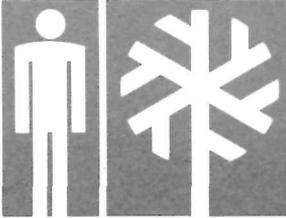


analysis of the visible landscape

ANTIETAM



NATIONAL BATTLEFIELD / MARYLAND

ANTIETAM NATIONAL BATTLEFIELD
ANALYSIS OF THE VISIBLE LANDSCAPE

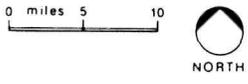
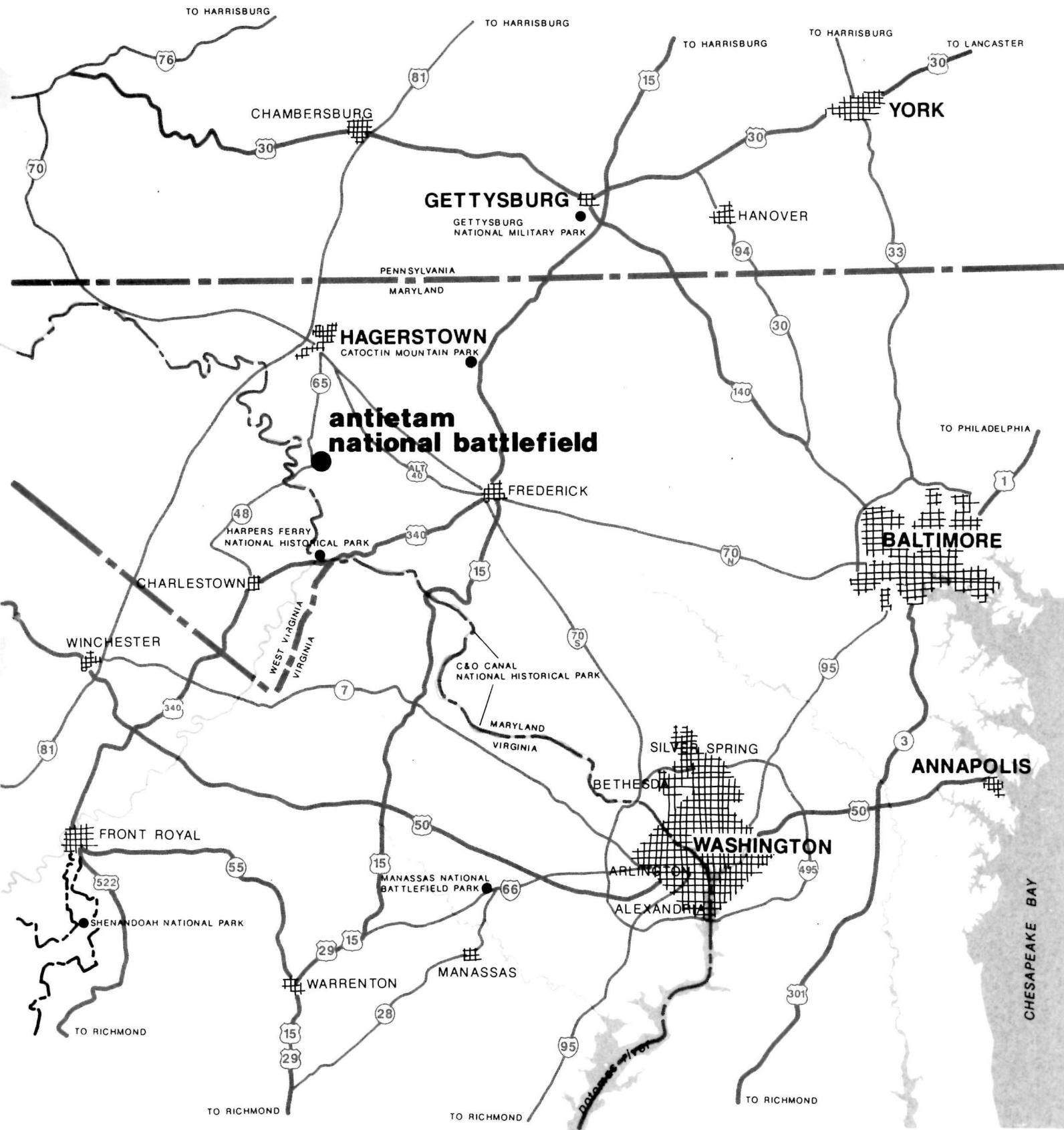
April 1988

