water does not drop onto areas with frequent pedestrian use.

- Complete a condition assessment of locks, masonry walls, towpath, and canal prism throughout entire LOD and coordinate with NPS to develop and implement a plan for repairs identified during condition assessment.
- Complete Phase III Archaeological Data Recovery at 44FX0374, 44FX0379 and 44FX0389 (GWMP) and develop associated public interpretation materials (in Virginia).
- Complete Phase III Archaeological Data Recovery at 18MO749 and 18MO751 (Chesapeake and Ohio Canal) and develop associated public interpretation materials (In Maryland).
- Prepare National Register Nomination for Dead Run Ridges Archaeological District.
- Develop Interpretive product on archeological sites; Create web-based Story Map, waysides, and/or brochures.
- Provide monetary compensation for a Cultural Landscape Report for Clara Barton Parkway (historical narrative; updated existing conditions and analysis and evaluation; and treatment guidelines for management of character defining features).
- Complete a condition assessment of Potomac Heritage Trail within the LOD and coordinate with NPS to develop and implement a plan to improve the trail within the LOD.
- Prepare Visitor and Ecological Impact Study.
- Acquire James Audia property (2 parcels totaling 1.4 acres) as replacement parkland for impacts to George Washington Memorial Parkway.
- Convey a portion of the MDOT SHA owned former Ridenour property (38.7 acres) as replacement parkland for impacts to the Chesapeake and Ohio Canal National Historical Park and Clara Barton Parkway.
- Provide monetary compensation up to \$60,000 to update and refine the George Washington Memorial Parkway Climate Action Plan.
- The Preferred Alternative will result in temporary closure of the Potomac Heritage National Scenic Trail within the LOD during construction. A detour route, if determined to be necessary, will continue to be developed by MDOT SHA and the Developer in coordination with NPS, Fairfax County, and VDOT. The segment of the trail within the LOD would be restored on a new alignment after construction is completed.
- Evaluate drainage and sight distance considerations at the intersection of the shared use path and Chesapeake and Ohio Canal towpath during final design in coordination with NPS, within the LOD.
- Design and construct, in coordination with NPS and the Washington Biologists' Field Club, slope armoring along the upstream side of Plummers Island to mitigate for future slope erosion as a result of tree clearing with the LOD. The slope armoring could include, but is not limited to, a rip-rap slope, live staking, and brush layering or any combination of armoring that will provide a blended natural aesthetic with the topography and historic nature of the island.

Mitigation for the use of George Washington Memorial Parkway is consistent with stipulations identified in the Section 106 Programmatic Agreement and has been coordinated with the MHT and Section 106 consulting parties (**FEIS, Appendix J**).

2.4 Chesapeake and Ohio Canal National Historical Park

Type of Section 4(f) Property: Historic Property and Public Park

Officials with Jurisdiction: MHT, NPS

Type of Section 4(f) Approval: Individual Evaluation

The Chesapeake and Ohio Canal National Historical Park is an NRHP-listed historic district and publicly-owned park and recreation area encompassing 19,575 acres. The Chesapeake and Ohio Canal National Historical Park stretches along the Potomac River from Rock Creek at Georgetown in Washington, DC, to Cumberland, Maryland, for 184.5 miles. Construction on the Chesapeake and Ohio Canal began in 1828 and concluded in 1850. The Chesapeake and Ohio Canal became a unit of the NPS as a national monument in 1961 and then established as a national historical park in 1971.

The Chesapeake and Ohio Canal National Historical Park was designated to preserve and interpret the 19th century transportation canal and its associated scenic, natural, and cultural resources; and to provide opportunities for education and appropriate outdoor recreation. The Chesapeake and Ohio Canal National Historical Park is listed on the NRHP and contains more than 1,300 historic structures, including one of the largest collections of 19th century canal features and buildings in the national park system.

The Chesapeake and Ohio Canal National Historical Park was listed in the NRHP on October 15, 1966, prior to becoming a national historical park. A supplementary listing under the name “Chesapeake and Ohio Canal National Historical Park” was added to the NRHP on February 3, 2015. The Chesapeake and Ohio Canal National Historical Park is listed in the NRHP under Criteria A, C, and D. In addition to 455 contributing resources previously listed in the NRHP, the supplemental listing added 796 contributing resources comprising 106 buildings, 175 sites, 483 structures, and 32 objects.

Based on property information provided by NPS, MDOT SHA has now evaluated impacts to the Chesapeake and Ohio Canal National Historical Park using a single boundary applicable to both the historic property and public park, rather than two separate boundaries as reported in the DEIS. This change to use a single boundary was made at the request of NPS. Impacts to the Chesapeake and Ohio Canal National Historical Park in the DEIS and Draft Section 4(f) Evaluation were based on readily available property information which included permits for operation and maintenance of the existing highway, including an area surrounding the highway, bridges, and ramps. While the intent to formally transfer property (via the Highway Deed Easement Process) from NPS to MDOT SHA was noted in historical documents, neither NPS nor MDOT SHA recovered official documentation formalizing the transfer. Therefore, the SDEIS and FEIS have provided an altered area delineated as within transportation use. MDOT SHA, FHWA, and NPS have agreed that the requirements of Section 4(f) do not apply to the area of the Chesapeake and Ohio Canal National Historical Park that currently has an existing transportation use. The area within NPS property defined as transportation use includes existing I-495 at-grade roadway sections to the toe of slope, Clara Barton Parkway Interchange ramp sections to the toe of slope, existing pier locations for the structure over the Chesapeake and Ohio Canal and eastbound Clara Barton Parkway, and existing pier locations for the ALB.

The Preferred Alternative would result in a Section 4(f) use of 10.1 acres of the Chesapeake and Ohio Canal National Historical Park (**Figure 4**), including 1.0 acres of permanent impact and 9.1 acres of temporary impact.

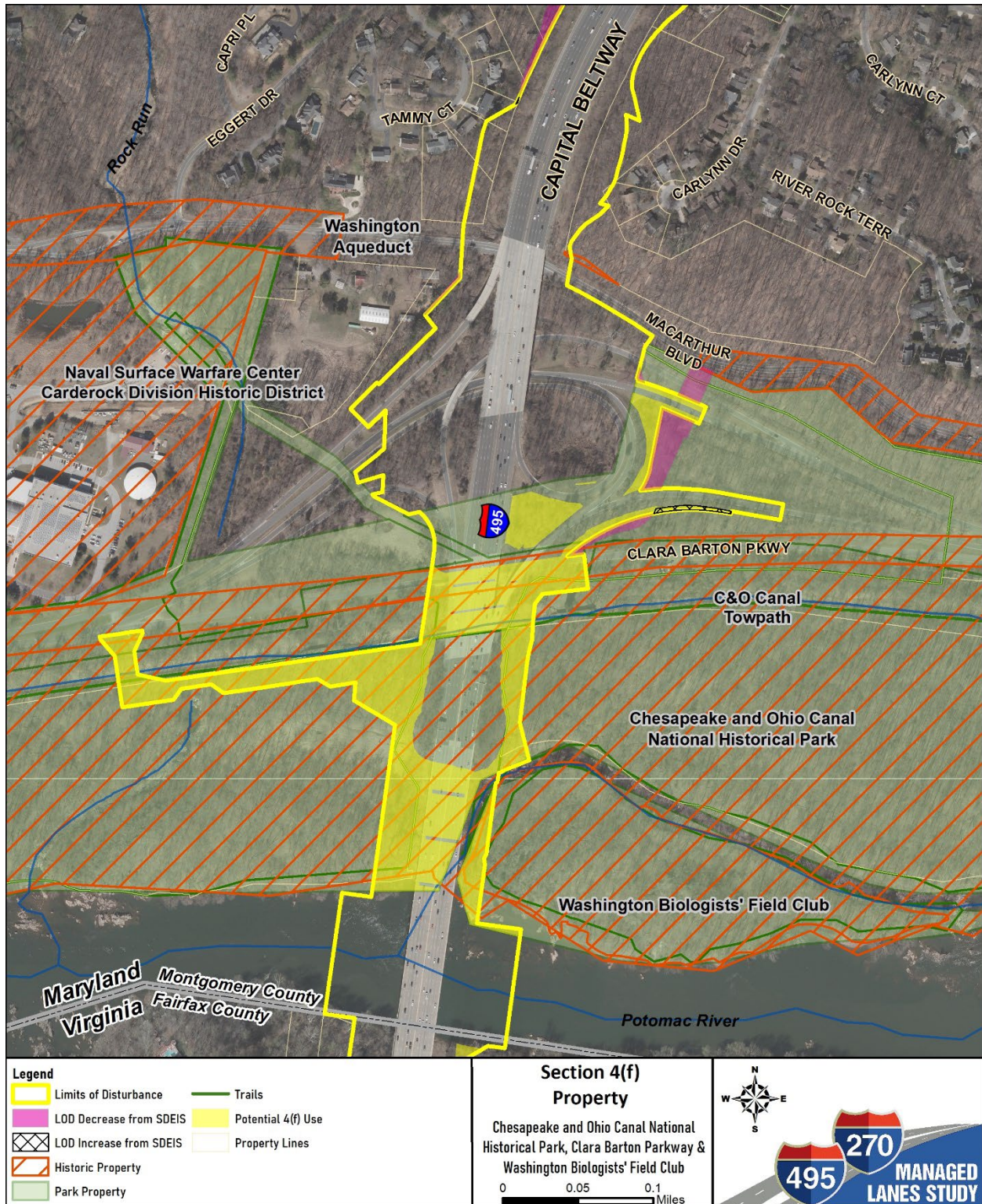
The impacts to Chesapeake and Ohio Canal National Historical Park would be required to accommodate a temporary access road for construction vehicles and materials to build the new ALB and remove the existing structure, the construction and maintenance of the realigned ramp from I-495 northbound to Clara Barton Parkway, a temporary bridge crossing of the C&O Canal and towpath, and the construction of a shared-use path on the east side of the new ALB. Detailed mapping of the Preferred Alternative design at the Chesapeake and Ohio Canal National Historical Park can be found in **FEIS, Appendix E – Map 4**.

The Chesapeake and Ohio Canal towpath, which functions as a recreational facility, would be temporarily impacted due to the movement of construction vehicles across the towpath on the ALB access road and during construction of the new I-495 northbound and southbound bridges over the towpath, Canal, and eastbound Clara Barton Parkway and removal of the existing structures. Access to the Chesapeake and Ohio Canal towpath would be maintained for pedestrian and bike traffic during construction and would be returned to its original condition upon completion of construction. The proposed construction access road would be horizontally offset from the C&O Canal Towpath. Note that pedestrian traffic on the Chesapeake and Ohio Canal towpath would be maintained across the proposed construction access road at all times and the towpath would remain open. Flaggers would be located at the C&O Canal towpath to ensure safe passage of towpath users during construction.

Public comments supporting a direct connection of the shared use path from the ALB to the Chesapeake and Ohio Canal Towpath were received by MDOT SHA, FHWA and NPS during the SDEIS public comment period. To be responsive, a direct connection to the Chesapeake and Ohio Canal towpath has been incorporated into the preliminary design and is accounted for in the Preferred Alternative LOD and impact analyses. The three shared use path options connecting to MacArthur Boulevard presented in the SDEIS are no longer under consideration in this FEIS. The direct connection to the Chesapeake and Ohio Canal towpath results in fewer NPS property and natural resource impacts. MDOT SHA and the Developer will continue to coordinate with NPS to review the condition of the existing connection between the C&O Canal towpath and the MacArthur Boulevard sidepath outside of the study area. The alignment of the proposed shared use path connection to the Chesapeake and Ohio Canal towpath is shown in **FEIS Appendix E**. No other recreational facilities within the Chesapeake and Ohio Canal National Historical Park would be impacted by the Preferred Alternative.

Impacts to the Chesapeake and Ohio Canal National Historical Park under the Preferred Alternative have not changed since the SDEIS.

Figure 4: Chesapeake and Ohio Canal National Historical Park, Clara Barton Parkway and the Washington Biologists' Field Club



MDOT SHA conducted extensive minimization efforts to reduce impacts in the vicinity of the ALB, including impacts to Chesapeake and Ohio Canal National Historical Park, by evaluating alternative bridge designs, construction access paths, and construction staging methods in coordination with NPS as described in **Section 1.4**. Minimization measures include the elimination of one proposed access road east of I-495. An overall reduction in the LOD was achieved due to the ALB Strike Team analysis, resulting in a proposed construction method requiring less work area within Chesapeake and Ohio Canal relative to the DEIS.

On March 12, 2020, MHT concurred that the Study would have an adverse effect on Chesapeake and Ohio Canal National Historical Park.

MDOT SHA has coordinated with NPS to identify a comprehensive package of parkland mitigation commitments for impacts to George Washington Memorial Parkway, Chesapeake and Ohio Canal National Historical Park, and Clara Barton Parkway. These parkland mitigation measures are summarized in **Section 2.3** above, with more details included in **Section 4.5.1**. Mitigation for the use of Chesapeake and Ohio Canal National Historical Park is consistent with stipulations included a Section 106 Programmatic Agreement coordinated with MHT and the Section 106 consulting parties (**FEIS, Appendix J**)

2.5 Clara Barton Parkway

Type of Section 4(f) Property: Historic Property and Public Park

Officials with Jurisdiction: MHT, NPS

Type of Section 4(f) Approval: Individual Evaluation

The Clara Barton Parkway is an administrative unit of George Washington Memorial Parkway within Maryland. Clara Barton Parkway extends 6.6 miles along the northern shore of the Potomac River between the Naval Surface Warfare Center at Carderock and the Washington, DC border with Maryland. The historic boundary in Maryland comprises 96.2 acres. Though Clara Barton Parkway has a separate historic boundary in Maryland, it is part of the larger George Washington Memorial Parkway Historic District.

Clara Barton Parkway is under the jurisdiction of NPS and was designed for recreational driving, to link sites that commemorate important episodes in American history, and to preserve habitat for local wildlife. The Clara Barton Parkway is also a historic property and was listed in the NRHP on June 2, 1995. It is historically significant under Criterion B for its association with the life of George Washington and Clara Barton, persons significant in our past, and Criterion C for its embodiment of the distinctive characteristics of a parkway.

The Preferred Alternative would result in a Section 4(f) use of 1.7 acres of the Clara Barton Parkway (**Figure 4**), of which 1.1 acres are permanent and 0.6 acres are temporary impacts.

The impacts to Clara Barton Parkway would be required to accommodate a temporary access road for construction vehicles and materials to build the new American Legion Bridge (ALB) and remove the existing structure for reconstruction and maintenance of I-495 northbound ramp to Clara Barton Parkway and the eastbound Clara Barton Parkway ramp to northbound I-495; and for construction of a trail connection between a shared-use path on the east side of the new ALB and the Chesapeake and Ohio

Canal towpath. Public comments supporting a direct connection of the shared use path from the ALB to the Chesapeake and Ohio Canal towpath were received by MDOT SHA, FHWA and NPS during the SDEIS public comment period. To be responsive, a direct connection to the Chesapeake and Ohio Canal towpath has been incorporated into the preliminary design and is accounted for in the Preferred Alternative LOD and impact analyses. The three shared use path options connecting to MacArthur Boulevard presented in the SDEIS are no longer under consideration in this FEIS. The direct connection to the Chesapeake and Ohio Canal towpath results in fewer NPS property and natural resource impacts. MDOT SHA and the Developer will continue to coordinate with NPS to review the condition of the existing connection between the Chesapeake and Ohio Canal towpath and the MacArthur Boulevard sidepath outside of the Study Area. Detailed mapping of the Preferred Alternative design at Clara Barton Parkway can be found in **FEIS, Appendix E – Maps 4-5**.

Impacts to Clara Barton Parkway in the DEIS and Draft Section 4(f) Evaluation were based on readily available property information which included permits for operation and maintenance of the existing highway, including an area surrounding the highway, bridges, and ramps. While the intent to formally transfer property, via the Highway Easement Deed Process, from NPS to MDOT SHA was noted in historical documents, neither NPS nor MDOT SHA recovered official documentation formalizing the transfer. MDOT SHA, FHWA, and NPS have agreed that the requirements of Section 4(f) do not apply to the area of Clara Barton Parkway that currently has an existing transportation use. The area within NPS property defined as transportation use includes existing I-495 at-grade roadway sections to the toe of slope, Clara Barton Parkway Interchange ramp sections to the toe of slope, existing pier locations for the structure over the Chesapeake and Ohio Canal and eastbound Clara Barton Parkway, and existing pier locations for the ALB.

Since the SDEIS, the proposed temporary impact to Clara Barton Parkway under the Preferred Alternative has decreased by 0.8 acres. The reduced impact area is due to the updated shared use path alignment as described above. The FEIS design concept also includes an alignment for the off-ramp from the I-495 inner loop to eastbound Clara Barton Parkway that is slightly offset from the previous design concept and is further outside of the existing transportation use area.

MDOT SHA conducted extensive efforts to reduce impacts in the vicinity of the ALB, including impacts to Clara Barton Parkway, by evaluating alternative bridge designs and construction staging methods and coordinating these efforts with NPS. Detailed construction evaluation resulted in the elimination of one proposed access road in the southwest quadrant of the bridge and Potomac River, just south of the Clara Barton Parkway.

MDOT SHA has coordinated with NPS to identify a comprehensive package of parkland mitigation commitments for impacts to George Washington Memorial Parkway, Chesapeake and Ohio Canal National Historical Park, and Clara Barton Parkway. These parkland mitigation measures are summarized in **Section 2.3** above, with more details included in **Section 4.5.1**. Mitigation for the use of Clara Barton Parkway is consistent with stipulations included a Section 106 Programmatic Agreement coordinated with MHT and the Section 106 consulting parties (refer to **FEIS, Appendix J**).

2.6 Washington Biologists' Field Club on Plummers Island

Type of Section 4(f) Property: Historic Property

Official with Jurisdiction: MHT, NPS

Type of Section 4(f) Approval: Individual Evaluation

The Washington Biologists' Field Club is a naturalist club composed of a cabin, recreational elements, and landscape features situated on a 12.2-acre island known as Plummers Island in the Potomac River. The island is situated on the northern side of the river, south of the Clara Barton Parkway and Locks 11 and 12 of the Chesapeake and Ohio Canal, and east of I-495 and the American Legion Memorial Bridge in Montgomery County, Maryland. According to Washington Biologist's Field Club records, the cabin building was constructed in 1901 by the club and is still utilized to this day by club members and the public. The island is accessed by crossing Rock Run Culvert from an unpaved trail that extends south from the Chesapeake and Ohio Canal Towpath near Lock 10. The island, currently owned by the NPS, is located within the NRHP boundaries of the Chesapeake and Ohio Canal National Historical Park (M: 12-46). The Washington Biologists' Field Club on Plummers Island is eligible for inclusion in the NRHP under Criterion A. The Washington Biologists' Field Club is a twentieth-century naturalist's club set on an island in the Potomac River. For over a century, Plummers Island has been used by scientists for short- and long-term biological research studies as well as natural history and geological studies.

The Washington Biologists' Field Club on Plummers Island was not known to be eligible for the NRHP when the DEIS and SDEIS were published. MDOT SHA conducted an evaluation of the property in coordination with MHT based on input from the public and Section 106 Consulting Parties received on the DEIS and SDEIS.

