



VISITOR ACCESS AND CIRCULATION PLAN

ENVIRONMENTAL ASSESSMENT



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EXECUTIVE SUMMARY

Introduction

The Visitor Access and Circulation Plan (the plan) and environmental assessment has been prepared to evaluate the implementation of strategies to improve visitor access and circulation at Antietam National Battlefield (the Battlefield) to enhance visitor understanding about the historic events of the battle and its legacy. The Battlefield's purpose is to preserve, protect, restore, and interpret for the benefit of the public the resources associated with the Battle of Antietam and its legacy. This plan also serves as an amendment to the 1992 Antietam National Battlefield General Management Plan; taking into account newly acquired lands not previously considered in the general management plan and evolving management decisions regarding the visitor center and several Battlefield tour roads.

The environmental assessment has been prepared in accordance with the National Environmental Policy Act of 1969, as amended; regulations of the Council on Environmental Quality (40 *Code of Federal Regulations* [CFR] 1500–1508); NPS Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making*; and the NPS NEPA Handbook (NPS 2015). In a separate, yet parallel process, the plan is also being developed in accordance with section 106 of the National Historic Preservation Act of 1966, as amended.

Purpose and Need for the Action

The purpose of this proposal is to develop a comprehensive plan that seeks to improve visitor access to, and circulation within, the Battlefield in order to enhance visitor experience and increase opportunities to connect with Battlefield resources. The plan also serves to amend the Battlefield's 1992 general management plan as it pertains to visitor circulation, the visitor center, Battlefield tour roads, and tour stops.

The plan is needed because the current layout of trails and tour stops does not fully integrate lands acquired by the Battlefield since the completion of the general management plan in 1992. Since that time, the Battlefield's acreage has grown significantly from 946 acres in fee-simple ownership to 1,937 acres through the acquisition of lands within its legislated boundary. The locations where visitors can go within the Battlefield are limited to existing trails that are not fully integrated into a cohesive visitor experience. A comprehensive vision for a trail system is needed to provide better access to lands owned by the Battlefield and to provide a range of experiences that allow visitors to explore and connect with the historic events of the battle and its legacy.

The plan is also needed to amend certain elements of the 1992 general management plan related to visitor circulation and visitor services focusing on the Battlefield's visitor center as well as Battlefield tour roads and tour stops. The general management plan was based on the concept of restoring to the maximum extent possible the scene at Antietam on the eve of the battle in 1862. As such, the general management plan called for the removal of the visitor center and four segments of the Battlefield tour road system: Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane, and following their removal, the restoration of the landscapes in those areas. The removal of these features, as outlined in the general management plan, has not been implemented. Now recognized as historically significant elements of the Mission 66 landscape, these features are considered important resources for interpreting the legacy of the Battle of Antietam. This plan assesses the management decision to retain the visitor center and the Battlefield tour roads identified above.

Overview of the Alternatives

The environmental assessment describes two alternatives for the plan, Alternative A: No-Action Alternative and Alternative B: Proposed Action Alternative, and analyzes the environmental consequences of implementing the alternatives.

Alternative A: No Action. Under alternative A, the Battlefield would continue to be managed in its current condition and the 1992 general management plan would continue to be the guiding management document for the Battlefield. Facilities that provide visitor access and circulation would continue to be maintained by Battlefield staff. Battlefield trails and tour stops would remain at their current locations and no new connections would be constructed. While the general management plan calls for the removal of the visitor center and certain Battlefield tour roads to restore the historic scene of the 1862 battlefield landscape, these facilities are currently being used by Battlefield staff and visitors and would continue in their current condition.

Alternative B: Proposed Action Alternative. Under alternative B, the Battlefield would provide a comprehensive and inclusive visitor experience by retaining the visitor center, retaining the existing Battlefield tour road configurations, repositioning certain tour stops and improving accessibility and interpretation at these locations, and developing a comprehensive trail system that enhances visitor access and understanding of the Battlefield. Recognizing the historic significance and functional use of the visitor center, as well as Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane, the proposed action alternative would serve as an amendment to the 1992 general management plan, which called for their removal. Not only would these visitor facilities be retained, they would also be enhanced to improve visitor experience and provide new interpretive opportunities.

Summary

Taking into consideration public scoping, National Park Service operational requirements and the judgments of NPS staff, historians, and other subject matter experts, Alternative B: Proposed Action Alternative was identified as the NPS preferred alternative. Alternative B would provide Antietam National Battlefield with strategies for improving visitor access and circulation throughout the Battlefield, while balancing the stewardship of significant cultural resources. Under alternative B, amending the general management plan would recognize the historic significance of the visitor center and Battlefield tour roads as important contributing features of the Mission 66 landscape. Alternative B would accomplish both the purpose and need for this plan by enhancing opportunities for visitor access and circulation related to the overall Battlefield's purpose.

Note to reviewers and respondents:

Agencies and the public are encouraged to review and comment on the contents of this environmental assessment during the 30-day public review and comment period by any one of several methods. The preferred method of providing comments is through the NPS Planning, Environment, and Public Comment (PEPC) website for the Battlefield at: <http://parkplanning.nps.gov/ANTICirculationPlan>.

You can also submit written comments to:

Justin Henderson
National Park Service – Denver Service Center
12795 West Alameda Parkway
Lakewood, CO 80228

Only written comments will be accepted. Please submit your comments within 30 days of the posting of the notice of availability on the PEPC website.

Please be aware that your entire comment will become part of the public record. If you wish to remain anonymous, please clearly state that in your correspondence; however, the National Park Service cannot guarantee that personal information, such as e-mail address, phone number, etc., will be withheld.

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CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

The National Park Service (NPS) is developing a Visitor Access and Circulation Plan (the plan) and environmental assessment (EA) for Antietam National Battlefield (the Battlefield) to comprehensively address public access to the lands and resources managed by the Battlefield. The Battlefield's purpose is to preserve, protect, restore, and interpret for the benefit of the public the resources associated with the Battle of Antietam and its legacy. This plan's intent is to improve visitor orientation, access, and safety at the Battlefield by improving visitor circulation, which will enhance the overall understanding of the historic events of the battle and its legacy. Key elements of the plan include the visitor center, Battlefield tour roads, tour stops, and trails. Lands and resources acquired since completion of the general management plan (GMP) in 1992 will also be integrated into this plan.

This plan was identified in the Antietam National Battlefield Foundation Document (2013) and serves as an amendment to the 1992 general management plan. The plan considers newly acquired lands as well as evolving management decisions regarding the visitor center and certain Battlefield tour roads. In addition, this plan carried out a capacity determination analysis (see appendix D), as required by the 1978 National Parks and Recreation Act. This follows the NPS "Planning Portfolio" construct, consisting of a compilation of individual plans, studies, and inventories, which together guide park decision making. The planning portfolio enables the use of targeted planning products (such as this one) to meet a broad range of park planning needs, a change from the previous NPS focus on stand-alone general management plans. The general management plan remains a critical piece of the planning framework, however, and will be revised in a timely manner through the park's planning portfolio.

This plan and associated environmental assessment examines two alternatives: Alternative A: No-Action Alternative and Alternative B: Proposed Action Alternative and analyzes the environmental impacts of implementing each of these two action alternatives. This document was prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA); regulations of the Council on Environmental Quality (40 *Code of Federal Regulations* [CFR] 1500–1508); NPS Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making; and the NPS NEPA Handbook (NPS 2015). In a separate, yet parallel process, the plan is also being developed in accordance with section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

PURPOSE AND NEED FOR THE ACTION

Purpose

The purpose of this proposal is to develop a comprehensive plan that seeks to improve visitor access to, and circulation within, the Battlefield in order to enhance visitor experience and increase opportunities to connect with Battlefield resources. The plan also serves to amend the Battlefield's 1992 general management plan as it pertains to visitor circulation, the visitor center, Battlefield tour roads, and tour stops.

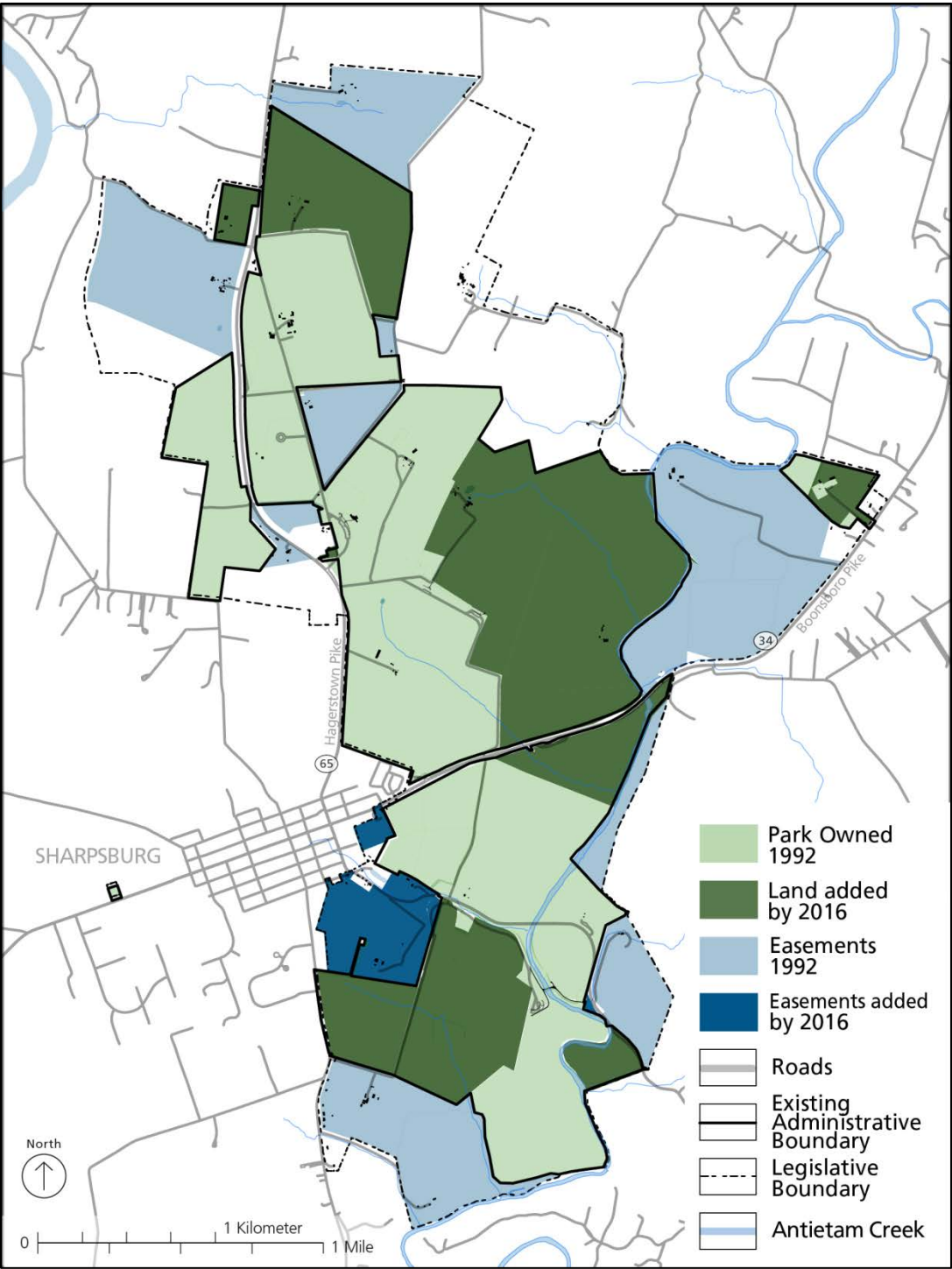
Need

The plan is needed because the current layout of tour stops and trails does not fully integrate lands acquired by the Battlefield since the completion of the general management plan in 1992. The GMP recommendations for visitor access and circulation were limited to the existing lands that the Battlefield owned and could provide access to at that time. Since 1992, the Battlefield's acreage has grown significantly from 946 acres in fee-simple ownership to 1,937 acres through the acquisition of lands within its legislated boundary (figure 1). As the Battlefield grew, individual trail segments were added piecemeal providing some level of access for visitors. Tour stops had to be located on lands that the Battlefield owned.

The places where visitors can go within the Battlefield are limited to existing trails that are not fully integrated into a cohesive visitor experience. A comprehensive vision for a trail system is needed to provide better access to lands owned by the Battlefield and to provide a range of experiences that allow visitors to explore and learn about the historic events associated with the battle. Certain tour stops are not positioned at optimal sites to fully interpret the significance of key battle actions, making it challenging to connect visitors to these historic events. Moving these key tour stops is needed to create a more dynamic visitor experience. In addition, portions of the visitor center and several tour stops are not universally accessible. These inefficiencies with the existing trails and tour stop locations hamper visitor access and the interpretation of the battle and its legacy.

The plan is also needed to amend certain elements of the 1992 general management plan. This amendment needs to account for the Battlefield's increased acreage (figure 1) and management decision to retain the visitor center and Battlefield tour roads. The 1992 general management plan was based on the concept of restoring to the maximum extent possible the scene at Antietam on the eve of the battle in 1862. To achieve this, the actions of the general management plan focused on restoring the 1862 battlefield scene and limiting the interpretive tour to focus on three principal areas of the Battlefield. As such, the general management plan called for the removal of the visitor center, Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane. There is now a desire for these features to remain because they are now considered historic in their own right and necessary for accessing and interpreting the Battlefield.

FIGURE 1. LAND OWNERSHIP AT ANTIETAM NATIONAL BATTLEFIELD



In addition, the 1992 general management plan failed to identify overall visitor capacity, as required in the 1978 National Parks and Recreation Act. Visitor capacity is a component of visitor use management and is the maximum numbers and types of visitor use that an area can accommodate while achieving and maintaining the desired resource conditions and visitor experience that are consistent with the purposes for which the Battlefield was established (IVUMC 2016). The 1992 general management plan focused on actions taken to restore the historic scene and not on possibilities to expand visitation. To amend the 1992 general management plan and correct this omission, as part of this planning process, a capacity determination, based on current Battlefield size and conditions was conducted. Based on the capacity determination analysis (see appendix D), it was determined that 6,200 visitors per day is the maximum capacity while still providing a meaningful visitor experience that includes quiet contemplation and opportunities to feel a personal association with the Battlefield. Since current Battlefield visitation does not come close to reaching this number, no actions associated with managing visitor capacity are included as part of this plan. The capacity determination analysis found in appendix D serves to amend the 1992 omission.

PROJECT OBJECTIVES

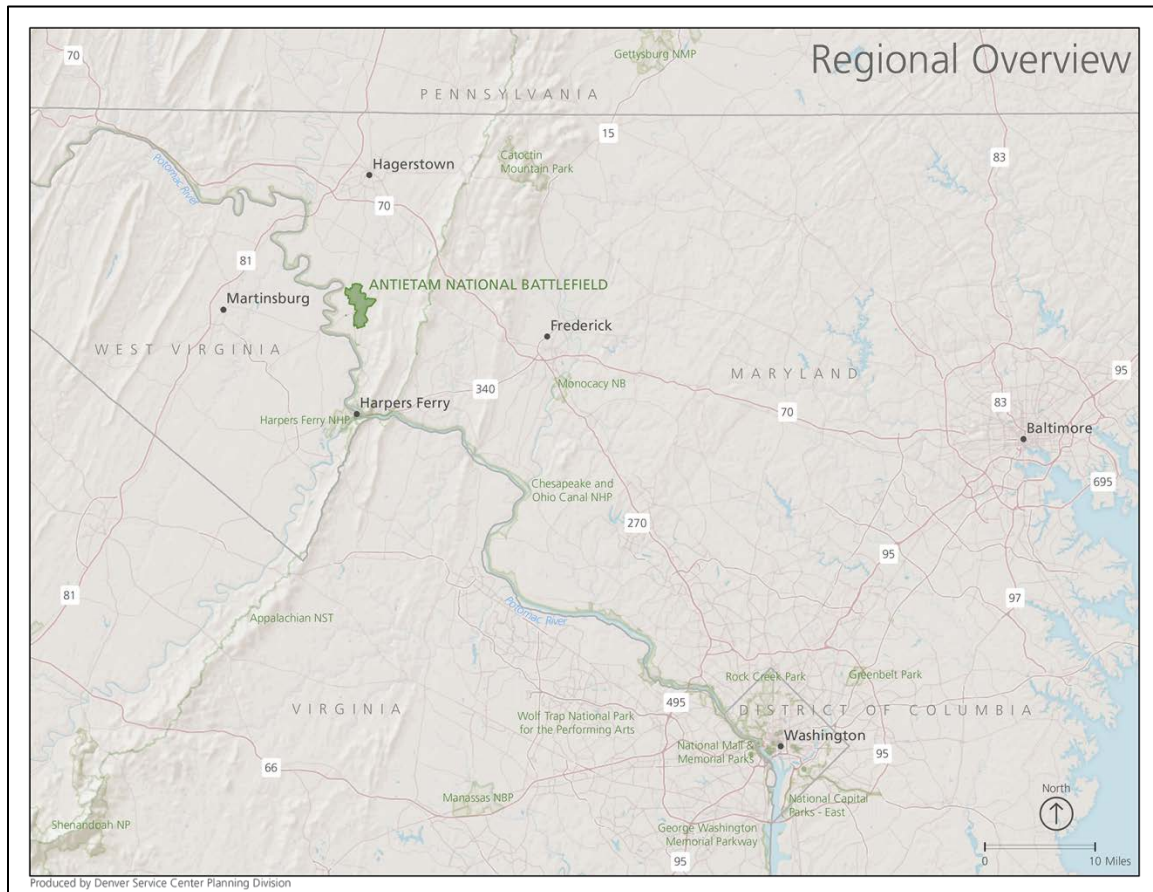
To fulfill the purpose and need of the project, several objectives have been developed for this Visitor Access and Circulation and Plan. These include:

- Develop strategies that enhance internal circulation on the lands acquired since 1992 and expand public access to these lands and resources.
- Create a conceptual framework for integrating existing trails with the development of additional trail segments into the Battlefield's interpretive and circulation program.
- Improve visitor safety and increase universal accessibility using the Architectural Barriers Act Accessibility Standard and Outdoor Developed Area Guidelines to guide location and design of trails and visitor access areas and amenities.
- Identify strategies, alternatives, and potential expanded opportunities for public access that are balanced with the capacity of the Battlefield's facilities and infrastructure, while maintaining safety and minimizing impacts to cultural and natural resources.
- Informed by the 2013 Foundation Document for Antietam National Battlefield, amend key decisions in the 1992 Antietam National Battlefield General Management Plan concerning the Battlefield's existing 1962 visitor center and certain Battlefield tour roads.

PROJECT AREA AND BACKGROUND

Antietam National Battlefield is in Sharpsburg, Maryland, in a rural area of south Washington County, Maryland (figure 2). The Battlefield is considered one of the best-preserved Civil War units in the national park system. The farms and farmlands in and near the Battlefield appear much as they did on the eve of the battle in 1862.