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region

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BACKGROUND INTRODUCTION

This report presents an analysis of the visible landscape from selected historic and interpretive sites within Antietam National Battlefield in Washington County, Maryland (see Region map). The maps and accompanying information have been developed to assist the South County Advisory Commission and county and state planners in land use planning and efforts to protect the scenic integrity of the battlefield.

Antietam National Battlefield was originally established in 1890 to commemorate the battle of September 17, 1862 by marking battlelines and command positions on the landscape. It was not until 1962 that the landscape itself was officially recognized as an important cultural resource for the battle's interpretation. Federal legislation that year authorized the acquisition of lands to restore and maintain the battlefield in a semblance of its 1862 condition and to protect views of the battle site for the public. That legislation and subsequent acts have dealt with protecting lands within an authorized boundary where actual combat occurred.

Recently, residents and state and local administrators have become concerned that the rural character and lifestyle of south Washington County, including Antietam National Battlefield, are being eroded by poorly planned suburban development. The National Park Service shares this concern because of the potential threat to the agricultural setting which is so important to the historic scene at Antietam. During the summer of 1987, the Maryland Department of State Planning contacted Antietam Superintendent Richard Rambur requesting National Park Service assistance with the South County Study for land use planning. Specifically, the state sought information on which areas contribute to the scenic quality of the battlefield. This report has been prepared in response to that request.

This report provides a brief history of the battle, a description of existing conditions, and the results of the landscape study. The report and associated maps do not constitute zoning or ordinance recommendations. Matters of zoning and design ordinances in Washington County are the prerogative of the county, municipalities, and the state. Rather, the report identifies locations visible from the battlefield where those agencies may wish to review existing land use regulations.

BATTLE OF ANTIETAM SEPTEMBER 17, 1862

The Battle of Antietam (or Sharpsburg) on September 17, 1862, was the culmination of Confederate General Robert E. Lee's first attempt to bring the war to the North. In his Maryland Campaign Lee hoped to obtain recruits and supplies, in addition to showing the South's determination to gain independence. The campaign was initiated on September 4 when Lee's forces crossed the Potomac River unopposed. A week later General George B. McClellan and the Federal Army of the Potomac followed Lee

through Frederick and to the passes at South Mountain. On September 14 Lee managed to delay McClellan at Turner's, Fox's, and Crampton's gaps after he had split his army, sending General Thomas J. "Stonewall" Jackson south to capture Harpers Ferry. By September 15 both McClellan and Lee had established battlelines at Sharpsburg, west and east of Antietam Creek.

The battle began on the morning of the seventeenth. Fighting opened at the northern end of the battlefield and progressed southward throughout the day. Battlelines shifted back and forth many times, but at day's end both sides held roughly the same ground as at dawn. Lee safely withdrew his troops across the Potomac River during the night of September 18-19.

On September 17, 1862, more men and boys were killed, wounded, or missing at Antietam than on any other one-day battle of the Civil War--a total of 23,110 souls. All battles are horrors, but according to historian Bruce Catton, perhaps "the battle of Antietam was the worst of all." Neither the Federals or Confederates could claim a tactical victory at the end of the day. Lee failed to win in the North and McClellan failed to take advantage of several opportunities which could have resulted in Lee's defeat. Even though McClellan was soon relieved of his command for his timidity, the North gained politically and morally from the battle for no intervention or recognition now came from Great Britain for the Confederate government, and on September 22, 1862, President Abraham Lincoln seized this opportunity to release the Emancipation Proclamation, officially issued on January 1, 1863. The proclamation granted freedom for all slaves in states still rebelling against the United States. The war was now an offensive against slavery as well as a defense of the union.

