



Attachment E

MCPB Item # 9

November 21, 2013

MEMORANDUM

November 14, 2013

TO: Montgomery County Planning Department

VIA: Mary Bradford, Director of Parks *M Bradford*
 Mike Riley, Deputy Director of Parks *MR*
 John E. Hench, Ph.D., Chief, Park Planning and Stewardship Division *J Hench*

FROM: Jai Cole, Natural Resource Manager, Park Planning and Stewardship Division *J Cole*
 Rob Gibbs, Natural Resource Manager, Park Planning and Stewardship Division

PROJECT: M-83 Midcounty Highway Park Impacts

This memo is being provided in support of the Planning Department’s recommendation to the Board on M-83, Midcounty Highway

RECOMMENDATION

In the 24 years since M-83 was last incorporated into the Germantown Master Plan, land use decision making has become more balanced with more attention being paid to impacts to sensitive areas and smart growth. Based on the significant environmental impacts to parkland from the Master Plan alignment, and the recommendation from the 1994 Clarksburg Master Plan to analyze the need for the road largely due to these impacts; staff recommends that the Planning Board support the Planning Department’s recommendation to evaluate a transit alternative that considers elements of Alternatives 2 and 5 and that the Master Plan alignments be removed from further consideration.

Park staff recommends that the Planning Board support a mitigation strategy that included a combination of park replacement, recreational facilities (e.g. trails) and environmental stewardship projects (e.g. stream restoration, wetland creation, and/or stormwater retrofits). The replacement land should be of equal or greater natural, cultural, and recreational value to that lost due to construction of the road.

BACKGROUND

M-83 was first listed in Montgomery County’s 1966 Germantown Master Plan (then called M-5). This roadway was planned to extend from a northern connection at Brink Road/ Ridge Road (MD Route 27) in Clarksburg south through Montgomery Village as an 8.7 mile long, controlled access four to six lane major highway. Since its first appearance in the 1966 Germantown Plan, portions of the road have been included in the Gaithersburg Vicinity Master Plan (1985, 1988, 1990) and the Clarksburg Master Plan and Hyattstown Special Study Area (1994). To date, the segment of the Master Plan alignment from Shady Grove Road to Montgomery Village Avenue has already been built.

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Park acquisitions within the Master Plan alignment began in 1968 and purchases were made using Program Open Space, G.O. bonds, and park dedication. A table of those acquisitions by parcel number, date acquired, acreage, and method of purchase can be found in Appendix 1 with a corresponding map (Appendix 2).

Figure 1 is a table of acquisitions by parcel number, date acquired, acreage, and method of purchase.

In December 2003, MCDOT began studying the need and feasibility of building the remainder of the Master Plan alignment. In addition to the purpose and need, MCDOT examined the environmental impacts of the Master Plan alignment and reported those findings at a public workshop in November 2004. After these results were presented, state and federal regulatory agencies raised concerns about the environmental impacts associated with the Master Plan alignment and requested the following: 1) the purpose and need for the Master Plan alignment be further defined; 2) that other alternatives (including 'no build' options) be evaluated; and 3) that the project follow the National Environmental Protection Act (NEPA) process. MCDOT then expanded the scope of the study, calling it the 'Midcounty Corridor Study' to include Alignments Retained for Detailed Study (ARDS). The approved ARDS includes six (6) alignment alternatives and three (3) M-83 master plan northern terminus options. They are:

- Alternative 1, No Build;
- Alternative 2, Transportation Systems Management/Travel Demand Management;
- Alternative 4 Modified, Brink-Wightman-Goshen-Snouffer School-Muncaster Mill;
- Alternative 5, MD 355 with Service Roads;
- Alternative 8, Master Plan Alignment truncated at Watkins Mill Road;
 - Northern Terminus Options A, B, and D.
- Alternative 9, Master Plan Alignment; and
 - Northern Terminus Options A, B, and D.