FIGURE 2. LOCATION OF ANTIETAM NATIONAL BATTLEFIELD



Of the 3,263 acres within the Battlefield boundary, 1,937 acres are owned in fee by the federal government and managed by the National Park Service to maintain the historic setting and provide for visitor use. Another 820 acres are in partial federal ownership (less than fee)—these include privately owned lands with easements held by the federal government that restrict the levels and types of allowable development. The remaining 506 acres are privately owned. Most privately owned lands are farmed by local residents. Antietam attracts approximately 350,000 visitors per year. The 11-stop interpretive tour route takes visitors through areas of historical interest, tracing troop movements, interpreting battle tactics and military strategy, and relating human interest stories (figure 3). Additional interpretation is provided at the visitor center.

FIGURE 3. ANTIETAM NATIONAL BATTLEFIELD



Antietam Creek meanders along portions of the eastern edge of the Battlefield, entering the Battlefield just north of the Burnside Bridge area. The Boonsboro Pike (State Route 34) runs east to west through the Battlefield. The Sharpsburg Pike (State Route 65) runs north to south through portions of the Battlefield and serves as the primary vehicular access route to the visitor center.

Antietam National Battlefield was established to commemorate the Battle of Antietam, or Sharpsburg, fought on September 17, 1862. About 40,000 troops of the Confederate Army of Northern Virginia under the command of General Robert E. Lee fought against 80,000 troops of the Federal Army of the Potomac commanded by General George McClellan. At day's end, more than 23,000 soldiers were dead, wounded, or missing. According to many historians, the Battle of Antietam was a major turning point in the American Civil War. This Union victory provided President Lincoln the opportunity to issue the preliminary Emancipation Proclamation and contributed to Great Britain's and France's decision to postpone recognition of the Confederacy. From that time onward the American Civil War had a dual purpose—to preserve the Union and abolish slavery.

Commemorative efforts at the Antietam Battlefield began shortly after the end of the Civil War. The Antietam National Cemetery was dedicated in 1867 as an honorable final resting place for Union dead. Congress established Antietam National Battlefield on August 30, 1890, declaring:

All lands acquired by the United States. . . for the purpose of sites for tablets for marking of the lines of battle of the Army of the Potomac and of the Army of Northern Virginia at Antietam, and of the position of each of the forty-three different commands of the Regular Army engaged in the battle of Antietam, shall be under the care and supervision of the Secretary of War (16 United States Code [USC] 446, August 30, 1890).

Like other early Civil War battlefield parks, Antietam National Battlefield was administered by the United States War Department. The War Department constructed a number of roads through the Battlefield to provide viewer access to important points on the landscape, which remained privately owned, erected almost 300 metal tablets documenting troop movements and artillery locations and constructed a stone observation tower along the Sunken Road. In addition, during the last quarter of the 19th century and opening decades of the 20th, states' and veterans' organizations erected monuments and memorials to honor the fallen (NPS 1992). In 1933, through Executive Order 6166, the National Park Service assumed management responsibilities for all national battlefields and military parks that had been under the jurisdiction of the War Department.

In 1960, Congress enacted additional legislation stating "...the Secretary finds necessary to preserve, protect and improve the Antietam Battlefield comprising approximately 1,800 acres in the State of Maryland... to assure the public a full and unimpeded view

thereof, and to provide for the maintenance of the site in, or its restoration to, substantially the condition in which it was at the time of the battle of Antietam” (16 USC 430oo). As part of the preparations for the Centennial of the Civil War and the 100th anniversary of the Battle of Antietam, the National Park Service built the current visitor center at Antietam Battlefield in 1962. The 1960s also marked the ambitious program to update visitor services and facilities throughout the national park system for the 50th anniversary of the agency in 1966. The program of improvements was known as Mission 66 and focused on improving park infrastructure and visitor experience through the creation of facilities such as the tour road and visitor center. The program also added interpretative elements to the Battlefield landscape. Additional lands were acquired to protect and preserve the scene of the battle. In 2017, the National Park Service determined that Mission 66 landscapes built between 1960 and 1967 are eligible for listing in the National Register of Historic Places (NRHP), and submitted an amendment to the Antietam National Battlefield national register nomination to the Maryland Historical Trust office in October 2017 (NPS 2017b).

In 1992, the National Park Service approved a general management plan for Antietam National Battlefield. The plan emphasized the restoration of the 1862 battlefield landscape and called for the removal of the visitor center and some War Department and Mission 66-era tour roads. At the time of the GMP completion, the Battlefield owned 946 acres within its legislated boundary, and many of the recommendations concerning visitor access and circulation were limited to the existing lands that the Battlefield could provide access to.

The entire Battlefield, including private properties inside the boundary, is listed in the National Register of Historic Places as a historic district. Many structures and outbuildings remain from the historic period, including the Miller, Mumma, Piper, Pry, Otto, and Sherrick farmsteads. Miller’s Cornfield, Bloody Lane, and Burnside Bridge represent three key areas where significant fighting occurred during the battle. Several structures and features added to the Battlefield since the war have become historic in their own right. These include Antietam National Cemetery, a burial site for 4,776 Federal soldiers; the road system established by the War Department in the 1890s; almost 100 monuments that commemorate the soldiers who fought at Antietam; numerous tablets placed by the War Department; and the observation tower overlooking Bloody Lane. The 1960–67 Mission 66-era structures on the Battlefield, including the visitor center and associated structures, such as parking areas and stone walls, also contribute to Antietam’s historic significance.

PLANNING ISSUES AND CONCERNS RETAINED FOR DETAILED ANALYSIS

During the scoping phase of this project a NPS interdisciplinary planning team, the public, and other participating agencies identified potential issues and concerns that could arise from the implementation of alternatives outlined in this environmental assessment.

Through the identification of issues, the planning team also identified associated impact topics. To better understand the environmental impacts of the alternatives being considered, the National Park Service organizes the discussions of affected environment and environmental consequences by “impact topics.” Impact topics reflect resources of concern that could be affected, either beneficially or adversely, by implementing any of the alternatives outlined in this plan. The impact topics are then analyzed in detail in “Chapter 3: Affected Environment and Environmental Consequences.” The issues and corresponding impact topics retained for analysis in this environmental assessment are presented below.

Lands Recently Added to the Battlefield are not Fully Integrated into Existing Comprehensive Trail and Interpretive Tour Route System. Since completion of the 1992 general management plan, the Battlefield has acquired 991 acres of new land within its legislated boundary, bringing the total acreage of land owned by the National Park Service to 1,937 acres. Most of this land saw significant fighting or important troop movements during the battle and form an integral part of the Battlefield. As part of the broader Battlefield cultural landscape, these additional lands are also important for interpreting and understanding the events that unfolded during the Battle of Antietam. Access to these lands has been provided on an ad hoc basis, and they have not been fully integrated into the Battlefield’s existing trails or interpretive tour route. Identifying opportunities for establishing appropriate and safe visitor access to recently added lands, while protecting the Battlefield’s cultural resources and values, is needed. This issue is analyzed in detail under the impact topics of cultural landscapes and visitor use and experience.

The Configuration of Certain Trail Segments and Road Crossings are Visitor Safety Concerns. The current trail system at the Battlefield has slowly grown as additional lands were added. Because these trail segments relied on using land and access points available at the time, a number of visitor safety concerns associated with the current configuration of certain trails have arisen and need to be addressed. Some of the existing trail segments run along the shoulder of roads associated with the interpretive tour route where there is the potential for pedestrian and automobile conflicts. There are also segments of trails that run next to or cross over major roadways like the Boonsboro Pike (State Route 34) that pass through the Battlefield. Some key areas of concern include the at-grade crossing between the Antietam National Cemetery (tour stop 11) and its parking area. The Scout Trail, which runs in part along the modern Burnside Bridge Road, crossing over Antietam Creek, is another area of significant safety concern that needs to be addressed. Also, the location of some trails through cultivated fields in agricultural production is a public safety issue. Heavy farm equipment, field maintenance, and harvesting are ongoing activities associated with these cultivated fields that may impact the access and use of these trails by visitors. The issue of visitor safety in relation to the location of existing trails is analyzed in detail under the impact topic of cultural landscapes and visitor use and experience.

Tour Stops Lacking Infrastructure That Meet the Standards of Universal Access (Architectural Barriers Act). The Battlefield identified numerous areas where existing Battlefield infrastructure, such as sidewalks, parking lots, roadways, trails, and signage, do not meet the requirements of the 1990 Americans with Disabilities Act (ADA) or the 1968 Architectural Barriers Act (ABA), which mandates access to facilities designed, built, altered, or leased with federal funds. Improvements to any infrastructure associated with this plan need to abide by this mandate and address these requirements. Also, previous planning efforts at the Battlefield including the Antietam National Cemetery Cultural Landscape Report and the Burnside Bridge Cultural Landscape Report (draft) make treatment recommendations for addressing ABAAS while working within the historic context of these locations. The issue of universal access and ABAAS is analyzed under the impact topic of cultural landscapes and visitor use and experience.

Visitor Access Improvements Need to be Balanced with the Stewardship of Cultural Resources. The Battlefield protects a broad tapestry of cultural landscapes that reflects rural life in Maryland as well as the events of the Battle of Antietam and its legacy. These cultural landscape features may be impacted by making changes to the current trail system. Balancing the goals of improving visitor access and circulation at the Battlefield, while protecting the cultural resources that are fundamental to these visitor experiences is a key issue further analyzed under the impact topics cultural landscapes and historic structures.

PLANNING ISSUES AND CONCERNS DISMISSED FROM FURTHER ANALYSIS

Other issues and concerns were also evaluated during the project scoping process but dismissed from further analysis. A brief rationale for dismissal is provided for each topic.

Potential for the Project to Impact Archeological Resources. The proposed actions described in the plan have been designed to avoid archeological resources on the Battlefield. In areas of the landscape where in situ archeology may occur, such as on lands not previously surveyed for archeology or not disturbed by earlier construction activities, the National Park Service would conduct a phase 1 archeological investigation of the areas planned for ground-disturbing activities associated with this plan. Any such archeological studies and investigations would be carried out and evaluated for effect before construction and in consultation with the Maryland Historical Trust officers under the provisions outlined in 36 CFR Part 800, regulations issued by the Advisory Council on Historic Preservation (ACHP) implementing section 106 of the National Historic Preservation Act of 1966, as amended (NHPA; 54 USC 306108). Additional mitigation measures for archeological resources are described in chapter 2 as part of the proposed action. Therefore, the impact topic of archeological resources was dismissed from additional analysis.

Potential for the Project to Impact Special Status Species. In addition to federally listed species, the NPS *Management Policies 2006* and Director's Order 77: Natural Resources Protection requires the National Park Service to examine the impacts on state listed threatened, endangered, candidate, rare, declining, and sensitive wildlife and vegetation species. There are no known rare or unusual vegetation communities or wildlife species of concern that occur in the Battlefield. Some state listed plant species of special concern do occur and could be impacted by trampling during trail construction or other project activities. However, the locations of these plants are known and would be avoided during implementation of this plan. As a result, this impact topic was dismissed from further consideration.

On January 31, 2017, the National Park Service sent a letter to the Chesapeake Bay Field Office of the US Fish and Wildlife Service (USFWS) requesting information on the presence of species that are federally listed or proposed for listing as endangered or threatened in the vicinity of the referenced project area. The US Fish and Wildlife Service replied in a letter dated March 21, 2017, that, "Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further Section 7 Consultation with the U.S. Fish and Wildlife Service is required" (see appendix F). Therefore, this impact topic does not require further discussion in this environmental assessment.

Potential for the Project to Adversely Impact Soils and Vegetation. According to the NPS *Management Policies 2006*, the National Park Service will strive to understand and preserve the soil resources of national park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

The installation of roughly 6 miles of new trails would result in soil compaction and a loss of vegetation along the trail corridor (mostly grasses and small shrubs, trees would be avoided), leading to a locally elevated amount of surface runoff and erosion. Approximately 1 acre of soil would be exposed to compaction through new trail construction, although the closures/removals of some existing trails would reduce the compacted area by about 0.5 acre. Activities that lead to increased visitor use of trails and improve circulation between trail segments would likely lead to a small increase in the amount of compaction currently seen on the trails. Of the proposed new trails, 4.8 miles would be mowed such that the underlying soil would not be exposed to additional erosive forces, although there would be some compaction from visitor use. Another 1 mile of proposed trails would consist of groomed soil surfaces that would be more susceptible to erosion. However, the Battlefield currently maintains several miles of groomed dirt trails on similarly erodible soil and does not experience notable erosion. Additionally, sustainable trail guidelines would be followed for all trail construction including the use of appropriate grades and side slopes, water bars, and a curvilinear alignment suitable to the area.

Under the proposed action, some tour stops would be moved and other visitor use facilities and features would be improved requiring some ground disturbance. These actions would result in very small amounts of fugitive dust emissions during implementation as well as soil compaction around the project area from large vehicles and construction equipment. Construction best management practices, such as the use of vegetation buffers, erosion control blankets, or mulching, would be put in place to minimize the short-term impacts on soils. There would be a small increase in impervious surfaces and thus runoff potential, which may lead to a nominal increase in soil losses during extreme precipitation events. All of the proposed actions would occur on previously disturbed areas so no untouched soils are expected to be impacted.

Because impacts to soils and vegetation are expected to be slight and further minimized through mitigation measures and best management practices, this impact topic has been dismissed from further analysis.

Potential for the Project to Impact Lands Held in Trust By the Secretary of the Interior for the Benefit of Indians. Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of the Interior (USDI) agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources in the vicinity of Antietam National Battlefield and no lands are held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, concerns related to Indian trust resources have been dismissed from further study in this environmental assessment.

Potential for the Project to Disproportionally Impact Minority or Low-Income Populations. Executive Order 12898, General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The Department of the Interior implements this executive order by requiring its bureaus to explicitly discuss environmental justice in their environmental documents (USDI 1995).

According to the Environmental Protection Agency (EPA), environmental justice is the

...fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies (EPA 2015).

The goal of “fair treatment” is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and identify alternatives that may mitigate these impacts. Communities in the vicinity of Antietam National Battlefield contain both minority and low-income populations; however, concerns related to environmental justice have been dismissed from further study in this environmental assessment because

The planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.

Implementation of the proposed alternative would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect adverse effects on any minority or low-income population.

The impacts associated with implementation of the proposed alternative would not disproportionately affect any minority or low-income population or community.

Implementation of the proposed alternative would not result in any identified effects that would be specific to any minority or low-income community.

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CHAPTER 2: ALTERNATIVES

INTRODUCTION

Two alternatives (Alternative A: No-Action Alternative and Alternative B: Proposed Action Alternative) are analyzed in this plan. The elements of these two alternatives are described in detail in this chapter. Impacts associated with the actions proposed under each alternative are outlined in “Chapter 3: Affected Environment and Environmental Consequences” of this plan. Mitigation measures for the proposed action alternative and concepts that were considered but dismissed from consideration are also discussed in this chapter.

DESCRIPTION OF ALTERNATIVES

Alternative A: No Action

Under the no-action alternative, the Battlefield would continue to be maintained in its current condition and the 1992 general management plan would continue to be the guiding management document for the Battlefield. While the general management plan calls for the removal of the visitor center and certain Battlefield tour roads in order to restore the historic integrity of the 1862 battlefield landscape, these facilities are currently in use and would continue in their current configuration. Should the Battlefield staff decide to fully implement the general management plan and remove these features, then additional NEPA compliance and NHPA, section 106 consultation would be required. No additional roads would be constructed. Battlefield trails and tour stops would remain at their current locations and no new connections would be constructed. Facilities that provide visitor access and circulation would continue to be maintained by the Battlefield staff. See below for details of these visitor facilities.

Visitor Center. The Battlefield visitor center would continue to function at its current location and no additional visitor orientation or services would be developed. However, the 1992 GMP long-range goal for the eventual removal of this facility and construction of a new visitor center in a different location would remain in place.

Battlefield Tour Roads. Battlefield tour roads would remain unchanged. However, the 1992 GMP long-range goal for the eventual removal of Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue parallel to Bloody Lane and the construction of a new road paralleling the Sharpsburg Pike (State Route 65) would remain in place.

Tour Stops. The Battlefield’s 11 tour stops would remain in their current locations. Certain tour stops would remain noncompliant with the Architectural Barriers Act (see figure 1). The 1992 GMP long-range goal for the Battlefield is to focus its interpretation at three major battle areas (Cornfield, Bloody Lane, and Burnside Bridge) would remain

in place. Please refer to appendix E for photographs and descriptions of the Battlefield's tour stops.

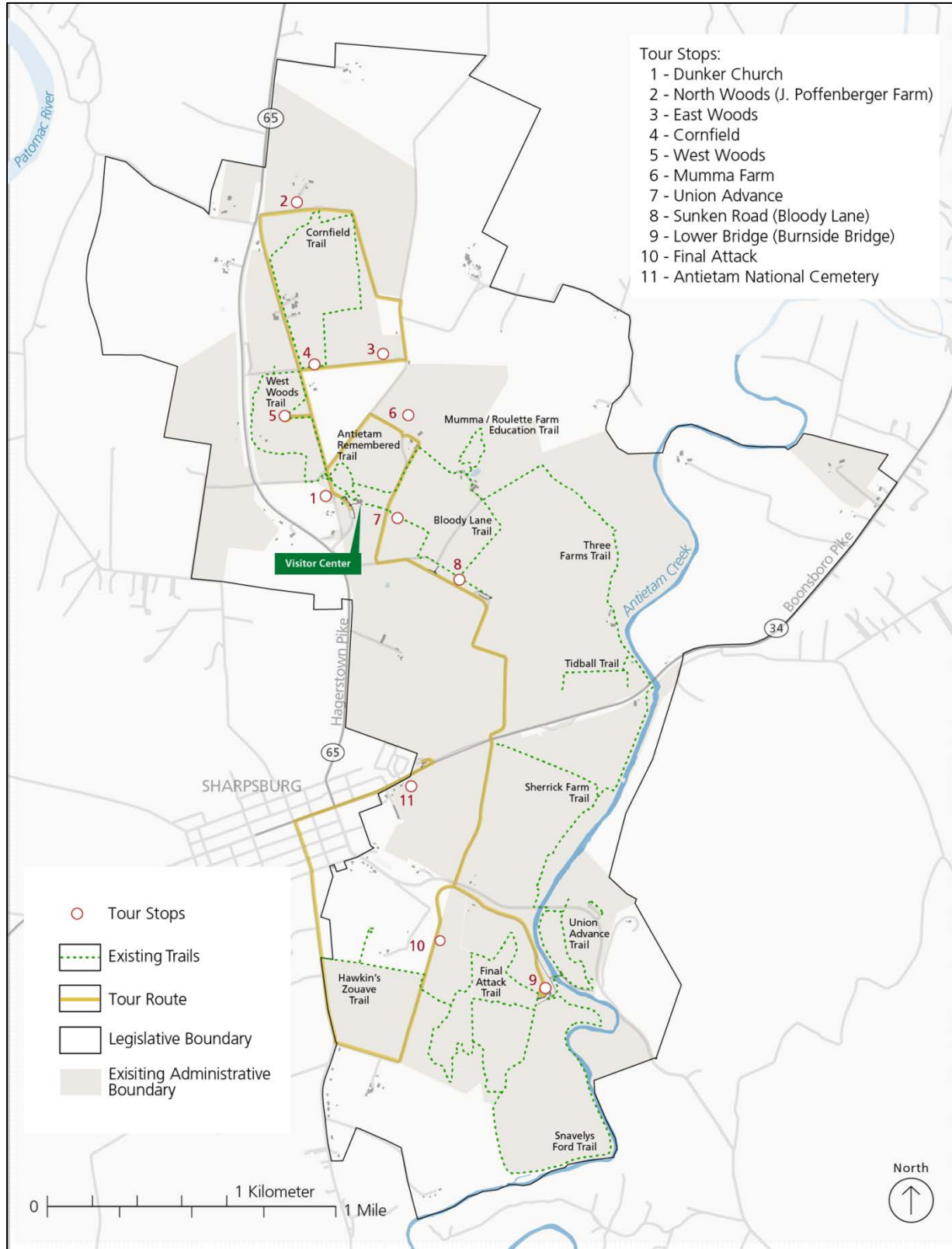
Trail System. Roughly 13 miles of existing trails at the Battlefield would be maintained in their current configuration. Existing trails, including 8.5 miles of mowed pathways, 2.5 miles of maintained, groomed dirt trails, 1.0 mile of gravel trails, and 1 mile of paved trails around the visitor center, would be maintained (see table 1 and figure 4). Hiking and leashed dog walking would continue to be allowed on all Battlefield trails. Horse use would continue to be allowed by permit on the tour roads. Horses would also continue to be permitted on the Final Attack Trail on a limited basis. Longer trail segments would continue to provide limited access to areas in Antietam National Battlefield. Also, individual looping trails would continue to provide visitor access to sites where significant events took place during the battle. The Scout Trail, which runs partly along the modern Burnside Bridge Road, would continue in its current configuration. The broader landscape and lands acquired by the Battlefield since the development of existing trails would not be integrated into the overall visitor experience and no new interpretive services would be provided at these locations. Recreational opportunities on trails would remain at their current levels, with no additional trails developed under this alternative.