The Preferred Alternative would result in a Section 4(f) use of 0.28 acres of the Washington Biologists' Field Club on Plummers Island (**Figure 4**); less than 0.1 acres of that use would be permanent impact and 0.27 acres would be temporary impact.

Use of land within the boundary of the Washington Biologists' Field Club on Plummers Island would be required for the new ALB substructure, including permanent use for three, discrete, approximately 10-foot diameter pier foundations and temporary construction activities. Temporary construction activities may include efforts such as excavation, access for demolition of existing bridge foundation and piers adjacent to the island, and slope protection. Access to the existing and proposed piers is required for these activities. The widened ALB would also result in new shaded area over Plummers Island potentially affecting vegetation.

In the DEIS, the Build Alternatives had 1.9 acres of impacts to Plummers Island. Impacts were minimized by strategically locating the piers, specifically the new piers in close proximity to the existing piers such that a single access method could be used for demolition of the existing and construction of the proposed structures.

Subsequent to publishing of the SDEIS, on October 8, 2021, MHT concurred with MDOT SHA's eligibility determination and finding of adverse effect for the Washington Biologists' Field Club on Plummers Island (see **FEIS, Appendix I**).

Mitigation for the use of the Washington Biologists' Field Club on Plummers Island is consistent with stipulations included a Section 106 Programmatic Agreement coordinated with MHT and the Section 106 consulting parties (see **FEIS, Appendix J**) and **Section 4.5**.

2.7 Carderock Springs Historic District

Type of Section 4(f) Property: Historic Property

Official with Jurisdiction: MHT

Type of Section 4(f) Approval: *De Minimis* Impact

Carderock Springs is a planned residential development of 275 modernist houses located northwest of Bethesda in Montgomery County, Maryland. The Carderock Springs Historic District is significant under Criterion A as an example of a type of residential development which resulted from the collaborative efforts of builder Edmund J. Bennett and architects Keyes, Lethbridge, and Condon (KLC) in the suburbs of Washington, DC. The Carderock Springs Historic District is also significant under Criterion C for its distinctive examples of modernist houses in a carefully planned and landscaped development designed to have a “natural” appearance by retaining most of the original vegetation and topography.

The Preferred Alternative would result in a Section 4(f) use of less than 0.1 acres of the Carderock Springs Historic District (**Figure 5**), including less than 0.1 acres of permanent impact and less than 0.1 acres of temporary impact.

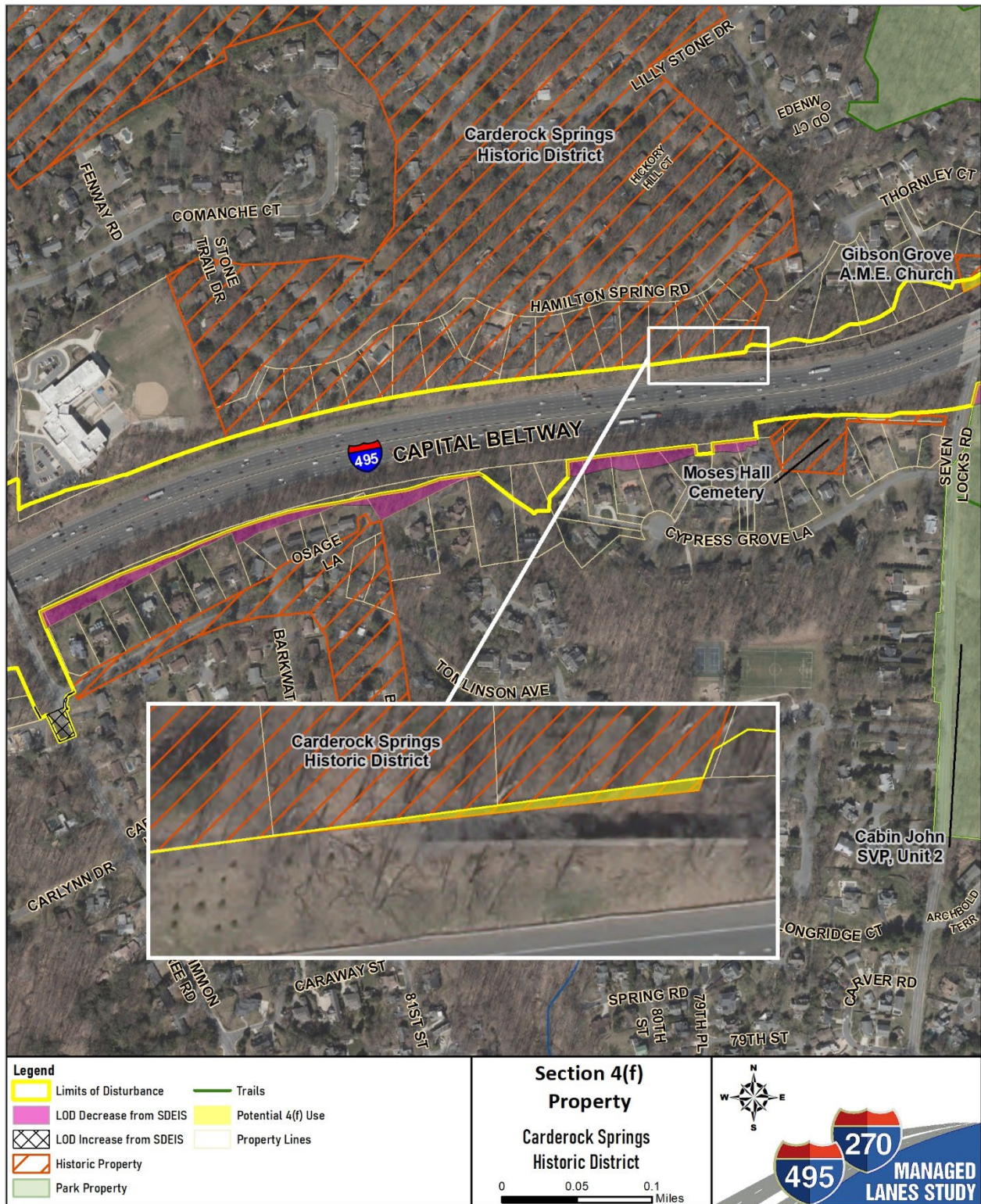
Impact to the Carderock Springs Historic District is due shifting of the mainline of I-495, constructing retaining and noise walls along the outer loop, and clearing vegetation and erosion and sediment control measures behind the proposed noise wall. Detailed mapping of the Preferred Alternative design at the Carderock Springs Historic District can be found in **FEIS, Appendix D – Map 7**.

Impacts to the Carderock Springs Historic District under the Preferred Alternative have not changed since the SDEIS.

The Preferred Alternative would impact portions of two contributing properties in the Carderock Springs Historic District. No contributing structures would be impacted within the district.

In a letter dated October 8, 2021, MHT concurred with the finding of no adverse effect and *de minimis* determination for Carderock Springs Historic District (see **FEIS, Appendix I**). Therefore, FHWA has made a final *de minimis* impact determination for the Carderock Springs Historic District.

Figure 5: Carderock Springs Historic District



2.8 Gibson Grove AME Zion Church

Type of Section 4(f) Property: Historic Property

Official with Jurisdiction: MHT

Type of Section 4(f) Approval: Individual Evaluation

Gibson Grove AME Zion Church is a small, wood-frame structure set on a hill overlooking Seven Locks Road, immediately north of I-495. Gibson Grove AME Zion Church is eligible for the NRHP under Criterion A. The church derives its significance from its association with the African American settlement of Gibson Grove that was founded in the 1880s by former slaves. The original church was a log structure that was replaced with the current edifice in 1923. It is the only remaining building associated with the African American Gibson Grove community.

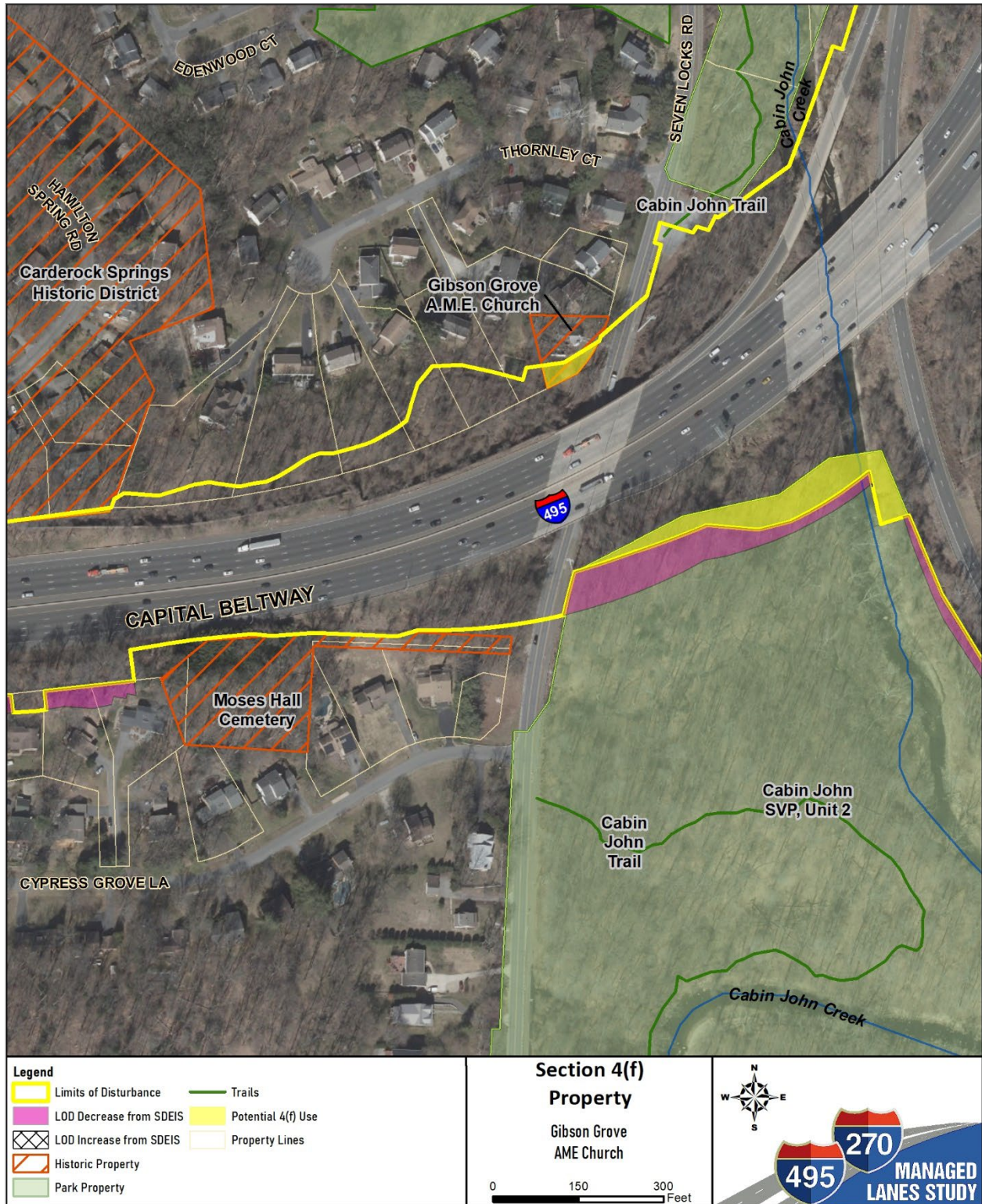
The Preferred Alternative would result in a Section 4(f) use of 0.6 acres of the Gibson Grove AME Zion Church property (**Figure 6**), all of which would be permanent impact. The Gibson Grove Church building would not be directly impacted by the Preferred Alternative.

The impact is required to accommodate outfall stabilization, culvert augmentation, bridge reconstruction, and construction access. A shift of the roadway centerline towards the Gibson Grove AME Zion Church was included in the Preferred Alternative to avoid impacts to Morningstar Cemetery, located on the opposite side of I-495 from the Gibson Grove Church. Detailed mapping of the Preferred Alternative design at Gibson Grove AME Zion Church can be found in **FEIS, Appendix E – Map 8**.

MDOT SHA and FHWA made an adverse effect determination pursuant to Section 106 for Gibson Grove AME Zion Church; MHT concurred with this determination in a letter dated October 8, 2021 (see **FEIS, Appendix I**).

MDOT SHA has coordinated with MHT to identify mitigation commitments for impacts to Gibson Grove AME Zion Church. The mitigation identified includes construction or funding of a new parking lot for Gibson Grove Church, including an underground culvert as part of the stormwater management design. Mitigation for the use of Gibson Grove AME Zion Church is consistent with stipulations included a Section 106 Programmatic Agreement coordinated with MHT and the Section 106 consulting parties (see **FEIS, Appendix J**).

Figure 6: Gibson Grove AME Zion Church



2.9 Cabin John Stream Valley Park Unit 2

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: M-NCPPC Montgomery County

Type of Section 4(f) Approval: *De Minimis* Impact

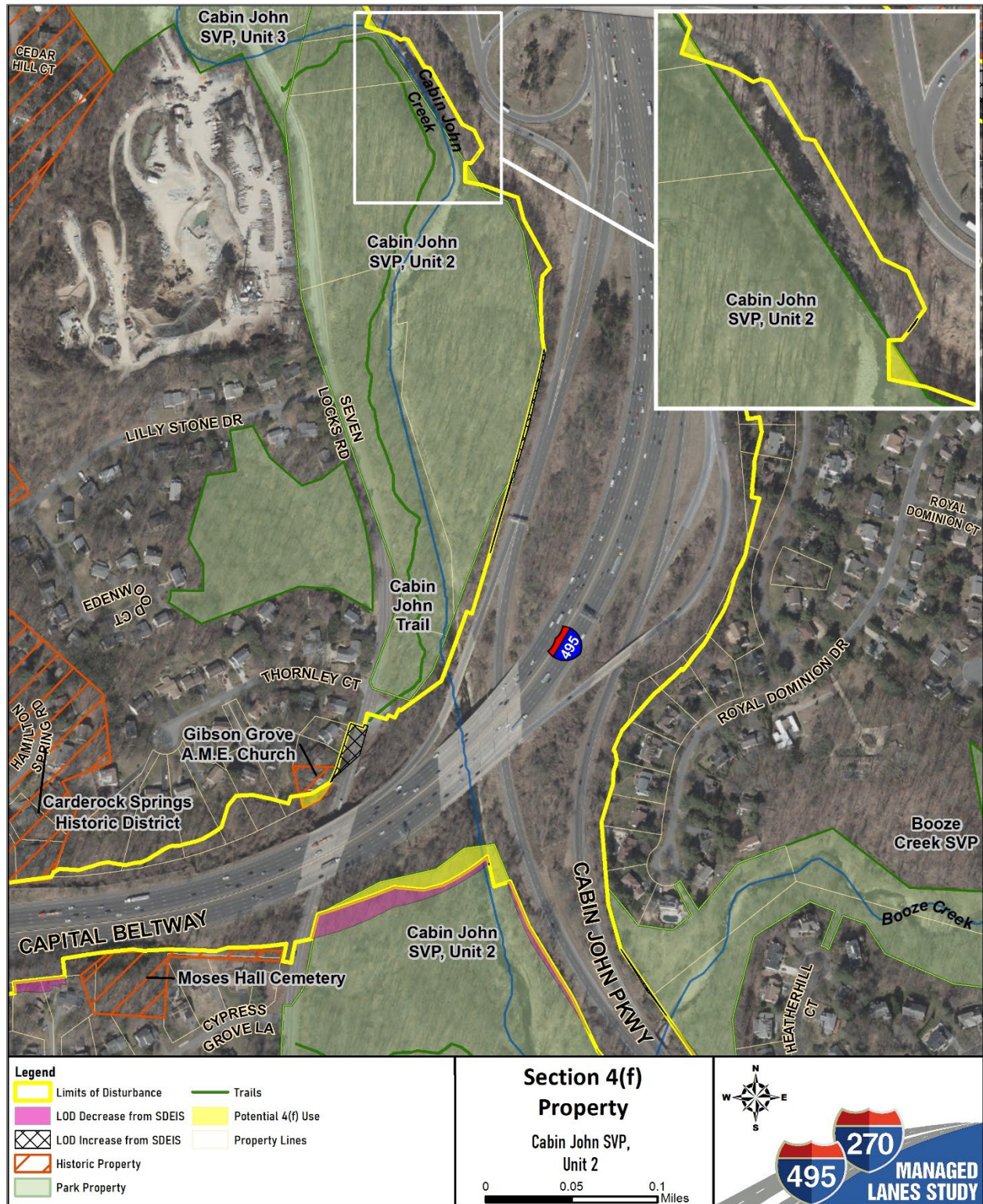
Cabin John Stream Valley Park Unit 2 is one of six units that comprise M-NCPPC Montgomery County's Cabin John Stream Valley Park, a publicly-owned park and recreation area. Cabin John Stream Valley Park Unit 2 extends north-south across I-495 from south of River Road to along Cabin John Parkway, where it abuts Unit 1 of the park. The entirety of Cabin John Stream Valley Park encompasses 520 acres across six units; of which Unit 2 comprises approximately 105 acres.

Cabin John Stream Valley Park features portions of the natural-surface Cabin John Trail that runs north-south and connects the stream valley park's Potomac Area to Cabin John Parkway. The park also features undeveloped wooded area that provides a protective buffer along Cabin John Creek. A portion of Cabin John Stream Valley Park, Unit 2 located south of I-495 and west of Cabin John Parkway is also designated by M-NCPPC as a Best Natural Area. Best Natural Area are defined by M-NCPPC as areas of parkland containing one or more of the following:

- Large areas of contiguous, high-quality forest, marsh or swamp that show little evidence of past land-use disturbance
- Rare, threatened, endangered, or watch-list species
- The best examples of unique plant communities found in Montgomery County in the ten Major Terrestrial Natural Communities
- High quality wetlands, including those of Special State Concern as noted in COMAR Title 26
- Aquatic communities rated as good or excellent in the Countywide Stream Protection Strategy
- Special Trout Management Areas as noted in COMAR Title 08
- Areas of exceptional scenic beauty

The Preferred Alternative would result in a Section 4(f) use of 0.6 acres of permanent impacts and less than 0.1 acres of temporary impacts to Cabin John Stream Valley Park, Unit 2 (**Figure 7**). The majority of these impacts would occur south of I-495 and west of Cabin John Parkway within the M-NCPPC-designated Best Natural Area and would involve clearing of vegetation. The remainder of the impact would occur north of I-495 along the ramp from eastbound River Road to southbound Cabin John Parkway.

Figure 7: Cabin John SVP Unit 2



The impacts to Cabin John Stream Valley Park, Unit 2 would be required to accommodate widening of I-495, replacement of the bridges across Seven Locks Road and Cabin John Parkway and associated construction access, realigning the interchange with Cabin John Parkway, a proposed retaining wall and noise barrier along the inner loop of I-495, and providing northbound managed lane and general purpose lane access to River Road (**Figure 7**). The proposed noise barrier along the inner loop would be mounted on top of the retaining wall for much of its length adjacent to Cabin John Stream Valley Park Unit 2. Along southbound Cabin John Parkway, there would be impacts due to culvert augmentation and construction of a retaining wall along the Parkway and resurfacing of Cabin John Parkway for maintenance of traffic. Additionally, two culverts would be augmented in the southwest quadrant of the I-495 and River Road interchange. Detailed mapping of the Preferred Alternative design at Cabin John Stream Valley Park Unit 2 can be found in **FEIS, Appendix E – Maps 8 - 10**.