THE BATTLEGROUND

General Lee chose well his ground for a battle as the terrain around Sharpsburg was suited for strong defensive positions. The Potomac River flowed in big bends southward west of Sharpsburg while Antietam Creek to the east flowed generally north and south, joining the river several miles to the south. Several turnpikes crossed the area, one heading north to Hagerstown and the other northeast to Boonsboro and the National Road (today's U.S. Highway 40). A low ridgeline ran along the Hagerstown Pike, hiding Sharpsburg. The southern end of the area between the Potomac and Antietam Creek contained pronounced relief with steep ravines rising from the creek to open and wooded hills. To the north the ground appeared flatter, but in actuality it was full of rises, dips, and stone outcroppings. The battle occurred at harvest time, and many of the fields were filled with tall corn.

In 1864, a push began for purchasing land for a national cemetery at Antietam. In March 1865 trustees were appointed to lay out a cemetery, which was dedicated on September 17, 1867. Antietam National Battlefield site was established on August 30, 1890, when legislation was approved calling for completing the road from the Antietam (Sharpsburg) railroad

depot to the cemetery, for "surveying, locating, and preserving the lines of battle of the Army of the Potomac and of the Army of Northern Virginia . . .", and for marking the commands' positions with tablets. A policy of purchasing strips of land conforming to actual battle lines and encompassing major features was followed, a policy known as the "Antietam plan," as opposed to the purchase of considerable amounts of battlefield land. This was done in the belief that the region had always been agricultural and was likely to remain so.

The cemetery and battlefield were transferred from the War Department to the Department of the Interior, National Park Service, on August 10, 1933, by executive order. In 1962, Congress passed an act to protect, improve, and preserve Antietam Battlefield by acquiring 1,800 acres of land, not more than 600 to be acquired in fee. This was done "to assure the public a full and unimpeded view" of the battlefield, and to maintain or restore the site to "substantially the condition in which it was at the time of the battle of Antietam." An additional congressional act, passed November 10, 1978, gave the secretary of the interior the authority to acquire scenic easements for 1,450 acres of additional land, and an authorized boundary for the battlefield was established.

EXISTING CONDITIONS

Remarkably, the modern scene of the battleground has not significantly changed from its appearance in 1862. According to a description given in the National Register of Historic Places (item 8 page 3):

Antietam National Battlefield is significant in that the historic scene remains incredibly intact. Some of the woods are gone; some of the roads have been changed. But most of the houses, barns, farm buildings, views and vistas remain much as they were in September of 1862. The most remarkable feature of Antietam which distinguishes it from most other battlefields managed by the National Park Service is the almost perfect integrity of the site. The setting was always rural. The German farmers who owned the farms around the battlefield tended to maintain their antebellum houses and barns in good repair. So far there has been only a minimum of development around Sharpsburg. The farms are still farmed. Corn still grows in Miller's cornfield, where the heaviest fighting took place. The Observation Tower, Cemetery, Cemetery Lodge, and the monuments are obvious additions now historic in their own right. The Hagerstown Pike has been moved slightly and widened. A few modern houses about the park entrance, and the modern visitor center is an intrusion on the battlefield. But from many views and vistas the visitor gets an almost exact impression of how an American rural landscape appeared over a century ago.

However, traditional land uses around Antietam have begun to change. south Washington County is an inviting place to live because of its rural scenery. The completion of Interstates 70 and 81 in the 1960s and recent improvements to U.S. 340, U.S. 40, and several state roads have made daily commuting to Washington, D.C., and Baltimore more practical. Moreover, land prices in Washington County are comparatively cheaper than in the established bedroom communities to the east. All of these factors have led to accelerated speculation in land and residential development. In fact, Maryland Department of State Planning reports that 171 subdivisions already have been approved in south Washington County, and the area around Antietam battlefield is one of two focal points for subdivision activity. In the words of the Comprehensive Plan for the County, adopted in 1981 by the county commission, "if this trend continues, the county will soon be suburban in character, and the rural fabric of Washington County will be irreplaceably lost." More specifically, the comprehensive plan states:

The rural character of the area around the Antietam National Battlefield is important to its historical interpretation. The boundaries of the Rural Village development area for the town of Sharpsburg should be defined with this in mind, and new non-residential development in sight of the Battlefield should be visually buffered as practicable.