TABLE 1. CURRENT TRAILS AT ANTIETAM NATIONAL BATTLEFIELD

Trail Name	Description
Antietam Remembered (begins at visitor center)	This 0.25-mile paved walkway is easily accessed and loops to significant landmarks and monuments near the visitor center, including historic Dunker Church and the Maryland State Monument. This trail passes by a variety of historic features, monuments, and an artillery display.
Bloody Lane Trail (begins at visitor center)	This 1.6-mile trail begins at the visitor center and winds through the historic Mumma and Roulette Farms to Bloody Lane and back to the visitor center. It is a detailed battle trail that affords visitors the opportunity to follow in the footsteps of Union soldiers as they advanced toward the Sunken Road. There the visitor can explore the Confederate position in what has been known since as Bloody Lane. Visitors are also able to walk through two farmsteads that were significantly affected by the battle.
West Woods Trail (begins at visitor center)	The 1.5-mile loop trail begins and ends at the New York Monument adjacent to the visitor center and focuses on the action in the West Woods. Throughout the morning of the battle, the Union Army launched numerous attacks in and around this woodlot, attempting to drive the Confederates from the field. Sedgewick's Union division lost many soldiers during one of these attacks in the West Woods. This trail also provides visitors an opportunity to see firsthand how the varied terrain significantly affected the battle.
Final Attack Trail (begins at Burnside Bridge; tour stop 9)	After capturing the bridge, over 8,000 Union soldiers crossed Antietam Creek. They marched across the fields where the 1.7-mile trail is located for the final advance to drive the Confederate Army from Maryland, only to be turned back by A. P. Hill's final Confederate counterattack. This trail provides visitors opportunities to experience the landscape and see how the varied terrain affected the tactics of the battle.
Snaveley Ford Trail (begins at Burnside Bridge; tour stop 9)	The Snaveley Ford Trail is a 1.8-mile loop that begins at the Burnside Bridge Parking lot and follows Antietam Creek for much of its length. The hike is flat and shady along the creek, with steep sections at each end.

Trail Name	Description
Union Advance Trail (begins at Burnside Bridge; tour stop 9)	This 1.0-mile trail crosses Burnside Bridge and makes a loop on the east side of Antietam Creek. The hike explores the area where the Confederates defended Burnside Bridge and then crosses over the creek to where the Union 9th Corps made its advance to capture the bridge. This trail provides opportunities for visitors to gain a better understanding of the challenges facing General Burnside and his forces.
Cornfield Trail (begins at other locations)	This 1.5-mile loop trail starts and ends at the North Woods (tour stop 2). The trail covers most of the area where the early morning action of battle took place. There were more casualties in and around the Cornfield than anywhere else on the Battlefield and this trail provides visitors an opportunity to explore this significant part of the Battlefield.
Mumma / Roulette Farm Education Trail (begins at other locations)	This 1.0-mile trail is part of the Kids in Parks TACK Trails program and connects the Mumma and Roulette Farms. It is primarily used for educational programs and school groups and features a number of wayside signs focusing on the natural environment of the Battlefield.
Sherrick Farm Trail (begins at other locations)	This 1.3-mile trail starts at the intersection of Rodman Avenue and the Boonsboro Pike (State Route 34) and ends at Burnside Bridge. It meanders through farm fields and woodlots. This trail provides primarily a natural experience that transports visitors from the middle to the south end of the Battlefield.
Three Farms Trail (begins at other locations)	This 1.6-mile trail connects the Bloody Lane Trail on the north end of the Battlefield to the Sherrick Farm Trail on the south end. It provides opportunities to experience some of the quietest and most beautiful areas of the Battlefield. It is the safest way to connect from the north to the south end of the Battlefield without crossing the Boonsboro Pike (State Route 34).
Tidball Trail (begins at other locations)	This 0.3-mile one-way trail starts at the historic Newcomer House and takes visitors to one of the best overlooks on the Battlefield and explores the area where the Union 5th Corps crossed the Middle Bridge over Antietam Creek. This trail interprets the action that occurred in the center of the field including a critical artillery position.
Antietam Battlefield Historic Trail (Scout Trail) (begins at other locations)	The 10.5-mile hike, organized by the Mason-Dixon Council of the Boy Scouts of America, is a tour for Boy Scouts (and others who are eligible) to learn about the various sites and events of the Battle of Antietam. The Scout Trail uses a combination of Battlefield tour roads and trails and runs in part along the modern Burnside Bridge Road, crosses over Antietam Creek, before connecting with the Battlefield. Currently, this trail is outdated, portions of the trail no longer exists, and a majority of the trail consists of walking along the Battlefield tour road.
Hawkin's Zouave Trail (begins at other locations)	This paved 0.3-mile one-way trail starts at Harpers Ferry Road and travels east to the monuments to the 9th New York Infantry (Hawkin's Zouaves) and the 8th Connecticut Infantry. This location also provides a panoramic view of the entire south end of the battlefield. There is a lack of parking at the trailhead on Harpers Ferry Road.

FIGURE 4. ALTERNATIVE A: NO ACTION



Alternative B: Proposed Action Alternative (NPS Preferred Alternative)

Under alternative B, the Battlefield would provide a comprehensive and inclusive experience for visitors by retaining and updating the visitor center, retaining existing road configurations, repositioning certain tour stops and improving accessibility and interpretation at these locations, and developing a comprehensive trail system that enhances interpretation and understanding of the Battlefield. As described in chapter 1, the 1992 general management plan calls for the removal of the visitor center as well as Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane. Recognizing the historic significance and functional use of these facilities, this plan, under the proposed action alternative, would serve as an amendment to the 1992 Antietam National Battlefield General Management Plan. Not only would these visitor facilities be retained, they would also be enhanced to improve visitor experience and provide new interpretive opportunities (figure 5). Actions proposed under alternative B include:

Visitor Center. The Battlefield's current 1962 visitor center would be retained. The visitor center would be managed as a historic structure following the guidelines set forth by *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. To improve traffic flow, the traffic direction into the visitor center entrance and parking area would be made one-way, directing visitors to exit north onto the historic Hagerstown Turnpike to begin the interpretive tour route. No changes to the parking area infrastructure would be required.

Battlefield Tour Roads. Amending the general management plan, all existing Battlefield tour roads, including Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane, would be retained in their current configuration and use.

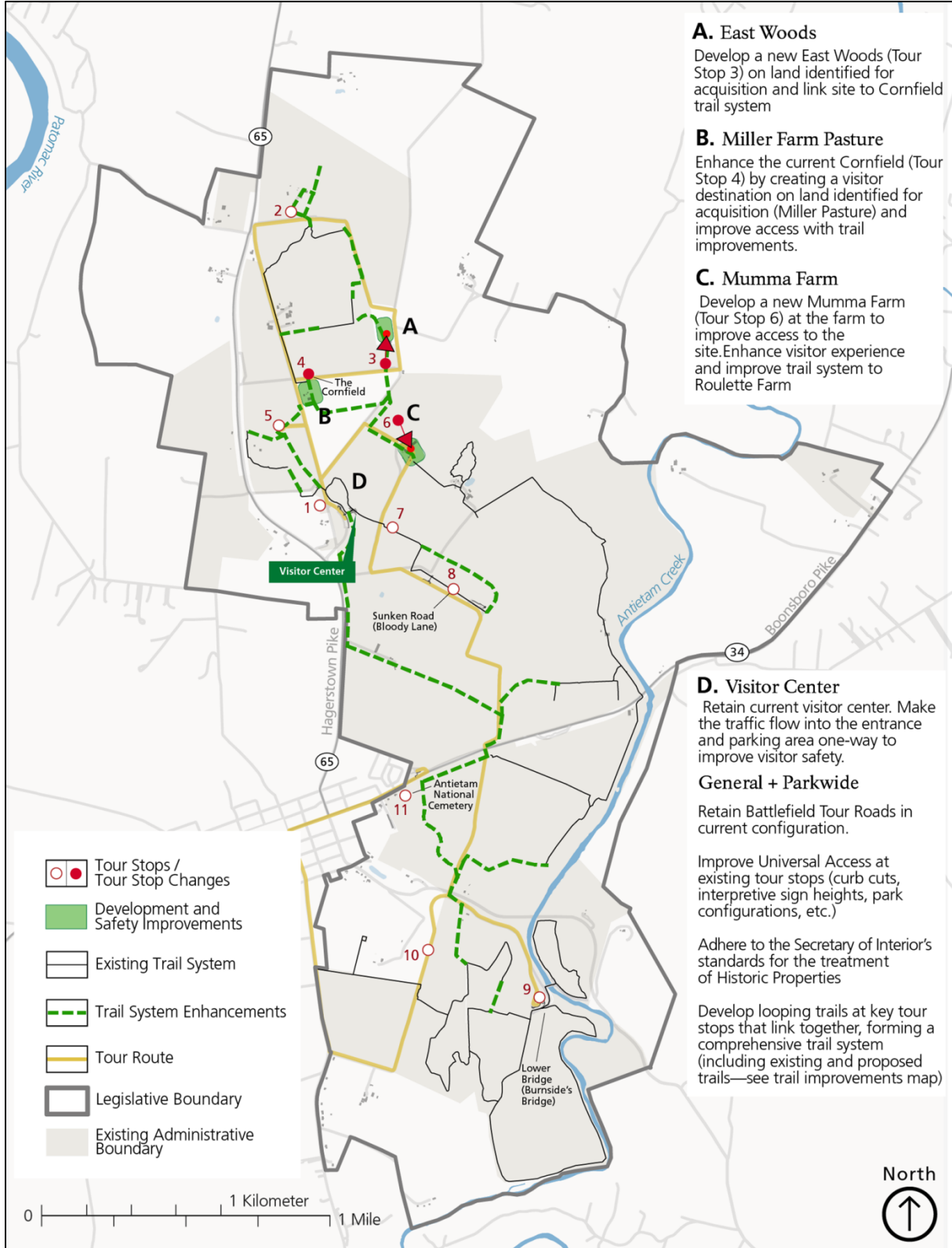
Tour Stops. Improvements would be made to three tour stops to enhance visitor interpretive opportunities in the areas of the East Woods (tour stop 3), Mumma Farm (tour stop 6), and the Cornfield (tour stop 4). At the East Woods and Mumma Farm, the existing tour stop infrastructure, such as vehicle pulloffs, would remain in place, but they would no longer be called "tour stops" on the Battlefield's interpretive tour map. In those two areas, two new tour stop locations would be constructed along the Battlefield tour roads to better support interpretive programming. The Cornfield (tour stop 4) infrastructure along the Battlefield tour road (e.g., additional vehicle parking) would be expanded to support interpretive programming. Please refer to appendix E for photographs and descriptions of the current conditions of the Battlefield tour stop.

The new location for East Woods (tour stop 3) and the expanded Cornfield (tour stop 4) are being proposed on land currently in private ownership by the Civil War Trust but within the Battlefield's legislated boundary. The Civil War Trust is actively restoring these properties to their 1862 appearance and has expressed interest in working with the National Park Service on enhancing visitor access and experience at these locations.

- *East Woods (tour stop 3)*— While the existing East Woods tour stop pulloff on the north side of Cornfield Avenue would remain in place for visitor use, a new tour stop would be constructed a short distance to the north in the East Woods, on the west side of Smoketown Road. Positioned with views through the woods to open fields, this new location for the interpretive tour stop would create a more immersive Battlefield experience for visitors, and would provide a visual connection to the Mansfield Monument, enhancing interpretive opportunities at the East Woods.
- *Cornfield (tour stop 4)*— The triangular property known as the Miller Pasture was a focal area of some of the bloodiest fighting during the opening hours of the battle. Because areas of the Miller Pasture offer 360-degree views of the landscape, expanding tour stop 4 to this location would improve interpretation of the battle in this area and provide an ideal setting to expand visitor experience through the creation of an interpretive plaza and expanded parking at the Cornfield. The development of a low-profile interpretive plaza area at this tour stop location aligns with the Battlefields' 1992 GMP guidance. In addition to this plaza, the existing infrastructure that currently comprises tour stop 4 would also remain in place for visitor use.
- *Mumma/Roulette Farm s (tour stop 6)*— This tour stop would be relocated from its current location at the Mumma cemetery closer to the Mumma farmstead buildings in order to improve access to this site. This tour stop would allow the Battlefield to expand visitor services at this location, enhance interpretive opportunities related to the story of the Mumma family and other civilians impacted by the battle, and encourage visitors to explore the nearby Roulette farmstead. Consideration would be given to placement of the vehicular access improvements to minimize impacts to the farmstead landscape and historic Mumma Lane. The narrow roadside pullout at the Mumma Cemetery that currently serves as tour stop 6 would remain in place for visitor use.

To improve universal access for visitors of all abilities, the design of tour stop infrastructure (e.g., curb cuts, sidewalks, and vehicular parking) would be brought into compliance with ABAAS. To create a consistent visitor experience, any improvements to address universal access or relocation of tour stops would be designed in a similar size, scale, and mass as existing tour stops found on the Battlefield interpretive tour route. Please refer to appendix E for photographs and descriptions of representative Battlefield tour stops that would serve as models for these new tour stops. Similar materials would also be used to ensure continuity of the overall interpretive tour route appearance. Battlefield tour stops generally include pull-in parking spaces, an impervious perimeter sidewalk, low-profile (3 feet [ft] to 4 ft tall) retaining walls constructed of local stone materials, and interpretive wayside signage designed to meet NPS design standards. Treatment recommendations would be drawn from cultural landscape reports that meet *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes* to ensure that these improvements retain the character-defining features of cultural landscapes.

FIGURE 5. ALTERNATIVE B: PROPOSED ACTION ALTERNATIVE



Trail System. A comprehensive trail system would be developed to realign existing trails and add new trails to create a variety of visitor opportunities for exploring the Battlefield and its natural environment. Building on approximately 13.0 miles of existing trails, an additional 6.0 miles of new trails would be constructed, while 2.6 miles of existing trails would be removed and rehabilitated to reflect the existing landscape. The additional trails would be designed to have a similar look and feel as existing Battlefield trails, ranging in width from 18 inches to 24 inches and following sustainable trail construction guidelines. Additional mowed pathways would not involve ground disturbance. The construction of maintained dirt trails would involve vegetation clearance and minimal ground disturbance as required by the terrain. This comprehensive trail system would create an additional 5.6 miles of mowed pathways and 0.4 mile of maintained dirt trails, with no new gravel paths or paved trails (see table 2 and figure 3).

TABLE 2. ALTERNATIVE B: CHANGE IN TRAIL SYSTEM SURFACES

Trail System	Paved (Miles)	Gravel (Miles)	Groomed Dirt (Miles)	Mowed (Miles)	Total
Existing Trails	1.0	1.0	2.5	8.5	13.0
New Trail Segments	0.0	0.0	0.4	5.6	6.0
Removed Trail Segments	0.0	0.0	0.2	2.4	2.6

Perimeter Trail— Comprised of existing trails and additional new trail segments, an 11-mile perimeter trail would allow visitors to hike the entire circumference of the Battlefield, starting and ending at the visitor center (see table 3 and figure 7). This perimeter trail would provide visitors with an opportunity to safely hike around the entire Battlefield. One segment of the perimeter trail would cross over the modern Boonsboro Pike (State Route 34) at the same location used by visitors to the National Cemetery. In order to develop an at-grade pedestrian crossing at this location, Battlefield staff would work in collaboration with the Maryland State Highway Administration (MDSHA) to identify strategies for improving connectivity between the northern and southern halves of the Battlefield. Another segment of the perimeter trail would use the Rodman Avenue bridge crossing over the modern Burnside Bridge Road. This bridge also forms part of the Battlefield’s interpretive tour route and special consideration would have to be given to appropriate signage and guardrail height to ensure pedestrian safety, while minimizing impacts to the character-defining features of this historic Mission 66-era bridge. Stairs would also be installed on the slope near the Otto farmstead as part of the perimeter trail and as a connection to the Final Attack Trail on the southern half of the Battlefield. The stairs would be screened by vegetation and located so that they would not be visible from the Otto farmstead landscape.

Battle Action Looping Trails— Consisting of existing trails and additional new trail segments, the development of battle action looping trails would provide shorter immersive experiences at key tour stops throughout the Battlefield. These shorter battle action looping trails focus on specific locations where significant events of the battle

unfolded and would begin and end at associated tour stops. These battle action looping trails would give visitors a range of options to get out of their vehicle to explore and contemplate the key moments of the Battle of Antietam and immerse themselves in the surrounding environment (see table 3 and figure 7).

Universally Accessible Trails— Adjacent to the visitor center, the 0.25-mile Antietam Remembered walking trail loop would be modified to meet ABAAS for width, materials, and slope to allow universal access. This would also apply to the paved walkway leading to the entrance of Dunker Church, which currently does not meet the width and slope requirements for ABAAS. Where possible, the proposed Battle Action looping trails would be designed to be universally accessible, to be determined on a case-by-case basis depending on the terrain and slope conditions of these locations.