METHODS

The Department of Parks has analyzed the impacts to Natural Resources, Cultural Resources, and Recreational Resources on M-NCPPC, Montgomery County Parkland for each of the six ARDS. These impacts were analyzed both within and outside of the Limits of Disturbance (LOD) proposed by MCDOT. It is important to note that the provided LODs are conceptual in nature and do not account for more detailed design elements such as; stormwater management, construction staging areas, construction access erosion and sediment control, etc.

Natural Resource Impacts

The analysis of impacts to Natural Resources was conducted by identifying impacts to the following Sensitive Areas identified in *Environmental Guidelines: Guidelines for Environmental Management of Development in Montgomery County*: steep slopes; highly erodible soils; streams and their buffers; wetlands and their buffers; 100 year floodplains; known locations of Rare, Threatened, Endangered or Watch-list (RTE) species; and forests. Impacts to Parks Biodiversity Areas and Forest Interior Dwelling Species (FIDS) Habitat - two resources identified in the Park Recreation and Open Space Master Plan (2012) (PROS) - were also quantified. Biodiversity areas are specific areas within parkland that have been surveyed and verified by the Maryland Department of Natural Resources Natural Heritage Program as having rare, threatened, or watch-list species or unusual plant communities. Biodiversity areas are defined in PROS as:

1. Areas of contiguous, high quality forest, marsh, or swamp
 - a. Relatively little evidence of past land-use disturbance.
 - b. Few or no exotic, invasive, plant species.
2. The known presence of rare, threatened, endangered, or watch-list species.
3. Generally represent the best examples of unique plant community types found in Montgomery County, i.e., river-rock outcrops of the Potomac River Basin; serpentine influenced plant communities; diabase influenced plant communities; plant communities on soils derived from Triassic shales, siltstone, sandstone, and conglomerate; central dry forest on acidic bedrock; and limestone influenced plant communities.
4. Areas of exceptional scenic beauty.

Forest Interior Dwelling Species (FIDS) Habitat provides essential breeding habitat for approximately 20 bird species, protection for shade loving populations of rare, threatened and endangered plant species, undesirable habitat for non-native invasive plant species and opportunities for high-quality resource-based recreation.

Forest Interior Dwelling Species (FIDS) Habitat is also identified as a key environmental resource and is defined as;

1. Forest 300 feet from any edge
2. Interior forest stands must be 50 acres or larger in size unless they are riparian.

The PROS plan states, "Every effort is undertaken to protect these areas intact and accommodate public access appropriate to the resource."

Cultural Resource Impacts

Impacts to Cultural Resources were quantified by reviewing analyses of both standing structures and archaeological resources. Standing structures affected by the project were identified in MCDOT's consultant's reports, which looked at structures listed or eligible for the National Register of Historic Places. No such structures on parkland were adversely affected. In addition, Parks exercised its own stewardship obligations by determining whether any other standing historic structures on parkland listed on either the Montgomery County Locational Atlas or the Montgomery County Master Plan for Historic Preservation would be adversely affected by the project, and none were. Archaeological resource impacts were determined by first analyzing affects to known archaeological sites with local, state and national designations, and second, by impacts to potential archaeological sites using a predictive model. The predictive model anticipates the potential of finding Prehistoric (i.e. Paleo – Late Woodland Periods (11,000 B.C. to A.D. 1600)) and/or Historic (i.e. 17th – 20th Century) sites. Potential Prehistoric sites are predicted based on statistical analysis of soil drainage, slope, and distance to water. Potential Historic sites are predicted based on primary and secondary documentation of roads, structures, settlements, and historic industries. No known National Register-eligible archaeological sites within Parks will be impacted by the proposed project. As MCDOT has not completed its obligation to identify and evaluate potential archaeological resources within the project area, as required under Section 106 of the National Historic Preservation Act, MCDOT will need to continue to analyze the impact of the highway project upon potential archaeological resources.