The 1981 county plan clearly establishes the protection of scenic quality and cultural resources as part of a land use policy for directing future growth. However, state and county planners and a citizens advisory plan for south Washington County have indicated that existing zoning and design ordinances are insufficient to achieve adequate protection. For example, under current county ordinances areas designated as agricultural districts, such as the farmland around Antietam, may contain one-acre-lot subdivisions, and those in a conservation district, such as Red Hill, may contain three-acre-lot subdivisions. In contrast, most Maryland counties east of Washington County, which have already been adversely affected by unplanned suburbanization, now require 20-acre or greater lot sizes to protect their remaining agricultural and conservation lands. In addition to potential scenery and resource degradation, existing liberal ordinances in Washington County may encourage subdivision development in rural sites where utilities, fire protection, and expanded schools are costly to provide and maintain.

Consequently, the South County Advisory Commission is currently reviewing county ordinances to determine if revisions are necessary. To assist in this effort, the National Park Service has prepared the following analysis of the landscape visible from Antietam National Battlefield.

VISIBLE LANDSCAPE STUDY

HISTORIC CONTEXT

The Historic Context map was developed to identify historically significant sites in the county. It provides background data concerning the location of the Union and Confederate armies' approaches to the battlefield on September 15 and 16, 1862; army positions on the morning of September 17; General Lee's and General McClellan's headquarters sites; army positions on the evening of September 17; and the route of the Army of Northern Virginia's retreat from Maryland the night of September 18-19. The map is meant to be general rather than specific in scope to provide an overview of the Maryland Campaign in south Washington County.

SELECTION AND DOCUMENTATION OF VIEWPOINTS

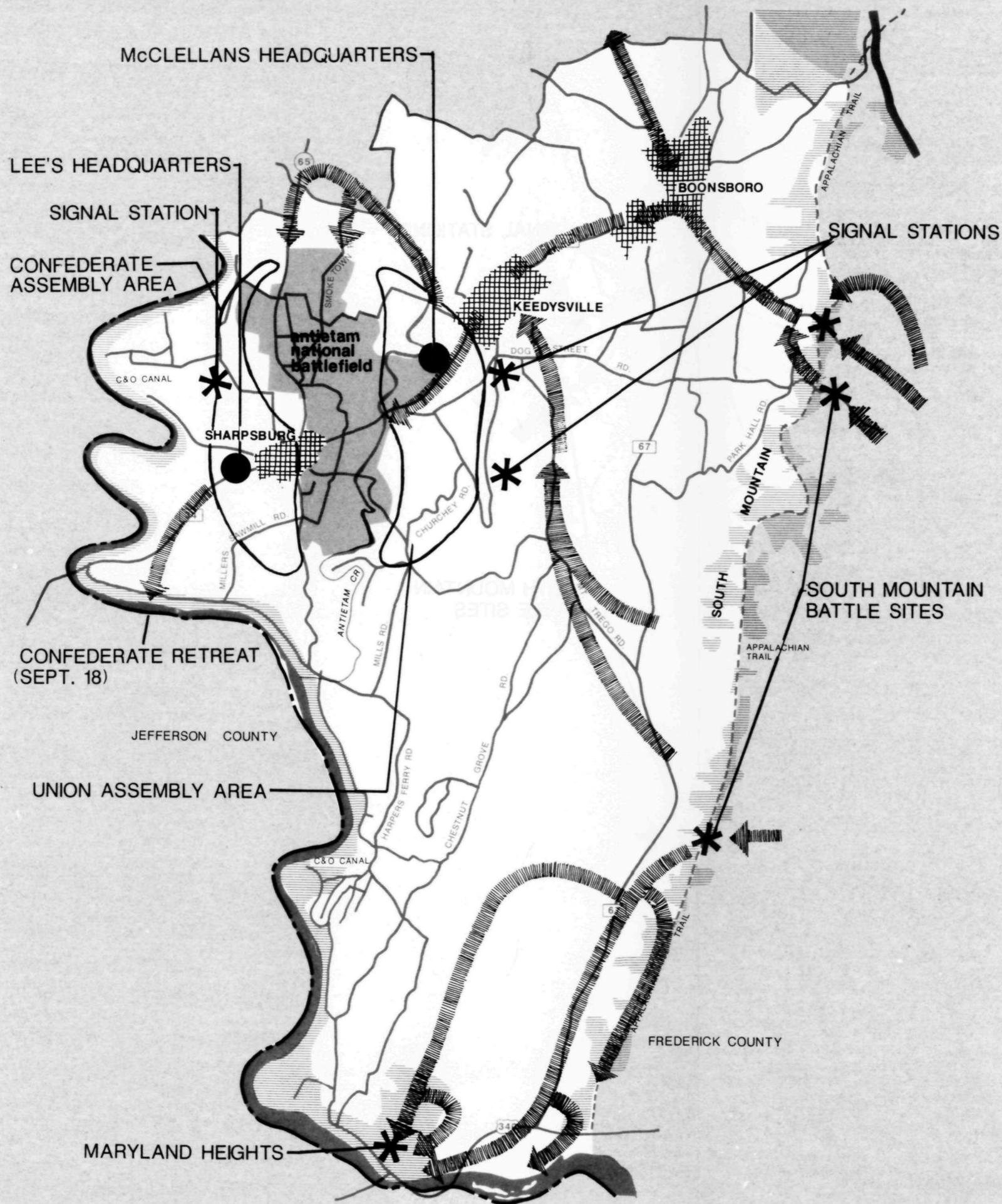
Eighteen viewpoints selected in the field consist of interpretive stops on the battlefield tour road, topographic high points on the tour road with large fields of view, and other historically significant sites such as the Pry House (viewpoint #9), Hawkin's Zouaves Monument (viewpoint #17) the 125th, Pennsylvania Volunteers Monument (viewpoint #1), Philadelphia Brigade Monument (viewpoint #2), observation tower (viewpoint #11), the national cemetery (viewpoint #10), and visitor center (viewpoint #12). All eighteen viewpoints are shown on the Visible Landscape: Battlefield Vicinity map.