No recreational facilities within Cabin John Stream Valley Park Unit 2 would be impacted by the Preferred Alternative.

Since the SDEIS, the proposed impacts to Cabin John Stream Valley Park Unit 2 under the Preferred Alternative have decreased by 0.8 acres total, including a reduction of 0.2 acres of permanent impact and 0.6 acres of temporary impact. The FEIS design concept includes a different ramp configuration at the Cabin John Parkway/MD 190 interchange than what was proposed in the SDEIS design concept, which resulted in a narrower proposed pavement footprint along the I-495 inner loop at Cabin John Stream Valley Park Unit 2. The LOD was reset and reduced based on an offset from the proposed retaining wall and noise barrier along the inner loop and temporary construction needs.

M-NCPPC provided written agreement that the proposed impacts to Cabin John Stream Valley Park Unit 2 would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on April 5, 2022. On April 6, 2022, FHWA provided concurrence that the Section 4(f) use of Cabin John Stream Valley Park Unit 2 would be de minimis (see **FEIS Appendix S**).

MDOT SHA has coordinated with M-NCPPC to identify a comprehensive package of parkland mitigation commitments for impacts to Cabin John Stream Valley Park Unit 2. These parkland mitigation measures are summarized in the list below, with more details included in **Section 4.5.2**.

- Plan, design and construct improvements to formalize the Cabin John Trail trailhead parking area along Seven Locks Road.
- Stream stabilization along Cabin John Creek.
- Plan, design and implement forest and terrestrial vegetation mitigation.
- Plan, design, and construct wildlife passage areas under I-495 overpass of Cabin John Creek and Cabin John Parkway by lengthening new bridge structures. This will allow wildlife passage on the west side bank of Cabin John Creek while minimizing wildlife-vehicular conflicts along Cabin John Parkway by constructing wildlife exclusion fencing along the east side of the creek next to the Parkway, in coordination with M-NCPPC.

2.10 Burning Tree Club

Type of Section 4(f) Property: Historic Property

Official with Jurisdiction: MHT

Type of Section 4(f) Approval: *De Minimis* Impact

Burning Tree Club is a privately-owned, historic golf course in the northeast quadrant of the interchange of I-495 and River Road. The 221-acre club includes a Tudor Revival clubhouse and 18-hole golf course built in 1922 and 1923. Burning Tree Club is eligible for the NRHP under Criteria A and C. Burning Tree Club is significant under Criterion A as an exclusive, male-only social institution devoted to the pastime of golf, and an example of the type of recreational organization that flourished during the 1920s.

The Preferred Alternative would result in a Section 4(f) use of 1.3 acres of Burning Tree Club (**Figure 8**), all of which would be permanent impact.

The impacts to Burning Tree Club would be required to accommodate widening I-495, the augmentation of an existing culvert carrying Thomas Branch beneath I-495, construction of a retaining wall, and the realignment of Thomas Branch along the east side of I-495. Detailed mapping of the Preferred Alternative design at the Burning Tree Club can be found in **FEIS, Appendix E – Maps 10 and 11**.

Impacts to the Burning Tree Club under the Preferred Alternative have not changed since the SDEIS.

On March 12, 2020, MHT concurred that the Managed Lanes Study would have no adverse effect on Burning Tree Club and provided written acknowledgement of FHWA's intent to make a *de minimis* impact finding based on the impacts presented in the DEIS. This initial MHT review was conducted prior to recent design changes and avoidance and minimization efforts. MDOT SHA anticipates that there would still be no adverse effect to the Burning Tree Club and submitted documentation for concurrence to MHT on September 8, 2021. In a letter dated October 8, 2021, MHT concurred with the finding of no adverse effect and *de minimis* determination for Burning Tree Club (**FEIS, Appendix I**). Therefore, FHWA has made a final *de minimis* impact determination for the Burning Tree Club.

2.11 Academy Woods

Type of Section 4(f) Property: Historic Property

Official with Jurisdiction: MHT

Type of Section 4(f) Approval: *De Minimis* Impact

Academy Woods is a Section 4(f) historic property comprised of a small neighborhood on 6.5 acres northeast of the western I-495 and I-270 spur interchange in Bethesda. The historic district is eligible for the NRHP under Criterion C as representative of a type, period, and method of construction.

The Preferred Alternative would result in a Section 4(f) use of 0.2 acres of Academy Woods (**Figure 9**), all of which would be permanent impact.

Figure 8: Burning Tree Club

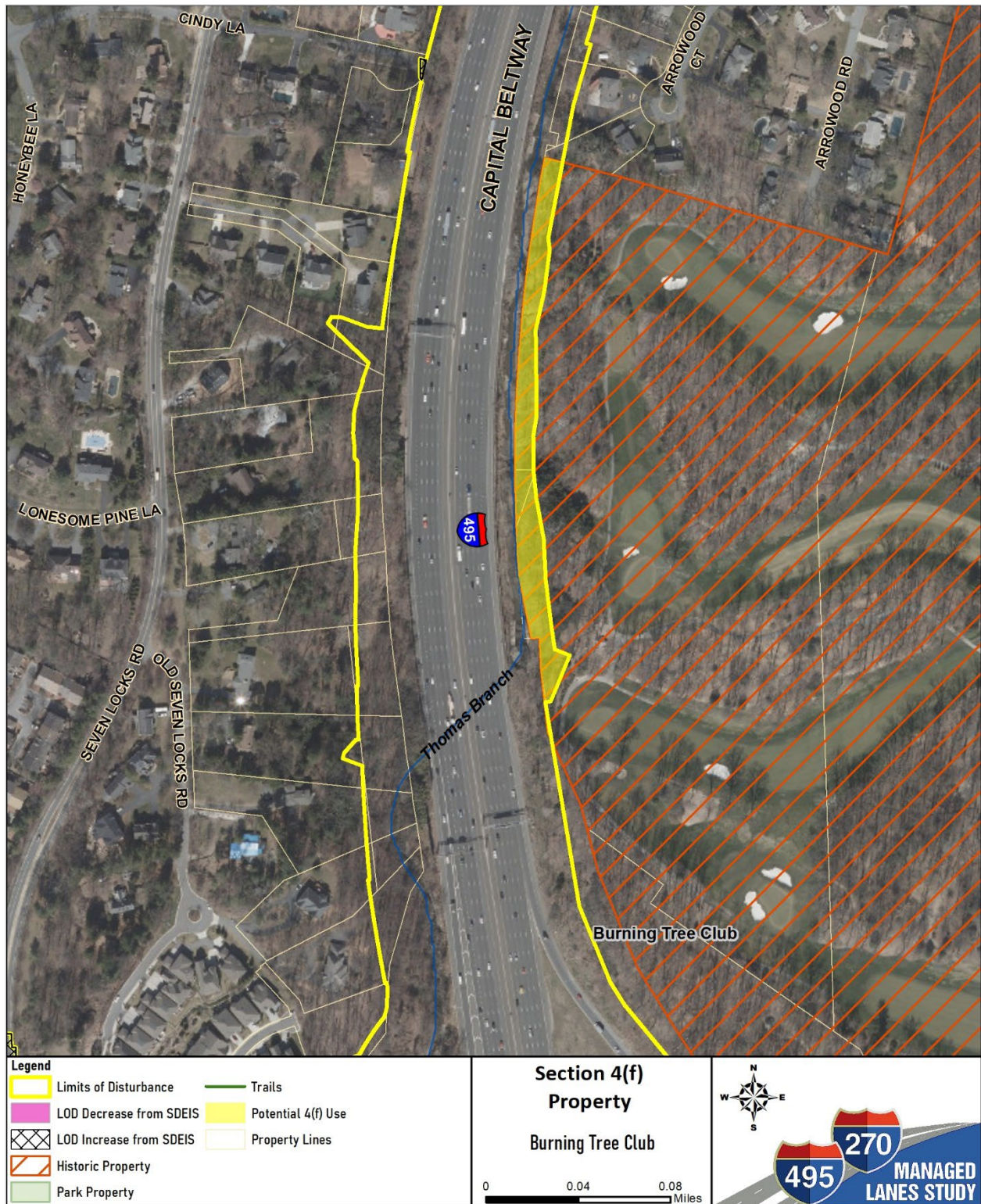
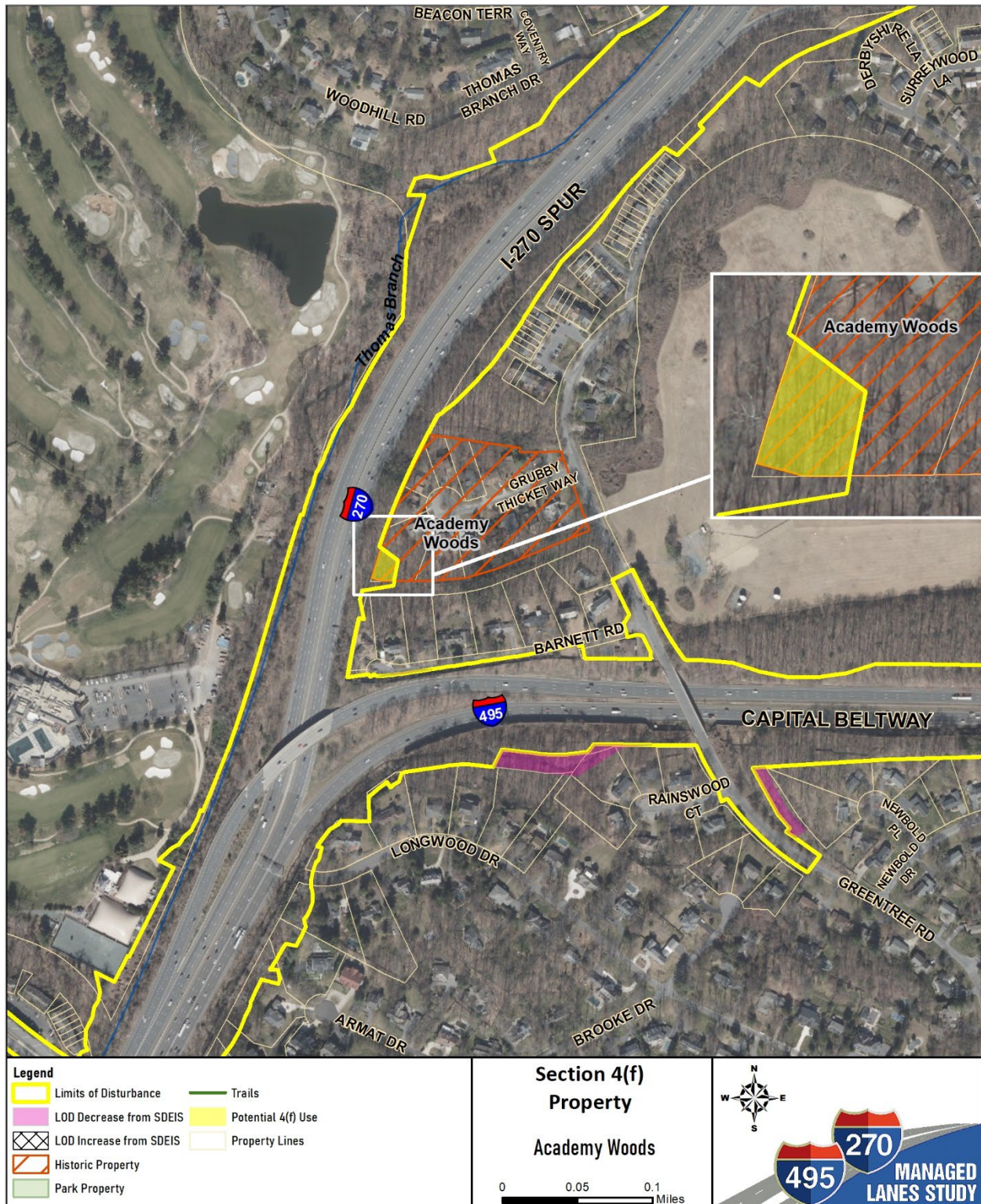


Figure 9: Academy Woods



The impacts to Academy Woods would be required to accommodate the construction, operation and future maintenance of a stormwater management facility, and construction of a noise barrier. Detailed mapping of the Preferred Alternative design at Academy Woods can be found in **FEIS, Appendix E – Map 13**.

The impacts to Academy Woods have not changed from those reported for Alternative 9 in the DEIS.

On March 12, 2020, MHT concurred that the Study would have no adverse effect on Academy Woods and provided written acknowledgement of FHWA's intent to make a *de minimis* impact finding (**FEIS, Appendix I**). As such, the impact to Academy Woods Historic District under the Preferred Alternative would constitute a minor use. Therefore, FHWA has made a final *de minimis* determination for Academy Woods.

2.12 Cabin John Regional Park

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: M-NCPPC Montgomery County

Type of Section 4(f) Approval: Individual Evaluation

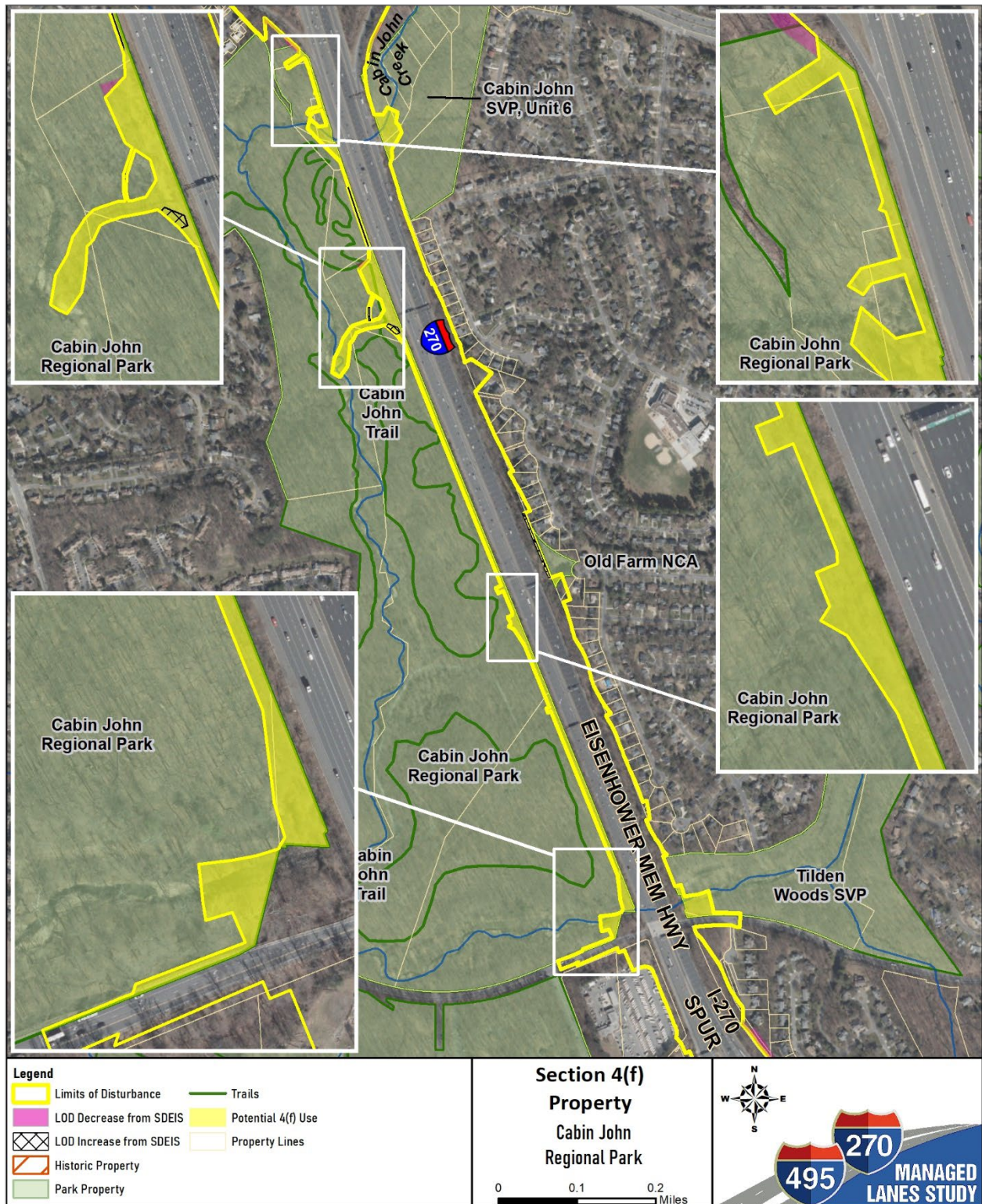
Cabin John Regional Park is a publicly-owned park and recreation area situated between Democracy Boulevard and southbound I-270. The 513.8-acre park contains a playground, dog park, picnic shelters, a miniature train, grills, horseshoe pits, and restrooms. The park has more than four miles of natural surface trails and two miles of hard surface trails. Athletic facilities include an indoor ice rink, baseball field, five softball fields, a volleyball court, and indoor tennis center. The Locust Grove Nature Center and Robert C. McDonnell Campground are also within the park.

A portion of Cabin John Regional Park is also designated by M-NCPPC as a Biodiversity Area. Biodiversity Area are defined as areas of parkland containing one or more of the following:

- Large areas of contiguous, high-quality forest, marsh or swamp that are generally more than 100 acres and show little evidence of past land-use disturbance
- Rare, threatened, endangered, or watch-list species
- The best examples of unique plant communities found in Montgomery County
- Areas of exceptional scenic beauty

The Preferred Alternative would result in a Section 4(f) use of 6.3 acres of Cabin John Regional Park (**Figure 10**), including 5.7 acres of permanent impact and 0.6 acres of temporary impact. The impacted areas are located on the eastern edge of the park along southbound I-270 and are within the M-NCPPC-designated Biodiversity Area.

Figure 10: Cabin John Regional Park



The impacts to Cabin John Regional Park would be required due to widening of southbound I-270 and construction of a retaining wall along the outside shoulder, utility relocations, a SWM facility, augmentation of two storm drains and one culvert, and outfall stabilization. Removal of vegetation within the impacted area would be necessary. Impacts would also occur to the connecting trail between the Highway Loop Trail and Kidney Bean Loop Trail. A portion of the connecting trail between the Highway Loop Trail and Kidney Bean Loop Trail would need to be realigned in coordination with M-NCPPC. Access to the trail would be maintained throughout construction. No other recreational facilities would be impacted by the Preferred Alternative. Detailed mapping of the Preferred Alternative design at Cabin John Regional Park can be found in **FEIS, Appendix E – Maps 22 - 25**.

Impacts to Cabin John Regional Park under the Preferred Alternative have not changed since the SDEIS.