Recreational Resources

Parameters for the analysis of impacts to Recreational Resources included quantification of impacts to existing park improvements, e.g., natural and hard surface trails, trailhead parking, recreational facilities, as well as opportunities for natural resource-based recreation. Natural resource-based recreation is defined by PROS as, “any leisure activity outdoors that is dependent on one or more elements of the natural environment.” This includes activities such as hiking, running or horseback riding on trails, bird watching, nature photography, wildlife watching, and more. The impacts to natural resource-based recreation were quantified as either low impact, medium impact or high impact. These impact categories were based on the quality of the existing natural resources, as well as the existing recreational amenities in the area of impact (e.g. trails, trail-head access/parking, recreational facilities, etc.)

RESULTS

The analysis for impacts to Natural, Cultural, and Recreational resources was summarized by Alignment Retained for Detailed Study. Below are the results from that analysis.

Alternative 1 – No build

This alignment has no impacts to parkland

Alternative 2 – Traffic Flow Adjustments

This alignment has no impacts to parkland

Alternative 4 Modified – Brink/Wightman/Snouffer School

	Alternative 4 Modified
Total Acres of Park Impact	15.46 acres
Supports Biodiversity Area	0
Forest Interior Dwelling Species (FIDS) Habitat	0
Supports Resource Based Recreation	Medium
Forest	6.52 acres
Streams and their buffers	2.96 acres
Wetlands and their buffers	2.30 acres
Areas of high and moderate prehistoric archaeological potential	11.79 acres
Areas of high and moderate historic archaeological potential	28,692 sq. ft.
Natural Surface Trails and Hard surface trails, including sidewalk	366.8 ft./ 666.4 ft.
Managed Open Space	1.11 acres

Numbers in **RED denote the largest impact to a specific resource among all alignments*

Alternative 5 – 355 with Service Roads

	Alternative 5
Total Acres of Park Impact	9,821 sq. ft. (0.22 acres)
Supports Biodiversity Area	0
Forest Interior Dwelling Species (FIDS) Habitat	0
Supports Resource Based Recreation	Low
Forest	0
Streams and their buffers	3,015 sq. ft.
Wetlands and their buffers	0
Areas of high and moderate prehistoric archaeological potential	8,285 sq. ft.
Areas of high and moderate historic archaeological potential	8,167 sq. ft.
Natural Surface Trail	0
Managed Open Space	4,561 sq. ft.

Numbers in **RED denote the largest impact to a specific resource among all alignments*

Alternative 8A/9A – Master Plan Alignment

	Alternative 8A and 9A
Total Acres of Park Impact	40.47 acres
Supports Biodiversity Area	20.65 acres
Forest Interior Dwelling Species (FIDS) Habitat	79.63 acres
Supports Resource Based Recreation	High
Forest	32.03 acres
Streams and their buffers	7.47 acres
Wetlands and their buffers	1.47 acres
Areas of high and moderate prehistoric archaeological potential	31.29 acres
Areas of high and moderate historic archaeological potential	4.13 acres
Natural Surface Trail	545 ft.
Managed Open Space	2,474 sq. ft.

Numbers in **RED denote the largest impact to a specific resource among all alignments*

Alternative 8/9B

	Alternative 8B and 9B
Total Acres of Park Impact	28.45 acres
Supports Biodiversity Area	16.09 acres
Forest Interior Dwelling Species (FIDS) Habitat	62.91 acres
Supports Resource Based Recreation	High
Forest	21.52 acres
Streams and their buffers	6.48 acres
Wetlands and their buffers	1.59 acres
Areas of high and moderate prehistoric archaeological potential	22.23 acres
Areas of high and moderate historic archaeological potential	1.86 acres
Natural Surface Trail	545 ft.
Managed Open Space	2,474 sq. ft.