Each viewpoint was documented in several ways. Panoramas of 360 degrees were taken with both a still 35mm camera and a video camera. Field notes were taken at each viewpoint regarding location, interpretive story, view coordinates, and descriptions of the landscape.

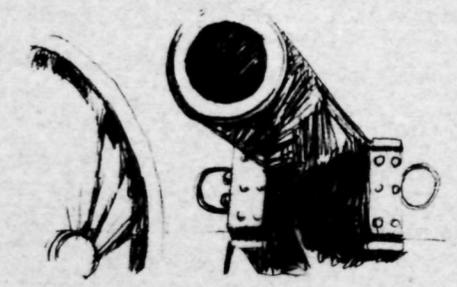
GEOGRAPHIC INFORMATION SYSTEM MAPPING

Existing computerized map information was analyzed for a limited area around the authorized battlefield boundary. The computerized data were provided and processed by the National Park Service's Geographic Information Systems Division. Data included digitized elevation values, surface water locations, boundaries, landownership, and the locations of roads and buildings. The digitized information was stored in the computer in 123,904 cells, each cell representing approximately 0.1 acre.

To determine what land area would be visible from a selected viewpoint, the elevation of that viewpoint and its map coordinates were digitized. Then using a modified version of the Map Analysis Package software program (Tomlin 1986), the computer analyzed all locations within line-of-sight of the viewpoint and produced a map overlay showing visible land areas. Appendix A shows an example of the computer overlay for the area visible from the visitor center (viewpoint #12). The computer analysis was run for the battlefield auto tour route and eight viewpoints off the route.



MAJOR TROOP MOVEMENTS



september 1862
historic context
 areas involved with
 maryland campaign
 south washington county

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The computer-generated overlays are based solely on topographic information and do not account for vegetation screening or visual obstructions caused by man-made structures. Further, only a portion of the actual area visible from Antietam National Battlefield has been digitized for computer analysis. Consequently, the computer-generated overlays were not relied upon as a final product but were used as a tool to assist in interpreting photographs and notes gathered in the field. The computer overlays proved to be extremely helpful in this regard.