MDOT SHA has coordinated with M-NCPPC to identify a comprehensive package of parkland mitigation commitments for impacts to Cabin John Regional Park. These parkland mitigation measures are summarized in the list below, with more details included in **Section 4.5.2**.

- Plan, design, and construct a fiberglass pedestrian bridge over the outfall/tributary to Cabin John Creek at STA 3640+00 for the natural surface connector trail.
- Plan, design, and construct improvements for pedestrian and cycling access to the Robert C. McDonnell campground access road.
- Plan, design, and construct improvements to the existing parking area on Tuckerman Lane near the Robert C. McDonnell Campground access road.
- Plan, design, and construct a fiberglass pedestrian bridge over Cabin John Creek to connect the Cabin John Trail to the Kidney Bean Loop Trail, in the vicinity of Goya Drive.
- Plan, design, and construct improvements for the stabilization of the Gainsborough Road stormwater outfall to Cabin John Creek with environmentally sensitive channel techniques.
- Plan, design and implement forest and terrestrial vegetation mitigation.

2.13 Tilden Woods Stream Valley Park

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: M-NCPPC Montgomery County

Type of Section 4(f) Approval: *De Minimis* Impact

Tilden Woods Stream Valley Park is a publicly-owned park, and recreation area, accessed via Sulky Lane in Bethesda. Tilden Woods Stream Valley Park extends along the banks of Old Farm Creek from Montrose Road to I-270. This 67.4-acre park consists of an undeveloped wooded area that provides a protective buffer along Old Farm Creek.

The Preferred Alternative would result in a Section 4(f) use of 0.4 acres of Tilden Woods Stream Valley Park (**Figure 11**), including 0.3 acres of permanent impact and 0.1 acres of temporary impact.

Figure 11: Tilden Woods SVP and Old Farm NCA



The impacts to Tilden Woods Stream Valley Park would be required to accommodate an area for construction to widen I-270, replacing the bridge that carries I-270 over Tuckerman Lane, augmenting the existing culvert conveying Old Farm Creek beneath I-270, providing access for construction vehicles and materials, and utility relocation. Detailed mapping of the Preferred Alternative design at Tilden Woods Stream Valley Park can be found in **FEIS, Appendix E – Maps 21 and 22**.

No recreational facilities would be impacted by the Preferred Alternative at Tilden Woods Stream Valley Park.

The permanent impacts to Tilden Woods Stream Valley Park under the Preferred Alternative were reduced from 0.6 to 0.3 acres since the SDEIS.

M-NCPPC provided written agreement that the proposed impacts to Tilden Woods Stream Valley Park would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on April 5, 2022. On April 6, 2022, FHWA provided concurrence that the Section 4(f) use of Tilden Woods Stream Valley Park would be *de minimis* (see **FEIS Appendix S**).

MDOT SHA has coordinated with M-NCPPC to identify a comprehensive package of parkland mitigation commitments for impacts to Tilden Woods Stream Valley Park, Old Farm Neighborhood Conservation Area, and Cabin John Stream Valley Park Unit 6. These parkland mitigation measures are summarized in the list below, with more details included in **Section 4.5.2**.

- Plan, design, and construct improvements for the stabilization of the Greentree Road stormwater outfall from the pipe to a natural surface trail just south of Cabin John Creek with environmentally sensitive channel techniques, include a planting plan to compensate for forest impacts related to this work.
- Plan, design, and implement forest and terrestrial vegetation mitigation.
- Plan, design, and construct a single bridge structure with a clear span of Tuckerman Lane (including the associated pedestrian and bicycle facilities) and a clear span over Old Farm Creek.

2.14 Old Farm Neighborhood Conservation Area

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: M-NCPPC Montgomery County

Type of Section 4(f) Approval: *De Minimis* Impact

Old Farm Neighborhood Conservation Area is a publicly-owned park and recreation area at 7030 Tilden Lane in Rockville. The park is bounded to the west by I-270. The 0.8-acre park is composed of an undeveloped wooded area.

The Preferred Alternative would result in a Section 4(f) use of 0.1 acres of Old Farm Neighborhood Conservation Area (**Figure 11**), all of which would be permanent impact.

The impacts to Old Farm Neighborhood Conservation Area would be required to construct, operate, and maintain a stormwater management facility on land adjacent to the park. Detailed mapping of the

Preferred Alternative design at Old Farm Neighborhood Conservation Area can be found in **FEIS, Appendix E – Map 22**.

No recreational facilities would be impacted by the Preferred Alternative at Old Farm Neighborhood Conservation Area.

Impacts to Old Farm Neighborhood Conservation Area under the Preferred Alternative have not changed since the SDEIS.

M-NCPPC provided written agreement that the proposed impacts to Old Farm Neighborhood Conservation Area would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on April 5, 2022. On April 6, 2022, FHWA provided concurrence that the Section 4(f) use of Old Farm Neighborhood Conservation Area would be *de minimis* (see **FEIS Appendix S**).

MDOT SHA has coordinated with M-NCPPC to identify a comprehensive package of parkland mitigation commitments for impacts to Tilden Woods Stream Valley Park, Old Farm Neighborhood Conservation Area, and Cabin John Stream Valley Park Unit 6. These parkland mitigation measures are summarized in the list in **Section 2.12** above, with more details included in **Section 4.5.2**.

2.15 Cabin John Stream Valley Park Unit 6

Type of Section 4(f) Property: Public Park

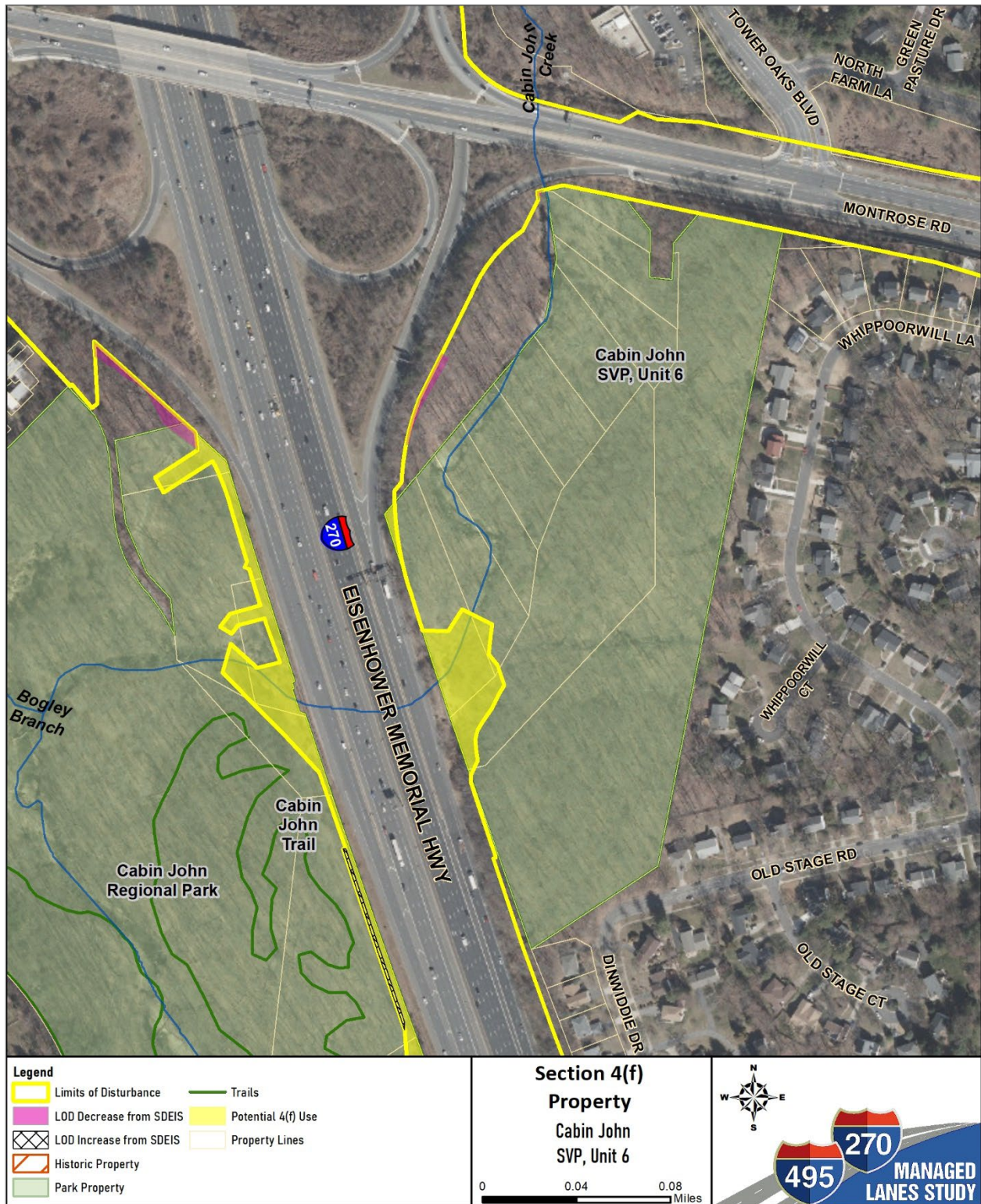
Official with Jurisdiction: M-NCPPC Montgomery County

Type of Section 4(f) Approval: *De Minimis* Impact

Cabin John Stream Valley Park Unit 6 is one of six units that comprise M-NCPPC Montgomery County's Cabin John Stream Valley Park, a publicly-owned park and recreation area. Cabin John Stream Valley Park Unit 6 is the northernmost portion of the stream valley park and is situated east of I-270 bounded by Old Stage Road to the south and the I-270 offramp to Montrose Road to the north. The entirety of Cabin John Stream Valley Park encompasses 520 acres; of which Unit 6 comprises 19.8 acres. Cabin John Stream Valley Park features portions of the natural surface Cabin John Trail that runs north-south and connects the stream valley park's Potomac area to Cabin John Parkway as well as an undeveloped wooded area that provides a protective buffer along Cabin John Creek.

The Preferred Alternative would result in a Section 4(f) use of 0.8 acres of permanent impact and less than 0.1 acres of temporary impacts Cabin John Stream Valley Park Unit 6 (**Figure 12**).

Figure 12: Cabin John Stream Valley Park, Unit 6



The impacts to Cabin John Stream Valley Park Unit 6 would be required to accommodate: tree removal, grading, improvements to the existing culvert, access for construction vehicles and materials, construction of a retaining wall along the realigned ramp from northbound I-270 to eastbound Montrose Road, and construction of a SWM facility. Detailed mapping of the Preferred Alternative design at Cabin John Stream Valley Park Unit 6 can be found in **FEIS, Appendix E – Maps 23 and 25**.

The Preferred Alternative would not impact any recreational facilities in Cabin John Stream Valley Park Unit 6.

The temporary impacts to Cabin John Stream Valley Park Unit 6 under the Preferred Alternative slightly increased to 0.02 acres.

M-NCPPC provided written agreement that the proposed impacts to Cabin John Stream Valley Park Unit 6 would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on April 5, 2022. On April 6, 2022, FHWA provided concurrence that the Section 4(f) use of Cabin John Stream Valley Park Unit 6 would be *de minimis* (see **FEIS Appendix S**).

MDOT SHA has coordinated with M-NCPPC to identify a comprehensive package of parkland mitigation commitments for impacts to Tilden Woods Stream Valley Park, Old Farm Neighborhood Conservation Area, and Cabin John Stream Valley Park Unit 6. These parkland mitigation measures are summarized in the list in **Section 2.12** above, with more details included in **Section 4.5.2**.

2.16 Bullards Park and Rose Hill Stream Valley Park

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: City of Rockville Department of Recreation and Parks

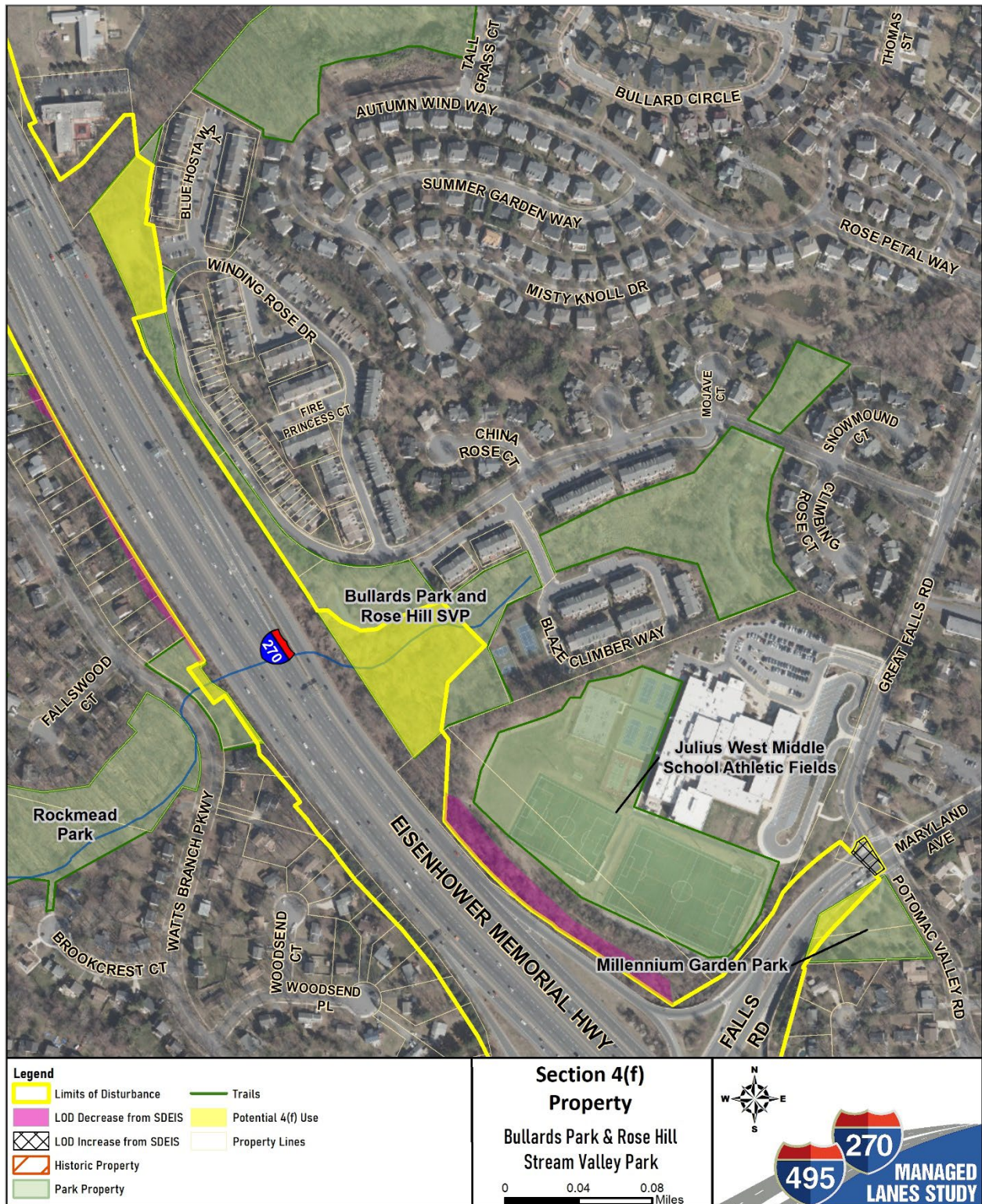
Type of Section 4(f) Approval: Individual Evaluation

Bullards Park and Rose Hill Stream Valley Park is a publicly-owned park and recreation area abutting the northbound lanes of I-270 in Rockville. The 4.7-acre park is divided into two sections. The stream valley park comprises the central and southern portions of the park while the northern portion, Bullards Park, contains basketball courts, hard and natural surface trails, a playground, and picnic area. The Preferred Alternative would result in a Section 4(f) use of 3.3 acres of Bullards Park and Rose Hill Stream Valley Park (**Figure 13**), all of which would be permanent impact.

The impacts to Bullards Park and Rose Hill Stream Valley Park would be required for grading or modification of existing stormwater management (SWM) facilities, including an existing joint-use SWM facility near the Julius West Middle School pond, and the modification of an existing SWM facility at the north end of the park property. Detailed mapping of the Preferred Alternative design at Bullards Park and Rose Hill Stream Valley Park can be found in **SDEIS, FEIS, Appendix E – Map 29**.

Impacts to Bullards Park and Rose Hill Stream Valley Park under the Preferred Alternative have not changed since the SDEIS.

Figure 13: Bullards Park and Rose Hill Stream Valley Park



MDOT SHA and FHWA previously anticipated that the Section 4(f) use of Bullards Park and Rose Hill Stream Valley Park would be *de minimis* based on the impacts presented in the DEIS. However, based on changes to the impacts to Bullards Park and Rose Hill Stream Valley Park described in the SDEIS, the impacts are now anticipated to be greater than *de minimis*, and thus requiring an Individual Section 4(f) Evaluation. The increase in impact from the DEIS the SDEIS was due to adjustment and evaluation of the LOD to account for culvert augmentation in the vicinity of the park.

No recreational facilities would be impacted by the Preferred Alternative in Bullards Park and Rose Hill Stream Valley Park.

MDOT SHA has coordinated with the City of Rockville to identify a comprehensive package of parkland mitigation commitments for impacts to Bullards Park and Rose Hill Stream Valley Park, Rockmead Park, Woottons Mill Park, and the Rockville Senior Center and Park. The the proposed mitigation for impacts to City of Rockville parks would include:

- Convey the 1.25-acre MDOT SHA-owned Millennium Garden Park (former Vernie Smith properties (Acct. nos. 16-0400205281 and 16-0400205270)) to City of Rockville.
- Acquire the 1.32-acre Betty B. Casey Property (on Fleet Street) (Acct. no 160400144125) and convey to the City of Rockville
- Acquire the 0.42-acre Lodging Partners LLC Property (41 Maryland Avenue) (Acct. no. 160403198603) and convey to the City of Rockville
- Acquire the 4.23-acre Cynthia Robertson Property (Potomac Woods) (Acct. no. 160401523951) and convey to the City of Rockville
- Continue to consult on context sensitive solutions, during the design phase, to the four existing parks (Bullards Park and Rose Hill Stream valley Park, Rockmead, Woottons Mill, and Rockville Senior Center). The consultation will be constrained to context sensitive solutions that are both compensatory to the impacts to Section 4(f) resources and a justifiable expenditure of public funds. For example, plantings and context sensitive stormwater management facility design.

Additional details are included in **Section 4.5.4**.

2.17 Rockmead Park

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: City of Rockville Department of Recreation and Parks

Type of Section 4(f) Approval: *De Minimis* Impact

Rockmead Park is a publicly-owned park and recreational facility at 1800 Greenplace Terrace in Rockville. This 25.3-acre park abuts the southbound lanes of I-270. Park amenities include open space, benches, natural and hard surface paths, and playground equipment.

The Preferred Alternative would result in a use of 0.3 acres of Rockmead Park (**Figure 14**), including 0.2 acres of permanent impact and 0.1 acres of temporary impact.

The impacts to Rockmead Park would be required to accommodate improvements to two existing culverts that convey waterways beneath I-270 and providing access for construction vehicles and materials, construction of a retaining wall and a noise barrier. Detailed mapping of the Preferred Alternative design at Rockmead Park can be found in **FEIS, Appendix E – Map 29**.