Numbers in **RED denote the largest impact to a specific resource among all alignments*

Alternative 8/9D

	Alternative 8D and 9D
Total Acres of Park Impact	30.50 acres
Supports Biodiversity Area	16.09 acres
Forest Interior Dwelling Species (FIDS) Habitat	62.91 acres
Supports Resource Based Recreation	High
Forest	22.11 acres
Streams and their buffers	7.44 acres
Wetlands and their buffers	1.47 acres
Areas of high and moderate prehistoric archaeological potential	22.98 acres
Areas of high and moderate historic archaeological potential	1.90 acres
Natural Surface Trail	545 ft.
Managed Open Space	2,474 sq. ft.

Numbers in **RED denote the largest impact to a specific resource among all alignments*

Total M-NCPPC Park Impacts by Built Alignment

	Alternative 4 Modified	Alternative 5	Alternative 8A and 9A	Alternative 8B and 9B	Alternative 8D and 9D
Total Acres of Park Impact	15.46 acres	9,821 sq. ft. (0.22 acres)	40.47 acres	28.45 acres	30.50 acres
Biodiversity Area	0	0	20.65 acres	16.09 acres	16.09 acres
Forest Interior Dwelling Species (FIDS) Habitat	0	0	79.63 acres	62.91 acres	62.91 acres
Impacts to Resource-based Recreation	Medium	Low	High	High	High
Forest	6.52 acres	0	32.03 acres	21.52 acres	22.11 acres
Streams and their buffers	2.96 acres	3,015 sq. ft.	7.47 acres	6.48 acres	7.44 acres
Wetlands and their buffers	2.30 acres	0	1.47 acres	1.59 acres	1.47 acres
Areas of high and moderate prehistoric archaeological potential	11.79 acres	8,285 sq. ft.	31.29 acres	22.23 acres	22.98 acres
Areas of high and moderate historic archaeological potential	28,692 sq. ft.	8,167 sq. ft.	4.13 acres	1.86 acres	1.90 acres
Natural Surface Trail/Hard Surface Trail (including sidewalks)	366.8 ft. / 666.4 ft.	0/0	545 ft./0	545 ft./0	545 ft./0
Managed Open Space	1.11 acres	4,561 sq. ft.	2,474 sq. ft.	2,474 sq. ft.	2,474 sq. ft.

 WHITE NUMBERS in RED BOXES denote the largest impact to a specific resource among all alignments,
 RED NUMBERS in YELLOW BOXES denote the second largest impact
 Alternative 1 – No Build and Alternative 2 – Traffic Flow Adjustments have no park impacts

Anticipated Additional Impacts

The extent of impacts resulting from the ultimate limits of disturbance as determined in detailed design and construction documents is likely to be larger than the conceptual limits of disturbance (provided by MCDOT) used to calculate impacts for this study. This is due to the addition of more detailed elements to the plan including stormwater management; erosion and sediment control devices; footprint for construction of bridges and culverts; construction staging and stockpile areas; and construction administration areas (for staff offices and parking). Additional Section 106 archaeological studies (Phase I, II, and III) will be required. Staff anticipates working closely with MCDOT to provide environmentally sensitive stream valley crossings and other best management practices in an effort to minimize natural resource impacts. The impacts to Park resources will be reevaluated throughout the design process based on the most recent limits of disturbance.

DISCUSSION

Policy Background/Guidance

Parklands potentially impacted by the Master Plan alignments were purchased between 1968 and 1982. Although these purchases were subsequent to M-83 appearing in various Planning documents, they were purchased prior to the modern environmental movement in the United States. The National Environmental Protection (NEPA) act was passed in 1969, Clean Air Act in 1970, the Maryland Sediment Control Law in 1970, the Clean Water Act in 1972 and the Endangered Species Act in 1973. M-NCPPC adopted the “Guidelines for the Environmental Management of Development in Montgomery County” in 1983. Prior to these landmark policies, the impacts of development on natural resources were not at the forefront of land use decision making. When the latest Germantown Master Plan was under review in 1989, only federally funded projects were required to protect, and mitigate for the impact to, sensitive areas. The mechanism for this is through the NEPA process. In fact, it wasn’t until the Economic Growth Resource Protection Act of 1992 (which lead to Article 66B in the Annotated Code of Maryland) that each County and/or Municipality in Maryland was required to provide for protection of sensitive areas during the planning and development process. Since that time, land use decision making has become more balanced and more attention is paid to sensitive areas and smart growth. This shift was made clear when the Clarksburg Master Plan was created in 1994 and the environmental impacts resulting from the highway were analyzed. The following was included in the Master Plan language: “M-83 will be designed to mitigate its impact on Wildcat Branch in the Great Seneca Creek watershed and its tributaries. The need for M-83 will be reexamined in the context of the next update to the Germantown Master Plan.”