ANALYSIS

Derivation of Mapping Units

Field data and computer-generated overlays were first used to map all areas visible from all 18 viewpoints and the battlefield tour route. The mapped areas were then broken down into three distance categories: the foreground, which includes the battlefield and adjacent areas with the most visible detail; the middleground, which has somewhat less detail than the foreground but provides color, texture, and form in the landscape; and the background, which forms distant horizons and provides a backdrop with little detail or texture. These categories in turn were subdivided into mapping units based on landscape characteristics. The units are described below and are shown on the Visible Landscape: Battlefield Vicinity and the Visible Landscape: South Washington County maps. Because county ordinances allow new structures up to 35 feet tall, the mapping unit boundaries were drawn to include not only ground surfaces within line-of-sight of battlefield viewpoints, but also contiguous areas on which a 35-foot-tall building could also be seen from the viewpoints.

Mapping units are primarily based on topography. Although existing vegetation limits actual views at many viewpoints, vegetation could be removed by cutting, fire, storms, or disease. Consequently, vegetation screening was considered but was not relied upon in the delineation of mapping units.

Foreground

Battlefield Foreground. The battlefield is the visual focus of the visitor experience at Antietam. The foreground views are primarily lands within the authorized boundary west of Antietam Creek but also involve adjacent lands where the landscape directly contributes to the immediate visual environment and historic scene. Views are dominated by cultivated fields and pastures; historic and modern roads and scattered buildings; woodlots and fence lines; and commemorative monuments, plaques, and cannons.

In several places developments constructed since the battle are visual intrusions. For instance, modern housing built along Route 65, the historic Hagerstown Pike, is visible from the visitor center, observation

tower, and several points along the tour road. Because of its low topographic position, this development is not a major intrusion; however, possible future development on the slopes above these houses would be visually disruptive. Similarly, a row of one-story houses along Harpers Ferry Road and a new residence and barn near the Hawkin's Zouaves Monument have partially compromised the historic scene along the tour at Branch Avenue and from the Hawkin's Zouaves Monument.

Antietam Bluffs Foreground. The eastern bluffs over Antietam Creek are a prominent foreground landscape feature visible from the majority of battlefield viewpoints. The wooded bluffs roughly delineate the pre-battle position of the Union army center and left flank and are consequently important for visitor visual orientation. The bluffs include McClellan's observation point near the Pry House.

Pry House Foreground. The Pry House is the location of McClellan's headquarters and the site he used to observe the battle's proceedings. The foreground view toward the battlefield to the west is critical. The limited foreground view to the east of the Pry House is important as the setting for the historic house.

Historic Sharpsburg Foreground. The town of Sharpsburg, which is adjacent to the battlefield's authorized boundary, retains historic visual quality which is important to the battlefield experience. Several modern developments have affected, but not heavily compromised, the historic scene. A prominent modern landmark visible from several viewpoints within the battlefield is the town's water tower.

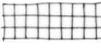
The site of Lee's headquarters is in Sharpsburg and is marked by a memorial in a grove of trees surrounded by a wooden rail fence. The site marks the location of Lee's tent, rather than his observation point during the battle. The view from this point is not considered to be critical. A housing development next to the site of Lee's headquarters is not visible from the battlefield due to vegetation screening. However, further development occurring higher on the hills at this site would be visible from the observation tower and other viewpoints on the battlefield unless it were carefully screened.

Middleground

Antietam Bluffs Middleground. An extension of the Antietam bluffs foreground unit, the eastern creek bluffs northeast of the battlefield are visually distinctive. Although not within the authorized boundary of the battlefield, the bluffs are an important element of the setting.

Red Hill Middleground. Red Hill visually dominates views east of the battlefield. A high promontory above the surrounding farmland, Red Hill was used as a Union signal station during the battle and was often included in contemporary photographs and paintings.