TABLE 3. ALTERNATIVE B: ENHANCEMENTS UNDER THE PROPOSED ACTION

Trail Name	Description
Perimeter Trail	Beginning and ending at the visitor center, an 11-mile-long perimeter trail would allow visitors to hike the entire circumference of the Battlefield. The perimeter trail would incorporate sections of shorter Battle Action looping trails as well as existing Battlefield trails including the Three Farm Trail, Sherrick Farm Trail, and portions of the Antietam Battlefield Historic Trail (Scout Trail). To fully connect the perimeter trail into one comprehensive loop, approximately 19,500 linear ft of additional trails would be developed. Approximately 5,400 linear ft of existing trail would also be removed to improve connectivity and these areas would then be rehabilitated to reflect the existing landscape. New perimeter trail segments would range from 18 inches to 24 inches in width and consist primarily of mowed paths. The perimeter trail would cross over the modern Boonsboro Pike at the National Cemetery, requiring an at-grade pedestrian crossing. This trail would also use the Rodman Avenue bridge, requiring appropriate signage and safety measures to ensure multimodal access.
Antietam Remembered Trail	Battle Action Looping Trails. Adjacent to the visitor center, the 0.25-mile Antietam Remembered walking trail loop would be modified to meet ABAAS for width, materials, and slope to allow universal access. This would also apply to the paved walkway leading to the entrance of Dunker Church (tour stop 1), which currently does not meet the width and slope requirements for ABAAS. No additional trail lengths are planned for this paved looping trail.
J. Poffenberger Farm Trail	Battle Action Looping Trails. A new loop trail approximately 2,100 ft in length would be established at the North Woods (J. Poffenberger Farm) (tour stop 2) to provide visitor access to this historic farmstead. This trail would range from 18 inches to 24 inches in width, and consist of a mowed path surface. The trail would use existing historic lanes and follow existing fencelines in order to reflect the historic setting of this farmstead.
Cornfield Trail	Battle Action Looping Trails. A reconfigured Cornfield loop trail would be established at the expanded Cornfield Tour Stop (tour stop 4) using existing and new trail segments. This trail would provide visitor access to the Miller Pasture, currently owned by the Civil War Trust, and connect with the East Woods (tour stop 3). Taking into account existing field configuration, approximately 2,600 linear ft of additional mowed trail would be added in a way that is compatible with lands in agricultural production. In order to provide access through the East Woods, roughly 2,100 linear ft of groomed dirt trail would be developed. These new trail segments would range in width from 18 inches to 24 inches. Approximately 1,170 linear ft of the existing trail that bisects the Cornfield would be removed, allowing the field's restoration to its historically significant appearance.

Trail Name	Description
West Woods Trail	Battle Action Looping Trails. This reconfigured loop trail would begin at the West Woods (tour stop 5) and replace the existing West Woods Trail that presently begins near the visitor center. This circular trail would provide access to Dunker Church (tour stop 1) and allow visitors to explore the West Woods area of the Battlefield. Approximately 2,400 linear ft of mowed path trail would be developed, while approximately 5,200 linear ft of trail would be removed. These new trail segments would range in width from 18 inches to 24 inches.
Bloody Lane Trail	Battle Action Looping Trails. Beginning and ending at the Bloody Lane (tour stop 8), this trail would be reconfigured to allow visitors to walk the Confederate position along Bloody Lane Trail and then loop around to explore the advancing Union line. Segments of the existing trail that are in the historic Bloody Lane would continue to be used. Approximately 2,500 linear ft of additional mowed paths would be developed and run through fields before looping back into the historic Bloody Lane at the Observation Tower. New trail segments would range in width from 18 inches to 24 inches, consisting of mowed paths. Approximately 1,800 linear ft of existing trail would be removed and restored to reflect the existing landscape.
Tidball Trail	Battle Action Looping Trails. Starting at Newcomer House, there would be no changes to the one-way Tidball Trail under alternative B.
Union Advance Trail	Battle Action Looping Trails. Starting and ending at the Burnside Bridge (tour stop 9), there would be no changes to the Union Advance Trail under alternative B.
Snavely Ford Trail	Battle Action Looping Trails. Starting and ending at Burnside Bridge (tour stop 9), there would be no changes to the Snavely Ford Trail under alternative B.
Final Attack Trail	Battle Action Looping Trails. Beginning and ending at the Burnside Bridge (tour stop 9) the Final Attack Trail would remain largely in its current configuration. In order to improve connectivity and wayfinding for visitors, approximately 550 linear ft of mowed path would be added. This new trail segment would range in width from 18 inches to 24 inches. Approximately 700 linear ft of mowed path would be removed and restored to reflect the existing landscape.
Mumma / Roulette Farm Education Trail	Other Trail. Under alternative B, there would be no changes to this education trail.
Hawkin's Zouave Trail	Other Trail. Under alternative B, there would be no changes to this trail.

FIGURE 6. ALTERNATIVE B: PROPOSED ACTION TRAIL SYSTEM; NEW TRAILS AND SURFACES

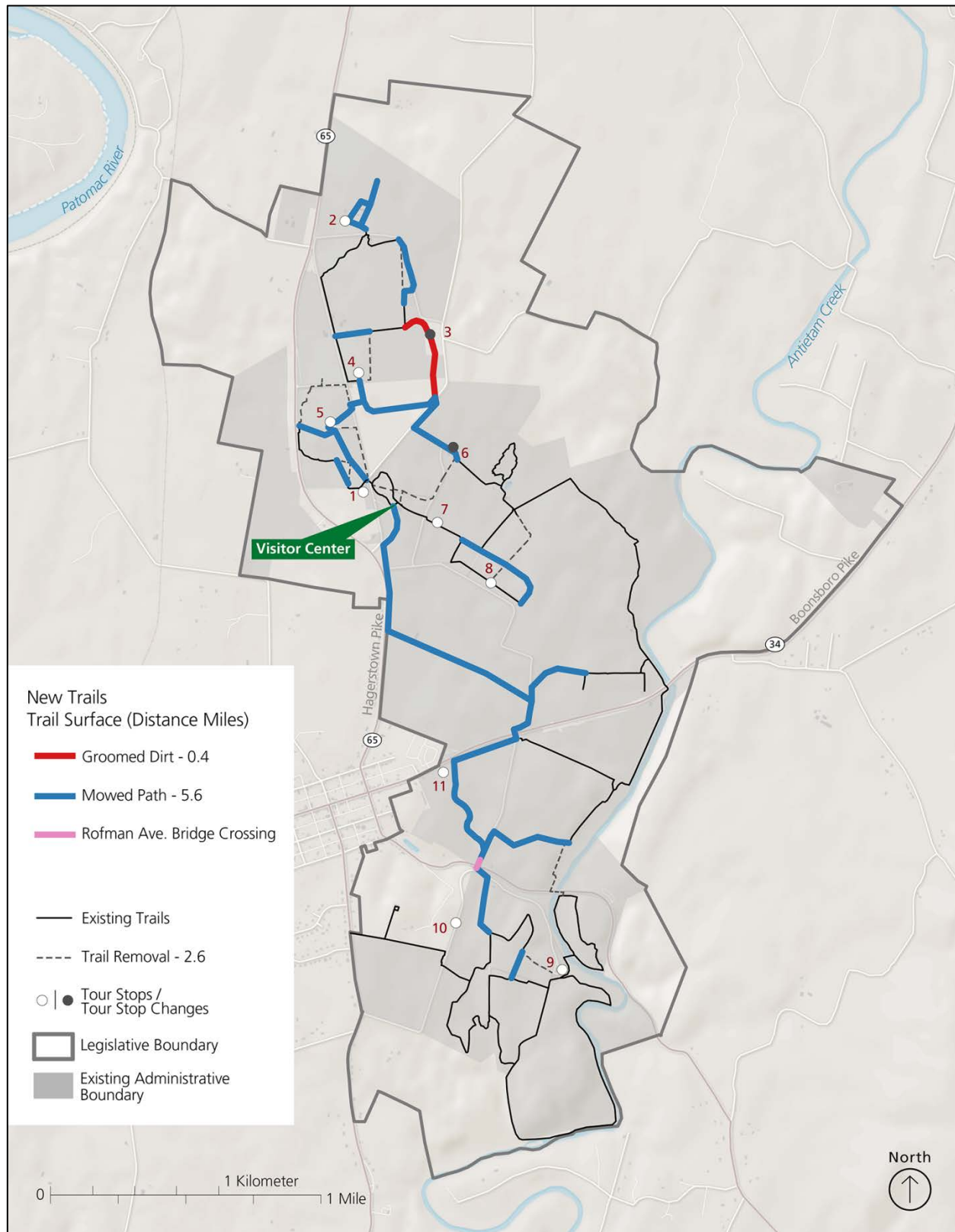
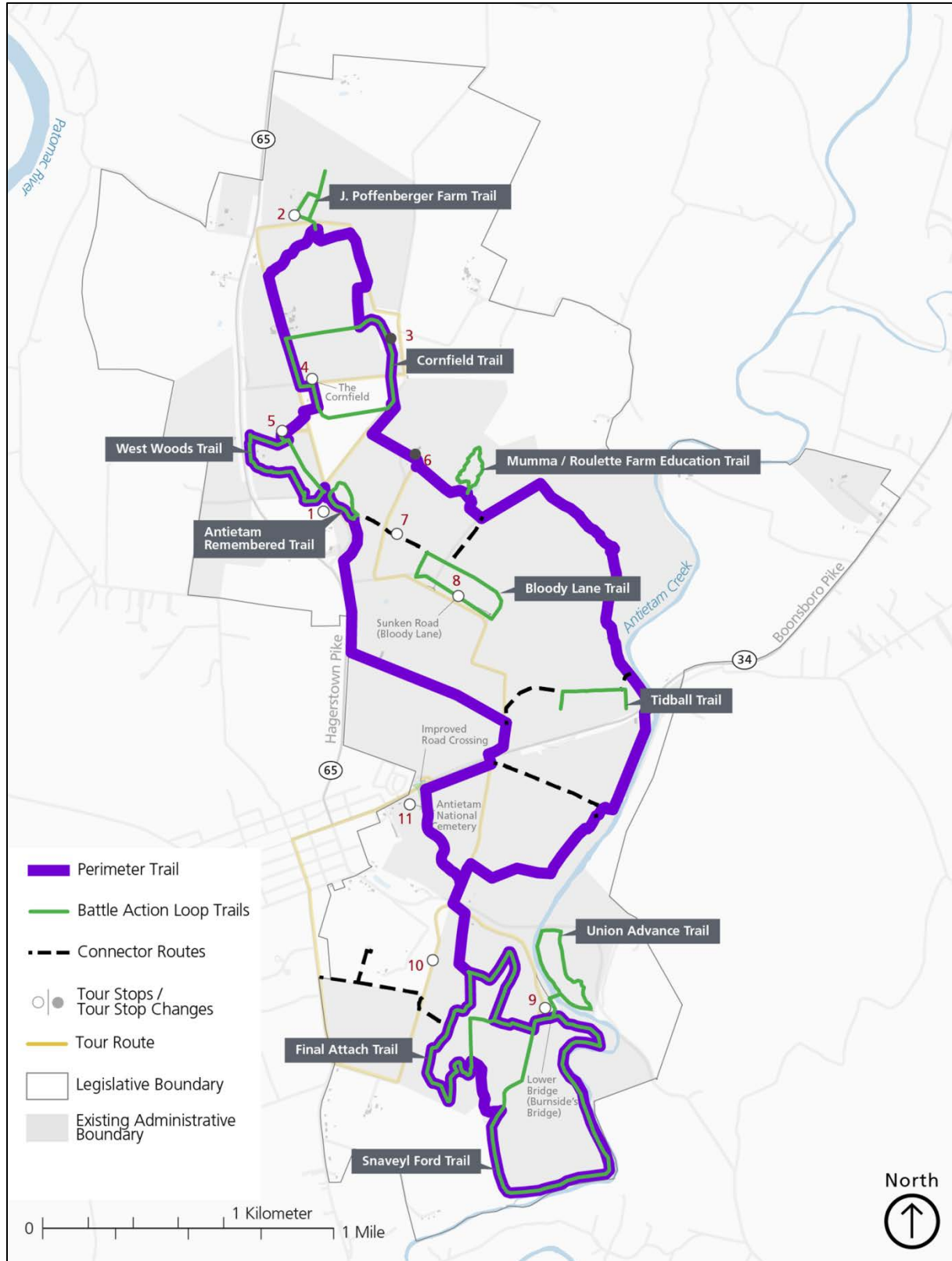


FIGURE 7. ALTERNATIVE B: PROPOSED ACTION ALTERNATIVE; TRAIL MAP



A summary of Alternative A: No-Action Alternative and Alternative B: Proposed Action Alternative is presented in the table below.

TABLE 4. ALTERNATIVES COMPARISON

Visitor Facilities	Alternative A: No-Action Alternative	Alternative B: Proposed Action Alternative
Visitor Center	<p>The Battlefield visitor center would continue to function at its current location and no additional visitor orientation or services would be developed. However, the 1992 GMP long-range goal for the eventual removal of this facility and construction of a new visitor center in a different location would remain in place. Should the Battlefield staff decide to fully implement the GMP and remove the visitor center, then additional NEPA compliance and NHPA-section 106 consultation would be required.</p>	<p>Amend the 1992 GMP to retain the visitor center.</p> <p>To improve traffic flow, the visitor center entrance and parking area would be made one-way, directing visitors to exit north onto the historic Hagerstown Turnpike (Dunker Church Road) and begin the interpretive tour route.</p> <p>Outside the visitor center, the Antietam Remembered walking trail loop and the walkway leading to the Dunker Church (tour stop 1) entrance as well as the walkway leading from the parking area to the visitor center would be made ABAAS compliant.</p>
Battlefield Tour Roads	<p>Battlefield tour roads would remain in their current locations. However, the 1992 GMP long-range goal for the eventual removal of Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane and the construction of a new road paralleling Sharpsburg Pike (State Route 65) to facilitate the Battlefield's interpretive tour route would remain in place. Should the Battlefield staff decide to fully implement the GMP and remove these road segments, then additional NEPA compliance and NHPA, section 106 consultation would be required.</p>	<p>Amend the 1992 GMP to retain all existing tour roads, including Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane.</p>

Visitor Facilities	Alternative A: No-Action Alternative	Alternative B: Proposed Action Alternative
Tour Stops	<p>The Battlefield's 11 tour stops would remain in their current locations. Certain tour stops would remain noncompliant with ABAAS. The 1992 GMP long-range goal for the Battlefield to focus its interpretation on the three major battle locations (the Cornfield, Bloody Lane, and Burnside Bridge) with new roads and parking areas developed at these sites would remain in place.</p>	<p>Work with the Civil War Trust to develop a new East Woods stop (tour stop 3) on the property north of the current stop, across Smoketown Road from the Mansfield Monument. Located within the Battlefield's legislated boundary, this 5.7-acre rectangular property is currently owned and managed by the Civil War Trust.</p> <p>Expand Cornfield (tour stop 4) to the south side of Cornfield Avenue on the historic Miller Pasture. Located within the Battlefield's legislated boundary, this 44-acre triangular property is currently owned and managed by the Civil War Trust.</p> <p>Relocate Mumma Farm (tour stop 6) from the Mumma Family Cemetery closer to the main farmstead to create a more inviting experience for visitors to explore this farmstead as well as the Roulette farmstead.</p>
Trails	<p>Thirteen miles of existing trails at the Battlefield would be maintained in their current configuration. Access on trails and visitor circulation throughout the Battlefield would remain the same, with no additional trails developed.</p>	<p>Realign and enhance existing trails with new trails to create a comprehensive trail system with a variety of visitor opportunities. Building on approximately 13 miles of existing trails, an additional 6 miles of new trails would be constructed, while 2.6 miles of existing trail would be removed and rehabilitated to reflect the existing landscape (see table 1 and figure 6 for details on enhancements).</p> <p>Connect existing trails to develop an 11-mile perimeter trail to provide visitors with an opportunity to hike the entire Battlefield.</p> <p>Shorter battle action looping trails to provide shorter immersive hiking experiences at tour stops throughout the Battlefield.</p>

MITIGATION MEASURES FOR THE PROPOSED ACTION

The National Park Service places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, the following protective measures would be implemented as part of the proposed action. The National Park Service would implement an appropriate level of monitoring throughout the construction process to help ensure that protective measures are properly implemented and achieve their intended results.

Cultural Resources

Because this plan involves phased implementation of actions not yet designed to allow full impact analysis, the National Park Service would pursue phased compliance with the Maryland Historical Trust officer and other consulting parties. Phased implementation activities concerning cultural resources would include the following best management practices:

- Before any ground-disturbing action by the National Park Service, a phase 1 archeological investigation of the areas planned for construction or other ground-disturbing development would be conducted in compliance with Archaeological Resources Protection Act of 1979, as amended (ARPA) and National Historic Preservation Act. The survey would determine the presence or absence of archeological deposits in the footprint of disturbance. Any NRHP-eligible archeological resources discovered would be evaluated for effect before construction and in consultation with the Maryland Historical Trust. The National Park Service would avoid adverse effects to NRHP-eligible archeological resources discovered during pre-construction survey by changing or shifting activities or by sensitively designing those activities.
- If previously unknown archeological resources were discovered during subsurface ground-disturbing activities, the National Park Service would suspend operations at the site and immediately contact the appropriate NPS archeologist or cultural resource specialist, who would arrange for a determination of eligibility in consultation with the Maryland Historical Trust and, if necessary, would develop a recovery plan.
- In the unlikely event that human remains, funerary objects, or objects of cultural patrimony are discovered during construction activities, applicable provisions of the Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601) and its implementing regulations would continue to be followed.
- Cultural landscape inventories and cultural landscape reports would be completed as necessary to inform any alterations to cultural landscapes that may impact contributing features.

Visitor Use and Experience

Mitigation measures would be implemented to reduce adverse effects of construction activities on visitor use and experience. These measures may include, but are not limited to, phasing construction, temporary closures, noise abatement, visual screening, providing information on the purpose and need for construction to visitors, and directional signage to help visitors avoid construction activities.

ACTIONS CONSIDERED BUT DISMISSED FROM FURTHER CONSIDERATION

During the course of project scoping, several concepts and alternative elements were considered but were not carried forward for further analysis in this plan. Through the planning process the following actions or alternative elements were considered but dismissed from further consideration.

Strategies for moving the Final Attack (tour stop 10) were considered and evaluated. Alternatives for locating this tour stop further along Branch Avenue or on Harpers Ferry Road were identified and presented to the public. Because of the narrow corridor along Branch Avenue and the sloping landscape, as well as the need for this tour stop to provide a key vantage point for viewing the Battlefield landscape, no preferred location for this tour stop could be identified at this time. As a result, moving the Final Attack (tour stop 10) was considered but dismissed from further analysis in this plan. In the future, if additional lands within the legislated boundary are added to the Battlefield then a more suitable location for this tour stop may be identified and considered.