No recreational facilities would be impacted by the Preferred Alternative at Rockmead Park.

Impacts to Rockmead Park under the Preferred Alternative have not changed since the SDEIS.

The City of Rockville provided written agreement that the proposed impacts to Rockmead Park would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on April 26, 2022. On April 26, 2022, FHWA provided concurrence that the Section 4(f) use of Rockmead Park would be *de minimis* (see **FEIS Appendix S**).

MDOT SHA has coordinated with the City of Rockville to identify a comprehensive package of parkland mitigation commitments for impacts to Bullards Park and Rose Hill Stream Valley Park, Rockmead Park, Woottons Mill Park, and the Rockville Senior Center and Park. These parkland mitigation measures are summarized in the in **Section 2.16** above, with more details included in **Section 4.5.4**.

Figure 14: Rockmead Park



2.18 Woottons Mill Park

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: City of Rockville Department of Recreation and Parks

Type of Section 4(f) Approval: *De Minimis* Impact

Woottons Mill Park is a publicly-owned park and recreation area on Hurley Road in Rockville. Woottons Mill Park extends along a portion of Watts Branch from the southwest quadrant of the I-270 and MD 28 interchange to the intersection of Scott Drive and Wootton Parkway.

Amenities within this 106.5-acre park include basketball and tennis courts, benches and picnic tables, natural surface and hard surface paths, playground equipment, and garden plots.

The Preferred Alternative would result in a Section 4(f) use of 0.7 acres of Woottons Mill Park (**Figure 15**), all of which would be permanent impact.

The impacts to Woottons Mill Park would be required to improve a storm drain outfall and augmentation of one culvert with potential stream restoration improvements. Detailed mapping of the Preferred Alternative design at Woottons Mill Park can be found in **FEIS, Appendix E – Map 30**.

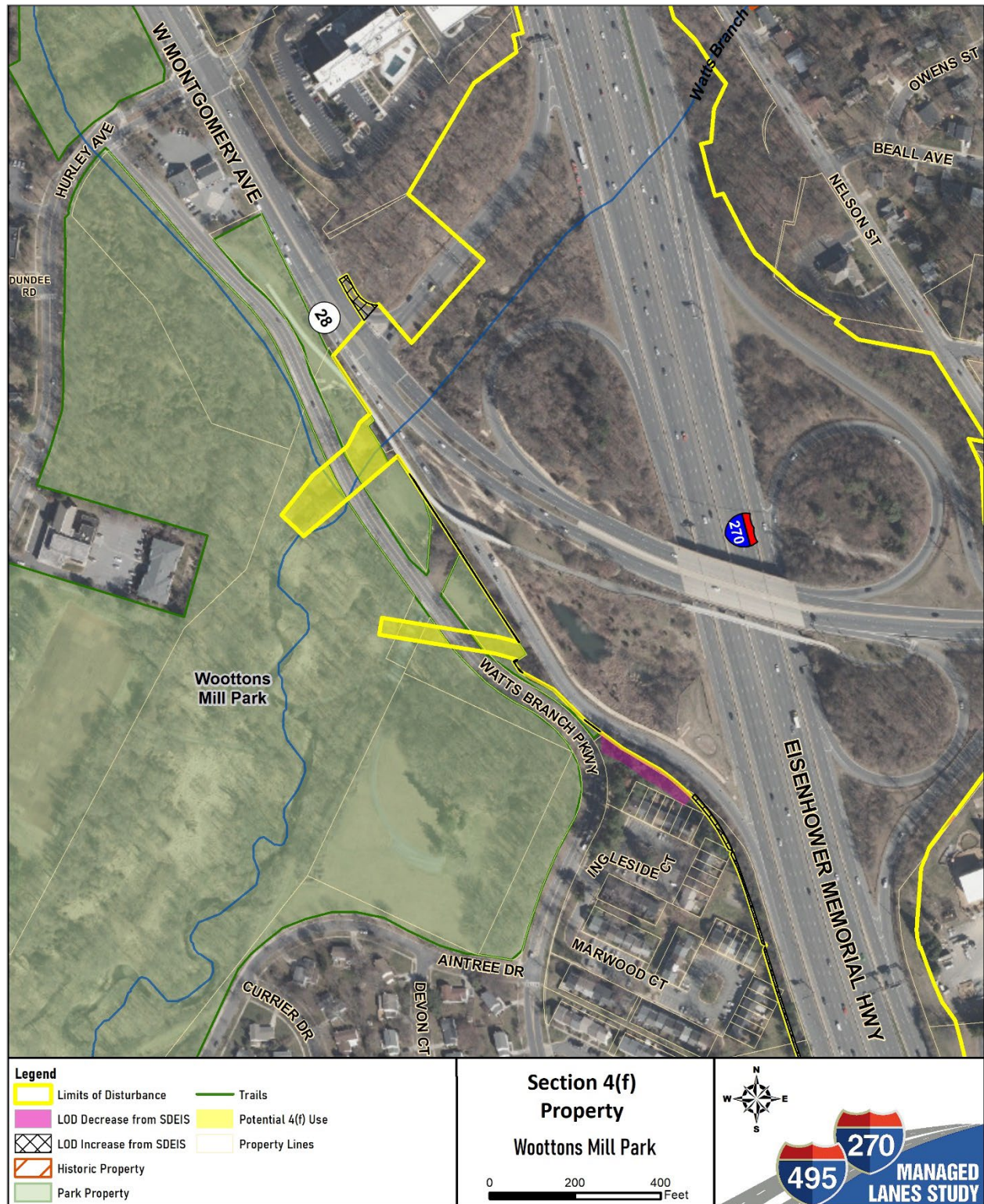
No recreational facilities would be impacted by the Preferred Alternative in Woottons Mill Park.

Impacts to Woottons Mill Park under the Preferred Alternative have not changed since the SDEIS.

The City of Rockville provided written agreement that the proposed impacts to Woottons Mill Park would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on April 26, 2022. On April 26, 2022, FHWA provided concurrence that the Section 4(f) use of Woottons Mill Park would be *de minimis* (see **FEIS Appendix S**).

MDOT SHA has coordinated with the City of Rockville to identify a comprehensive package of parkland mitigation commitments for impacts to Bullards Park and Rose Hill Stream Valley Park, Rockmead Park, Woottons Mill Park, and the Rockville Senior Center and Park. These parkland mitigation measures are summarized in the in **Section 2.16** above, with more details included in **Section 4.5.4**.

Figure 15: Woottons Mill Park



2.19 Woodley Gardens

Type of Section 4(f) Property: Historic Property

Official with Jurisdiction: MHT

Type of Section 4(f) Approval: *De Minimis* Impact

Woodley Gardens is a planned residential development containing Colonial Revival-style, single- and multi-family dwellings constructed between 1960 and 1970 in Rockville, Maryland. The approximately 200-acre development is east of I-270 and south of the Gude Drive overpass. Woodley Gardens is an important, early example of mixed housing types in a planned residential development and is, therefore, eligible for the NRHP under Criterion A as a historic district. Woodley Gardens is also significant as a historic district under Criterion C as an excellent, intact example of a planned residential development with a period of significance ranging from 1960 to 1970.

The Preferred Alternative would result in a Section 4(f) use of 1.3 acres of Woodley Gardens (**Figure 16**), including 1.2 acres of permanent impact and 0.1 acres of temporary impact.

The impacts to Woodley Gardens would be required to accommodate the construction, operation, and future maintenance of a stormwater management facility, construction of a retaining wall and noise barrier, utility relocations, and storm drain impacts. Detailed mapping of the Preferred Alternative design at Woodley Gardens can be found in **FEIS, Appendix E – Maps 30 and 31**.

Impacts to Woodley Gardens under the Preferred Alternative have not changed since the SDEIS.

In a letter dated October 8, 2021, MHT concurred with the finding of no adverse effect and *de minimis* determination for Woodley Gardens (**FEIS, Appendix I**). Therefore, FHWA has made a final *de minimis* impact determination for the Woodley Gardens.

2.20 Rockville Senior Center and Park

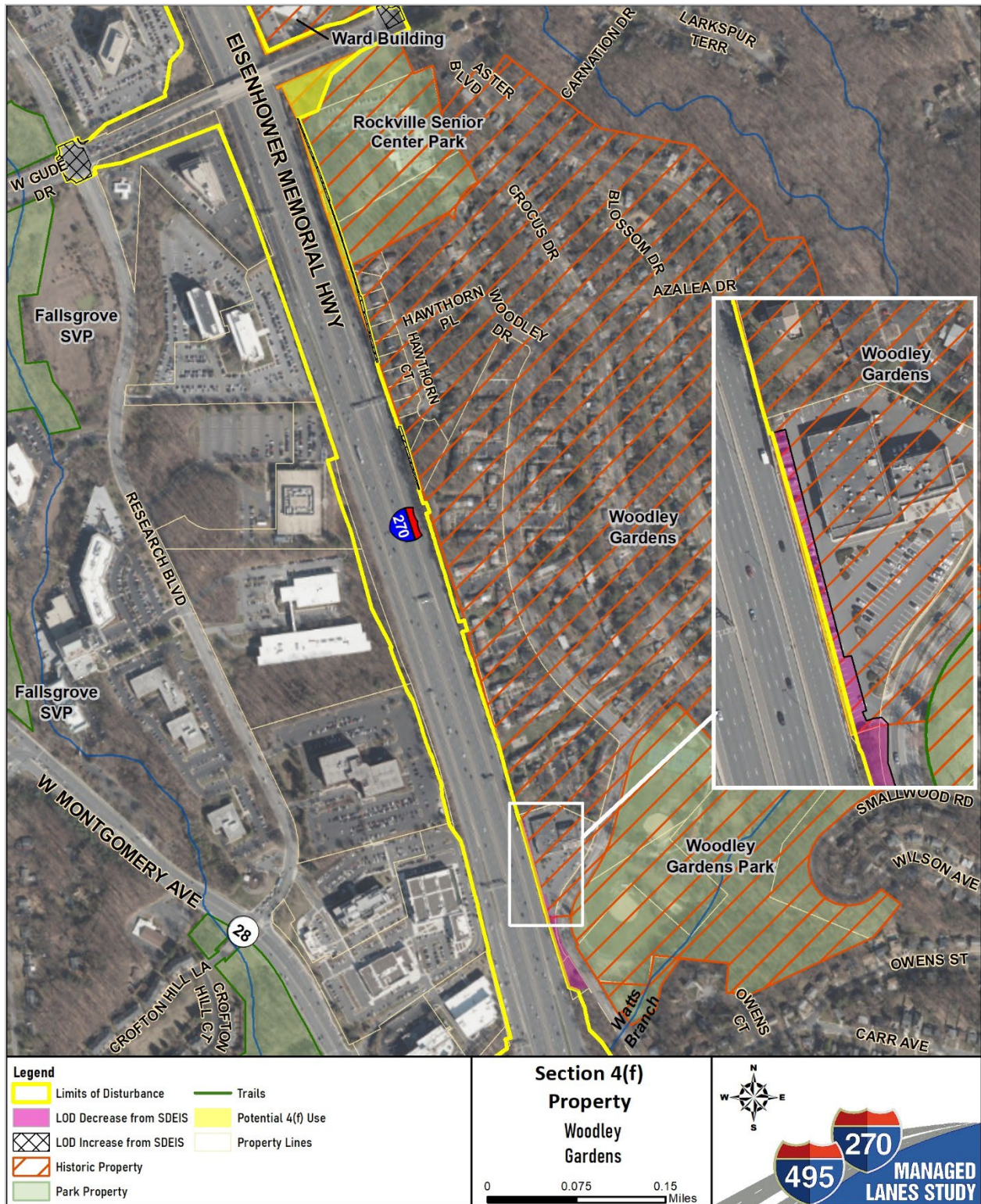
Type of Section 4(f) Property: Historic Property and Public Park

Officials with Jurisdiction: MHT, City of Rockville

Type of Section 4(f) Approval: *De Minimis* Impact

Rockville Senior Center and Park is a publicly-owned park and recreational facility at 1150 Carnation Drive in Rockville. This 12.1-acre park is immediately south of West Gude Drive and abuts the northbound lanes of I-270. Park amenities consist of benches, picnic tables, walking paths, a nature trail, community garden, outdoor fitness equipment, art, bocce ball court, and playground equipment. The senior center building features additional recreational facilities including fitness rooms, a woodworking studio and meeting space.

Figure 16: Woodley Gardens



The senior center building of the Rockville Senior Center and Park is the former Woodley Gardens Elementary School and contributes to the significance of Woodley Gardens, eligible for the NRHP under Criteria A and C as an early example of a developed residential-focused, mixed use community in Rockville. The landscaping and park elements of the senior center were added after 1982, outside the Woodley Gardens period of significance (1960-1970). Significant elements of Woodley Gardens include the dwellings, shopping center, swim club, Woodley Gardens Park, and the Rockville Senior Center building.

The Preferred Alternative would result in a use of 1.1 acres of Rockville Senior Center and Park (**Figure 17**) including 1.0 acres of permanent impact and 0.1 acres of temporary impact.

The impacts to Rockville Senior Center and Park would be required to accommodate the construction, operation, and future maintenance of a stormwater management facility, construction of a retaining wall and noise barrier, and widening of Gude Drive. Detailed mapping of the Preferred Alternative design at Rockville Senior Center and Park can be found in **FEIS, Appendix E – Map 32**.

Since the SDEIS, the proposed temporary impact to the Rockville Senior Center and Park under the Preferred Alternative has increased by 0.1 acres. The SDEIS design concept included a shift of the roadway centerline along I-270 that is not included in the FEIS concept. The proposed retaining wall along NB I-270 has moved closer to the Rockville Senior Center, resulting in an increase in temporary impacts.

No recreational facilities would be impacted by the Preferred Alternative at Rockville Senior Center and Park.

On March 12, 2020, MHT concurred that the Managed Lanes Study would have no adverse effect on Woodley Gardens, including Rockville Senior Center; and provided written acknowledgement of FHWA's intent to make a *de minimis* impact finding based on the DEIS impacts. This initial MHT review was conducted prior to recent design changes and avoidance and minimization efforts. MDOT In a letter dated October 8, 2021, MHT concurred with the finding of no adverse effect and *de minimis* determination for Rockville Senior Center and Park (**FEIS, Appendix I**) based on the revised impacts described in this Final Section 4(f) Evaluation.

The City of Rockville provided written agreement that the proposed impacts to Rockville Senior Center and Park would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on April 26, 2022. On April 26, 2022, FHWA provided concurrence that the Section 4(f) use of Rockville Senior Center and Park would be *de minimis* (see **FEIS Appendix S**).

MDOT SHA has coordinated with the City of Rockville to identify a comprehensive package of parkland mitigation commitments for impacts to Cabin John Stream Valley Park (Rockville), Bullard Park and rose Hill Stream Valley Park, Rockmead Park, Woottons Mill Park, and the Rockville Senior Center and Park. These parkland mitigation measures are summarized in the in **Section 2.15** above, with more details included in **Section 4.5.4**.

Figure 17: Rockville Senior Center and Park and Ward Building



2.21 Ward Building

Type of Section 4(f) Property: Historic Property

Official with Jurisdiction: MHT

Type of Section 4(f) Approval: *De Minimis* Impact

The Ward Building is a Brutalist-style suburban corporate office constructed in 1978 at 1300 Piccard Drive, Rockville, Maryland. The property is 4.76 acres laying just east of I-270 and north of the Gude Drive overpass. The Ward Building is eligible under Criterion C for its high artistic value as an example of Brutalist-style architecture.

The Preferred Alternative would result in a use of 0.2 acres of the Ward Building (**Figure 17**), all of which would be permanent impact.

The impacts to the Ward Building would be required to accommodate widening of I-270, widening of Gude Drive, and construction area for a retaining wall. Detailed mapping of the Preferred Alternative design at the Ward Building can be found in **FEIS, Appendix E – Map 33**.

On March 12, 2020, MHT concurred that the Managed Lanes Study would have no adverse effect on the Ward Building and provided written acknowledgement of FHWA's intent to make a *de minimis* impact finding based on the impacts described in the DEIS. This initial MHT review was conducted prior to recent design changes and avoidance and minimization efforts. In a letter dated October 8, 2021, MHT concurred with the finding of no adverse effect and *de minimis* determination for the Ward Building (see **FEIS, Appendix I**) based on the updated impacts included in this Section 4(f) Evaluation. Therefore, FHWA has made a final *de minimis* impact determination for the Ward Building.

2.22 Malcolm King Park

Type of Section 4(f) Property: Public Park

Official with Jurisdiction: City of Gaithersburg Department of Parks, Recreation and Culture

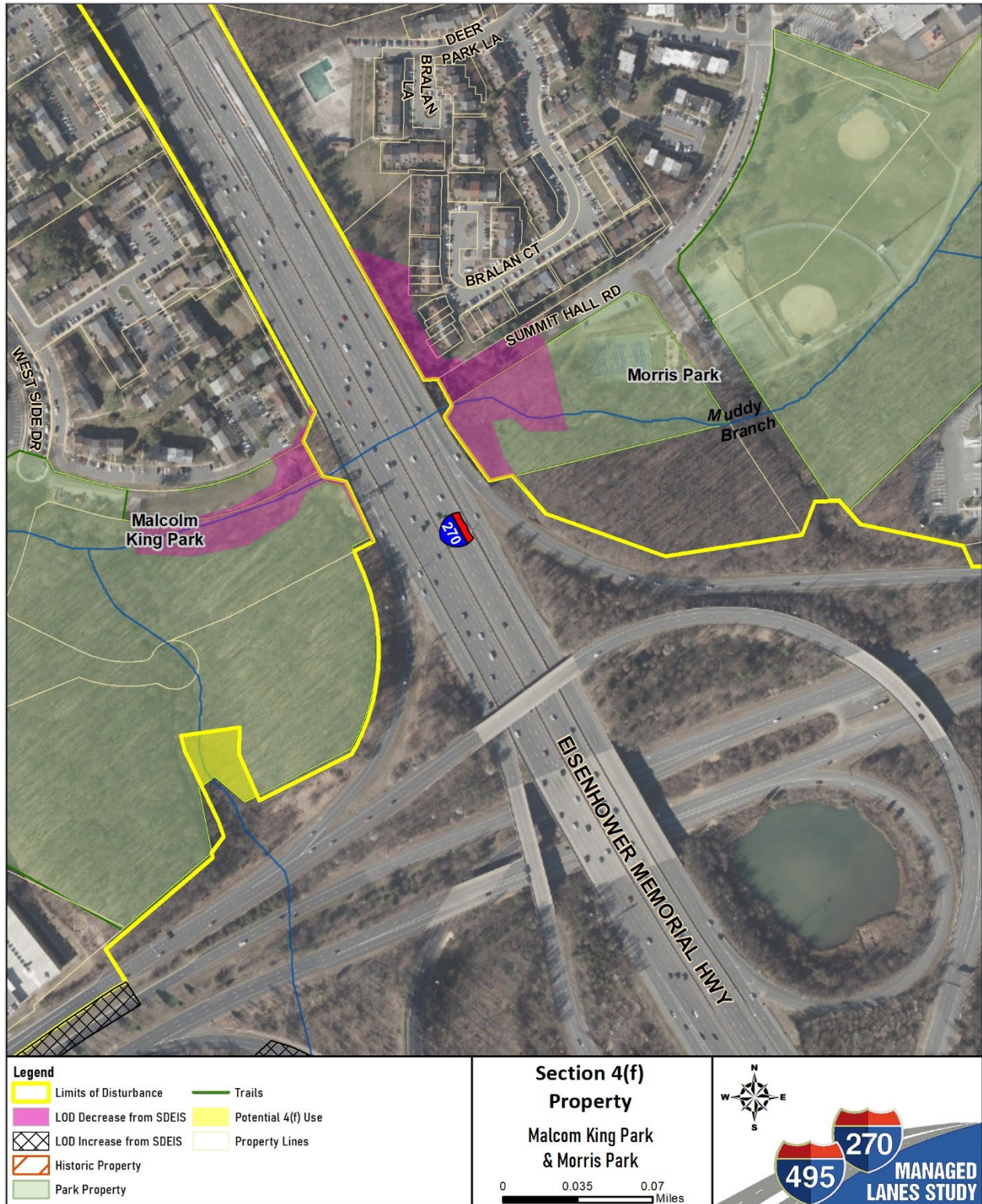
Type of Section 4(f) Approval: *De Minimis* Impact

Malcolm King Park is a publicly-owned park and recreation area at 1200 West Side Drive in Gaithersburg. The 72.9-acre park abuts the interchange of southbound I-270 and westbound I-370. Park amenities include a basketball court, picnic area, playground, tot lot, two miles of hiking trails, and two tennis courts. The majority of the park's acreage is wooded and serves as an environmental buffer for Muddy Branch.