-  BATTLEFIELD FOREGROUND
-  ANTIETAM BLUFFS FOREGROUND
-  HISTORIC SHARPSBURG FOREGROUND
-  PRY HOUSE FOREGROUND
-  ROLLING AGRICULTURAL MIDDLEGROUND
-  ANTIETAM BLUFFS MIDDLEGROUND
-  RED HILL MIDDLEGROUND
-  FORESTED RIDGE BACKGROUND

VIEWPOINTS

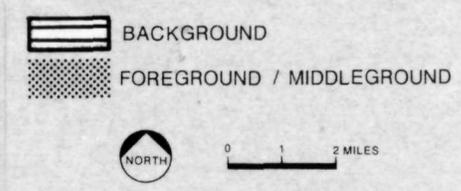
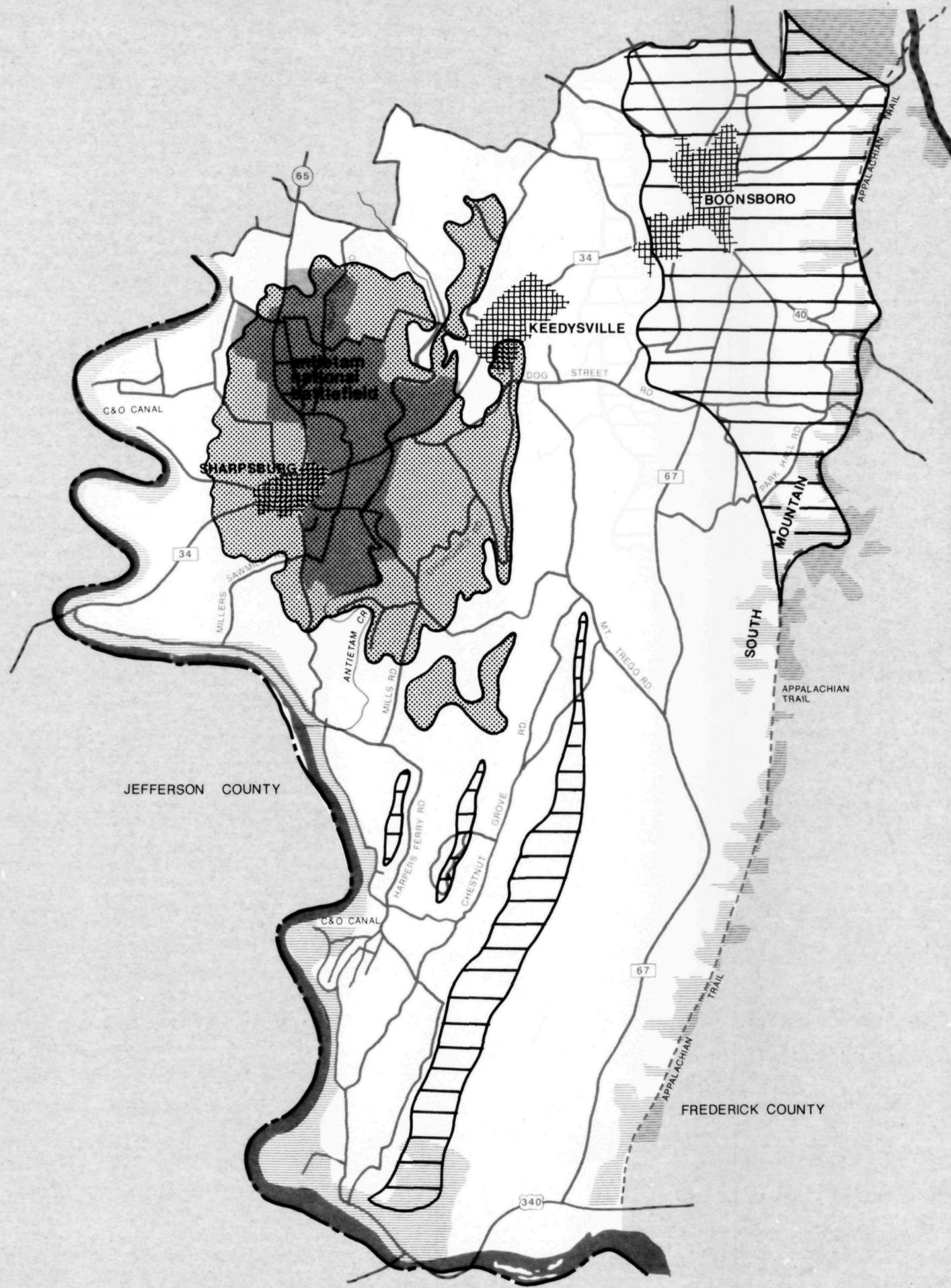
- ① 125th PENNSYLVANIA VOLUNTEERS MONUMENT
- ② PHILADELPHIA BRIGADE MONUMENT
- ③ MILLER FARM
- ④ OLD HAGERSTOWN PIKE AND MANSFIELD AVE.
- ⑤ CLARA BARTON MONUMENT
- ⑥ SMOKETOWN ROAD AND CORNFIELD AVE.
- ⑦ MUMMA CEMETERY
- ⑧ LEE'S HEADQUARTERS
- ⑨ PRY HOUSE
- ⑩ NATIONAL CEMETERY
- ⑪ OBSERVATION TOWER
- ⑫ VISITOR CENTER
- ⑬ BURNSIDE BRIDGE OVERLOOK
- ⑭ BRANCH AVE.
- ⑮ SNAVELY FORD NATURE TRAIL
- ⑯ SOUTH CORNER OF BRANCH AVE.
- ⑰ HAWKIN'S ZOUAVE MONUMENT
- ⑱ CORNFIELD AVE. AND OLD HAGERSTOWN PIKE