Placement of a tour stop on the Alfred Poffenberger farmstead on the west side of Sharpsburg Pike (State Route 65) was also evaluated during initial project scoping. There is a strong desire by Battlefield staff as well as the public to make these lands more accessible and connect visitors to the historic events that unfolded on this part of the Battlefield. However, Sharpsburg Pike (State Route 65) and vehicle speeds present a significant barrier to providing safe access to this location. A number of alternatives were considered for improving access to these properties, including the development of an off-street parking area and at-grade pedestrian crossing over Sharpsburg Pike (State Route 65), a pedestrian bridge, or even a tunnel under the road. None of the options were considered feasible given visitor safety concerns, vehicular speeds, and potential impacts to Battlefield resources. The planning team recognized that alternative ways to access the site other than crossing the Sharpsburg Pike (State Route 65) are needed, but no preferred right-of-way access point was identified at this time. In the future, if additional lands within the legislated boundary are added to the Battlefield then a more suitable location for access to the west side of the Battlefield may be identified and considered.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter describes the existing environmental conditions at the Battlefield. The discussion is focused on resources that could potentially be affected by the implementation of the alternatives and provides a baseline for understanding the current condition of the resources. This chapter also includes an analysis of the environmental consequences or “impacts” of Alternative A: No-Action Alternative and Alternative B: Proposed Action Alternative.

The affected environment description is followed by the environmental consequences analysis for each impact topic. The impact topics analyzed here correspond to the planning issues and concerns described in “Chapter 1: Purpose and Need.” The geographic project area for this environmental assessment is the legislated boundary of Antietam National Battlefield. Each impact topic further defines its area of analysis as well as specific methodology and assumptions for individual impact topics.

METHODS AND ASSUMPTIONS

In accordance with the Council on Environmental Quality (CEQ) regulations, the environmental consequences analysis includes the direct, indirect, and cumulative impacts (40 CFR 1502.16). The intensity of the impacts is assessed in the context of the Battlefield’s purpose and significance and any resource-specific context that may be applicable (40 CFR 1508.27). Where appropriate, mitigating measures for adverse impacts are described and their effect on the severity of the impact is noted. The methods used to assess impacts vary depending on the resource being considered, but are generally based on a review of pertinent literature and studies, information provided by on-site experts and other agencies, professional judgment, and staff knowledge and insight.

As required by the CEQ regulations implementing NEPA, a summary of the environmental consequences for each alternative is provided in table 6 at the end of this chapter.

CUMULATIVE IMPACTS ANALYSIS METHODOLOGY

The environmental assessment also considers cumulative impacts, defined as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions (40 CFR 1508.7). Cumulative impacts are addressed in this environmental assessment by impact topic for both alternatives. To determine the potential cumulative impacts, past, present,

or reasonably foreseeable future projects in the Battlefield and in the surrounding area were identified. Projects identified as cumulative actions are identified in table 5.

TABLE 5. CUMULATIVE IMPACT PROJECTS

Past, Present, or Future	Project	Description
Present, Future	Restoration and Rehabilitation Projects at Antietam National Battlefield	The National Park Service is undertaking numerous projects to preserve and rehabilitate structures and landscape features at the Battlefield as part of its ongoing management of the Battlefield. An example is the rehabilitation of walkways at Burnside Bridge. Examples of planned future projects include rehabilitation of the visitor center, Observation Tower interior repairs , and restoring the historic character of the Antietam National Cemetery.
Present	Civil War Trust Battlefield Restoration Projects	The Civil War Trust (CWT) is actively conducting Battlefield restoration projects on land they own within the legislated boundary of Antietam National Battlefield, including the East Woods property and Miller Pasture property. Working in consultation with the Maryland Historical Trust, the CWT conducted a determination of eligibility for structures on the Miller Pasture property and East Woods property and removed nonhistoric/noncontributing structures. Using scholarly research and historic documentation, the CWT is actively restoring historic wood lots and agricultural field configurations on these properties.
Present / Future	NPS Antietam-Monocacy-Manassas Deer Management Plan / Environmental Impact Statement (EIS)	The National Park Service prepared a Final Deer Management Plan and EIS for Antietam and Monocacy National Battlefields in Maryland and Manassas National Battlefield Park in Virginia in 2014 to support preservation of the cultural landscape through the protection and restoration of native vegetation and other natural and cultural resources. The NPS preferred alternative includes the use of sharpshooting and limited capture/ euthanasia to quickly reduce deer herds followed by population maintenance through sharpshooting or nonsurgical reproductive control methods. In addition, the preferred alternative includes the fencing of crops and woodlots, changing crop configurations or selection, and using aversive conditioning techniques. A long-term management plan for chronic wasting disease (CWD), involving the lethal removal of deer to substantially reduce population density, is also included in the preferred alternative (NPS 2014).

Past, Present, or Future	Project	Description
Present / Future	NPS National Capital Regional Invasive Plant Management Plan	The National Park Service has prepared an invasive plant management plan and EA to ensure that the 15 parks in the National Capital Region would have access to a range of chemical, biological, manual, mechanical, physical, and cultural treatment methods to protect and restore natural and cultural resources by controlling, containing, or substantially minimizing populations of nonnative invasive plant species through targeted treatment (NPS 2016).

CULTURAL RESOURCES

The cultural resource impact topics addressed in this plan are historic structures and cultural landscapes. Information on these resources has been derived from the NRHP nominations, determinations of eligibility, historic structure reports, cultural landscape reports and inventories, maps, site reconnaissance, and observation by cultural resource experts and NPS staff. Because some of the actions of the plan are conceptual in nature and would be implemented in phases over a number of years across different areas of the Battlefield, the cultural resources affected by this plan are generally described.

In compliance with section 106 of the National Historic Preservation Act, an assessment of effect report has been prepared separately from this environmental assessment and in consultation with the Maryland Historical Trust.

HISTORIC STRUCTURES

The National Park Service defines a historic structure as “a constructed work. . . consciously created to serve some human activity.” Historic structures are usually immovable, although some have been relocated and others are mobile by design. They include buildings and monuments, dams, millraces and canals, nautical vessels, bridges, tunnels and roads, railroad locomotives, rolling stock and track, stockades and fences, defensive works, temple mounds and kivas, ruins of all structural types, and outdoor sculpture (NPS Director’s Order 28).

Affected Environment

One historic structure has the potential to be impacted by the actions proposed in this plan: the Battlefield visitor center. For the purpose of this plan, the historic Battlefield tour roads and associated bridges are described and analyzed under the cultural landscapes resource topic. There are many other historic structures at the Battlefield but they are not described here because they would not be impacted by the proposed actions of this plan.

Opened in 1963, the Antietam National Battlefield visitor center is eligible for listing in the National Register of Historic Places for its contributions to the use of modern

architecture during the NPS “Mission 66” initiative. Built into a hillside overlooking the Battlefield, the visitor center displays many architectural features that are emblematic of the “Park Service Modern” style developed by the National Park Service as part of the Mission 66 program (NPS 2017b).

Environmental Consequences

Potential impacts to historic structures are analyzed to consider effects to the historic character and integrity of the resources as defined by the national register and in consideration of additional regulations and guidance provided in the National Environmental Policy Act, section 106 of the National Historic Preservation Act, *The Secretary of the Interior’s Standards for the Treatment of Historic Properties*, and Director’s Order 28. This analysis takes into account whether the proposed action would result in a change that detracts from or destroys the historic character-defining features or integrity of a historic structure. Such an impact would be considered adverse. Actions that maintain or enhance the historic character and integrity of a building or structure, for example, through restoring lost historic features or repairing damaged historic materials, would be considered a beneficial impact.

Direct impacts are those changes that result in physical impacts to the structure, such as demolition or physical rehabilitation, to accommodate a new use. Indirect impacts result in changes to the structure through actions in its vicinity, such as adding new features in its historic setting that alter views from the building or structure, or increased visitor traffic on adjacent roads or parking areas. Because indirect impacts to historic structures overlap with impacts on the cultural landscape, and typically are the same as direct impacts to the cultural landscape, these are addressed in the cultural landscapes section that follows.

The alternatives are considered to identify the proposed actions that would result in physical changes, alterations in use, or changes in visitation level that could change the conditions of historic structures. The subsequent impacts on the condition, historic character, and integrity of the historic property (as defined in national register documentation and other studies) are weighed to identify whether they are detectable, and if so, whether they are adverse or beneficial.

Impacts of Alternative A: No-Action Alternative

There would be no new direct or indirect impacts to historic structures under alternative A. The Battlefield visitor center would continue to be managed and maintained in its current location. The visitor center, recently determined eligible for listing in the national register, would continue to be maintained and used according to NPS policy for cultural resources (NPS 1992). Building rehabilitation and maintenance would continue, dependent on future project funding and operational constraints. However, as described in chapter 2, if the National Park Service sought to implement the 1992 GMP management direction regarding the removal of the visitor center in the

future, then additional NEPA compliance and NHPA-section 106 consultation would be required.

Cumulative Impacts. Alternative A would have no new impacts to historic structures. Thus, it would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

Conclusion. Because no new actions would be taken, alternative A would have no new impacts to historic structures. It would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

Impacts of Alternative B: Proposed Action Alternative

Amending the general management plan in alternative B would result in the 1962 visitor center being retained and managed as a historic structure following the guidelines set forth in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. Recognizing the historic significance and functional use of the visitor center, alternative B would serve as an amendment to the 1992 Antietam National Battlefield General Management Plan, which called for the building's removal. Because this planning decision would result in no new actions to the building, no impacts, beneficial or adverse, would occur to the visitor center under this alternative.

Cumulative Impacts. Alternative B would have no new impacts to historic structures. Thus, it would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

Conclusion. Alternative B formalizes the Battlefield staff's decision to retain the visitor center. Because no new actions would be taken, alternative B would have no new impacts to historic structures. It would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

CULTURAL LANDSCAPES

The National Park Service defines cultural landscapes as complex resources that range from large rural tracts covering several thousand acres to designed landscapes of less than an acre. Natural features such as landforms, soils, and vegetation are not only part of the cultural landscape, they provide the framework in which it evolves. In the broadest sense, a cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials,

such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions (Director's Order 28).

Affected Environment

Cultural landscapes that have the potential to be affected by this plan are the 1862 Battlefield landscape, Antietam National Cemetery, the commemorative landscape (all three defined by the 2013 Antietam National Battlefield Foundation Document), and the Mission 66 landscape (defined in a 2017 NRHP nomination update). These cultural landscapes are described below.

Cultural landscapes include the features and systems that comprise the existing landscape and convey the historic character of the landscape associated with a historic period of significance. Cultural landscape characteristics include natural systems and features, topography, spatial organization, vegetation, land use, circulation, views and vistas, buildings and structures, and small-scale features that contribute to the historic character of the Battlefield. While historic structures are addressed in the previous section, impacts to Battlefield roads and bridges are addressed here. Cultural landscapes in the affected environment are as follows:

1862 Battlefield Landscape. The entire 3,263-acre area within the legislated boundary of Antietam National Battlefield is listed in the National Register of Historic Places for its significance as the scene of one of the major battles of the American Civil War. In this area, the Battlefield preserves and maintains the rural, agricultural character of a collection of farms and farmlands to reflect the historic scene as it was the eve before the Civil War battle on September 17, 1862.

The 1862 battlefield landscape includes eight historic farmsteads that have the potential to be impacted by this plan: Joseph Poffenberger, D. R. Miller, Mumma, Roulette, Piper, Newcomer, Sherrick, and Otto. These farms are set on the gently rolling landscape that characterizes the entire Battlefield. They include domestic structures such as farmhouses, as well as agricultural structures such as barns, sheds, and other outbuildings. Farm landscapes include wood fences, stone walls, historic roads, wood lots, and other vegetation that contribute to their historic character. Many maintain planted fields in an effort to continue the historic agricultural setting of the 1862 period of significance.

Antietam National Cemetery. The Antietam National Cemetery cultural landscape encompasses 10 acres in the south part of the Battlefield adjacent to the town of Sharpsburg. There are 4,776 Union soldiers and 268 post-Civil War burials in the cemetery. It is a designed landscape constructed between 1865 and 1867 and includes an open lawn, winding paths, grouped plantings of trees and shrubs, benches, and other elements. The cemetery includes a parking lot area on the north side of Boonsboro Pike (State Route 34) and the Battlefield interpretive tour route as the last stop, presently tour stop 11.

Commemorative Landscape. Antietam National Battlefield Commemorative Landscape consists of landscape features that were added after the Civil War to memorialize the battle. A prominent contributing feature of this landscape is the Battlefield's historic road system constructed by the US War Department to provide access to major areas of the Battlefield (NPS 2009). This network of roads was integrated into the Battlefield's interpretive tour route developed by the National Park Service during the Mission 66 period, described below. Many other features, such as War Department tablets, memorials, and monuments placed on the Battlefield, contribute to the commemorative landscape, but since they would not be impacted by this plan they are not described here.

Mission 66 Landscape. Between 1960 and 1967, the National Park Service Mission 66 initiative dramatically transformed the Battlefield from a predominately late 19th and early 20th century commemorative site built under the administration of the War Department to a landscape that incorporated modern visitor services. These modern services included improved roads, interactive interpretive exhibits, and a focus on preserving the historic scene of the battle. The Battlefield's Mission 66 landscape includes the "Antietam National Battlefield Tour Route," an 8.5-mile, self-guided driving tour with 11 interpretive tour stops where visitors can pull off the road to learn about the most pivotal moments of the battle. Many of the roads on this tour route were built by the War Department in the late 19th century and reworked during the Mission 66 period to meet the demands of automobile tourists. The new tour route incorporated additional roads to the route, improved existing roads to meet modern safety standards, softened many of the straight alignments of the roads for enhanced scenic views, and rerouted roads to bypass historically sensitive resources. Roadway improvements are generally characterized by parking areas and pulloffs, walkways, and overlook terraces. Included in this plan are the four-car pulloff at East Woods (tour stop 3), the area near Cornfield (tour stop 4), and a small pulloff at the Mumma Cemetery near Mumma Farm (tour stop 6). The Rodman Avenue Bridge, also referred to as the Burnside Bridge Road Overpass, is a concrete and steel, two-lane bridge that crosses over the modern Burnside Bridge Road (bypass). It was built in 1965–66 as part of the Mission 66 Battlefield-wide tour road system (NPS 2017b).

Several other contributing Mission 66 landscape features are included in this plan. The development of the visitor center site in 1962–63 included the Antietam Remembered Trail (also called the Dunker Church Trail), a paved interpretive path from the visitor center to Dunker Church (tour stop 1). The 64-vehicle parking area in front of the visitor center is also a contributing feature of this area (NPS 2017b). Many other landscape features and structures contribute to the Mission 66 landscape, but because they are not expected to be impacted by the proposed actions of this plan, they are not described here.

Environmental Consequences

Potential impacts to cultural landscapes affect the historic character and integrity of the landscape as defined in the Battlefield's cultural landscape inventories and reports and national register nominations. The impacts are analyzed based on the guidance provided in section 106 of the National Historic Preservation Act and *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, as well as Director's Order 28 and other NPS guidance for the treatment of cultural landscapes.

A proposed action that results in a change that detracts from or destroys the historic character-defining features of cultural landscapes would be considered adverse. Likewise, any action that destroys or diminishes the landscape's integrity, in particular setting, location, association, or feeling (the four aspects of integrity defined in *National Register Bulletin 40* as most critical for Battlefields and vernacular landscapes), would result in an adverse impact.

Direct impacts are those changes that result in noticeable physical impacts to the landscape's historic character such as earth moving or construction of new structures. Indirect impacts result in impacts on the landscape that do not directly alter its physical character but are noticeable, such as changes to views or noise levels due to increased visitor traffic on the landscape's roads or parking areas. Actions that improve or enhance the historic character and integrity of the landscape would be a beneficial impact.

To determine the environmental consequences, each alternative is analyzed to identify the proposed actions that would result in changes to a cultural landscape. The subsequent impacts on the condition, historic character, and integrity of cultural landscapes are weighed to identify whether they are detectable, and if so, whether they are adverse or beneficial.

Impacts of Alternative A: No Action

Under alternative A, there would be no noticeable changes to visitor access at the Battlefield and visitors would continue to use the existing paths and trails. No changes to the cultural landscapes are proposed, and as a result, no new impacts, adverse or beneficial, would occur.

The Battlefield's existing tour roads and tour stops would not change. Some tour stops would remain noncompliant with the ABA standards for accessibility. The Battlefield's roughly 13 miles of trails would be maintained in their current configuration and condition. Therefore, under alternative A, no new changes would be made and the contributing cultural landscape features would continue to be maintained according to NPS policy and guidance.

The current visitor center and its surrounding landscape would continue to be used and maintained. The structure would continue to be a visual intrusion on the historic scene

of the 1862 battlefield landscape, as described in the 1992 general management plan. However, the visitor center would also continue to be a contributing feature of the Mission 66 cultural landscape. Because no new actions would be taken regarding the location of the visitor center, no new impacts on cultural landscapes would occur under alternative A.

Similarly, although the 1992 general management plan also called for the removal of Starke Avenue, Cornfield Avenue, and the surviving remnant of Confederate Avenue, these roads would not change in alternative A. However, if the National Park Service sought to implement the 1992 GMP management direction regarding the removal of the portions of the historic road system in the future, then additional NEPA compliance and NHPA-section 106 consultation would be required.

No changes would occur to the Mission 66-era Rodman Avenue bridge. The bridge would continue to be used and maintained in its current condition per NPS policy for facilities and historic structures, resulting in no impacts on the bridge.

Cumulative Impacts. Alternative A would result in no new impacts on cultural landscapes. Thus, it would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

Conclusion. Alternative A would have no new impacts on cultural landscapes. Thus, it would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of Antietam National Battlefield.

Impacts of Alternative B: Proposed Action Alternative

The retention of the Mission 66 visitor center and the Battlefield's system of roads in alternative B would cause no new impacts to cultural landscapes because no changes would be made to the visitor center or the road system as part of this plan. The visitor center and roads would continue to be a visual intrusion on the historic setting of the 1862 battlefield landscape, but they would also continue to be contributing elements of the Mission 66 landscape.

Altering the Antietam Remembered Trail (Dunker Church Trail) and the walkway leading to the Dunker Church to provide for ABAAS universal access would result in some changes to the appearance of these relatively narrow trails. This could result in changes in the directional alignment, width, location, and paved materials of these trails. Because these trails are contributing features of the Mission 66 cultural landscape, such changes would be minimized to the greatest degree possible to preserve their historic character. The proposed changes would be designed to ensure that they are not readily visible and would lay well on the landscape to minimize any visual intrusion on the 1862 Battlefield landscape as well. Consultation with the Maryland Historical Trust would

occur when the project is designed to minimize the potential for adverse impacts on the Mission 66 landscape.

Adding tour stop infrastructure along the Battlefield tour roads in the areas of the East Woods (tour stop 3), Mumma Farm (tour stop 6), and Cornfield (tour stop 4) would add new features to the Mission 66-era design of the Battlefield tour roads. Bringing the tour stop infrastructure into compliance with ABAAS may also change some of the Mission 66 features of the existing tour stops, such as the design of the curbs and walkways and the size of parking spaces on an as-needed basis at each tour stop. These additions would introduce small-scale, low-profile nonhistoric elements to these locations. These changes have the potential to cause a small degree of direct and indirect adverse impacts to the Mission 66 cultural landscape. However, any changes would be designed to be consistent with the materials, design, size, and scale of the character-defining features of the Mission 66 infrastructure to minimize their impact on the Mission 66 cultural landscape. The proposed changes could also result in indirect adverse impacts to the 1862 battlefield landscape due to their potential visibility from open fields and sight lines important to the battle. Although the impacts of these changes have the potential to be adverse, careful design and planning would minimize the magnitude of the impacts to cultural landscapes so that they would not be readily detectable. As a result, these changes are not expected to have a significant impact on the historic integrity of cultural landscapes.