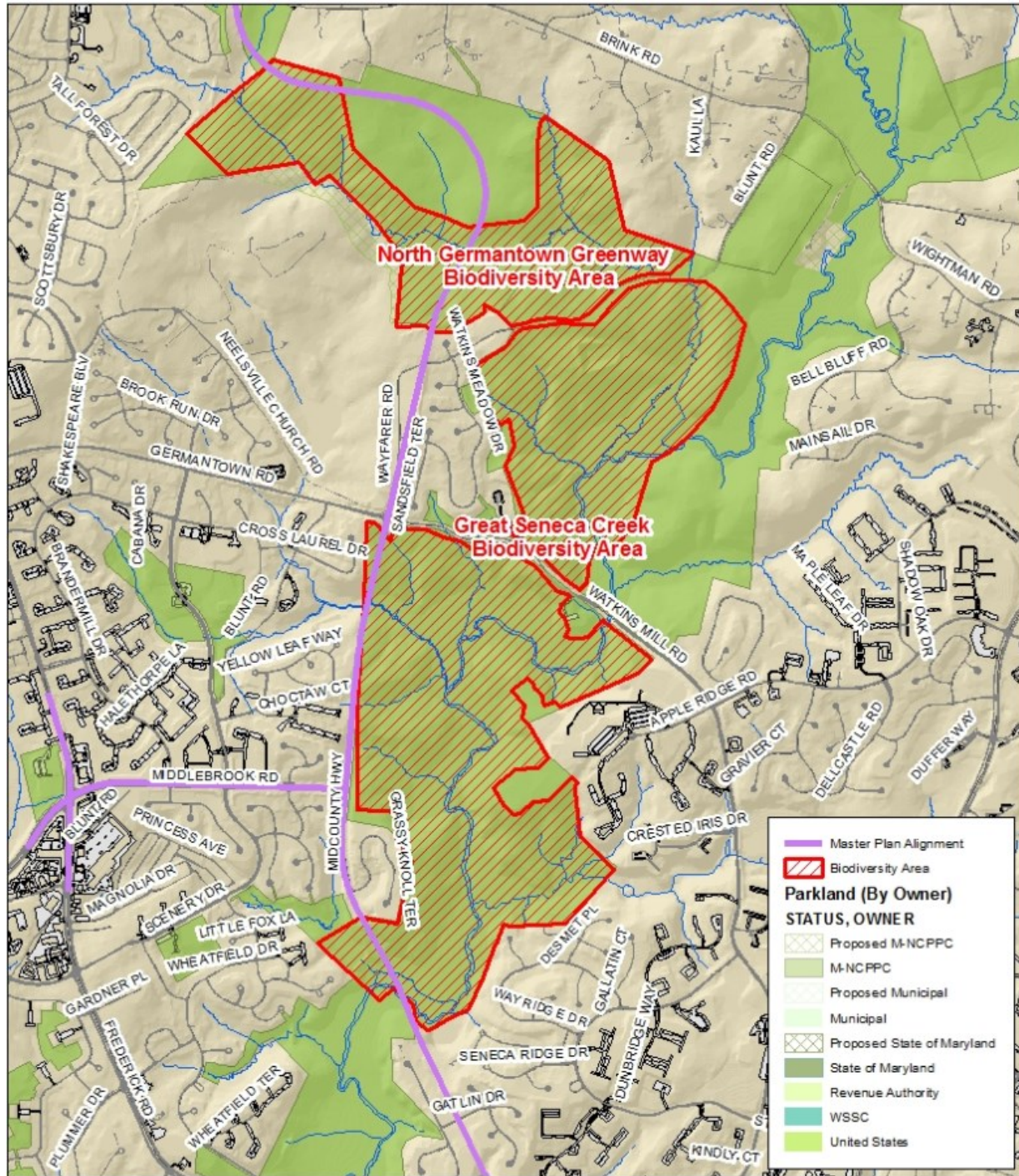
Natural Resource Impacts

When a large linear development – such as a highway – fragments a high quality forest, the resulting impacts are not isolated to the Limits of Disturbance. An ‘edge effect’ occurs creating a microclimate whereby sunlight and wind penetrate to a much greater extent resulting in the drying out the interior and encouraging growth of



North Germantown Biodiversity Area Forest

Figure 1: Biodiversity Areas Impacted by the Master Plan Alignments



Map compiled by Amanda Matheny.
 Information from M-NCPPC
 GIS- intended for general
 planning purposes only.



0 0.25 0.5 Miles

opportunistic non-native invasive species at the edge. These species then spread and competitively dominate the native understory vegetation. Edge effect also allows an increase in predation, brood parasitism, and a decrease in habitat for forest interior dwelling songbirds and other inhabitants.

The North Germantown biodiversity area contains unique aquatic and terrestrial features rarely seen in Montgomery County. It is dominated by steep slopes, rock outcrops, mature high quality mixed oak and oak-hickory forests, and large quantities of springs, seeps and wetlands providing clean, cold, highly oxygenated water to the bedrock stream running through it. There are eleven plant



Turk's cap lily growing on bedrock outcrop

species listed as rare, and 45 listed as uncommon to this region. Some of the uncommon species found throughout this biodiversity area include: fringe-tree, red choke berry, black ash, royal fern, false hellebore, white turtlehead, primrose leaved violet, wood anemone, dwarf ginseng, turk's cap lily, several uncommon sedges and at least 3 orchids (little club spur orchid, large whorled pogonia orchid and rattlesnake plantain orchid.) The large interior forest also provides prime habitat for a wide variety of forest interior birds (e.g. scarlet tanager, oven bird, worm eating warbler, Louisiana waterthrush.)