visible landscape

battlefield vicinity

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visible landscape

south washington county

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The Red Hill middleground unit has two subunits based on landscape characteristics--forested ridge middleground and sloping agricultural middleground. The forested ridge subunit encompasses the steep slopes traversed by Porterstown and Red Hill roads. Residences and second-home developments have been constructed along these roads. Fortunately, most are screened by vegetation, but unplanned development could alter the character of the ridge. The existing unbroken ridgeline is particularly important. A radio tower near the summit of Red Hill has been proposed; if constructed the tower would be visible from most viewpoints on the battlefield.

The sloping agricultural middleground subunit on Red Hill includes the basal slope roughly between Greeting and Burnside Bridge roads. The land slopes toward the battlefield, presenting a direct view of fields and structures from almost every viewpoint. The open agricultural character of the landscape is in keeping with the historic scene and is visually important to the battlefield setting. Because of the gentle slopes in this area, development could occur, and, without careful siting and design, new developments could be highly visible from the battlefield.

Rolling Agricultural Middleground. This unit includes lands north and east of the battlefield foreground unit. Views tend to be level, skimming the crests of low hills topped by tree lines and woodlots. This unit does not have distinct, direct views, such as the Antietam bluffs and Red Hill middlegrounds; rather, the rolling landscape acts as a visual buffer and middleground backdrop to the battlefield. Because the topography is broken, there are several pockets of unseen land within the unit. Most structures are one or two stories high and are screened by vegetation.

Background

Distant areas visible from the battlefield are shown on the Visible Landscape: South Washington County map. The far distance views are dominated by the ridgelines of Blue Ridge (or Elk Ridge) and South Mountain. Lower distant hills south of the battlefield, such as Hawks Hill, are also within the background. The views of the side slopes are not distinct, but the ridgelines are very prominent and visible. The town of Boonsboro is visible from the visitor center and observation tower, but little detail is discernible and modern structures are not intrusive to the battlefield's historic scene.

CONCLUSIONS

Foreground views are the most sensitive because they are the focal area for the visitor experience.

The battlefield foreground, Pry house foreground, and Antietam bluffs' foreground units encompass the basic visual resource at Antietam. The town of Sharpsburg retains a visual quality reminiscent of the historic scene.

Some middleground views are also highly sensitive because they provide the setting for the battlefield.

The Red Hill and Antietam bluffs middleground units are second only to foreground views for visual prominence; the existing forest cover and agricultural lands are visually distinctive and strikingly similar to the historic scene.

The rolling agricultural middleground units west and north of the battlefield provide a visual buffer; views toward this unit are not distinctive, and existing vegetation screens distant views.

In the background units, ridgelines are the most important visual feature. The town of Boonsboro is visible from a few viewpoints, but little detail is apparent.

APPENDIX: COMPUTER ANALYSIS:
VIEW FROM VISITOR CENTER (VIEWPOINT #12)



GROUND SURFACES VISIBLE FROM VISITOR CENTER



example of:
computer analysis
 view from visitor center
 (viewpoint #12)

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