The realignment of the comprehensive trail system would involve the construction of 6 miles of new trails. These trails would be designed to have a similar look and feel as existing trails. Of these, 4.8 miles of trail would consist of mowed pathways and 4.0 miles would be a maintained dirt trail. They would range in width from 18 inches to 24 inches and follow sustainable trail guidelines. New trail segments would be located on the landscape to follow historic patterns, fencelines, farm roads, and other existing features when possible to reinforce these historic patterns, avoid impacts to open fields, and reduce conflicts with the Battlefield's various agricultural permits.

The addition of 4.8 miles of mowed pathways would be visible up close but not detectable outside the trail's immediate environment, thus minimizing the impact to the vegetation patterns associated with the cultural landscapes in which they would be added. For the 1.0 mile of new dirt trails, careful design would minimize the physical and visual impacts of the introduction of these trails on cultural landscapes. The views to the trails would be screened by the surrounding vegetation such as planted grasses and other leafy vegetation or other existing topographic features on the landscape such as fencelines, field edges, trees, roads, and other natural features. For the dirt trails, a low-profile design is expected to be not readily visible from moderate or long distances.

The proposed changes to the trail system have the potential to result in indirect and direct adverse impacts to cultural landscapes. Such impacts would be localized in the immediate environment of the new trails. The new trails would not appreciably detract from the appearance of the cultural landscapes' qualities of setting, feeling, and

association. The physical aspects of the trail construction and new trail segments would not alter the significant character-defining features of the landscape, such as topographic features, fencelines, planted fields, historic paths, or small features. These approaches to trail design and use would minimize potential adverse impacts to the historical integrity of the cultural landscapes where new trails are added.

The removal of approximately 2.6 miles of trails would include the subsequent rehabilitation of those paths, which could involve replanting with appropriate vegetation or ceasing to mow where trails are mowed paths. The section of the Cornfield Trail that bisects the historic Cornfield would be removed, allowing for full restoration of this field back into agricultural use that would be more reminiscent of the historic 1862 scene, resulting in direct beneficial impacts to the cultural landscape at this location. The removal of certain trail segments would result in a beneficial impact to the 1862 battlefield landscape.

Currently, the existing Cornfield Trail (tour stop 4) begins at the North Woods (J. Poffenberger Farm) (tour stop 2) and transects the historic cornfield area. Under alternative B, this trail would be relocated and reconfigured to create a new Cornfield battle action loop trail that begins and ends at the Cornfield (tour stop 4). The current trail segment that passes through the historic cornfield would be removed and its landscape restored. This action would allow the entire area of the historic cornfield to appear more reminiscent of the 1862 battlefield and its historic scene. This would have a long-term beneficial impact on the 1862 battlefield landscape.

To support the development of the perimeter trail, stairs would be installed on the slope near the Otto farmstead and across from the Rodman Avenue bridge. While the introduction of this nonhistoric element has the potential to result in a direct, adverse impact on the Otto Farm, which is part of the 1862 battlefield cultural landscape, this impact would be minimized by using a design that is small in scale and through careful placement on the landscape using vegetation screening so that the stairs are not visible from the historic farmstead. The addition of the stairs is not expected to have a significant, noticeable visual or physical adverse impact on the Otto Farm cultural landscape.

The development of a perimeter trail would use the historic Mission 66 Rodman Avenue bridge that crosses over the modern Burnside Bridge Road. This would require modifications to this bridge structure to make it safe for pedestrian use, such as raising the height of the guardrails or other aspects of the bridge design that contribute to its historic character. Any modifications to the bridge would be developed following the guidelines set forth by *The Secretary of the Interior's Standards for the Treatment of Historic Properties* to minimize the impacts on the bridge's character-defining features and in consultation with the Maryland Historical Trust. Efforts to minimize such alterations would ensure that potential impacts to the bridge would involve localized, small-scale changes to preserve the bridge's overall appearance and character.

Cumulative Impacts. Other past, present, and reasonably foreseeable future actions include the Civil War Trust's restoration and rehabilitation projects underway on two properties on the historic D. R. Miller farmstead. These parcels are referred to as the Miller Pasture, a triangular-shaped property situated between Cornfield Avenue and Smoketown Road and the East Woods. Working in consultation with the Maryland Historical Trust, the Civil War Trust evaluated the buildings and structures on the Miller Pasture and East Woods properties and determined that they were ineligible for listing in the National Register of Historic Places (DeChard and Brady 2016). The Civil War Trust then removed the nonhistoric structures to help restore the 1862 Battlefield landscape. Guided by scholarly research and historic documentation, the Civil War Trust is also actively restoring historic wood lots and agricultural field configurations on these properties. These projects are expected to have a beneficial impact to the 1862 battlefield landscape.

Ongoing restoration and rehabilitation projects at Antietam National Battlefield include the rehabilitation of Mission 66-era walkways at the Burnside Bridge area and restoration of the historic landscape character at the Antietam National Cemetery. These projects will result in beneficial impacts to cultural landscapes.

Other planning actions expected to have a beneficial impact on cultural landscapes at the Battlefield include the NPS Antietam-Monocacy-Manassas Deer Management Plan. This plan's protection and restoration of native vegetation and other natural and cultural resources and the NPS National Capital Regional Invasive Plant Management Plan's reduction of nonnative invasive plants would both result in beneficial impacts to the vegetation that contributes to the 1862 battlefield landscape.

Alternative B's potential for adverse impacts and beneficial impacts would constitute a small contribution to the cumulative beneficial impacts of other past, present, and reasonably foreseeable future actions.

Conclusion. Alternative B has the potential to result in direct and indirect adverse impacts to cultural landscapes caused by the addition of new trail segments and small-scale visitor infrastructure along the Battlefield tour road. Due to efforts to minimize these impacts, the overall adverse impact of this alternative on cultural landscapes parkwide would remain small in scale and minimally intrusive. Alternative B would also have a beneficial impact from the removal of trail segments and the subsequent restoration of the 1862 battlefield landscape in those locations. Alternative B would be a small contribution to the overall beneficial cumulative impacts of other past, present, and reasonably foreseeable future actions involving cultural landscapes.

VISITOR USE AND EXPERIENCE

Affected Environment

NPS *Management Policies 2006* defines a visitor as anyone who physically visits a park for recreational, educational, or scientific purposes, or who otherwise uses a park's interpretive and educational services, regardless of where such use occurs (e.g., via Internet access, library, etc.). The Interagency Visitor Use Management Council (IVUMC) defines visitor use as the human presence in an area for recreational purposes, including education, interpretation, inspiration, and physical and mental health and visitor experience as the perceptions, feelings, and reactions that a visitor has before, during, and after a visit to an area (IVUMC Framework 2016). This section describes visitor use and experience beginning with a description of current visitation statistics and followed by a brief description of visitor opportunities and experiences at the Battlefield. The remainder of this section discusses existing visitor uses and experiences that occur at the visitor center, on Battlefield roads, and tour stops, and concludes with the trail system.

Visitation Statistics

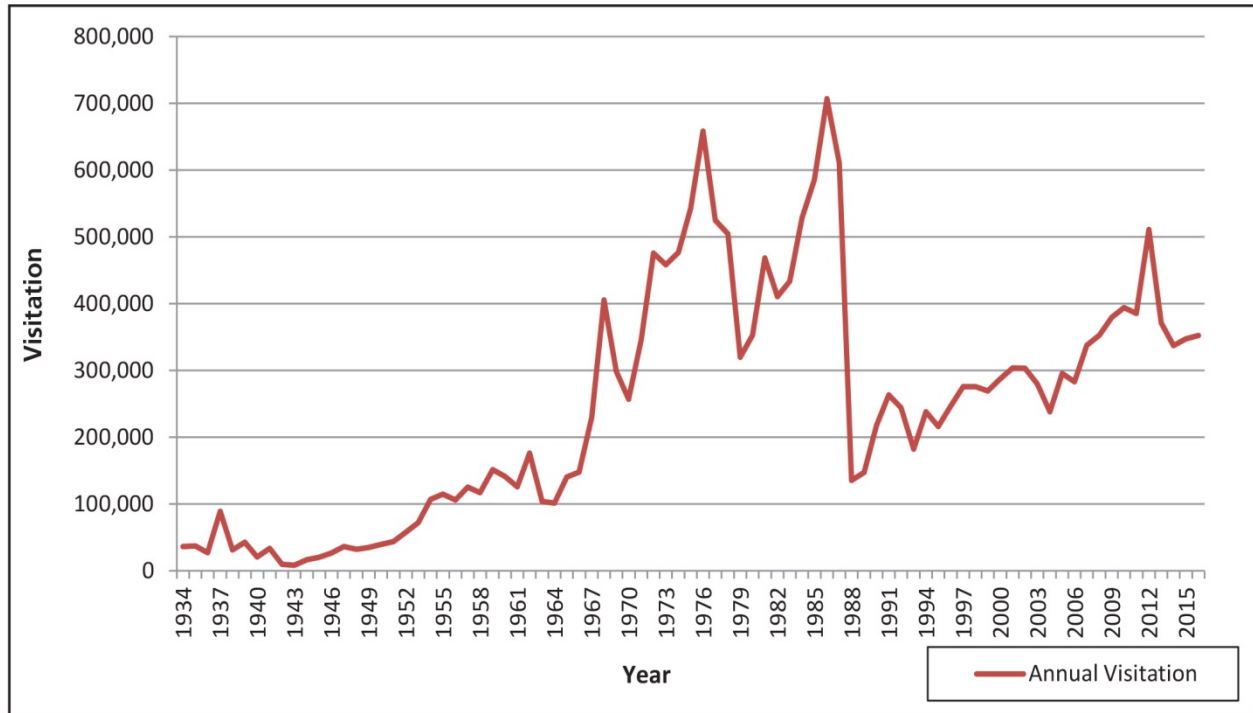
Since 2010, the Battlefield has averaged 385,000 visitors each year (figure 8). In 2012, during the Sesquicentennial 150-year commemoration of the Civil War Battle of Antietam, the Battlefield welcomed over 510,000 visitors, with 126,000 visiting in the month of September during the anniversary of the battle. In 2016, monthly visitation to the visitor center ranged from 4,000 visitors in January to 32,000 in July (figure 8). The Battlefield also receives a number of bus tours throughout the year. Peak visitation to the Battlefield typically occurs in June and July.

Visitor Opportunities and Experience

Visitors to the Battlefield have many opportunities to understand and experience the significance of the Battle of Antietam and its legacy. Some examples of visitor opportunities include touring the Battlefield on foot or traveling the self-guided interpretive tour route by bicycle or vehicle, hiking, and picnicking, as well as viewing exhibits at the visitor center, Pry House, and Newcomer House. The primary focus of current interpretation at the Battlefield is to provide visitors opportunities to experience the Battlefield much as it appeared in September of 1862. In doing so, visitors can walk in the footsteps of soldiers, see artillery on the field of battle, visit farmsteads as they were on the day of the Battle of Antietam, and contemplate the legacy of the Civil War.

Trails play an important role in providing access to key areas and experiences that allow visitors to immerse themselves on the Battlefield landscape and further understand troop movements throughout the day, how varied terrain greatly affected the outcome, and the stories of the battle.

FIGURE 8. ANNUAL VISITATION FROM 1934 TO 2016



There are a range of user groups to the Battlefield who visit for a variety of reasons. In addition to exploring the visitor center, driving the interpretive tour route, and hiking trails that allow one to walk in the footsteps of soldiers, visitors to the Battlefield also participate in a variety of other recreational activities including: bicycling, dog walking, bird-watching, and horseback riding, as well as attending special events such as the Memorial Illumination and Salute to Independence.

Facilities that support visitor use and experience at the Battlefield include:

Visitor Center

Many guests to the Battlefield begin their visit at the visitor center, which has a theater, museum exhibits, observation room, and a museum store. Opened in early 1963, the visitor center was developed for the centennial of the Civil War and considered part of the larger Mission 66 era in the National Park Service. The current visitor center and observation room provides a sweeping vista of the Battlefield and a central location for visitors to learn about the battle.

The visitor center is open during regular operating hours (9:00 a.m.–5:00 p.m.) year-round and the Battlefield is open until dusk. The visitor center provides guests with opportunities to learn about the historic events surrounding the Civil War, the battle

itself, those who fought it, and the impacts of the battle on the surrounding community as well as its legacy. Visitors also pay their Battlefield entrance fee, receive Battlefield orientation materials, and have access to other visitor services like the restroom. The interior of the visitor center is where a majority of these guest services take place and functions as the primary contact for visitors and NPS staff as well as Battlefield volunteers. From the visitor center, most guests embark on the interpretive tour route or explore the paved Remembering Antietam Trail.

Battlefield Tour Roads

From the visitor center, an 8.5-mile, self-guided interpretive tour route provides opportunities for visitors to travel through the Battlefield and view War Department tablets, monuments, artillery displays, and visit the 11 interpretive tour stops (described in the next section). The historic War Department tablets along Battlefield roads provide opportunities for visitors to experience some of the earliest interpretation on this Civil War Battlefield.

Tour Stops

The 11 tour stops are chronologically aligned with key events that occurred during the Battle of Antietam. Most visitors experience the Battlefield by following this interpretive tour route, beginning their tour at the visitor center and, on average, spending approximately two hours at the Battlefield visiting these tour stops that include: (1) Dunker Church, (2) North Woods (J. Poffenberger Farm), (3) East Woods, (4) Cornfield, (5) West Woods, (6) Mumma Farm, (7) Union Advance, (8) Sunken Road (Bloody Lane), (9) Lower Bridge (Burnside Bridge), (10) Final Attack, and (11) Antietam National Cemetery. In addition to the 11 tour stops, visitors are also encouraged to stop at other historic sites on the Battlefield, including the Newcomer House and the Pry House.

Both the Newcomer House and the Pry House are historic structures in the Battlefield that are open to the public. Managed in partnership with the National Museum of Civil War Medicine, the Pry House Field Hospital Museum is open Friday–Sunday (11:00 a.m.–5:00 p.m.) seasonally and is on the Boonsboro Pike (State Route 34) roughly 3.5 miles from the visitor center. Based out of the historic Newcomer House, the Heart of the Civil War Heritage Area visitor center is managed through a cooperative agreement between the National Park Service and Hagerstown-Washington County Convention and Visitors Bureau. Open 11:00 a.m.–5:00 p.m. daily during the summer months, with limited hours the rest of the year.

The Battlefield also maintains the Rohrbach Campground that is only available for youth groups, such as Girl and Boy Scout troops or school groups. To access the Battlefield on foot, these groups must use the Antietam National Historic Trail that runs on the modern Burnside Bridge Road in order to connect with existing Battlefield trails

and this is a significant safety concern. In 2016, 429 campers stayed at the Rohrbach Campground compared to 333 campers in 2015.

Trail System

The Battlefield maintains a number of short looping trails and trail segments, as well as the Antietam National Historic Trail that begins at the Rohrbach Campground (see figure 2 and table 2). Most of these trails are individual looping trails that focus on specific areas of the Battlefield and are loosely connected by walking along sections of the interpretive tour route or other roads. These trails range in length, material, and intensity providing opportunities for visitors to experience individual sites on the Battlefield. Many of the trails offer visitors an opportunity to depart from the interpretive tour route and have a more immersive and solemn experience as they walk in the footsteps of soldiers, see artillery on the Battlefield, and visit historic farmsteads. Because some trail segments run along the road shoulder of the interpretive tour route or through fields in agricultural production, safety concerns related to the current trail configuration at the Battlefield have emerged.

Environmental Consequences

Visitor use and experience was carried forward as an impact topic because this plan focuses on improving visitor access and circulation through enhancements to visitor services, the visitor center, tour roads and stops, and trails. Potential effects of the alternatives were analyzed to determine impacts for these areas. This impact topic analysis also considered interpretation and education, as well as recreational opportunities and visitor safety.

Impacts of Alternative A: No Action

Under alternative A there would be no changes to the current visitor use or experience at the Battlefield. Alternative A would not result in the construction of any new features or visitor amenities associated with visitor access and circulation. No changes would happen to existing facilities or their operation in the Battlefield.

Visitor Center. The visitor center would continue to function at its current level of service. As stated in the affected environment, there are a range of user groups to the Battlefield. Different user groups may have different reactions to the location of the visitor center on the 1862 battlefield landscape. Currently, the visitor center allows visitors to receive safety and orientation information, connect with park rangers, experience the Mission 66 landscape, view key areas of the Battlefield from the visitor center observation room, learn about the Battle of Antietam and its legacy, watch the film, and visit the museum and gift shop. The visitor center would not be removed and continue with its existing use under alternative A; however, the long-range goal for its removal would remain in place.

Battlefield Tour Roads. Under alternative A, the tour roads would all remain in their current locations. The 1992 GMP long-range goal for the eventual removal of Starke Avenue, Cornfield Avenue, the surviving remnant of Confederate Avenue, and the section of Richardson Avenue paralleling Bloody Lane, and the proposed construction of new roads to facilitate the interpretive tour route would remain in place. Currently, the roads provide opportunities for visitors to travel through the Battlefield; view war department tablets, monuments, historic fencing, artillery displays; and also visit many of the interpretive tour stops by vehicle or bicycle. Because of the continuation of the use of these roads in their current configuration, there would be no new impacts to visitor use and experience under alternative A.

Tour Stops. No changes or reconfigurations would be made to the existing tour stops under this alternative. ABAAS deficiencies at some locations would not be addressed, impacting some visitor's ability to experience the Battlefield. Because tour stops would remain in their current locations, there would be no new impacts to visitor use and experience.

Trail System. Under alternative A, there would be no changes to the existing trail system and visitors would continue to have access to the roughly 13 miles of existing trails. These trails would continue to be maintained, with no comprehensive trail system vision. Identified visitor safety concerns related to the location of some existing trails that run along local roads like the Antietam National Historic Trail from the Rohrbach Campground using the modern Burnside Bridge Road would not be addressed. Also, the safety issue of trails running through fields in agricultural production would not be addressed. In summary, there would be no changes to the existing trail system. Because there would be no new trails added or removed from the Battlefield, there would be no new impacts to visitor use and experience under this alternative.

Cumulative Impacts. Alternative A would have no new impacts to visitor use and experience. Thus, it would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

Conclusion. Because no new actions would be taken, alternative A would have no new impacts to visitor use and experience. It would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

Impacts of Alternative B: Proposed Action Alternative

Under alternative B there would be a number of improvements and enhancements to facilities that support visitor use or experience at the Battlefield. During the implementation of proposed actions under this alternative, there may be some short-term adverse impacts to visitor use and experience; however, the impacts would be

short-lived, within project-specific areas of the Battlefield, and phased over time with mitigation measures in place.