The piedmont region – the dominant geological province in Montgomery County - represents the transitional area between the mountainous Blue Ridge eco-region and the coastal plain. The term 'Piedmont' is a French word meaning "foot of the mountains". Streams typical of this region are characterized by gently rolling topography and incised stream valleys (resulting in a proliferation of riffle, run, and pool habitats.) Although bedrock outcrops do exist in piedmont stream valleys where the



Bedrock Stream with wetland outfall

overlying rocky material has eroded, the contiguous, stable, and un-incised stretch of bedrock stream within the North Germantown Greenway Stream Valley Park is a rarity in the piedmont and the only stretch this long in M-NCPPC parkland. This characteristic provides habitat for a unique community of aquatic and terrestrial flora and fauna found nowhere else in the County.

The Master Plan alignments (8 and 9) with an approximate 180 ft. wide limit of disturbance would have a potentially calamitous impact to resources described above. These alignments bisect three of the largest biodiversity areas in the County (Figure 1).

Impacts to Trail Experiences

The Seneca Creek Greenway Trail is a natural surface trail that runs from north beginning at Damascus Recreational Park to South ending at MD 355 where it connects to the natural surface trail in Seneca Creek State Park. The Master Plan alignment affects a contiguous 2.9 mi section of the Seneca Creek Greenway Trail that offers a unique, nearly “wilderness” experience on a trail. The proposed M-83 Master Plan alignment will bisect the trail, reducing the longest uninterrupted section by a mile.. It is also important to note that while the master plan alignment crosses the trail only once, the new highway will be within sight and hearing of half of the northern section of the trail severely compromising the trail users’ experience.