The Preferred Alternative would result in a Section 4(f) use of 0.5 acres of Malcolm King Park (**Figure 18**) and less than 0.1 acres of temporary impact.

The impacts to Malcolm King Park would be required to accommodate a constructability area related to widening I-270; augmenting the existing culvert conveying Muddy Branch beneath I-270, stabilizing the Muddy Branch outfall, and improvements to the existing outfall for a culvert that passes under I-370. Detailed mapping of the Preferred Alternative design at Malcolm King Park can be found in **FEIS, Appendix E – Map 35**.

Figure 18: Malcolm King Park



No recreational facilities would be impacted by the Preferred Alternative at Malcolm King Park.

Since the SDEIS, the proposed permanent impacts to Malcolm King Park under the Preferred Alternative have decreased by 0.8 acres. The SDEIS design concept included modifications to an existing culvert that crosses under I-270 north of I-370, including installation of an auxiliary culvert next to the existing. The culvert augmentation and improvements upstream and downstream of the culvert resulted in limits of disturbance and impacts to Morris Park and Malcolm King Park. Since the SDEIS, the design concept and improvement limits have been refined and the existing culvert no longer needs to be augmented.

MDOT SHA and FHWA previously anticipated that the Section 4(f) use of Malcolm King Park would be *de minimis* based on the impacts presented in the DEIS. The SDEIS recommended that the impacts would no longer be *de minimis* based on an increase in acreage presented in that document. However, the impacts presented in this Final Section 4(f) Evaluation have been further reduced and impacts to the property are now anticipated to be *de minimis*. The City of Gaithersburg provided written agreement that the proposed impacts to Malcolm King Park would not adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) on March 23, 2022. On March 28, 2022, FHWA provided concurrence that the Section 4(f) use of Malcolm King Park would be *de minimis* (see **FEIS Appendix S**).

MDOT SHA has coordinated with the City of Gaithersburg to identify a comprehensive package of parkland mitigation commitments for impacts to Malcolm King Park. The parkland mitigation includes conveyance of a 4.03-acre property owned by MDOT SHA to the City of Gaithersburg as replacement parkland.

3 AVOIDANCE ALTERNATIVES AND ANALYSIS

A *feasible and prudent avoidance alternative* is one that avoids using any Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) property (23 CFR 774.17). In assessing the importance of protecting Section 4(f) properties, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute. The preservation purpose of Section 4(f) is described in 49 U.S.C. § 303(a), which states: “It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

An alternative is not *feasible* if it cannot be built as a matter of sound engineering judgement.

An alternative is not *prudent* if:

- It compromises the project to a degree that is unreasonable to proceed with the project in light of its stated Purpose and Need;
- It results in unacceptable safety or operational problems;
- It causes severe social, economic, or environmental impacts even after reasonable mitigation; severe disruption to established communities; severe disproportionate impacts to minority or low income populations; or severe impacts to environmental resources protected under other Federal statutes;
- It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- It causes other unique problems or unusual factors; or
- It involves multiple factors above that while individually minor, cumulatively cause unique problems; or impacts of extraordinary magnitude.

The presence of linear, mostly north-south oriented, Section 4(f) properties such as Cabin John Stream Valley Park, George Washington Memorial Parkway, and Clara Barton Parkway, in contrast to the largely east-west oriented interstate corridors, limits the potential for feasible and prudent avoidance alternatives to exist in this corridor, which makes avoidance of all Section 4(f) properties difficult. Each of these park properties extends perpendicular to the alignment of I-495 or I-270. Additionally, the corridor study boundary is characterized as a densely populated, urban area with large residential communities, business complexes, large governmental institutions, numerous community facilities, and hundreds of sensitive cultural and natural resources. Since I-495 and I-270 are existing interstate systems that serve local and regional traffic and connect to major arterials in each county, addressing the need on a system level is critical to achieving the overall purpose of the Study.

Six alternatives that would completely avoid the use of Section 4(f) properties have been developed and were discussed in detail in **Section 3** of the **Draft Section 4(f) Evaluation (DEIS, Appendix F)**. They are evaluated in accordance with the definition of a *feasible and prudent* avoidance alternative found in 23 CFR 774.17 and are summarized briefly in **Table 5** below.

The alternatives previously included in the DEIS least overall harm analysis are carried forward here, as they are still applicable to the current evaluation of least overall harm in this FEIS with revised project limits. The Preferred Alternative, a minimization alternative, is also included for evaluation in the revised discussion of least overall harm.

Table 5: Avoidance Alternatives

Avoidance Alternative	Description	Avoidance Analysis Findings ³
Alternative 1: No Build Alternative	Alternative 1 would avoid all Section 4(f) property impacts. Under this alternative routine maintenance and safety improvements would occur but there would be no changes to the existing lane configuration on I-495 and I-270. There would be no operational improvements or increased capacity along I-495 and I-270.	Alternative 1 would avoid impacts to Section 4(f) properties but would be unreasonable to proceed with in light of the Study's stated Purpose and Need. Alternative 1 causes other severe problems of a magnitude that substantially outweigh the importance of protecting Section 4(f) properties. Prudence factor failed per 23 CFR 774.17: <ul style="list-style-type: none"> (i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need
Increased Bus Transit	This alternative would include expansion of existing bus transit services within the limits of the Study on both I-270 and I-495 and the additional surrounding roadway network. This could be in the form of an increase in bus service on existing I-495 and I-270 within the limits of the Study, or consideration of dedicated facilities such as bus rapid transit systems on existing infrastructure.	An extensive regionwide network of dedicated BRT facilities along I-495 and I-270 would not achieve the Study's Purpose and Need. It would be unreasonable to proceed with the Bus Transit Alternative in light of the stated Purpose and Need. This avoidance alternative causes other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) properties. Prudence factor failed per 23 CFR 774.17: <ul style="list-style-type: none"> (i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need
Transportation System Management/ Transportation Demand Management (TSM/TDM)	Transportation System Management (TSM)/Transportation Demand Management (TDM) strategies are improvements to existing facilities that improve the operation and coordination of transportation services and facilities.	A TSM/TDM Alternative would not accommodate existing and future long-term traffic, nor would these measures enhance trip reliability. In addition, the TSM/TDM Alternative would not directly provide an additional travel choice, accommodate Homeland Security, improve the movement of goods and services, nor enhance multimodal connectivity; and it would not provide a revenue source. Based on these

³ Refer to the definition of *feasible and prudent avoidance alternative* in 23 CFR § 774.17.

Avoidance Alternative	Description	Avoidance Analysis Findings ³
		<p>factors, the TSM/TDM Alternative is not a feasible and prudent alternative. This avoidance alternative causes other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) properties.</p> <p>Prudence factors failed per 23 CFR 774.17:</p> <ul style="list-style-type: none"> (i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (ii) It results in unacceptable safety or operational problems
Section 4(f) Avoidance Alternative 1	<p>Section 4(f) Avoidance Alternative 1 would construct four new managed lanes off-alignment between George Washington Memorial Parkway and MD 4, outside of I-495. To avoid the use of any Section 4(f) property on I-270, four managed lanes would be constructed off alignment to the west of existing I-270. The alignment of Section 4(f) Avoidance Alternative 1 would rejoin existing I-270 at the MD 200 interchange, the limit of the Study.</p>	<p>Section 4(f) Avoidance Alternative 1 would result in additional construction, maintenance, and operational costs of an extraordinary magnitude. After reasonable mitigation, it would still cause severe social, economic, and environmental impacts; severe disruption to established communities; and severe impacts to environmental resources protected under other Federal statutes. Section 4(f) Avoidance Alternative 1 causes other severe problems of a magnitude that substantially outweighs the importance of protecting Section 4(f) properties.</p> <p>Prudence factors failed per 23 CFR 774.17:</p> <ul style="list-style-type: none"> (iii) After reasonable mitigation, it still causes: <ul style="list-style-type: none"> (A) Severe social, economic, or environmental impacts; (B) Severe disruption to established communities; (D) Severe impacts to environmental resources protected under other Federal statutes; (iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude
Section 4(f) Avoidance Alternative 2	<p>Section 4(f) Avoidance Alternative 2 would construct four new managed lanes off-alignment between George Washington Memorial Parkway and MD 4. The managed lanes would be constructed inside the alignment of existing I-495 through nearly</p>	<p>Avoidance Alternative 2 would result in additional construction, maintenance, and operational costs of an extraordinary magnitude. After reasonable mitigation, it would still cause severe social, economic, and environmental impacts; severe</p>

Avoidance Alternative	Description	Avoidance Analysis Findings ³
	<p>full the limits of the Study. To avoid the use of any Section 4(f) property on I-270, four managed lanes would also be constructed off alignment to the east of existing I-270.</p>	<p>disruption to established communities; and severe impacts to environmental resources protected under other Federal statutes. Section 4(f) Avoidance Alternative 2 causes other severe problems of a magnitude that substantially outweighs the importance of protecting Section 4(f) properties.</p> <p>Prudence factors failed per 23 CFR 774.17:</p> <ul style="list-style-type: none"> • (iii) After reasonable mitigation, it still causes: <ul style="list-style-type: none"> • (A) Severe social, economic, or environmental impacts; • (B) Severe disruption to established communities; • (D) Severe impacts to environmental resources protected under other Federal statutes; • (iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude
Section 4(f) Avoidance Alternative 3	<p>Section 4(f) Avoidance Alternative 3 would construct four managed lanes as proposed in the Preferred Alternative. However, where impacts to Section 4(f) properties would occur, the location specific options would be incorporated into the alignment of Section 4(f) Avoidance Alternative 3.</p>	<p>Although Section 4(f) Avoidance Alternative 3 would result in additional construction, maintenance, and operational costs of an extraordinary magnitude. After reasonable mitigation, it would still cause severe social, economic, and environmental impacts; severe disruption to established communities; and severe impacts to environmental resources protected under other Federal statutes. Section 4(f) Avoidance Alternative 3 causes other severe problems of a magnitude that substantially outweighs the importance of protecting Section 4(f) properties.</p> <p>Prudence factors failed per 23 CFR 774.17:</p> <ul style="list-style-type: none"> • (iii) After reasonable mitigation, it still causes: <ul style="list-style-type: none"> • (A) Severe social, economic, or environmental impacts; • (B) Severe disruption to established communities; • (D) Severe impacts to environmental resources protected under other Federal statutes;

Avoidance Alternative	Description	Avoidance Analysis Findings ³
		<ul style="list-style-type: none"> (iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude

The Preferred Alternative would not avoid the use of all Section 4(f) properties. It would, however, avoid the use of 40 Section 4(f) properties, thus reducing the overall acreage of Section 4(f) use by roughly 108.8 acres compared to DEIS Build Alternative 9 (**Table 4**). Those 108.8 acres of impact to 40 properties would be fully avoided by the Preferred Alternative. This avoidance comprises the vast majority of the net reduction in impacts to Section 4(f) properties of 113.6 acres compared to DEIS Alternative 9.

4 ALL POSSIBLE PLANNING

Section 4(f) states FHWA may not approve the use of Section 4(f) property unless there is no feasible and prudent avoidance alternative, and the action includes all possible planning to minimize harm to the property resulting from such use. “All possible planning,” as defined in 23 CFR 774.17, includes all reasonable measures to minimize harm or mitigate for adverse impacts and effects. The cost of mitigation should be a reasonable public expenditure in light of the severity of the impact on Section 4(f) property, in accordance with 23 CFR 771.105(e).

The DEIS and SDEIS presented measures that had been identified to ensure all possible planning to minimize harm and mitigate for adverse impacts and effects. These measures are summarized here and detailed in **Section 4 of the Draft Section 4(f) Evaluation (DEIS, Appendix F)** and **Chapter 5 of the SDEIS**. Additional minimization and mitigation efforts have been implemented in conjunction with the Preferred Alternative presented in this Final Section 4(f) Evaluation.

Since the publication of the SDEIS, MDOT SHA has coordinated with the OWJs for impacted Section 4(f) properties to identify specific mitigation commitments.

4.1 Summary of All Possible Planning Presented in DEIS and SDEIS

Pursuant to Section 106, MDOT SHA is in the process of drafting a Programmatic Agreement to resolve adverse effects to historic properties. In general, mitigation measures agreed upon as part of the Section 106 process satisfy the requirement to include all possible planning to minimize harm for historic properties under Section 4(f).

With regard to public parks, all possible planning will involve the minimization activities described herein as well as mitigation coordinated with the OWJs over public parks and recreation areas. All possible planning to minimize harm will additionally involve an agreement document that outlines the process to continue coordination with the OWJs over Section 4(f) properties through the design phase of the project.

Mitigation measures involving the public parks and recreation areas may involve replacement of land and/or facilities of comparable value and function, or monetary compensation to enhance the remaining land.

Section 4 of the Draft Section 4(f) Evaluation (DEIS, Appendix F) includes detailed discussion of the methodology and assumptions for establishing LODs (**DEIS, Appendix F, Section 4.1**), the considerations for adjacent land use and minimization of the LOD (**DEIS, Appendix F, Section 4.2**) and a summary of potential mitigation measures (**DEIS, Appendix F, Section 4.3**).

New measures intended to address all possible planning to minimize harm to Section 4(f) properties were documented in the SDEIS and included in the Preferred Alternative’s avoidance of 40 Section 4(f) properties as compared to the DEIS Alternative 9. Additional avoidance and minimization measures at Section 4(f) properties presented in the SDEIS and FEIS included extensive design refinements in the conceptual stormwater management and in the vicinity of the ALB and at Morningstar Cemetery, and new mitigation measures developed in coordination with the OWJs for each Section 4(f) property impacted.

4.2 Preferred Alternative

The Preferred Alternative presented in this Final Section 4(f) Evaluation was developed as a Section 4(f) minimization alternative based in part on extensive coordination with and input from agencies and stakeholders, including the OWJs for Section 4(f) properties. Comments received on the DEIS and Draft Section 4(f) Evaluation from agencies and stakeholders specifically requested avoidance of significant parkland and historic resources within the study area. The Preferred Alternative is responsive to comments received and aligns the Study to be consistent with the previously determined phased delivery and permitting approach by limiting the build improvements to the area of Phase 1 South only while avoiding improvements on I-495 east of the I-270 East Spur. The result is complete avoidance of significant Section 4(f) properties within the study limits, *which remain the same as the DEIS*, on I-495 east of the I-270 east spur to MD 5 in Prince George's County. These include complete avoidance of significant stream valley parks including: Rock Creek, Northwest Branch, Sligo Creek, Southwest Branch, and Henson Creek Stream Valley Parks, as well as historic parks of national significance including the Baltimore-Washington Parkway, Greenbelt Park and Suitland Parkway.

4.3 American Legion Bridge (ALB)

MDOT SHA conducted an extensive engineering evaluation at the ALB to identify strategies for minimizing impacts at NPS owned Section 4(f) properties adjacent to the bridge including the Chesapeake and Ohio Canal National Historical Park, Clara Barton Parkway, and George Washington Memorial Parkway. MDOT SHA convened a multidisciplinary team of experts referred to as the 'ALB Strike Team' to develop and evaluate alternatives for the replacement of the ALB that avoid impacts, to the greatest extent practicable, or reduce overall acreage impacts to the three NPS properties in the vicinity of the ALB.

The ALB Strike Team explored strategies for reducing the LOD including top-down construction, alternate construction phasing, alternate bridge types, and construction access requirements. Bridge type options were evaluated including conventional structures, cable stayed, and cast-in-place segmental bridges. Alternate construction phases such as Accelerated Bridge Construction techniques were also evaluated to investigate options to reduce the construction duration. Options for the ultimate roadway and bridge alignment as well as construction access and phasing to reduce impacts to Plimmers Island were also considered.

The ALB Strike Team evaluation determined that one construction access road located in the northwest quadrant of the ALB and Potomac River would be sufficient to provide construction access for removal of the existing bridge and construction of a new bridge thus eliminating the need for construction access in the three other quadrants.

Overall, MDOT SHA's efforts to minimize impacts to NPS properties in the vicinity of the ALB has led to reductions of 5.3 acres at the Chesapeake and Ohio Canal National Historical Park and 7.8 acres at the George Washington Memorial Parkway relative to the DEIS impacts. Refer to **Section 1.5** for additional details.

4.4 Morningstar Tabernacle No. 88 Moses Hall and Cemetery

MDOT SHA has coordinated directly with the Friends of Moses Hall and other consulting parties since early 2020 on avoidance and minimization efforts at the Morningstar Tabernacle No. 88 Moses Hall and Cemetery (Morningstar Cemetery). In January 2021, MDOT SHA implemented bamboo removal within the

Morningstar Cemetery to continue documentation of the cemetery features and boundaries. Through design efforts that led to refinements of the LOD, MDOT SHA developed design options that would avoid impacts to the Section 4(f) property from 0.3 acres reported in the DEIS.

Further research and archaeological survey efforts have revealed new information about the property, including the discovery of possible burials indicated by ground-penetrating radar that may extend into existing MDOT SHA right-of-way. As a result of these investigations, MDOT SHA developed and presented in the SDEIS an alternative that eliminates all project impacts within the property boundary and avoids associated potential burial features within MDOT SHA right-of-way adjacent to the modern cemetery boundary. No property is needed from the cemetery for either temporary construction or permanent acquisition. The area of possible burial features within MDOT SHA right-of-way has now been included within the National Register eligible boundary of the property via an update in 2021. Because MDOT SHA right-of-way adjoining the cemetery where possible burials are indicated is no longer affected or needed for transportation use, MDOT SHA is pursuing transferring ownership of this portion of right-of-way to the cemetery trustees.