Visitor Center. Under alternative B, the 1992 general management plan would be amended to retain the visitor center as the future management direction for the Battlefield. Because this planning decision would result in no new actions related to visitor use and experience associated with the visitor center, no impacts, beneficial or adverse, would occur under this alternative. Retaining the visitor center would allow visitors to receive safety and orientation information, connect with rangers, experience the Mission 66 landscape, view key areas of the Battlefield from the visitor center observation room, learn about the Battle of Antietam and its legacy, watch the film, and visit the museum and shop. As stated in the affected environment, there are a range of user groups that visit the Battlefield. Different user groups may have different reactions to the location of the visitor center on the 1862 battlefield landscape.

Other actions under alternative B occurring around the visitor center area have long-term beneficial impacts on visitor use and experience. Visitor safety would be improved because one-way traffic flow through the visitor center parking lot would improve traffic flow and safety for pedestrians. In addition, the one-way parking lot would also direct visitors to the interpretive tour route, improving visitor orientation and access to the Battlefield. The new perimeter trail would begin and end at the visitor center and would provide new opportunities for visitors to hike the entire length of the Battlefield and experience the Battlefield as part of a chronological and immersive experience.

Finally, the Antietam Remembered Trail as an ABAAS-compliant interpretive loop would provide long-term beneficial impact on visitor use and experience at the visitor center location because visitors of all abilities would have an opportunity for a self-directed experience in the center of the Battlefield. The improved pedestrian accessibility to Dunker Church would also result in a beneficial impact to visitor use and experience as more visitors could access and enhance their understanding of Dunker Church and the many roles it played before, during, and after the Battle of Antietam.

Overall, the combined actions at the visitor center have long-term beneficial impacts to visitor use and experience because of improved safety in the parking lot, new opportunities for more visitors with an accessible trail, and improved trail connectivity beginning at the visitor center.

Battlefield Tour Roads. Under alternative B, the 1992 general management plan would be amended to retain existing tour roads as the future management direction for the Battlefield. The Battlefield tour roads would all remain in their current locations. Currently, the roads provide opportunities for visitors to travel through the Battlefield; view war department tablets, monuments, historic fencing, artillery displays; and also visit many of the interpretive tour stops by vehicle or bicycle. Because of the continuation of the use of these roads in their current configuration, there would be no new impacts to visitor use and experience under alternative B.

Tour Stops. Under alternative B, relocating East Woods (tour stop 3) would move visitors into the heart of the East Woods of the Battlefield, creating a more immersive experience and enhance interpretation of battle actions associated with this location. This location would allow visitors to see the Mansfield Monument and look west out of the woods across the field of battle as soldiers once did. This new tour stop location would also improve linkages to the Cornfield battle action looping trail. The actions under alternative B at this location would result in long-term beneficial impacts for visitor use and experience.

The Miller Pasture area offers visitors sweeping views and an ideal observation point of the northern half of the Battlefield. Developing a low profile interpretive area at the Cornfield (tour stop 4) would create opportunities to enhance visitor understanding of this portion of the Battlefield and the historic events that unfolded there.

The expansion of current parking at the Cornfield (tour stop 4) to accommodate tour buses has a large beneficial impact on visitor use and experience by providing additional access so visitors can explore this key Battlefield location. The parking expansion also improves safety at this site as the present configuration has caused collisions due to an inadequate amount of parking.

The improved signage and interpretation at this location would also improve visitor experience and provide much needed information at a well-known and historic site. Overall, the actions associated with the Cornfield (tour stop 4) under alternative B would result in a long-term beneficial effect on visitor use and experience.

The current Mumma Farm (tour stop 6), presently located at the Mumma Family Cemetery, would be moved closer to the buildings to encourage visitors to explore this farmstead. Opportunities to experience the farmstead would have beneficial effects as visitors would be able to explore a farmstead that appears much as it did on the eve of the battle in 1862. Other actions at this site such as trail improvements would improve visitor experience. New interpretation would also have a beneficial effect on visitor use and experience as people could connect with the human interest stories of the soldiers and farmers who had connections to the Battle of Antietam. Finally, the increased signage in the Mumma Farm area would provide additional interpretive material as well as encourage visitors to walk to the Roulette farmstead and immerse themselves in the historic landscape, resulting in a beneficial effect to visitor use and experience. Actions occurring at Mumma Farm would result in a long-term beneficial impact to visitor use and experience.

Trail System. Under this alternative, a comprehensive trail system would be developed linking existing trails with new trails to provide a variety of opportunities for visitors to explore different Battlefield locations as well as the cultural and natural environment of the Battlefield. The improved trail connectivity would have a beneficial effect on visitor use and experience as visitors would have a new way to safely experience the Battlefield and new opportunities to see how the landscape shaped the battle. The perimeter trail would enhance visitor opportunities as well as improve safety conditions by reducing

interactions between visitors and vehicles along roadways. Segments of the Antietam National Historic Trail (Scout Trail) would be removed and relocated off the modern Burnside Bridge roadway, which would significantly improve visitor safety conditions. Scouts would be encouraged to start their walking tour of the Battlefield at the visitor center using the perimeter trail. Safety modifications to the perimeter trail, such as a pedestrian crossing at the modern Boonsboro Pike (State Route 34) crossing, would have a beneficial impact on visitor use and experience as visitors could safely connect from the northern and southern halves of the Battlefield.

The shorter battle action looping trails associated with individual tour stops would be reconfigured to provide visitors with enhanced access opportunities to specific locations where significant events of the battle unfolded. In addition, the battle action looping trails provide opportunities for visitors to get out of their cars and have short, immersive experiences on the Battlefield. These battle action loop trails would provide a long-term beneficial impact to visitor use and experience as they would afford visitors a range of options to explore key moments of the Battle of Antietam and also the surrounding environment.

Actions under this alternative would relocate the existing Cornfield Trail (tour stop 4) that currently transects the actual cornfield to create a Cornfield battle action loop trail that begins and ends at this tour stop. Although the removal of this popular trail could have a short-term adverse effect on visitors who expect to use this trail, it would have a long-term beneficial impact to future visitors and the overall visitor use and experience. After this trail is restored and the new battle action loop trail is established, the cornfield in its entirety would appear more reminiscent of the 1862 battlefield landscape and the restoration of the historic scene would enhance public understanding.

Visitors would continue to be able to connect to the Sunken Road (tour stop 8) through the trail system from Mumma Farm/Roulette Farm as well as the Union Advance (tour stop 7). In addition, the enhanced Sunken Road (tour stop 8) battle action loop trail would provide a way for visitors to travel around this tour stop and have opportunities to understand the significance of the site, the impact of the topography.

Overall, the perimeter trail and battle action looping trails have a long-term beneficial impact to visitor use and experience as they provide opportunities for visitors to safely hike throughout the Battlefield and have an immersive experience at key sites of the battle.

Cumulative Impacts. Other past, present, and reasonably foreseeable future projects, would have beneficial impacts to visitor use and experience. The Civil War Trust actions mainly include restoring lands to their 1862 appearance, which would enhance the cultural landscapes and improve visitors' overall understanding of the Battle of Antietam. The NPS restoration and rehabilitation actions would also have beneficial impacts to visitor use and experience through rehabilitation of the visitor center, restoring the historic character of cemeteries, and other planned and future restoration and rehabilitation projects at the Battlefield. The NPS National Capital Regional

Invasive Plant Management plan would have beneficial impacts to visitor use and experience as the plan would minimize nonnative species and contribute to restoration of the 1862 battlefield landscape. The NPS Antietam-Monocacy-Manassas Deer Management Plan would have beneficial impacts to visitor use and experience as it also would contribute to the restoration of the 1862 Landscape. Finally, the rehabilitation of the interior of the visitor center would have long-term beneficial impacts on visitor use and experience because of improved flow and accessibility and updated exhibits. Together, the NPS and non-NPS actions improve accessibility at key locations and enhance the overall appearance of the 1862 battlefield landscape, resulting in cumulative beneficial impacts to visitor use and experience.

Conclusion. Under alternative B there would be beneficial impacts to visitor use and experience. The direct long-term beneficial impacts on visitor use and experience are a result of the increased trail opportunities and enhanced connectivity, improved ABAAS at multiple tour stops, and increased interpretation and opportunities for immersive experiences throughout the Battlefield for visitors of all abilities. Visitor safety issues would be addressed and safety on trails improved throughout the Battlefield as visitors would have more opportunities to walk trails instead of roads. Overall, when the actions of alternative B are combined with the cumulative impacts there would be long-term beneficial impacts on visitor use and experience.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

A summary of the environmental consequences of Alternative A: No Action and Alternative B: Proposed Action Alternatives are presented in the following table.

TABLE 6. SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact Topic	Alternative A: No Action	Alternative B: Proposed Action Alternative
Historic Structures	Because no new actions would be taken, alternative A would have no new impacts on historic structures. It would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of Antietam National Battlefield.	Alternative B formalizes the Battlefield's decision to retain the visitor center. Because no new actions would be taken, alternative B would have no new impacts to historic structures. It would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of the Battlefield.

Impact Topic	Alternative A: No Action	Alternative B: Proposed Action Alternative
Cultural Landscapes	Alternative A would have no new impacts to cultural landscapes. Thus, it would have no potential to contribute to cumulative impacts when considered with past, present, and reasonably foreseeable future projects occurring at and in the vicinity of Antietam National Battlefield.	Alternative B has the potential to result in direct and indirect adverse impacts to cultural landscapes caused by the addition of new trail segments and small-scale visitor infrastructure along the Battlefield tour road. Due to efforts to minimize these impacts, the overall adverse impact of this alternative on cultural landscapes parkwide would remain small in scale and minimally intrusive. Alternative B would also have a beneficial impact from the removal of trail segments and the subsequent restoration of the 1862 Battlefield landscape in those locations. Alternative B would be a small contribution to the overall beneficial cumulative impacts of other past, present, and reasonably foreseeable future actions involving cultural landscapes.
Visitor Use and Experience	Alternative A would have no new impacts on visitor use and experience and would not contribute to cumulative impacts on the Battlefield.	Long-term beneficial impacts on visitor use and experience would result from the increased trail opportunities and enhanced connectivity, improved ABAAS, and increased interpretation and opportunities for immersive experiences throughout the Battlefield. Visitor safety issues would be addressed and safety on trails improved throughout the Battlefield as visitors would have more opportunities to walk trails instead of roads. Overall, when the actions of alternative B are combined with the cumulative impacts there would be long-term beneficial impacts to visitor use and experience.

CHAPTER 4: CONSULTATION AND COORDINATION

INTRODUCTION

The National Park Service conducted public involvement during the NEPA process to provide an opportunity for the public to comment on the proposed actions. Consultation and coordination with federal and state agencies, Battlefield partners, and other interested parties was also conducted to identify issues and/or concerns related to natural and cultural resources. This section provides a brief summary of the public involvement and agency consultation and coordination that occurred during planning.

PUBLIC INVOLVEMENT

The National Park Service initiated public scoping for the plan in the fall of 2016 by issuing project press releases, posting project details on the Battlefield's website and social media accounts, and launching a public website on the NPS Planning, Environment, and Public Comment (PEPC) system. To ensure that a variety of stakeholders and the public could participate in this public scoping, the project team accepted public comments from November 4 through December 9, 2016.

To further engage the public in this planning process and the development of the proposed action, a newsletter was created. It provided a general overview of the purpose and need for the project, background on issues hoping to be addressed by this plan, and an outline of the proposed actions under consideration by the National Park Service. This newsletter was distributed electronically via e-mail to stakeholders, posted to the project PEPC website, and made available in paper copy at the Battlefield visitor center as well as at a public open house event.

A public open house event was held on the evening of Thursday, November 17, 2016, at the Antietam National Battlefield visitor center in Sharpsburg, Maryland. During the event, a brief project overview was presented and members of the public were invited to give feedback on maps outlining the proposed actions and trail enhancements under consideration as well as provide their responses to project scoping questions at four commenting stations. Attendees were given a copy of the project newsletter as well as a mail-in response card, and were encouraged to submit any additional comments to the PEPC website.

Throughout this public scoping process the majority of comments received focused on key elements related to how the battle and its legacy are interpreted and shared. Recommendations on potential directional signage at the Battlefield, areas of the Battlefield that need additional interpretive and wayside signage, stories about key battle-related events and individuals that should be told, and suggestions on including additional interpretive tour route stops at key locations like the Pry House and Newcomer Farmhouse reflect the range of comments received during public scoping. Many of these comments are considered programmatic in nature, reflecting how the

Battlefield interprets the historic events of the battle and informs visitors about how to best navigate the Battlefield. These programmatic elements would not need to be addressed in this plan. Antietam National Battlefield is planning to develop a long-range interpretive plan in the coming years, and this interpretive planning process would be a more appropriate venue for addressing many of the programmatic comments that emerged during the public scoping process.

AGENCY CONSULTATION

Agency consultation and coordination began early in the planning process and is ongoing to ensure that all relevant agencies are informed of any NPS planning actions. Table 7 provides a list of potential reviewing, or consulting agencies that would be required for project implementation under NPS law and policy.

The National Park Service initiated consultation with the Maryland Historical Trust, which serves as Maryland's state historic preservation officer (SHPO), in a letter dated November 1, 2016. An assessment of effects is being prepared for the Maryland Historical Trust's review in conjunction with this plan. Implementation of future projects that fall under this plan would require consultation with the SHPO.

The National Park Service initiated section 7 consultation with the US Fish and Wildlife Service via the online ECOS system on October 31, 2016. On January 31, 2017, the US Fish and Wildlife Service submitted a letter and information package identifying threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat that may occur with the boundary of the proposed project, and the endangered Indiana bat (*Myotis sodalis*) was identified. In a letter dated March 21, 2017, the US Fish and Wildlife Service concurred with the National Park Service that no federally proposed or listed endanger species are currently present in the project impact area and no further section 7 consultation with the US Fish and Wildlife Service is required (see appendix F). Ongoing USFWS consultation would occur, as needed, as projects in the Public Access Plan progress.

The National Park Service initiated consultation with the Advisory Council on Historic Preservation in a letter dated January 6, 2017. As of the date of publication, no response initiating additional consultation was received by the planning team.

Currently, there are no federal recognized tribes that have identified traditional association with Antietam National Battlefield.

TABLE 7. AGENCY CONSULTATION

Law, Statute, or Authority	Agency	Permit, Review, or Consultation	Outcome
Section 106 of the National Historic Preservation Act	Maryland Historical Trust	Section 106 of the NHPA requires federal agencies to consider the impacts of their undertakings on historic properties and archeological resources. Compliance with section 106 of the NHPA is being conducted separately from this EA.	In January 2017, the state historic preservation officer (Maryland Historical Trust) was informed of the development of this plan and the potential for a proposed undertaking involving historic properties (cultural resources). In a response dated January 20, 2017, the Maryland Historical Trust concurred with the identified area of potential effect for this undertaking. The Battlefield is in ongoing consultation with the Maryland Historical Trust on this project, and the development of a section 106 assessment of effect report (see appendix F).
Section 7 of the Endangered Species Act	US Fish and Wildlife Service	Section 7 of the Endangered Species Act requires federal agencies to consult with USFWS regarding the potential for proposed actions to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.	USFWS response, dated March 21, 2017, stated that due to the fact that no federally proposed or listed endangered species are present in the project impact area, no further section 7 consultation with USFWS is required (see appendix F).

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APPENDIXES

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APPENDIX B: REFERENCES

Carr Ethan

- 2007 *Mission 66, Modernism and the National Park Dilemma*. Amherst, MA: University of Massachusetts Press.

DeChard, Sandra and Ellen Brady

- 2016 Determination of Eligibility for the Historic Structures of the Wilson House Tract on the Antietam National Battlefield, Sharpsburg, Washington County, Maryland. Prepared for The Civil War Preservation Trust. May 15.

Little, Barbara J.

- 1995 Archeological Overview and Survey Plan. Prepared for Antietam National Battlefield, National Park Service.

Longwoods Travel USA

- 2013 Maryland 2013 Visitor Profile Report. Longwoods International. Found on Maryland Department of Tourism website <http://industry.visitmaryland.org/research/visitor-studies/> las accessed on 6-7-17.

National Park Service, Department of the Interior

- 1971 *Antietam National Battlefield Site & Cemetery – The Master Plan*. Washington, DC: Government Printing Office.
- 1982 *National Register of Historic Places Nomination – Antietam National Battlefield*. Updated 2009.
- 1992 *Antietam National Battlefield General Management Plan*. Washington, DC: Government Printing Office.
- 1999 *Cultural Landscape Inventory – Antietam National Battlefield*. Washington, DC: Government Printing Office.
- 2005 *Cultural Landscape Inventory – D. R. Miller Farmstead*. Washington, DC: Government Printing Office.
- 2006 *Management Policies 2006*. Washington, DCL Government Printing Office.
- 2008 *Cultural Landscape Inventory – Poffenberger Farmstead*. Washington, DC: Government Printing Office.

- 2013 *Antietam National Battlefield Foundation Document*. Washington, DC: Government Printing Office.
- 2014 *Cultural Landscape Report – Antietam National Cemetery*. Washington, DC: Government Printing Office.
- 2015 *Antietam National Battlefield Business Plan*. Washington, DC: Government Printing Office.
- 2015 *NPS National Environmental Policy Handbook*. Washington, DC: Government Printing Office.
- 2017a *Cultural Landscape Report – Burnside Bridge Area (Draft)*.
- 2017b *National Register of Historic Places Nomination - Antietam National Battlefield*. Updated 2017.

Sears, Stephen

- 2003 *Landscape Turned Red, The Battle of Antietam*. Boston, MA: Mariner Book Houghton Mifflin Company.

Smith, Timothy

- 2008 *The Golden Age of Battlefield Preservation: The Decade of the 1890s and the Establishment of America's First Five Military Parks*. Knoxville: University of Tennessee Press.

APPENDIX C: ACRONYMS AND ABBREVIATIONS

ABA	Architectural Barriers Act of 1968
ABAAS	Architectural Barriers Act Accessibility Standard
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act of 1990
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act of 1979
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWD	Chronic Wasting Disease
CWT	Civil War Trust
EA	Environmental Assessment
EIS	Environmental Impact Statement
GIS	Geographic Information Systems
GMP	General Management Plan
IVUMC	Interagency Visitor Use Management Council
MDSHA	Maryland State Highway Administration
NEPA	National Environmental Policy Act of 1969, as amended
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
PEPC	Planning, Environment, and Public Comment
SHPO	State Historic Preservation Office
USC	United States Code
USDI	Department of the Interior
USFWS	US Fish and Wildlife Service

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APPENDIX D: CAPACITY DETERMINATION FOR ANTIETAM NATIONAL BATTLEFIELD

The capacity determination conducted for the Antietam National Battlefield Visitor Access and Circulation Plan was completed in accordance with visitor use management framework guidance developed by the Interagency Visitor Use Management Council in 2016. For additional resources please visit the following web address: <http://visitorusemanagement.nps.gov/>. Based on these best practices, the planning team describes the process for identifying capacity following four key guidelines: (1) determining the analysis area, (2) reviewing existing direction and knowledge, (3) identifying the limiting attribute, and (4) identifying visitor capacity.