Support for Alignment with Least Amount of Park Impact

Park staff recognize the need to improve the transportation service in the Midcounty area as an important goal. However, the Master Plan alignments have unacceptable impacts to natural and recreational resources. Park staff recommend an alignment that accomplishes the desired traffic improvement, connectivity and mobility while minimizing impacts to M-NCPPC’s park system. Accordingly, the Department of Parks support the Planning Department’s recommendation to further consider and evaluate a transit alternative that incorporates elements of Alternatives 2 and 5 and that the Master Plan alignments be removed from further consideration.

MITIGATION

Following the Board’s discussion on September 12, 2013, park staff summarizes three alternate mitigation strategies, as follows:

1. No mitigation is required because M-83 is a master planned highway.
 - a. The Board should be aware that the ICC was also a master planned highway and the Department of Parks, in coordination with other State and Federal agencies worked together to develop a mitigation strategy that included park replacement (8.5:1) and a suite of environmental stewardship projects in addition to the NEPA required compensatory mitigation projects.
2. Pursue a strategy of mitigation based on replacement parkland of equal to greater natural, cultural and recreational value.
 - a. The Board should be aware that this strategy will require acquisition of land beyond the study area. More specifically, due to the quality of resources impacted by the Master Plan alignment, staff would likely identify suitable properties within the Legacy Open Space Functional Master Plan approved and adopted by the Montgomery County Planning Board and the County Council.
3. A combination of park replacement, recreational facilities (e.g. trails) and environmental stewardship projects (e.g. stream restoration, wetland creation, and/or stormwater retrofits). The replacement land should be of equal or greater natural, cultural, and recreational value to that lost due to construction of the road.

The Master Plan alignment significantly impacts both natural and recreational facilities; accordingly, staff recommends option 3 as a mitigation strategy.

Once an alignment is approved, staff will use the outcome of the above environmental analysis as the basis for developing a specific mitigation package. This package will be brought back to the Board for review and approval.

Appendix 1: Acquisitions of parcels within the Master Plan alignment

	Parcel Number	Acquisition Date	Liber/Folio	Acquisition Vehicle	Election District-Tax Account	Parcel Acreage
1	N510	11/24/1978	5250/565	G.O. Bonds	09-00772712	15.26
2	N382	1/12/1980	5471/541	G.O. Bonds	09-01858053	15.26
3	N333	11/26/1980	5639/157	G.O. Bonds	09-01858064	15.26
4	N420	1/22/1982	5828/227	G.O. Bonds	09-01858075	15.26
5	N305	8/10/1981	5751/086	Program Open Space	09-01894745	31.36
6	N510	8/7/1980	5563/316	G.O. Bonds	09-01894734	31.36
7	N675	8/2/1979	5376/866	Program Open Space	09-01894723	31.36
8	N777	5/18/1979	5335/691	G.O. Bonds	09-01691597	31.36
9	N950	9/24/1973	4447/757	G.O. Bonds	09-00775076	13.27
10	Part A Blk. U	10/25/1994	15309/706	Park Dedication	09-03077330	9.68
11	Part A Blk. C	3/3/1983	6053/375	Park Dedication	09-02275477	5.18
12	P777	9/26/1969	3910/808	Program Open Space	09-00773977	38.10
13	P935	2/21/1975	4619/697	G.O. Bonds	09-01691438	12.61
14	P250	7/5/1968	3763/339	M-NCPPC Bonds	09-00773113	50.00
15	N470	1/9/1973	4327/24	G.O. Bonds	09-00772506	17.57
16	N905	9/15/1970	4037/439	G.O. Bonds	09-00774334	17.57
17	N950	12/30/1969	3929/435	Program Open Space	09-00774072	17.57
18	N150	4/20/1976	4772/528	G.O. Bonds	09-00769678	33.91

Appendix 2: Map of Acquisition Parcels – numbers correspond to Appendix 1