For the Preferred Alternative design, as presented in the SDEIS and FEIS, the typical section has been modified to include a narrow right shoulder along the reconstructed I-495 inner loop general purpose lanes adjacent to the cemetery property. The width of the right shoulder is reduced from 12 feet to 6 feet wide (measured between the edge of travel lane and face of concrete barrier) for a total length of approximately 400 feet including tapers. The total length of the narrow right shoulder excluding the tapers is approximately 235 feet. The proposed noise barrier along the right shoulder and the cemetery is located two feet behind the concrete traffic barrier. The LOD is offset behind the centerline of the noise barrier by 5.3 to 13.3 feet. This design avoids any right-of-way impacts to the Morningstar Tabernacle No. 88 Moses Hall and Cemetery historic property and provides a buffer to avoid performing earthwork at the nearest known GPR-indicated feature that may be a grave.

The proposed 24-foot-high noise barrier is provided to mitigate for noise and will have the additional benefit of screening the highway from view; 24 feet is an anticipated maximum height and may be somewhat reduced in final design to within the 16 to 24-foot height range. This segment of I-495 was completed in 1962, and the current view of the highway from the Morningstar Tabernacle No. 88 Moses Hall and Cemetery is not a historically significant or character-defining feature of the historic property. The existing noise level at the cemetery is 70 dBA, and MDOT SHA's noise analysis projects noise levels from the proposed highway to also be 70 dBA in 2045. Consistent with other historic properties adjoining I-495 and I-270, the placement of noise barrier is not considered a visual adverse effect because the view is not historically significant; the noise barrier provides benefit to the setting of the property by reducing highway noise from current conditions.

Following consulting party input, additional research, and extensive minimization and avoidance efforts documented in the SDEIS, MDOT SHA and FHWA determined that the project would not adversely affect the Morningstar Tabernacle No. 88 Moses Hall and Cemetery and MDOT SHA updated the effect in December 2021. The boundary of the historic property was also updated in December 2021 to include the area of possible burial features identified by the May 2021 ground penetrating radar survey within state-owned right-of-way. In its February 4, 2022 response, MHT did not concur with MDOT SHA and FHWA's specific no adverse effect finding for the Morningstar Tabernacle No. 88 Moses Hall and Cemetery. On

May 2, 2022, MHT agreed with MDOT SHA's request to defer of resolution of effects to Morningstar Cemetery to the PA.

Based on the current historic boundary, the Preferred Alternative would avoid direct impacts to the Morningstar Tabernacle No. 88 Moses Hall and Cemetery. Additionally, no atmospheric, audible, or visual, effects to the property have been identified from the Preferred Alternative. No diminishment of location, design, setting, materials, workmanship, feeling or association has been found in these areas. The project will be governed by a PA, including a treatment plan that specifies the methods, limits and consultation procedures for further investigation of areas with the potential for additional burials outside of the current historic boundary, no specific determination of effects to the Morningstar Tabernacle No. 88 Moses Hall and Cemetery will be made at this time, and will be made following completion of the additional investigations specified in the PA and treatment plan (Refer to **FEIS, Appendix J**).

4.5 Mitigation

MDOT SHA has coordinated extensively with the OWJs on Section 4(f) properties impacted by the Preferred Alternative to identify a comprehensive package of mitigation measures. Final mitigation commitments have been developed to include all possible planning to minimize harm in coordination with the OWJs. Mitigation measures in this section are organized by OWJ.

4.5.1 National Park Service

MDOT SHA has coordinated with NPS to identify a comprehensive package of mitigation and commitment measures to account for impacts to George Washington Memorial Parkway, Chesapeake and Ohio Canal National Historic Park, and Clara Barton Parkway. The measures identified are listed below.

- Develop and implement a Comprehensive Ecological Restoration Plan and Cost Estimate for Restoring Limits of Disturbance to Preexisting Conditions for the impacted area. The plan shall include the following components:
 - Forest and terrestrial vegetation restoration including:
 - Avoiding and minimizing impacts to trees within and surrounding the LOD through a robust tree protection plan
 - Survey impacted vegetation community prior to construction to determine existing community composition and develop replanting plan based on survey results.
 - Replanting forest (including shrub and herbaceous layers) inch-for-inch within LOD in temporary impact areas and providing non-native invasive (NNI) species control and maintenance for 5 years within reforestation area.
 - Softening edge effects associated with disturbance by treating and removing non-native invasive species within a 50-foot buffer of the LOD and replanting native trees and shrubs in any gaps resulting from the removal of mature trees or non-native invasive species. In coordination with NPS during design, sensitive areas, such as areas of known archeological resources, within the 50-foot buffer will be excluded if ground disturbance is required.

- Providing monetary compensation for remaining tree impacts, based on inch for inch replacement of DBH impacted.
- Rare, Threatened and Endangered plant species restoration including:
 - Conducting a final pre-construction RTE plant inspection.
 - Collecting seeds and/or individual RTE plant species from impact area prior to construction.
 - Cultivating plants and storing seeds/propagating plants from seed in an off-site nursery.
 - Reestablishing RTE species from stored seed, and cultivated and propagated plants following construction and topsoil restoration.
- Topsoil salvage and restoration including:
 - Salvaging topsoil from impact area and storing in nearest possible stockpile location.
 - Restoring subsoils and reducing compaction via ripping, discing, plowing or double-digging following construction.
 - Placing salvaged topsoil in impact area following construction.
- Herpetofauna translocation including:
 - Conducting Herpetofauna relocation effort immediately prior to construction activities.
 - Conducting a sweep through a portion of the impact area with approximately 10 biologists searching for and capturing reptiles and amphibians, and logging all captures.
 - Relocating captured individuals safely away from the impact area.
 - Conducting a second sweep through the same portion of impact area, logging all captures and relocating captured individuals.
 - Conducting a third sweep and relocate effort, if the number of captured individuals is not dramatically reduced, and continue sweeping the portion of the work area until the number of captured individuals is minimal.
 - Continuing the multiple sweep process until the entire work area is cleared
- Downed woody debris salvage and restoration including:
 - Moving all downed woody debris from the impact area to the edge of the impact area just outside of the E&S measures as part of the clearing operation.
 - Restoring downed woody debris to the impact area following construction and topsoil restoration.
- Create/restore 1.53 acres of wetland northwest of American Legion Bridge (Site ID CHOH-13) per the Wetland Statement of Findings
- Install new white legend and border on brown background guide signs along I-495 for the George Washington Memorial Parkway exit.

- Shift bridge piers north of Lock 13 to the maximum extent possible while maintaining adequate vertical clearance of 12 feet, 6 inches between towpath and bottom of bridge steel to accommodate NPS equipment. Design new ALB to capture all drainage outfall using downspouts. The downspouts will be located so the water does not drop onto areas with frequent pedestrian use.
- Complete a condition assessment of locks, masonry walls, towpath, and canal prism throughout entire LOD and develop and implement a plan for repairs identified during condition assessment.
- Complete Phase III Archaeological Data Recovery at 44FX0374, 44FX0379 and 44FX0389 (GWMP) and develop associated public interpretation materials (in Virginia).
- Complete Phase III Archaeological Data Recovery at 18MO749 and 18MO751 (Chesapeake and Ohio) and develop associated public interpretation materials (In Maryland).
- Prepare National Register Nomination for Dead Run Ridges Archaeological District.
- Develop Interpretive product on archeological sites; Create web-based Story Map, waysides, and/or brochures.
- Provide monetary compensation for a Cultural Landscape Report for Clara Barton Parkway (historical narrative; updated existing conditions and analysis and evaluation; and treatment guidelines for management of character defining features).
- Complete a condition assessment of Potomac Heritage Trail within the LOD and develop and implement a plan to improve the trail within the LOD.
- Prepare Visitor and Ecological Impact Study.
- Provide replacement parkland for permanent impacts to George Washington Memorial Parkway, Chesapeake and Ohio Canal National Historical Park and Clara Barton Parkway.
- Provide monetary compensation up to \$60,000 to update and refine the George Washington Memorial Parkway Climate Action Plan.
- A detour route for the Potomac Heritage National Scenic Trail within the LOD, if determined to be necessary, will continue to be developed by MDOT SHA and the Developer in coordination with NPS, Fairfax County, and VDOT. The segment of the trail within the LOD would be restored on a new alignment after construction is completed.
- MDOT SHA and the Developer will evaluate drainage and sight distance considerations at the intersection of the shared use path and Chesapeake and Ohio Canal towpath during final design in coordination with NPS.
- Design and construct, in coordination with NPS and the Washington Biologists' Field Club, slope armoring along the upstream side of Plummers Island to mitigate for future slope erosions as a result of tree clearing with the LOD. The slope armoring could include, but is not limited to, a rip-rap slope, live staking, and brush layering or any combination of armoring that will provide a blended natural aesthetic with the topography and historic nature of the island.
- MDOT SHA and the Developer will evaluate additional options for the American Legion Bridge during final design that would further minimize or avoid physical impact to Plummers Island.

4.5.2 M-NCPPC

MDOT SHA has coordinated with M-NCPPC to identify a comprehensive package of mitigation measures to account for impacts to M-NCPPC park properties, including all possible planning to minimize harm to the Section 4(f) resources. Mitigation measures are grouped below based on general mitigation applicable to all park impacts, and mitigation measures specific to one or more M-NCPPC properties.

A. General Mitigation

General measures applicable to all M-NCPPC park impacts include:

- Acquire the 24.14-acre Bardon, Inc. property (Acct. no. 00402385) and convey to M-NCPPC. If unavailable, acquire or convey property as replacement parkland of similar size and/or function in coordination with M-NCPPC.
- Acquire the 0.57-acre Bardon, Inc. property (Acct. no. 02620882) and convey to M-NCPPC. If unavailable, acquire or convey property as replacement parkland of similar size and/or function in coordination with M-NCPPC.
- Evaluate the ability to re-convey unused property previously owned by M-NCPPC back to that agency post construction.
- Convey the MDOT SHA owned 3.15-acre right-of-way located at MD 97 and 16th Street.
- Convey two MDOT SHA owned 15.35-acre parcels located between Northwood High School and Northwest Stream Valley Park.

B. Cabin John Stream Valley Park Unit 2

Mitigation measures specific to Cabin John Stream Valley Park Unit 2 include:

- Plan, design and construct improvements to formalize the parking area along Seven Locks Road including:
 - Reconstructing the existing driveway per MD Standard No. 630.02 or applicable County standard.
 - Pave the existing gravel lot with full depth asphalt. Paved area measures approximately 60' x 100'. Assume open section lot.
 - Optimizing parking lot design to provide maximum number of spaces, including ADA spaces (with signage) per the ADA Guidelines. Stripe new parking spaces.
 - Providing drainage and stormwater management facilities as required to treat new impervious area per County requirements.
 - Install signage prohibiting littering/dumping, replace existing trash can, and remove existing illicitly dumped material.
 - Relocate existing sign kiosk.
 - Construct bicycle repair stand, with tools and pump at Cabin John trailhead.
- Stream stabilization (~1,000 l.f.) along Cabin John Creek including:
 - Remove all concrete structures within stream both along existing banks and failed pieces in the stream.

- Rebuild banks with rock and vegetative stabilization techniques that promote environmental functions.
- Replant riparian buffer with native seed, herbaceous plugs, and native shrubs and trees.
- Install instream grade control structures (such as rock sill, crossvane, riffles, etc.) to transition stream into, through, and out of the underpass area in a stable and ecologically sound way.
- Protect sewer manhole and restore I-495 on-ramp outfall to Cabin John Creek with environmentally sensitive channel techniques.
- Plan, design and implement forest and terrestrial vegetation mitigation including:
 - NNI control for 7 years within 50' buffer of LOD.
 - Infill plantings consisting of shrubs, understory/canopy trees and herbaceous seeding within NNI control areas (50 ft buffer from LOD).
 - Plan, design, and construct wildlife passage areas area under I-495 overpass of Cabin John Creek and Cabin John Parkway by lengthening new bridge structures. This will allow wildlife passage on the west side bank of Cabin John Creek while minimizing wildlife-vehicular conflicts along Cabin John Parkway by constructing wildlife exclusion fencing along the east side of the creek next to the Parkway, in coordination with M-NCPPC.

C. Cabin John Regional Park

Mitigation measures specific to Cabin John Regional Park include:

- Plan, design and construct a fiberglass pedestrian bridge over the outfall/tributary to Cabin John Creek at STA 3640+00 for the natural surface connector trail including:
 - Performing hydraulic study and determining feasibility of new crossing
 - Constructing fiberglass bridge per M-NCPPC-provided Fiberglass Bridge specification or per equal to or better alternative approved by M-NCPPC.
- Plan, design and construct improvements for pedestrian and cycling access to the Robert C. McDonell campground access road by:
 - Reconstruction of existing bridge over Old Farm Creek in same location per M-NCPPC-provided specifications for Prefabricated Steel Truss Bridge (Section 401) and Helical Piles (Section 403) (hydraulically in-kind replacement).
 - Provide temporary crossing for pedestrians and cyclists during bridge reconstruction.
 - Provide stream stabilization work immediately upstream, underneath, and immediately downstream of the bridge.
 - Limit time of year of bridge reconstruction to window when campground access is closed.
 - Bridge design shall provide for ADA compliance, pedestrian access, and passage of cyclists without dismounting while incorporating a gate to prevent unauthorized access by vehicles.
- Plan, design and construct improvements to the existing parking area on Tuckerman Lane near the Robert C. McDonnell Campground access road including:

- Resurfacing the existing paved lot. (Paved area measures approximately 2500 SF. (75' x 100').
- Optimize parking lot design to provide maximum number of spaces. Stripe new parking spaces. Incorporating ADA parking, as applicable.
- Provide additional landscaping in vicinity of lot.
- Plan, design and construct a fiberglass pedestrian bridge over Cabin John Creek to connect the Cabin John Trail to the Kidney Bean Loop Trail, in the vicinity of Goya Drive including:
 - Constructing fiberglass bridge per provided Fiberglass Bridge specification or per equal to or better alternative approved by M-NCPPC.
 - Design and construct in-stream grade control and bank protection structures to stabilize stream in the vicinity of the new bridge.
- Plan, design and construct improvements for the stabilization of the Gainsborough Road stormwater outfall to Cabin John Creek (approximately 255 linear feet) with environmentally sensitive channel techniques.
 - Include a planting plan to compensate for forest impacts related to this work.
 - Provide treatment of invasive bamboo surrounding the channel.
 - Construct pedestrian trail bridge replacement over Gainsborough outfall channel
- Plan, design and implement forest and terrestrial vegetation mitigation including:
 - Conducting forest stand delineation (FSD) within 100 ft buffer of LOD and develop a 7-year non-native invasive control management plan.
 - Implementing a 7-year non-native invasive control management plan within 100 feet of the LOD in the biodiversity area. Specific target areas and species to be determined by M-NCPPC Montgomery Parks.
 - Infill plantings consisting of shrubs, understory/canopy trees and herbaceous seeding within NNI control areas (100 ft buffer from LOD).

D. Tilden Woods Stream Valley Park, Old Farm Neighborhood Conservation Area, and Cabin John Stream Valley Park Unit 6

Mitigation measures specific to Tilden Woods Stream Valley park, Old Farm Neighborhood Conservation Area, and Cabin John Stream Valley Park Unit 6 include:

- Plan, design and construct improvements for the stabilization of the Greentree Road stormwater outfall from the pipe to a natural surface trail just south of Cabin John Creek (approximately 310 linear feet) with environmentally sensitive channel techniques. Include a planting plan to compensate for forest impacts related to this work.
- Plan, design and implement forest and terrestrial vegetation mitigation including:
 - NNI control for 7 years within 50' buffer of LOD.
 - Infill plantings consisting of shrubs, understory/canopy trees and herbaceous seeding within NNI control areas (50 ft buffer from LOD) on park property.

- Plan, design, and construct a single bridge structure with a clear span of Tuckerman Lane (including the associated pedestrian and bicycle facilities) and a clear span over Old Farm Creek (including the restored floodplain and a wildlife passage):
 - Provide wildlife passage area on northern bank per M-NCPPC specifications
 - Provide fish passage under Old Farm Creek overpass by restoring the stream to a natural channel and tie into the existing stream restoration immediately upstream
 - Stream span must maximize floodplain cross-sectional area

4.5.3 City of Gaithersburg

Mitigation specific to the impacts to Malcolm King Park include the conveyance of a 4.03-acre MDOT SHA-owned property (Acct. no. 09-02213932) to City of Gaithersburg.

4.5.4 City of Rockville

Mitigation measures for impacts to Bullard Park and Rose Hill Stream Valley Park, Rockmead Park, Woottons Mill Park, and the Rockville Senior Center and Park include:

- Convey the 1.25-acre MDOT SHA-owned Millennium Garden Park (former Vernie Smith properties (Acct. nos. 16-0400205281 and 16-0400205270)) to City of Rockville.
- Acquire the 1.32-acre Betty B. Casey Property (on Fleet Street) (Acct. no 160400144125) and convey to the City of Rockville
- Acquire the 0.42-acre Lodging Partners LLC Property (41 Maryland Avenue) (Acct. no. 160403198603) and convey to the City of Rockville
- Acquire the 4.23-acre Cynthia Robertson Property (Potomac Woods) (Acct. no. 160401523951) and convey to the City of Rockville
- Continue to consult on context sensitive solutions, during the design phase, to the four existing parks (Bullards Park and Rose Hill Stream valley Park, Rockmead, Woottons Mill, and Rockville Senior Center). The consultation will be constrained to context sensitive solutions that are both compensatory to the impacts to Section 4(f) resources and a justifiable expenditure of public funds. For example, plantings and context sensitive stormwater management facility design.

4.5.5 Maryland Historical Trust

Mitigation for Section 4(f) impacts to historic properties were coordinated with MHT. Mitigation measures are listed below. Because some of the historic properties are also park properties, some mitigation measures are duplicated from the lists above under park OWJs.

- Prepare a Cultural Landscape Report for Clara Barton Parkway.
- Prepare National Register Nomination for Dead Run Ridges Archaeological District.
- Complete Phase III Archaeological Data Recovery at 44FX0374, 44FX0379 and 44FX0389 (GWMP) and develop associated public interpretation materials.