The amount, timing, distribution, and types of visitor use at Antietam National Battlefield influence both resource conditions and visitor experience. Peak visitation is typically in the summer, with the highest visitation in July. Visitors typically arrive at the Battlefield by personal vehicle and complete the auto tour route. Visitors also arrive by bus and occasionally bicycle. For the most part, current levels and patterns of visitor use are not causing negative impacts to visitor experience and resources, or influencing the ability of the National Park Service (NPS) to maintain the desired visitor experience. Occasionally there are high levels of visitation, typically during special events, but this tends to occur in the visitor center area and not at sites on the Battlefield.

A visitor capacity determination can inform managers about how and when visitors access the Battlefield. Appropriate management strategies can then be selected and implemented to maintain desired resource conditions and visitor experience consistent with the purposes for which the Battlefield was established. Antietam currently calculates the total number of Battlefield visitors by multiplying the number of visitors who enter the visitor center by 1.3. The national average for people per vehicle is 2.5 people per vehicle (PPV), so throughout the capacity analysis the Battlefield's current calculations and the PPV national average were used. This is consistent with similar Battlefield parks nearby. For example, Gettysburg National Military Park estimates its persons per vehicle multiplier of 2.4 during November through March and 2.6 for April through October. This capacity determination used the 2.5 multiplier to estimate the number of PPV.

Similar to the 1971 master plan, the visitor capacity was identified for the entire Battlefield. A detailed analysis of key areas within the Battlefield provides a baseline for how many visitors can currently be accommodated. Future monitoring of use levels will inform the National Park Service if use levels are nearing the capacity. If so, management actions as would be taken to ensure desired conditions are maintained.

STEP 1: DETERMINE THE ANALYSIS AREA

The National Parks and Recreation Act of 1978 requires the identification of and implementation commitments for visitor carrying capacities for all areas of the system unit (54 USC 100502). The purpose of this plan is to provide long-term direction for improving visitor circulation, access, and safety to key areas of Antietam National Battlefield, including recently acquired lands within the Battlefield boundary, for the purpose of enhancing the Battlefield visitors' overall experience and understanding of the Battle of Antietam and its legacy. The Battlefield has acquired many new lands since the 1971 master plan set the Battlefield capacity. This capacity determination is re-evaluating that number with the new lands and actions of this plan taken into consideration. Thus, the analysis area for the capacity determination is the Battlefield's legislated boundary. For familiarity, the analysis will use the tour stops and the visitor center as key areas. This analysis focuses on pedestrian use. Bicycle use is not permitted on trails and therefore no capacity was identified. Equestrian use will continue to be allowed on the Final Attack Trail, along the tour road, and also by permit for groups over 10 riders. Current equestrian use is occasional. In recent years, the Battlefield has issued approximately one permit per year. In this plan, there are no proposed changes to equestrian use, and current equestrian use levels are not a concern; therefore, no equestrian capacity was identified.

STEP 2: REVIEWING EXISTING DIRECTION AND KNOWLEDGE

A thorough review was conducted of the Battlefield's past planning and also comparable national park units where goals and objectives were similar. Project objectives for this plan can be found in "Chapter 2: Alternatives."

In 1971, the Antietam National Battlefield Master Plan determined that 6,200 visitors per day was an appropriate number that would "prevent overcrowding, which makes quiet contemplation difficult and detracts from the feeling of personal association with the Battlefield". In 1992, when the Battlefield released its general management plan, a visitor capacity analysis was not included in the planning process since the alternatives focused on actions taken to restore the historic scene and not on possibilities to expand visitation. Since 1971, the Battlefield has acquired a significant amount of new lands and has also seen steady increases in visitation over the years; however, there are currently no visitor capacity-related issues at the Battlefield.

The Battlefield is typically below the 6,200 visitor capacity determined by the 1971 master plan. The peak season of visitation to Antietam is July through October. Between April and October in the years of 2012–2016, the average visitation per day was 1,300 visitors; which is much less than the 6,200 visitor capacity set by the 1971 master plan. The average visitor to Antietam National Battlefield spends approximately two hours in the Battlefield. Occasionally, the Battlefield has 3,000 visitors in one day and with current staff levels it can feel crowded at the visitor center but the impact to the resources and opportunities to experience a solemn, peaceful, and reverent spaces on the Battlefield are unaffected. In addition, on special events the Battlefield can

accommodate higher levels of use for special events. For instance, visitation for the Memorial Illumination has ranged from 6,000 to 7,800 visitors. For these events, major operational changes occur to accommodate the increased use. The Salute to Independence event attracts the most visitors per day with visitation over the past four years ranging from 10,000 to 25,000 visitors. With new lands and the actions under the preferred alternative increased visitation could be accommodated; however, future visitation should remain within the 1971 capacity determination of 6,200 visitors per day to protect the solemnity of the site.

STEP 3: IDENTIFY THE LIMITING ATTRIBUTE

Step 3 requires the identification of the physical, biological, social, or managerial attribute(s) that most constrain the analysis area's ability to accommodate visitor use. The limiting or constraining attribute(s) can vary across the analysis area; however, for Antietam National Battlefield the most limiting attribute was the solemnity of site, a Battlefield fundamental resource and value. Antietam National Battlefield provides an opportunity to experience a solemn, peaceful, and reverent space where one can reflect on the sacrifices of the fallen and the implications of the battle (Foundation 2013). Currently, certain key areas could accommodate more visitors than current facilities (e.g., available parking spaces) support while still ensuring visitors have opportunities to experience a solemn, peaceful, and reverent space. Actions under this plan encourage visitors to walk between sites suggesting that key areas could have more people at the sites than the facilities currently supports.

STEP 4: IDENTIFY VISITOR CAPACITY

Based on the analysis of steps 1–3, the appropriate amounts and types of use at key sites throughout the Battlefield were assessed. Where necessary, approximations have been made. If a site does not include delineated spaces, estimates have been made assuming vehicles will park perpendicular to the edge of the parking area. Infrastructure and facilities are important inputs into visitor capacity but do not alone determine the number of visitors that can be accommodated. As stated above, the limiting attribute for Antietam National Battlefield is the solemnity of site. Throughout this analysis the number of parking spaces is provided to offer a baseline of the number of people that could be accommodated at each site. This number provided for each site is not the visitor capacity but rather an average number of visitors that might be at the site on any given day, unless otherwise noted. Increased trail connectivity could increase the number of visitors at each site and still “prevent overcrowding, which makes quiet contemplation difficult and detracts from the feeling of personal association with the Battlefield” as stated in the 1971 master plan.

Alternative 1 – No Action Capacity Analysis

The Battlefield's 1971 master plan sets the visitor capacity at 6,200 visitors per day. Under the no-action alternative, the Battlefield's 1971 visitor capacity is still appropriate for the continuation of current management, unless otherwise noted.

Alternative 2 – Proposed Action Capacity Analysis

The description of each tour stop notes what can currently be accommodated and if the areas could accommodate more use under the NPS preferred alternative while maintaining the solemnity of site.

Visitor Center. The current paved visitor center parking lot supports 270 people at one time (62 parking spaces x 2.5 PPV)+(3 x 37 (avg. number of visitors per bus)). The two overflow areas, adjacent to the paved parking area and across the street south of Dunker Church can double the amount of parking spaces. The combined parking areas, during peak times and on peak days, can create a crowded feeling in the visitor center; however, this does not affect the desired visitor experience of the Battlefield. Future changes to the visitor center, not included in this plan, will consider the visitor experience at the visitor center and how to accommodate this level of use.

Dunker Church (Tour Stop 1). The visitor capacity of Dunker Church is 50 visitors at one time. Approximately six vehicles can park in the area but many visitors access this site on foot.

North Woods (J. Poffenberger Farm) (Tour Stop 2). This site has 10 parking spaces; this site could accommodate approximately 25 people at one time and this level of visitation does not detract from the visitor experience.

East Woods (Tour Stop 3). The current parking capacity for this tour stop is two to three vehicles parked parallel along Cornfield Avenue, providing parking accommodations for approximately eight people. Under alternative 2, this tour stop would be relocated and could have additional parking spaces provided. Increased trail connectivity to other key areas in the Battlefield could disperse use and support this area's ability to accommodate increased visitor use.

The Cornfield (Tour Stop 4). Management strategies at this location include expanding the existing tour stop 4 to the south side of Cornfield Avenue and developing a low-profile interpretive area. In addition, the current parking at this location would be expanded in order to accommodate tour buses by converting the existing parking area into bus parking and add new pull-in car parking. This tour stop also includes the Miller Pasture property. Currently, the parking area at the Miller Pasture property accommodates 10 cars totaling 25 people at one time. With additional parking of up to 15 parking spaces and the potential for two buses, which average 37 people, there could be up to 115 people at this site at one time. In the no-action alternative, the Miller Pasture property visitor use at this site would continue to be limited as no new facilities

would be offered. Under alternative 2, this site would have approximately 15 sites that would accommodate 40 people at one time. The trail that connects this site to the West Woods would also provide increased access and could increase the number of visitors at one time but not significantly and this would not affect the desired visitor experience at this site.

West Woods (Tour Stop 5). Currently, there are 23 parking spaces at the West Woods site and this can accommodate 60 people at one time. Actions under alternative 2, such as trail connections to Dunker Church and the Cornfield, could increase visitor use at this site. This site is not currently experiencing crowding or negative effects to the solemnity of site and could support increased use.

Mumma Farm (Tour Stop 6). Under alternative 2, the parking at Mumma Farm would be improved and could be increased in the future. Currently, there are approximately three unmarked spaces at the Mumma Farm site that accommodate eight people at one time. This site has been used for interpretation and education programs and these activities have not negatively affected the landscape or experiences of nearby visitors. This site could be further integrated into the auto tour route and support increased use. The actions occurring at Mumma Farm in alternative 2 could also disperse the use from some of the key Battlefield sites and support and quality experience throughout the Battlefield. Also included in Mumma Farm (tour stop 6), is the Roulette Farm which does not have public parking at the site. Under alternative 2, visitors would be encouraged to walk to the Roulette farmstead and immerse themselves in the historic landscape. It is anticipated that hikers to the area will increase but will not impact the historic landscape or visitor experience currently provided at this site. This site does not receive much use at this time and can accommodate increased visitor use.

Union Advance (Tour Stop 7). Currently, there is a pullout alongside the road that can support two to three vehicles. This site does not receive heavy use and can accommodate increased use.

Sunken Road (Bloody Lane) (Tour Stop 8). Under alternative 2, there are no planned actions at this tour stop besides trail enhancements. It is a key Battlefield location, with two supporting parking areas, and in addition to current visitor use levels this site could accommodate more visitors who arrive through the trail system. Currently, the Sunken Road tour stop can accommodate 200 people at one time (35 parking spaces x 2.5 PPV +3 bus spaces x 37 avg. number of people for buses).

Lower Bridge (Burnside Bridge) (Tour Stop 9). Currently, the Lower Bridge tour stop can accommodate 110 people at one time (14 parking spaces x 2.5 PPV) +(2 bus spaces x 37 (avg. number of people on tour buses). This iconic site could accommodate a small increase in visitor use through the new trail connectivity and the continued use of the paved and overflow parking but the Battlefield would not expand the facility footprint.

The Final Attack (Tour Stop 10). The Final Attack has three unmarked parking spaces that can accommodate eight people at one time. Under alternative 2, current visitor use

levels could be increased and this site could support increased use and provide new opportunities for visitors to explore this part of the Battlefield.

Antietam National Cemetery (Tour Stop 11). Under alternative 2, the National Park Service plans to rehabilitate the cemetery parking area across from Boonsboro Pike. The NPS actions will not increase the parking availability at this site; however, the trail connectivity under alternative 2 could support an increased number of visitors who would be able to walk to the Antietam National Cemetery and not disrupt the desired visitor experience at the cemetery. This site could accommodate increased visitation. Currently, with parking as the main consideration it the site can accommodate 35 people at one time.

Pry House. Currently, eight cars or two buses can park at this site. Because of management strategies, visitor use levels could be increased and still provide quality visitor experience.

Newcomer House. Limited parking is currently available, approximately six parking spaces exist. Because of management strategies, including trail connectivity, visitor use levels could be maintained or slightly increased at this site and still provide quality visitor experience.

Special Event Capacity. There would continue to be no restrictions in place to limit the number of people attending special events and programs at the Battlefield. The Battlefield would continue to make major operational changes to accommodate increased visitation during special events to mitigate all potential impacts and ensure the desired visitor experience is maintained.

Under alternative 2, if all Battlefield parking spaces are full with an average of 2.5 PPV, and a two-hour average visit is included in the calculation, daily visitation would be approximately 5,400. Currently, the Battlefield only experiences 5,400 visitors per day during special events. This number is also well below the 1971 capacity determination of 6,200 visitors per day. Between April and October in the years of 2012–16, the average visitation per day was 1,300 visitors. The actions in alternative 2 would increase trail connectivity. The Battlefield anticipates with increased trail connectivity more visitors would travel throughout the Battlefield on foot. In other words, at times key sites could have visitors arriving on foot and not using parking spaces associated with each tour stop. So at this time, due to varying visitor trip characteristics and the potential for increased visitation through alternative forms of transportation the visitor capacity set in 1971 at 6,200 still aligns with the Battlefield's purpose and desired visitor experience goals, while protecting Antietam National Battlefield's resources. In the future, through careful planning and the monitoring of visitor use levels the Battlefield will ensure the desired visitor experience is maintained at each site.

APPENDIX E: REPRESENTATIVE SAMPLE OF EXISTING TOUR STOPS



Dunker Church (tour stop 1). *A red brick terrace extends from the front (east) side of the church and connects to an exposed aggregate sidewalk. Brick stairs lead down from the terrace to Dunker Church Road and the Antietam Remembered Trail. The terrace, stairs, and sidewalk were constructed in 1963 as part of the trail. The sidewalk was extended to the north when the ADA-accessible parking spaces were added (NPS 2017b).*



North Woods (J. Poffenberger Farm) (tour stop 2). *This tour stop is on the north side of Mansfield Avenue with space (roughly 100 ft by 30 ft) for 10 diagonally parked cars (NPS 2017b).*



East Woods (tour stop 3). *The East Woods stop on the tour route is an asphalt-paved pulloff on the north side of Cornfield Avenue near its intersection with Smoketown Road. The pulloff is approximately 125 feet long and allows around four cars to parallel park (NPS 2017b).*



Cornfield (tour stop 4). *The Cornfield parking area and interpretive waysides on the north side of Cornfield Avenue near its intersection with Dunker Church Road. It consists of a roughly rectangular (approximately 120 ft by 30 ft) parking area with spaces for 10 diagonally parked cars (originally designed to fit 12 cars) (NPS 2017b).*



West Woods (tour stop 5). *At Philadelphia Brigade Park, the parking lot consists of three distinct areas located along the west side of a circular road that surrounds the monument. The two parking areas that flank the north and south sides of the road are formed on their east sides by concave edges. Two circular cutouts/planting areas separate the center (west) parking area from the north and south parking areas. Built as part of interpretive improvements to the Philadelphia Brigade Park in 1967, a paved concrete aggregate sidewalk (originally a bituminous greenstone surface) lines the parking area along the north, west, and south sides of the circular drive. (NPS 2017b).*



Mumma Farm (tour stop 6). *In August 1966, the Battlefield constructed a paved pullout on Mumma Lane near the Mumma Cemetery after a temporary sign identifying the cemetery caused numerous drivers to park on the road shoulders (NPS 2017b).*



Bloody Lane (tour stop 8), Observation Tower Parking Area. *The parking area parallels Richardson Avenue and is accessed via an entrance road that curves northeast from the road. It provides diagonal parking for eight cars on the north side and 10 cars on the south. An angled parking space, separated from the rest of the parking area by a grassy median, stands along the west end of the parking area and is reserved for a single bus (NPS 2017b).*



Burnside Bridge, Rifle Pit Overlook (tour stop 9). *The Rifle Pit Overlook, also known in plans as the Upper Terrace, is located below the parking area to the east and accessed via a curved sidewalk from the parking area that follows the topography of the hillside. On the terrace, the wall is approximately 14 inches high on its northern end. The remainder of the wall is approximately 30 inches high. A cut out near the junction of the two walls holds an interpretive wayside panel (NPS 2017b).*



Final Attack (tour stop 10). *The tour stop and pulloff for the Final Attack stands on the east side of Branch Avenue, south of its intersection with Old Burnside Bridge Road and at the intersection of Branch Avenue's new road alignment and the original road alignment (NPS 2017b).*

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APPENDIX F: CONSULTATION LETTERS

US Fish and Wildlife Service – Concurrence Letter



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
<http://www.fws.gov/chesapeakebay>



March 21, 2017

National Park Service (NPS)
302 E. Main Street
Box 158
Sharpsburg, MD 21782

RE: Visitor Access and Circulation Plan

Dear Jane Custer:

This responds to your letter, received January 31, 2017, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Chesapeake Bay's remaining wetlands, and the long term goal of increasing the quality and quantity of the Chesapeake Bay's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.



We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Trevor Clark at (410) 573-4527.

Sincerely,

A handwritten signature in cursive script that reads "G. LaRouche". The signature is written in black ink and is positioned below the word "Sincerely,".

Genevieve LaRouche
Supervisor

Maryland Historical Trust – Concurrence Letter on Area of Potential Effect



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Wendi W. Peters, Secretary
Ewing McDowell, Deputy Secretary

January 20, 2017

Susan Trail, Superintendent
Antietam National Battlefield
National Park Service
P.O. Box 158
Sharpsburg, Maryland 21782-0158

Re: Area of Potential Effect for Visitor Access and Circulation Plan
Antietam National Battlefield, Washington County, Maryland

Dear Superintendent Trail:

Thank you for your recent letter, dated January 6, 2017, regarding the above-referenced project. The Maryland Historical Trust (Trust), Maryland's State Historic Preservation Office, is reviewing the proposed undertaking to assess its effects on historic properties, pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. We offer the following comments.

The Trust concurs with the Area of Potential Effect (APE) proposed in your letter. The APE, encompassing the area defined by the legislated park boundary, will contain all direct and indirect effects to historic properties.

We look forward to ongoing consultation with NPS regarding the development of the visitor access and circulation plan and environmental assessment. If you have questions or require further assistance, please contact me (regarding archology) 410-514-7631 / beth.cole@maryland.gov or Natalie Loukianoff (regarding historic structures and landscapes) at 410-514-7636 / natalie.loukianoff@maryland.gov. Thank you for providing us this opportunity to comment.

Sincerely,

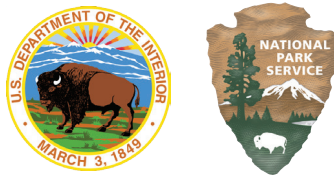
Beth Cole
Administrator, Project Review and Compliance

EJC/NSL/201700146

Maryland Historical Trust • 100 Community Place • Crownsville • Maryland • 21032

Tel: 410.514.7600 • TTY users: Maryland Relay • MHT.Maryland.gov

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

ANTI 302/143764
March 2018