- Complete Phase III Archaeological Data Recovery at 18MO749 and 18MO751 (Chesapeake and Ohio) and develop associated public interpretation materials.
- Complete National Register Nomination for Washington Biologists' Field Club on Plummers Island.
- Place temporary fencing along the LOD within Plummers Island to delimit construction activities.
- Fund or implement a photographic survey documenting conditions before, during and post-construction on Plummers Island within the APE boundary, and provide the results to the Washington Biologists' Field Club and NPS.
- Fund or develop GIS maps to document known current and historical study locations and key natural resource features within the APE on Plummers Island to assist in documenting change over time, and provide these files to Washington Biologists' Field Club and NPS
- Procure a sub-meter accurate GPS unit for Washington Biologists' Field Club to use in long-term monitoring of plant locations, collection sites, and other historical research features on Plummers Island.
- Provide for digitization and cataloging of historical records, subject to any availability or rights restrictions, related to Plummers Island and the WBFC that are housed at the Smithsonian Institution that are not currently available in electronic format, and provide the files to WBFC and NPS.
- Provide Washington Biologists' Field Club historical content related to Plummers Island as part of the above digitization effort to incorporate into their website
- Complete additional archaeological investigations of LOD surrounding Morningstar Tabernacle No. 88 Moses Hall and Cemetery and monitor for potential archaeological findings during construction.
- Design context-sensitive treatment of noise barrier facing the Morningstar Tabernacle No. 88 Moses Hall and Cemetery which may include decorative elements appropriate to the historic property and/or such elements as memorial plaques or signage. MDOT SHA will provide consulting parties and MD SHPO comment opportunity for project elements, specifically noise barrier, within the APE adjacent to the cemetery at a draft level of design and a second opportunity prior to finalization of design; for each review there will be a minimum 30-day review period.
- Complete additional archaeological investigations of the LOD in the general vicinity of the Montgomery County Poor Farm adjacent to I-270 near Wooten Parkway.
- Improve the stormwater drainage on the First Agape AME Zion Church (Gibson Grove Church) by routing drainage into a new underground culvert to be installed as part of the project. MDOT SHA will ensure a parking lot identified as part of the church's restoration plan, is constructed on church property following installation of the culvert drainage design. MDOT SHA will work with the church on schedule and timing of the culvert and parking lot work to be compatible with ongoing church restoration efforts to the maximum extent practicable.

5 LEAST OVERALL HARM

Pursuant to 23 CFR 774.3(c)(1), if the avoidance analysis determines that there is no feasible and prudent avoidance alternative, then only the alternative that causes the least overall harm may be approved. Because no feasible and prudent avoidance alternative has been identified, all remaining alternatives are evaluated to determine which would cause the least overall harm.

23 CFR 774.3(c)(1) identifies seven factors for identifying the alternative with the least overall harm.

- Factor 1: The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- Factor 2: The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- Factor 3: The relative significance of each Section 4(f) property;
- Factor 4: The views of the OWJs over each Section 4(f) property;
- Factor 5: The degree to which each alternative meets the Purpose and Need for the project;
- Factor 6: After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- Factor 7: Substantial differences in costs among the alternatives.

5.1 Draft Section 4(f) Least Overall Harm Evaluation

The Draft Section 4(f) Evaluation included a preliminary assessment of least overall harm which compared location-specific avoidance options, other minimization alternatives, and Alternatives Retained for Detailed Study (ARDS) based on the least overall harm criteria. (Refer to **DEIS, Appendix F, Section 5.**)

The DEIS included discussion of 18 location-specific alternatives identified to avoid the use of individual Section 4(f) properties, developed to be incorporated into the DEIS Build Alternatives. Each alternative was evaluated using the seven factors of least overall harm. The alternatives consisted of alignment shifts, tunnels, or bridges that were developed to avoid specific Section 4(f) properties for which the impacts were not anticipated to be *de minimis*.

In general, the evaluation determined that these location specific options would result in additional use of other Section 4(f) properties, adverse impacts of a severe magnitude to resources not subject to Section 4(f) protection, or a substantial increase in cost. Because the location-specific options modify relatively short portions of the end-to-end Build Alternatives, each would meet the Purpose and Need of the Study to some degree. However, the analysis determined that the location specific options that more substantially deviate from the existing alignments of I-495 and I-270 and result in a lengthier travel routes would be less effective in addressing the project needs.

The DEIS considered other minimization alternatives including Alternative 5: 1-Lane High-Occupancy Toll Managed Lane Network and the MD 200 Diversion Alternative. These were evaluated along with the six Build Alternatives that were retained for detailed study in the DEIS. These alternatives included managed lanes that differ in the manner in which the proposed travel lanes would be designated and configured.

The six ARDS included Alternatives 8, 9, 9M, 10, 13B, and 13C. These are described in detail in the **DEIS, Chapter 2, Section 2.6**.

5.2 Final Least Overall Harm Analysis

The preliminary results of the Least Overall Harm Analysis were presented in the **DEIS, Appendix F, Section 5.4**, and are summarized below for each of the alternatives (**Table 6**). The table has been updated to include the Preferred Alternative and finalize the least overall harm analysis.

Based on the analysis detailed in Table below, MDOT SHA has identified the Preferred Alternative (Alternative 9 – Phase 1 South) as the alternative with least overall harm. The Preferred Alternative would have substantially equal ability to mitigate adverse impacts to each Section 4(f) property relative to the DEIS Build Alternatives (Alternatives 8, 9, 9 Modified, 10, 13B and 13C). However, due to the shorter limits and substantial number of properties avoided, the Preferred Alternative would have fewer property impacts to mitigate compared to the DEIS Build Alternatives. The Preferred Alternative would have substantially lower overall harm to Section 4(f) properties due to the shorter project limits and fewer Section 4(f) properties impacted. The lower overall harm applies in consideration of both the acreage and number of properties impacted relative to the DEIS Build Alternatives, as well as the relative significance of each Section 4(f) property.

MDOT SHA has provided multiple opportunities for the OWJ to provide their views on the least overall harm analysis, including the comment periods for the DEIS, Draft Section 4(f) Evaluation and SDEIS. Extensive coordination with the OWJs has been conducted to identify a comprehensive strategy of avoidance, minimization, and mitigation for unavoidable Section 4(f) impacts. Input from the OWJs has focused largely on avoidance, minimization and mitigation measures. No OWJs have objected to the identification of the Preferred Alternative as the alternative with least overall harm in accordance with the regulations at 23 CFR 774.

The Preferred Alternative satisfies the Purpose and Need for the Project, though to a somewhat lesser extent than the DEIS Build Alternatives as noted in **Table 6**. The Preferred Alternative would also require substantially lower magnitude of overall impacts to properties not protected by Section 4(f) due to the shorter project limits. The estimated cost of the Preferred Alternative (\$3.0 to \$3.5 billion) would be lower than other Build Alternatives.

While some of the other alternatives and location specific options would reduce harm to one or more Section 4(f) properties, each of these alternatives would have problems related to cost and/or the ability to meet Purpose and Need. The MD 200 Diversion Alternative and Alternative 5 would each fail to meet the Purpose and Need. Each of the Location Specific Options (LS-1 through LS-11) would meet the Purpose and Need, but would have substantially greater cost compared to the Preferred Alternative. Furthermore, many of the Location Specific Options would create additional impacts to other Section 4(f) properties as noted in **Table 6**.

Based on the information presented in the Draft Section 4(f) Evaluation, the Updated Draft Section 4(f) Evaluation, and this Final Section 4(f) Evaluation, FHWA and MDOT SHA have reached a conclusion that the Preferred Alternative is the alternative with least overall harm. The Preferred Alternative meets the Purpose and Need for the study and impacts far fewer Section 4(f) properties and total acreage relative

to the other Build Alternatives that would meet the Purpose and Need. The Preferred Alternative would avoid the use of 40 Section 4(f) properties totaling approximately 108.8 acres relative to the DEIS Build Alternatives. The Preferred Alternative would require use a total of 33.2 acres of Section 4(f) property (including temporary and permanent), compared to 146.8 acres for the DEIS Build Alternative 9. Coordination with the OWJs has continued since the DEIS and documented in the FEIS.

Table 6: Least Overall Harm Analysis

Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)	vii. Substantial differences in costs among the alternatives	Summary
DEIS Build Alternatives								
Alternative 8	Substantially equal ability to mitigate adverse impacts to each Section 4(f) property	Substantially equal relative harm given the physical footprint among the Build Alternatives. Harm would occur to properties as described in Section 2	All DEIS build alternatives would impact the same number of Section 4(f) properties	OWJs provided views during the review period of the DEIS, Draft Section 4(f) Evaluation and SDEIS. No OWJs objected to the identification of the Preferred Alternative as the alternative with least overall harm	Meets Purpose and Need to a Lesser Degree	Substantially equal magnitude of adverse impacts to properties not protected by Section 4(f)	Total Cost of Alternative would be between \$8.7 and \$9.6 Billion	Would meet the Purpose and Need to a lesser degree than other DEIS Build Alternatives. Would create traffic problems that would reduce trip reliability in the managed lanes.
Alternative 9					Meets Purpose and Need to Greater Degree		Total Cost of Alternative would be between \$8.7 and \$9.6 Billion	Would meet the Purpose and Need; impacts to properties protected by Section 4(f) are minimized; appropriate mitigation measures for use of Section 4(f) property to minimize harm.
Alternative 9 Modified					Meets Purpose and Need to a Lesser Degree	Lesser Magnitude of Adverse Impacts than Build Alternatives	Cost of Alternative would be between \$8.5 and \$9.3 Billion. Not financially viable owing to lower revenue.	Would meet the Purpose and Need to a lesser degree than other DEIS Build Alternatives because it does not successfully address existing traffic and long-term traffic growth or enhance trip reliability, and it is not financially viable.
Alternative 10					Meets Purpose and Need	Greater Magnitude of Adverse Impacts than other Build Alternatives	Total Cost of Alternative would be between \$9.0 and \$9.9 Billion	Would have greater impacts to Section 4(f) Properties, natural resources, and property relocations as well as greater cost, but would provide no additional benefit in meeting Purpose and Need.
Alternative 13B					Meets Purpose and Need to a Lesser Degree	Substantially equal magnitude of adverse impacts to properties not protected by Section 4(f)	Total Cost of Alternative would be between \$8.7 and \$9.6 Billion. Not financially viable owing to lower revenue	Would meet the Purpose and Need to a lesser degree than the other DEIS Build Alternatives. Would only accommodate traffic growth in the peak direction during peak period. Would not be financially self-sufficient.
Alternative 13C					Meets Purpose and Need to a Lesser Degree		Total Cost of Alternative would be between \$8.8 and \$9.7 Billion. Not financially viable owing to lower revenue	Would meet the Purpose and Need to a lesser degree. Would have negative impacts to travel along I-495 during the AM peak period as reversible lanes can only be operated in one direction at a time. Would not be financially self-sufficient.
Preferred Alternative								
Preferred Alternative Alternative 9 – Phase 1 South	Substantially equal ability to mitigate adverse impacts to each Section 4(f) property relative to the DEIS Build Alternatives, with fewer property impacts to mitigate.	Substantially lower overall harm due to shorter project limits and fewer Section 4(f) properties impacted.	Less harm than DEIS Build Alternatives	Modified project limits to avoid Section 4(f) properties, in response to feedback from OWJ. OWJs provided views during the review period of the SDEIS. No OWJs objected to the identification of the Preferred Alternative as the alternative with least overall harm	Meets Purpose and Need to a Lesser Degree	Substantially lower magnitude of overall impacts to properties not protected by Section 4(f) due to shorter project limits	Cost of Alternative would be between \$3.75 and \$4.25 Billion.	Would meet the Purpose and Need. Would have substantially lower impacts to Section 4(f) properties and resources not protected by Section 4(f) due to shorter project limits.

Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)	vii. Substantial differences in costs among the alternatives	Preliminary Summary
Other Alternatives Considered								
MD 200 Diversion Alternative	Greater Ability to Mitigate than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	OWJs provided views during the review period of the DEIS, Draft Section 4(f) Evaluation and SDEIS. No OWJs objected to the identification of the Preferred Alternative as the alternative with least overall harm	Does not meet Purpose and Need	Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Cost of Alternative would be between \$7.0 and \$8.1 Billion. Not financially viable owing to lower revenue.	The MD 200 Diversion Alternative would not address the Study's Purpose and Need of accommodating long-term traffic growth, enhancing trip reliability or improving the movement of goods and services. Would not be financially self-sufficient.
Alternative 5	Greater Ability to Mitigate than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	OWJs provided views during the review period of the DEIS, Draft Section 4(f) Evaluation and SDEIS. No OWJs objected to the identification of the Preferred Alternative as the alternative with least overall harm	Does not meet Purpose and Need	Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Cost of Alternative would be between \$7.8 and \$8.5 Billion. Not financially viable owing to lower revenue.	Alternative 5 does not meet the Study's Purpose and Need because it does not address existing traffic and long-term traffic growth or enhance trip reliability, and it is not financially viable.
Location Specific Options								
LS-1	Greater Ability to Mitigate than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	OWJs provided views during the review period of the DEIS, Draft Section 4(f) Evaluation and SDEIS. No OWJs objected to the identification of the Preferred Alternative as the alternative with least overall harm	Meets Purpose and Need	Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-1 would meet the Purpose and Need of the project, it would cost \$600 million more to construct than the DEIS Build Alternatives along this portion of the project.
LS-2	Greater Ability to Mitigate than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives			Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative Not financially viable owing to lower revenue	Option LS-2 would adequately meet the Purpose and Need of the project, it would cost in excess of \$1 billion more than the DEIS Build Alternatives along this portion of the project.
LS-3	Less Ability to Mitigate than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives			Greater Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-3 would result in 10.4 acres of additional impacts to Section 4(f) properties, which would create additional mitigation along this portion of the project when compared to the DEIS Build Alternatives. Would cost in excess of \$1.7 billion more than the DEIS Build Alternatives along this portion of the project.
LS-4	Less Ability to Mitigate than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives			Greater Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives	When compared to the DEIS Build Alternatives, Option LS-4 would result in 11 acres of additional impacts to Section 4(f) properties and cost nearly \$700 million more.

Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)	vii. Substantial differences in costs among the alternatives	Preliminary Summary
LS-5	Less Ability to Mitigate than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives	OWJs provided views during the review period of the DEIS, Draft Section 4(f) Evaluation and SDEIS. No OWJs objected to the identification of the Preferred Alternative as the alternative with least overall harm	Meets Purpose and Need	Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-5 would result in 3.8 acres of additional impacts to Section 4(f) properties and cost \$27 million more than the DEIS Build Alternatives along this portion of the Study.
LS-6	Great Ability to Mitigate than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives			Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-6 would cost \$25 million more than the DEIS Build Alternatives along this portion of the Study.
LS-7	Less Ability to Mitigate than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives			Greater Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-7 would result in an increase of 12 acres of impact to Section 4(f) properties, result in 547 additional relocations, and cost approximately \$1.2 billion more than the DEIS Build Alternatives along this portion of the Study.
LS-8	Less Ability to Mitigate than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives			Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-8 would result in 0.9 acres of additional impacts to Section 4(f) properties and cost \$250 million more than the DEIS Build Alternatives along this portion of the Study.
LS-9	Greater Ability to Mitigate than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives			Lesser Magnitude of Adverse Impacts than Build Alternative	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-9 would cost approximately \$200 million more than the DEIS Build Alternatives along this portion of the Study.
LS-10	Less Ability to Mitigate than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives	Greater Harm than DEIS Build Alternatives			Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	When compared to the DEIS Build Alternatives, Option LS-10 would result in 6.1 acres of additional impacts to one Section 4(f) property: BARC. Option LS-10 would cost approximately \$88 million more than the DEIS Build Alternatives along this portion of the project.
LS-11	Greater Ability to Mitigate than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives	Less Harm than DEIS Build Alternatives			Lesser Magnitude of Adverse Impacts than DEIS Build Alternatives	Greater Cost than DEIS Build Alternatives or Preferred Alternative	Option LS-11 would cost approximately \$500 million more than the DEIS Build Alternatives along this portion of the project.

6 COORDINATION

Section 4(f) regulations require the Draft Section 4(f) Evaluation be made available for coordination and comment to OWJs over the Section 4(f) resource (23 CFR §774.5). Since the publication of the DEIS in July 2020, MDOT SHA has conducted conference calls, meetings, and field reviews with, or sent letters to the following agencies with jurisdiction over parkland along the Phase 1 South limits: NPS, M-NCPPC Montgomery County, National Capital Planning Commission (NCPC), City of Rockville, and the City of Gaithersburg. FHWA and MDOT SHA have also held meetings and coordinated with the agencies with jurisdiction over historic sites, including NPS, ACHP, NCPC, MHT, and the VDHR. MDOT SHA has worked closely with the OWJs over all Section 4(f) properties to identify minimization and mitigation measures necessary for Section 4(f) approval. **FEIS, Section 8.3.2.C** details the meetings held and topics covered.

In addition to OWJs, the Section 4(f) Evaluation must be made available to the US Department of the Interior (USDOI) and as needed, to the US Department of Agriculture (USDA) and the Department of Housing and Urban Development (HUD) (23 CFR §774.5). In accordance with 23 CFR §774.5, USDOI has been provided an opportunity to review and comment on the Draft Section 4(f) Evaluation concurrent with the DEIS and the Updated Draft Section 4(f) Evaluation concurrent with the SDEIS. The latter included a preliminary conclusion on the avoidance and least overall harm analysis. USDOI consultation will continue with review of the Final Section 4(f) Evaluation in coordination with the FEIS which will enable USDOI to provide comments on FHWA's conclusions regarding the existence of feasible and prudent avoidance alternatives, the inclusion of all possible planning to minimize harm to Section 4(f) properties (including mitigation), and the least overall harm alternative. The Preferred Alternative would not affect resources requiring coordination with USDA and HUD and, therefore, consultation with these agencies is not necessary.

The public was afforded notice and opportunity for comment on the Draft Section 4(f) Evaluation and Updated Draft Section 4(f) Evaluation per 23 CFR 774(b)(2). This public involvement has been conducted in conjunction with the overall NEPA document public involvement process, as outlined in **FEIS, Chapter 8, Section 8.2**.

Prior to making a Section 4(f) *de minimis* impact determination, public notice and opportunity for public review is required. For historic resources, MDOT SHA has notified MHT and consulting parties of the intent to make a *de minimis* impact determination via letters as part of the Section 106 process. For park resources, the opportunity for public notice and review occurred as part of the public review of the DEIS and SDEIS as the intent to make a *de minimis* impact determination has been documented in the Draft Section 4(f) Evaluation and the Updated Section 4(f) Evaluation. A supplemental opportunity for public review was also provided for one park property that was not identified as a potential *de minimis* impact in the Draft Section 4(f) Evaluation or the Updated Draft Section 4(f) Evaluation, but due to additional impact minimization, was identified as a *de minimis* impact in the Final Section 4(f) Evaluation. All public comments on the DEIS, SDEIS, and subsequent opportunity for public review related to the intent to make *de minimis* impact determinations were provided to the OWJs. In addition, the MDOT SHA sent a request for written agreement from each OWJ that the impacts will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f). The OWJs have concurred with multiple 4(f) *de minimis* applications, as required by regulation. This concurrence does not mean the OWJ supports the Preferred Alternative as defined in the FEIS. Section 4(f) compliance and a *de minimis* impact

determination is separate and distinct from other federal requirements and should not be construed as the OWJ supporting the Preferred Alternative. Refer to **FEIS, Appendices I and S** for copies of this correspondence.

7 CONCLUSION

Based on the information presented in the Draft Section 4(f) Evaluation, Updated Draft Section 4(f) Evaluation, and this Final Section 4(f) Evaluation, FHWA and MDOT SHA have concluded that there is no feasible and prudent alternative to the use of the Section 4(f) properties identified in **Table 3**, and the proposed action includes all possible planning to minimize harm, and the Preferred Alternative is the alternative with the least overall harm.